

MYRTALES (Myrtles)

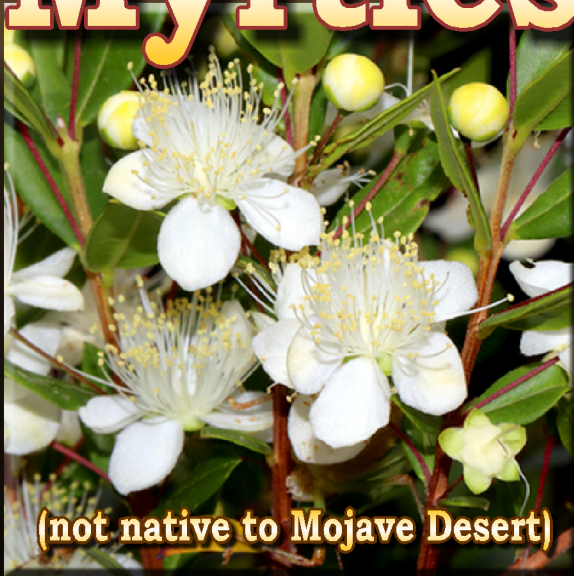
Loosestrifes



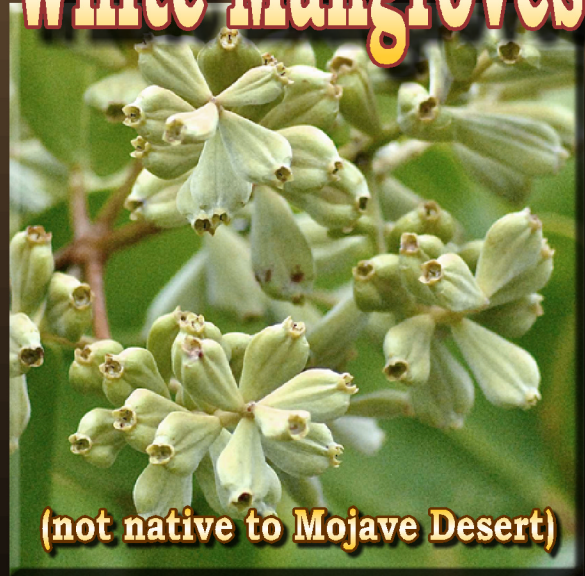
Primroses



Myrtles



White Mangroves



(10 Families Worldwide)

LYTHRACEAE

(Loosestrifes)

California Loosestrife (*Lythrum californicum*)



Rt 66; Kingman, AZ



Rt 66; Kingman, AZ



Route 66; Historic District; Kingman, AZ



Rt 66; Kingman, AZ



Rt 66; Kingman, AZ

- Flowers:** salverform; raceme; 6 petals (purple veins), 6 stamens, yellow style; pink to lavender; .4"
Stems: erect; stoloniferous*; branched above; squared, glabrous, exfoliating bark; tan green; 36"
Leaves: linear to lance-linear; entire; lower: opposite, upper: alternate; glabrous; green; 3"
Blooms: April to September
Range: southwestern US; northern Mexico
Habitat: loamy soils; riparian (washes, wetlands, streams, ponds, etc.; Lower Sonoran to Transition LZs

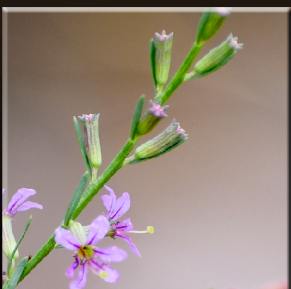
Notes:

uncommon; herbaceous perennial; grows to 3' in the sw US from TX/OK west to s CA, south into n MEX at elevations up to 7,500'; *numerous solitary, suffrutescent stems arise from stolons; elongated, bi-valved capsule fruit bearing many tiny seeds; 0 subspecies; traditionally used in some medicinal applications (astringent, etc.)

Mojave presence: native

Comments:

I encountered this species for the first--and so far, only--time in a culvert along Route 66 in Kingman, AZ, in August of 2024. The dense, grassy habit of the specimen (right) concealed its tiny, inconspicuous flowers (left), making the riparian plant easily overlooked amongst all the vegetation along the ephemeral stream.



