

Discoïd Flowers



A **discoïd flower** head is the simplest arrangement in the sunflower family, composed only of disk florets (no ray florets present) that have regular, tubular corollas tipped with 4 to 5 apical (at the apex; the highest point) "teeth." Typically, such flowers are perfect (bisexual; containing both stamen and pistil) and fertile, though some may be infertile.

As D1

Family **ASTERACEAE** (Thistles)

Mojave Thistle (*Cirsium mohavense*)



Ash Meadow NWR; NV



Red Spring; RRNCA; NV



Red Spring; Red Rock Canyon NCA; Nevada



Red Spring; RRNCA; NV



Red Spring; RRNCA; NV

- Flowers:** discoid; inflorescence of 1 to many; ~1" disk florets: white, pink, lavender
- Stems:** erect; one to numerous; densely woolly; branched near top; green; 12-96"
- Leaves:** elliptic to oblanceolate; toothed to lobed; basal rosette to alternate; woolly, spiny; green; to 24"
- Blooms:** June to October
- Range:** southwestern US (Mojave Desert, southern Great Basin, adjacent areas)
- Habitat:** moist areas in dry regions (springs, streams, meadows); Lower Sonoran to Transition Life Zones

Notes:

common; biennial/perennial; native to sw US, mainly the Mojave Desert, growing up to 8' in moist areas at elevations of ~800-9,000'; spiny, glabrate phyllaries; .1" achene with ~.5" pappus; aka Virgin Thistle; somewhat salt tolerant; important host to insect pollinators (bees, butterflies, etc.), a food source for small mammals, various birds (particularly goldfinches), bats, insects, etc., and source for nesting material; indigenous people ate parts of this plant after careful preparation; distinguished from New Mexico Thistle by bushier appearance (more branched stems)

Mojave presence: native

Comments:

Thistles can be very difficult to identify by species. Upon close inspection they are distinguished by differences in such things as their leaves, phyllaries, and branching. Sometimes range is often helpful, but even that is not necessarily conclusive, as ranges often overlap.

As D3

Family **ASTERACEAE** (Thistles)

New Mexico Thistle (*Cirsium neomexicanum*)



single long stem

Ash Spring; RRCNCA; NV



scenic home

Ash Spring; RRCNCA; NV



June

Red Spring; Red Rock Canyon NCA; Nevada



spiny stems, leaves, phyllaries

Red Spring; RRCNCA; NV



billowy pappi

Red Spring; RRCNCA; NV

- Flowers:** discoid; on cyme-like panicles; 2.5" disk florets: white, pink, lavender
- Stems:** spiny; usually single, often **some branching** above base; cobwebby hairs (arachnoid); **green**; 84"
- Leaves:** lanceolate to elliptic; lobed; alternate and basal rosette; densely hairy, spiny; **green**; 10-14"
- Blooms:** April to May
- Range:** desert southwestern US; northwestern Mexico
- Habitat:** arid canyons, washes, meadows, rocky slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; biennial or short-lived perennial; grows to 7' tall in desert scrub to pinyon-juniper woodlands in sw US from CA east to CO/NM, south nw MEX at elevations ranging from 1,000-6,500'; fruit is an **achene** with bristly **pappus**; aka **Desert Thistle**, **Utah Thistle**, etc.; important host plant for various pollinators (bumblebees, beetles, butterflies, moths, etc.) and birds; used by indigenous people as a remedy for varicose veins

Mojave presence: native; year-round

Comments:

This thistle has a much wider range than the **Mojave Thistle** (previous page), making identification easier where their ranges do not overlap, otherwise, positive identification can be very difficult.

Family **ASTERACEAE** (Rabbitbrushes)

Mojave Rabbitbrush (*Ericameria paniculata*)



fall bloomer

Visitors Center, RRNCA



October

Red Rock Canyon NCA; Nevada



raceme-like inflorescence

Red Rock Cyn NCA; LV, NV



cylindrical leaves

Red Rock Cyn NCA; LV, NV



pappi in November

Dolan Springs, Arizona

- Flowers:** discoid; dense inflorescence; ~ .5" disk florets: **yellow**; 5-8
- Stems:** erect; woody at base; loosely branched; glabrous, resinous; **green**: ~24"
- Leaves:** cylindrical* with pointed tip; alternate; glabrous, resinous; **green**: ~.5-1.5"
- Blooms:** June to December
- Range:** southwestern US (mainly the Mojave Desert and adjacent areas)
- Habitat:** dry areas with sub-surface water, washes, roadsides, etc.; Lower to Upper Sonoran Life Zones

