

Common Wetland Plants of Colorado's Western Slope A Pocket Guide

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Introduction to West Slope Wetlands

The *Common Wetland Plants of Colorado's West Slope: A Pocket Guide* builds upon the Colorado Natural Heritage Program's (CNHP) ongoing effort to provide wetland professionals and the general public with essential tools to identify and assess Colorado's wetland resource. The West Slope pocket guide follows the well-received *Common Wetland Plants of Colorado's Eastern Plains: A Pocket Guide* (Culver 2014) and was produced concurrently with the *Common Wetland Plants of Colorado's Southern Rocky Mountains: A Pocket Guide* (Culver 2018). The pocket guide format is an easy-to-use resource for field identification, providing pertinent information on wetland indicator status, native status, protection, and conservation. For a comprehensive guide to all of Colorado's wetland plants, refer to the *Field Guide to Colorado's Wetland Plants: Identification, Ecology and Conservation* (Culver and Lemly 2013) or download the free Colorado Wetlands App.

The West Slope refers to the portions of Colorado that are west of the Continental Divide to the Utah border. For the purpose of this Pocket Guide, Colorado's West Slope is defined by the lower stream reaches in the following watersheds: Colorado, Yampa, White, Dolores, Mancos, San Miguel, San Juan, Uncompahgre, and Gunnison Rivers. Elevations are generally below 5,000 feet (1524 meters). These watersheds are contained within the western portion of the following counties: Moffat, Rio Blanco, Garfield, Mesa, Delta, Montrose, Ouray, San Miguel, Dolores, Montezuma, La Plata, and Archuleta. Additionally, the West Slope is included within the U.S. Army Corp of Engineers Arid West (AW) geographic region (Figure 1).

Colorado's West Slope is characterized by eroded, nearly horizontal sedimentary formations that can be seen where deep canyons cut through the various strata. The West Slope is often defined as a cold desert—one would assume that the list for wetland plants would be very short—which only emphasizes the importance of wetlands within such a parched landscape. For the AW, the total wetland acres, excluding river channel and lakes, is 81,025 acres or 0.8% of total land cover in the AW. Table 1 is a summary of the National Wetland Inventory (NWI) classification (Cowardin et al. 1979).



Figure 1. Geographic Range included in Pocket Guide.

Table 1. Summary of NWI classification for AW (excluding river and lake types).

NWI Classification Type	Acres
Emergent	58,765
Shrub-Scrub	10,136
Forested	791
Pond	9,183
Other	2,150
Total	81,025

Wetland Definitions

The word ‘wetland’ encompasses many different habitats, but they all share a suite of common biotic and abiotic characteristics. Most importantly, all wetlands are ecosystems shaped by water. The federal regulatory definition of a wetland is used by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) to implement the dredge and fill permit system under Section 404 of the Federal Clean Water Act (CWA). According to this definition, wetlands are:

“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”

For the Section 404 permitting program, wetland boundaries are determined according to mandatory technical criteria described in the **Corps of Engineers Wetlands Delineation Manual** (Environmental Laboratory 1987) and the **Arid West Regional Supplement** (USACE 2008). In order for an area to be classified as a wetland, it must have all three of the following criteria: (1) predominance of wetland plants; (2) wetland hydrology; and (3) hydric soils.

The U.S. Fish and Wildlife Service (USFWS) defines wetlands from an ecological point of view. **Classification of Wetlands and Deepwater Habitats of the United States** (Cowardin et al. 1979) states:

“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.”

According to this definition, wetlands must have *one or more* of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (wetland plants); (2) the substrate is predominantly un-drained hydric soil; and/or (3) the substrate is non-soil and is predominantly saturated with water or covered by shallow water at some time during the growing season of each year. This definition recognizes that some areas display many of the attributes of wetlands without exhibiting all three characteristics required to fulfill the USACE criteria. For example, riparian areas, which often do not meet all three USACE criteria, perform many of the same functions as other wetland types, including maintenance of water quality, storage of floodwaters and enhancement of biodiversity, especially in the western United States (National Research Council 1995). The USFWS definition is often used for wetland mapping and habitat management.

To create a common classification system for hydrophytic plant species, the USFWS developed the first National Wetland Plant List (NWPL) (Reed 1988). This list has been used extensively for wetland delineation, wetland restoration, wetland management, and for general botanical information about wetland plants. Over the years, modifications to the list have been proposed. In 2012, the USACOE produced a thoroughly revised version of the list and a process for periodic updates (Lichvar 2012). The most recent revision was released in 2016 (Lichvar et al. 2016). The NWPL relies on a five-tiered wetland indicator status rating system that describes the likelihood a plant occurs in wetlands as opposed to non-wetlands (Table 2). Each species on the list is rated independently for ten geographic regions within the United States and outlying territories (Lichvar and Minkin 2008), three of which occur within Colorado: Arid West (AW), Western Mountains, Valleys, and Coast (WMVC), and Great Plains (GP)(Fig 2).

Table 2. Wetland indicator status categories.

Indicator Code	Indicator Status	Comment
OBL	Obligate Wetland	Almost always occurs in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands, but may occur in non-wetlands.
FAC	Facultative	Occurs in wetland and non-wetlands.
FACU	Facultative Upland	Usually occurs in non-wetlands, but may occur in wetlands.
UPL	Obligate Upland	Almost never occurs in wetlands.
NI	No Indicator	Insufficient information available to determine indicator status.

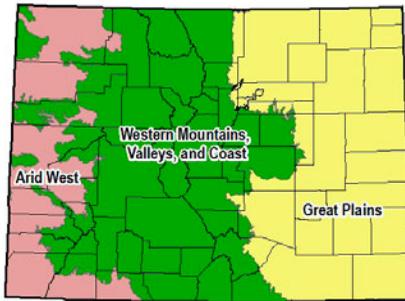


Figure 2. U.S. Army Corp of Engineers Geographic Regions within Colorado.

A CLOSER LOOK

What is that smell?!

Have you ever smelled rotten eggs in a wetland and wondered why? If soil is saturated long enough, the air pockets fill with water and the environment goes from aerobic to anaerobic. The smell is the result of microbes decomposing organic matter that releases electrons via microbial respiration. The rotten egg smell is the result of anaerobes reducing sulfate ion (SO_4^{2-}) to hydrogen sulfide (H_2S).

Wetland Plants and Families

Plants are the most conspicuous component in a wetland. Because of this, wetlands are typically defined by their vegetation. A commonly used term for a wetland plant is hydrophyte: a plant that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. Hydrophytes have evolved a number of adaptations for life in wet environments, including additional pore space, dimorphic leaves and complex rooting systems. Phreatophytes are deep-rooted woody plants (e.g., cottonwoods, alders or willows) that obtain a significant portion of their water from groundwater and are typically found along rivers and streams.

Keying out plants can be a daunting task even for professionals. Knowing the defining characteristics of the major plant families can make it less frustrating. Correct identification is crucial to making valid interpretations about wetland characteristics. Wetland plants reflect the condition of the wetland (highly impacted or lightly impacted) and the presence/absence of abiotic factors such as groundwater changes, soil types, or surface disturbance. For example, the presence of bulrushes (*Schoenoplectus* spp.), woody wetland plants, or duckweeds can indicate permanent saturation. The presence of purple loosestrife or cattails may indicate frequent or severe water level fluctuations or high nutrient inflow.

The following section is a brief overview of the major wetland plant families within the generalized sections of the Pocket Guide.

Aquatic Plants

Aquatic plants are uniquely adapted to living in water. They lack cuticles that terrestrial plants need to prevent dehydration, thus absorbing nutrients and performing gas exchange over their entire surfaces. Water provides physical support, so aquatic plants do not have structural cells needed for growing upright. They need to stay afloat for sunlight and have developed large air spaces that link together to provide buoyancy. Aquatic plants are often slimy, covered with a layer of mucilage to avoid becoming supersaturated. They are further classified according to the following growth forms:

- **Emergent plants** are rooted in the soil with basal portions that typically grow beneath the surface of the water, but whose leaves, stems (photosynthetic parts), and inflorescences are extended out of the water. Common emergent plants are water plantains (*Alisma* spp.), smartweeds (*Polygonum* or *Persicaria* spp.) and cattails (*Typha* spp.).
- **Submerged plants** live in shallow waters, typically spending their entire life cycle beneath the surface of the water, with the possible exception of flowering. Common species include: aquatic buttercup (*Ranunculus aquatilis*), pondweeds (*Potamogeton* spp.), bladderworts (*Utricularia* spp.), pondweeds (*Potamogeton* spp.), water-starworts (*Callitriche* spp.), and waterweeds (*Elodea* spp.)
- **Floating plants** float on the water surface or occasionally within the water column, and take their nutrients directly from the water via suspended roots or osmotic processes. Examples include: duckweeds (*Lemna* spp., *Spirodela polyrrhiza*)

Poaceae-Grass Family

Grasses are the world's third largest family. They occupy every continent and have contributed to important aspects of human civilizations in the form of easily domesticated, nutritional food (rice, corn, sugar) and feed for domesticated livestock. Grasses can be distinguished from other grass-like families by hollow, round stems that are jointed, the presence of a ligule, and reduced flowers with no petals, only two bracts (palea and lemma) (Figure 3). A defining feature for grass identification is the number of florets per spikelet and the arrangement of the spikelets on the rachis or stem. Each spikelet has two glumes and one or more florets. Each floret is surrounded by two floral bracts—the outer lemma and the inner palea (Figure 4). The evolution of grasses has led to reduced floral parts and size, mainly due to the fact that they are wind-pollinated and do not need to attract pollinators with showy flowers, for example the palea and lemma represent much-reduced sepals.

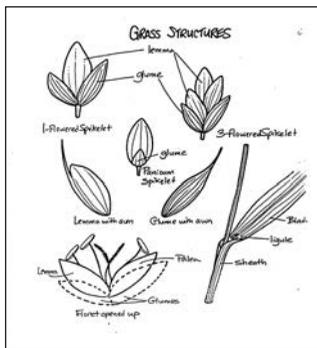


Figure 3. Grass Structures.

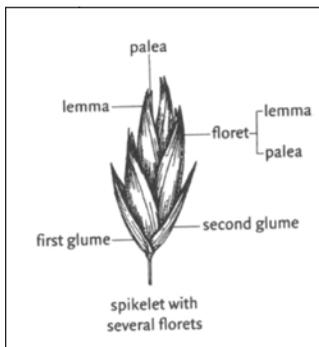


Figure 4. Grass Floret.

The grass family is so large it has been divided into tribes. The common tribes, key characters, and corresponding genera found in the West Slope include:

- Mannagrass tribe (Meliceae)—lemmas with prominent parallel venation, a closed leaf sheath, and a membranous ligule. Examples include: American mannagrass (*Glyceria grandis*) and fowl mannagrass (*G. striata*).
- Blue grass/oat grass tribe (Poaeae)—membranous ligules, open sheaths, long awns (if present) from back of lemma, and inflorescence usually a panicle. Examples include: foxtail (*Alopecurus pratensis*), bluejoint (*Calamagrostis canadensis*), redbud (*Agrostis* spp.), and reed canarygrass (*Phalaris arundinacea*).
- Wheat grass tribe (Triticeae)—sessile spikelets with a tendency of narrow or awn-like glumes. Examples include: foxtail barley (*Hordeum jubatum*), western wheat (*Pascopyrum smithii*), and rye grasses (*Elymus* spp.).
- Reed grass tribe (Arundineae)—represented by a single species in Colorado, *Phragmites australis*. Identification characters include: broad leaves, large, plumose panicles, and ligules with a ring of short hairs.
- Salt grass tribe (Cynodonteae)—sheaths open, membranous ligules, and often ciliate around collar. Most genera grow on dry substrate, however salt grass (*Distichlis spicata*) grows on alkaline salt flats or in a ribbon along small creeks.

Juncaceae-Rush Family

The rush family is grass-like, with mainly linear, basal leaves that are either septate (divided by partitions) (Figure 5), sword-shaped or equitant, or flattened. Rushes have perfect flowers (with both stamens and pistil) (Figure 6) that are in head-like clusters, subtended by 1+ bracts. There are no differentiated sepals or petals; they are collectively defined as tepals, as in lilies. The identifying character is the capsule; however, with a hand lens, seeds can also be used for identification. Common rushes include: Baltic or arctic rush (*Juncus arcticus* ssp. *littoralis*), toad rush (*J. bufonius*), and Torrey's rush (*J. torreyi*).



Figure 5. Septate Leaf Blade.

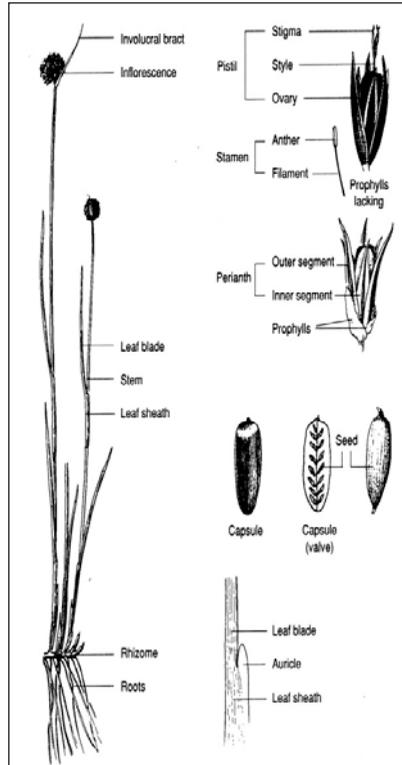


Figure 6. Rush Inflorescence and Floral Structures (Hurd et al. 1994).

Cyperaceae-Sedge and Bulrush Family

Sedges are also grass-like, but are distinguished by solid, triangular stems, 3-ranked leaves (at 90 degree angles), and closed leaf sheath. Sedges are important forage for birds, waterfowl and animals. They have been utilized by humans for hundreds of years as food, baskets, rope, sandals, and original writing paper (*Cyperus papyrus*). In sedges (*Carex* spp.) the flowers are enclosed by a bract referred to as a perigynium, an important identifying character (Figures 5, 6).

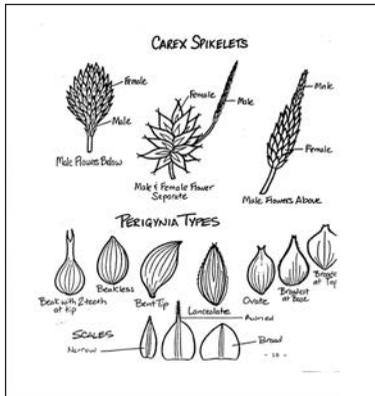


Figure 5. Sedge Spikelet Morphology.

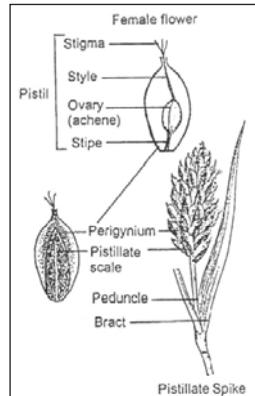


Figure 6. Female Sedge Flower.

This family has several genera, but the most commonly encountered genera on the West Slope are:

- Sedge (*Carex*)—perigynium closed, stems triangular, and ligule present. Perigynium are needed for accurate identification, as well as notes on growth form (i.e. bunch forming or rhizomatous). Common species include: beaked sedge (*C. utriculata*), Nebraska sedge (*C. nebrascensis*), meadow sedge (*C. praegracilis*), and woolly sedge (*C. pellita*).
- Spikerush (*Eleocharis*)—spikelet solitary and terminal, base of style persistent on the achene as a tubercle (cap), and no leaves. Common species include: common spikerush (*E. palustris*) and beaked spikerush (*E. rostellata*).
- Bulrush (*Scirpus* or *Schoenoplectus*)—stems either round (as in hard and soft bulrush) or triangular (as in common three-square), inflorescence subtended by one to several bracts, and 3-6 bristles. Common species include: hardstem bulrush (*Schoenoplectus tabernaemontani*) and common three-square (*S. pungens*).

Monocot Herb Families

Monocot means one (mono) seed leaf (cotyledon). One seldom sees the seed leaf, so there are other characteristics to distinguish a monocot from a dicot (Table 3). Monocot herbs exhibit the following characteristics: parallel leaf veins, flower parts in multiples of 3, and no woody or secondary growth. Common monocot families include:

- Iris family (Iridaceae)—perennial herb from rhizomes, leaves alternate, distichous (2-ranked) and equitant (sword-shaped), 6 tepals, and fruit a capsule. Examples include: Rocky Mountain iris (*Iris missouriensis*) and blue-eyed grasses (*Sisyrinchium* spp.).
- Cattail family (Typhaceae)—semi-aquatic perennials from rhizomes, leaves 2-ranked, and terminal spikes with achenes. Three species occur on the West Slope: broadleaf cattail (*T. latifolia*), southern cattail (*T. domingensis*), and the non-native narrowleaf cattail (*T. angustifolia*).

Table 3 . Monocot vs. Dicot Comparison.

	Monocot	Dicot
Cotyledon	One Seed Leaf	Two Seed Leaves
Leaf Venation	Parallel	Net-like
Stem Vascular Bundle Arrangement	Scattered	Ring
Root System	Fibrous	Taproot
Floral Part Arrangements	Multiples of 3s	Multiples of 4s or 5s

A CLOSER LOOK

Plants with chemistry!

Alders, clovers, alfalfa, most legumes and even non-native Russian olives have a common bacteria called *Rhizobium*, a symbiotic bacteria that infects the roots and uses the plant to help it draw nitrogen from the air (N_2). The bacteria then converts this gas into nitrate (NO_2) then into nitrate (NO_3), a plant nutrient useful to the bacteria and then to the plant after root die-back. The fertilizer is then stored in the plant roots in a nitrogen nodule.

Dicot Herb Families

Dicots have two (di) seed leaves (cotyledons). Leaf venation is net-like, flower parts are in multiples of 4 and 5, and woody or secondary growth that can be present. The common wetland plant families include:

- Carrot or Umbel family (Apiaceae)—leaves compound, inflorescence an umbel, and dry hard seed (think of carrot seeds); can be edible or poisonous. Examples include: water hemlock (*Circuta maculata* var. *angustifolia*) and poison hemlock (*Conium maculatum*).
- Daisy or Composite family (Asteraceae)—flower heads composed of many small ray and disk flowers, flowers on receptacle surrounded by phyllaries, and fruits are achenes (Figure 7). Examples include: aster (*Symphotrichum* spp.), fleabane (*Erigeron* spp.), and groundsel (*Packera/Senecio* spp.).

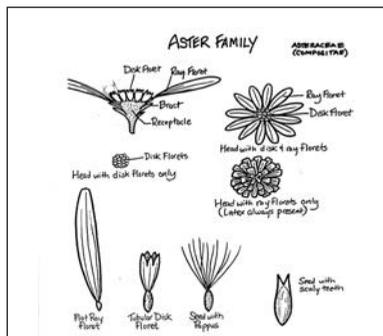


Figure 7. Aster Family Floral Illustration.

- Mustard family (Brassicaceae)—4 petals that are in a cross shape with 6 stamens (4 tall and 2 short), fruit a silique or silicle, and leaves with simple, forked or stellate hairs. Examples include: bittercress (*Cardamine* spp.), and yellowcress (*Rorippa* spp.).
- Goosefoot family (Chenopodiaceae)—small, green flowers lacking showy petals and succulent with scurfy hairs. Common species include: goosefoot (*Chenopodium* spp.) and seepweed (*Suaeda* spp.).
- Knotweed or Smartweed family (Polygonaceae)—small flowers, and most species with swollen nodes with a sheath (ocrea). Examples include: knotweed (*Polygonum* spp.), smartweed (*Persicaria* spp.), and dock (*Rumex* spp.).
- Buttercup family (Ranunculaceae)—radial or round flowers, 5 distinct sepals often showy, petals reduced, and waxy leaves. Examples include: buttercup (*Ranunculus* spp.) and columbine (*Aquilegia* spp.).
- Rose family (Rosaceae)—flowers radially symmetrical, 5 petals, many stamens, presence of a hypanthium (floral tube or cup), with or without thorns. Common species include: cinquefoil (*Potentilla*) and avens (*Geum* spp.).
- Snapdragon family (Scrophulariaceae/Plantaginaceae/Orobanchaceae/Phrymaceae)—the snapdragon family has recently undergone taxonomic revisions and is now divided into multiple families. Species that occur commonly on the West Slope are monkey flower (*Mimulus* spp.) and speedwell (*Veronica* spp.).

Woody Plant Families

Woody plants are characterized by woody stems and branches, and by buds that survive above ground in winter. Trees have a single, well-defined trunk, and shrubs have branched trunks. The most helpful characters for identification are the leaf and branch arrangements (opposite, alternate or whorled), leaf types (dissected, simple, serrate), and fruits. Examples of common families and genera include:

- Maple family (Aceraceae/Sapindaceae)—opposite leaves palmately lobed or dissected and fruit is samara (winged). Examples include: boxelder (*Acer negundo*) and Rocky Mountain maple (*Acer glabrum*).
- Daisy family (Asteraceae)—woody growth form of the daisy family. Common species include: spearleaf rabbitbrush (*Chrysothamnus linifolius*) and willow baccharis (*Baccharis salicina*).
- Birch/alder family (Betulaceae)—shrubs, alternate leaves, and flowers in catkins with cone-like or papery bracts. Examples include: river birch (*Betula occidentalis*) and thinleaf alder (*Alnus incana*).
- Cottonwood family (Salicaceae)—trees or shrubs, simple leaves with alternate attachment on stem, flowers in drooping catkins, bud scales overlapping, dioecious (male and female on separate plants), and fruit a capsule (Figure 8). Examples include: Rio Grande cottonwood (*Populus deltoides* ssp. *wislizeni*) and lanceleaf cottonwood (*P. x acuminata*)
- Willows family (Salicaceae)—typically shrubs (several trunks), buds 1-scaled, and catkins upright (Figure 9). There are numerous willows known from the West Slope, including: geyer willow (*Salix geyeriana*), peachleaf willow (*S. amygdaloides*), coyote willow (*S. exigua*), and strapleaf willow (*S. ligulifolia*).

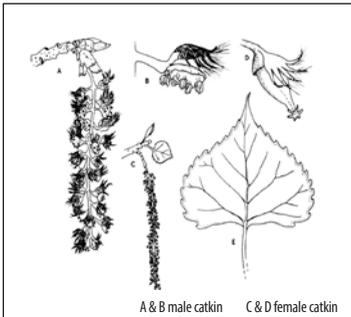


Figure 8. Cottonwood Inflorescence and Leaf.

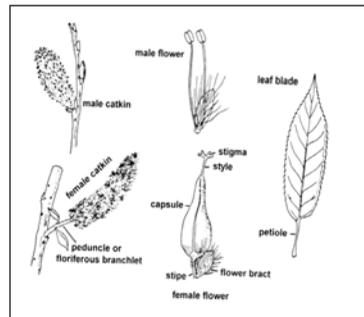


Figure 9. Willow Inflorescence and Leaf.

- Oleaster family (Elaeagnaceae)—trees and shrubs with silver, peltate hairs, 4 sepals, and with or without thorns. Two species occur frequently on the West Slope: Russian olive (*Elaeagnus angustifolia*) that has alternate leaves and white berries; and silver buffaloberry (*Shepherdia argentea*) with opposite leaves and red berries.
- Tamarisk family (Tamaricaceae)—tamarisks (*Tamarix chinensis* and *T. parviflora*) are non-native shrubs or trees, with pink flowers of 4 or 5 petals that can produce copious amounts of seeds.

How to Use the Pocket Guide

Species Included in the Book

Unlike the *Field Guide to Colorado's Wetland Plants* (Culver and Lemly 2013), which focused only on FACW and OBL species, the Pocket Guide includes many FAC and FACU species that are commonly encountered in Western Slope wetlands. The 2016 National Wetland Plant List (Lichvar et al. 2016) and records in SEINet (www.swbiodiversity.org) with at least 10 records or more in the database formed the basis for the list of species covered in the *Field Guide to Colorado's Wetland Plants*. The associated database was queried for species that occur in the 12 counties west of the Continental Divide at elevations below 5,000 ft. The result was 159 plant species selected for the Pocket Guide.

Basic Organization

Major Wetland Plant Groups in the Pocket Guide:

1. Aquatics
2. Fern and Fern Allies
3. Grasses (Poaceae)
4. Rushes (Juncaceae)
5. Sedges, Bulrushes, and Spikerushes (Cyperaceae)
6. Monocot Herbs
7. Dicot Herbs
8. Woody Plants

The book contains detailed descriptions, photos and illustrations, but no dichotomous keys. Users can pair this field guide with dichotomous keys, such as Weber and Wittmann (2012) or Ackerfield (2015), to ensure that species not represented in this book are also considered. Species descriptions are broken down into eight sections according to habitat and external appearance (physiognomy) (Table 4). Each section is noted with a different color along the margins of the page for easy reference. Within each section, plant descriptions are sorted alphabetically by family first, followed by genus, and species.

Table 4. List of major plant groups and number of species in the Pocket Guide.

Section	Number of Species
Aquatics	23
Fern and Fern Allies	2
Grasses	18
Rushes	6
Sedges	18
Monocot Herbs	6
Dicot Herbs	63
Woody Plants	23
Total Species	159

Species Profile Key

1 ***Eleocharis acicularis* (L.) Roem. & Schult.**
Needle spikerush

Cyperaceae

2



Steve Matson CalPhotos



Hurd et al. in prep. U.S. Forest Service

Key Characteristics:

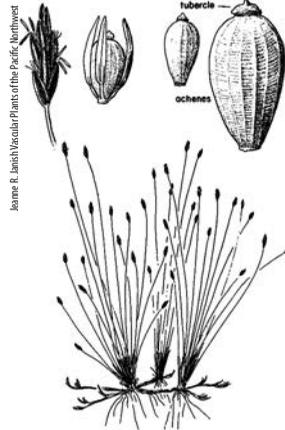
- ◆ Diminutive, from slender, branching rhizomes, often forming dense clumps
- ◆ Culms **filiform, not compressed, 0.3–1.2 dm tall**
- ◆ Floral scales 1.5–2.5 mm long, with greenish midribs; stigmas 3
- ◆ Bristles 3 or 4 equaling or surpassing achene; achenes white to pale gray or yellowish
- ◆ **Achenes with tubercles forming distinctive cap, 8- to 18-ribbed connected by cross-ridges**

Similar Species: *Trichophorum pumilum*, only known from South Park, has a terminal, solitary spikelet that resembles *E. acicularis*. *T. pumilum* has true leaves, not just sheaths, and the achenes are black. *E. wolffii* looks similar, but is rare, known only from northeastern Colorado. It is distinguished by the compressed culms with minutely serrulate margins.

Habitat and Ecology: Very common along marshes, muddy shores and fens, from plains to high elevations in mountains.

Comments: *Eleocharis acicularis* provides habitat and food for waterfowl, shorebirds, small mammals, beavers and amphibians.

3



Joanne H. Benth Vascular Plants of the Pacific Northwest

4

Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Annual, Perennial
Elevation: 3,500 ft. - 10,170 ft.
Synonyms: None
USDA PLANTS Symbol: ELAC

5a-5h

1. Scientific Name: USDA-NRCS PLANTS National Database (2018) is the primary nomenclature for scientific names, as it is widely used and readily available (<http://plants.usda.gov/>). This nomenclature differs in some instances from state-based floras (e.g., Weber and Wittmann 2012, Ackerfield 2015), but is best for comparing across state borders and between various national datasets.

2. Common Name: Common names are generally derived from USDA-NRCS PLANTS National Database. In cases where there is more than one common name, both are listed.

3. Family Name: The primary family name is derived from PLANTS National Database. If a species is treated in a different family in one of the state floras or in the Flora of North America (1993 +), the alternate family name is listed in parenthesis.

4. Photos and Illustrations: Each species includes several photos or illustrations that highlight the most diagnostic characteristics of the plant. Photos and illustrations were compiled from numerous sources, which include many talented Colorado photographers, several internet-based photo databases, genera-specific photo collections of herbaria specimens, and botanical illustrators from around the country.

5a. Wetland Status: The wetland indicator status reflects the likelihood that a particular plant occurs in a wetland or upland (see Table 2 on page 3). This information is both of general interest and specifically needed for wetland delineation. The wetland indicator rating status used in this guide is from the 2016 National Wetland Plant List published by the U.S. Army Corps of Engineers and is specific to the the Arid West Region (AW) within Colorado.

5b. Native Status: Native status denotes whether a plant is considered native, non-native, or, in limited cases, both native and non-native. Native status used in this guide is derived from PLANTS National Database, which largely considers whether a plant is native to the contiguous United States. There is considerable debate among taxonomic experts on the origin of certain plant species. Where there is debate about whether a species is native to Colorado, we have included that information in the comments section.

5c. Conservation Status: Conservation status refers to the Natural Heritage Network ranking system of global and state rarity. Every species is ranked on a Global (G) and Subnational/State (S) level. The basic ranks used to classify species and ecosystems are shown in Table 5. Additional ranks and associated criteria used by the Natural Heritage Network are available at: <http://www.natureserve.org/>.

Table 5. Natural Heritage Network ranking system.