LYTHRACEAE

(Pomegranates)

Pomegranate

(*Punica granatum*)



shrubby tree

Corn Crk; Desert NWR; NV



gray-brown bark

Corn Crk; Desert NMR; NV



May

Corn Creek; Desert National Wildlife Refuge; NV



funnel flowers

Henderson BVP; NV



glossy, lance leaves

Henderson BVP; NV

- Flowers:** funnellform; axillary, solitary to clustered at branch tips; 3-7 petals; **red**; 1.5"
- Stems:** erect to spreading; one to multi; branched, woody, spiny; **brown**; 360+"
- Leaves:** lanceolate to oblong; entire; opposite; glossy; **green**; 3"
- Blooms:** May to July
- Range:** temperate to tropical cosmopolitan
- Habitat:** well-drained loamy; warm, dry regions; urban to desert scrub (escaped); Lower Sonoran LZ

Notes:

uncommon; perennial; deciduous to semi-evergreen shrub/tree grows to 30' at elevations up to about 3,500'; native to the Middle East, then introduced globally in suitable habitats; drought tolerant; roughly spherical, multi-chambered, red-husked, 4" **berry** fruit bearing up to 1,500 seeds; 1 subspecies; attracts polinators (bees, hummingbirds) etc.; fruit and seeds eaten by insects, birds, etc.; cultivated for its fruit (edible raw; juice used in various culinary applications (cooking, baking, beverages, etc.)), ornamental landscaping; some traditional medicinal uses

Mojave presence: introduced

Comments:

As an introduced plant, dispersed seeds occasionally take root in wetland wilderness areas near their cultivated sites, such as the ones shown here in the [Desert NWR](#) and the [Henderson Bird Viewing Preserve](#) in southern Nevada.



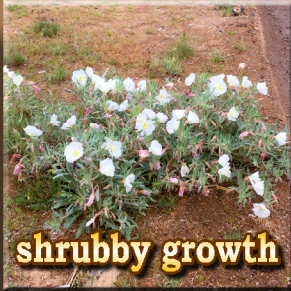
My3

ONAGRACEAE

(Primroses)

Evening Primrose

(*Oenothera californica*)



shrubby growth

Dolan Springs, AZ



stout, hairy stems

Dolan Springs, AZ



May

Pierce Ferry Road; Dolan Springs, AZ



large, showy flowers

Willow Spgs; RRCNCA; NV



lobed, lance leaves

Dolan Springs, AZ

- Flowers:** cyanthiform; axillary; 4 petals, yellow-centers; 8 stamens, split anthers; white (aging to pink); 3"
- Stems:** spreading to erect; few; branched at base; aged stems suffrutescent with peeled bark; olive*; 30"
- Leaves:** deltoid to lanceolate; entire, wavy, to lobed*; rosette to alternate; hairy; green; 2.5"
- Blooms:** February to June
- Range:** southwestern US; northwestern Mexico
- Habitat:** dry, sandy to gravelly; desert scrub, slopes, to p-j woodlands; Lower to Upper Sonoran LZs

Notes:

common locally; annual/perennial forb; sprawling to shrubby habit, growing to 2.5' (usually less) in the sw US (sw UT, s NV, w AZ, se CA,) south to Baja, MEX, at elevations of 3,000-6,000'; flowers open mainly in the evening, new buds droop, *highly variable (stem color, leaf shape and margins, hairiness, etc.) depending on subspecies; slender, cylindrical, green (brown-tipped), 2" capsule fruit bearing numerous seeds; 3 subspecies; aka **California Evening Primrose**, **California Suncup**; important source of nectar for nocturnal foragers (mainly moths)

Mojave presence: native

Comments:

Though common, these evening primroses are usually abundant only in localized areas. The conspicuous buds (left) are hairy and usually drooping, while the glabrous fruits (right) are stout and erect.