Notes:

common; woody perennial; grows to ~2-6' tall throughout the Mojave Desert and neighboring areas in creosote bush scrub to pinyon-juniper woodlands at elevations between ~1,200-5,000'; 4-5 rows of .25" **phyllaries**, tiny **achene** with bristly, tan **pappus**; aka **Black-Banded Rabbitbrush**; often recognized by black, gummy bands of fungal infection; produces good-quality latex that was once considered for exploitation, but too small an amount to be economical

(*distinguished from **Rubber Rabbitbrush**)

Mojave presence: native; year-round

Comments:

Rabbitbrushes in general are reliable late bloomers easily recognizable by their thick foliage and dense, yellow inflorescences of discoid flower heads that bloom in the fall, then puff into cottony masses of pappi reminiscent of the various species of baccharis. They are especially **As D5** conspicuous along highways and roads.

As D5

Family **ASTERACEAE** (Rabbitbrushes)

Rubber Rabbitbrush (*Ericameria nauseosa*)



Red Rock Cyn NCA; NV



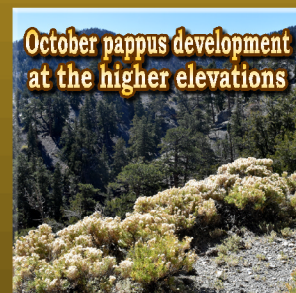
South Rim; Grand Canyon NP



South Rim; Grand Canyon NP



Lee Canyon; Spring Mtns; NV



Lee Canyon; Spring Mtns; NV

- Flowers:** discoid; inflorescence; ~.5" disk florets: yellow; 4-6
- Stems:** erect/spreading; woody (lower), but flexible; densely hairy (tomentose); green to whitish; ~24"
- Leaves:** linear/filiform*; entire; alternate (when present); glandular, densely hairy; green; .5-1"
- Blooms:** July to November
- Range:** western NA from Canada to northern Mexico
- Habitat:** desert/semi-desert, alluvial, forests, roadsides, etc.; Lower Sonoran to Transition Life Zones

Notes:

very common; perennial shrub; grows to 8' in dry, well-drained, gravelly habitats in sagebrush and creosote bush scrub to pine forests throughout western NA from the Pacific coast east to the Great Plains, and CAN south to n MEX at elevations from ~2,000-8,000'; quite variable in appearance, it is easily recognised by its full, bright yellow bloom well into late fall, and often pungent aroma; erect, glabrous phyllaries; small achene with thin, bristly pappus; aka Goldenbush, Turpentine Bush, Rabbitbush, Chamisa; 2 subspecies; important food source for browsers (rabbits, etc.), seed eaters (birds, small mammals), and pollinators (bees, butterflies, and other insects); produces good-quality latex; indigenous people made tea from the leaves/roots for relief of colds, stomachache

(*distinguished from Mojave (Black-Banded) Rabbitbrush)

Mojave presence: native; year-round

As D6

Family **ASTERACEAE** (Pincushions)

Pebble Pincushion (*Chaenactis carphoclinia*)



Dolan Springs; AZ



Pierce Ferry Road; Dolan Springs, AZ



Dolan Springs; AZ



Dolan Springs; AZ



Dolan Springs; AZ

- Flowers:** discoid; long, tubular, 5-lobed, apical, 1/branch; ~.25 x 1" disk florets: white; up to ~20
Stems: erect; single; branched; pubescent (finely hairy); purplish; 12"
Leaves: linear; pinnately lobed; alternate; cauline and basal; succulent, whitish pubescence; **green**; to 4"
Blooms: January to June
Range: desert southwest US; Baja and northwestern Mexico
Habitat: sandy to rocky; desert scrubland, slopes, etc.; Lower to Upper Sonoran Life Zones

Notes:

uncommon; annual; grows to ~1' throughout the Mojave Desert (CA, NV, UT, AZ) south into the nw MEX at elevations up to ~6,000'; flat, sharp, purplish **phyllaries**; **achene** fruit with scaly **pappus**; aka **Strawbed Pincushion**; 2 subspecies; food source for various wildlife (birds, rodents, tortoises, insects)

Mojave presence: native

Comments:

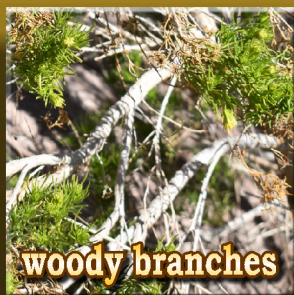
The pebble is a rather rare plant, and certainly the least common of several pincussion species found in the desert southwest. Its discoid head is usually dominated entirely by long, blossomy, tubular florets, whereas other species present small, knobby central florets surrounded by short marginal florets. Compare to the **Fremont Pincussion** on the previous page.

