

BEGIN WINTER ANNUALS:

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Amsinckia tesselata—Yellow Fiddleneck

Winter Annual

Borage Family

Boraginaceae

Distinguishing Characteristics

- Flowers yellow (if white, see *Cryptantha barbigera*), located on scorpid cymes
- Densely hairy herbage
- Fruit is 4 identical nutlets with a checkerboard pattern on them
- Calyx made up of 3-4 unequal lobes, the larges of which may be toothed



Androsace occidentalis—Western Rock Jasmine
Androsace arizonica

Winter Annual

Primrose Family
Primulaceae

Distinguishing Characteristics

- Flowers in umbels at end of scapes \leq 5 cm tall
- Bracts of involucre are ovate rather than lanceolate
- Foliage may turn reddish with age



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Astragalus allochrous—Halfmoon Milkvetch

Winter Annual

Legume Family

Fabaceae

Distinguishing Characteristics

- **Note:** Genus *Astragalus*—leaves not glandular punctate; Genus *Dalea* leave glandular punctate
- Leaves scattered along stem, plants not atted
- Mature leaflets <= 4 mm wide
- Leaflets pubescent above, not spine-tipped, entire or nearly so at apex
- Plants annual or short-lived perennial
- Flowers several or numerous, in racemes; pods 1-celled, oblong-ovate, strongly inflated, 25-40 mm long, asymmetric, strigose*
- Herbage green, strigose; stems up to 60 cm long; leaflets broadly linear to elliptic

*traits distinguished from *A. nuttalianus*



Astragalus nuttallianus—Nuttall's Milkvetch

Winter Annual

Legume Family
Fabaceae

Distinguishing Characteristics

- Leaves scattered along stems, plants not matted
- Mature leaflets <= 4 mm wide
- Flowers < 10 mm long
- Leaflets usually pubescent (occas. glabrous) above, not spine-tipped, entire or nearly so at apex
- Plants annual
- Flowers solitary or in subumbellate or subcapitate clusters of 2-5; pods usually 2-celled (occas. 1), linear, not inflated, 10-20 mm long, curved; corolla whitish or purplish, keel tip usually dark purple*



*traits distinguished from *A. alochrous*

Bailey multiradiata—Desert Marigold

Winter Annual

Composite Family
Asteraceae



Distinguishing Characteristics

Genus:

- Floccose-woolly herbs
- Leaves alternate, pinnatifid to entire
- Heads solitary or cymose, long-peduncled, radiate, yellow
- Rays persistent, becoming papery, reflexed in age
- Achenes striate, epappose

Species:

- Rays ~20-50
- Heads mostly solitary at tips of stem and branches, disk in flower >= 10 mm thick
- Stem leafy only at base or below middle, peduncles 10-20 cm long

Bromus rubens—Red brome

Anisantha rubens

Bromus madritensis

Winter Annual

Graminoid Family

Poaceae

Distinguishing Characteristics

Genus:

- Spikelets not in groups, +/- laterally compressed; articulation above glume
- Glumes present
- Spikelets in open or spikelike panicles w/ ≥ 2 flowers/spikelet
- Glumes shorter than lowest floret, lemmas awned from tip or bifid apex
- Flowers perfect
- Spikelets all alike not in fascicles
- Lemmas w/ ≥ 5 nerves, mucronate or awned
- Spikelets not clustered, +/- evenly distributed in narrow or open panicles

Species:

- Spikelets not conspicuously flattened, lemmas rounded on back
- Awns not geniculate
- Lemmas narrow, acuminate, hyaline toward tip
- Panicle contracted, +/- dense
- Culms pubescent below panicle



Chaenactis stevioides—Esteve's pincushion
Chaenactis gillespiei
Chaenactis latifolia
Chaenactis mexicana

Distinguishing Characteristics

Genus:

- Low herbs
- Leaves alternate, entire to bipinnatifid, blade or its divisions narrow
- Heads flesh-colored or white (rarely yellow), discoid but sometimes w/ enlarged outer corollas
- Achenes linear

Species:

- Phyllaries obtuse to acuminate
- Leaves, at least lower ones, bipinnatifid
- Plants +/- persistently tomentose
- Involucre 6-9 (rarely 12) mm high
- Pappus of 4-5 paleae
- Outer corollas distinctly larger than others

Winter Annual



Composite Family
Asteraceae



Cryptantha crassisepala—thicksepal cryptantha

Winter Annual

Borage Family

Boraginaceae

Distinguishing Characteristics

Genus:

- Annual, biennial, or perennial herbs, usually bristly
- Corolla white or yellow
- Cymes (inflor.) mostly scorpioid but sometimes glomerate or loosely racemose
- Nutlets smooth, tuberculate, or wrinkled

Species:

- Plants slender
- Gyno base shorter than the nutlets, style developed
- Not conspicuously dichotomous
- Root & base of plant obscurely charged with purple dye

Species (cont'd)

- Nutlets roughened, straight
- Calyx strict to spreading, not recurving (usually)
- Nutlets distinctly heteromorphous = 4; 4 ovules, stems not reddish
- Stems w/spreading hairs, calyx w/ a short but distinct pedicel



Cryptantha micrantha—Red-root cat's eye

Winter Annual

Borage Family
Boraginaceae

Distinguishing Characteristics

Genus:

- See *Cryptantha crassisepala*

Species:

- Plants slender, small, dichot.
- Gynobase protruding around the nutlets, bearing a sessile stigma at apex
- Root & base of plant conspicuously charged with purple
- Flowers each with foliaceous bract



Descurainia pinnata—western tansymustard

Winter Annual

Mustard Family
Brassicaceae

Distinguishing Characteristics

Genus:

- Fruits 2-celled, capsular
- Capsules not compressed contrary to partition (but may appear so in dried specimens)
- Capsules > 2x as long as wide
- Capsules sessile or w/stipe <<10 mm long
- Calyx open in anthesis, not flask-shaped
- Mature capsules terete or tetragonal, not strongly compressed (may appear so when dried)
- Capsules not strongly reflexed, but sometimes recurved-spreading
- Beak of capsule none or slender or <= 3 mm long
- Petals entirely or nearly so
- Pubescence partly of forked or stellate hairs
- Leaves pinnate or deeply pinnatifid; pubescence often partly glandular

Species:

- Capsules clavate (club-shaped) or subclavate, spreading
- Leaves bipinnate or upper ones simply pinnate



Dithyrea wislizeni—spectacle pod

Dithyrea griffithsii

Dimorphocarpa wislizeni

Winter Annual

Mustard Family

Brassicaceae

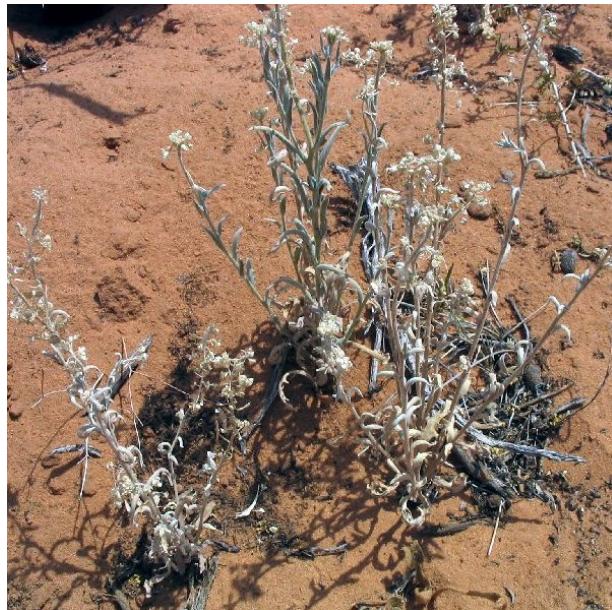
Distinguishing Characteristics

Genus:

- Fruits 2-celled, capsular
- Capsules strongly compressed contrary to partition, wider than long, 2-lobed, flat, 1 seed/cell
- Petals white to yellow, sometimes purple-tinged, < 15 mm long
- Herbage stellate-pubescent
- Plants not lepidote (covered with small scales)

Species:

- Stems erect; herbage gray or whitish
- Stem leaves linear-lanceolate to ovate-lanceolate, deeply sinuate-dentate to nearly entire
- Petals 5-8 mm long, white; pedicels in fruit often ≥ 10 mm long; fruit notched below truncate, or shallowly notched above, canescent or glabrous



Eriastrum diffusum—miniature woollystar

Winter Annual

Phlox Family
Polemoniaceae

Distinguishing Characteristics

Genus:

- Small annual
- Stems mostly erect, sometimes diffusely branched
- Leaves alternate, entire, or pinnately parted near base with few narrow lobes
- Flowers in dense, leafy-bracted heads, these conspicuously cobwebby w/long, fine, white hairs *
- Calyx lobes +/- unequal, bristle-tipped
- Corolla tube usually much longer than calyx

Species:

- Anthers 0.5-1.0 mm long
- Corolla regular or nearly so, 6-8 mm long, lobes usually much shorter than tube



Erodium cicutarium—Common stork's bill

Winter Annual

Geranium Family

Geraniaceae

Distinguishing Characteristics

Genus:

- Leaves palmately lobed or pinnate
- Stames 5 or if 10 then alternate ones rudimentary
- Bodies of carpels spindle-shaped, sharp-pointed at base
- Styles persistent, pubescent on inner face, becoming spirally twisted at maturity

Species:

- Leaves much longer than wide, pinnate, leaflets pinnatifid
- Herbage sparsely glandular-villoso
- Sepal tips with 1 or 2 white bristle-like appendages
- Petals ≤ 6 mm long



Erodium texanum—Texas stork's bill

Winter Annual

Geranium Family

Geraniaceae

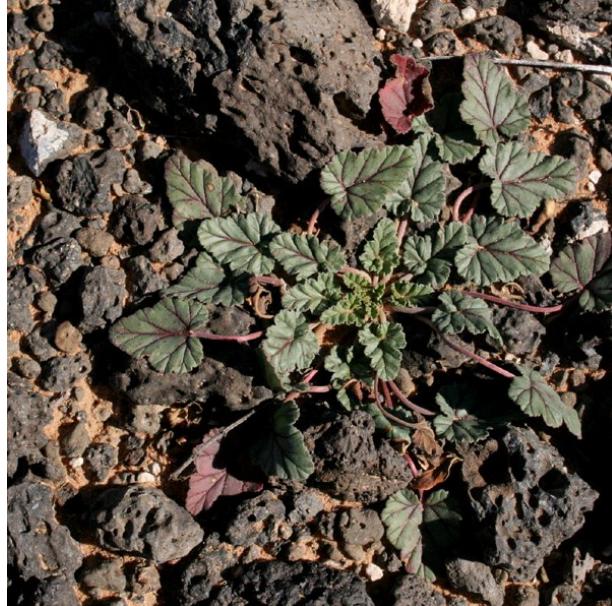
Distinguishing Characteristics

Genus:

- Leaves palmately lobed or pinnate
- Stames 5 or if 10 then alternate ones rudimentary
- Bodies of carpels spindle-shaped, sharp-pointed at base
- Styles persistent, pubescent on inner face, becoming spirally twisted at maturity

Species:

- Leaves nearly to quite as wide as long, palmately lobed to almost divided, often chordate at base
- Herbage canescens with short appressed hairs
- Sepal tips not appendaged
- Petals > 6 mm long



Escholtzia californica mexicana—Mexican poppy
Escholtzia mexicana

Winter Annual

Poppy Family
Papaveraceae

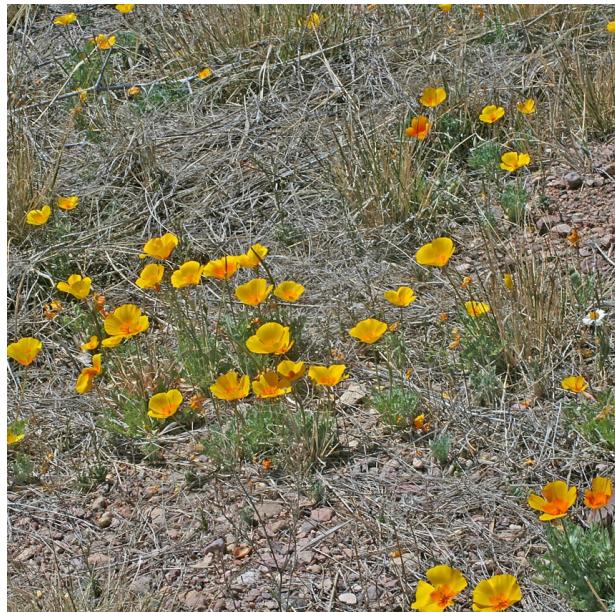
Distinguishing Characteristics

Genus:

- Leaves compound, ternately dissected, smooth, glaucous
- Flowers solitary on long peduncles or in small, loose clusters at ends of branches
- Petals orange or yellow
- Fruit a slender capsule, 1-celled, several-seeded, longitudinally ribbed

Species:

- Outer rim of hypanthium distinct, usually ≥ 5 mm wide after anthesis \pm cartilaginous and flaring
- Cotyledons bifid
- Stems leafy & branching above base, or plants nearly acaulescent
- Petals 15-30 mm long
- Mature seeds dark-colored, rugose-reticulate