My4

ONAGRACEAE

(Primroses)

Brown-Eyed Primrose

(*Chylismia claviformis*)



typical habitat

Furnace Crk; DVNP; CA



stems branched at base

Furnace Crk; DVNP; CA



April

Furnace Creek, Death Valley National Park; CA



exserted, clavate pistil

Furnace Crk; DVNP; CA



toothed basal leaves

Furnace Crk; DVNP; CA

- Flowers:** cyanthiform; panicle inflor.; 4 petals, brown spot at base; clavate pistil*; white, aging to pink; 1.5"
- Stems:** decumbent to erect*; few to many*; branched at base; glabrous; pale green to red brown; 24"
- Leaves:** pinnate (broad, lanceolate to cordate leaflets); toothed; mainly basal; tinged with red; green; to 8"
- Blooms:** February to April
- Range:** western US; northwestern Mexico
- Habitat:** arid, sandy to rocky; desert flats, washes, slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; annual forb; grows to 2' (usually much less) in the western US from OR/ID south to Baja and nw MEX at elevations up to 6,000' (usually lower); the species name *claviformis* refers to the *clavate (club-shaped) pistil (long, exserted, terminated by a bulbous stigma); usually *vespertine* flowers (open in the evening); cylindric, stalked, 4-sided, 1-2" *capsule* fruit bearing 2 rows of seeds; 10-12 subspecies (*extremely variable in form depending on subspecies); aka *Browneyes*, *Clavatefruit Suncup*; pollinated primarily by moths

Mojave presence: native

Comments:

Though this primrose is generally considered to be common throughout its extensive range in western North America, it is far less so in the Mojave region. Thus far, I have conclusively encountered it only in [Death Valley National Park](#) where I photographed the specimens shown here in March and April of 2018.

My5

ONAGRACEAE

(Primroses)

Dune Evening Primrose (*Oenothera deltoides*)



low, shrubby habit

US93; Hoover Dam; LMNRA



smooth, erect stems

Virgin Mtns; Clark Co.; NV



April

Interstate 11; Boulder City, NV



saucer-shaped flowers

US93; Hoover Dam; LMNRA



alternate cauline leaves

Valley of Fire SP; NV

- Flowers:** crateriform; distal axillary; 4 deltoid petals, cross-shaped stigmas; white (yellow centers); 3.5"
Stems: decumbent to erect; few to many; branched; glabrous; pale green; to 36"
Leaves: deltoid to obovate; entire to lobed; **basal:** rosette, **cauline:** alternate; sessile, hairy; green; to 5"
Blooms: February to June
Range: western/southwestern US; northwestern Mexico
Habitat: dry, sandy to gravelly; open flats, dunes, etc.; Lower Sonoran Life Zone

Notes:

common; annual/perennial forb; grows to 3' (usually much less) in the Basin and Range of w US south into Baja and nw MEX at elevations of 1,000-3,500'; **vespertine** flowers, sweet aromatic, turn pink with age, 4 sepals with reflexed tips, drooping buds; dying stems curl upwards to form namesake "birdcage"; dehiscent, cylindrical, curved, 3" **capsule** fruit bearing smooth, obovate, .08" seeds; 5 subspecies; aka **Birdcage Primrose**, **Devil's Lantern**, **Lion-in-a-Cage**, **Basket Evening Primrose**, etc.; pollinated primarily by the **White-Lined Sphinx Moth** *Hyles lineata*; traditionally used as food (cooked leaves) and to treat skin lesions

Mojave presence: native

Comments:

When this plant dies, its leaf stems curl upwards and meet at the tips, forming a conspicuous basket shape, such as shown here. This is the inspiration for one of the plant's common names, the

My6

Birdcage Evening Primrose.



ONAGRACEAE

(Primroses)

Pink Evening Primrose (*Oenothera speciosa*)



riparian habitat

Red Spring; RRCNCA; NV



smooth, erect stems

Red Spring; RRCNCA; NV



May

Red Spring; Red Rock Canyon NCA; NV



cup-shaped flowers

Red Spring; RRCNCA; NV



lance-like leaves

Red Spring; RRCNCA; NV

- Flowers:** cyanthiform; solitary; 4 petals with dark veins, pale yellow throat; white aging to pink; 2"
- Stems:** ascending to erect; few; lightly/non branched; rhizomous, glabrous to pubescent; green; 20"
- Leaves:** linear to oblanceolate; wavy to toothed; alternate; pubescent, sessile or short petioled; green; 4"
- Blooms:** March to July
- Range:** central to southwestern US; northern Mexico
- Habitat:** moist, sandy to loamy; cultivated/disturbed areas, springs, grasslands, etc.; Lower Sonoran LZ