Family ASTERACEAE (Pygmy Cedars)

Pygmy Cedar (*Peucephyllum schottii*)



US 190; Death Vally NP



Hoover Dam; Lk Mead NRA



Hoover Dam; Lake Mead National Recreation Area



Red Rock Cyn NCA



Hoover Dam; Lk Mead NRA

- Flowers:** discoid; tubular; solitary; ~.5" disc florets: pale yellow; 12-21
- Stems:** erect; densely branched; resinous; gray, woody trunk*; shiny green
- Leaves:** narrow linear, needle-like; alternate; vibrant green, glandular; green; 1"
- Blooms:** December to June
- Range:** southwestern US (CA, NV, AZ, UT); northwestern MEX (Baja, Sonora)
- Habitat:** arid to semi-arid; rocky outcrops, canyons, washes, etc;
Lower to Upper Sonoran Life Zone



Red Rock Cyn NCA

Notes:

relatively common; perennial (lives to about 100 years); an evergreen shrub to sub-tree* (superficially resembling a conifer) that grows to 9' in desert scrub communities throughout most of the Mojave Desert south into Sonora and Baja, MEX, at elevations up to 4,600'; 1 row of up to eighteen gland-dotted .5" phyllaries; woody, dark cypselas; pappus of fine bristles; aka Sprucebush, Desert Fir, Desert Pine, Schott's Pygmy Cedar (not a true fir, pine, or cedar); only member of the genus *Peucephyllum*; important to birds and rodents for food and shelter

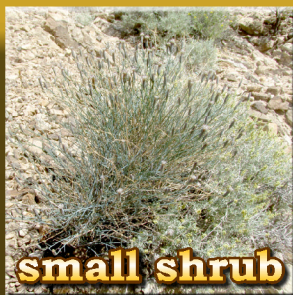
(*highly unusual for members of the sunflower family, which are generally herbaceous)

Mojave presence: native

As D11

Family **ASTERACEAE** (Poreleafs)

Slender Poreleaf (*Porophyllum gracile*)



small shrub

Frenchman Mtn; LV, NV



April

Frenchman Mountain; Las Vegas, NV



long, waxy phyllaries

Frenchman Mtn; LV, NV



smooth stems

Frenchman Mtn; LV, NV



narrow, alternate leaves

Frenchman Mtn; LV, NV

- Flowers:** discoid; tubular; solitary, terminal; 5" disc florets; white to purplish; 20-30
Stems: erect; suffrutescent (woody base); branched, tangled; waxy, slender, glabrous; **blue green**; 18"
Leaves: linear to filiform; entire; alternate; aromatic; **blue green**; to ~1.5"
Blooms: March to October (sometimes year-round depending on precipitation)
Range: southwestern US; Baja and northwestern Mexico
Habitat: sandy to gravelly; desert scrub, slopes, washes, etc.; Lower Sonoran Life Zone

Notes:

uncommon; short-lived perennial; grows to ~2' in the sw US from w TX west to s CA, south into MEX up to ~4,000' elevation; waxy, gland-bearing **phyllaries** to 2"; **cypsela** fruit with pinkish, bristly **pappi**; aka **Odora**; produces a strong, rather unpleasant odor; provides food and shelter for wildlife (birds, small mammals, insects)

Mojave presence: native

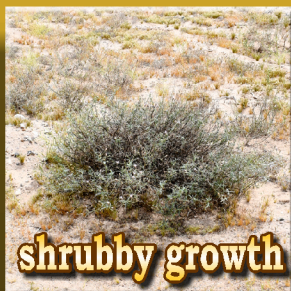
Comments:

Though widespread throughout its range in the southwestern US and into Mexico, this unusual looking plant with its conspicuously long flower heads is nevertheless a rather uncommon species in the Mojave. The specimen shown here, photographed at Frenchman Mountain on the east side of the Las Vegas Valley in southern Nevada in April of 2018 is the only one I've encountered (that I'm sure of) in my 40-plus years in the desert region.