Gilia sinuata—rosy gilia
Gilia inconspicua

Winter Annual



Phlox Family
Polemoniaceae

Distinguishing Characteristics

Genus:

- Annual to perennial, mostly herbaceous
- Leaves alternate or basal, or lower leaves opposite
- Calyx & corolla 5-lobed
- Corolla mostly regular, usually with a well-developed, often elongate tube
- Capsule 3-celled & 3-valved
- Inflorescence not conspicuously cobwebby*

*distinguishes *Gilia* from *Eriastrum*

Species:

- Corolla tube well-developed
- Flowers aggregated in dense inflorescences
- Seeds 1-several/locule

- Inflor. An open panicle, erect or ascending
- Corolla narrowly funnel form, tube shorter than to somewhat longer than throat; tube & throat 1-2x as long as calyx; whitish or pale pink, seldom drying violet
- Stem leaves entire or few-toothed, basal leaves pinnately or bipinnately lobed or divided
- Herbage glabrous to arachnoid-tomentose below, usually glandular-puberulent only in inflor.
- Stems scapelike
- Larger leaves mostly in basal rosette, upper leaves reduced



Happlopappus gracilis—Shinner's slender goldenweed

Machaeranthera gracilis

Sideranthus gracilis

Distinguishing Characteristics

Genus:

- Herbs or shrubs
- Leaves alternate, entire to bipinnatifid
- Heads small to large, usually radiate (or discoid), yellow
- Involucre usually definitely graduated
- Achenes cylindric to turbinate
- Pappus copious, of graduate capillary bristles

Species:

- Heads radiate
- Leaves not 3-nerved & veiny, sharply serrate to bipinnatifid, basal ovules not large, teeth or lobes spinescent-tipped*
- Phyllaries are spinescent-tipped
- Involucre strigose or hirsute, obscurely if at all glandular

Winter Annual

Composite Family
Asteraceae



Lappula redowskii—stickseed

Lappula occidentalis

Lappula texana

Winter Annual

Borage Family

Boraginaceae



Distinguishing Characteristics

Genus:

- Small annual
- Flowers blue or white in bracted racemes
- Nutlets 4, erect, attached to a slender, elongate gynobase along the length of well-developed ventral keel

Species:

- Margins of nutlets with a single row of distinct barbed appendages (or partly united), no secondary appendages outside

Lepidium lasiocarpum—pepperweed

Synonyms

Synonyms

Winter Annual

Mustard Family

Brassicaceae

Distinguishing Characteristics

Genus:

- Fruits 2-celled, capsular
- Capsules strongly compressed contrary to partition, $\leq 2x$ as long as wide
- Petals white to yellow, sometimes purple-tinged, 15 mm long
- Capsules not 2-lobed, 1 ovule & seed per cell
- Pubescence, if any, of simple hairs

Species:

- No leaves perfoliate or clasping; fruits dehiscent
- Petals < 2 mm long, linear, or spatulate, often rudimentary or wanting; style in fruit < 0.3 mm long; stems never woody
- Pubescence of stiff spreading hairs; pedicels conspicuously flattened, about twice as wide as thick; plants diffusely branched from the base; stems decumbent or spreading, seldom erect; basal leaves deeply incised or pinnatifid, stem leaves coarsely toothed, incised or pinnatifid; capsules often hirsute or hispid on margin



Lesquerella gordoni—Gordon's bladderpod

Winter Annual

Mustard Family
Brassicaceae

Distinguishing Characteristics

Genus:

- Fruits 2-celled, capsular, capsules not compressed contrary to partition (but may appear so in dried specimens); $\leq 2x$ as long as wide, \pm turgid (not flat)
- Valves of ovoid, ellipsoid or globose capsules w/o a distinct central nerve or nerve not extending to apex
- Seeds flat; herbage densely stellate-pubescent or lepidote; leaves mostly entire



Species:

- Herbage green, sparsely pubescent to densely silvery-canescens; leaves lanceolate, oblanc., or spatulate, entire, 2-12 mm wide
- Petals 6-8 mm long, bright yellow, sometimes fading reddish
- Capsules globose or nearly so, ~4mm in diameter, glabrous or pubescent, stort-stipitate to sessile in calyx



Linanthus bigelovii—Bigelow's linanthus
Gilia bigelovii

Winter Annual



Distinguishing Characteristics

- Stems and leaves w/o hairs
- Leave opposite, simple, linear
- Flowers linear, funnel-shaped, creamy white with purple, 5-lobed
- No spines
- Leaf margins entire, or cleft into 2-3 linear segments, leaf surface glabrous or stipitate glands
- Inflor. In terminal cymes or solitary in axils; flowers vespertine
- Calyx fused & ribbed w/membranes in between, calyx lobes spinulose-tipped

*compare closely with *Eriastrum diffusum*

Phlox Family
Polemoniaceae



Linaria texana—Blue toadflax

Linaria canadensis

Nutallanthus texanus

Winter Annual

Snapdragon Family

Scrophulariaceae



Distinguishing Characteristics

Genus:

- Plants herbaceous, glabrous, or nearly so
- Biennial annual, or perennial
- Flowering stems erect, leafy, simple or few-branched
- Leaves sessile, narrow, entire
- Flowers in terminal racemes
- Corolla strongly bilabiate, with a long slender basal spur
- Capsule opening near the apex by pores or chinks

Species:

- Short sterile basal shoots
- Racemes slender, becoming elongate
- Corolla bright blue, ≤ 10 mm long
- Seeds wingless

Lupinus concinnus—Bajada Lupine

Winter Annual

Legume Family
Fabaceae

Distinguishing Characteristics

Genus:

- Leaves digitately compound, 4-15 leaflets
- Flowers in terminal racemes or spikes
- Calyx strongly bilabiate
- Petals blue, purple, or white
- Keel usually curved & enclosed by wing petals
- Stames dimorphic
- Pods ± compressed, sometimes constricted between seeds

Species:

- Long, dense pubescence on leaves and stem
- Low growing
- Pinkish flowers, banner petal with a cream-white or yellow center



Malacothrix fendleri—Desert Dandelion

Winter Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Leaves toothed to pinnatisect
- Heads small or medium, yellow or white
- Involucres of subequal phyllaries & calyculate or strongly graduated
- Achenes columnar, truncated, ribbed
- Pappus of soft bristles, deciduous ± in a ring, 1-8 of them stiffer & persistent
- Achene often also crowned with a ring of minute teeth



Species:

- Involucre 5-12 mm high, calyculate but scarcely graduated
- Phyllaries ≤ 1.5 mm wide

- Phyllaries ≤ 1.5 mm wide
- Leaves linear to oblong or ovate, mostly pinnatifid, leaf segments oblong to triangular to linear-lanceolate, ± short, usually toothed
- Ligules conspicuous, bright yellow, much exceeding involucre
- Heads mostly solitary or few at tips of branches
- Achene cylindric, evenly 15-ribbed, 2 mm long, outer coat prolonged into a dark entire collar



Microseris linearifolia—Lindley's silver puffs

Microseris lindleyi

Uropappus lindleyi

Uropappus linearifolius

Winter Annual

Composite Family

Asteraceae



Distinguishing Characteristics

Genus:

- Subscapose annuals
- Leaves narrowly linear and entire, or pinnatisect into narrow lobes
- Heads solitary, corollas yellow, often drying purplish
- Pappus of 5 linear-lanceolate, scariosus, 1-nerved, bifid paleae

Species:

- monospecific

Nama hispidum—Purple roll leaf
Conanthus hispidus
Marilaunidium foliosum
Marilaunidium hispidum
Marilaunidium tenue
Nama biflorum

Distinguishing Characteristics

Genus:

- Herbaceous or barely suffrutescent
- Calyx lobes not very unequal
- Stems ± leafy
- Ovary ± completely 2-celled
- Flowers axillary, solitary, or in small, dense, leafy clusters
- Leaves simple, entire, alternate

Species:

- Sepals distinct, or nearly so
- Leaves well-distributed along stem
- Herbage hirsute or hispid
- Stems ± spreading, stem hairs ascending, corolla 7-15 mm long, seeds mostly < 0.6 mm long

Winter Annual

Waterleaf Family
Hydrophyllaceae



Oenothera primiveris—Desert evening primrose
Lavauxia primiveris

Winter Annual

Evening-primrose Family
Onagraceae

Distinguishing Characteristics

Genus:

- Sepals deciduous after flowering
- Flowers 4-merous
- Seeds without tufts of hairs
- Fruit a capsule, dehiscent
- Petals yellow or white (rarely red, except on aging)
- Herbaceous
- Leaves alternate or basal

Species:

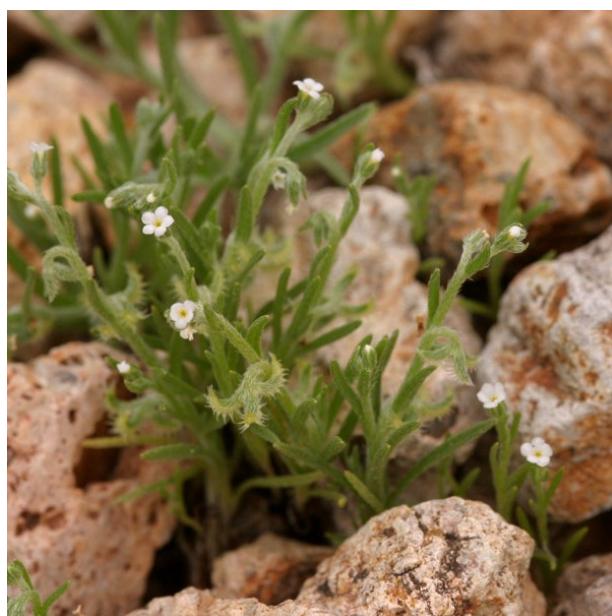
- Leaves villous and oblanceolate
- First leaves may be unlobed, later leaves are deeply lobed
- Flowers \leq 5 cm across with 4 broad, notched, heart-shaped petals



Pectocarya recurvata—curvenut combseed

Winter Annual

Borage Family
Boraginaceae



Distinguishing Characteristics

- Stem ascending & erect, 3.5–21 cm
- Inflorescence: pedicels in fruit 2-3 mm
- Fruit: nutlets, strongly recurved to coiled, linear, margin teeth distinct ± to base
- Flowers March-May



Phacelia arizonica—Arizona scorpionweed
Phacelia popei

Winter Annual

Waterleaf Family
Hydrophyllaceae

Distinguishing Characteristics

Genus:

- Herbaceous or barely suffrutescent
 - Calyx lobes not very unequal
 - Stems ± leafy
 - Ovary ± completely 2-celled
 - Flowers mostly in 1-sided, raceme-like cymes
 - Corolla blue, purple, or white
- Species:**
- Leaves 1 or more times pinnate or pinnatifid, or pinnately toothed
 - Seeds not corrugate or only so on margins, excavated on 1 side
 - Racemes circinate or scorpioid
 - Stems ± stout
 - Corolla campanulate, inflor. More corymbiform & spreading

- Corolla white or pale bluish-purple, lobes erose-dentiulate; herbage not silvery-pilose
- Gland-tipped hairs few or none; stems decumbent or prostrate, not leafy to the inflor., leaves pinnatifid
- corolla lobes w/obtuse or acutish teeth, fruiting racemes rarely > 4 cm long; capsule globose



Plantago purshii—woolly plantain

Plantago patagonica

Plantago picta

Distinguishing Characteristics

Genus:

- Scapose herbs
- Foliage leaves all basal
- Flowers small, regular, in terminal long-peduncled, bracted spikes
- Calyx & corolla 4-divided or 4-lobed, persistent, usually **scarious** (sp)
- Stamens 2 or 4, distinct, attached to corolla tube
- Ovary superior, 2-4 celled
- Fruit a circumscissile, usually few-seeded capsule
- Seeds become mucilaginous when wet

Species:

- Flowers all perfect, none cleistogamous
- Corolla lobes spreading or reflexed

Winter Annual

Plantain Family

Plantaginaceae



Plagiobothrys arizonicus—Bloodweed
Eritrichium canescens

Winter Annual

Borage Family
Boraginaceae

Distinguishing Characteristics

Genus:

- Strigose or bristly
- Corollas white
- Nutlets rugose, erect or incurved, attached at or below middle to a depressed gynobase
- Basal leaves opposite or crowded into a rosette

Species:

- Bottom of leaf tipped in red, red staining
- Nutlets not tessellate, the back wrinkled or ridged
- Leaves charged w/purple dye, esp. on midrib & margins
- Calyx circumscissile, lobes short & strongly connivent
- Nutlets incurved
- Bristles conspicuous on stems and leaves
- Leaves 3-5 cm long, clasping alternate above, in rosette at base



Sisymbrium irio—London Rocket
Norta irio

Winter Annual

Mustard Family
Brassicaceae

Distinguishing Characteristics

- Erect herb
- Pinnatifid leaves
- Small yellow flowers
- Long siliques are truncate at the end