Notes:

common locally; perennial; grows to 2' (usually less) in the midwestern US west to s NV, south into northern MEX at elevations of 1,500-3,500'; flowers vespertine, aromatic; 8-ribbed, club-shaped, .75" capsule fruit bearing obovoid seeds clustered in 2 rows per cell; 3 varieties; aka **Pink Buttercups**, **Mexican Primrose**, **Pinkladies**, **Showy Evening Primrose**, etc.; important to various insects (particularly moths) for nectar, and seeds for birds and small mammals; commonly grown in gardens from whence it often escapes into surrounding habitats; used as a salad green

Mojave presence: naturalized

Comments:

This is another plant generally not found in the desert itself, but rather in higher-elevation riparian habitats, such as the specimen shown here blooming along Red Spring in the **Red Rock Canyon National Conservation Area** in the Spring Mountains west of Las Vegas in June of 2019. Though common as a species, it can be considered rare in the Mojave region.

My7

ONAGRACEAE

(Primroses)

Desert Evening Primrose (*Oenothera primiveris*)



clustered growth

Dolan Springs, AZ



April

Mt Tipton Wilderness Area; Dolan Springs, AZ



parted, cordate petals

Dolan Springs, AZ



bristly overall

Dolan Springs, AZ



pinnately lobed leaves

Dolan Springs, AZ

- Flowers:** crateriform; 4 cordate, parted petals; long yellow pistil, stamens; lt yellow (age to orange); to 3"
- Stems:** absent or ascending to erect; stemless to few; unbranched; strigose (bristly); pale green; 12"
- Leaves:** lanceolate to oblanceolate; pinnately lobed to undulate or dentate; basal; strigose; green; to 11"
- Blooms:** March to May
- Range:** southwestern US; northern Mexico
- Habitat:** sandy to gravelly; desert scrub, washes, slopes to p-j woodlands; Lower to Upper Sonoran LZs

Notes:

common locally; annual forb; low caespitose (clustered) growth to 1' in the sw US from TX west to se CA, south into Baja and n MEX at elevations up to 4,500'; flowers vespertine with greenish recurved sepals; straight, woody, 4-angled, tapered, hairy, 2" capsule fruit; 3 subspecies; aka **Yellow Flower Desert Evening Primrose, Yellow Desert Primrose, Bottle Evening Primrose**; traditionally used in ceremonies, and as a poultice to treat swellings

Mojave presence: native

Comments:

This species is easily identified by its usually low-growing, stemless form, but finding one in the Mojave is quite uncommon--if not rare! In fact, the specimen shown here is the only one I have knowingly encountered in my 40-plus years in the region. I found it in the **Mt. Tipton Wilderness Area** south of Dolan Springs, Arizona, in April of 2023.

ONAGRACEAE

(Primroses)

Yellow Cups Primrose (*Camissonia brevipes*)



Avi Kwa Ame NM; NV



Bill Williams NWR; AZ



Death Valley National Park; CA



Avi Kwa Ame NM; NV



US93; Lake Mead NRA; AZ

- Flowers:** cyanthiform; raceme, nodding; 4 petals, red spots*; exerted pistil, knobby stigma; yellow; 1.5"
- Stems:** erect; solitary to few; branched mainly at base; strigose (bristly); olive green to red brown; 30"
- Leaves:** simple to pinnate (broad, elliptical leaflets); toothed; basal; red edged, spotted; green; to 5"
- Blooms:** January to May
- Range:** southwestern US
- Habitat:** dry, sandy to rocky; open flats, washes, slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; annual forb; grows to 2.5' in the desert sw US (se CA, s NV, w AZ, sw UT) at elevations up to 5,500'; flowers usually open in the early morning (matutinal), *red spots not always present on petals; cylindric, stalked, 4" capsule fruit; 3 subspecies; aka **Golden Suncup**, **Mojave Suncup**, **Pallid Suncup**, etc.; mainly pollinated by moths

Mojave presence: native

Comments:

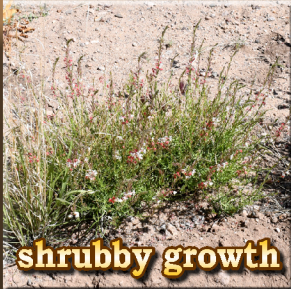
These primroses are favorites of the **White-Lined Sphinx Moth** for nectar and egg laying, thus are important hosts to the voracious caterpillars, as shown here near Hoover Dam Lodge (left) in April, 2019. Despite such appetites, the plants produce plenty of fruits, such as at **Death Valley National Park** (right) in March of 2024.