Rank	Interpretation
G1/S1	Critically Imperiled (typically 5 or fewer occurrences or less than 1,000 individuals)
G2/S2	Imperiled (typically 6 to 20 occurrences or between 1,000 and 3,000 individuals)
G3/S3	Vulnerable to Extirpation (typically 21 to 100 occurrences or between 3,000 and 10,000 individuals)
G4S4	Apparently Secure (usually more than 100 occurrences and more than 10,000 individuals)
G5/S5	Demonstrably Widespread, Abundant, and Secure (typically with considerably more than 100 occurrences and more than 10,000 individuals)
GNR/SNR	Not Ranked (not enough information is available on which to base a rank)
GNA/SNA	Not Applicable (rarity ranking is not applicable because the species is not native to the state)

5d. C-Value: The C-value or “coefficient of conservation,” which represents the estimated probability that a species occurs in a landscape ranging from a gradient of pristine to disturbed (Swink and Wilhelm 1979; Swink and Wilhelm 1994). C-values range from 0-10 (Table 6). C-values of 0 are always reserved for non-native species. Within native species, C-values of 7 or higher are assigned to species that are obligate to high-quality natural areas and sensitive to sudden alterations to natural ecological processes and disturbances. C-values of 3 or less are assigned to species commonly found in disturbed areas. The average C-value of a plant community assesses the degree of “naturalness” based on the presence or absence of conservative species and provides a powerful and relatively easy assessment of biotic integrity. C-values for Colorado species were assigned by a panel of botanical experts, as described in Rocchio (2007).

Table 6. C-Value ranking system.

C-Values	Interpretation	Examples (C-Values)
0	Non-native species. Very prevalent in new ground or non-natural areas.	Watercress (<i>Nasturtium officinale</i>) (0)
1-3	Commonly found in non-natural areas.	Water plantain (<i>Alisma trivale</i>) (3)
4-6	Equally found in natural and non-natural areas.	Woolly sedge (<i>Carex pellita</i>) (6)
7-9	Obligate to natural areas but can sustain some habitat degradation.	Sea milkwort (<i>Glaux maritima</i>) (7)
10	Obligate to high quality natural areas (relatively unaltered from pre-European settlement).	Oil shale columbine (<i>Aquilegia barnebyi</i>) (10)

5e. Duration: Indicates if a species is typically annual, biennial, perennial, or some combination of the three. This information is derived from PLANTS National Database.

5f. Synonyms: Major synonyms are listed for each species. A special effort was made to include all names used by Weber and Wittmann (2012), Ackerfield (2015), and the most recent Flora of North America treatments (Flora of North America 1993+).

5g. USDA PLANTS Symbol: The USDA PLANTS Symbol is the unique alpha-numeric symbol for each species used within PLANTS National Database. The symbols begin with the first two letters of the genus name and the first two letters of the species name, followed by the first letter of the subspecies or varieties, if applicable. If the letters in any code are the same for more than one taxon, a number is included at the end of the code to make each code unique.

6. Key Characteristics: The key characteristics include up to five bullets that detail the most important and distinguishing characteristics of the species and is perhaps the most useful section of the guide. In general, the first bullet describes overall plant size, plant habit, stem characteristics, and rooting structure. The second bullet describes the most important features of the leaves, including the size, shape, position on the plant, presence of hairs, etc. If there is more than one type of leaf, both are described in detail. Remaining bullets describe important features of the inflorescence, flowers and flower parts, and seeds. The key characteristics vary by family and genus, as each has particular characteristics of importance. The **bolded** characters are diagnostic.

7. Similar Species: Species that could be easily mistaken for the main species are described in this section along with their distinguishing characteristics.

8. Habitat and Ecology: This section describes the general habitat and ecology of the species.

9. Comments: Additional information in this section can include: management recommendation (e.g., if the plant is a preferred species for moist soil management or revegetation), important noteworthy facts that could include information on wildlife use, ethnobotanical use, origins of the plant name, and evolutionary strategies of the plant or plant family, and comments about nativity or nomenclature.

Other Resources

Several books are extremely helpful in identify Colorado plants.

- *The Flora of Colorado* (Ackerfield 2015) includes species descriptions and distribution maps.
- *Colorado Flora: Western Slope* by Bill Weber and Ron Wittmann (2012) is a handy field key.
- *Sedges of Colorado* (Wingate 2017) is a must have for all botanists, especially wetland scientists.
- *Grasses of Colorado* (Shaw 2008) includes comprehensive descriptions, distribution maps, and illustrations.
- *Trees and Shrubs of Colorado* (Carter 2006) include descriptions and illustrations.
- *The Plant Identification Terminology* by Harris and Harris (2003) is an illustrated glossary that is very useful.

Please visit CNHP's Colorado Wetland Information Center (www.cnhp.colostate.edu/cwic) for comprehensive information on wetland mapping, assessment, classification and conservation.

Alisma triviale Pursh

Northern water plantain

Alismataceae



Neal Kramer CalPhotos



Amadej Irmoczy CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



J.R.J.

Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 5,000 ft. - 10,000ft.

Synonyms: *Alisma plantago-aquatica* L. ssp. *brevipes* (Greene) Sam.

USDA PLANTS Symbol: ALTR7

Key Characteristics:

- ◆ Aquatic, emergent, 2-6 (12) dm tall arising from short, crowded, fleshy *rhizomes*
- ◆ Leaves basal, shorter than the inflorescence; **blades 2-20 cm wide**, ovate; petioles sheathing, 3-15 (20) cm long
- ◆ Flowers 1-few whorls forming a diffuse panicle; scape 10-50 cm long excluding inflorescence
- ◆ Flowers numerous, diffuse; sepals obtuse; **petals white, 3.5-6 mm**; pedicels 1-4 cm long; **fruiting heads 4-7 mm in diameter**
- ◆ Achenes arranged in a single ring, 2-2.5 mm long, usually 3 ribbed with a central groove near tip; beaks erect

Similar Species: *A. gramineum* leaves are linear, less than 3 cm wide and achenes have 2 distinct grooves.

Habitat and Ecology: Common in wet places such as along pond shores, in ditches and marshes and on mud flats, rarely in deep water.

Comments: Alismataceae is considered to be one of the most primitive monocots due to the retention of ancestral characters e.g., numerous pistils and numerous stamens. Achenes are eaten by waterfowl and small mammals. .

Sagittaria cuneata Sheldon

Arumleaf arrowhead

Alismataceae



Trent M. Draper CalPhotos



Louis M. Landry CalPhotos



Jeanne R. Jamish Vascular Plants of the Pacific Northwest

Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 3,500 ft.-10,000 ft.

Synonyms: None

USDA PLANTS Symbol: SACU

Key Characteristics:

- ◆ Aquatic, emergent, 1-11 dm tall; rhizomes absent, stolons and corms present
- ◆ Submerged leaf blades sagittate to 45 cm long, floating to 100 cm long; emergent petioles recurved
- ◆ Inflorescence equaling leaves, sparsely flowered, lower whorls female, upper whorls male

Similar Species: *S. brevirostra* also has erect achene beaks, but they are recurved, not straight and prominent (up to 1.7 mm long). *S. latifolia* achene beaks are horizontal, not erect.

Habitat and Ecology: Common along shorelines and slow-moving streams and in swampy places, especially in sandy soils. *S. cuneata* is extremely variable. On emergent plants, the leaf petioles are often bent toward the ground. Submerged plants often grow from a basal rosette with a long, flexuous petiole and a floating, sagittate leaf.

Comments: The small, flattish seeds of arrowheads are eaten by ducks and the tubers are valuable to many species of wildlife. Muskrat, beaver and porcupine are known to eat the tubers.

Sagittaria latifolia Willd.

Broadleaf arrowhead

Alismataceae

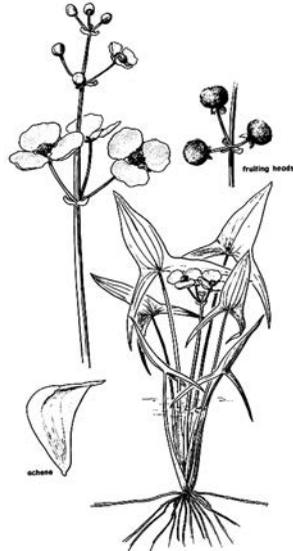


Graves Lovell Forestry Images



Louis M. Landry GalPhotos

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 3,800 ft.-7,500 ft.

Synonyms: *Sagittaria latifolia* Willd. var. *obtusata* (Muhl. ex Willd.) Wiegand, *Sagittaria latifolia* Willd. var. *pubescens* (Muhl. ex Nutt.) J.G. Sm.

USDA PLANTS Symbol: SALA2

Key Characteristics:

- ◆ Aquatic, emergent, 2-8 dm tall; rhizomes absent, stolons and corms present
- ◆ Leaves variable, depending on water depth; **blades sagittate, 8-40 cm long x 0.4-15 cm wide**
- ◆ Inflorescence 1-few, bracts free, papery; pedicels slender, 0.3-3.5 cm long

Similar Species: *S. latifolia* is distinguished from other *Sagittaria* spp. by glabrous filaments and achene beaks that are set horizontally (90 degrees from axis).

Habitat and Ecology: Common along pond shores, in muddy ditches, and swampy areas on plains and foothills.

Comments: The Alismataceae is considered to be one of the most primitive monocots due to the retention of ancestral characters e.g., numerous pistils and numerous stamens. The small, flattish seeds of arrowheads are eaten by ducks and the tubers are valuable to many species of wildlife. Muskrat, beaver and porcupine are known to eat the tubers.

Nasturtium officinale W.T. Aiton

Watercress

Brassicaceae



Thomas Stoughton CalPhotos



Louis M. Landry CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: OBL

Native Status: **Non-native**

Conservation Status: GNR

C-Value: 0

Duration: Perennial

Elevation: 4,100 ft.-9,300 ft.

Synonyms: *Rorippa nasturtium-aquaticum* (L.)

Hayek

USDA PLANTS Symbol: NAOF

Key Characteristics:

- ◆ Aquatic or sub-aquatic herbs from fibrous rooted rhizomes, forming dense colonies in streams
- ◆ Stems 1-6 dm long, hollow, arising from rhizome nodes, rooting when in contact with wet ground

- ◆ **Leaves 2-6 cm wide, pinnately compound with 1-9 pairs;** petioles auriculate at the bases
- ◆ Flowers white, sometimes tinged with purple
- ◆ **Siliques 10-18 mm long x 1.8-2.6 mm wide, broadly linear;** styles 0.7-1.1 mm long

Similar Species: *Rorippa* spp. occur in similar habitats, but have siliques that are ovate or globose.

Habitat and Ecology: Common in slow-moving streams, ditches and along lake margins.

Comments: *N. officinale* is native to Eurasia, imported to United States as a cooking herb. It is a widespread aquatic plant that has become naturalized in wetlands. Widely used as a salad herb for the spicy, peppery flavor, it is grown commercially in the United States. It also contains high concentrations of vitamins and minerals. Watercress has a long history of medicinal use for a variety of ailments.

Callitriche palustris L.

Vernal water-starwort

Callitrichaceae (Plantaginaceae)

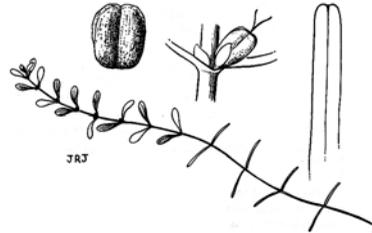


Max Licher Arizona State University Herbarium



Susan McDougall USDA-NRCS PLANTS Database

Jeanne R. Janish Vascular Plants of the Pacific Northwest
Gary Fewell University of Wisconsin-Green Bay



© 2010 Gary Fewell

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 4,850 ft.-12,000 ft.
Synonyms: *Callitriche palustris* L. var. *verna* (L.) Fenley ex Jeps., *Callitriche verna* L.
USDA PLANTS Symbol: CAPA52

Key Characteristics:

- ◆ Submergent, stems 1-2 dm long, elongate, delicate
- ◆ Submerged leaves sessile, linear, 0.5-1.5 cm long and up to 1 mm wide
- ◆ Floating leaves broader, spatulate to obovate, up to 5 mm wide; blades 3-nerved

- ◆ Flowers subtended by bracts, bracts whitish, 0.5-1.5 mm long
- ◆ **Fruits 1-2 mm long, separated by shallow furrow, pit markings in vertical rows**

Similar Species: *C. heterophylla* has smaller fruits (0.6-1.2 mm long) and pits on fruit are not aligned in vertical rows. *C. hermaphroditica* has only submerged linear leaves.

Habitat and Ecology: Common in slow-moving streams, ditches and along lake margins.

Comments: Provides forage and cover for young fish and aquatic insects. Ducks eat seeds and foliage.

Ceratophyllum demersum L.

Hornwort or coon's tail

Ceratophyllaceae

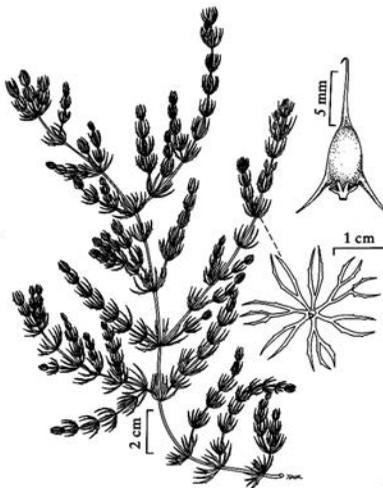


Neal Kramer CalPhotos



John Hiitty Illinois Wildflowers

Yevonn Wilson-Ramsey Flora of North America



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 1

Duration: Perennial

Elevation: 3,500 ft.-9,500 ft.

Synonyms: *Ceratophyllum apiculatum* Cham.

USDA PLANTS Symbol: CEDE4

Key Characteristics:

- ◆ Submergent, light green to brown, heavily branched stems, to 2 (3) m long; tips appear bushy
- ◆ Leaves whorled, dichotomously branched with narrow, linear divisions, margins serrate
- ◆ Flowers, if present, small, sessile, located in leaf axils, involucre of 8-15 linear bracts
- ◆ Fruits rarely produced, dark green, round with 3 narrow spines, 2 cm long including spines

Similar Species: *Ranunculus aquatilis* looks similar, but has alternate leaves and white, 5-parted flowers. *Myriophyllum spicatum* has roots and pinnate leaves, appearing more feathery and limp when held out of the water.

Habitat and Ecology: Common in lakes, ponds, irrigation ditches, and slow-moving streams. Can become dominant in warm, nutrient-rich waters. Hornwort stores energy as oils and may cause natural oil slicks when it decays.

Comments: *C. demersum* provides fall forage for waterfowl and can occur as dense mats, providing cover for aquatic insects. Hornwort is theorized to be one of the oldest living angiosperms, with fossil evidence dating back to the Cretaceous Period.

Myriophyllum sibiricum Kom.

Shortspike watermilfoil

Haloragaceae

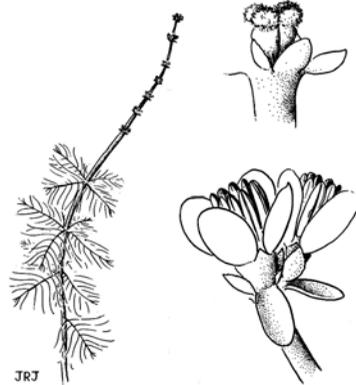


Louis M. Landry CalPhotos



George W. Hartwell CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



JR7

Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Perennial
Elevation: 4,870 ft.-11,590 ft.
Synonyms: *Myriophyllum exalbescens* Fernald,
Myriophyllum spicatum L. ssp. *exalbescens* (Fernald)
 Hultn
USDA PLANTS Symbol: MYSI

Key Characteristics:

- ◆ Submergent, stems stout, whitish or tan; forms turions, that appear as condensed areas of leaves
- ◆ Leaves whorled, stiff, 5-9 pairs of leaflets per leaf, lower leaflet pairs longer than those at the tip

- ◆ Inflorescence a terminal spike; floral bracts entire to serrate, shorter than flowers
- ◆ Staminate flowers 4, pink petals; pistillate flowers without sepals or less than 0.5 mm long
- ◆ Fruits to 3 mm across, 4-parted, smooth or slightly rough

Similar Species: *M. verticillatum* has strongly dissected floral bracts that are feather-like and the staminate flowers have yellowish-green petals. ***M. sibiricum* can be confused with the noxious weed, *M. spicatum*.** *M. spicatum* is less stout, limp when out of water, with 12-21 leaflet pairs that are of more uniform size, producing a square leaf tip rather than a pointed leaf tip.

Habitat and Ecology: Common in ponds, lakes, muddy shores and still-moving waters. Excessive growth can be indicative of excess nutrients.

Comments: *Myriophyllum sibiricum* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Lemna minor L. Common duckweed

Lemnaceae (Araceae)

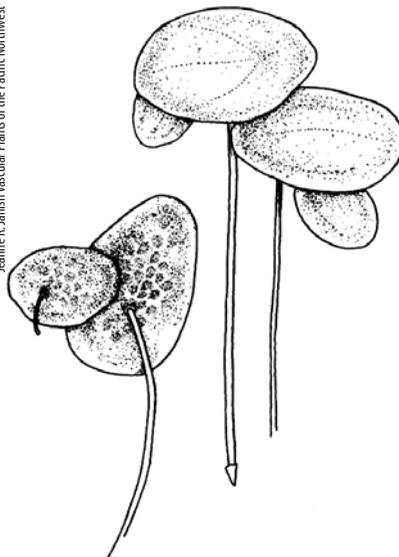


Steve Olson



Louis M. Landry CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 2

Duration: Perennial

Elevation: 3,500 ft.-9,840 ft.

Synonyms: *Lemna turionifera* Landolt

USDA PLANTS Symbol: LEM13

Key Characteristics:

- ◆ Free-floating, green, round leaves or fronds, 2-5 or more in coherent groups
- ◆ **Roots solitary on each frond, up to 15 cm long,** tip mostly rounded
- ◆ Fronds obovate, 3-6 mm long x 1.5-4 mm wide, essentially symmetrical
- ◆ **Fronds green above, tinged with red below, 3-nerved**
- ◆ Fronds rarely forming turions (winter buds)

Similar Species: *L. minuta* fronds are 1-nerved and do not turn red.

Habitat and Ecology: Commonly found in slow-moving streams, ponds and lakes. The most common duckweed in Colorado.

Comments: Duckweeds provide food for fish, snapping turtles and waterfowl and habitat for aquatic invertebrates. Because of the high nutritive value, duckweeds have been cultivated for livestock feed. Duckweed morphology is unique because they are vascular plants that are described with non-vascular descriptors (e.g., frond, stipe, thalli).

***Lemna trisulca* L.**
Star duckweed

Lemnaceae (Araceae)



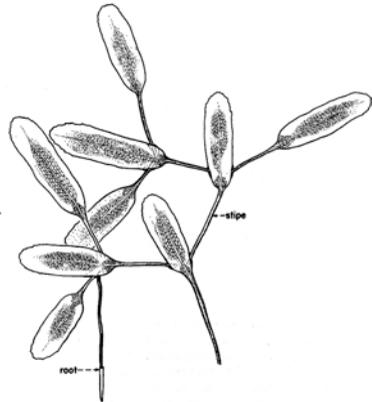
A. S. Kers Hickr Creative Commons



Steve Matson CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest

JRJ



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 5,940 ft.-9,700 ft.
Synonyms: None
USDA PLANTS Symbol: LETR

Key Characteristics:

- ◆ **Submerged (not free-floating)**, roots to 2.5 cm long with pointed tips
- ◆ Roots, if developed, solitary, to 2.5 cm long, tips pointed
- ◆ Fronds narrowly ovate, 6-10 (12) mm long x 2.5-5 mm wide, faintly 3-nerved, symmetrical

- ◆ **Frond bases narrowed into green stalks, margins finely serrate**
- ◆ Fruits 0.6-0.9 mm laterally winged toward apices; seeds with 12-18 distinct ribs

Similar Species: *L. trisulca* is the only duckweed that has submerged, serrate fronds.

Habitat and Ecology: Found in slow-moving streams, ponds and lakes. Likely more common, but under collected.

Comments: Duckweeds provide food for fish, snapping turtles and waterfowl and habitat for aquatic invertebrates. Because of the high nutritive value, duckweeds have been cultivated for livestock feed. Duckweed morphology is unique because they are vascular plants that are described with non-vascular descriptors (e.g., frond, stipe, thalli).

***Alopecurus aequalis* Sobol.**
Shortawn foxtail

Poaceae



Steve Matson CalPhotos



Keir Morse CalPhotos

Key Characteristics:

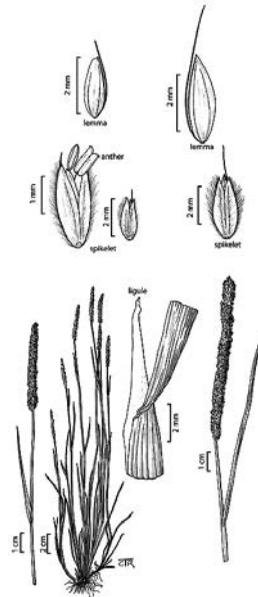
- ◆ Aquatic, emergent, tufted, occasionally rooting at nodes; culms erect, 1-5 dm tall
- ◆ Leaf sheaths open, glabrous; ligules membranous, 2-6.5 mm long; blades flat, 1-5 mm wide
- ◆ **Inflorescence a narrow panicle;** spikelets 1-flowered, strongly flattened

Similar Species: *A. geniculatus* also has obtuse glumes, but the lemma awns are geniculate and longer, up to 5 mm long. *A. pratensis* glumes are longer, 3-6 mm long, with acute tips.

Habitat and Ecology: Marshes, wet meadows, margins of lakes, ponds or streams from low elevations to subalpine.

Comments: Large herbivores, small mammals, waterfowl, and songbirds depend on grasses for food and nesting materials.

Cindy Talbot Booth, Manual of Grasses for North America



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 4,800 ft.-11,480 ft.

Synonyms: None

USDA PLANTS Symbol: ALAE

Beckmannia syzigachne (Steud.) Fernald

American sloughgrass

Poaceae



Crystal Strouse



Matt Lavin

Key Characteristics:

- ◆ Aquatic, emergent, stout, erect, robust, **often stoloniferous**; culms 2-12 dm long, glabrous
- ◆ Leaf sheaths open; ligules 5-8.5 mm long, membranous; blades 8-10 cm long, flat, scabrous
- ◆ **Inflorescence a narrow, one-sided, panicle of closely imbricate spikelets, 6-27 cm long**

Similar Species: None.

Habitat and Ecology: Grows in wet meadows, irrigation ditches, floodplains, sloughs, and standing water from low elevations to montane.

Comments: Colonizer of recent sediment deposition along margins of freshwater lakes, ponds, marshes, wet meadows and lower gradient streams. It is eventually replaced by more aggressive riparian grasses and sedges. Considered palatable and a nutritious forage grass.

Linda A. Vorobik: Manual of Grasses for North America



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Annual

Elevation: 5,000 ft.- 11,280 ft.

Synonyms: *Beckmannia syzigachne* (Steud.) Fernald
ssp. baicalensis (Kusnez.) Koyama & Kawano

USDA PLANTS Symbol: BESY

- ◆ Spikelets 1-flowered, 2.5-3.5 mm long, flat; **glumes 2.5-3.5 mm long, inflated, laterally compressed**
- ◆ Lemmas 3.5-3.5 mm long, acute, mucronate or awn-pointed

Catabrosa aquatica (L.) P. Beauv.

Water whorlgrass

Poaceae

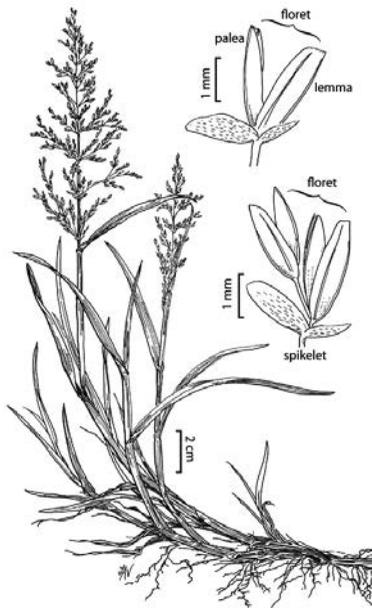


Matt Lavin



Matt Lavin

Linda A. Vorobik/Manual of Grasses for North America



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 3,710 ft.–10,800 ft.

Synonyms: None

USDA PLANTS Symbol: CAAQ3

Key Characteristics:

- ◆ **Stoloniferous, often aquatic; culms 1-5 dm long, rooting at nodes, decumbent at bases, glabrous**
- ◆ **Leaf sheaths closed;** ligules 2-6 mm long, membranous; blades flat, wrinkled

- ◆ Inflorescence an open panicle, 7-20 cm long; erect, oblong, or pyramidal; branches whorled, divergent
- ◆ Spikelets 2-flowered, 2.5-3.5 mm long; glumes short, truncate, scarios, smaller than flowers
- ◆ Lemmas 2-3 mm long with **3 prominent parallel nerves**, glabrous, truncate, apices erose

Similar Species: *Glyceria striata* spikelets with more than two florets and the lemma has 7 nerves.

Habitat and Ecology: Grows in standing or slow-moving water throughout Colorado, less common on the Eastern Slope.

Comments: *C. aquatica* is palatable, but it is never sufficiently abundant to be a dominant forage species. Global range is throughout North America.

Polygonum amphibium L. var. *emersum* Michx

Longroot smartweed

Polygonaceae



Al Schneider Southwestern Colorado Wildflowers



Matt Below CalPhotos



USDA-NRCS PLANTS Database Britton & Brown 1913

Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5T5

C-Value: 4

Duration: Perennial

Elevation: 3,650 ft.-10,660 ft.

Synonyms: *Persicaria amphibia* (L.) Gray var. *emersa* (Michx.) J.C. Hickman, *Persicaria coccinea* (Muhl. ex Willd.) Greene

USDA PLANTS Symbol: POAME

Key Characteristics:

- ◆ Submergent or emergent or terrestrial; rhizomes or stolons present
- ◆ Stems prostrate to ascending or erect, simple or branched, ribbed, glabrous or hairy; **ocrea (fused, sheathing stipules), 5-50 mm long**

- ◆ Leaf blades widest near the middle, not glandular-punctate below
- ◆ **Inflorescence a single, terminal raceme**
- ◆ **Perianth bright pink to red**

Similar Species: Water smartweeds without flowering stems can look like pondweeds (*Potamogeton* spp.). Pondweeds are monocots with parallel leaf veins, flowers are green and inconspicuous, not showy and pink as in smartweeds.

Habitat and Ecology: Found in shallow waters, margins of lakes and ponds and inundated meadows. *P. amphibium* var. *emersum* has two growth forms. The aquatic adapted plants have glabrous leaf blades with acute to rounded apices. **Terrestrial forms produce hairy, lanceolate leaf blades with pointed tips.**

Comments: *Polygonum amphibium* var. *emersum* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Potamogeton foliosus Raf.

Leafy pondweed

Potamogetonaceae



Neal Kramer CalPhotos



Keir Morse CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,500 ft.-10,400 ft.

Synonyms: None

USDA PLANTS Symbol: POF03

Key Characteristics:

- ◆ Plants submergent, stems compressed, 0.5-1 mm wide, freely branched, to 8 dm long
- ◆ Submerged leaves only, linear, 1.3-8.2 cm long x 0.3-2.3 mm wide, 1- to 5-nerved, basal glands absent; **stipules free**
- ◆ Spikes short-cylindric, 1.5-7 mm long; peduncles usually clavate, stout, recurved, 3-10 mm long
- ◆ Fruits olive, 1.4-2.7 mm long, produced in a blocky cluster on a short stalk
- ◆ **Fruits with wavy dorsal keels; beak short**

Similar Species: *P. pusillus* has smooth, rounded fruits and glands that are usually present at the base of the stipules.

Habitat and Ecology: Found in ditches, shallow warm water ponds, lakes, springs and slow-moving streams.

Comments: *Potamogeton foliosus* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Potamogeton nodosus Poir.

Longleaf pondweed

Potamogetonaceae



Neal Kramer CalPhotos



John Hilty Illinois Wildflowers

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,500 ft.-10,100 ft.
Synonyms: None
USDA PLANTS Symbol: PONO2

Key Characteristics:

- ◆ Submergent, stems subterete, 1-2 mm thick, simple or seldom branched, to 1.5 m long
- ◆ **Submerged leaves, 10-20 (30) cm long x 1-2 cm wide, prominent mid-vein; petioles 4-10 cm long**
- ◆ Floating leaves 5-13 cm long x 2-4.5 cm wide; petioles winged, 5-20 cm long; **stipules free**
- ◆ Spikes cylindrical, usually 2-6 cm long; peduncles thicker than the stems, 3-15 cm long
- ◆ **Fruits reddish-brown**, obovoid, 2.7-4.3 mm long, dorsal keels sharp

Similar Species: *P. alpinus* has leaves that are red-tinged and tapering to the stem, rather than long-petiole with mature spikes that are 3 cm long or less. *P. natans* has submerged leaves that are sessile and less than 1 cm wide.

Habitat and Ecology: Found in lakes, ponds and ditches.

Comments: Pondweed seeds, tubers and vegetation provide important food and cover for aquatic animals and waterfowl. Common throughout the contiguous United States.

Potamogeton pusillus L.