Spermolepis echinata—bristly scaleseed
Apium echinatum

Winter Annual

Parsley Family
Apiaceae



Distinguishing Characteristics

Genus:

- Annual caulescent, alternately branching, glabrous
- Leaves ternately decompound, segments filiform
- Peduncles axillary & terminal, exceeding the leaves
- Umbels compound; involucre absent
- Calyx teeth obsolete, corolla white
- Fruit ovoid, 1.5-2 mm long, laterally compressed, covered w/short, echinate bristles
- Oil tubes 1-3 in intervals, 2 on commissure
- Seed face sulcate

Species:

- monospecific



Stephanomeria exigua—small wirelettuce

Winter Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Annual or perennial herbs
- Leaves linear to oblong, those on upper part of stem usually greatly reduced
- Heads small, usually panicled, rosy or flesh-colored
- Involucre of several equal phyllaries, & some calyculate bractlets or more regularly graduated
- Achenes columnar, 5-angled
- Bristles of pappus 1-serrate, plumose at least above, sometimes connate into groups

Species:

- Involucre 5-9 (rarely 10) mm high, 3-9 flowered
- Pappus of 5-18 bristles, these plumose above the middle, longer than the tuberculate-rugose achene



Vulpia octoflora—sixweeks fescue

Winter Annual

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Spikelets not in groups, ± laterally compressed, articulation above glume
- Glumes present
- Spikelets in open or spikelike panicles w/ ≥ 2 flowers/spikelet, spikelets all alike, not in fascicles, not clustered, ± evenly distributed in narrow or open panicles
- Lemmas w/ ≥ 5 nerves; mucronate or awned, keeled at least toward apex
- Glumes shorter than lowest floret, lemmas awnless or awned from tip or bifid apex
- Perfect flowers

Species:

- Spikelets with > 5 flowers, florets crowded
- Lemmas 4-5 mm long
- Awns 2-5 mm long



BEGIN PERENNIALS:

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Allionia incarnata—Trailing windmills

Perennial

Four o'clock Family
Nyctaginaceae

Distinguishing Characteristics

Genus:

- Herbaceous, glandular-pubescent
- Leaves petioled, very unequal in the pair
- Involucres solitary on axillary peduncles, 3-flowered
- Ovary inferior
- Perianth campanulate-rotate
- Fruit flattened, the dorsal face bearing two rows of stipitate glands

Species:

- Margin of fruit strongly incurved, usually with ~6-8 broadly triangular teeth, seldom entire



Ammocodon chenopodioides—Goosefoot moonpod **Perennial**
Selinocarpus chenopodioides
Acleisanthes chenopodioides

Four o'clock Family
Nyctaginaceae

Distinguishing Characteristics

Genus:

- Leaves broadly ovate
- Stems low, diffusely branched
- Flowers several or numerous, in simple or compound cymes, these usually long-stalked
- Free portion of perianth not > 5 mm long
- Stames 2 or 3
- Fruit conspicuously winged*

Species:

- monospecific



Apodanthera undulata—Melon Loco

Perennial

Gourd Family
Cucurbitaceae

Distinguishing Characteristics

Genus:

- Monoecious, coarse
- Herbage harshly appressed-pubescent
- Flowers few, calyx tube 1.5-2/5 cm, corolla yellow, lobes distinct or very nearly so, stamens 3, 1 with a 1-celled anther and 2 with the anthers 2-celled, the anthers distinct, sessile
- Fruit oval, longitudinally ridged

Species:

- Calyx tube 15-25 mm long, teeth subulate
- Corolla yellow, lobes distinct or nearly so
- Stamens 3, 1 of them with 1-celled anther, others with 2-celled anthers
- Fruit ovoid, 7-10 cm long, longitudinally ridged



Aristida longiseta—purple threeawn
Aristida purpurea var. *longiseta*

Perennial

Graminoid Family
Poaceae



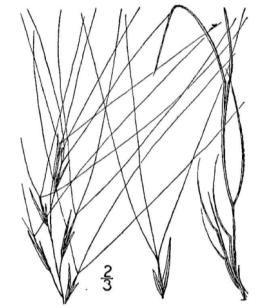
Distinguishing Characteristics

Genus:

- Firm, usually involute blades
- Narrow or open panicles
- 3 awned species: awns 6-8 cm long, lemma glabrous or nearly so; culms slender 20-30 cm long; panicle 10-15 cm long, relatively few flowered; panicle branches ascending or appressed

Species:

- Very unequal glumes
- Three-awned



Bahia absinthifolia—Sageleaf Bahia

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Leaves opposite or alternate, entire to dissected
- Heads radiate or rarely discoid, yellow
- Phyllaries not punctate
- Achenes narrow, 4-angled, usually more conspicuously pubescent toward base than above
- Pappus of several squamellae or paleae, these with a callose-thickened base or midrib, or rarely wanting

Species:

- Leaves opposite below, alternate above, w/ usually broad segments, sometimes entire
- Usually relatively tall, canescent puberulent w/ appressed hairs
- Stems strigillose above, not evidently glandular
- Heads radiate solitary or few at tips of stem & branches, long peduncled
- Achenes conspicuously long-hair at base



Boerhaavia coccinea—Garnet spiderling
Boerhavia coccinea

Perennial

Four o'clock Family
Nyctaginaceae

Distinguishing Characteristics

Genus:

- Herbaceous, stems usually branched, often w/vissid band around each internode
- Leaves petioled, usually unequal in the pair, linear-lanceolate to nearly orbicular
- Flowers small, mostly in terminal racemes or cymes, perianth limb campanulate to nearly rotate
- Fruits obpyramidal or clavate, ribs sometimes winged, furrows between ribs rugose

Species:

- Fruit glandular pubescent
- Perianth carmine or dark red
- Flowers in glomerules



Bothriochloa barbinodis—cane bluestem
Andropogon barbinodis
Andropogon perforates
Bothriochloa palmeri

Perennial

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Perennials with flat or folded blades
- Few to numerous racemes
- Sessile spikelet perfect
- Pedicelate spikelet staminate or sterile and much reduced
- Fertile lemma hyaline, narrow, entire or bifid, usually bearing from the tip a bent and twisted awn

Species:

- Spikelets 5-6 mm long
- Panicle short exserted or partly enclosed by the sheath
- Nodes densely bearded
- Racemes relatively few on a short axis



Bouteloua eriopoda—black grama
Chondrosum eriopodum

Perennial

Graminoid Family
Poaceae

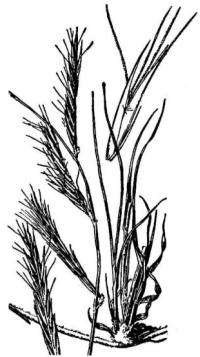
Distinguishing Characteristics

Genus:

- Cespitosome (tufted) or stoloniferous
- Culms slender
- 1-sided spikes racemose
- Spikelets w/1 fertile floret
- Fertile lemma 3-nerved, nerves usually excurrent in short awns

Species:

- Culms felty-pubescent
- Wiry, straggling, sparingly stoloniferous
- Second glume not at all papillose-pilose



Cassia bauhinoides—twinleaf senna
Senna bauhinoides

Perennial

Legume Family
Fabaceae

Distinguishing Characteristics

Genus:

- Leaves pinnate, leaflets few or numerous
- Flowers moderately irregular, in racemes or panicles, or solitary in leaf axils, yellow
- Stamens 5 or 10, often unequal
- Fruit dehiscent or indehiscent, flat or turgid

Species:

- Fruits ± promptly & elastically dehiscent
- Stems usually << 1 m long
- Herbaceous or barely suffrutesc.
- Rachis usually w/≥ 1 subulate glands between the opposite leaflets (1 pair)
- Petals conspicuously veined
- Leaflets oblong, elliptic or obovate
- Pubescence of herbage & pods soft, appressed or partly spreading
- Flowers all axillary, solitary or in 2s on peduncles
- Pods obliquely cuspidate



Cirsium neomexicanum—New Mexico Thistle
Carduus inamoenus
Cirsium arcuum
Cirsium utahense
Cirsium wallowense

Perennial



Composite Family
Asteraceae



Distinguishing Characteristics

- Broad, woolly, tomentose, phyllaries
- Reflexed outer phyllaries
- Pale pink-purple, almost spherical inflor.
- Spiny leaves



Commelina erecta—whitemouth dayflower

Perennial

Spiderwort Family
Commelinaceae

Distinguishing Characteristics

Family:

- Segments of perianth sharply differentiated: outer ones green sepal-like, inner ones petal-like
- Flowering stems not from an onion-like bulb
- Leaves alternate with sheathing bases

Genus:

- Stems weak, erect to procumbent
- Bract strongly compressed, halves fold together
- Flowers irregular, petal-like inner perianth segments, blue or white, unequal
- Sterile stamens w/4-lobed empty anthers

Species:

- Roots thick but scarcely tuber-like
- Stems much branched, decumbent or spreading
- Floral bracts ≤ 3 cm long, connate below, acute or short-acuminate, pubescent w/short, subappressed hairs & w/long, more spreading, flaccid hairs (esp. toward base)
- One petal white



Croton corymbulosa—Leatherweed
Croton pottssii
Croton corymbulosus

Perennial

Euphorbia Family
Euphorbiaceae



Distinguishing Characteristics

Genus:

- Leaves alternate, petiolate, simple, stipules mostly obsolete
- Inflorescence racemose
- Calyx 4 or 5 lobed
- Petals present or absent
- Seeds carunculate

Species:

- Suffruticose, slightly shrubby
- Anthers ~ 1.5 mm long

Dalea nana—Dwarf prairie clover
Parosela nana

Perennial

Legume Family
Fabaceae



Distinguishing Characteristics

Genus:

- Glandular-punctate herbs or shrubs
- Leaves odd-pinnate; bracts deciduous
- Calyx 5-toothed, persistant
- Petals clawed; stamens 9 or 10
- Pod small, indehiscent

Species:

- Not obviously punctate-glandular
- Spreading or ascending, branched at the base
- Herbage silky-canescens
- Leaves pinnately 3-5 foliate
- Flowers in ovoid or oblong, short peduncled spikes
- Calyx canescent, lobes setaceous, plumose, longer than tube; corolla yellow, drying pink or brown

Dalea pogonathera—Bearded prairie clover

Perennial

Legume Family

Fabaceae



Distinguishing Characteristics

Genus:

- Glandular-punctate herbs or shrubs
- Leaves odd-pinnate; bracts deciduous
- Calyx 5-toothed, persistant
- Petals clawed; stamens 9 or 10
- Pod small, indehiscent

Species:

- Bracts conspicuously scarios margined and glandular punctate
- Leaflets 3-7, glabrous
- Calyx lobes setaceous, plumose, longer than tube
- Corolla purple
- Stems herbaceous from a woody caudex

Dyssodia pentachaeta—fiveneedle pricklyleaf

Perennial

Thymophylla pentachaeta

Dyssodia belenidium

Dyssodia thurberi

Distinguishing Characteristics

Genus:

- Annual or perennial herbs, or suffruitcose
- Leaves alternate or opposite, entire to pinnatisect, w/translucent glands
- Heads small to rather large, radiate, yellow or orange or rays rarely white
- Involucre usually calyculate (subtended by bractlets) the principal phyllaries equal, usually 2-seriate & united at base or almost to apex
- Pappus of 10-15 squamellae or paleae, often tipped with 1 or 3 bristles or dissected into numerous bristles

Species:

- Paleae of the pappus 10, the 5 inner ones 3-toothed & 1-awned, the lateral teeth sometimes aristiform but much shorter than central awn
- Outer phyllaries ciliate on free margins
- Rays conspicuous, surpassing the pappus
- Phyllaries free margined to middle or lower

Composite Family

Asteraceae



Enneapogon desvauxii—nineawn pappusgrass
Pappophorum wrightii

Perennial

Graminoid Family
Poaceae

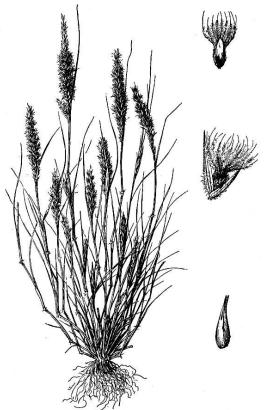
Distinguishing Characteristics

Genus:

- Tufted perennial, 40 cm tall or less
- Pubescent nodes
- Lead colored panicles usually < 5 cm long
- 3 flowered spikelets; 7-nerved glumes
- Lemmas bearing 9 equal or nearly equal plumose awns

Species:

- monospecific



Erioneuron pulchellum—Fluff Grass

Tridens pulchellum

Dasyochloa pulchella

Triodia pulchella

Perennial

Graminoid Family

Poaceae



Distinguishing Characteristics

Genus:

- Cespitose or stoloniferous perennials
- Panicles open or contracted
- Glumes nearly equal
- Lemmas rounded on back, apex toothed or lobed, midnerve usually excurrent in a short awn, lateral nerves often excurrent as minute points, all nerves pubescent

Species:

- Widely stoloniferous
- Panicles small, capitate, exceeded by fascicles of leaves
- Small, tufted grass