ONAGRACEAE

(Beeblossoms)

Scarlet Guara (*Oenothera suffrutescens*)



shrubby growth

Peach Springs, AZ



May

Diamond Bar Road; Peach Springs, AZ



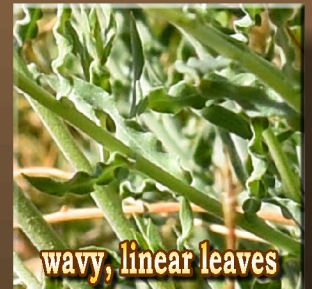
long stamens

Goodsprings Valley; NV



erect stems

Goodsprings Valley; NV



wavy, linear leaves

Red Rock Cyn NCA; NV

- Flowers:** bilateral; terminal spike; 4 spoon-like parted petals, 8 long stamens; white (aging to pink); 1"
Stems: erect; many; branched underground; suffrutescens, glabrous to strigose; reddish to green; 48"
Leaves: linear to narrow lanceolate; entire to wavy/serrate, sometimes incurvate; alternate; green; 3"
Blooms: April to September
Range: southwestern Canada; western US (introduced eastward); northern Mexico
Habitat: limy, sandy to gravelly; plains, prairies, deserts to p-j woods; Lower Sonoran to Transition LZs

Notes:

common; herbaceous perennial; sub-shrub that grows to 4' in western NA from sw CAN south to n MEX at elevations of 2,000-8,000'; aromatic flowers; rhizomous, colonial; formerly *Guara coccinea*; indehiscent, furry, sessile, pyramidal, .4" capsule fruit bearing 3-4 tan, ovoid seeds; no subspecies; aka **Scarlet Beeblossom**; traditionally used as an anti-emetic and for other minor medical treatments

Mojave presence: native

Comments:

While generally common throughout its range, this beeblossom/guara is actually rather uncommon in the Mojave and adjacent areas. The only places I have encountered it in the region were in Goodsprings Valley in the **Red Rock Canyon National Conservation Area** southwest of Las Vegas, NV, and heading down to the Colorado River in the Grand Canyon along Diamond Bar Road from Peach Springs, AZ.

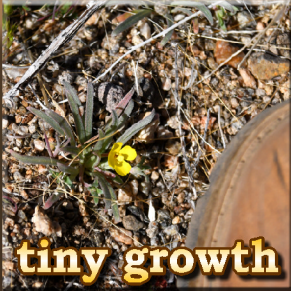
My10

ONAGRACEAE

(Suncups)

Pale Yellow Suncup

(*Camissoniopsis pallida*)



Antelope Cyn; AZ



Antelope Canyon; Mt. Tipton Wilderness Area; AZ



Antelope Cyn; AZ



Antelope Cyn; AZ



Antelope Cyn; AZ

- Flowers:** crateriform; solitary; 4 notched petals w/1-3 red dots, green sepals; bulbous stigma; yellow; 1"
- Stems:** stemless to erect; one or none; unbranched; strigose; reddish green; 12"
- Leaves:** narrow lanceolate to elliptic; entire to finely serrate; basal; furry; green (reddish tint); 2"
- Blooms:** February to June
- Range:** southwestern US
- Habitat:** gravelly; washes, flats, slopes in creosote scrub to p-j woods; Lower to Upper Sonoran LZs

Notes:

uncommon; herbaceous annual; grows to 1' (usually much less) in the sw US in the Mojave and northern Sonoran deserts at elevations up to 6,000'; diurnal flowers; 4-sided, straight to lightly curved, sessile, 1" capsule fruit bearing 1 row of brownish seeds per chamber; 2 subspecies; aka **Hall's Suncup**, **Pale Primrose**

Mojave presence: native

Comments:

The low-growing and inconspicuous plant shown here from Antelope Canyon in the **Mt. Tipton Wilderness Area** near Dolan Springs, AZ, is the only specimen of this uncommon species I have encountered and photographed. Easy to overlook, because of its usually small size, this quaint and often stemless primrose can be distinguished by its narrow, furry leaves and the distinctive bulbous stigma accompanied by eight smaller stamens.