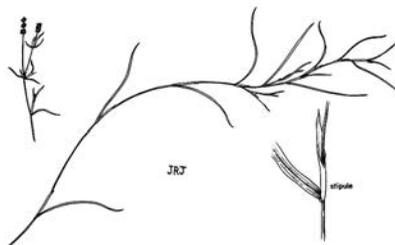
Small pondweed

Potamogetonaceae



Neal Kramer CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Neal Kramer CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 5,000 ft. - 10,600 ft.
Synonyms: None
USDA PLANTS Symbol: POPU7

Key Characteristics:

- ◆ Plants wholly submergent, stems terete, 0.1-0.7 mm thick, 2-15 dm long
- ◆ Leaves linear, 0.9-6.5 cm long x 0.2-2.5 mm wide, tapered, 2 globose glands present at bases
- ◆ Stipules free, brownish-green, 3-9 mm long, non-fibrous
- ◆ Spikes short-cylindric, 1.5-10 mm long; floral whorls 1-3; peduncles 0.5-6 cm long
- ◆ Fruits green to brown, smooth, obliquely obovoid, 1.5-2.2 mm long, rounded back, concave on the sides

Similar Species: *P. foliosus* also has linear leaves that are submerged, but leaves lack the basal glands on the stipules, peduncles are much more stout and spikes are shorter (0.1-0.5 cm long) with 3-5 whorls of paired flowers. *Stuckenia* spp. leaves are channeled, are much larger (5-12 cm), the leaf sheaths are fused to the leaf blades 2/3 or more the length of the stipules and the peduncles does not project above water surface.

Habitat and Ecology: Found in shallow pools and shallow ditches.

Comments: Pondweed seeds, tubers and vegetation provide important food and cover for aquatic animals and waterfowl. Common throughout North America.

***Potamogeton richardsonii* (Benn.) Rydb.**
Richardson's pondweed

Potamogetonaceae



Graham Prichard Flickr Creative Commons



Frank Koshore University of Wisconsin-Green Bay

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,500 ft.-11,500 ft.
Synonyms: *Potamogeton perfoliatus* L. ssp. *richardsonii* (Benn.) Hultn
USDA PLANTS Symbol: POR12

Key Characteristics:

- ◆ Plants mostly submerged, stems terete, 1-2.5 mm thick, 3-10 dm long, rarely zigzag
- ◆ **Leaves all submerged, 2-10 cm long x 1-2.5 cm wide, strongly clasping**
- ◆ **Stipules free, 1-2 cm long, early shredding into whitish fibers**
- ◆ Spikes dense, cylindrical, 1.5-4 cm long; peduncles strongly recurved in fruit, 2-10 cm long
- ◆ Fruits green to brown, obliquely obovoid, 2.5-3.5 mm long; beaks 1.5 mm or less long

Similar Species: *P. praelongus* is similar, but usually has distinct zigzag stems. *P. crispus* leaves are wavy and crispy when mature with serrate leaf margins.

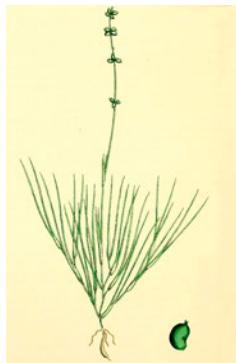
Habitat and Ecology: Found in shallow ponds and lakes.

Comments: Pondweed seeds, tubers and vegetation provide important food and cover for aquatic animals and waterfowl. Common throughout Alaska, Canada south to Arizona and Colorado.

Stuckenia filiformis (Pers.) Borner

Fineleaf pondweed

Potamogetonaceae



L. Watson and M.J. Dallwitz DELTA Database



Robert H. Mohlenbrock USDA-NRCS Western Wetland Flora

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 5,000 ft.-11,500 ft.

Synonyms: *Potamogeton filiformis* Persoon

USDA PLANTS Symbol: STF16

Key Characteristics:

- ◆ Plants wholly submerged, stems from buried rhizomes that produce tubers
- ◆ Leaves all submerged, 5-12 cm long x 0.2-2 mm wide, 1 (3)-nerved, **blunt-tipped**
- ◆ **Stipules adnate for 10 mm, forming a conspicuous ligule, 1-7 mm long**

Similar Species: *S. pectinata* (= *Potamogeton pectinatus*) stipule sheaths are longer (2-3 cm long) and the leaf tips are sharp-pointed. *Potamogeton foliosus* also has linear leaves, but the peduncles are stouter and spikes are shorter (0.1-0.5 cm long) with 3-5 whorls of paired flowers. *P. pusillus* has smooth, rounded fruits and glands that are usually present at the base of the stipules.

Habitat and Ecology: Common in mountain lakes and slow-moving streams.

Comments: Pondweed seeds, tubers and vegetation provide important food and cover for aquatic animals and waterfowl. Common throughout Alaska, Canada, south to New Mexico, California, to upper midwest.

Stuckenia pectinata (L.) Borner

Sago pondweed

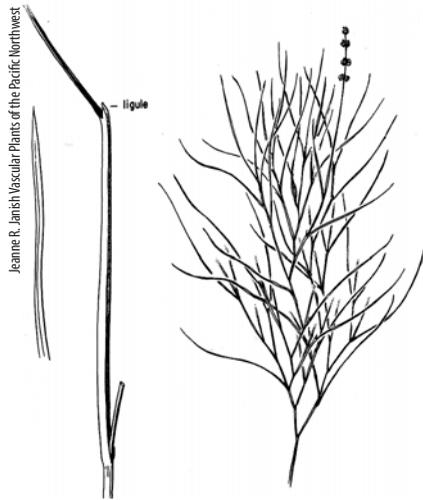
Potamogetonaceae



L. Watson and M.J. Dallwitz DELTA Database



Denise Culver Colorado Natural Heritage Program



Jeanne R. Jarvish Vascular Plants of the Pacific Northwest

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Perennial
Elevation: 3,500 ft.-10,790 ft.
Synonyms: *Potamogeton pectinatus* L.
USDA PLANTS Symbol: STPE15

Key Characteristics:

- ◆ Plants wholly submerged, stems emerging from tubers at end of white rhizomes
- ◆ Leaves all submerged, branching, filiform to narrowly linear, 3-12 cm long x 0.2-1 mm wide, **with sharp pointed tip**

- ◆ **Stipules adnate to the base of the leaf blades for 2-3 cm, forming a short ligule, 1 mm long**
- ◆ Spikes elongate, 1-3 cm long, with 2-6 floral whorls; peduncles lax, filiform, to 15 cm long
- ◆ **Fruits yellowish to tawny, 2.7-4 mm long, egg-shaped, beaks short**

Similar Species: *S. filiformis* (= *Potamogeton filiformis*) occurs in similar habitats but has a longer ligule, up to 7 mm long and the leaves have blunt tips. *Potamogeton foliosus* has linear leaves, but the peduncles are stouter and spikes are shorter (0.1-0.5 cm long) with 3-5 whorls of paired flowers. *P. pusillus* has smooth, rounded fruits and glands that are usually present at the base of the stipules. Leaves are opposite or whorled, thread-like, tendril-like rhizomes and achenes that are curved with stout, horn-shaped beaks.

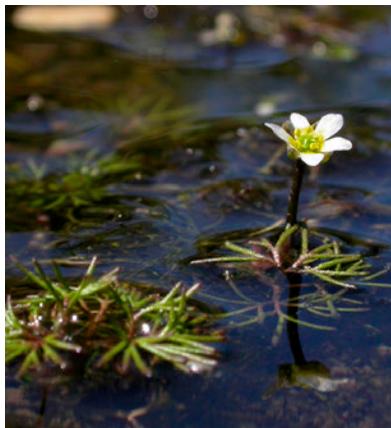
Habitat and Ecology: Commonly found in shallow mountain lakes and slow-moving streams. Leaves branch profusely like a wide fan, often spreading out along water surface.

Comments: *Stuckenia pectinata* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Ranunculus aquatilis L.

White water crowfoot

Ranunculaceae

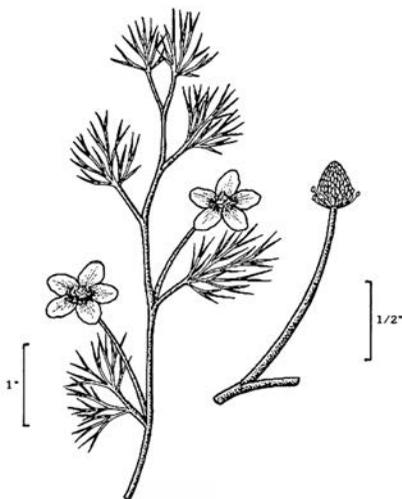


Keir Morse CalPhotos



Keir Morse CalPhotos

USDA-NRCS Wetland Flora



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 3,500 ft.-10,500 ft.

Synonyms: *Batrachium circinatum* (Sibth.)

Rchb. ssp. *subrigidum* (W. Drew) - L'v'e & D. L'v'e,

Ranunculus longirostris Godr., *Batrachium aquatile*

(L.) Dumort., *Ranunculus trichophyllus* Chaix var.

hispidulus (E. Drew) W. Drew

USDA PLANTS Symbol: RAAQ

Key Characteristics:

- ◆ **Submerged**, except flowers; stems glabrous, forming dense mats
- ◆ **Leaves sessile, all finely dissected into numerous filiform segments, less than 1 mm wide**

- ◆ Receptacles rough with stiff hairs; sepals spreading or reflexed, glabrous; **petals 5, white, above water**
- ◆ **Fruiting pedicels recurved at fruiting time**
- ◆ Achenes cross-corrugated and pubescent; beaks persistent, filiform, 0.1-1.2 mm long

Similar Species: The leaves of *R. aquatilis* look like those of *Ceratophyllum demersum* or *Utricularia* spp., but if flowering, the white buttercup flowers are distinctive and diagnostic.

Habitat and Ecology: Common in ponds, streams and creeks. The Ranunculaceae, a primitive family, is one of the few plant families that is characterized by protogyny, where the female parts mature before the male flower parts as a strategy to avoid self-pollination.

Comments: Fruits and foliage of water crowfoot are a source of food for some waterfowl and provide food and shelter for fish and invertebrates. Common throughout southern Canada, south to California, east to Colorado.

Sparganium angustifolium Michx.

Narrowleaf bur-reed

Sparganiaceae (Typhaceae)



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Key Characteristics:

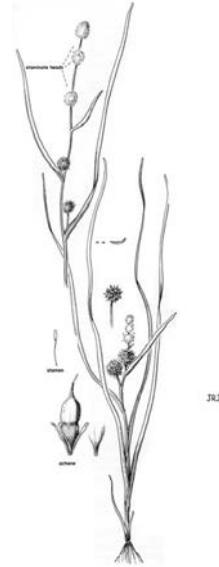
- ◆ Emergent to submergent, stems slender, 3-10 dm long when floating, shorter and stouter in shallow waters
- ◆ **Leaves limp**, unkeeled, rounded at back, flat to plano-convex, 3-10 dm long x **(1) 2-6 (8) mm wide**
- ◆ Pistillate heads 2-5, sessile or short-stalked, 1-3 cm in fruit; stigmas 1
- ◆ **Staminate heads (1) 2-4, usually contiguous and appearing as one elongate head**
- ◆ Fruits 3-5 mm long, greenish, dull, **beaks (including stigmas) 1.5-2 mm long**

Similar Species: *S. emersum* has at least some staminate heads that do not appear contiguous, wider leaves (6-12(15) mm wide, and the fruits are reddish to brown with longer beaks (2-4.5 mm long).

Habitat and Ecology: Common in shallow waters of mountain ponds and lakes.

Comments: *Sparganium angustifolium* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value. Common throughout Canada and western United States.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 3,370 ft.-11,900 ft.

Synonyms: *Sparganium emersum* Rehmann var. *multipedunculatum* (Morong) Reveal

USDA PLANTS Symbol: SPAN2

Sparganium emersum Rehmann

European bur-reed

Sparganiaceae (Typhaceae)



Susan McDougall USDA-NRCS PLANTS Database



Steve Matson CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status: AW: OBL

Native Status: Non-native

Conservation Status: GNR

C-Value: 0

Duration: Perennial

Elevation: 3,370 ft.-10,130 ft.

Synonyms: *Sparganium simplex* Huds., *Sparganium angustifolium* Michaux ssp. *emersum* (Rehmann) Bradshaw

USDA PLANTS Symbol: SPEM2

Key Characteristics:

- ◆ **Emergent, inflorescences stiff, above water** (1.5) 2-5 (10) dm tall
- ◆ **Leaves erect or floating, stiff, keeled, flat, 2-5 (10) dm long x 6-12 (15) mm wide; bases triangular**

- ◆ **Pistillate heads 1-6, 1.6-3.5 cm across in fruit; stigmas 1**
- ◆ Staminate heads 3-7, contiguous or not
- ◆ Fruits reddish-brown, beaks (including stigmas) 2-4.5 mm long; beaks straight or curved

Similar Species: *S. angustifolium* has staminate heads that are contiguous, appearing as one elongate head with leaves are narrower and flat to plano-convex. *S. emersum* is distinguished by triangulate leaves, at least at the base, more numerous staminate heads, at least some of which are not contiguous, and by its greenish fruits with longer beaks. However, the two bur-reeds do hybridize, making positive identification difficult.

Habitat and Ecology: Not as common as *S. angustifolium*, found in shallow water of ponds and willow carrs.

Comments: Excellent food and habitat for waterfowl. Muskrats and deer eat the entire plant. *S. emersum* has a circumboreal distribution, occurring in Europe and North America. USDA-NRCS PLANTS Database lists it as non-native. Many authors consider it a naturalized species.

Zannichellia palustris L.

Horned pondweed

Zannichelliaceae

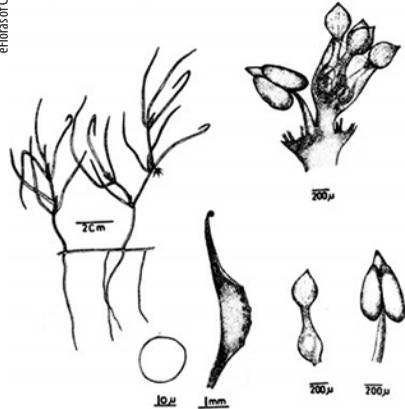


Graves Lovell Forestry Images



Graves Lovell Forestry Images

eFloras of China



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 2
Duration: Perennial
Elevation: 3,500 ft.- 10,000 ft.
Synonyms: None
USDA PLANTS Symbol: ZAPA

Key Characteristics:

- ◆ Submerged, monoecious, with tendrill-like roots and slender, delicate rhizomes
- ◆ Leaves opposite or whorled, 3-10 cm long with 1-3 veins, smooth margins, filiform, thread-like
- ◆ Stipules forming a sheath that is adnate to leaf bases
- ◆ Flowers highly reduced, 1 staminate and 4 (1-5) pistillate flowers at each node; perianth none
- ◆ Fruits are achenes, forms in leaf axils, flattened, slightly curved with stout, horn-shaped beaks

Similar Species: *Stuckenia pectinata* is similar in appearance, but leaves are slightly wider and the fruits are distinctly different. *Najas guadalupensis* has similar leaves, but with toothed margins and a shoulder at junction with stem. *Z. palustris* fruits are very distinct with the horned projections.

Habitat and Ecology: Found in slow-moving streams, ditches and along pond margins.

Comments: *Zannichellia palustris* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Equisetum hyemale L. var. *affine* (Engelm.) A.A. Eaton

Scouringrush horsetail

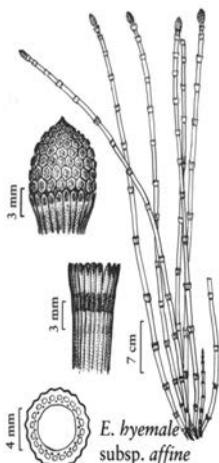
Equisetaceae



Scott Smith



Scott Smith



Laurie Lange eFloras of North America



Patrick Alexander USDA NRCS PLANTS Database

Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T5
C-Value: 4
Duration: Perennial
Elevation: 3,650 ft.-10,140 ft.
Synonyms: *Hipochaete hyemalis* (L.) Bruhn ssp. *affinis* (Engelm.) W.A. Weber
USDA PLANTS Symbol: EQHYA

Key Characteristics:

- ◆ Aerial stems persisting more than year, 18-220 cm tall, **unbranched**, ridges 14-50
- ◆ **Mature sheaths dark-girdled at base**, brown or gray above girdle, square
- ◆ Sheaths 4.5-17 mm long x 3.5-18 mm wide

- ◆ Teeth 14-50 per sheath, jointed, promptly shed or persistent
- ◆ **Cone apices pointed**; spores green, spherical 1-2.5 cm long

Similar Species: *E. laevigatum* stems die back after one season, sheaths lack a dark band and cones are rounded not pointed at apices.

Habitat and Ecology: Found on wet sandy or gravelly substrates of ditches, roadsides and streamsides, often in dense colonies.

Comments: Scouringrush horsetails provide excellent cover for various kinds of wildlife, including waterfowl, small mammals, and insects. However, due to the tough stems and silica deposits, they have a low food value for mammals. Scouringrushes and horsetails have persisted since the Carboniferous Period, approximately 300 million years ago. Common throughout North America.

Equisetum laevigatum A. Braun

Smooth horsetail

Equisetaceae

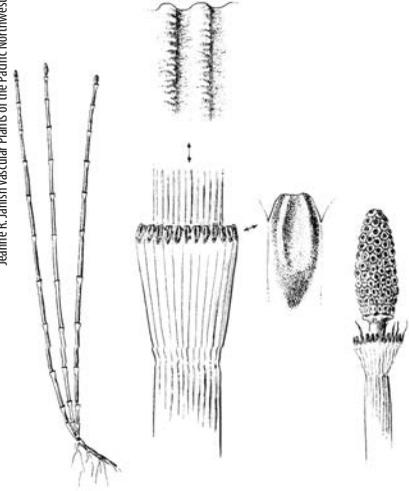


Scott Smith



Scott Smith

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,470 ft.-12,460 ft.

Synonyms: *Hippochaete laevigata* (A. Braun) Farw.

USDA PLANTS Symbol: EQLA

Key Characteristics:

- ◆ Stems dying after one season (annual in Colorado), 20-150 cm tall, unbranched, ridges 10-32
- ◆ Sheaths green, elongate, 7-15 mm wide with black band only at tips, lacking persistent teeth
- ◆ Teeth 10-32, jointed, shed early, leaving a dark rim on sheath
- ◆ Cone apices rounded to apiculate with blunt tips

Similar Species: *E. variegatum* stems are slender, not stout and the sheaths are loose with fine-pointed persistent teeth. *E. hyemale* ssp. *affine* has perennial stems with a dark band at the bases, not just at the top.

Habitat and Ecology: Common in wet meadows, edges of ditches, roadsides and streamsides.

Comments: Horsetails provide excellent cover for various kinds of wildlife, including waterfowl, small mammals and insects. However, due to the tough stems and silica deposits, they have a low food value for mammals. Scouringrushes and horsetails have persisted since the Carboniferous Period, some 300 million years ago. Common throughout Canada and western and midwestern United States.

Agrostis gigantea Roth

Redtop

Poaceae

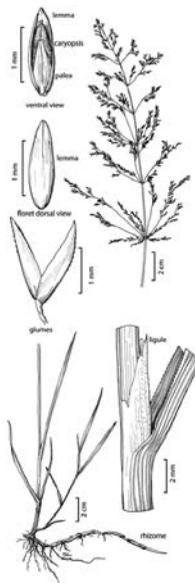


Biopix



Steve Matson CalPhotos

Sandy Long Manual of Grasses for North America



Wetland Status: AW: FACW

Native Status: Non-native

Conservation Status: G4G5

C-Value: 0

Duration: Perennial

Elevation: 3,880 ft.-10,000 ft.

Synonyms: *Agrostis alba* auct. non L., *Agrostis stolonifera* L. ssp. *gigantea* (Roth) Sch. bl. & G. Martens, *Agrostis stolonifera* L. var. *major* (Gaudin) Farw.

USDA PLANTS Symbol: AGG12

Key Characteristics:

- ◆ **Rhizomatous; rhizomes robust and creeping;** stems erect from bases, up to 1.5 m tall
- ◆ Leaf sheaths open; ligules 3-6 mm long; blades flat, 3-8 mm wide x 4-20 cm long
- ◆ **Inflorescence an open panicle,** reddish, pyramidal-oblong, up to 20 cm long; branches spreading
- ◆ Spikelets 1-flowered, disarticulation above glumes; glumes nearly equal, about as long as spikelet
- ◆ Lemmas 1.5-2 mm long; paleas well-developed, about half the length of lemma, 0.7-1.4 mm long

Similar Species: *A. stolonifera* is also a large stature bentgrass that is stoloniferous and decumbent at bases. It is not as common as *A. gigantea*.

Habitat and Ecology: Common. Cultivated in irrigated hay meadows; grows along ditches and roadsides.

Comments: Non-native, escaped from hay meadows. Large herbivores, small mammals, waterfowl, and song-birds depend on grasses for food and nesting materials.

Agrostis stolonifera L.

Creeping bentgrass

Poaceae



Russ Kleinman and Kelly Kindscher Western New Mexico University



Matt Lavin

Key Characteristics:

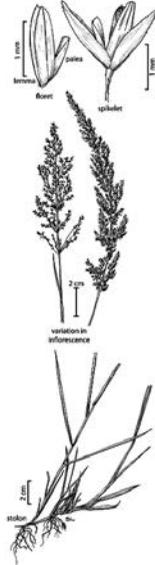
- ◆ **Stoloniferous (not rhizomatous), spreading from a decumbent bases, rooting at lower nodes;** culms 2-10 dm tall
- ◆ Leaf sheaths occasionally purplish or reddish; ligules membranous, 2-8 mm long; blades up to 1 cm wide

Similar Species: *A. gigantea* is another large stature bentgrass. It has rhizomes, not stolons, and is erect from the bases with a narrow panicle.

Habitat and Ecology: Grows in mesic areas along streams, stock tanks and ponds from low elevations to subalpine.

Comments: Native to Eurasia. *A. stolonifera* is often the dominant graminoid, forming monocultures, especially on disturbed sites. Provides cover for birds and small mammals. The foliage is browsed by ungulates.

Sandy Long Manual of Grasses for North America



Wetland Status: AW: FACW
Native Status: Non-native
Conservation Status: G5
C-Value: 0
Duration: Perennial
Elevation: 3,600 ft.-10,520 ft.
Synonyms: *Agrostis alba* L. var. *palustris* (Huds.) Pers., *Agrostis alba* L. var. *stolonifera* (L.) Sm., *Agrostis palustris* Huds.
USDA PLANTS Symbol: AG2T

- ◆ Inflorescence a narrow panicle at maturity, 5-30 cm long; branches spreading, densely-flowered, whorled
- ◆ **Spikelets 1-flowered;** glumes unequal, 1.6-3 mm long, nerves scabrous to ciliate, purplish
- ◆ Lemmas 1.4-2 mm long, 5-nerved, membranous, unawned; paleas well-developed, 0.7-1.4 mm long

Distichlis spicata (L.) Greene

Saltgrass

Poaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FAC

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,400 ft.-9,000 ft.

Synonyms: *Distichlis spicata* (L.) Greene ssp. *stricta* (Torr.) Thorne, *Distichlis stricta* (Torr.) Rydb.

USDA PLANTS Symbol: DISP

Key Characteristics:

- ◆ Strongly rhizomatous, culms prostrate to decumbent to erect, 1-6 dm tall
- ◆ **Leaf sheaths open, margins and throats with tuft of hairs at collar;** blades stiff, involute, white midveins
- ◆ **Inflorescence a panicle of 4-10 digitally arranged branches,** linear, 3-16 cm long

Similar Species: *D. spicata* is very distinctive with its rhizomatous growth habit, compressed spikelets, and hairy collars.

Habitat and Ecology: Commonly found along roadsides, playas, seeps, springs and mineral (alkaline) soil flats on both Eastern and Western Slopes.

Comments: Saltgrass is a warm season grass that is very tolerant of saline and sodium soils. It is an important forage for large animals. Saltgrass is a larval host plant for many skipper butterflies, including the San Luis Valley sandhills skipper (*Polites sublet ministigma*). It is also an important food for waterfowl and small mammals. The genus name refers to the Latin *distichus* or *distichous* meaning arranged in two opposite rows.

Echinochloa crus-galli (L.) P. Beauv.

Barnyardgrass or barnyard millet

Poaceae



Luigi Rignanese CalPhotos



Keir Morse CalPhotos

Linda A. Vorobik and Hana Pazdřková Manual of Grasses for North America



Wetland Status AW: FACW
Native Status: Non-native
Conservation Status: GNR
C-Value: 0
Duration: Annual
Elevation: 3,650 ft.–8,300 ft.
Synonyms: None
USDA PLANTS Symbol: ECCR

Key Characteristics:

- ◆ **Cespitose; culms decumbent to erect, 0.3-2 m tall, usually reddish at bases**
- ◆ Leaf sheaths open; ligules absent; blades 6–65 cm long x 5–35 mm wide, generally glabrous
- ◆ Inflorescence an erect to nodding, one-sided panicle of 5–12 spike-like branches, spreading

- ◆ Spikelets with 1 well-developed floret (1 fertile and 1 sterile), crowded, oval, turgid
- ◆ **Fertile lemmas rounded, 3-nerved, broad, apices acuminate to awned**

Similar Species: *E. muricata* closely resembles *E. crus-galli*. The upper lemmas are acute, not rounded, and the leathery apices extend into membranous tips without hairs. However, these characters are difficult to discern and many taxonomists believe that the two species are not distinct.

Habitat and Ecology: Commonly found along roadsides, disturbed sites, ditches, pastures and barnyards.

Comments: *E. crus-galli* is grazed by livestock and wildlife. Seeds are eaten by songbirds, waterfowl, and upland game birds. It also provides cover and nesting materials for waterfowl.

Glyceria grandis S. Watson

American mannagrass

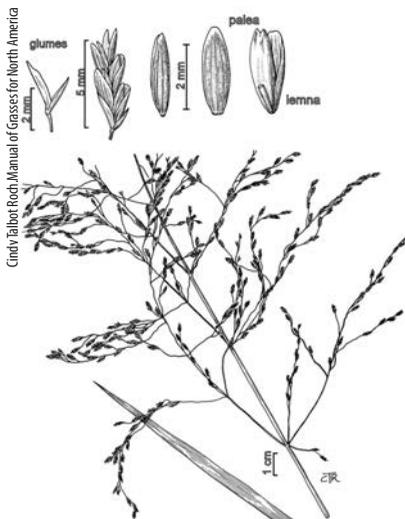
Poaceae



Dean Wm. Taylor CalPhotos



Louis M. Landry CalPhotos



Cindy Talbot (with Manual of Grasses for North America)

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 5,200 ft.-9,600 ft.
Synonyms: None
USDA PLANTS Symbol: GLGR

Key Characteristics:

- ◆ Rhizomatous; culms erect to decumbent at bases, 0.9-1.5 m tall, hollow, rooting freely at nodes
- ◆ **Leaf sheaths closed;** ligules membranous; blades 15-40 cm long x 6-12 mm wide
- ◆ **Inflorescence an open, lax panicle, purplish, branches often drooping**
- ◆ Spikelets purplish, 3.2-10 mm long, 4- to 7-flowered; first glume 1-nerved, 1.5 mm long, second glume 2 mm long
- ◆ **Lemmas purplish,** 7-nerved, 2.5 mm long, truncate

Similar Species: *G. grandis* is often confused with *Torreyochloa pallida*. *T. pallida* has **open** leaf sheaths and 7-9 nerves on lemmas. *G. grandis* is the tallest mannagrass that occurs in Colorado.

Habitat and Ecology: Occurs in wet and moist areas along streams, lakes and irrigation ditches.

Comments: Seeds are eaten by waterfowl and songbirds. Herbage is grazed by large and small mammals. *G. grandis* will decrease with extreme grazing and with encroaching tall sedges and other native grass species. Common throughout North America except for California and the east coast states.

Glyceria striata (Lam.) Hitchc.

Fowl mannagrass

Poaceae

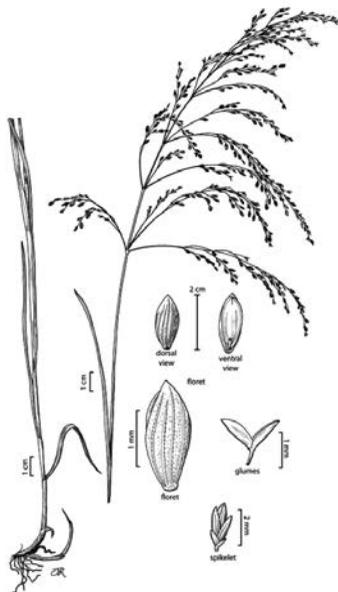


Matt Lavin



Matt Lavin

Cindy Talbot Booth, Manual of Grasses for North America



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 5,000 ft. - 11,190 ft.

Synonyms: *Glyceria elata* (Nash ex Rydb.) M.E. Jones

USDA PLANTS Symbol: GLST

Key Characteristics:

- ◆ Rhizomatous; culms slender, erect to decumbent, 2-10 (13) dm tall, often rooting at nodes
- ◆ **Sheaths closed**; ligules membranous, 1-3 mm long; blades flat to folded, 5-30 cm long x 2-6 mm wide
- ◆ **Inflorescence a lax, open panicle, drooping at maturity, 5-20 cm long**
- ◆ Spikelets 3- to 7-flowered, ovate to oblong, laterally compressed, purplish, 2.5-4 mm long
- ◆ **Glumes purple-tinged, 1-nerved; lemmas 1.5-2.5 mm long, prominently 7-nerved, obtuse to oblong**

Similar Species: *G. grandis* has wider leaf blades (6-12 mm wide) and is taller (up to 1.5 m) than *G. striata*.