Ephedra trifurca—longleaf jointfir

Perennial

Ephedra Family

Ephedraceae

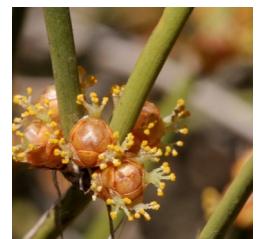
Distinguishing Characteristics

Genus:

- Xerophytic dioecious shrubs
- Branches opposite or whorled, slender, jointed, striate, equisetoid
- Leaves reduced to scales, paired or terete, more or less connate
- Inflor. Strobili, cone-like
- Male flowers w/ > 2-8, united by filaments stamens
- Seeds 1-3, hard, angled, terete

Species:

- Leaves 3 at each node, persistent, bust soon shreddy
- Bracts of fruiting cones clawed, 7-10 mm wide, flexible and scarious
- Seeds slender, about 2x as long as thick
- Leaves 5-12 mm long
- Bracts of fruiting cone entire-margined, reddish-brown, cordate



Eragrostis lehmanniana—Lehmann's lovegrass

Perennial

Graminoid Family

Poaceae

Distinguishing Characteristics

Genus:

- Blades flat; panicles open
- Spikelets several-flowered, rachilla continuous
- Lemma persistent, 3-nerved, rounded on back
- Palea deciduous, ~ as long as lemma
- Glumes acute, 1-nerved, shorter than 1st floret

Species:

- Panicle 7.5-15 cm long
- Glumes obtuse or acutish
- Lemma ~ 1.5 mm long, rounded on back, lateral nerves obscure



Eurotia lanata—winterfat
Krascheninnikova lanata
Ceratoides lanata

Perennial

Goosefoot Family
Chenopodiaceae

Distinguishing Characteristics

Genus:

- Shrubby
- Herbage stellate, tomentose
- Leaves alternate, entire, linear
- Flowers unisexual or perfect, in axillary clusters and terminal spike-like inflor.
- Perianth 4 parted, stamens 4
- Fruiting bractlets united into a villous, 2-beaked tube
- Seeds vertical

Species:

- monospecific



Flourensia cernua—tarbush

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Resinous, much-branched shrubs
- Leaves alternate, small, ovate to oval, entire
- Heads rather small, discoid, yellow, nodding, axillary and terminal
- Involucre herbaceous
- Achenes cuneate, laterally compressed but somewhat thickened, villous
- Pappus of 2 unequal awns

Species:

- Stems to 2 m tall; branches puberule
- Leaves 12-35 mm long, 6-16 mm wide, acute at the apex
- Heads 10-12 mm high
- Pappus a pair of slender unequal awns



Guiterrezia sarothrae—broom snakeweed

G. corymbosa, *diversifolia*, *filifolia*, *furfuracea*, *glossocephala*, *goldmantii*, *junccea*, *linearis*, *longifolia*, *tenuis*

Solidago sarothrae

Xanthocephalum sarothrae

Distinguishing Characteristics

Genus:

- Herbs, sometimes suffretescent, ± glutinous (sticky)
- Leaves alternate, linear to narrowly oblanceolate, entire
- Heads small, yellow, radiate, usually numerous & crowded
- Involucre cylindric to campanulate, phyllaries chartaceous, scarious-margined, with small, green tips
- Achenes small, oblong, or ovoid
- Pappus of several squamellae or paleae, often shorter in the ray flowers

Species:

- Heads turbinate
- Involucre turbinate, usually ≥ 2 mm thick
- Rays 3-8, disk flowers 3-8

Perennial

Composite Family

Asteraceae



Happlopappus spinulosus—lacy tansyaster
Machaeranthera pinnatifida, *australis*, *laevis*,
or *pinnata*

H. coulteri, *spinulosus*, *texensis*

Amellus spinulosus

Dieteria spinulosa

Eriocarpum australe, *wootonii*, or *spinulosum*

Sideranthus australis, *cotula*, *laevis*,
machaeranthera, *puberulus*, *spinulosus*,
turbinellus, *wootonii*

Perennial

Composite Family
Asteraceae



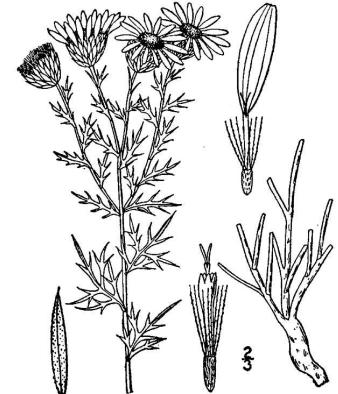
Distinguishing Characteristics

Genus:

- Herbs and shrubs
- Leaves alternate, entire to bipinnatifid
- Achenes cylindric to turbinate
- Pappus copious, of graduated capillary bristles

Species:

- Stems leafy at least up to the peduncles
- Involucre usually conspicuously glandular or tomentose
- Leaves sharply serrate, the teeth or lobes spinescent-tipped



Happlopappus tenuisectus—burroweed
Isocoma tenuisecta

Perennial

Composite Family
Asteraceae

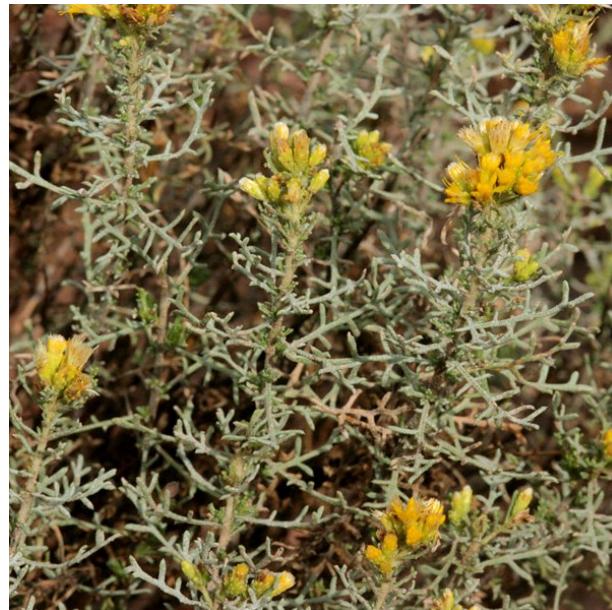
Distinguishing Characteristics

Genus:

- Herbs and shrubs
- Leaves alternate, entire to bipinnatifid
- Achenes cylindric to turbinate
- Pappus copious, of graduated capillary bristles

Species:

- shrubby
- Leaves 1-nerved, pinnatifid, the lobes linear, several times as long as width of rachis
- Heads discoid, cymose or paniced



Hilaria mutica—tobosa grass
Pleuraphis mutica

Perennial

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Culms sometimes decumbent
- Leaf blades flat or involute
- Inflor. on terminal spikes; spikelets in clusters of 3 at each joint of the axis, each cluster of spikelets falling as a unit
- Central spikelet if flowered—pistillate or perfect; lateral spikelets 2-3 flowered—staminate
- Glumes asymmetric, several-nerved, unequally lobed, 1 or more awns; lemma 3-nerved

Species:

- Culms from rhizomes, not stoliferous, 50-60 cm tall
- Leaf blades relatively stiff, not curved
- Glumes of the lateral spikelets asymmetrical, broadened toward the ciliate apex, the nerves not excurrent



Hoffmannseggia densiflora—hog potato

Hoffmannseggia glauca

Hoffmannseggia falcaria

Perennial

Legume Family

Fabaceae



Distinguishing Characteristics

Genus:

- Leaves bipinnate, leaflets small
- Flowers in terminal or lateral racemes
- Petals yellow
- Stamens 10, sometimes red
- Pods flat

Species:

- Herbaceous or suffrutescent
- Stems decumbent or spreading, rarely > 30 cm long
- Leaves persistent, pinnae \geq 5, terminal one not conspicuously longer
- Leaflets not black-punctate
- Inflor. Glandular
- Petals long-clawed
- Pods \pm falcate to straight

Lycium torreyi—Torrey wolfberry

Perennial

Nightshade Family
Solanaceae

Distinguishing Characteristics

Genus:

- Shrubby, usually spiny
- Leaves mostly fascicled, entire
- Flowers chiefly axillary, solitary or in small clusters
- Calyx campanulate, irregularly toothed or cleft
- Corolla campanulate, tubular funnel form or salver form
- Stamens 4-5, style slender, stigma capitate or 2-lobed
- Berry fleshy or dry, globose or ovoid, subtended by persistent calyx

Species:

- Lavender flowers that fade to cream
- spiny



Lycurus phleoides—wolf tail

Perennial

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Low, slender, tufted perennial
- Short, narrow blades
- Narrow, bristly, spikelike panicles
- Spikelets in pairs, lower one sterile
- Glumes equal, first usually 2-awned, second 1-awned
- Lemma longer than the glumes, tapering to slender awn, pubescent on margins
- Palea acute, nearly as long as lemma, pubescent

Species:

- monospecific



Muhlenbergia porteri—Bush Muhly

Perennial

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Tufted or rhizomatous annuals or perennials

Species:

- Culms wiry, freely branching, geniculate, widely spreading (bushy)
- Panicle open, branches naked at base
- Plant tufted
- Purplish flowers



Parthenium incanum—mariola

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Low, branching, gray tomentulose shrubs
- Leaves alternate, pinnatifid, w/blunt, roundish lobes
- Heads small, white or yellow, cymose paniced
- Rays fertile, very small
- Disk flowers sterile
- Achenes small, flattened, black
- Ray flowers and 2 adjoining disk flowers attached by the callose margin of the achene and the pales of the 2 sterile flowerers

Species:

- The (only known) variety occurring at Portal has yellow flowers, but it may have white flowers



Perezia nana—dwarf desert holly
Acourtia nana

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Herbaceous
- Leaves alternate, sessile, often clasping, spinulose toothed
- Heads lavender-pink
- Stems woolly-tufted at base
- Involucre strongly graduated
- Flowers all hermaphrodite, bilabiate, outer lip 3-toothed, inner lip 2-parted
- Achenes subcylindric or fusiform, densely glandular or glandular-hispidulous
- Pappus of numerous scabrous bristles

Species:

- Heads solitary, broad
- Leaves suborbicular or obovate suborbicular
- Coarsely & unequally spinulose-dentate
- Usually dwarf, sometimes up to 25 cm tall



Polygala tweedyi—Shrubby milkwort
Polygala lindheimeri

Perennial

Milkwort Family *Polygalaceae*

Distinguishing Characteristics

Genus:

- Herbs or low shrubs
 - Flowers in terminal racemes or sometimes solitary and axillary
 - Petals united below, forming dorsally cleft tube
 - Capsule 2-celled, thin, flat, dehiscent
 - Seeds usually with a caruncle

Species:

- Herbaceous; stems numerous, slender, < 20 cm long, puberulous w/ incurved hairs
 - Leaves linear to narrowly lanceolate, occasionally narrowly ovate, usually dolorous
 - Racemes terminal or lateral, few to many flowered
 - Corolla purplish, wing petals 4-5 mm long
 - Keel with a slender, entire beak



Portulaca suffrutescens—Common Name

Perennial

Purslane Family
Portulacaceae

Distinguishing Characteristics

Genus:

- Small, ± succulent
- Stems diffuse or ascending, leafy
- Sepals 2, united below
- Petals & stamens inserted on calyx, petals mostly 5, stamens often numerous
- Ovary partly inferior
- Capsule opening by apical lid

Species:

- Capsule rim not winged
- Leaf axils & inflor. Conspicuously villous with long white kinky hairs
- Leaves linear or narrowly oblanceolate, subterete
- perennial, taproot tuberous-thickened; stems erect or ascending, sometimes slightly woody at base*
- petals 7-12 mm long, copper-colored*

*Distinguishes from *p. parvula* & *p. mundula*



Rumex angustifolium—curly dock
Rumex crispus

Perennial

Buckwheat Family
Polygonaceae

Distinguishing Characteristics

Genus:

- Herbaceous, mostly perennial
- Leaves alternate, simple
- Stipules united into a cylindric, ± caduceus sheath
- Perianth calyx-like, 6-parted, the 3 inner segments (valves) becoming enlarged & modified in fruit
- Stamens 6, stigmas 3
- Fruit a trigonous achene

Species:

- Tall
- Acute lanceolate leaves which are narrow (compared to *R. hymenosepalus*) and very wavy along edges



Rumex hymenosepalus—desert dock

Perennial

Buckwheat Family
Polygonaceae

Distinguishing Characteristics

Genus:

- Herbaceous, mostly perennial
- Leaves alternate, simple
- Stipules united into a cylindric, ± caduceus sheath
- Perianth calyx-like, 6-parted, the 3 inner segments (valves) becoming enlarged & modified in fruit
- Stamens 6, stigmas 3
- Fruit a trigonous achene

Species:

- Tall reddish-colored stems, interior slightly spongy with airspaces
- Leaves elliptic, thick, and wider than *R. crispus*
- Reproductive panicles thickly packed



Rumex crispus—curly dock
Rumex angustissimus

Perennial

Buckwheat Family
Polygonaceae

Distinguishing Characteristics

Genus:

- Herbaceous, mostly perennial
- Leaves alternate, simple
- Stipules united into a cylindric, ± caduceus sheath
- Perianth calyx-like, 6-parted, the 3 inner segments (valves) becoming enlarged & modified in fruit
- Stamens 6, stigmas 3
- Fruit a trigonous achene

Species:

- Inflor. Terminal, narrowly to broadly paniculate; flowers 10-25 in whorls
- Leaves lanceolate to narrowly lanceolate or lanceolate-linear, normally 15-30 x 2.6 cm, strongly crisped and undulate, apex acute



Rumex altissimus—pale dock, smooth dock

Perennial

Buckwheat Family
Polygonaceae

Distinguishing Characteristics

Genus:

- Herbaceous, mostly perennial
- Leaves alternate, simple
- Stipules united into a cylindric, ± caduceus sheath
- Perianth calyx-like, 6-parted, the 3 inner segments (valves) becoming enlarged & modified in fruit
- Stamens 6, stigmas 3
- Fruit a trigonous achene

Species:

- Inflor. Terminal and axillary, dense, normally broadly paniculate; flowers 12-20 in whorls
- Leaves ovate-lanceolate, elliptic-lanceolate, or lanceolate; usually 2.5-4 times as long as wide; margins entire, flat, apex acute or attenuate



Setaria macrostachya—bristle grass

Perennial

Graminoid Family
Poaceae

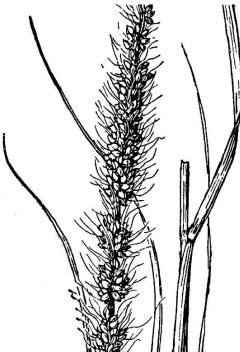
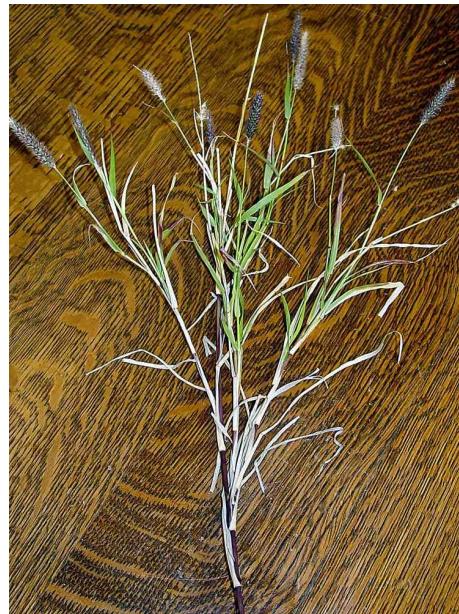
Distinguishing Characteristics

Genus:

- Annuals or perennials with spikelike or somewhat open panicles
- Spikelets subtended by one or more scabrous bristles, spikelets deciduous, bristles persistent
- Fruit smooth or transversely rugose

Species:

- Panicle spikelike, interrupted
- Blades < 1 cm wide
- Spikelets 2-2.5 mm long
- Blades scabrous
- Bristles autroresly scabrous
- Fruit smooth



Sida physocalyx—buffpetal
Rhynchosida physocalyx

Perennial

Mallow Family
Malvaceae

Distinguishing Characteristics

- Calyx papery, inflated, 5-winged
- Root large, tuberous



Sida procumbens—spreading fanpetals
Sida abutifolia

Perennial

Mallow Family
Malvaceae

Distinguishing Characteristics

- Stems decumbent or prostrate
- Flowers axillary, on long, thin pedicels, pale pink with yellow stamens
- Pubescence of long, sparse, villous hairs & stellate-canescence



Sitanion hystrix—squirreltail

Elymus elymoides

Elymus longifolius

Sitanion velutinum

Sitanion longifolium

Perennial

Graminoid Family

Poaceae



Distinguishing Characteristics

Genus:

- Inflor. A bristly spike
- Spikelets 2-4 flowered, mostly in pairs at each joint of the rachis
- Glumes linear-lanceolate or bristle-like, 1-3 nerved extending into ≥ 1 awns
- Lemmas 5-nerved, 2-toothed, with ≥ 1 awns at the apex

Species:

- Culms to 50 cm tall
- Spike 3-8 cm long
- Glumes 1-2 nerved, each nerve extending into a divergent awn 6-8 cm long; awns of the lemma also divergent



Solanum eleagnifolium—Silverleaf nightshade

Perennial

Nightshade Family
Solanaceae

Distinguishing Characteristics

Genus:

- Herbaceous or suffrutescent
- Leaves petioled, entire to bipinnatifid, often unequal in the pair
- Flowers mostly campanulate, 5-toothed to 5-parted
- Anthers open by apical pores

Species:

- Fruit only invested by calyx at base
- Leaves entire to coarsely sinuate-dentate
- Spines not more than 5 mm long
- Long, creeping root stocks
- Herbage densely and minutely white-lepidote with stellate hairs



Sphaeralcea angustifolia—copper globemallow

Perennial

Mallow Family
Malvaceae

Distinguishing Characteristics

Genus:

- Herbaceous or suffrutescent
- Herbage stellate pubescent
- Leaves shallowly dentate to pedately dissected
- Inflor. racemose or paniculate
- Corolla orange to red
- Fruit hemispheric to truncate conic

Species:

- Very narrow leaves
- Orangish-copper flowers



Sphaeralcea laxa—caliche globemallow
Sphaeralcea ribifolia

Perennial

Mallow Family
Malvaceae



Distinguishing Characteristics

Genus:

- Herbaceous or suffretescent
- Herbage stellate pubescent
- Leaves shallowly dentate to pedately dissected
- Inflor. racemose or paniculate
- Corolla orange to red
- Fruit hemispheric to truncate conic

Species:

- Calyx not conspicuously more pubescent than herbage
- Open, relatively few flowered inflor.
- Dark-purple anthers
- Leaves look like a shallowly lobed letter 'T'
- Petals are orange and small bractlets underneath the calyx are bright red

Sporobolus contractus—spike dropseed
Sporobolus cryptandrus

Perennial

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Lemma membranaceous, 1-nerved, awnless
- Palea as long as lemma
- Fruit free from palea and lemma

Species:

- Capitose, with culms 50-80 cm tall
- Spikelets 2-2.5 mm long
- Panicle contracted and spike-like
- Summit of the sheaths conspicuously on both the back and sides



Talinum aurantiacum—Orange flamethrower

Perennial

Talinum angustissimum

Phemeranthus aurantiacus

Purslane Family

Portulacaceae

Distinguishing Characteristics

Genus:

- Glabrous
- Stems leafy or scapose
- Leaves alternate, blades broad & flat to narrow & nearly terete
- Inflor. Paniculate or cymose
- Stamens ≥ 5 ; style 3-cleft; ovary superior

Species:

- Stems often > 10 cm long, herbaceous or barely suffretescent
- Leaves not crowded or thick 10-60 mm long, linear or narrowly lanceolate
- Pedicels reflexed in fruit
- Petals orange or copper-colored
- Capsules ovoid



Trichachne californica—Arizona cottontop
Digitaria californica

Perennial

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Flat blades
- Slender, erect, or ascending racemes forming silky inflorescence
- 1st glume minute, 2nd glume and sterile lemma equal, conspicuously covered with villous long hairs
- Fertile lemma acuminate, brown with broad hyaline margins

Species:

- Spikelets ~ 3 mm long
- Hairs white or purplish
- Blades ≤ 5 mm wide
- Panicles seldom > 15 mm long



Tetraclea coulteri—Coulter's wrinkle fruit

Perennial

Verbena Family
Verbenaceae

Distinguishing Characteristics

Genus:

- Herbaceous; ashy green foliage, with fine rough pubescence
- Leaves ovate or oblong, mostly toothed
- Flowers in axillary cymes
- Calyx equally 4-5 lobed, lobes acute or acuminate, longer than the tube, hemispheric fruit
- Corolla at least 2x as long as calyx, lobes oval, subequal, stamens clearly exserted beyond the corolla
- Nutlets obovate, pitted, hirtellous

Species:

- monospecific



Zinnia pumila—desert zinnia
Zinnia acerosa
Crassinia pumila
Diplothrix acerosa

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Leaves opposite, entire
- Heads radiate, showy
- Involucre graduated; dry phyllaries
- Receptacle becoming conic or cylindric
- Disk achenes strongly compressed
- Pappus none or of 1-4 awns or teeth

Species:

- Low-growing, ≤ 20 cm
- Leave 1-ribbed
- Rays usually ≤ 12 mm long, light yellow or white



Zinnia grandiflora—wild zinnia
Crassinia grandiflora

Perennial

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Leaves opposite, entire
- Heads medium or large, radiate, showy
- Involucre graduated; dry phyllaries
- Rays yellow, white, or red; sessile & indurate persistent on achenes
- Disk achenes strongly compressed
- Pappus none or 1-4 awns or teeth

Species:

- Low-growing, ≤ 20 cm tall
- Much branched from base, woody below
- Leaves linear or acerose, ≤ 2.5 mm wide, ± 3-ribbed
- Rays 8-16 mm long, bright yellow
- Style branches hispid, with long acuminate appendages



Talinum angustissimum—Orange fameflower

Phemeranthus

SAME AS T. AURANTIACUM?!?

Perennial

Purslane Family

Portulacaceae

Distinguishing Characteristics

Genus:

- Glabrous
- Stems leafy or scapose
- Leaves alternate, blades broad & flat to narrow & nearly terete
- Inflor. Paniculate or cymose
- Stamens \geq 5; style 3-cleft; ovary superior

Species:

- Stems often $>$ 10 cm long, woody below, with exfoliating bark
- Leaves not crowded or very thick, 10-60 mm long, linear or narrowly lanceolate
- Pedicels reflexed in fruit
- Petals yellow
- Capsules globose or nearly so

ScientificName—*CommonName*

Synonyms

Synonyms

Winter Annual

Family

family

Distinguishing Characteristics

Genus:

- stuff

Species:

- stuff

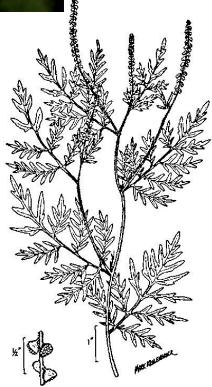
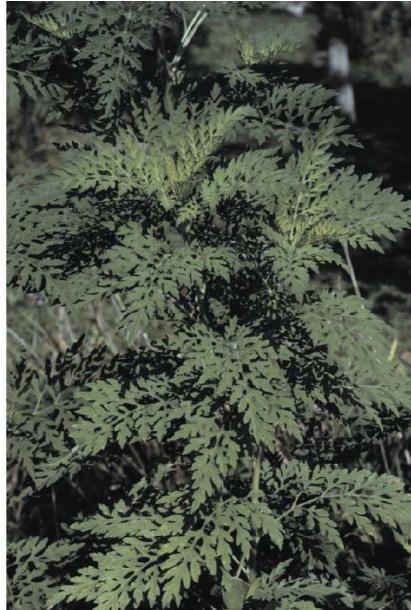
Ambrosia artemisiifolia—annual ragweed

Winter Annual

Aster Family
Asteraceae

Distinguishing Characteristics

- Male inflor. a terminal spike up to 15 cm long, flowers greenish-yellow, 10-100/head. Female flowers 1/head.
- Erect herb
- Leaves grey-green, hairy. Lower leaves finely divided, upper leaves sometimes without lobes and sometimes almost without a stalk.



Calycoseris wrightii—white tackstem

Winter Annual

Aster Family
Asteraceae

Distinguishing Characteristics

- Tack-shaped glandular hairs on phyllaries and upper stems.
- Similar to *Rafinesquia neomexicana*
- White, daisy-like flower, up to 5 cm across., outside of petals have two linear purple-red stripes.