As D12

Family ASTERACEAE (Palafoxes)

Desert Palafox (*Palafoxia arida*)



shrubby growth

Bullhead City, AZ



April

Bullhead City, Arizona



long, hairy phyllaries

Bullhead City, AZ



branched stems

Bullhead City, AZ



narrow, alternate leaves

Bullhead City, AZ

- Flowers:** discoid; tubular; terminal panicle; 5 triangular lobes; .5" disc florets: white to pinkish; 9-40
- Stems:** erect; branched; scabrous to sparsely hairy; green; 18"
- Leaves:** linear to narrow; entire; alternate; canescent (appressed hairs), glandular; blue green; 5"
- Blooms:** January to June (later depending on precipitation)
- Range:** southwestern US; Baja and northwestern Mexico
- Habitat:** sandy to gravelly; desert scrub, slopes, washes, etc.; Lower Sonoran Life Zone

Notes:

uncommon; herbaceous annual; grows as an open to dense shrub to 6' in the sw US (s CA, s NV, w AZ, sw UT), south into MEX (Baja, Sonora) at elevations up to 3,000'; 1", glandular, scabrous to hairy, pointed phyllaries of equal length; .6" cypsela fruit with .5" achenes topped with scaly pappi; aka Desert Needle, Spanish Needles (not to be confused with *Bidens alba*); 2 subspecies; provides food and cover for a variety of wildlife (e.g. birds, rodents, insects)

Mojave presence: native

Comments:

At first glance in the field, palafoxes can be easily mistaken for another uncommon discoid plant that shares its range: the Slender Poreleaf (previous page). The latter, however, has stems arising from a woody base (suffrutescent), and waxy phyllaries.

Family ASTERACEAE (Bebbias)

Sweetbush (*Bebbia juncea*)



typical habitat

Dolan Springs, AZ



April

Mt Tipton Wilderness Area; Dolan Springs, AZ



small, terminal heads

Dolan Springs, AZ



erect, branching stems

Dolan Springs, AZ



narrow, alternate leaves

Dolan Springs, AZ

- Flowers:** discoid; tubular; cyme inflorescence; .5" disc florets; yellow to orange yellow; 20-50
Stems: erect to spreading; woody base; slender, branched, tangled; aromatic, pubescent; green; to 48+"
Leaves: linear to elliptical; entire to dentate; opposite (lower), alternate (upper); sessile; green; 1.5"
Blooms: April to July (sometimes year-round depending on precipitation)
Range: southwestern US; Baja and northwestern Mexico
Habitat: dry, sandy to gravelly; desert scrub, slopes, washes, canyons, etc.; Lower Sonoran Life Zone

Notes:

common locally; short-lived perennial; grows to 4' in the sw US from extreme w TX west to s CA, south into Baja and nw MEX up to ~5,000' elevation; long, linear, finely hairy, overlapping (in 3 to 5 rows), pinkish, recurved **phyllaries**; feathery (**plumose**) **cypsela** fruit with stiff hairs (**strigose**); aka **Sweetbush Bebbia**, **Chuckwalla's Delight**; 2 subspecies; produces a somewhat sweet, pleasant aroma; attracts numerous insects, particularly butterflies, bees, moths, etc.

Mojave presence: native

Comments:

Early in the bloom season (April), these plants are readily recognized by the appearance of prodigious pale-yellow buds (left) poised atop each stem branch. Of the two subspecies, only **B. j. aspera** occurs in the US (**B. j. juncea** grows in Mexico). The specimens shown here were photographed in April and May of 2023 in Dolan Springs, Arizona.



As D14

Family ASTERACEAE (Acorcias)

Brownfoot Acorcia (Acorcia wrightii)



shrubby growth

Dolan Springs, AZ



April

Mt Tipton Wilderness Area; Dolan Springs, AZ



tubular disc flowers

Dolan Springs, AZ



articulated stems

Dolan Springs, AZ



toothed, clasping leaves

Dolan Springs, AZ

- Flowers:** discoid; tubular; corymb inflorescence; bisexual; bilabiate; .5" disc florets: pink; 8-12
Stems: erect, articulated; unbranched; subglabrous to glandular; green; to 48"
Leaves: variable (oblong, elliptical, lanceolate); dentate; alternate; sessile to clasping; green; 5"
Blooms: May to November
Range: southwestern US; northern Mexico
Habitat: dry, gravelly; desert scrub, slopes, washes, canyons, etc.; Lower to Upper Sonoran Life Zones

Notes:

uncommon; perennial; grows to 4' in the sw US from s TX west to AZ/sw UT, south into n MEX at elevations from 1,200-6,000'; green, linear to lanceolate, layered (2-3) phyllaries with purple margins and blunt tips; cypsela fruit with linear to fusiform, .33", puberulant (finely hairy) achenes; .5" bright white pappi; aka Pink Perezia, Wright's Desertpeony; seeds eaten by small mammals and granivorous birds, while the nectar attracts numerous insects

Mojave presence: native; extreme eastern region

Comments:

This acortia in Dolan Springs, AZ, in May of 2024 presents two distinctive field characteristics to aid in its identification. First, the green phyllaries are adorned with purple margins (left), and second, the mature leaves fade to bright white (right).



As D15