Habitat and Ecology: Grows in wet meadows along streams, from lower montane to subalpine.

Comments: Large herbivores, small mammals, waterfowl and songbirds depend on grasses for food and nesting materials. Likely decreases with extreme grazing by large animals. May also decrease as sediment deposition raises the streambank above water level and more aggressive plants are established.

Hordeum brachyantherum Nevski

Meadow barley

Poaceae

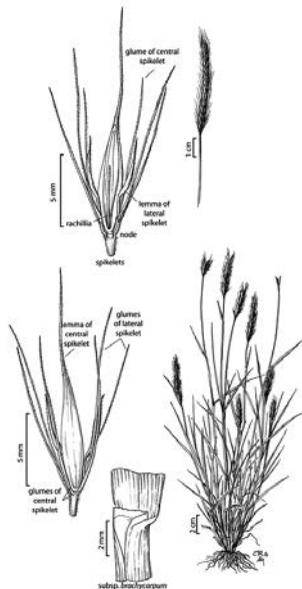


Matt Lavin



Steve Matson CalPhotos

Grady Talbot, Rechy, and Annaliese Miller, Manual of Grasses for North America



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 5,000 ft–12,010 ft.

Synonyms: *Criteson brachyantherum* (Nevski)

Barkworth & Dewey

USDA PLANTS Symbol: HOBZR

Key Characteristics:

- ◆ **Tufted**; culms stiffly erect, 3-7 dm tall
- ◆ Sheaths open; ligules membranous, truncate, sometimes ciliate; blades flat, 4-12 cm long
- ◆ **Inflorescence a 2-sided spike**, narrow, dense with fine awns, 3-10 cm long, longer than broad

- ◆ Spikelets 3 per node, 3-9 mm long, central spikelet perfect and sessile; lateral spikelets much reduced
- ◆ **Glumes all similar, awn-like; lemmas of central florets tapering to awns less than 2 cm long**

Similar Species: *H. jubatum* has much longer lemma awns (2-5 cm long), broader spikes and occurs in both dry and wet habitats.

Habitat and Ecology: Commonly occurs in wet areas along streams, seeps, springs and irrigated fields in central and western Colorado. Weber and Wittmann (2012) consider it non-native to Colorado.

Comments: Large herbivores, small mammals, waterfowl and songbirds depend on grasses for food and nesting materials.

Hordeum jubatum L.

Foxtail barley

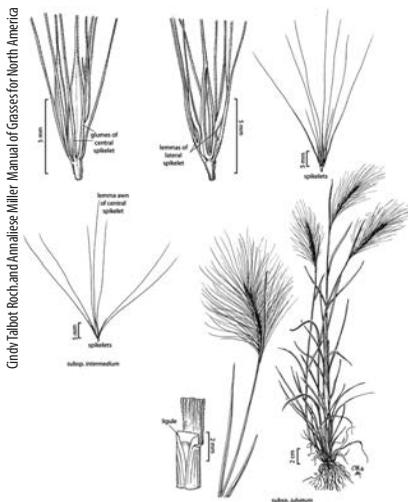
Poaceae



Steve Olson



Steve Matson CalPhotos



Cindy Talbot, Rech. and Annaliese Miller, Manual of Grasses for North America

Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 2

Duration: Perennial

Elevation: 3,730 ft.-11,400 ft.

Synonyms: *Critesion jubatum* (L.) Nevski

USDA PLANTS Symbol: HOJU

Key Characteristics:

- ◆ Cespitose; culms erect to decumbent, 2-8 dm tall, slender, soft-pubescent to glabrous
- ◆ Sheaths open; ligules ciliate membranes; blades 5-15 cm long x 2-5 mm wide, scabrous to hirsute
- ◆ **Inflorescence a nodding, broad spike at maturity, 4-15 cm long (excluding awns) x 4-6 cm wide**
- ◆ **Spikelets 3 per node, central spikelet perfect and sessile, lateral spikelets much reduced**
- ◆ Glumes of central spikelet 35-85 mm long; lemma awns of central spikelet 35-90 mm long

Similar Species: *Hordeum pusillum* glumes are straight, not divergent at maturity, and awns are 7-18 mm long. *Elymus elymoides* has large, nodding spikelets, but it is found in drier sties and looks more “prickly” not feathery.

Habitat and Ecology: Common in wet areas from plains to subalpine.

Comments: Used as a forage by large animals, but after flowering awns can cause sores in mouth and often work into skin of sheep and paws of dogs. It is salt tolerant and prevails in disturbed meadows.

Leersia oryzoides (L.) Sw.

Rice cutgrass

Poaceae

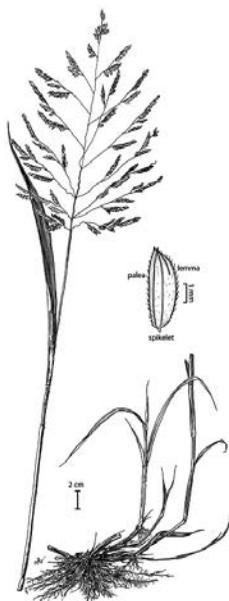


Keir Morse CalPhotos



Matt Lavin

Linda A. Vorobik/Manual of Grasses for North America



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 3,680 ft.-6,300 ft.

Synonyms: None

USDA PLANTS Symbol: LEOR

Key Characteristics:

- ◆ Rhizomatous; culms weakly decumbent, 5-15 dm tall, simple to branched above, nodes pubescent
- ◆ **Sheaths open**, glabrous to scabrous; ligules firm, minutely erose-ciliate; **blade surfaces abrasive**
- ◆ Inflorescence an open panicle, 10-20 cm long, nodding to erect, cleistogamous (self-fertilizing)
- ◆ Spikelets 1-flowered, 1.5-2 mm long, on axillary panicles often enclosed in sheaths
- ◆ Glumes lacking; **lemmas strongly compressed, keels and marginal nerves stiffly-ciliate, 4-5 mm long; palea equal or longer than lemma with stiff, ciliate keel**

Similar Species: None.

Habitat and Ecology: Grows in wet areas along irrigation ditches, streams and in standing water. Considered non-native by Weber and Wittmann (2012) and Wingate (1994).

Comments: *Leersia oryzoides* seeds are an important food source for waterfowl, small mammals and shorebirds. Ducks will pull up and consume underground rhizomes. The forage produced is highly palatable. Caution is advised when handling, the sharp leaves can cut skin and tear clothing.

***Leptochloa fusca* (L.) Kunth ssp. *fascicularis* (Lam.) N. Snow**
Bearded sprangletop

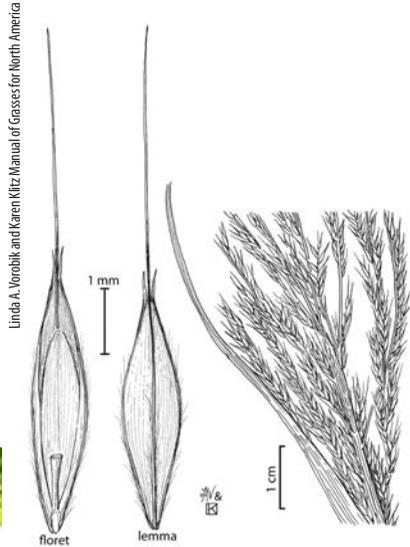
Poaceae



Tom Cochrane CalPhotos



Tom Cochrane CalPhotos



Linda A. Vorobik and Karen Klitz Manual of Grasses for North America

Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Annual

Elevation: 3,500 ft.–6,800 ft.

Synonyms: *Diplachne fascicularis* (Lam.) P. Beauv.

USDA PLANTS Symbol: LEFUF

Key Characteristics:

- ◆ Cespitose, culms 1-4 (7) dm tall; compressed, erect to prostrate, often branching above bases
- ◆ **Sheaths strongly keeled;** ligules membranous; blades involute, 3-50 cm long x 2-7 mm wide
- ◆ Inflorescence an open panicle, partially enclosed in upper sheath, 3-35 branches, spreading
- ◆ Spikelets 5-12 mm long, 5- to 9-flowered; glumes 1-nerved, lower 2-3 mm long; upper 2.5-5 mm long
- ◆ **Lemma bases hairy, lanceolate to elliptic, 3-nerved, central nerves protruding as short awns**

Similar Species: *L. dubia* is the other sprangletop that occurs in Colorado. Its lemma apices are obtuse, notched, often awnless and it is found in much drier areas.

Habitat and Ecology: Grows at low elevations along muddy and sandy shores of ponds and oxbows.

Comments: Large herbivores, small mammals, waterfowl and songbirds depend on grasses for food and nesting materials.

Muhlenbergia asperifolia (Nees & Meyen ex Trin.) Parodi

Scratchgrass

Poaceae

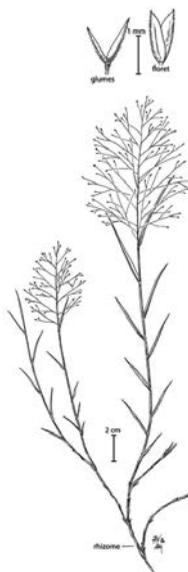


Matt Lavin



Matt Lavin

Linda A. Vorobik and Annaliese Miller Manual of Grasses for North America



Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,400 ft.–8,000 ft.

Synonyms: None

USDA PLANTS Symbol: MUAS

Key Characteristics:

- ◆ Rhizomatous; culms 1-6 dm tall, spreading, branching at bases, pale to glaucous
- ◆ Sheaths overlapping, margins hyaline; **ligules erose-ciliate**; blades 2-7 cm long x 1-2.8 mm wide
- ◆ **Inflorescence a diffuse panicle, breaking away at maturity; branches capillary; pedicels 3-14 mm**
- ◆ Spikelets 1- to 3-tiny flowered, purple; glumes purplish, puberulent-scabrous on keels
- ◆ Lemmas thin, 3-nerved, 1.2-2 mm long, apices acute to mucronate; paleas as long as lemma

Similar Species: *M. torreyi* also has an open, diffuse panicle but the leaf blade margins and nerves are white and it is typically found in sandy soils. *M. asperifolia* can also be mistaken for *Sporobolus* spp., which have hairy ligules or *Agrostis* spp. whose lemmas have more than 3 nerves and no awns.

Habitat and Ecology: Common. Occurs along margins of playas, ponds, alkaline meadows and roadside ditches.

Comments: Large herbivores, small mammals, waterfowl and songbirds depend on grasses for food and nesting materials.

Muhlenbergia racemosa (Michx.) Britton, Sterns & Poggenb.

Marsh muhly

Poaceae



Steve Olson



John Hilty Illinois Wildflowers

Key Characteristics:

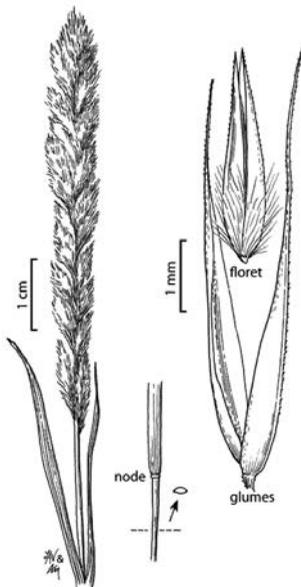
- ◆ Rhizomatous; culms erect, 3-11 dm tall, stiff, **strongly keeled, smooth**
- ◆ Sheaths slightly keeled; ligules membranous, erose-ciliate; blades flat, 2-17 cm long x 2-5 mm wide
- ◆ **Inflorescence a narrow, spike-like panicle, 0.8-16 cm long, dense clusters of spikelets**

Similar Species: *M. glomerata* has culm internodes that are dull, puberulent, terete and is not as branched from the bases as they are in *M. racemosa*.

Habitat and Ecology: Found throughout Colorado in sagebrush shrublands, aspen forests, in seasonally wet meadows, and along streambanks to rocky areas.

Comments: Large herbivores, small mammals, waterfowl, and songbirds depend on grasses for food and nesting materials.

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Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 3,770 ft.-9,020 ft.

Synonyms: None

USDA PLANTS Symbol: MURA

- ◆ Spikelets 1-flowered, sessile; glumes 1-nerved, 3-8 mm long including the awn, usually exceeding lemma
- ◆ Lemmas 2.2-3.8 mm long, 3-nerved, pilose on lower half, calluses short-bearded; paleas pilose on keels

Phalaris arundinacea L.

Reed canarygrass

Poaceae

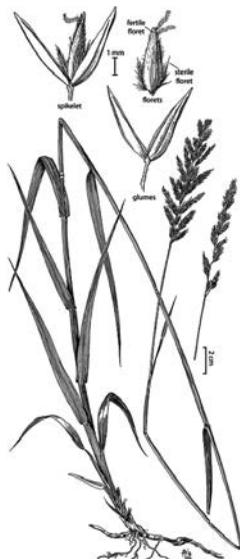


Matt Lavin



Louis M. Landry CalPhotos

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Wetland Status AW: FACW
Native Status: Native, Non-native, CO Noxious
Weed Watch List
Conservation Status: G5
C-Value: Not Assigned
Duration: Perennial
Elevation: 4,500 ft.-10,000 ft.
Synonyms: *Phalaroides arundinacea* (L.) Raesch.
USDA PLANTS Symbol: PHAR3

Key Characteristics:

- ◆ Creeping rhizomes; culms 5-20 dm tall, stout, erect, glabrous
- ◆ Sheaths glabrous, open; ligules 2-8 mm long, obtuse; blades flat, 6-16 mm wide x 10-30 cm long
- ◆ Inflorescence a narrow panicle, 7-40 cm long; spikelets 3-flowered (1 fertile, 2 sterile), reduced
- ◆ Glumes 4-6 mm long, laterally compressed, 3-nerved, keels scabrous
- ◆ Fertile lemma shiny, appressed pubescent; sterile lemmas up to 2 mm long, subulate, pubescent

Similar Species: *Calamagrostis canadensis* can look like a small, immature *P. arundinacea*, but is easily differentiated by the awn from the back of the lemma and the hairy callus. An immature *Phragmites australis* can look like *P. arundinacea*, but it has a ligule with a ciliate membrane and several florets per spikelet with short glumes.

Habitat and Ecology: Common along irrigation ditches and rivers. Considered adventive in Colorado.

Comments: *P. arundinacea* is native to temperate regions of Europe, Asia and North America. An Eurasian ecotype has been planted throughout the U.S. since the 1800s. It has become naturalized in much of the northern half of the U.S. and is still being planted. It is thought that most Colorado populations are the Eurasian ecotype. Regardless of its origin, it provides excellent nesting and escape cover and seeds for upland birds and waterfowl.

Phragmites australis (Cav.) Trin. ex Steud.

Common reed

Poaceae



Matt Lavin



Matt Lavin

Linda A. Vorobik and Hana Pazdřková Manual of Grasses for North America



Wetland Status AW: FACW

Native Status: Native, Non-native

Conservation Status: G5

C-Value: 0

Duration: Perennial

Elevation: 3,500 ft.–8,900 ft.

Synonyms: *Phragmites communis* Trin.

USDA PLANTS Symbol: PHAU7

Key Characteristics:

- ◆ Rhizomatous with stout, creeping rhizomes; **culms erect, 2-6 m tall, glabrous**
- ◆ Sheaths open, margins hyaline; ligules ciliate to 1 mm long; blades flat, 15-40 cm long x 2-4 cm wide
- ◆ **Inflorescence a dense panicle, 15-35 cm long, often purplish, straw-colored with age; rachilla hairy**

Similar Species: One well-developed floret per spike, with a spike-like panicle.

Habitat and Ecology: Grows in moist or wet areas along irrigation ditches and rivers.

Comments: *Phragmites australis* is on the Watch List in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manger to verify identification. Once confirmed, control methods will be discussed. The native range of *P. australis* is unclear. Regardless of its origin, it is readily eaten by cattle and horses when young. It offers excellent cover for wildlife and waterfowl along lake shores and marshes.

Polygogon monspeliensis (L.) Desf.

Annual rabbitsfoot grass

Poaceae

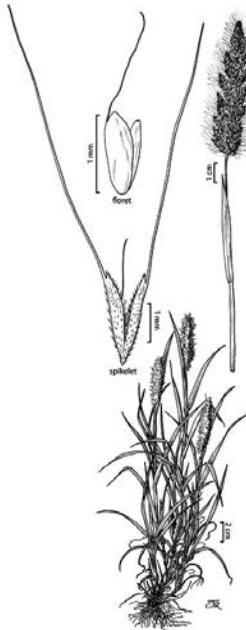


Steve Matson CalPhotos



Steve Matson CalPhotos

Cindy Talbot Booth, Manual of Grasses for North America



Wetland Status AW: FACW
Native Status: Non-native
Conservation Status: GNR
C-Value: 0
Duration: Annual
Elevation: 3,600 ft.-7,700 ft.
Synonyms: None
USDA PLANTS Symbol: POM05

Key Characteristics:

- ◆ Tufted; culms erect to ascending, 0.5-6.5 dm tall, rooting at lower nodes
- ◆ **Sheaths inflated;** ligules prominent, 2.5-16 mm long; blades flat, 1-20 cm long x 1-7 mm wide
- ◆ **Inflorescence a compact to open panicle, appears furry, branches appressed ascending**

Similar Species: *P. interruptus* is a perennial and the glume awns are shorter, 1.5-3.2 mm long.

Habitat and Ecology: Common in wet, often alkaline swales and ditches, and disturbed areas such as irrigated pastures.

Comments: Not competitive with other wetland vegetation and is often replaced by tall sedges and other grasses. Often used as an ornamental in floral arrangements.

Puccinellia distans (Jacq.) Parl. Weeping alkaligrass

Poaceae



Kristian Peters Flickr Creative Commons



Steve Matson CalPhotos

Cindy Talbot Booth, Manual of Grasses for North America



Wetland Status AW: FACW
Native Status: **Non-native**
Conservation Status: G5
C-Value: 0
Duration: Perennial
Elevation: 4,600 ft.–8,000 ft.
Synonyms: None
USDA PLANTS Symbol: PUDI

Key Characteristics:

- ◆ Cespitose; culms erect to decumbent below, glabrous to scabrous, 1–5 dm tall
- ◆ Leaf sheaths prominently nerved; ligules entire, obtuse, 0.8–1.2 mm long; blades flat to involute
- ◆ **Inflorescence a loosely pyramidal panicle, 5–20 cm long, lower branches often reflexed at maturity**
- ◆ Spikelets 2- to 7-flowered, slightly flattened, 3–7 mm long; disarticulation above the glumes
- ◆ Glumes unequal, 0.4–1.3 mm long; upper, 1.1–1.8 mm long; **lemmas 1.4–2.2 mm long, erose-ciliate**

Similar Species: *P. nuttalliana* lower branches are not reflexed and first glume (2.2–3.5 mm) and ligules (1–3 mm) are longer. *P. parishii* is an annual grass with lemma apices that are obtuse to truncate and lemma veins that are densely hairy on the bottom.

Habitat and Ecology: Found in generally wet habitats with clayey, alkaline soils and along highways that are treated with salt in the winter.

Comments: *P. distans* is a Eurasian native that is spreading along lake and reservoir margins throughout North America. When available in sufficient quantities, provides food for waterfowl and small mammals.

Puccinellia nuttalliana (Schult.) Hitchc.

Nuttall's alkaligrass

Poaceae



Steve Matson CalPhotos



Matt Lavin

Cindy Talbot Booth, Manual of Grasses for North America



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 4,600 ft.-9,300 ft.

Synonyms: *Puccinellia airoides* (Nutt.) S. Watson & J.M. Coult.

USDA PLANTS Symbol: PUNU2

Key Characteristics:

- ◆ Cespitose; culms erect, 3-7 dm tall
- ◆ Leaf sheaths glabrous, prominently nerved; ligules 1-3 mm long; blades involute, 3-10 cm long
- ◆ **Inflorescence an open, diffuse, pyramidal panicle, lower branches erect to occasionally descending**

Similar Species: *P. parishii*, known only from San Miguel and Dolores counties, is an annual grass with lemma apices that are obtuse to truncate and lemma veins that are densely hairy on the bottom. *P. distans* lemma apices are also obtuse with lower panicle branches horizontal to descending.

Habitat and Ecology: Common and widespread; occurs on alkaline soils from low elevations to montane.

Comments: Provides forage for large animals when present in large quantities. Small mammals, waterfowl, and songbirds depend on grasses for food and nesting materials.

Spartina gracilis Trin.

Alkali cordgrass

Poaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

Linda A. Vornobik and Linda Bea Miller Manual of Grasses for North America



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 3,900 ft.-9,900 ft.
Synonyms: None
USDA PLANTS Symbol: SPGR

Key Characteristics:

- ◆ **Strongly rhizomatous** with elongated rhizomes; culms slender, erect, solitary, 4-10 dm tall
- ◆ Leaf sheaths open, hairy, **collars ciliate**; **ligules ciliate membranes**; blades less than 5 mm wide
- ◆ **Inflorescence consists of several 1-sided spikelets**, 8-25 cm long with appressed branches
- ◆ Spikelets 1-flowered, sessile, 6-11 mm long, ovate to lanceolate, strongly compressed
- ◆ Glumes unequal, upper 6-10 mm, **mucronate**; lemmas glabrous to sparsely hirsute, 6.2-7.5 mm long

Similar Species: *S. pectinata* is over 1 m tall with leaf blades over 5 mm wide and the glumes have awns that are over 3 mm long.

Habitat and Ecology: Found on alkaline flats and sloughs throughout Colorado, more common in the western part of the state.

Comments: *S. gracilis* is not a preferred forage for large animals, but does provide habitat for songbirds, waterfowl and small mammals.

Juncus arcticus Willd. ssp. *littoralis* (Engelm.) Hult, n

Arctic rush

Juncaceae



Brent Miller CalPhotos



Keir Morse CalPhotos



USDA-NRCS PLANTS Database Britton & Brown 1913

Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5T5

C-Value: 4

Duration: Perennial

Elevation: 3,400 ft.-11,500 ft.

Synonyms: *Juncus arcticus* Willd. ssp. *ater* (Rydb.)

Hult, n., *Juncus arcticus* Willd. var. *balticus* (Willd.)

Trautv., *Juncus balticus* Willd.

USDA PLANTS Symbol: JUARL

Key Characteristics:

- ◆ **Rhizomatous** producing dense clumps; stems 2-10 dm tall, dark green, **wiry, often with a zigzag pattern**
- ◆ Leaves usually absent
- ◆ **Inflorescence a compact to loose panicle, appearing laterally and halfway up stem**; bract 4-23 cm long, appears as a continuation of the stem

Similar Species: *J. effusus* exhibits the same combination of robust rhizomes and leaves reduced to bladeless sheaths. However, *J. effusus* stems are tufted while *J. arcticus* var. *littoralis* are usually more dispersed. *J. filiformis* also has a lateral inflorescence, but it is located only a few cm from the ground versus the upper half of the stem as in *J. arcticus* ssp. *littoralis*.

Habitat and Ecology: Very common. Grows in wet meadows, irrigation ditches, swales, lakes and rivers from plains to moderate elevation.

Comments: FNA (2000) and Ackerfield (2015) recognized *J. arcticus* var. *balticus*. Weber and Wittmann (2012) recognize *J. arcticus* ssp. *ater*. The seeds and/or capsules are eaten to a minor extent by vertebrate animals, rodents, dabbling ducks, insects.

- ◆ Tepals pale to dark, lanceolate, 3.5-5 mm long; stamens 6
- ◆ Capsules 3.5-4 (4.5) mm, equal to or exceeding perianth; seeds dark amber, 0.6-0.8 mm, no tails

Juncus bufonius L.

Toad rush

Juncaceae



Carol English



Amadej Imkoczy CalPhotos

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Annual
Elevation: 4,700 ft.-10,000 ft.
Synonyms: *Juncus bufonius* var. *occidentalis* E.J. Hermann
USDA PLANTS Symbol: JUBU

Key Characteristics:

- ◆ Tufted; stems 2-30 cm tall, slender, **diffuse branching nearly to base, bases typically reddish**
- ◆ Leaves much shorter than the stems; auricles absent; blades flat or involute
- ◆ **Inflorescence a panicle, usually 1/2 height of plant, flowers 1-20; bract filiform or reduced, node bractlets bearing an awn**
- ◆ Tepals acute, lanceolate with narrow, membranous margins, 3-8 mm long; stamens usually 6
- ◆ Capsules oblong, 3-4.5 mm long; seeds ovoid to ellipsoid, golden brown, 0.3-0.5 mm long

Similar Species: Weber and Wittmann (2012) recognize *J. bufonius* var. *occidentalis*. Taxonomic treatment in FNA (2000) subsumes this variety within *J. bufonius*.

Habitat and Ecology: Commonly found in disturbed wet meadows, roadsides, muddy or drying ponds, lake shores and streams.

Comments: The seeds and/or capsules are eaten to a minor extent by vertebrate animals, mostly small rodents, some dabbling ducks, rails, and insects.

Juncus compressus Jacq.
Roundfruit rush

Juncaceae



Biopix



Biopix



Biopix

Wetland Status: AW: OBL
Native Status: Non-native
Conservation Status: G5
C-Value: 0
Duration: Perennial
Elevation: 4,530 ft.-6,700 ft.
Synonyms: None
USDA PLANTS Symbol: JUCO

Key Characteristics:

- ◆ Short-creeping or densely branching rhizomes, appearing cespitose; stems up to 8 dm tall
- ◆ Leaves 1-2; auricles 0.3-0.5 mm; blades flat to slightly channeled, 5-35 cm long x 0.8-2 mm wide
- ◆ Inflorescence 5- to 60-flowered, moderately congested, 1.5-8 cm, widely spreading
- ◆ Tepals brownish, 1.7-2.7 mm, blunt, apices obtuse, shorter than capsules; stamens 6
- ◆ **Capsules widely ellipsoid to obovoid, 2.5-3.5 mm long x 1.4-1.8 mm wide;** longer than tepals; seeds not tailed

Similar Species: *J. gerardii* is similar and found in alkaline habitat, but the capsules are shorter than or equal to the tepals (2.6-3.5 mm). *J. gerardii* and *J. compressus* are very difficult to distinguish. In general, *J. compressus* has a more widely spreading inflorescence and *J. gerardii* inflorescence is more elongate.

Habitat and Ecology: Found on disturbed ground, especially ditches, along railroads and roadsides; frequently on saline or alkaline soils.

Comments: The seeds and/or capsules are eaten to a minor extent by vertebrate animals, mostly small rodents, some dabbling ducks, rails, and insects.

***Juncus longistylis* Torr.**
Longstyle rush

Juncaceae



Max Licher Arizona State University Herbarium



Hurd et al. 1997 U.S. Forest Service

Hurd et al. 1997 U.S. Forest Service



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 4,650 ft.-10,950 ft.
Synonyms: None
USDA PLANTS Symbol: JUL0

Key Characteristics:

- ◆ Rhizomes, long creeping; stems slightly compressed, 2-6 dm tall
- ◆ Leaves basal, 2-5, cauline 1-3; auricles 1-2.5 mm; blades flat, 4-15 cm long x 1.5-3 mm wide, **not septate**
- ◆ Inflorescence 1-4 (8), each with 3-12 flowers; bract shorter than inflorescence
- ◆ **Tepals brown, green midstripe, 5-6 mm, margins scarios, sometimes papillose; stamens 6**
- ◆ Capsules tan, 3-5 mm, shorter than perianth; seeds ovoid, 0.4-0.6 mm, not tailed

Similar Species: *J. marginatus* has 3 stamens and shorter tepals (1.8-3.2 mm long). *J. drummondii* can also be confused with *J. longistylis*, look for the bristle-tipped leaf sheath to distinguish *J. drummondii*.

Habitat and Ecology: Common in wet meadows, seeps, springs, and fens. Known from the high plains to the montane and subalpine zones.

Comments: The seeds and/or capsules are eaten to a minor extent by vertebrate animals, mostly small rodents, some dabbling ducks, rails, and the Greater Sage-grouse brood habitats include riparian/wetland areas with willows, currants, grasses, sedges and rushes that are adjacent to sagebrush shrublands.

Juncus nodosus L.

Knotted rush

Juncaceae

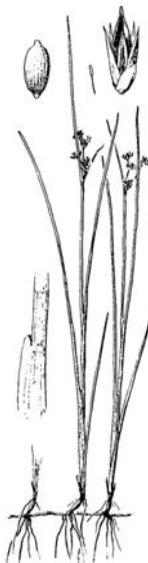


Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

Hurt et al., 1997 U.S. Forest Service



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 3,400 ft.-8,500 ft.

Synonyms: None

USDA PLANTS Symbol: JUNO2

Key Characteristics:

- ◆ Rhizomatous with **swollen nodes**; stems terete, erect, 2-6 dm tall
- ◆ Leaves basal, cauline 2-4; blades terete, 6-30 cm x 0.5-1.5 mm; auricles 0.5-1.7 mm
- ◆ Inflorescence with a terminal raceme of 3-15 **spherical heads**; 3-10 (12) mm diameter; bract erect, 2.5-12 cm long

Similar Species: *J. torreyi* is a much taller plant (4-10 dm tall), the leaf blades are abruptly divergent, flowering heads are sessile, larger (10-15 mm in diameter) tightly clustered, and the outer tepals are longer than the inner tepals. *J. acuminatus* is caespitose, not rhizomatous.