Chenopodium fremontii—Fremont's goosefoot

Winter Annual

Goosefoot Family
Chenopodiaceae

Distinguishing Characteristics

- Stems erect to spreading, simple proximally, branched distally
- Leaf blade broadly triangular, sometimes ovate to elliptic. Margins entire or with a pair of basal teeth or lobes, apex rounded to obtuse.
- Inflor. In terminal and axillary interrupted spikes
- Flowers with 5 perianth segments, distinct nearly to base, completely covering fruit at maturity



Chorispora tenella—crossflower

Winter Annual

Mustard Family
Brassicaceae

Distinguishing Characteristics

- Glandular hairs (unusual among mustards), sticky foliage
- Spindly plant with slightly upturned and basically thickened siliques (fruits)
- As fruit matures, septae between seeds become prominent
- Flowers pinkish with slightly elongate petals, 4 petaled
- May have strong, unpleasant scent



Delphinium spp.—Common Name

Synonyms

Synonyms

Winter Annual

Family

family

Distinguishing Characteristics

Genus:

- stuff

Species:

- stuff

Erigeron divergens—spreading fleabane daisy

Erigeron accedens

Erigeron wootonii

Winter Annual

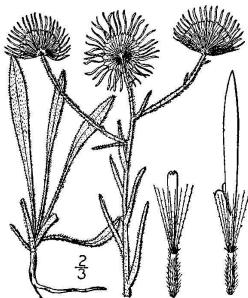
Aster Family

Asteraceae



Distinguishing Characteristics

- Flower heads 2-3 cm across, narrow white rays with yellow central disc.
- Herbage gray-green with short spreading hairs of differing lengths
- Leaves may be pinnatifid or entire
- Plant may be quite variable in appearance



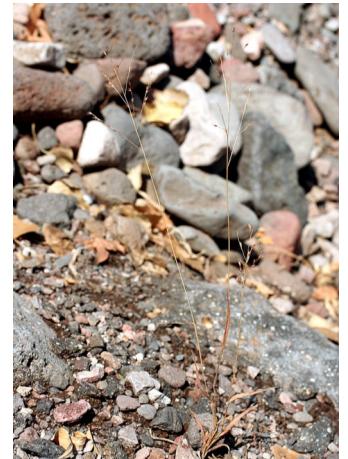
Panicum hirticaule—Mexican Panic Grass

Winter Annual

Graminoid Family
Poaceae

Distinguishing Characteristics

- Small and inconspicuous erect annual grass
- Weak roots and spreading bulbous based hairs on the leaf sheaths and stems
- Spikelet's 1st glume is more than half the length of the spikelet which is less than 4 mm long
- Upper floret is ovoid and has two scars at the base but does not have large wings at the base
- Palea of lower floret is poorly developed



Acacia constricta—whitethorn acacia

Perennial

Legume Family

Fabaceae

Distinguishing Characteristics

- Straight white spines, thorns less conspicuous and less abundant on mature specimens
- Flowers like small yellow puffballs, aromatic
- Grows to be a large-ish shrub
- Leaves bipinnately compound
- Fruit long, slender pods (2-5 inches), dark brown, sheath constricted between seeds
- Young stem growth has reddish color



Acacia greggii—catclaw acacia

Perennial

Legume Family
Fabaceae

Distinguishing Characteristics

- Hooked thorns the size and shape of a cat's claw
- Grows to be a large-ish shrub
- Leaves are bipinnate
- Flowers are dense cylindrical spikes, each with 5 yellow petals and numerous yellow stamens
- Fruit is a flat, twisted legume 6-15 cm long. Pod is constricted between seeds



Prosopis glandulosa—mesquite

Perennial

Legume Family
Fabaceae

Distinguishing Characteristics

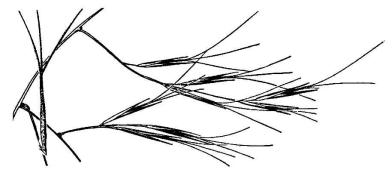
- Common spiny shrub. Grows to be quite large
- Rounded big and floppy, drooping branches with feathery foliage and straight, paired spines on twigs
- Flowers pale, yellow elongated spikes
- Straight, yellow seedpods
- Compound divided leaves



Aristida hamulosa—spidergrass
Aristida ternipes var. *gentilis*

Perennial

Graminoid Family
Poaceae



Atriplex acanthocarpa—tuberclad saltbush

Perennial

Goosefoot Family
Chenopodiaceae

Distinguishing Characteristics

- Evergreen perennial sub-shrub with a woody root
- Bracts of fruit have many flattened tubercles on spongy fruiting bracts, which resemble a rooster's comb
- Flowers are inconspicuous, greenish-gray
- Male and female flowers are on separate plants (dioecious)
- Silver-gray leaves



Brayulinea densa—small matweed

Guilleminea densa

Illecebrum densum

Perennial

Amaranth Family

Amaranthaceae



Distinguishing Characteristics

- Prostrate perennial
- Densely matted with woolly pubescence underneath
- Inflor. are axillary, small and woolly
- Upper surface of leaf is relatively glabrous

Dichloostemma pulchellum—Blue dicks
Dichelostemma capitatum

Perennial

Lily Family
Liliaceae



Distinguishing Characteristics

- Flowers violet to purple, 1 inch wide in terminal clusters (umbel-like). Have 6 petal-like segments
- Leaves grass-like, up to 15 inches long
- Edible, onion-like bulb
- Crushed leaves smell like onions



Yucca elata—soaptree yucca

Perennial

Agave Family
Agavaceae

Distinguishing Characteristics

- Tall, tree-like yucca



Opuntia spp.—prickly pear spp.

Perennial

Cactus Family
Cactaceae

Distinguishing Characteristics

- stuff



Cylindropuntia spp.—cholla spp.

Perennial

Cactus Family
Cactaceae

Distinguishing Characteristics

- stuff



ScientificName—*CommonName*

Synonyms

Synonyms

Perennial

Family

family

Distinguishing Characteristics

Genus:

- stuff

Species:

- stuff

BEGIN SUMMER ANNUAL:

NOTE: Save a copy of the template. Do not write over all copies.

Amaranthus palmeri—Pig weed, Carelessweed

Summer Annual

Amaranth Family
Amaranthaceae

Distinguishing Characteristics

Genus:

- Stem herbaceous, flowers mostly unisexual
- Leaves simple, entire w/o stipules, alternate, petioled, pinnate-veined
- Flowers small, commonly in dense bracteate heads or spikes
- Perianth & bracts hyaline, scarious or rigid; perianth segments 2-5, distinct
- Stigmas 1-3, stamens 2-5; ovary 1-celled
- Fruit a utricle, circumscissile or bursting irregularly



Species:

- Perianth segments of pistillate flowers broadly spatulate, apex of segments obtuse, truncate, or emarginated
- Utricle circumscissile, subglobose, shorter than calyx
- Dioecious; inflor. nearly naked; bracts & sepals becoming rigid & spinose
- Petioles slender, ≥ blade length, flowers mostly in elongate spines

Ambrosia artemisiifolia—common ragweed

Summer Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Weedy, monoecious herbs
- Leaves opposite or alternate, lobed or dissected
- Pistillate heads mostly axillary, 1-flowered, their involucres ± turbinate, short-beaked, indurate, armed with a few tubercles in a single series around the middle, completely enclosing the achene
- Stamine heads, naked racemose above the pistillate ones, terminating the stem & branches

Species:

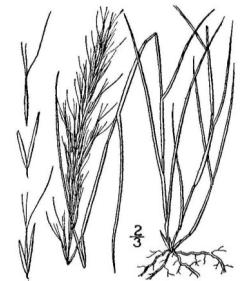
- Leaves thin, lower ones twice pinnatifid
- Fruiting involucre 3-3.8 mm long



Aristida adscensionis—sixweeks threeawn
Aristida fasciculata

Summer Annual

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Tufted, w/firm, usually involute blades & narrow or open panicles
- Glumes acute, acuminate, or awn-tipped
- Lemma indurate w/a sharp bearded callus, 3-awned, lateral awns sometimes much reduced, base sometimes undivided, twisted, forming a column

Species:

- Lemma not articulate
- Lateral awns nearly as long as central awn
- Awns mostly 10-15 mm long, flattened at base

Aristida hamulosa—three awn, spidergrass
Aristida ternipes

Summer Annual

Graminoid Family
Poaceae

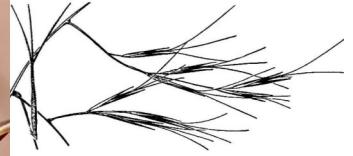
Distinguishing Characteristics

Genus:

- Firm, involute blades
- Narrow or open panicles
- 3-awned

Species:

- Panicle open, branches naked at base
- Panicle branches stiffly and abruptly spreading at base
- Branches appressed
- Summit of lemma not twisted



Atriplex elegans—wheelscale saltbush

Summer Annual

Goosefoot Family
Cheonopodiaceae

Distinguishing Characteristics

- Scaly branching stem
- Spreading growth
- May be 10-50 cm tall
- Scurfy to glabrate stems
- Crusty whitish leaves, narrowly oval in shape, sometimes toothed edges, <3 cm long
- Inflor. bear separate male and female flowers, in small, hard clusters
- The crusty whitish leaves are narrowly oval in shape, sometimes toothed along the edges, and less than 3 centimeters long. The [inflorescences](#) bear separate male and female flowers which are in small, hard clusters.



Bahia biternata—slimlobe bahia

Distinguishing Characteristics

Genus:

- Herbs, rarely suffrutescent
- Head radiate, rarely discoid
- Achenes narrow, 4-angled, usually more conspicuously pubescent toward base than above
- Pappus of several squamellae or paleae, these with a callose thickened base or midrib or rarely wanting

Species:

- Leaves biternately divided into linear segments
- Squamellae of the pappus in the inner flowers pointed by excurrent nerve
- Heads radiate

Summer Annual



Composite Family
Asteraceae



Baileya multiradiata—desert marigold

Summer Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Floccose-woolly herbs*
- Leaves alternate, pinnatifid to entire
- Heads solitary or cymose, long-peduncled, radiate, yellow
- Rays persistent becoming papery, reflexed in age
- Achenes striate epappose

Species:

- Rays ~ 20-50; heads mostly solitary at tips of stem & branches, disk in flower \geq 10 mm thick
- Stem leafy only at base or below middle, peduncles 10-20 cm long



Boerhaavia torreyana—Torrey's spiderling
Boerhavia spicata

Distinguishing Characteristics

Genus:

- Herbaceous, stems usually branched, often w/ viscid band around each internode
- Leaves petioled, usually very unequal in the pair, linear-lanceolate to nearly orbicular
- Flowers small, mostly in terminal racemes or cymes, perianth limb campanulate to nearly rotate
- Fruits obpyramidal or clavate, ribs sometimes winged furrows between ribs rugose

Species:

- Fruit glabrous or w/strigose hairs in furrows, 5 -angled, ridges narrow, furrows open & conspicuously rugose
 - Flowers in elongate racemes, forming a cyme or paniculate inflor., not crowded*
 - Bracts deciduous, << half as long as fruit, lanceolate or ovate-lanceolate
 - Stems not conspicuously villous
- * distinguish from *B. intermedia*

Summer Annual



Four o'clock Family
Nyctaginaceae



Boerhaavia intermedia—fivewing spiderling
Boerhavia erecta

Summer Annual

Four o'clock Family
Nyctaginaceae

Distinguishing Characteristics

Genus:

- Herbaceous, stems usually branched, often w/ viscid band around each internode
- Leaves petioled, usually very unequal in the pair, linear-lanceolate to nearly orbicular
- Flowers small, mostly in terminal racemes or cymes, perianth limb campanulate to nearly rotate
- Fruits obpyramidal or clavate, ribs sometimes winged furrows between ribs rugose

Species:

- Fruit glabrous or w/strigose hairs in furrows, not winged, often 2-2.5 mm long
- Flowers not in racemes, the inflor. Cymose or cymose-paniculate, glabrous or puberulent, internodes often viscid; bracts very small
- Cymules not dense, umbelliform or racemiform, flowers born on subequal pedicels ≥ 2 mm long*
- Stems erect or decumbent, usually < 50 cm long

* distinguish from *B. torreyana*



Bouteloua aristidoides—needle grama
Bouteloua gracilis ?

Summer Annual

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Cespitose (tufts) or stoloniferous
- Culms slender
- 1-sided spikes, racemose*; spikelets w/1 fertile floret & 1-2 rudimentary florets above it
- Fertile lemma 3-nerved, nerves usually excurrent in short awns

Species:

- Spikes deciduous, falling entire
- Spikelets not or barely pectinate
- Spikes very narrow, abruptly spreading above
- Rachis sharp-pointed at base
- Spikelets appressed



Bouteloua barbata—sixweeks grama

Bouteloua arenosa

*Chondrosum barbata, exile, microstachyum,
polystachyum, subscorpioides*

Summer Annual

Graminoid Family

Poaceae



Distinguishing Characteristics

Genus:

- Cespitosome (tufts) or stoloniferous
- Culms slender
- 1-sided spikes, racemose*; spikelets w/1 fertile floret & 1-2 rudimentary florets above it
- Fertile lemma 3-nerved, nerves usually excurrent in short awns

Species:

- Spikes persistent, not solitary (4-10)
- Spikelets pectinate
- Spikes finally spreading, curved
- 2nd glume scabrous on keel, rachis not ciliate

Carlowrightia linearifolia—Carlowrightia
Schaueria linearifolia

Summer Annual

Acanthus Family
Acanthaceae



Cassia leptadenia—sensitive partridge pea
Cassia nictitans
Chamaecrista nictitans

Summer Annual

Legume Family
Fabaceae

Distinguishing Characteristics

Genus:

- Leaves pinnate, leaflets few or numerous
- Flowers moderately irregular, in racemes, panicles, or solitary in axils
- Petals yellow
- Stames 5 or 10, often unequal
- Fruit flat or turgid

Species:

- Stems erect or ascending
- Leaflets usually more than 9 pairs, long ciliate
- Pedicels seldom more than 5 mm long
- Seeds irregularly triangular or quadrangular, rugose



Chenopodium fremontii—Fremont's goosefoot
Chenopodium incanum—Mealy goosefoot

Summer Annual

Goosefoot Family
Chenopodiaceae

Distinguishing Characteristics

Genus:

- Often mealy, sometimes glandular pubescent
- Leaves alternate, entire to pinnatifid
- Flowers green, perfect, in glomerule, these axillary or forming spikes or panicles
- Perianth herbaceous or fleshy with 2-5 lobes or segments

Species:

- Herbage glabrous or farinose
- Seeds nearly always horizontal, smooth or nearly so
- Leaves deltoid to rhombic-orbicular, about as wide as long
- Herbage sparsely to densely farinose; 30-40 cm tall
- Pericarp free



Chloris virgata—feather fingergrass
Chloris alba
Chloris elegans

Summer Annual

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Annauls or perennials
- Sometimes stoloniferous
- Several digitate spides
- Spikelets w/ 1 exceptionally 2 perfect florets, rachilla prolonged beyond floret bearing a club shaped rudiment composed of ≥ 1 reduced sterile lemmas

Species:

- Margins of the lemma short ciliate on the lower part, long-ciliate on the upper third, the hairs up to 4 mm long
- Panicle has a whorl of branches, may be < 2 cm long
- Lower lemma has tuft of hairs

Crotalaria pumila—low rattlebox
Crotalaria lupulina

Summer Annual



Distinguishing Characteristics

Genus:

- Plants herbaceous or suffrutescent
- Leaves unifoliate or trifoliate w/stipules
- Flowers in lateral or terminal racemes
- Calyx somewhat bilabiate
- Corolla yellow to purple
- Keel curved or bent
- Stamens dimorphic
- Pods much inflated, oblong to nearly globose

Species:

- Leaves trifoliate
- Stems branched well above base
- Herbage stigose-pubescent, upper leaf glabrous



Legume Family
Fabaceae



Cuscuta spp.—Dodder

Summer Annual

Dodder Family
Cuscutaceae

Distinguishing Characteristics

Genus:

- Yellowish mass of thread-like stems
- parasitic



Dalea brachystachys—Fort Bowie prairie clover

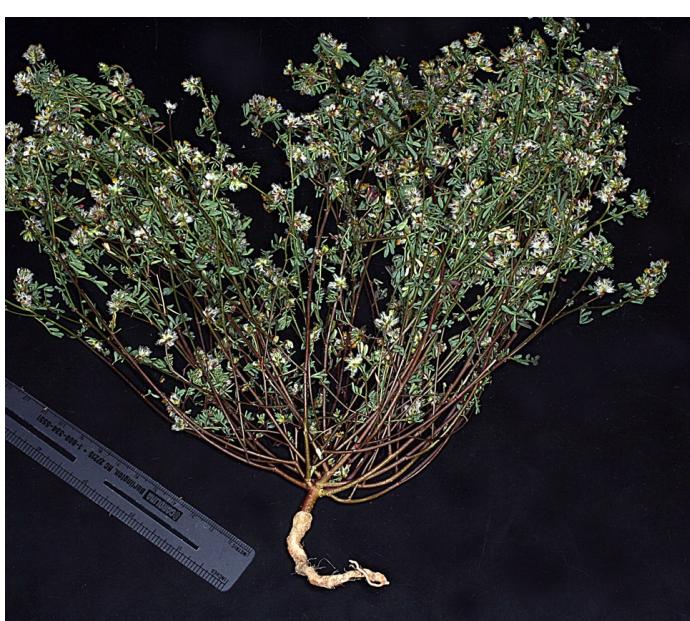
Dalea brachystachya

Dalea lemmontii

Summer Annual

Legume Family

Fabaceae



Distinguishing Characteristics

Genus:

- Glandular-punctate herbs or shrubs
- Leaves odd-pinnate
- Calyx 5-toothed, persistent
- Bracts deciduous; petals clawed; stamens 9-10
- Pod small, indehiscent

Species:

- Spikes subglobose
- Petals yellow tinged w/ pink fading to purple
- Calyx lobes equaling to somewhat longer than the tubes, moderately plumose
- Leaflets 3-11, narrowly oblanceolate or elliptic, shorter than rachis
- Herbage glabrous or glabrescent

Eragrostis arida—desert lovegrass

Eragrostis pectinacea

Eragrostis tephrosanthos

Summer Annual

Graminoid Family

Poaceae



Distinguishing Characteristics

Genus:

- Flat blade and open panicle
- Spikelets several flowered
- Rachilla continuous
- Lemma persistent and 3-nerved, palea deciduous
- Glume acute, 1-nerved, shorter than 1st floret

Species:

- Plants not glandular
- Spikelets ≥ 1.5 mm wide; on slender, spreading pedicels
- Pedicels stiff, widely divergent, longer than spikelets
- Panicle open, diffuse



Eragrostis cilianensis—stinkgrass
Eragrostis megastachya

Summer Annual

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Flat blade and open panicle
- Spikelets several flowered
- Rachilla continuous
- Lemma persistent and 3-nerved, palea deciduous
- Glume acute, 1-nerved, shorter than 1st floret

Species:

- With minute glands on keel of lemma
- Spikelets 2.5-3 mm wide
- Panicles open, dark gray-green or tawny
- “Christmas tree”



Eragrostis intermedia—plains lovegrass

Summer Annual

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Flat blade and open panicle
- Spikelets several flowered
- Rachilla continuous
- Lemma persistent and 3-nerved, palea deciduous
- Glume acute, 1-nerved, shorter than 1st floret

Species:

- Large, broad, open panicle
- Lemmas < 2.2 mm long
- Inflorescences often reddish
- Axillary pulvini at nodes (bottom right photo)



Erigeron divergens—spreading fleabane

Summer Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Herbaceous
- Leaves alternate, sometimes all basal, usually narrow
- Heads small-medium, rays white, pink, or purple, disk yellow
- Involucre slightly or not graduated, phyllaries not herbaceous-tipped
- Pappus usually sparse, of subequal capillary bristles

Species:

- Rays conspicuous; usually drying blue or lavender
- Plants comparatively slender, small-leaved, small-headed; stems usually < 30 cm tall, disk usually < 1 cm wide
- Stem pubescent w/widespreading or sometimes deflexed hairs, leafy
- Leaves pubescent on faces, linear to narrowly oblanceolate, usually entire



Eriochloa lemmoni—cup grass

Synonyms

Synonyms

Distinguishing Characteristics

Genus:

- Erect or decumbent annuals
- Flat blades
- Several to numerous erect or ascending racemes
- Spikelets solitary in two rows on one side of a narrow rachis
- 1st glume & rachilla joint forming a cup-like callus below spikelet

Species:

- 1st glume at base of spikelet purple & swollen
- Pedicels with numerous erect hairs, the hairs \geq half as long as the spikelets
- Leaves and spikelets villous

Summer Annual



Graminoid Family

Poaceae



Eriogonum abertianum—wild buckwheat

Summer Annual

Milkwort Family
Polygalaceae

Distinguishing Characteristics

Genus:

- Leaves alternate or whorled, simple, entire, larger ones often in a basal rosette & stem leaves often bract-like
- Flowers several or many in a campanulate, turbinate, or cylindric, toothed, or lobed involucre; these arranged in cymose racemose, or glomerate inflor. or sometimes solitary in forks of branches
- Perianth corolla-like; stamens 9; fruit an achene, usually trigonous

Species:

- Annual or biennial w/o woody caudex; herbage ± pubescent
- Leafy stemmed, lower stem leaves like basal ones but smaller, stem leaves not subtended by bracts, leaves villous, lower stem leaves oblong-lanceolate to broadly ovate, flat
- Involucres some or all w/peduncles ≥ 3 cm long, involucres deeply cleft but not parted or divided, pubescent, not glandular
- Perianth white, pink, or yellowish, glabrous, outer lobes nearly orbicular, cordate



Euphorbia exstipulata—squareseed spurge

Summer Annual

Euphorbia Family
Euphorbiaceae

Distinguishing Characteristics

Genus:

- Leaves simple; flowers monoecious, borne in cyathia, surrounded by hypanthium
- Pistillate flower solitary, pedicellate, naked, ovary 3-locular, 3 styles
- Staminate flowers in 5 glomerules, 1-several per glomerule, naked, pedicel jointed to filament
- Fruit 3-locular, 3-seeded, elastically dehiscent usually nodding capsule
- Has milky, acrid juice

Species:

- Involucre glands w/petaloid appendages
- Erect, 10-15 cm tall
- Ovary & capsule w/short, thick, white hairs
- Leaves, at least some, serrulate to serrate



Euphorbia micromera—Sonoran sandmat
Chamaesyce micromera

Summer Annual

Euphorbia Family
Euphorbiaceae



Distinguishing Characteristics

Genus:

- Leaves simple; flowers monoecious, borne in cyathia, surrounded by hypanthium
- Pistillate flower solitary, pedicellate, naked, ovary 3-locular, 3 styles
- Stamine flowers in 5 glomerules, 1-several per glomerule, naked, pedicel jointed to filament
- Fruit 3-locular, 3-seeded, elastically dehiscent usually nodding capsule
- Has milky, acrid juice

Species:

- Small, prostrate, spreading
- Leaves always entire
- Stipules ciliate
- Capsules < 2 mm long

Euphorbia serpyllifolia—thymeleaf sandmat
Chamaesyce serpyllifolia

Summer Annual

Euphorbia Family
Euphorbiaceae

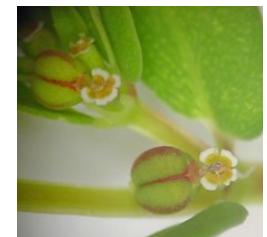
Distinguishing Characteristics

Genus:

- Leaves simple; flowers monoecious, borne in cyathia, surrounded by hypanthium
- Pistillate flower solitary, pedicellate, naked, ovary 3-locular, 3 styles
- Staminate flowers in 5 glomerules, 1-several per glomerule, naked, pedicel jointed to filament
- Fruit 3-locular, 3-seeded, elastically dehiscent usually nodding capsule
- Has milky, acrid juice

Species:

- Involucre glands w/petaloid appendages
- Leaves all opposite, inequilateral at base, rarely linear, widest at or above middle, mostly serrulate
- Ovary, capsule, herbage glabrous; nodes not rooting
- Capsules < 2 mm long; seeds lacking definite transverse ridge ± wrinkling, testa tan to brown under outer coat



Euphorbia serrula—sawtooth sandmat
Chamaesyce serrula

Summer Annual

Euphorbia Family
Euphorbiaceae

Distinguishing Characteristics

Genus:

- Leaves simple; flowers monoecious, borne in cyathia, surrounded by hypanthium
- Pistillate flower solitary, pedicellate, naked, ovary 3-locular, 3 styles
- Staminate flowers in 5 glomerules, 1- several per glomerule, naked, pedicel jointed to filament
- Fruit 3-locular, 3-seeded, elastically dehiscent usually nodding capsule
- Has milky, acrid juice

Species:

- Involucre glands w/petaloid appendages
- Leaves all opposite, inequilateral at base, rarely linear, serrulate*, mostly < 15 mm long
- Plants pilose, often prostrate, notes not rooting, seeds often wrinkled or ridged
- Capsules 2-3 mm long



Haplopappus gracilis—slender goldenweed
Haplopappus ravenii
Machaeranthera gracilis
Dieteria gracilis
Sideranthus gracilis

Summer Annual



Composite Family
Asteraceae



Distinguishing Characteristics

- Heads radiate
- Leaves not 3-nerved & veiny, sharply serrate to bi-pinnatifid, teeth or lobes spinescent-tipped
- Phyllaries spinescent-tipped, not glandular, involucre strigose or hirsute



Ipomoea costellata—crestrib morning glory

Summer Annual

Morning Glory Family
Convolvulaceae

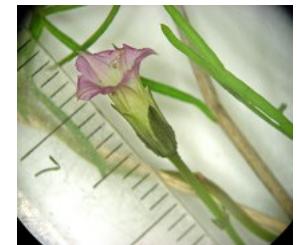
Distinguishing Characteristics

Genus:

- Corolla broadly funnel-form
- Capsule normally 2-celled

Species:

- Calyx and pedicel glabrous or puberulent
- Sepals 3-7 mm long
- Corolla w/tube & throat \leq 10 mm
- Herbage sparsely and inconspicuously hirsute



Ipomoea hederacea—ivyleaf morning glory
Ipomoea desertorum, barbigera, hirsutula, nil
Pharbitis hederacea, barbigera

Summer Annual

Morning Glory Family
Convolvulaceae

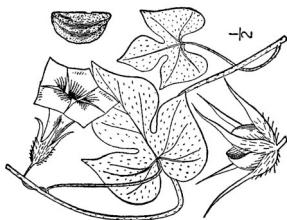
Distinguishing Characteristics

Genus:

- Corolla broadly funnel-form
- Capsule normally 2-celled

Species:

- Purple flower, several cm across
- V. similar to *Ipomoea purpurea*
- Note greater length of acuminate sepals, greater pubescence, deeper color of corolla in *hederacea* vs. *purpurea*



Ipomoea purpurea—tall morning glory
Ipomoea hirsutula
Convolvulus purpureus

Summer Annual

Morning Glory Family
Convolvulaceae

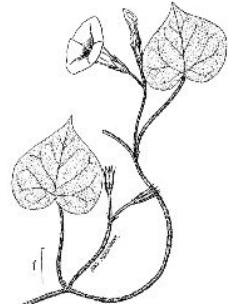
Distinguishing Characteristics

Genus:

- Corolla broadly funnel-form
- Capsule normally 2-celled

Species:

- Purple flower, several cm across
- V. similar to *Ipomoea hederacea*



Kallstroemia grandiflora—Summer Poppy

Summer Annual

Caltrop Family
Zygophyllaceae

Distinguishing Characteristics

Genus:

- Long, prostrate stems radiating from root
- Leaves pinnate, leaflets 8-12
- Flowers solitary, axillary, peduncled
- Fruit convex, breaking up into 8-12 nutlets

Species:

- Petals 15-30 mm long, orange
- Sepals 8-15 mm long
- Beaks of mature fruit slender



Kallstroemia californica—California caltrop
Kallstroemia brachystylis

Summer Annual

Caltrop Family
Zygophyllaceae



Distinguishing Characteristics

Genus:

- Long, prostrate stems radiating from root
- Leaves pinnate, leaflets 8-12
- Flowers solitary, axillary, peduncled
- Fruit convex, breaking up into 8-12 nutlets

Species:

- Prostrate viney herb with leaflets in 4-8 pairs
- Small, orange flowers
- Indistinct from *K. parviflora*, may be conspecific?