Habitat and Ecology: Common in wet meadows, fens, pond margins and streams.

Comments: The seeds and/or seed capsules are eaten to a minor extent by vertebrate animals, mostly small rodents, some dabbling ducks, rails, and the Greater Sage-grouse brood habitats include riparian/wetland areas with willows, currants, grasses, sedges and rushes that are adjacent to sagebrush shrublands.

Juncus torreyi Coville

Torrey's rush

Juncaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

Key Characteristics:

- ◆ **Rhizomatous with swollen nodes;** culms erect, terete, (3) 4-10 dm tall
- ◆ Leaves basal, 1-3, cauline 2-5; auricles 1-4 mm; blades, terete, 13-30 cm long x 1-5 mm wide
- ◆ **Inflorescence terminal clusters of 1-23 globose heads, 10-15 mm diameter;** bract equals or exceeds inflorescence

Similar Species: *J. nodosus* is a much smaller plant (1-4 dm high), leaf blades are erect and the capsule narrows to a long beak. *J. acuminatus* is cespitose, not rhizomatous, with 3 stamens.

Habitat and Ecology: Common in wet meadows and along streams, ditches and pond margins. *J. torreyi* often produces galls in which the floral parts are enlarged, creating a mass of telescoping sheaths. The gall is the work of the sedge psyllid (*Livia maculipennis*).

Comments: The seeds and/or capsules are eaten to a minor extent by vertebrate animals, mostly small rodents, some dabbling ducks, rails, and insects.

Hunt et al. 1997 U.S. Forest Service



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,400 ft.-8,500 ft.
Synonyms: None
USDA PLANTS Symbol: JUTO

- ◆ Tepals green to straw-colored, lanceolate to subulate, outer 4-6 mm, inner 3.4-4.6 mm; stamens 6
- ◆ Capsules slightly exserted, 4.3-5.7 mm; seeds oblong to ellipsoid, 0.4-0.5 mm, not tailed

Carex aurea Nutt.
Golden sedge

Cyperaceae



Steve Olson



Hurd et al. 1998 U.S. Forest Service

Hurd et al. 1998 U.S. Forest Service



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 4,600 ft.-12,680 ft.
Synonyms: None
USDA PLANTS Symbol: CAAU3

Key Characteristics:

- ◆ Loosely cespitose from slender rhizomes; culms often shorter than leaves, **0.3-4 dm tall**
- ◆ Bracts leaf-like, sheathing, exceeding inflorescence
- ◆ Terminal spike 1, staminate; **lateral spikes pistillate, widely separate, perigynia ascending**
- ◆ **Perigynia golden-yellow, globose, fleshy, ribbed; beaks absent**
- ◆ Pistillate scales, if present, red-tinged, shorter than perigynia; stigmas 2

Similar Species: *C. hassei* perigynia are whitish-papillose (bumpy), not fleshy as in *C. aurea*. Several authors recognize *C. hassei* as a synonym for *C. aurea*.

Habitat and Ecology: Common in moist or wet places, meadows, fens, and along streambanks.

Comments: Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats.

Carex emoryi Dewey

Emory's sedge

Cyperaceae

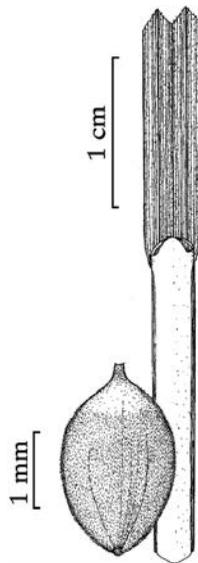


Max Licher Arizona State University Herbarium



Patrick Alexander USDA-NRCS PLANTS Database

Susan Herrick, Flora of North America



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 3,000 ft.-6,500 ft.

Synonyms: *Carex stricta* Lam. var. *elongata* (Boeckeler) Gleason

USDA PLANTS Symbol: CAEM2

Key Characteristics:

- ◆ Rhizomatous; culms obtusely angled, scabrous, 3-12 dm tall
- ◆ Lower leaf sheaths red-brown; **bract below lowest spikes leaf-like, arching, equal or shorter than inflorescence**
- ◆ Terminal spikes staminate, 2-5, erect, lateral, lower spikes pistillate, 3-5, bases attenuate
- ◆ Perigynia, when present, green, nerveless, flattened; beaks short 0.1-0.3 mm
- ◆ Pistillate scales equal to perigynia, apices acute, awnless; stigmas 2

Similar Species: *C. emoryi* resembles *C. aquatilis* in overall appearance and habitat, but they do not usually occupy the same elevation range in Colorado. *C. emoryi* grows at much lower elevation and the lower bract is usually longer than the inflorescence. *C. nebrascensis* leaves are blue-green, glaucous and the scales often with midrib extending to a serrulate awn.

Habitat and Ecology: Grows along ditches, wet meadows, floodplains and along lake shores. *C. emoryi* is an early-flowering species, shedding perigynia by mid-June in Colorado.

Comments: Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats.

Carex hystericina Muhl. ex Willd.

Bottlebrush or porcupine sedge

Cyperaceae



John Hilty Illinois Wildflowers



USDA-NRCS PLANTS Database Britton & Brown 1913



Hurt et al., 1997 U.S. Forest Service

Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 3,500 ft.–7,000 ft.
Synonyms: None
USDA PLANTS Symbol: CAHY4

Key Characteristics:

- ◆ **Cespitose from short, stout rhizomes, can form dense patches;** culms up to 1 m tall
- ◆ Leaf blades flaccid, slightly revolute margins; **sheaths with few cross walls**
- ◆ Terminal spike staminate, solitary, ascending; lateral spike pistillate, densely flowered, nodding, porcupine-like
- ◆ **Perigynia inflated, papery,** light green, 5-7 mm long; nerves 12-20; **beaks 2-2.5 mm, deeply bidentate**
- ◆ Pistillate scales with long, scabrous awns, 2-6 mm long, narrower than perigynia; stigmas 3

Similar Species: *C. retrorsa* occurs in similar habitats, but is distinguished by the brown and green carpellate scales that are not papery and awns that are acute, not stiff and narrow. *C. utriculata* is superficially similar, but has perigynia that are inflated and abruptly contracted at the apices.

Habitat and Ecology: Occasional to common near streams, meadows, ditches and marshes from short grass prairie to montane zones. Can become weedy in wetlands with calcareous substrates. Known to hybridize with *C. utriculata* and *C. vesicaria*.

Comments: Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats.

Carex nebrascensis Dewey

Nebraska sedge

Cyperaceae



Irent M., Draper CalPhotos



Hurd et al. 1998 U.S. Forest Service



Hurd et al. 1998 U.S. Forest Service

Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,500 ft.-11,500 ft.
Synonyms: None
USDA PLANTS Symbol: CANE2

Key Characteristics:

- ◆ Culms 2-9 dm tall, arising singly from stout, scaly rhizomes, forming dense stands; culm bases reddish; rosette of leaves are present
- ◆ Leaf blades blue-green to glaucous, 3-12 mm wide; bracts leaf-like, exceeds inflorescence
- ◆ Terminal spike(s), 1-2, staminate, 1.5-4 cm long; lateral spikes pistillate, pedunculate, 1.5-7 cm long

- ◆ Perigynia strongly veined, straw-colored, becoming red-dotted at maturity, 2.7-4.1 mm long; beak is bidentate, cylindrical, 0.3-0.5 mm
- ◆ Pistillate scales lanceolate, acute to short-awned, reddish-brown; stigmas 2

Similar Species: *C. aquatilis* perigynia are nerveless, wider and somewhat inflated and the leaves are often narrower (up to 8 mm wide). *C. nebrascensis* perigynia are strongly ribbed, longer and narrower, the beak is more prominent and often bidentate, and the pistillate scales usually have serrulate awns. It does not have a rosette of leaves on the ground and is not as blue-green as *C. nebrascensis*. *C. emoryi* leaves are green, not glaucous, scales are awnless, and the perigynia are early deciduous.

Habitat and Ecology: Common in wet meadows, streamsides, springs, lakesides, alkaline meadows from plains to upper montane zones. *C. nebrascensis* thrives in saturated soils, including high alkalinity.

Carex pellita Muhl. ex Willd.
Woolly sedge

Cyperaceae



Matt Lavin



Hurd et al. 1998 U.S. Forest Service

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 3,280 ft. - 10,500 ft.

Synonyms: *Carex lanuginosa* auct. non Michx. misapplied

USDA PLANTS Symbol: CAPE42

Key Characteristics:

- ◆ Stems arising singly from well-developed, creeping rhizomes; culm bases dark red, 3-12 dm tall
- ◆ Leaves 2-5, borne above bases; blades flat, 2.2-4.5 mm wide, with prominent keel, margins revolute; sheaths wine-red tinged
- ◆ Terminal spike(s) staminate, 2-5 cm long, sessile; lateral spikes pistillate, 1-6 cm long, cylindrical

- ◆ **Perigynia hairy, broadly ovoid, spongy bases, 1.5-2 mm wide; beaks deeply bidentate or forked**
- ◆ Pistillate scales lanceolate with long acuminate tips and hairy awns, ciliate; stigmas 3

Similar Species: *C. lasiocarpa* is much less common. The leaves are narrower (2 mm wide or less), the culms are obtusely triangular and the perigynia beaks are not forked. *C. lasiocarpa*, where it occurs, typically forms extensive stands, while *C. pellita* usually occurs as sporadic individuals.

Habitat and Ecology: Common and widespread along streambanks and wet meadows, often alkaline.

Comments: Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats. .

Carex praegracilis W. Boott

Clustered field sedge

Cyperaceae



Susan McDougall USDA-NRCS PLANTS Database



Hurd et al. 1998 U.S. Forest Service

Hurd et al. 1998 U.S. Forest Service



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,280 ft.-11,430 ft.
Synonyms: None
USDA PLANTS Symbol: CAPR5

Key Characteristics:

- ◆ Culms arising singly or few together from creeping rhizomes, 2-7.5 dm tall; **bases dark, purple-black**
- ◆ Leaves basal; blades flattened, 1-3 mm wide; sheaths with white-hyaline inner band; apex of inner band of sheath not prolonged, the apiculus (awn-like appendage) hairy with 30x
- ◆ **Spikes androgynous**, 5-15, sometimes usually appearing unisexual, sessile, straw-colored, 1-5 cm long
- ◆ **Perigynia ovate, spongy-based, sharp-edged (2.8) 3-4 mm long; beaks tapering, 0.6-1.3 mm**
- ◆ **Pistillate scales ovate, clasping perigynia usually covering it completely, straw-colored; stigmas 2**

Similar Species: *C. simulata* perigynia are broadly ovate, shiny brown (when mature) and are abruptly short beaked versus the long, tapering beaks as in *C. praegracilis*.

Habitat and Ecology: Common in open, moist, wet, to drying swales, prairies, irrigation ditches and hay meadows, often in alkaline soils. *C. praegracilis* is sometimes dioecious, which makes identification difficult, due to no perigynia.

Comments: Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats.

Carex simulata Mack.

Anoague sedge

Cyperaceae



Hurd et al. 1998 U.S. Forest Service



Hurd et al. 1998 U.S. Forest Service

Key Characteristics:

- ◆ Culms arising singly or few together from well-developed, **brown rhizomes**; culms 1-9 dm tall
- ◆ Leaves 2-5, clustered at bases, **light green**; blades 1-4 mm wide; apex of inner band of sheath prolonged 0.2-1.6 mm beyond base of blade, apiculus (awn-like appendage) smooth to warty at 30x

Similar Species: *C. praegracilis* can occur with *C. simulata*, but can easily be distinguished (especially at maturity) by the perigynia that are not as round or shiny.

Habitat and Ecology: Widespread, common in wet meadows from foothills to upper montane. Monospecific stands are an indicator of peat-accumulating wetlands.

Comments: An unusual growth form of *C. simulata* (see top right image) is likely caused by an insect larvae that causes the plant to grow very wide with light green leaves. Inside the leaves there is a white, mealy residue. Waterfowl, shorebirds, upland gamebirds, and songbirds eat sedge seeds frequently in small to fair amounts. Sedges provide nesting cover and/or concealment for ducks, beavers and muskrats.



Denise Culler Colorado Natural Heritage Program



Steve Hurd USDA-NRCS PLANTS Database

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 5,000 ft.-10,830 ft.
Synonyms: None
USDA PLANTS Symbol: CASI2

- ◆ Spikes 8-25, androgynous or dioecious, aggregated into linear-oblong heads
- ◆ **Perigynia broadly ovate, spongy bases, raised margins, dark brown, shiny, abruptly beaked**
- ◆ Pistillate scales ovate-triangular, concealing perigynia, conspicuous lighter midveins; stigmas 2

Carex utriculata Boott

Beaked Sedge

Cyperaceae



Keir Morse CalPhotos



Keir Morse CalPhotos

Key Characteristics:

- ◆ Culms 3–12 dm tall, arising singly from deep-seated rhizomes forming monospecific stands
- ◆ Leaf blades, wide (2-12 mm), thick, yellowish-green, septate-nodulose; sheaths spongy, crosswalls between veins; bracts sheathless
- ◆ Terminal spike(s) staminate, linear, lateral spikes pistillate, erect with corn-cob appearance

Similar Species: *C. vesicaria* looks similar, but the perigynia are ascending, not erect, and the narrower beaks gradually taper into stiff, erect bidentate teeth. *C. exsiccata* perigynia taper from the base into indistinct beaks.

Habitat and Ecology: One of the most common and robust sedges in the west and Colorado. Occurs in wet meadows, swamps, marshes and shallow water at margins of ponds, lakes, and streams, from prairies to subalpine.

Comments: *Carex utriculata* tolerates flooding up to 16 in. in spring, groundwater to 2 ft. below the surface, heavy metal contamination and acidic soils.

Hurt et al., 1998 U.S. Forest Service



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 5,800 ft. - 11,500 ft.

Synonyms: None

USDA PLANTS Symbol: CAUT

- ◆ Perigynia strongly inflated, abruptly contracted at apices, nerves prominent; beaks bidentate
- ◆ Pistillate scales ovate, tips acute, smaller than perigynia; stigmas 3

Eleocharis acicularis (L.) Roem. & Schult.

Needle spikerush

Cyperaceae

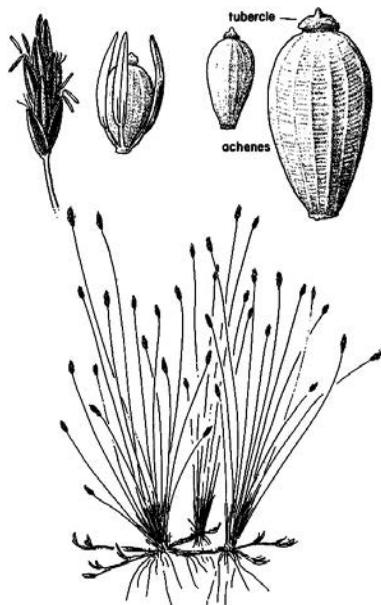


Steve Matson CalPhotos



Hurd et al. in prep. U.S. Forest Service

Jeanne R. Janish Vascular Plants of the Pacific, Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Annual, Perennial

Elevation: 3,500 ft.-10,170 ft.

Synonyms: None

USDA PLANTS Symbol: ELAC

Key Characteristics:

- ◆ Diminutive, from slender, branching rhizomes, often forming dense clumps
- ◆ **Culms filiform, not compressed**, 0.3-1.2 dm tall
- ◆ Floral scales 1.5-2.5 mm long, with greenish midribs; stigmas 3
- ◆ Bristles 3 or 4 equaling or surpassing achene; achenes white to pale gray or yellowish
- ◆ Achenes with tubercles forming distinctive cap, 8- to 18-ribbed connected by cross-ridges

Similar Species: *Trichophorum pumilum* (rare only known from Park County) has a terminal, solitary spikelet that resembles *E. acicularis*. *T. pumilum* has true leaves, not just sheaths, and the achenes are black. *E. wolfii* looks similar, but is rare, known only from northeastern Colorado. It is distinguished by the compressed culms with minutely serrulate margins.

Habitat and Ecology: Very common along marshes, muddy shores and fens, from plains to high elevations in mountains.

Comments: Circumboreal. *E. acicularis* is abundant and ecologically important throughout much of its range.

Eleocharis palustris (L.) Roem. & Schult.
Common spikerush

Cyperaceae



Max Licher Arizona State University Herbarium



Hurd et al. in prep. U.S. Forest Service



Hurd et al. in prep. U.S. Forest Service

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Perennial
Elevation: 3,350 ft.-10,700 ft.
Synonyms: *Eleocharis macrostachya* Britton,
Eleocharis xyridiformis Fernald & Brack.
USDA PLANTS Symbol: ELP3

Key Characteristics:

- ◆ **Rhizomatous**, mat-forming; culms in small clusters along rhizomes, 1-10 dm tall
- ◆ Culms terete to slightly compressed, 8-30 blunt ridges, firm to soft, internally spongy
- ◆ **Leaf sheaths persistent, not inflated, papery, prominent V-shaped sinuses**
- ◆ Bristles 4 (5), retrose ly barbed, much shorter than achene to equaling tubercle; stigmas 2
- ◆ **Achenes biconvex to lenticular, yellow to brown, tubercles pyramidal, twice as high as wide**

Similar Species: *E. palustris* is distinguished from other spikerushes by its rhizomatous habit creating monospecific stands. It also has 2 stigmas, 2 styles and lenticular achenes with distinct tubercles.

Habitat and Ecology: Common along ditches, streams, pond margins and in moist meadows.

Comments: Circumboreal. *E. palustris* is the most widespread and common species of the extremely difficult *E. palustris* complex. In Colorado the following species are in this complex: *E. palustris*, *E. macrostachya*, *E. erythropoda*, *E. xyridiformis*. The differences among these species are difficult to discern, especially in the field. For purposes of this field guide, we recognize *E. palustris*. Spikerushes provide habitat and food for waterfowl, shorebirds, small mammals, beavers and amphibians.

***Eleocharis rostellata* (Torr.) Torr.**
Beaked spikerush

Cyperaceae

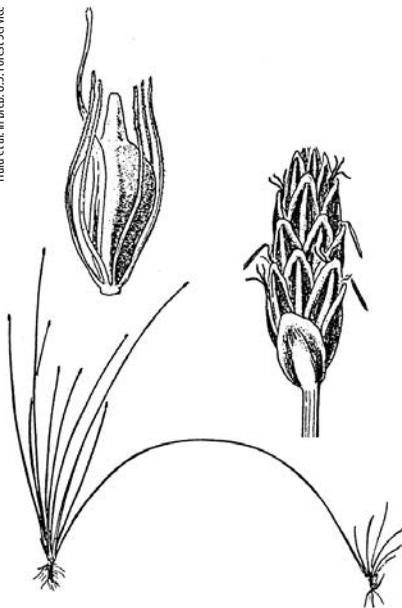


Steve Matson CalPhotos



Hurd et al. in prep. U.S. Forest Service

Hurd et al. in prep. U.S. Forest Service



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 5,500 ft.-9,000 ft.
Synonyms: None
USDA PLANTS Symbol: ELRO2

Key Characteristics:

- ◆ Densely tufted, **mat-forming by means of rooting culm tips**; culms flattened, **2-10 dm tall**
- ◆ Floral scales 10-40 per spikelet, midribs pale, ovate, 3.5-6 mm long x 2-3 mm wide
- ◆ Bristles brown, equaling achenes, including small spines
- ◆ Achenes variable, 1.5-2.5 mm long x 1-1.2 mm wide; stigmas 3
- ◆ **Tubercles pyramidal**; anthers brown, 2-2.4 mm

Similar Species: In Colorado there are no other spikerushes that are stoloniferous.

Habitat and Ecology: Found sporadically in saline/alkaline wet meadows, seeps and springs especially on Western Colorado. It will form large monospecific colonies due to the growth habit of rooting culm tips. When walking through a stand of *E. rostellata*, one can be tripped by the arching stolons.

Comments: Spikerushes provide habitat and food for waterfowl, shorebirds, small mammals, beavers, and amphibians.

Schoenoplectus acutus (Muhl. ex Bigelow) - Á. Löve & D. Löve

Hardstem bulrush

Cyperaceae



Hurd et al. in prep. U.S. Forest Service



Hurd et al. in prep. U.S. Forest Service

Key Characteristics:

- ◆ Stout, rhizomatous, forming large colonies; culms round, 1-3 m tall, over 1 cm thick
- ◆ Involucral bracts solitary, 2-10 cm long, erect, resembling a prolongation of the culm
- ◆ Spikes dull, gray-brown, 8-15 mm long, sessile in small clusters

Similar Species: *S. tabernaemontani* has smaller scales (2-3.5 mm long), straight or bent awns and the spikelets are often all solitary.

Habitat and Ecology: Fresh often calcareous to brackish marshes and muddy shores of lakes and streams in water as deep as 1 m. Often grows with *Typha* spp.

Comments: Common throughout the west, *S. acutus* is an important habitat for waterfowl, especially Western Grebes that rely on large bulrush islands with open water channels for nesting sites. Bulrushes also provide food and habitat for upland game birds, songbirds, beaver, and muskrats. They provide cover for waterfowl, fish, amphibians, and small mammals.

Hurd et al. in prep. U.S. Forest Service



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 3,480 ft.-8,000 ft.

Synonyms: *Schoenoplectus lacustris* (L.) Palla ssp. *acutus* (Muhl. ex Bigelow) - . Löve & D. Löve

USDA PLANTS Symbol: SCAC3

- ◆ Scales 3.5-4 mm long, reddish-brown marks on pale, gray-white background, margins ciliate
- ◆ Scale midribs firm, scabrous, exerted as short awn-tips; bristles fragile

Schoenoplectus americanus (Pers.) Volkart ex Schinz & R. Keller

Chairmaker's bulrush

Cyperaceae



Neal Kramer CalPhotos



Steve Matson CalPhotos



Steve Hurst USDA-NRCS PLANTS Database



Trent M. Draper CalPhotos

Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 4,500 ft.-8,000 ft.

Synonyms: *Scirpus americanus* Pers.

USDA PLANTS Symbol: SCAM6

Key Characteristics:

- ◆ Rhizomatous; culms triangular, 5-15 dm tall
- ◆ **Involucre bract solitary, appearing as a continuation of the stem, 1-6 cm long**
- ◆ Inflorescence capitate; spikelets 2-20, sessile, to 15 mm long

- ◆ Perianth bristles 4-6, shorter to equal to the achene; achenes obovoid, 1.8-2.8 x 1.3-2 mm with a beak 0.1-0.3 mm long
- ◆ **Achenes 1.5-3 mm long, obovoid**

Similar Species: *S. pungens* is stouter often 1 cm or more thick toward the base, very sharply triangular with conspicuously concave sides. The bract is longer, 3-20 cm long, secondary involucre bracts with blades (resembling large scales). *Scirpus nevadensis* has round stems, no awns on scales, and beakless achenes

Habitat and Ecology: Found in moist places along streams, ditches, and pond margins throughout Colorado.

Comments: Seeds and rhizomes are an important food source and nesting cover for waterfowl and amphibians.

Schoenoplectus maritimus (L.) Lye

Cosmopolitan bulrush

Cyperaceae

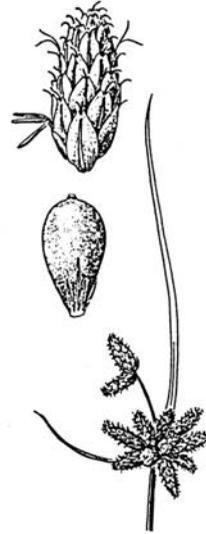


Hurd et al. in prep. U.S. Forest Service



Hurd et al. in prep. U.S. Forest Service

Hurd et al. in prep. U.S. Forest Service



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 3,580 ft.-8,000 ft.

Synonyms: *Bolboschoenus maritimus* (L.) Palla ssp. *paludosus* (A. Nelson) A. Love & D. Love, *Scirpus maritimus* L., *Scirpus paludosus* A. Nelson

USDA PLANTS Symbol: SCMA8

Key Characteristics:

- ◆ Stout, rhizomatous, bearing firm tubers; culms 2-15 dm tall
- ◆ Leaves to 12 mm wide; involucre bracts 1-4, surpassing inflorescence, bracts 1-6 mm wide
- ◆ Inflorescence of sessile spikelets; spikeletes 7-40 mm long; scales orange-brown to tan, 5-8 mm long, **apex bifid with awn 1-3 mm long**
- ◆ Perianth bristles to 1/2 length of achene
- ◆ **Achenes 2.3-4 mm long, dark brown, glossy, apices rounded-truncate; beaks 0.1-0.4 mm**

Similar Species: *S. fluviatilis*, rare and found at lower elevations, spikelets are pedunculate and perianth bristles are equal to or longer than achenes.

Habitat and Ecology: Common in marshes, wet meadows and margins of ponds, especially in alkaline or saline wetlands. *S. maritimus* is very tolerant of alkali conditions and is common with other halophytes in roadside ditches where road salts accumulate.

Comments: Seeds and rhizomes are an important food source and nesting cover for waterfowl and amphibians.

Schoenoplectus pungens (Vahl) Palla

Common threesquare

Cyperaceae



Steve Matson CalPhotos



Hurd et al. in prep. U.S. Forest Service

Key Characteristics:

- ◆ Rhizomatous, often vertical; culms sharply triangular, 1.5-10 dm tall
- ◆ Spikelets 1-6, sessile in a compact cluster, 7-20 mm long
- ◆ Involucre bract subtending the inflorescence 3-20 cm long

Similar Species: *Scirpus nevadensis*, superficially resembles *S. pungens*, but has round stems, scales without awns and beakless achenes. *Schoenoplectus americanus* is not as stout, the culms are triangular, not as sharp, the bract subtending the inflorescence is 1-5 cm long and the secondary involucral bracts lack blades. The spikelet scales are 2.7-4 mm long with apical notches that are 0.1-0.4 mm deep.

Habitat and Ecology: Very common along marshes, lakes, fens and perennial and intermittent streams, tolerant of alkali conditions.

Comments: Seeds and rhizomes are an important food source and nesting cover for waterfowl and amphibians.

Hurd et al. in prep. U.S. Forest Service



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,470 ft.-8,000 ft.

Synonyms: *Scirpus pungens* Vahl.

USDA PLANTS Symbol: SCPU10

- ◆ Scales 3.5-6 mm long, yellowish-brown, midribs firm, exerted from broad notch as short awns
- ◆ Perianth bristles retrorsely barbellate, 4-6, unequal, not exceeding achenes; short beak

***Schoenoplectus tabernaemontani* (C.C. Gmel.) Palla**
Softstem bulrush

Cyperaceae



Hurd et al. in prep. U.S. Forest Service



Hurd et al. in prep. U.S. Forest Service

Louis M. Lamir, CalPhotos



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 3,470 ft.-7,000 ft.

Synonyms: *Scirpus lacustris* L. ssp. *creber* (Fernald)

T. Koyama, *Scirpus lacustris* L. ssp. *validus* (Vahl) T.

Koyama, *Scirpus tabernaemontani* C.C. Gmel.

USDA PLANTS Symbol: SCTA2

Key Characteristics:

- ◆ Rhizomatous; culms 1-3 dm tall, **round**, 2-10 mm thick, **easily crushed between fingers**
- ◆ Inflorescence of oval, pedunculate, subterminal spikes
- ◆ Spikelets solitary, 15-200, overall reddish-brown appearance
- ◆ **Scales 2-3.5 mm long, ciliate**, awns straight or bent, 0.2-0.8 mm long, midribs pale
- ◆ Perianth bristles 6, brown, equaling achenes, dense with downward spines

Similar Species: *S. acutus* has spikelet scales that are 3.5-4 mm long with mostly strongly contorted awns 0.5-2 mm long, spikelets are never solitary and the stems are not easily crushed between fingers.

Habitat and Ecology: Common along marshes and muddy shores of lakes and streams in water as deep as 1 m and tolerant of alkali waters.

Comments: Seeds and rhizomes are an important food source and nesting cover for waterfowl and amphibians.

Scirpus microcarpus J. Presl & C. Presl

Panicled bulrush

Cyperaceae



Steve Matson CalPhotos



Hurd et al. in prep. U.S. Forest Service

Hurd et al. in prep. U.S. Forest Service



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,860 ft.-9,000 ft.
Synonyms: None
USDA PLANTS Symbol: SCMI2

Key Characteristics:

- ◆ Rhizomatous, **rhizomes reddish, long with conspicuous nodes**; culms 6-15 dm tall; leaf sheaths red
- ◆ Inflorescence terminal, spikelets sessile, aggregated into dense heads

- ◆ **Spikelets 2-8 mm long, subtended by several leaf-like bracts that are unequal in length**
- ◆ **Scales green-black, broadly ovate, apices rounded**, 1.5 mm long, minute point
- ◆ Perianth bristles persistent, 4 (6), stout, straight; achenes lenticular

Similar Species: *S. pallidus* has green, not reddish leaf sheaths and the scales have conspicuous midribs that are exerted as short awns to 0.5 mm long.

Habitat and Ecology: Found along muddy shores of marshes, moist meadows and ditches.

Comments: Seeds and rhizomes are an important food source and nesting cover for waterfowl and amphibians.