Kallstroemia hirsutissima—hairy caltrop

Summer Annual

Caltrop Family
Zygophyllaceae

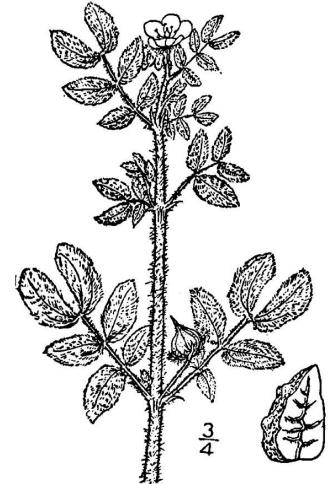
Distinguishing Characteristics

Genus:

- Long, prostrate stems radiating from root
- Leaves pinnate, leaflets 8-12
- Flowers solitary, axillary, peduncled
- Fruit convex, breaking up into 8-12 nutlets

Species:

- hairy



Machaeranthera tanacetifolia—tansy aster
Aster tanacetifolius
Dieteria coronopifolia
Machaeranthera coronopifo-

Summer Annual

Composite Family
Asteraceae



Distinguishing Characteristics

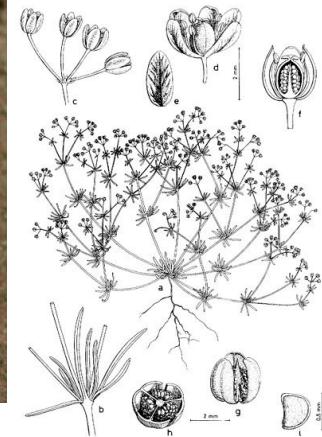
- 10-50 cm tall
- Glandular
- Involucres 8-12 mm high
- Rays 15-25
- Highly dissected gray-green leaves
- Purple rays and yellow disc
- Obvious glands on stalks on the stems, leaves, and phyllaries

Mollugo cerviana—threadstem carpetweed

Synonyms

Synonyms

Summer Annual



Lam. 27. *Mollugo cerviana*. Detalle. Madrid (RA 21750). a) Lámina; b) pseudovaricela; c) círculo umbílico; d) flor; e) pieza perianthio; f) sección longitudinal de una flor; g) capsula madura; h) sección transversal de una capsula madura; i) semilla.

Mollugo verticillata—green carpetweed
Mollugo berteriana

Summer Annual

Carpetweed Family
Aizoaceae



Distinguishing Characteristics

Genus:

- Stems low or prostrate, usually branched
- Leaves narrow, mostly in whorls of 3-6
- No petals, sepals white within
- Stamens 3-5; ovary superior
- Fruit a longitude-dehiscent capsule, 3-5 celled

Species:

- Stems commonly prostrate, not filiform, green
- Stem leaves linear or linear-lanceolate, often > 1 mm wide
- Seeds reniform, red-brown, very shiny, w/ several parallel ribs along the back and sides



Panicum arizonicum—Arizona panic grass
Urochloa arizonaica

Summer Annual

Graminoid Family
Poaceae

Distinguishing Characteristics

Genus:

- Spikelets in open or condensed panicles
- 1st glume minute to > half as long as spikelet
- 2nd glume sterile lemma equal, usually covering the fruit
- Fertile lemma indurate

Species:

- Culms erect to decumbent; 20-60 cm tall
- Sheaths glabrous to hispid
- Leaf glabrous above
- Spikelets 3.5-3.8 mm long
- 1st glume ~ 1/3—1/2 spikelet
- Axes of inflorescences are densely pubescent*



Panicum hirticaule—Mexican panic grass

Panicum capillare

Panicum pampinulosum

Panicum sonorum

Summer Annual

Graminoid Family

Poaceae



Panicum miliaceum—millet

Summer Annual

Graminoid Family

Poaceae

Distinguishing Characteristics

Genus:

- Spikelets in open or condensed panicles
- 1st glume minute to > half as long as spikelet
- 2nd glume sterile lemma equal, usually covering the fruit
- Fertile lemma indurate

Species:

- Spikelets 4.5-5 mm long
- Panicle ± drooping
- 1st glume 1/2—3/4 as long as spikelet, acute or acuminate
- Fruit smooth and shining
- Very 'sturdy' looking, relatively large fruit



Pectis papposa—manybristle chinchweed

Summer Annual

Composite Family
Asteraceae

Distinguishing Characteristics

Genus:

- Usually low, slender-stemmed
- Leaves opposite, entire, dotted w/
pellucid glands, almost always ciliate
w/a few stiff bristles toward the base*
- Heads small, radiate, yellow, the rays
often purplish beneath
- Involucre 1-seriate; achenes slender
- Pappus of numerous bristles or few
awns or paleae, or reduced to a low
crown

Species:

- Leaves not dilated at base
- Phyllaries 8-10
- Heads rather crowded, sessile or per-
duncled, not obviously surpassing
leaves
- Pappus usually of 12-18 bristles,
sometimes reduced to a crown



Portulaca parvula—Silkcotton purslane
Portulaca halimoides

Summer Annual

Purslane Family
Portulacaceae

Distinguishing Characteristics

Genus:

- Small, ± succulent *
- Stems diffuse or ascending, leafy
- Sepals 2, united below
- Petals & stamens inserted on calyx, petals mostly 5, stamens often numerous
- Ovary partly inferior; capsule opening by apical lid

Species:

- Capsule rim not winged
- Leaf axils & inflor. conspicuously villous w/long white, kinky hairs
- Leaves linear or narrowly oblanceolate, subterete (round in cross-section)
- Annual, taproot slender to stout but not tuberous-thickened
- Stems decumbent or ascending-spreading
- Petals yellow to bronze, 2-2.5 mm long; capsule diameter 1.5-2 mm*

*distinguishes from *P. mundula*



Proboscidea parviflora—Devil's Claw
Martynia parviflora

Summer Annual

Sesame Family
Pedaliaceae

Distinguishing Characteristics

Genus:

- Herb; leaves petioled, entire to shallowly lobed
- Flowers few, terminal racemes
- Corolla somewhat bilabiate; stamen 4, anthers gland-tipped
- Fruit hooked, dehiscent beak

Species:

- Stems spreading or matted, to 80 cm long
- Leaves triangular to round ovate, 8-15 cm wide, entire to 5-7 lobed
- Corolla ≤ 3.5 cm long, reddish-purple to white; tube slightly swollen; seed black
- Limb ~ 2.5 cm wide



Sanvitalia aberti—Abert's creeping zinnia

Summer Annual

Composite Family
Asteraceae



Distinguishing Characteristics

Genus:

- Slender annuals
- Leaves opposite, lanceolate, or lanceolate-linear
- Heads small, terminal, radiate, the rays yellow fading to white; rays sessile, persistent on the achenes
- Pales of the receptacle w/rigid cuspidate tips
- Ray achenes 4-sulcate, their pappus of 3 short awns or tubercles
- Disk achenes 4-angled epappose or nearly so

Species:

- monospecific

Sida spinosa—prickly fanpetals

Sida alba

Sida angustifolia

Summer Annual

Mallow Family

Malvaceae



Distinguishing Characteristics

- Stems ± erect
- Flowers clustered at ends of stems & branches
- Pedicels finely stellate-canescens



Solanum rostratum—buffalo bur
Androcera rostrata
Solanum cornutum

Summer Annual

Nightshade Family
Solanaceae



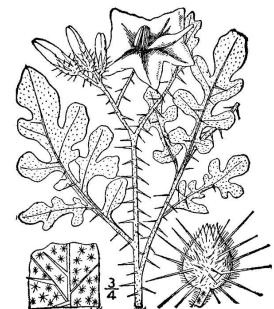
Distinguishing Characteristics

Genus:

- stuff

Species:

- Yellow flower, spines



Tidestroemia lanuginosa—woolly tidestroemia

Tidestromia lanuginosa

Cladothrix lanuginosa

Summer Annual

Amaranth Family

Amaranthaceae

Distinguishing Characteristics

Genus:

- Plants pubescent w/branched hairs
- Stems erect to prostrate, branched herbaceous, or woody toward base
- Leaves mostly opposite
- Flowers perfect, in small axillary clusters, perianth yellow
- Stamens 5, filaments united
- Utricle compressed



Species:

- Stems procumbent or prostrate, radiating from the root
- Larger leaves broadly obovate to spatulate, veins not prominent beneath
- Perianth often 2-3 mm long
- Forms conspicuous whitish mats
- Leaves whitish and stems pinkish
- Minute flowers are yellow



Tragus berteronianus—spiked bur grass
Nazia aliena

Summer Annual

Graminoid Family
Poaceae



Distinguishing Characteristics

Genus:

- Low annuals w/flat blades
- Spikes closely arranged on a slender axis, subsessile, falling entire
- Spikelets 2-5 per spike, on a short zig-zagging rachis
- 1st glumes small or wanting
- 2nd glumes of the 2 lower spikelets bearing stout, hooked spines along each side
- Lemma & palea thin, lemma flat, palea convex



Species:

- Spikes or burs 2-3.5 mm long, scarcely exceeding spines
- Burs, ciliate leaf margins*



Trianthema portulacastrum—desert horse purslane **Summer Annual**

Carpetweed Family
Aizoaceae

Distinguishing Characteristics

Genus:

- Plants somewhat fleshy
- Leaves with stipules, opposite, unequal in the pair, obovate, cuneate at base
- Perianth purplish within, the lobes concave, w/a hornlike dorsal appendage
- Styles 1-2, ovary 1-2 celled; stamens 6-10
- Capsule circumscissile, few seeded, crested

Species:

- Low, prostrate plant, inconspicuous
- Succulent stems and leaves look somewhat like portulaca
- Stipules present with one spine in center
- Fruit is a capsule
- Pink stems, greenish leaves (similar to *Tidestroemia lanuginose*, when dead, but *Tide lanu* is much whiter)*



Verbesina encelioides—cowpen daisy

Verbesina microptera

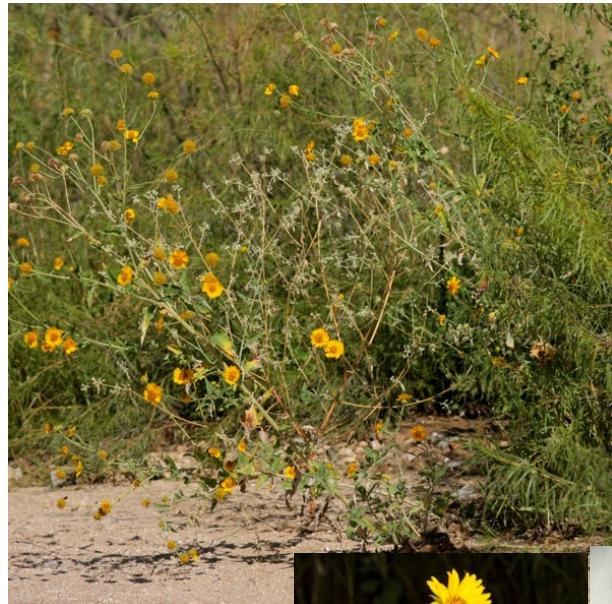
Ximenesia encelioides

Ximenesia microptera

Summer Annual

Composite Family

Asteraceae



Distinguishing Characteristics

Genus:

- Annual or perennial herb
- Leaves opposite or alternate, linear to ovate, usually toothed
- Heads medium sized or rather large, yellow; rays pistillate
- Achenes strongly compressed, 2-winged, pappus none or of 1-2 awns



Species:

- Leaves petioled, densely strigose, white beneath, green above
- Usually annual (?)

ScientificName—*CommonName*

Synonyms

Synonyms

Summer Annual

Family

family

Distinguishing Characteristics

Genus:

- stuff

Species:

- stuff