Scirpus pallidus (Britton) Fernald

Cloaked bulrush

Cyperaceae

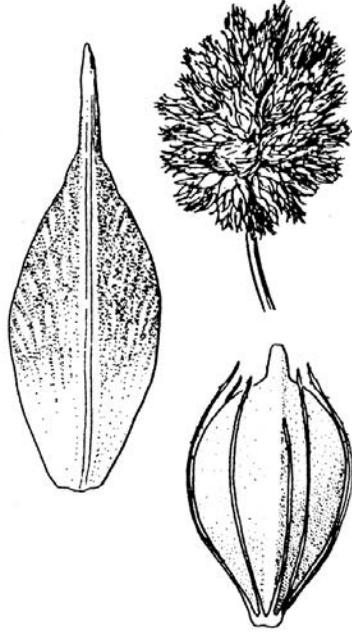


Hurd et al. in prep. U.S. Forest Service



Hurd et al. in prep. U.S. Forest Service

Hurd et al. in prep. U.S. Forest Service



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 4,670 ft.-6,500 ft.

Synonyms: None

USDA PLANTS Symbol: SCPA8

Key Characteristics:

- ◆ Cespitose, short, tough, rhizomes; culms (4) 6-15 (18) dm tall, upright, 3-edged, nodes without axillary bulblets
- ◆ Basal leaf sheaths green or whitish at bases
- ◆ Inflorescence terminal, spikes aggregated into dense heads, **subtended by leaf-like bracts**
- ◆ **Scales with conspicuous, thickened midribs exerted as short awns to 0.5 mm**
- ◆ Perianth bristles persistent, 6, stout, equaling achenes; achenes 3-sided; styles 3

Similar Species: *S. microcarpus* usually has 2 styles, achenes are lenticular, not 3-sided and the inflorescence scales do not have well-defined points or short awns.

Habitat and Ecology: Found in marshes, streamsides, wet meadows, and ditches.

Comments: Provides food, cover and nesting habitat for waterfowl, songbirds, fish, and amphibians.

Sisyrinchium demissum Greene

Stiff blue-eyed grass

Iridaceae



Russ Kleinman and Richard Felger Western New Mexico University



Russ Kleinman and Richard Felger Western New Mexico University

William Moyer III Vascular Plant of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 6,400 ft.-9,240 ft.
Synonyms: None
USDA PLANTS Symbol: SIDE4

Key Characteristics:

- ◆ Cespitose; **stems branched with 1 or 2 nodes, up to 4.8 dm tall**, often glaucous, glabrous
- ◆ Leaf blades glabrous; **bracts subtending spathes leaf-like**
- ◆ Spathes 2 or more, pedunculate, to 14 cm long, **outer and inner bracts equal length**
- ◆ Flowers 1-7, perianth light to dark blue, yellow eye, tepals, truncate, 9-10 mm long
- ◆ Capsules tan, globose, 4-7.5 mm; seeds globose, 0.8-2 mm, granular or rugulose

Similar Species: *S. demissum* is the only Colorado blue-eyed grass for which the outer and inner spathe bracts are equal in length and the stems are branched. Other blue-eyed grasses have outer spathe bracts that are longer than the inner and stems that are simple and unbranched.

Habitat and Ecology: Uncommon in wet meadows and along streams, tolerant of alkaline soils.

Comments: *Sisyrinchium* spp. flowers bloom for only one day, however there are numerous flowering stems per plant. Source of nectar for native bees, wasps, butterflies, and other insects. Global range extends from Nevada, Utah, Colorado, to Arizona, New Mexico and Texas.

***Sisyrinchium idahoense* E.P. Bicknell var. *occidentale* (E.P. Bicknell)
Douglass M. Hend. Idaho blue-eyed grass**



Gary A. Monroe USDA-NRCS PLANTS Database



Barry Breckling CalPhotos

William Moyer III Vascular Plant of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5T3T5
C-Value: 7
Duration: Perennial
Elevation: 3,900 ft.-10,000 ft.
Synonyms: *Sisyrinchium occidentale* E.P. Bicknell
USDA PLANTS Symbol: SIIDO

Key Characteristics:

- ◆ Cespitose, stems simple, 1-2 mm wide, unbranched, to 4.5 dm tall, obviously winged, not glaucous
- ◆ Leaf blades glabrous, bases not persistent in fibrous tufts

- ◆ Outer spathes 14-30 mm long, 1.5 times the length or inner spathe bracts
- ◆ Flowers light to deep blue, bases yellow; outer tepals 8-13 mm, tips notched, awn minute
- ◆ Capsules beige, purple blotches on apices, globose, 3-6 mm; seeds globose, granular

Similar Species: *S. pallidum* has pale blue flowers, stems are 2.3-5 mm wide and typically branched, outer spathe bracts that are longer (28-38 mm long) and the tips of outer tepals are not awned.

Habitat and Ecology: Common in wet meadows, along streams and interdunal ponds.

Comments: *S. idahoense* is the most variable and widely distributed species of the genus in the western states. Characters critical for distinguishing species of *Sisyrinchium* are often found in the floral material, requiring extra care in collecting and pressing to properly determine identification. Source of nectar for native bees, wasps, butterflies, and other insects.

Triglochin maritima L.

Seaside arrowgrass

Juncaginaceae

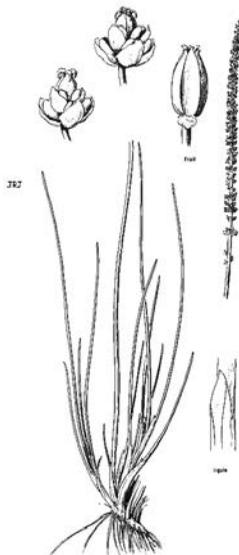


Steve Matson CalPhotos



Steve Matson CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 5,000 ft.-10,500 ft.

Synonyms: *Triglochin concinna* Burt-Davy

USDA PLANTS Symbol: TRMA20

Key Characteristics:

- ◆ Coarse to slender, erect, 3-10 dm tall; arising from stout rhizomes; old leaf strands at bases
- ◆ Leaves linear, 10-80 cm long x 1.5-2.5 mm wide, strongly compressed; **ligule 2-lobed, hood-like**
- ◆ Scapes slender, 1-8 dm long, terminated by a raceme 1-4 dm long, dense with pedicellate flowers
- ◆ Tepals elliptic, 1.3-1.7 mm long x 0.6-1.4 mm wide, apices acute; stigmas 6
- ◆ **Fruits are receptacles without wings, linear to globose, 2-5 mm long, not narrowed at bases**

Similar Species: *T. palustris*, not as common, has 3 stigmas, fruits that are linear with narrow bases and fruiting receptacles with wings.

Habitat and Ecology: Locally common in marsh areas, seeps, lake shores and moist meadows. Grows mostly in alkaline soils.

Comments: *Triglochin* spp. contain cyanogenic glycoside (cyanide), a very poisonous compound, especially in high concentration in young plants. Common throughout Alaska, Canada and the United States, except in the southeastern states.

Typha angustifolia L.

Narrowleaf cattail

Typhaceae



Aaron Arthur CalPhotos



Neal Kramer CalPhotos

Key Characteristics:

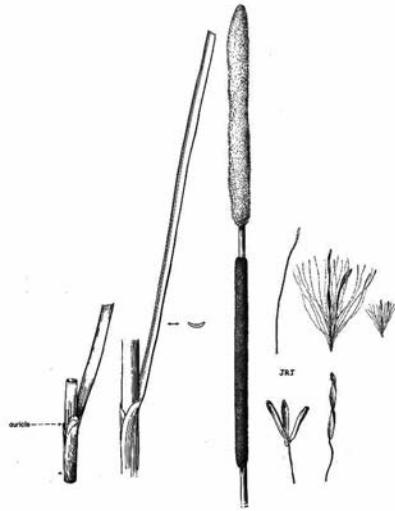
- ◆ Stems 1-1.5 m tall, arising from slender, creeping rhizomes
- ◆ Leaves exceeding the inflorescence, 5-10 mm wide, leaf sheaths closed with auricles; absence of brown dot-like mucilage glands from base of leaf blade

Similar Species: *T. latifolia* spikes are not separated by an axis segment. *T. domingensis* staminate and pistillate spikes are separated, but the staminate spikes are longer than the pistillate. It also has a brown dot-like mucilage glands on the inside of the leaf blade base.

Habitat and Ecology: Found in shallow, slow-moving waters of ponds and streams. It is restricted to mineral-rich habitats and is more salt tolerant than *T. latifolia*. Discussion of the native status of *T. angustifolia* is on-going. According to USDA-NRCS PLANTS Database it can be native with non-native populations that have been established by human activities. It has a much more restricted global range than *T. latifolia* occurring only in the temperate regions at low elevations.

Comments: *Typha angustifolia* can be considered an aggressive plant, becoming dominant in shallow water wetlands. All parts of the cattail are edible when gathered at the appropriate stage of growth.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native, Non-native, CO Noxious
Weed Watch List

Conservation Status: G5

C-Value: 2

Duration: Perennial

Elevation: 3,350 ft.-8,200 ft.

Synonyms: None

USDA PLANTS Symbol: TYAN

- ◆ Spike-bearing stems shorter than leaves
- ◆ **Staminate and pistillate spikes separated by a naked segment of the axis, 1-5 (12) cm long**
- ◆ Pistillate and staminate spikes same length, 8-20 cm long; staminate spikes straw-colored or tan

Typha domingensis Pers.

Southern cattail

Typhaceae

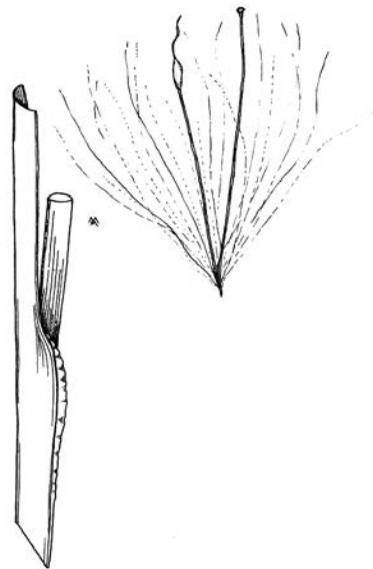


Pam Smith Colorado Natural Heritage Program



Pam Smith Colorado Natural Heritage Program

Kerr-Morse, CalPhotos



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G4G5
C-Value: 4
Duration: Perennial
Elevation: 3,400 ft.–6,450 ft.
Synonyms: None
USDA PLANTS Symbol: TYDO

Key Characteristics:

- ◆ Stems 2.5–4 m tall, stout; arising from spreading rhizomes
- ◆ Leaves equaling the inflorescence, light yellowish-green, 6–12 (15) mm wide
- ◆ Mucilage glands present on leaf blades; leaf sheaths open at throat

Similar Species: *T. latifolia* spikes are not separated by an axis segment. *T. angustifolia* staminate/pistillate spikes are separated, but staminate spikes are same length as the pistillate.

Habitat and Ecology: Found in shallow water of ponds, creeks and streams. Typically found in mineral-rich habitats and is more salt tolerant than *T. latifolia*.

Comments: All parts of the cattail are edible when gathered at the appropriate stage of growth. Seeds are eaten by several duck species. Rootstalks are eaten by Canada Geese, muskrats and beavers. Moose and elk eat fresh spring shoots. Cattails provide shelter and nesting cover for Marsh Wrens, Red-winged and Yellow-headed Blackbirds.

- ◆ **Spike-bearing stems as long as leaves, pistillate and staminate portions separated by 5–8 cm**
- ◆ Pistillate spikes light brown, 15–25 cm long; staminate spikes 1.4 x longer, tan to orange-brown

Typha latifolia L.

Broadleaf cattail

Typhaceae



Al Schneider Southwestern Colorado Wildflowers



Steve Matson CalPhotos

Key Characteristics:

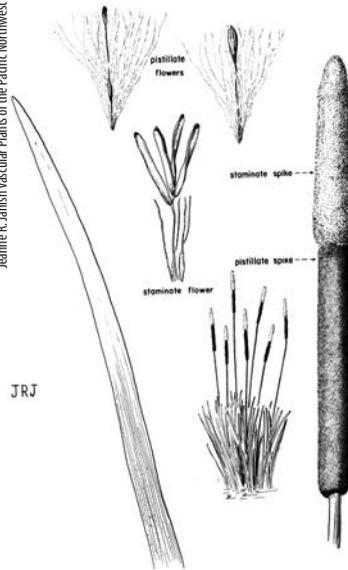
- ◆ Stems 1-3 m tall; arising from stout spreading fleshy rhizome
- ◆ Leaves light green, 8-20 mm wide, nearly flat, leaf sheaths open to bases, no auricles; absence of brown dot-like mucilage gland on leaf blade

Similar Species: *T. angustifolia* staminate and pistillate spikes are separated, exposing a portion of the axis. Pistil spike color is dark to bright brown. *T. domingensis* staminate and pistillate spikes are separated, exposing a portion of the axis. Inside leaf blade base a brown dot-like mucilage gland present.

Habitat and Ecology: Common, found in shallow water of ponds, ditches, slow-moving streams and creeks throughout the state. *T. latifolia* grows in a wide range of soils and waters from mineral-poor to mineral-rich. Of the three species, it occurs in the widest range of climates from the Arctic Circle to Guatemala.

Comments: All parts of the cattail are edible when gathered at the appropriate stage of growth. Seeds are eaten by several duck species. Rootstalks are eaten by Canada Geese, muskrats and beavers. Moose and elk eat fresh spring shoots.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 2
Duration: Perennial
Elevation: 3,600 ft.-9,000 ft.
Synonyms: None
USDA PLANTS Symbol: TYLA

- ◆ Spike-bearing stems as long or slightly longer than leaves
- ◆ **Pistillate and staminate portions contiguous, rarely or only slightly separated**
- ◆ Pistillate spikes dark brown, 10-18 cm long, staminate spikes lighter brown

Toxicodendron rydbergii (Small ex Rydberg) Greene

Western poison ivy

Anacardiaceae



Al Schneider Southwestern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Key Characteristics:

- ◆ Herb, shrub or vine with well-developed resin ducts, rhizomatous, stems pubescent, **poisonous**
- ◆ **Leaves alternate, 5-12 cm long, ternately compound, shiny, glabrous, terminal leaflet petiolate**

Similar Species: None.

Habitat and Ecology: Found in shaded canyons or along streams, springs/seeps, or on open, rocky slopes, along roadsides, and in open woods.

Comments: The Anacardiaceae includes other plants with irritating or poisonous parts, such as cashews, pistachios, and mangoes, all have resin ducts. Wildlife and livestock can browse this species without any ill effects. The milky oil causes an extensive skin rash.



Al Schneider Southwestern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status AW: FACU

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 4,500 ft.-8,500 ft.

Synonyms: None

USDA PLANTS Symbol: TORY

- ◆ Inflorescence sparingly branched, a terminal or axillary thyse or panicle, eventually cymose
- ◆ Flowers, round, sepals united, petals cream-colored, free, 5-10+ stamens; fleshy disk found between stamens and ovary
- ◆ **Fruit is a white**, drupe, sessile or sub-sessile

Angelica pinnata S. Watson

Small-leaf angelica

Apiaceae



Max Licher Arizona State University Herbarium



Denise Culver Colorado Natural Heritage Program

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 5,000 ft.–9,500 ft.
Synonyms: None
USDA PLANTS Symbol: ANPI2

Key Characteristics:

- ◆ Stems slender, 3-10 dm tall, glabrous; taproots coarse
- ◆ **Leaves pinnately compound**, lower pinnae with 3 crowded leaflets, leaflets sessile, 3-9 cm long
- ◆ **Inflorescence a flat-topped umbel**, bractlets of involucels absent or short; pedicels 3-8 mm long
- ◆ Flowers white-pinkish; stylopodiums conic; carpophores bifid to bases; fruits glabrous, 3-6 mm long
- ◆ Dorsal ribs well-developed, but narrower than lateral ribs

Similar Species: *A. grayi* is another short statured angelica present in Colorado. It grows at much higher elevations than *A. pinnata*. It is distinguished by bractlets of involucels that are conspicuous, linear to lanceolate, usually over 1 mm wide and smaller leaflets, only 1-5 cm long.

Habitat and Ecology: Locally common along streamsid es and in aspen groves, more common on the Western Slope.

Comments: Angelica has been used for centuries for its medicinal properties for a range of ailments. It is recommended no species in this family be eaten for many are poisonous (e.g. water and poison hemlock).

Berula erecta (Huds.) Coville

Cutleaf waterparsnip

Apiaceae



Kristian Peters Flickr Creative Commons



Kristian Peters Flickr Creative Commons

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G4G5
C-Value: Not Assigned
Duration: Perennial
Elevation: 3,500 ft.-6,300 ft.
Synonyms: None
USDA PLANTS Symbol: BEER

Key Characteristics:

- ◆ Stems 2-8 dm tall, branched, **often stoloniferous at bases, when crushed, smells like parsnip**
- ◆ Submerged leaves (if present) often filiform-dissected; pale ring present on leaf stalk
- ◆ **Aerial leaves pinnately compound**, leaflets narrowly elliptic-oblong, deeply toothed
- ◆ Inflorescence consists of compound umbels, involucres evident, narrow; flowers white
- ◆ Stylopodiums conic, carpophores bifid to bases; fruits 1.5-2 mm long, obscurely ribbed

Similar Species: *Cicuta maculata* var. *angustifolia* looks similar, but has horizontally divided tuberous taproots, not stolons and the leaf veins terminate in between leaf serrations.

Habitat and Ecology: Localized in wet places or in shallow water in the valleys and plains.

Comments: *B. erecta* is toxic. If skin comes into contact with the wet foliage, it can become sensitive to light and lead to severe sunburn. Widespread throughout the contiguous United States.

Cicuta maculata L. var. *angustifolia* Hook.

Water hemlock

Apiaceae

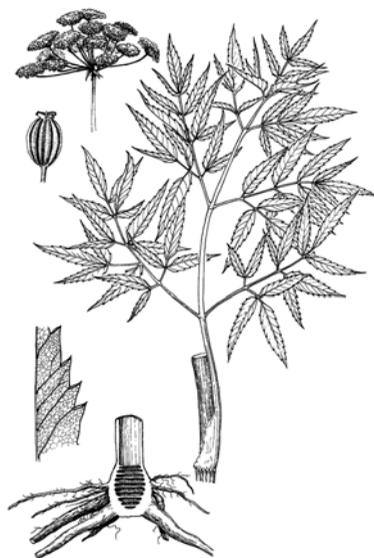


Pam Smith Colorado Natural Heritage Program



Scott Smith

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5T5

C-Value: 3

Duration: Perennial

Elevation: 3,400 ft.-8,000 ft.

Synonyms: *Cicuta douglasii* (deCandolle) Coulter & Rose

USDA PLANTS Symbol: CIMAA

Key Characteristics:

- ◆ Stems 5-25 dm tall, glabrous; roots tuberous, **horizontally divided with cross partitions**
- ◆ Leaves once pinnate or ternate-pinnate, **leaf veins terminate between serrations**
- ◆ Inflorescence a dome-shaped, compound umbel; involucre of several narrow bractlets
- ◆ Flowers white or greenish or pink-tinged in bud; stylopodiums depressed or low-conic
- ◆ **Fruits glabrous, 2-4.5 mm long, prominent corky ribs, not winged**

Similar Species: *Conium maculatum* has distinctive stems with purple spots.

Habitat and Ecology: Locally common in wet places such as marshes, fens, along streams and irrigation ditches.

Comments: Water hemlock is considered one of the most toxic plants in the world. All parts of the plant, especially the roots, contain a cicutoxin alkaloid that affects the central nervous system and causes death.

***Conium maculatum* L.**
Poison hemlock

Apiaceae



Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program

Jeanne R. Janish Vascular Plants of the Pacific Northwest



JRJ

Wetland Status: AW: FACW

Native Status: Non-native

Conservation Status: G5

C-Value: 0

Duration: Biennial

Elevation: 3,600 ft.–8,700 ft.

Synonyms: None

USDA PLANTS Symbol: COMA2

Key Characteristics:

- ◆ Stems 0.5–3 m tall, **purple-spotted**, hollow, glabrous; taproots stout
- ◆ Leaves large, pinnately or ternate-pinnately dissected with small ultimate segments, **fern-like**
- ◆ Numerous terminal and axillary compound umbels; involucre and involucl small, numerous bractlets
- ◆ Flowers white, styles reflexed; stylopodiums depressed-conic; carpophores entire
- ◆ Fruits glabrous, prominent winged ribs raised, often wavy; oil tubes numerous and small

Similar Species: *Cicuta maculata* var. *angustifolia* leaves are 1- to -3 ternate-pinnately compound and the fruits are ribbed.

Habitat and Ecology: Common, a tall weed of roadside ditches and moist disturbed sites.

Comments: *C. maculatum* leaves, stems and seeds contain several potent neurotoxins that affect both the central and peripheral nervous systems. This is the plant that Socrates was given after being condemned to death for impiety.

***Almutaster pauciflorus* (Nutt.) - Love & D. Love**
Alkali marsh aster

Asteraceae



Irent M. Draper CalPhotos



Irent M. Draper CalPhotos

Anthony Salazar Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G4

C-Value: 4

Duration: Perennial

Elevation: 4,700 ft.-10,700 ft.

Synonyms: *Aster hydrophilus* Greene ex Woot. & Standl., *Aster pauciflorus* Nutt.

USDA PLANTS Symbol: ALPA14

Key Characteristics:

- ◆ Stems 1.5-4 dm tall, single or clumped, erect to decumbent, glandular-pubescent; roots slender
- ◆ Leaves alternate, 1-10 cm, simple, **glaucous, succulent, 1-nerved**, lanceolate to linear
- ◆ Flowers in heads, 1-1.5 cm across; involucre bracts in 3-4 series, glandular

Similar Species: *A. pauciflorus* is a distinctive aster with the stems and leaves densely covered with glandular hairs, 1-nerved leaves, and rounded, spindle shaped achenes.

Habitat and Ecology: Occurs in meadows or moist places especially where soil is alkaline.

Comments: *A. pauciflorus* is considered a halophyte referring to its tolerance of growing in soils and water with a high level of salinity.

- ◆ **Ray flowers white to purple, 5-10 mm long, coiling at maturity; disk flowers yellow**
- ◆ Pappi single series of barbellate, straw-colored bristles; achenes glabrous, 7- to 10-nerved

***Bidens frondosa* L.**
Devil's beggartick

Asteraceae



Karin Freeman Colorado Natural Heritage Program



Karin Freeman Colorado Natural Heritage Program

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW

Native Status: Non-Native

Conservation Status: G5

C-Value: 0

Duration: Annual

Elevation: 3,920 ft.-7,000 ft.

Synonyms: None

USDA PLANTS Symbol: BIFR

Key Characteristics:

- ◆ Stems erect, 1.5-8 dm tall, usually branched, often purplish, glabrous, hairy at upper nodes
- ◆ Leaves ternate, some pinnately divided into 5 leaflets, the leaflets ovate to lanceolate, serrate
- ◆ Involucral bracts 5-10, green, usually surpassing disk, ciliate on margins
- ◆ Disk flowers 4- or 5-lobed, orange-yellow; flowering heads small, 10 mm wide
- ◆ Achenes flat, 1-nerved, 2 retrorsely barbed awns, dark brown to black, 4-9 mm long

Similar Species: *B. vulgata* is not as common, but occurs in similar habitats. The flowering heads are larger, 15-25 mm across, and disk flowers are yellow.

Habitat and Ecology: Common in disturbed wet areas along ditches, stock ponds and levees.

Comments: *Bidens frondosa* is considered adventive in Colorado. Beggarticks provide a protein rich food source for waterfowl.

Euthamia occidentalis Nutt.

Western golden-top

Asteraceae



Jonathan Coffin Flickr Creative Commons



Jonathan Coffin Flickr Creative Commons

John H. Rummel Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 9
Duration: Perennial
Elevation: 3,650 ft.-7,200 ft.
Synonyms: *Solidago occidentalis* (Nutt.) Torr. & A. Gray
USDA PLANTS Symbol: EUOC4

Key Characteristics:

- ◆ Stems erect, stout, 4-20 dm tall, freely branched above, glabrous, glaucous
- ◆ **Leaves sessile**, lance-linear, 3-nerved, up to 12 cm long x 1 cm wide, **punctate**
- ◆ **Inflorescence elongate or rounded, interrupted with lateral clusters arising from axils of leafy bracts**

Similar Species: *E. graminifolia* has a broad, flat-topped inflorescence and is usually much shorter than *E. occidentalis*.

Habitat and Ecology: Found along rivers and irrigation ditches, especially common along lower South Platte and lower Colorado Rivers.

Comments: *Euthamia* was formerly included in *Solidago*. Arrangements of heads, gland-dotted leaves and DNA data demonstrate that *Euthamia* is distinct from *Solidago*. Important nectar plant for butterflies, moths and skippers.

- ◆ Ray flowers yellow, (15) 17-22 (28); disk flowers (7) 9-11 (18); corollas 3.1-4.2 mm
- ◆ Achenes oblong to narrowly ellipsoid, terete, 2- to 4-nerved; pappi persistent, white

Gnaphalium exilifolium A. Nelson

Slender cudweed

Asteraceae



Barry Breckling CalPhotos



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G3G4Q
C-Value: 5
Duration: Annual
Elevation: 4,500 ft.–10,800 ft.
Synonyms: *Gnaphalium grayi* A. Nelson & J.F. Macbr.
USDA PLANTS Symbol: GNEX

Key Characteristics:

- ◆ **Stems branched from bases**, erect to ascending, **tomentose**, 3-15 (25) cm tall; tap or fibrous roots
- ◆ **Leaf blades linear**, 0.4-5 cm long x 0.5-3 mm wide; **bracts subtending heads**, 10-25 mm long
- ◆ **Heads in spiciform glomerules**; involucre 2.5-3.5 mm long
- ◆ **Phyllaries brown**, bases woolly, inner narrowly triangular with whitish, acute apices
- ◆ **Corollas purplish or whitish**, sometimes reddish-tipped; achenes oblong, glabrous

Similar Species: *G. palustre* has wider leaves (2-10 mm wide) and the bracts subtending the heads are much shorter.

Habitat and Ecology: Found along streams and pond margins.

Comments: *Gnaphalium exilifolium* is a New World native, documented from Arizona, New Mexico, South Dakota, Utah, Wyoming, and Chihuahua Mexico.

Gnaphalium palustre Nutt.

Western marsh cudweed

Asteraceae



Moosicom Ranch



Matt Lavin

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Annual
Elevation: 5,000 ft.-8,970 ft.
Synonyms: *Filaginella palustris* (Nutt.) Holub
USDA PLANTS Symbol: GNPA

Key Characteristics:

- ◆ Stems 3-15 cm tall, usually much branched, white-woolly, especially upwards on stems
- ◆ Heads in dense glomerules at branch ends and sometimes in leaf axils, no ray flowers
- ◆ Leaves oblanceolate or oblong, mostly 1-3.5 cm long x 2-10 mm wide, **not subtending flowering heads**
- ◆ Phyllaries pale, densely woolly
- ◆ Corollas purplish or whitish; achenes oblong, glabrous

Similar Species: *G. exilifolium* flowering heads are axillary, spike-like along the upper portion of the main stems.

Habitat and Ecology: Found in sandy or alkaline soil of moist places along streams and ponds.

Comments: *G. palustre* is wide ranging from western Canada south to New Mexico and Arizona.

Helianthus nuttallii Torr. & A. Gray

Nuttall's sunflower

Asteraceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 4,700 ft.-9,400 ft.

Synonyms: *Helianthus nuttallii* Torr. & A. Gray ssp. *rydbergii* (Britton) R.W. Long

USDA PLANTS Symbol: HENU

Key Characteristics:

- ◆ **Stems 6-30 dm tall;** rhizomatous with coarse, tuberous-thickened roots
- ◆ Leaves alternate, narrowly to broadly lanceolate, 3-nerved, 4-15 cm long x 0.8-4.5 cm wide, tips acute
- ◆ Heads 1-6 in a panicle; **involucral bracts lance-linear, all similar size, acuminate, ciliate, disks 12-25 mm wide**

- ◆ **Ray flowers yellow,** 20-25 mm long; disk flowers yellow, 5-7 mm long
- ◆ Achenes 3-5, glabrous; pappi 2 awn-tipped scales, 2.2-4.5 mm long

Similar Species: FNA and USDA-NRCS PLANTS Database recognize *H. nuttallii* ssp. *rydbergii*. It is usually shorter (10-25 dm), the leaves are all or mostly opposite, leaf blades are lanceolate to nearly ovate, and the leaf apices are acute to obtuse. *H. pumilus* is also shorter (3-10 dm tall), stems arise from an erect, taprooted crown, the leaves are ovate, not linear, and the disks are smaller, 10-14 mm wide.

Habitat and Ecology: Common in wet places such as ditches, moist meadows and along streams or pond borders.

Comments: Achenes are eaten by songbirds and some waterfowl.

Machaeranthera bigelovii (A. Gray) Greene

Bigelow's tansyaster

Asteraceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status AW: FACW

Native Status: Native

Conservation Status: G4G5

C-Value: 3

Duration: Biennial, Perennial

Elevation: 4,900 ft.-11,040 ft.

Synonyms: *Dieteria bigelovii* (A. Gray) D.R. Morgan & R.L. Hartman var. *bigelovii*

USDA PLANTS Symbol: MABI

Key Characteristics:

- ◆ Stems 1-10 dm tall; taprooted; branches and peduncles puberulent or canescent, stipitate-glandular
- ◆ Leaf blades **bristle-tipped**, lanceolate to oblanceolate, 5-15 mm wide, stipitate-glandular
- ◆ **Involucre bracts and peduncles with conspicuous, glandular hairs**
- ◆ Ray flowers **blue to purple**, 10-25 mm long x 1-2 mm wide; disk flowers yellow
- ◆ Achenes flattened, sparsely appressed-hairy; pappi barbellate bristles

Similar Species: *M. canescens* (= *Dieteria canescens*) involucre bracts have some glandular hairs, but not as conspicuously hairy on both the bracts and peduncles, and the leaves are narrower, 1.5-5 mm wide.

Habitat and Ecology: Common along roadsides, on open slopes, in meadows and forest clearings.

Comments: *M. bigelovii* and *M. canescens* commonly hybridize.

***Packera pseud aurea* (Rydb.) Weber & Love var. *flavula* (Greene) Trock & Barkley** Falsegold groundsel

Asteraceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T2T4
C-Value: 7
Duration: Perennial
Elevation: 4,500 ft.-11,600 ft.
Synonyms: *Senecio pseud aureus* Rydb. ssp. *flavulus* (Greene) G.W. Douglas & G. Ruyle-Douglas
USDA PLANTS Symbol: PAPSF

Key Characteristics:

- ◆ Stems usually 1-4, clustered, 2-40 dm; fibrous-rooted, bases woolly or glabrous
- ◆ **Basal leaves ovate with truncate bases, cauline leaves reduced, usually pinnatifid; petiole lengths equaling blades**
- ◆ Heads 5-12 in congested, sub-umbelliform arrays; phyllaries 3-5 mm
- ◆ Ray flowers yellow, 6-10 mm; disk corolla tubes 2.5-3.5 mm long
- ◆ Achenes 1-1.5 mm, glabrous; pappi 4.5-5.5 mm long

Similar Species: *P. pauperula* basal leaves are narrower, tapering to cuneate bases with cauline leaves that are prominently pinnatifid with rounded sinuses.

Habitat and Ecology: Common in moist meadows, along streambanks and in forest openings.

Comments: Known from southern Wyoming through central Colorado to northern New Mexico.

Symphotrichum ciliatum (Ledeb.) G.L. Nesom
Rayless alkali aster

Asteraceae

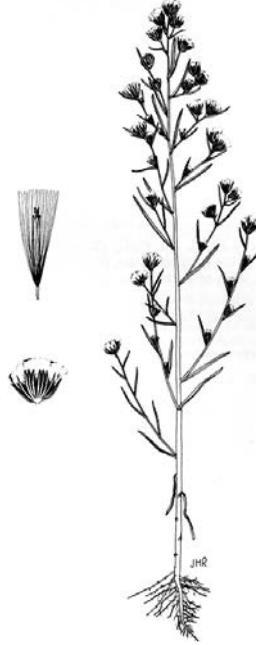


Robert L. Clark New England Wildflowers



Trent M. Draper CalPhotos

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: Not Assigned
Duration: Annual
Elevation: 4,700 ft.-7,950 ft.
Synonyms: *Aster brachyactis* S.F. Blake, *Brachyactis ciliata* (Ledeb.) Ledeb. ssp. *angusta* (Lindl.) A.G. Jones
USDA PLANTS Symbol: SYC12

Key Characteristics:

- ◆ Stems single, erect, 1-7 dm tall, bluish or yellowish-green, often red-tinged, succulent, glabrous
- ◆ Leaves linear, 3-12 cm long x 1-9 mm wide, entire
- ◆ Heads several in an open-panicle to spike inflorescence; **involucral bracts distinctly acute**
- ◆ **Ray flowers tubular, shorter than styles, virtually absent**, disk flowers pink
- ◆ Achenes purple or gray with purple streaks, 1.5-2.5 mm; pappi white or pink, 4-6 mm

Similar Species: *Symphotrichum frondosum* rays up to 2 mm long, that are pinkish and involucre bracts are oblong to narrowly oblanceolate.

Habitat and Ecology: Found along borders of lakes or streams in wet, saline soil.

Comments: Widespread and common throughout the northern United States into Canada and Alaska.

Symphotrichum lanceolatum (Willd.) Nesom ssp. *hesperium* (Gray) Nesom

White panicle aster

Asteraceae



Liz Makings Arizona State University Herbarium



Louis M. Landry CalPhotos

USDA-NRCS Wetland Flora



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5T5

C-Value: 5

Duration: Perennial

Elevation: 3,500 ft.-11,580 ft.

Synonyms: *Aster lanceolatus* Willd. ssp. *hesperius* (A. Gray) Semple & Chmielewski, *Aster hesperius* A. Gray

USDA PLANTS Symbol: SYLAH

Key Characteristics:

- ◆ Stems stout, 3-15 dm tall, **pubescence in lines extending downward from leaf bases**
- ◆ Leaves all cauline, linear-lanceolate, margins shallowly serrate, 5-15 cm long x 5-25 mm wide

- ◆ **Heads in branched paniculiform inflorescence usually subtended by large, foliaceous bracts**
- ◆ Involucral bracts green-tipped, somewhat imbricate; **ray flowers pale to dark purple**, 4.2-10.1 mm
- ◆ Achenes 0.7-2.7 mm

Similar Species: *S. spathulatum* has hairs on the stem that are uniform, hairs found consistently under the flowering heads, and the flowering heads are fewer (3-10) per branch. *S. foliaceum* (= *Aster foliaceus*) has middle cauline leaves that are wider than 1 cm wide and the involucre bracts are wider and leafy.

Habitat and Ecology: Common along streams and ditches and in moist meadows. Probably the most frequently encountered aster in Colorado's wetlands.

Comments: Widespread throughout the west and midwest into Canada.

Mertensia arizonica Greene

Aspen bluebells

Boraginaceae



Trent M. Draper CalPhotos



Trent M. Draper CalPhotos



Trent M. Draper CalPhotos

Wetland Status AW: NI
Native Status: Native
Conservation Status: G4
C-Value: Not Assigned
Duration: Perennial
Elevation: 6,800 ft.-8,500 ft.
Synonyms: None
USDA PLANTS Symbol: MEAR6

Key Characteristics:

- ◆ Stems 4-10 (15) dm tall, coarse, leafy-stemmed, glabrous, clustered on a thick but soft taproot
- ◆ Leaves lanceolate to elliptic-ovate, 5-15 x 1.5-5(7) cm., **glabrous or pustulate (with no hairs) with evident veins**
- ◆ **Inflorescence open and branching with many flowers**
- ◆ Calyx 3-8 mm long, often glaucous, glabrous except for lobe margins, 1/3-2/3 length of the corolla tube
- ◆ Corolla tube 6-9 mm long, somewhat flaring limb longer than the tube; stamens with filaments attached at level of the fornications (crests)

Similar Species: *Mertensia ciliata* calyx shorter, 1.5-4 mm long, less than 1/4 the length of the corolla tube; inflorescence usually tightly packed. *M. franciscana* leaves have short, stiff hairs often bulbous at the base or pustulate. *M. oblongifolia* is usually much shorter, less than 4 dm tall, leaves usually lance-ovate without lateral veins

Habitat and Ecology: Locally common in moist places along streams and creeks in western Colorado.

Comments: Leaves and flowers are eaten by deer, elk and small mammals. The bell-shaped flowers have evolved to protect nectar and pollen from rain and wind and at the same time guide the insect pollinator to the nectar source.

***Plagiobothrys scouleri* (Hook. & Arn.) I.M. Johnst. var. *hispidulus* (Greene) Dorn** Sleeping popcornflower

Boraginaceae

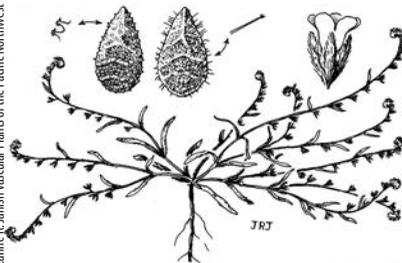


Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Jeanne R. Janisch Vascular Plants of the Pacific Northwest
Trent M. Draper CalPhotos



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T5
C-Value: 3
Duration: Annual
Elevation: 5,000 ft.-10,700 ft.
Synonyms: *Plagiobothrys hispidulus* (Greene) I.M. Johnst., *Plagiobothrys scopulorum* (Greene) I.M. Johnst.
USDA PLANTS Symbol: PLSCH

Key Characteristics:

- ◆ **Stems prostrate, up to 20 cm long; creeping at bases, stoloniferous**
- ◆ Leaves all cauline, linear, up to 6.5 cm long x 5 mm wide, lower pairs opposite, upper pairs alternate

- ◆ Stems terminating in a false, loosely flowered raceme or spike
- ◆ **Calyx 2-4 mm long with symmetrical lobes**
- ◆ **Corolla white, salverform**, stamens included; nutlet scar lateral, not basal, minute bristles

Similar Species: *P. leptocladus* occurs in southern Wyoming and is expected to occur in northern Moffatt or Routt counties. The calyx lobes are elongate and thick, curving toward the same side of the fruit and the nutlet scar is at the base.

Habitat and Ecology: Muddy places along drying pond margins or muddy soil in meadows.

Comments: A very small plant that grows on mud flats and can easily be overlooked.

***Barbarea orthoceras* Ledeb.**
American yellowrocket

Brassicaceae



Mary Sanseverino Flickr Creative Commons



Margo Bors CalPhotos

Yevonn Wilson-Ramsey/Flora of North America



B. orthoceras

Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Biennial, Perennial

Elevation: 4,800 ft.-10,000 ft.

Synonyms: None

USDA PLANTS Symbol: BAOR

Key Characteristics:

- ◆ **Stems erect, 2-6 dm tall**, glabrous or sparsely pubescent with a few simple hairs; taproots
- ◆ Leaves divided into numerous leaflets having a large, rounded, terminal leaflet; auricles ciliate

- ◆ **Flowers yellow**, clustered at the terminal end of stems
- ◆ **Fruits siliques, linear, sessile or short stipitate, 3.1-4.5 cm long, constricted between seeds**
- ◆ **Styles stout, 0.5-1.2 (2) mm**

Similar Species: *B. vulgaris* has longer styles up to 3.5 mm long and the auricles are glabrous.

Habitat and Ecology: Found along streams, creeks, ditches, roadsides and within wet meadows, often disturbed areas.

Comments: Pollinated by flies, bees, beetles.

Rorippa curvipes Greene

Bluntleaf yellowcress

Brassicaceae



Aaron Schusteff CalPhotos



Aaron Schusteff CalPhotos



Aaron Arthur CalPhotos



Mary Ellen Harte Forestry Images

Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Annual, Perennial

Elevation: 4,700 ft.-10,500 ft.

Synonyms: None

USDA PLANTS Symbol: ROCU2

Key Characteristics:

- ◆ Stems few, rarely single, **prostrate, decumbent**, 1-4 dm long, pubescent with simple hairs
- ◆ Leaves 3-12 cm long x 1-3.5 cm wide, with an **auriculate clasping base**; petioles usually short
- ◆ Terminal leaf lobe much larger than narrowly oblong lateral lobes

- ◆ **Flowers yellow**; petals 0.7-1.3 mm long
- ◆ **Siliques linear, glabrous, 2.5-8 mm long, rounded, constricted near middle; styles 0.5-0.7 mm long**

Similar Species: *R. palustris* has erect, usually solitary stems that are densely hairy.

Habitat and Ecology: Common along margins of lakes and ponds, streams, ditches, fields and in moist depressions.

Comments: In most mustards, the presence of sulfur and nitrogen containing glucosinolates (also known as mustard oil) helps reduce herbivory and imparts the family characteristic sharply bitter taste. High doses of mustard oils can be toxic, but a number of moths and other insects have evolved metabolisms to counteract the chemicals.

***Rorippa palustris* (L.) Besser**
Bog yellowcress

Brassicaceae



Louis M. Landry CalPhotos



Barry Breckling CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: Not Assigned
Duration: Annual, Biennial, Perennial
Elevation: 5,000 ft.-10,500 ft.
Synonyms: None
USDA PLANTS Symbol: ROPA2

Key Characteristics:

- ◆ **Stems erect, usually solitary**, 2.5-10 dm tall; glabrous or sparsely to densely hirsute with simple hairs
- ◆ Basal leaves wither early; **cauline blades 1.5-4 cm wide, deeply pinnatifid, lobes dentate**
- ◆ Terminal leaflet lobes larger; **petioles auriculate and clasping stems**
- ◆ **Flowers yellow**, petals 0.8-2.7 mm long
- ◆ Siliques 3-11 mm long, **globose to obtuse or rounded at both ends**; styles 0.3-0.9 mm long

Similar Species: *R. sinuata* is pubescent with oval, white and inflated hairs. Stem leaves have an auriculate and clasping base and the siliques are constricted near the middle.

Habitat and Ecology: Common along margins of lakes, ponds, streams, ditches, fields, and in moist depressions.

Comments: In most mustards, the presence of sulfur and nitrogen containing glucosinolates (also known as mustard oil) helps reduce herbivory and imparts the family characteristic sharply bitter taste. High doses of mustard oils can be toxic, but a number of moths and other insects have evolved metabolisms to counteract the chemicals.

Rorippa sinuata (Nutt.) Hitchc.

Spreading yellowcress

Brassicaceae



Russ Kleinman Western New Mexico University



Dan Tenaglia CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,470 ft.-8,500 ft.

Synonyms: None

USDA PLANTS Symbol: ROS12

Key Characteristics:

- ◆ **Stems prostrate to decumbent**, 1-3 dm long, pubescent with **white, inflated hairs**; rhizomes deep-seated and creeping
- ◆ Leaves all cauline, fleshy, lower ones short-petiolate, 3-8 cm long x 6-17 mm wide
- ◆ Blades deeply pinnatifid with rounded lobes, lobes entire or sometimes coarsely toothed
- ◆ Flowers yellow, petals 3-4.5 (5.5) mm long
- ◆ **Siliques 4-7 mm long x 1.3-2.4 mm wide, curved upward, terete, glabrous; styles 0.6-2 mm long**

Similar Species: *Rorippa palustris* lacks the white, inflated, mealy hairs around the stem base and does not have creeping rhizomes.

Habitat and Ecology: Common along margins of lakes and ponds, streams, ditches, fields and in moist depressions.

Comments: In most mustards, the presence of sulfur and nitrogen containing glucosinolates (also known as mustard oil) helps reduce herbivory and imparts the family characteristic sharply bitter taste. High doses of mustard oils can be toxic, but a number of moths and other insects have evolved metabolisms to counteract the chemicals.

Thelypodium integrifolium (Nutt.) Endl. ex Walp.

Entireleaved thelypody

Brassicaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Biennial
Elevation: 4,720 ft.-8,500 ft.
Synonyms: None
USDA PLANTS Symbol: THIN

Key Characteristics:

- ◆ Stems paniculately branched, (2) 4.5-17 (28) dm tall, glaucous throughout, glabrous
- ◆ **Cauline leaves sessile**, tapering gradually, not sagittate
- ◆ Racemes elongated or sub-umbellate in fruit; central rachises (0.5) 1.2-10 (25) cm long
- ◆ Petals usually lavender to purple, rarely white, (4.5) 5.5-8 (10.5) mm long
- ◆ **Siliques torulose (swollen with constrictions)**, divaricate-ascending to ascending, straight or incurved, (1) 1.5-3 (4) cm long

Similar Species: *T. sagittatum* also occurs on alkaline flats, but has distinctive sagittate leaves.

Habitat and Ecology: Common on dry hillsides, in pinyon-juniper and sagebrush. Less common in wet meadows and near streams and seeps.

Comments: The Greek "thely" means "woman" and "pod" means "foot". Greek translation of female foot may refer to the stipe of the ovary.

***Atriplex patula* L.**
Spear saltbush

Chenopodiaceae (Amaranthaceae)

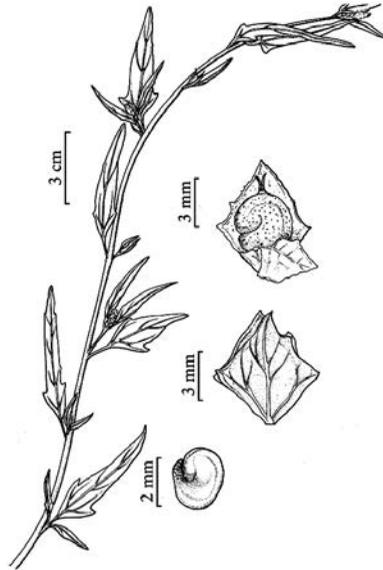


Matt Lavin



Matt Lavin

Bee F. Gunn Flora of North America



Wetland Status: AW: FACW
Native Status: Non-native
Conservation Status: G5
C-Value: 0
Duration: Annual
Elevation: 4,960 ft.-8,400 ft.
Synonyms: None
USDA PLANTS Symbol: ATPA4

Key Characteristics:

- ◆ Stems (1.5) 3-9 (15) dm tall, erect and branched, branches green, obtusely angled or striate
- ◆ Leaves green above and below, thin
- ◆ Flowers are compact, in interrupted spiciform or paniculiform clusters

Similar Species: *A. subspicata* also has rhombic fruits that are united to the middle. These two species can be difficult to separate. Ackerfield (2015) notes they do not appear to be distinct species.

Habitat and Ecology: Weedy plants found in gardens, fields and other disturbed places.

Comments: *Atriplex* spp. are able to grow on soils with high levels of selenium. These plants accumulate selenium in their cells and will cause death if eaten in large enough quantities.

Chenopodium glaucum L.

Oakleaf goosefoot

Chenopodiaceae (Amaranthaceae)



Louis M. Landry CalPhotos



Ernie Marx Eastern Colorado Wildflowers

-None-



Wetland Status: AW: FAC
Native Status: Non-native
Conservation Status: G5 SNA
C-Value: 0
Duration: Annual
Elevation: 4,000 ft.-8,000 ft.
Synonyms: None
USDA PLANTS Symbol: CHGL3

Key Characteristics:

- ◆ Stems erect to prostrate, 0.5-2.5 (4) dm tall, branched from bases
- ◆ Leaves non-aromatic; blades lanceolate or oblong, 0.5-4 x 0.3-1.5 cm, **margins undulate-dentate, densely farinose, glaucous below**
- ◆ Inflorescence composed of glomerules (dense cluster) in terminal or lateral spike
- ◆ Sepals 3-4 mm, glabrous, not keeled
- ◆ Seeds 0.6-1.1 mm diameter, wrinkly to punctate (dotted with pits)

Similar Species: There are two varieties in Colorado:

1a. Bracts absent, at least on the terminal 1/2 of the inflorescence; leaves usually with obtuse apices . . . var. *glaucum* found in northeastern counties

1b. Leaflike bracts present throughout the inflorescence; leaves usually with acute apices . . . var. *salinum* found on western slope with scattered occurrences on eastern slope

Habitat and Ecology: Common in disturbed, moist places such as along shores of lakes and ponds.

Salicornia rubra A. Nelson

Red swampfire

Chenopodiaceae (Amaranthaceae)



Denise Culver Colorado Natural Heritage Program



Robert Swinski GalPhotos

Trent M. Danner/CalPhotos



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Annual

Elevation: 5,500 ft.-9,000 ft.

Synonyms: *Salicornia europaea* L. ssp. *rubra* (A. Nelson) Breitung

USDA PLANTS Symbol: SARU

Key Characteristics:

- ◆ **Stems succulent, green with red or purple bases, becoming completely red at maturity; 5-25 cm tall**
- ◆ Leaves simple, opposite, reduced, scale-like, glabrous
- ◆ Inflorescences consists of spikes, terminal on each stem, jointed

Similar Species: None.

Habitat and Ecology: Found on margins of drying alkaline ponds, playas and in alkaline soil of wet meadows.

Comments: *S. rubra* is considered a halophyte, a plant that is tolerant of soils and water with a high salinity. The global range of *S. rubra* extends throughout western North America, but because of its specialized habitat its distribution is local and sporadic.

***Suaeda calceoliformis* (Hook.) Moq.**
Pursh seepweed

Chenopodiaceae (Amaranthaceae)



George W. Hartwell CalPhotos



George W. Hartwell CalPhotos

Key Characteristics:

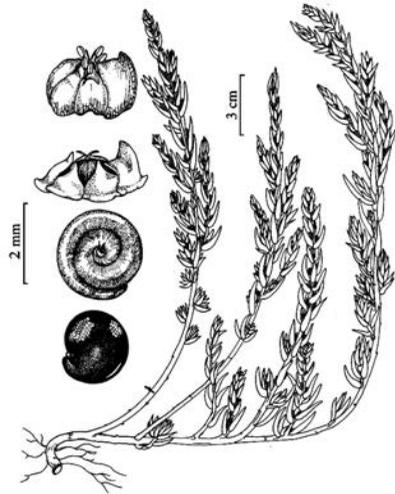
- ◆ Stems decumbent to erect, green to dark red, usually striped, 0.5–8 (10) dm tall, glaucous
- ◆ Leaves tightly ascending, blades linear-lanceolate, upper surfaces flat, (5) 10–40 mm long
- ◆ Glomerules crowded in 1–6 cm long, compound spikes, 3- to 5 (7)-flowered; bracts leaf-like

Similar Species: *S. moquinii* (= *S. nigra*) is a perennial from a woody caudex with a perianth that is radially symmetrical and all segments equal, not keeled.

Habitat and Ecology: Found on alkaline or saline flats, along the margins of lakes or drying ponds.

Comments: *S. calceoliformis* is considered a halophyte, a plant that is tolerant of soils and water with high salinity. Common throughout alkaline wetlands in North America.

Yevonn Wilson-Ramsey, Flora of North America



Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Annual, Perennial

Elevation: 4,720 ft.–8,450 ft.

Synonyms: *Suaeda depressa* (Pursh) S. Watson var. *erecta* S. Watson, *Suaeda occidentalis* (S. Watson) S. Watson

USDA PLANTS Symbol: SUCA2

- ◆ **Perianth irregular shape (1-3 segments larger), fleshy conical outgrowth on back of perianth is horned**
- ◆ Seeds lenticular, black, shiny

Suaeda moquinii (Torr.) Greene

Mojave seablite

Chenopodiaceae (Amaranthaceae)



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

Key Characteristics:

- ◆ Stems spreading or erect, branched, green to red; woody stems brown to gray-brown
- ◆ Leaves sessile, glaucous, (5) 10 -30 mm long x 1-2 mm wide, glabrous or loosely hairy

Similar Species: *S. calceoliformis* is an annual with an irregular perianth, segments that are keeled on the back, and horned or hooded at the tips.

Habitat and Ecology: Found on alkaline or saline flats and dry hillsides.

Comments: FNA (2003), Ackerfield (2015) and Weber and Wittmann (2012) recognize *Suaeda nigra* as the accepted name, not *S. moquinii*. It is considered a halophyte, a plant that is tolerant of soils and water with high salinity.



Steve Matson, CalPhotos

Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 4,300 ft.-8,900 ft.

Synonyms: *Suaeda torreyana* S. Watson, *Suaeda nigra* (Rafinesque) J.F. Macbride

USDA PLANTS Symbol: SUMO

- ◆ **Perianth radially symmetrical, all segments are equal, not keeled on back, lacking wings at bases**
- ◆ Bracts usually narrowed at base; ovaries vase-shaped
- ◆ Seeds variable in size and color, 0.5-2 mm long, black or brown

Hypericum scouleri Hook.

Scouler's St. Johnswort

Clusiaceae (Hypericaceae)



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Key Characteristics:

- ◆ Stems sparingly branched, erect, 2-7 dm tall, **glandular-punctate**; rhizomatous
- ◆ **Leaves opposite, gland-dotted**, oval or elliptic, 1-3.5 cm long
- ◆ Inflorescence a few-flowered cyme that is leafy-bracteate

Similar Species: *H. majus* does not have black gland-dotted sepal margins.

Habitat and Ecology: Common in wet meadows, ditches and along the margins of ponds and streams.

Comments: St. Johnswort contains hypericin, a photo-reactive pigment that is readily absorbed from the digestive tract. The main effect is photosensitivity after ingestion. St. Johnswort is palatable to livestock. It does not result in death, but animals will lose weight and develop skin irritation when exposed to sunlight.

Patrick Alexander USDA-NRCS PLANTS Database



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 5,000 ft. - 10,370 ft.
Synonyms: *Hypericum formosum* Kunth
USDA PLANTS Symbol: HYS5

- ◆ Sepals 5; petals 5, 6-15 mm long, **black gland-dotted**; stamens 75-100, connate at base into 3-5 groups
- ◆ Capsules ovoid, purplish, 3-7 mm long, included or barely exceeding the sepals

Astragalus agrestis Douglas ex G. Don

Purple milkvetch

Fabaceae



Matt Lavin



Matt Lavin

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FAC

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 4,900 ft.-10,500 ft.

Synonyms: None

USDA PLANTS Symbol: ASAG2

Key Characteristics:

- ◆ Stems tufted, 0.5-3 (4) dm tall, foliage thinly hairy with basifixed (attached at base) hairs
- ◆ Leaves 2-10 cm long; leaflets 13-21 (23), 4-18 mm long; stipules 2-10 mm long, connate
- ◆ Racemes 5- to 15-flowered, flowers in globose heads, erect or incurved, 1.5-11 cm long

- ◆ Flowers pink-purple, strictly ascending, calyx teeth 2.5-4.5 mm long
- ◆ Fruits 7-10 mm long x 3-4 mm wide, densely hairy (1-2 mm), axis of inflorescence hidden by fruit

Similar Species: *A. laxmannii* var. *robustior* (= *A. adsurgens* var. *robustior*) flowers are in an elongated head, not globose. *A. cicer* has longer fruits, 10-14 mm long, that are brown to green with black hairs and ochroleucous flowers.

Habitat and Ecology: Common in meadows, grasslands, along streams, seeps and springs found from high plains to upper montane meadows and forests.

Comments: Members of the Fabaceae have a symbiotic relationship with the bacteria, *Rhizobia*, that exists in their root nodules. *Rhizobia* have the ability to take nitrogen gas out of the air and convert it to a form of nitrogen that is usable to the host plant. The plants are then able to thrive in soils that are nitrogen deficient.

***Hydrophyllum fendleri* (A. Gray) A. Heller**
Fendler's waterleaf

Hydrophyllaceae



Patrick Alexander USDA-NRCS PLANTS Database



Al Schneider Southwestern Colorado Wildflowers

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FAC
Native Status: Native
Conservation Status: G4G5
C-Value: 7
Duration: Perennial
Elevation: 5,430 ft.-13,690 ft.
Synonyms: None
USDA PLANTS Symbol: HYFE

Key Characteristics:

- ◆ Stems solitary, 2-8 dm tall, retrorsely hispid; rhizomes short, stout with thickened roots
- ◆ **Leaves pinnately compound**, blades 2.5 dm long x 1.5 dm wide, long-petiolate, **serrate**
- ◆ Lower leaflets remote, acuminate, sharply toothed, scabrous or hairy beneath
- ◆ **Inflorescence on peduncles 3-15 cm long, equaling or surpassing leaves**
- ◆ Calyx lobes 4-9 mm long, margins bristly-ciliate; corolla 6-11 mm long, white to purple

Similar Species: *H. capitatum* flowers are pale to dark lavender and sometimes white, in a ball-like cluster and the leaf lobes have entire margins with 1-2 deeply cleft lobes at tips.

Habitat and Ecology: Common in moist, often shady places throughout the state.

Comments: Flies and butterflies are the primary pollinators.

***Mentha arvensis* L.**
Wild mint

Lamiaceae

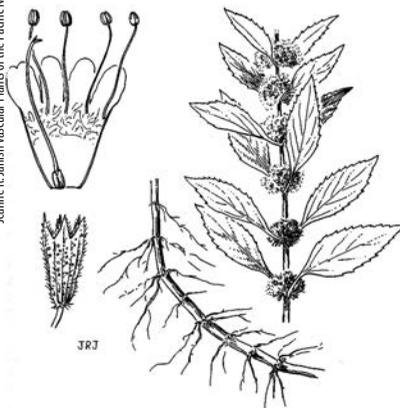


Richard Scully



Richard Scully

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 4
Duration: Perennial
Elevation: 3,900 ft.-9,800 ft.
Synonyms: None
USDA PLANTS Symbol: MEAR4

Key Characteristics:

- ◆ Stems 2-8 dm tall, square, ascending or erect; creeping rhizomes
- ◆ Leaf blades opposite, 2-8 cm long x 6-40 mm wide, glabrous or hairy, serrate, acuminate, short-petiolate
- ◆ Flowers in dense axillary clusters at the nodes
- ◆ Calyx pubescent, 2.5-3 mm long; corolla white to light purple or pink, 4-7 mm long, rarely 5-lobed
- ◆ Nutlets 4, yellowish-brown, ovoid to ellipsoid, 0.7-1.3 mm

Similar Species: *M. spicata* flowers are in a terminal spike not axillary clusters.

Habitat and Ecology: Common in moist places, especially along streams and ditches.

Comments: Circumboreal. Native to temperate regions of Europe, Asia, eastern Siberia and North America. Leaves, when crushed, very aromatic. Can be used to make herbal tea.

Scutellaria galericulata L.

Marsh skullcap

Lamiaceae



Richard Scully



Richard Scully

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 4,800 ft.-9,500 ft.
Synonyms: *Scutellaria epilobiifolia* A. Ham.
USDA PLANTS Symbol: SCGA

Key Characteristics:

- ◆ Stems 2-8 dm tall, square, puberulent, weak but mostly erect; creeping rhizomes
- ◆ **Leaves opposite**, 2-6 cm long x 6-20 mm wide, glabrous above, margins toothed, bases truncate, short petiolate

Similar Species: *S. lateriflora* flowers are in axillary racemes, the corolla is shorter, 6-7 mm long and it does not have a blue-spotted lip.

Habitat and Ecology: Locally abundant along pond shores, marshes, streams and springs.

Comments: Circumboreal. Traditionally, skullcap was used as an anti-inflammatory, antispasmodic and for other nervous conditions.

- ◆ **Flowers 2 per node arising from leaf axils**
- ◆ Calyx 2-lobed, 3.5-4.5 mm with prominent cap (scutellum) on upper lip
- ◆ Corolla blue, marked with white, 1.5-2 cm long, upward arching part of lower lip bumpy, not hairy

Stachys pilosa Nutt. var. *pilosa*

Hairy hedgenettle

Lamiaceae



Richard Scully



Richard Scully

Key Characteristics:

- ◆ Stems (2) 3-8 dm tall, square, **rank odor**, simple or branched, **hairy and glandular throughout**
- ◆ **Leaves opposite**, sessile, 3.5-9 cm long x 1.5-4 cm wide, bases broadly rounded to truncate, crenate
- ◆ **Terminal spikes interrupted, subtended by leafy bracts, flowers sessile**

Similar Species: *Agastache* spp. have similar looking flowers, but the calyx is bluish to purplish, the stems are glabrous or puberulent, not glandular, the terminal spikes are not interrupted, and leafy bracts are absent.

Habitat and Ecology: Common in moist places, along streams, ditches and lake shores, and in moist meadows.

Comments: Global range is throughout North America. *Stachys* spp. have been used for centuries for a wide variety of ailments ranging from antiseptic to stomach issues.



Richard Scully

Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Perennial

Elevation: 4,800 ft.-8,500 ft.

Synonyms: *Stachys palustris* L. var. *pilosa* (Nutt.)
Fernald

USDA PLANTS Symbol: STPIP5

- ◆ Calyx 2-lobed, pilose with slender, gland-tipped hairs, tubes 3-5 mm long, lobes 2-3.5 mm
- ◆ Corolla lavender, spotted and streaked with purple and white, upper lip 3-5 mm

***Epilobium ciliatum* Raf.**
Fringed willowherb

Onagraceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 4
Duration: Perennial
Elevation: 4,650 ft. - 11,500 ft.
Synonyms: *Epilobium ciliatum* Raf. var. *glandulosum* (Lehm.) Dorn
USDA PLANTS Symbol: EPCI

Key Characteristics:

- ◆ Stems 0.5-20 dm tall, solitary, simple to freely branched, basal leaves with or without turions
- ◆ **Leaves opposite**, 3-12 cm long x 0.5-5.5 mm wide, serrulate, teeth remote or obscure
- ◆ Inflorescence an erect raceme (often branched), with numerous flowers, **glandular-puberulent**; pedicels 2-15 mm long

- ◆ Floral tubes 0.5-2 mm long; sepals 2-6 mm long, often reddish; **petals white or pink**, 2-10 mm long
- ◆ Capsule 3-10 cm long, seeds 1-1.5 (1.9) mm long, longitudinally finely ribbed, **coma white or dingy**

Similar Species: *E. leptophyllum* is likely a variety of *E. ciliatum*. The only morphological character that distinguishes *E. leptophyllum* are the leaves are not more than 3 mm broad and the lateral veins are not evident.

Habitat and Ecology: Common along streams, in meadows and other wet places.

Comments: *Epilobium* ssp. are used as food plants by caterpillars of certain butterflies, moths and hawk-moths (*Lepidoptera* spp.). Turions can be seen if the base of the stem when gently pulled from the ground. Look for the withered, rounded bud-scales at the base of the stem. The new turions will be produced in the axils of the old bud-scales.

***Oenothera elata* Kunth ssp. *hirsutissima* (A. Gray ex S. Watson) W. Dietr.**
 Hooker's evening primrose Onagraceae

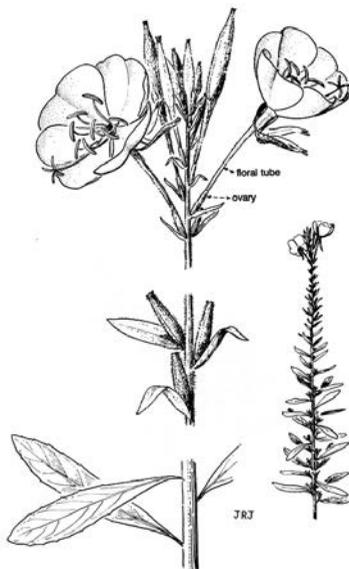


Patrick Alexander USDA-NRCS PLANTS Database



Gary A. Monroe USDA-NRCS PLANTS Database

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T5
C-Value: 5
Duration: Biennial, Perennial
Elevation: 4,000 ft.-10,400 ft.
Synonyms: None
USDA PLANTS Symbol: OEELH

Key Characteristics:

- ◆ Stems 0.5-2 m tall, erect, usually branched from bases, densely to sparsely hairy or gland-tipped
- ◆ Leaves basal, 5-15 cm long x 1.5-4 cm wide, pubescent; **cauline leaves 5-15 cm long x 5-25 mm wide**

- ◆ Flowers in terminal spike or panicle
- ◆ **Floral tubes 2-4 (5) cm long, often reddish, pubescent;** petals 2-6 cm long; sepals 2-6 cm, yellow
- ◆ Capsules 2.5-4 cm long x 4.5-5 mm thick, cylindrical, hairy

Similar Species: *O. longissima* has longer floral tubes, 6-13.5 cm long.

Habitat and Ecology: Common in meadows, forests and along roadsides, creeks and streams.

Comments: Provides a nectar source for long-tongued moths including the hawk moths. Members of the Onagraceae are distinct with flower parts in 4s and inferior ovaries.

***Plantago eriopoda* Torr.**
Redwool plantain

Plantaginaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Key Characteristics:

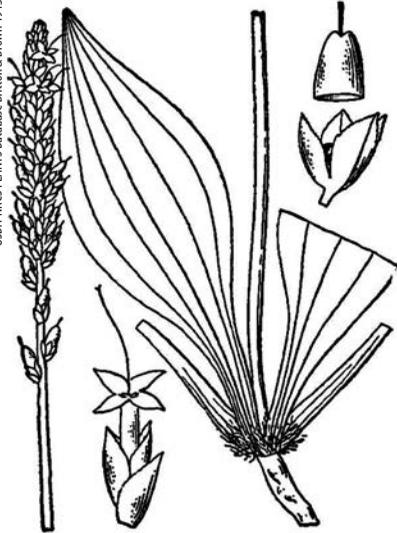
- ◆ Stems up to 4.5 dm tall, **conspicuously and densely reddish-brown woolly at crown**; taproots stout, short
- ◆ Leaves 8-25 cm long x 1-5.5 cm wide, brittle, somewhat fleshy, tapering to an ill-defined petiole

Similar Species: *P. tweedyi* is very similar, but it is not woolly at the crown and the spikes are shorter (2-7 cm long).

Habitat and Ecology: Grows in moist, usually alkaline meadows.

Comments: Even though the flowers are wind pollinated, plantains do attract caterpillars that feed on the leaves. The seeds are eaten by various sparrows as well as rabbits.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 5,000 ft.-9,500 ft.

Synonyms: None

USDA PLANTS Symbol: PLER

- ◆ Spikes elongate, 5-20 cm long at maturity
- ◆ Corolla lobes 1-1.5 mm long
- ◆ Capsules 3-4 mm long; seeds 2.0-2.7 mm long

Polygonum lapathifolium L.

Curlytop knotweed

Polygonaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Yevonn Wilson-Ramsey Flora of North America



Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Annual

Elevation: 3,500 ft.-10,170 ft.

Synonyms: *Persicaria lapathifolia* (L.) Gray

USDA PLANTS Symbol: POLA4

Key Characteristics:

- ◆ Emergent to terrestrial, stems (0.5) 1-10 dm tall, scarcely ribbed, usually glabrous; rhizomes or stolons absent
- ◆ Leaf sheaths (ocrea) brown, 4-24 mm, bases inflated; blades usually lacking dark blotch on upper side
- ◆ Inflorescence a raceme, densely clustered, **nodding**; peduncles with granular yellow glands
- ◆ Perianth segments greenish-white or pink, 4, outer with midvein divided at top giving an anchor-shaped appearance
- ◆ Achenes brown to black, disk-shaped, shiny or dull, smooth

Similar Species: *P. pensylvanicum* (= *P. bicornis*) has 5 perianth segments, the racemes are erect, rarely drooping, and flowers are pink or rose-colored.

Habitat and Ecology: Common in shallow water, margins of lakes and ponds and irrigation ditches. Though native to other regions of North America, Colorado and Wyoming consider *P. lapathifolia* as an adventive species.

Comments: Knotweeds and smartweeds, in general, provide seeds for waterfowl, upland game birds, marsh and song birds, deer and muskrat. The leaves provide habitat for fish and aquatic invertebrates.

Polygonum persicaria L.

Spotted ladysthumb

Polygonaceae



Keir Morse CalPhotos



Keir Morse CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACW

Native Status: **Non-native**

Conservation Status: GNR

C-Value: 0

Duration: Annual, Perennial

Elevation: 3,650 ft.-8,200 ft.

Synonyms: *Persicaria maculata* (Raf.) Gray,
Persicaria maculosa Gray, *Polygonum persicaria* L. var.
angustifolium Beckh.

USDA PLANTS Symbol: POPE3

Key Characteristics:

- ◆ Emergent to terrestrial, stems 1-7 (13) dm, glabrous; roots arising from nodes, rhizomes and stolons absent
- ◆ **Leaves often with prominent dark blotch on upper side; leaf sheaths (ocreas) with cilia or bristles**

Similar Species: *Polygonum amphibium* var. *emersum* inflorescence is usually a solitary, terminal raceme and leaves are not glandular-punctate.

Habitat and Ecology: Common in shallow water, margins of lakes and ponds and irrigation ditches.

Comments: Water smartweeds, in general, provide seeds for waterfowl, upland game birds, marsh and song birds, deer, and muskrats.

- ◆ Flowers densely clustered in a raceme, pink, greenish white to pink; peduncles glabrous
- ◆ Tepals pink, not gland dotted
- ◆ Achenes brownish black to black, disk-shaped, shiny, smooth

Rumex aquaticus L. var. *fenestratus* (Greene) Dorn

Western dock

Polygonaceae

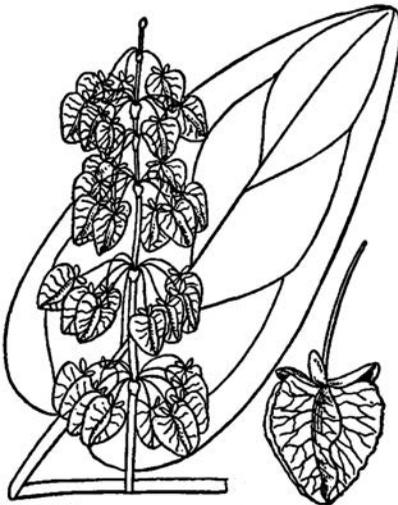


Neal Kramer CalPhotos



Neal Kramer CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G5T5

C-Value: 5

Duration: Perennial

Elevation: 4,500 ft.-11,600 ft.

Synonyms: *Rumex aquaticus* L. ssp. *occidentalis* (S. Watson) Hult. n., *Rumex occidentalis* S. Watson

USDA PLANTS Symbol: RUAQF

Key Characteristics:

- ◆ Stems 5-14 dm tall, erect, glabrous, lacking axillary shoots, often solitary; vertical taproots
- ◆ Leaves 10-35 cm x 5-12 cm, bases truncate or rounded, margins entire, undulate, apices acute, **usually without basal rosette**
- ◆ Inflorescences terminal, narrowly paniculate; pedicels 5-13 (17) mm; flowers 12-25 in whorls

- ◆ **Inner tepals (valves) broadly ovate-triangular, 5-10 (12) mm x 5-8 (11) mm, no tubercles on valves**
- ◆ Achenes reddish-brown, 3-4.5 (4.8) mm long x 1.5-2.5 mm wide

Similar Species: *R. densiflorus* has creeping rhizomes and inner tepals or valves that are 4-7 mm long x 4-7 mm wide. *R. crispus* is commonly found in wetlands. It is distinct with leaves that are strongly undulate and curled margins.

Habitat and Ecology: Found in moist, meadows, along pond margins and in swampy areas.

Comments: Achenes are eaten by waterfowl, songbirds, and small mammals.

Rumex crispus L.

Curly dock

Polygonaceae



Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FAC
Native Status: **Non-native**
Conservation Status: GNR
C-Value: 0
Duration: Perennial
Elevation: 3,500 ft.-9,500 ft.
Synonyms: None
USDA PLANTS Symbol: RUCR

Key Characteristics:

- ◆ Stems erect, 4-10 (15) dm tall, glabrous; roots vertical, spindle-shaped
- ◆ **Leaf blades strongly undulate, margins crisped** 15-30 (35) cm long x 2-6 cm wide, petioles distinct, 3-15 cm long
- ◆ Inflorescence terminal, half the length of stem, narrow to broadly paniculate; pedicels 4-8 mm long, swollen at point of attachment
- ◆ Tepals 10-25 in whorls; inner tepals orbiculate-ovate or ovate-deltoid, 3.5-6 x 3-5 mm, **tubercle (swelling) present**, base truncate or subcordate, margins entire or subentire to very weakly erose, flat, apices
- ◆ **Achenes usually reddish-brown, 2-3 mm long x 1.5-2 mm wide, enclosed in papery, winged structures, not spiny**

Similar Species: *Rumex obtusifolius* leaves are broader and the winged structure around the achenes has 1 to 3 spines.

Habitat and Ecology: Found in disturbed places, fields, meadows, roadsides, and ditches.

Comments: Achenes are eaten by waterfowl, songbirds, and small mammals.

Rumex maritimus L.

Golden dock

Polygonaceae



Doreen L. Smith GalPhotos



Doreen L. Smith GalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: Not Assigned

Duration: Annual, Biennial

Elevation: 3,920 ft.-9,000 ft.

Synonyms: *Rumex maritimus* L. ssp. *fueginus* (Phil.)

Hult,n, *Rumex fueginus* Phil.

USDA PLANTS Symbol: RUMA4

Key Characteristics:

- ◆ Stems (4) 5-60 (70) cm, erect, spreading, branched almost to bases, bumpy-pubescent
- ◆ Leaf blades lanceolate or lanceolate-linear, rarely oblong-lanceolate, 5-25 (30) cm x 1.5-3 (4) cm
- ◆ **Inflorescences are conspicuously leafy; flowers in dense golden or reddish-brown clusters**

Similar Species: *R. crispus* is commonly found in wetlands. It is distinct with leaves that are strongly undulate and curled margins.

Habitat and Ecology: Found along shores of lakes and marshes.

Comments: Achenes are eaten by waterfowl and small mammals.

***Rumex salicifolius* Weinm. var. *mexicanus* (Meisn.) Hitchc.**
Mexican dock

Polygonaceae



Barry Breckling CalPhotos



Barry Breckling CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5T5

C-Value: 4

Duration: Perennial

Elevation: 4,500 ft. - 11,500 ft.

Synonyms: *Rumex mexicanus* Meisn., *Rumex salicifolius* Weinm. ssp. *triangulivalvis* Danser, *Rumex triangulivalvis* (Danser) Rech. f.

USDA PLANTS Symbol: RUSAM

Key Characteristics:

- ◆ Stems (3) 4-10 dm tall, producing axillary shoots below inflorescence; roots creeping
- ◆ Leaves **linear-lanceolate to lanceolate**, flat or indistinctly crisped margins
- ◆ Inflorescences terminal and axillary, dense or interrupted; flowers 10-25 in whorls

- ◆ **Inner tepals (valves) broadly triangular, 2.5-3.5 mm long x 2.5-3 mm wide, 3 tubercles per valve**
- ◆ Achenes brown or dark reddish-brown, 1.7-2.2 mm long x 1-1.5 mm wide

Similar Species: *R. altissimus* inner tepals are 4-6 mm long, the leaves are lanceolate to ovate-lanceolate and the achenes are larger, 2.5-3.5 mm long. *R. salicifolius* var. *denticulatus* is very similar but there are no tubercles on the valves. *R. crispus* is commonly found in wetlands. It is distinct with leaves that are strongly undulate and curled margins.

Habitat and Ecology: Common along streams, roadsides and in wet meadows.

Comments: FNA (2005) states that *Rumex salicifolius* ssp. *triangulivalvis* and *R. mexicanus* have been commonly applied to *R. salicifolius* var. *mexicanus*. Ackerfield (2015) and Weber and Wittmann (2012) recognize *R. triangulivalvis* as the accepted name.

***Rumex salicifolius* Weinm. var. *denticulatus* Torr.**
Utah willow dock

Polygonaceae



Steve Matson CalPhotos



Steve Matson CalPhotos



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T3T5
C-Value: 4
Duration: Perennial
Elevation: 3,610 ft.-13,200 ft.
Synonyms: *Rumex californicus* Rech. f., *Rumex utahensis* Rech. f.
USDA PLANTS Symbol: RUSAD

Key Characteristics:

- ◆ Stems 1.5-4 (6) dm tall, erect, producing axillary shoots below inflorescence, glabrous
- ◆ Leaves linear-lanceolate, 2-3 cm wide, basal leaves absent
- ◆ Inflorescences terminal and axillary, flowers 10-20 in whorls

Similar Species: *R. crispus* is commonly found in wetlands. It is distinct with leaves that are strongly undulate and curled margins.

Habitat and Ecology: Found in meadows, along roadsides and streams.

Comments: Taxonomic research on *Rumex salicifolius* var. *denticulatus* is on-going. FNA (2005) states that *R. mexicanus* and *R. salicifolius*, in the broad sense, have often been applied to *R. utahensis*. Ackerfield (2015) and Weber and Wittmann (2012) recognize *R. utahensis* as the accepted name.

- ◆ Inner tepals (valve) deltoid or broadly ovate-deltoid, 2.5-3 mm x 2.5-3 mm, tubercles absent
- ◆ Achenes dark reddish-brown or almost black, 1.8-2 mm long x 1-1.3 mm wide

Glaux maritima L.

Sea milkwort

Primulaceae (Myrsinaceae)



Steve Matson CalPhotos



Denise Culver Colorado Natural Heritage Program

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 4,900 ft.-9,900 ft.

Synonyms: *Glaux maritima* L. var. *angustifolia* B.

Boivin, *Lysimachia maritima* (L.) Galasso

USDA PLANTS Symbol: GLMA

Key Characteristics:

- ◆ Stems 3-25 (30) cm tall, succulent, glabrous, glaucous; rhizomes short or fibrous
- ◆ Leaves opposite below, alternate above, 3-20 (25) mm long, oval, jointed to the stem
- ◆ Flowers solitary, sessile in leaf axils
- ◆ Calyx cup-shaped, 3-5 mm long, petaloid, white-pinkish; petals absent; stamens 5
- ◆ Capsules 2-3 mm long, subglobose, few-seeded

Similar Species: None.

Habitat and Ecology: Found in moist meadows, along streams, mudflats, playa edges, often on alkaline soils.

Comments: Weber and Wittmann (2012) place *G. maritima* in Primulaceae. Ackerfeld (2015) places it in Myrsinaceae as *Glaux maritima*. FNA (2009) places it in Myrsinaceae but recognizes *Lysimachia maritima* as the accepted name.

Myosurus apetalus Gay var. *montanus* (Campb.) Whitmore

Bristly mousetail

Ranunculaceae



Steve Matson CalPhotos



Sheri Hagwood USDA-NRCS PLANTS Database



Sheri Hagwood USDA-NRCS PLANTS Database

Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5T3T5

C-Value: 5

Duration: Annual

Elevation: 5,400 ft.-10,260 ft.

Synonyms: *Myosurus minimus* L. ssp. *montanus*
G.R. Campb.

USDA PLANTS Symbol: MYAPM

Key Characteristics:

- ◆ Stems 1.5-12.5 cm tall
- ◆ Leaves basal, simple, tapering to filiform bases; blades linear or very narrowly oblanceolate
- ◆ Inflorescence a scape, 0.9-10.5 cm long

Similar Species: *M. minimus* achene beaks are parallel and flat to the outer face of the achenes and the scapes are 1.8-12.8 cm long.

Habitat and Ecology: Found along margins of drying ponds, in dry ephemeral pools and moist meadows.

Comments: Native Americans applied poultices of *M. apetalus* to relieve ant bites.

- ◆ Sepals faintly 3-veined, margins scarious; petal claws 1-2 times as long as blades
- ◆ Achenes 11 x 26 mm, exserted beyond leaves; **beaks 0.6-1.4 mm, divergent and spreading**

***Myosurus minimus* L.**
Tiny mousetail

Ranunculaceae



Carol Witham CalPhotos



Andrew Borchert CalPhotos

Key Characteristics:

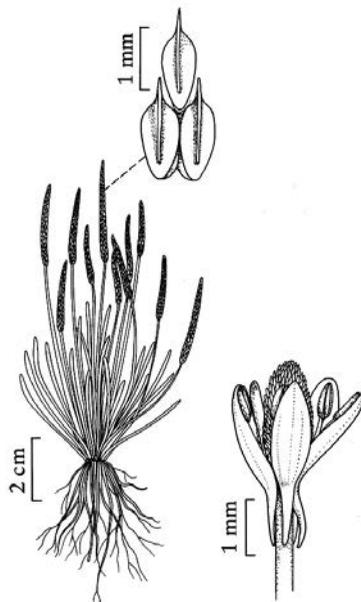
- ◆ Stems 4-16.5 cm tall
- ◆ Leaves all basal, blades narrowly oblanceolate or linear, 2.2-11.5 cm long
- ◆ Receptacle greatly elongated in fruit

Similar Species: *M. apetalus* achene beaks are divergent, not parallel and spreading from the outer face of achene.

Habitat and Ecology: Found in alkaline meadows, along the margins of ponds, drying puddles, in wet meadows and near springs.

Comments: Used by Native Americans as a medicine and for ceremonies.

Yevonn Wilson-Ramsey Flora of North America



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Annual
Elevation: 4,250 ft.-9,300 ft.
Synonyms: None
USDA PLANTS Symbol: MYM12

- ◆ Sepals faintly or distinctly 3-5-veined, margins scariosus; petal spurs 1-3mm long
- ◆ Achene outer faces narrowly rhombic to elliptic or oblong, 0.05-0.4 mm; **beaks parallel and flat**

Ranunculus cymbalaria Pursh

Alkali buttercup

Ranunculaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

Key Characteristics:

- ◆ Stems 0.2-3 dm tall, erect; **stolons prostrate**, rooting nodally, glabrous
- ◆ **Basal leaves simple, ovate to cordate with crenate margins, undivided**, 0.7-3.8 cm x 0.8-3.2 cm
- ◆ Receptacles hispid-glabrous; sepals spreading, 2.5-6 mm x 1.5-3 mm; **petals 5, yellow**, 2-7 mm long

Similar Species: *R. flammula* is also stoloniferous and rooting at nodes, but the leaves are linear, 1-8 mm wide, not oblong or rounded, and the sepals are 2-5 mm long.

Habitat and Ecology: Common along margins of streams, ponds and lakes, in seepage or swampy areas and in moist meadows. The Ranunculaceae, a primitive family, is one of the few plant families that is characterized by protogyny, where the female parts mature before the male flower parts as a strategy to avoid self-pollination.

Comments: All *Ranunculus* spp. are poisonous when eaten fresh by cattle, horses and other livestock. They contain an oil glycoside, ranunculin that is converted to protoanemonin by the action of plant enzymes released when the plant is chewed. The protoanemonin irritates the mouth causing excessive salivation and intestinal irritation.

Yevonn Wilson-Ramsey/Flora of North America



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 4

Duration: Perennial

Elevation: 3,600 ft. - 10,000 ft.

Synonyms: *Halerpestes cymbalaria* (Pursh) Greene

ssp. *saximontana* (Fernald) Moldenke

USDA PLANTS Symbol: RACY

- ◆ Heads of achenes long-ovoid or cylindrical, 6-12 mm long x 4-5 (9) mm wide, ribbed
- ◆ **Achene beaks persistent, conic, straight, 0.1-0.2 mm long**

***Ranunculus macounii* Britton**
Macoun's buttercup

Ranunculaceae



Trent M. Draper GalPhotos



Trent M. Draper GalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G
C-Value: 7
Duration: Perennial
Elevation: 5,000 ft.-9,600 ft.
Synonyms: None
USDA PLANTS Symbol: RAMA2

Key Characteristics:

- ◆ Stems prostrate to erect, 2-10 dm, hirsute or glabrous, sometimes emergent in shallow water; rooting at nodes
- ◆ Basal leaf blades cordate-reniform, 3-foliolate, 3.7-7.5 cm long x 4.5-9.5 cm wide, leaflets 3-lobed or 3-parted
- ◆ Ultimate leaf segments elliptic, margins toothed or lobulate, apices acute to broadly acute

Similar Species: *R. pensylvanicus* has shorter petals 2-4 mm long and stems are erect, not rooting at nodes.

Habitat and Ecology: Common in moist meadows, riparian woods, along streams and often in disturbed areas.

Comments: All *Ranunculus* spp. are poisonous when eaten fresh by cattle, horses and other livestock. They contain an oil glycoside, ranunculin that is converted to protoanemonin by the action of plant enzymes released when the plant is chewed. The protoanemonin irritates the mouth causing excessive salivation and intestinal irritation.

- ◆ Receptacles hirsute; sepals spreading, 4-6 mm long x 1.5-3 mm wide; **petals 5, yellow**, 4-6 mm long x 3.5-5 mm wide
- ◆ Heads of achenes globose; **achenes 2.4-3 mm long x 2-2.4 mm wide, glabrous, narrow ribs; beaks 1-1.2 mm long**

Ranunculus sceleratus L. var. *multifidus* Nutt

Cursed buttercup

Ranunculaceae



Trent M. Draper CalPhotos



Trent M. Draper CalPhotos



Trent M. Draper CalPhotos

Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5T5
C-Value: 1
Duration: Annual, Perennial
Elevation: 3,500 ft.-9,300 ft.
Synonyms: *Hecatonia scelerata* (L.) Fourreau
USDA PLANTS Symbol: RASCM

Key Characteristics:

- ◆ Aquatic, emergent, often growing in standing water, **stems hollow, succulent, glabrous, rooting at bases, only rarely rooting at nodes**
- ◆ Leaves 1-5 cm long x 1.6-6.8 cm wide, deeply 3-parted with the main lobes again lobed, lobes rounded, **floating or stranded**
- ◆ Sepals 3-5, reflexed from or near bases, 2-5 mm x 1-3 mm, glabrous or sparsely hirsute
- ◆ Petals 3-5, 2-5 mm long x 1-3 mm wide; nectary on petal surface poorly developed; styles absent
- ◆ **Achenes 1-1.2 mm long x 0.8-1 mm wide, smooth, glabrous; beaks 0.1 mm**

Similar Species: *R. sceleratus* var. *sceleratus*, a naturalized weed in North America, is a serious weed in the eastern United States and the Pacific Northwest, not yet known in Colorado. It differs from *R. sceleratus* var. *multifidus* with wrinkles on the achene faces and the leaf blades slightly lobed or parted, never deeply.

Habitat and Ecology: Found in shallow water of streams and ponds, on floodplains and in wet meadows. Weber and Wittmann (2012) consider it adventive. The Ranunculaceae, a primitive family, is one of the few plant families that is characterized by protogyny, where the female parts mature before the male flower parts as a strategy to avoid self-pollination.

Comments: All *Ranunculus* spp. are poisonous when eaten fresh by cattle, horses and other livestock.

Aquilegia barnebyi Munz

Oil shale columbine

Ranunculaceae (Helleboraceae)



Jerry Lee Murray CalPhotos



Jerry Lee Murray CalPhotos

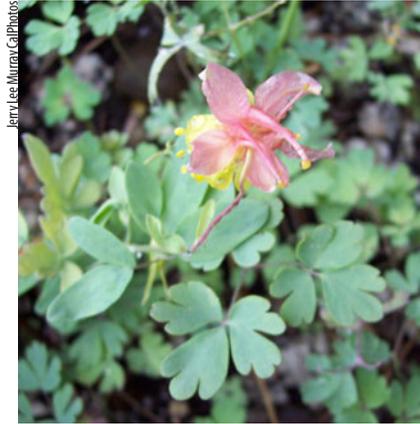
Key Characteristics:

- ◆ Stems 30-80 cm; rhizomes slender, woody
- ◆ Basal leaves 2-3 times ternately compound, 5-30 cm, much shorter than stems
- ◆ Leaflets 8-20 mm, **glaucous on both sides**, not viscid

Similar Species: *A. micrantha* has sticky, glandular leaflets and the sepals and spurs are tinged with pink.

Habitat and Ecology: Found on moist shale or limestone cliffs and along streams.

Comments: *Aquilegia barnebyi* is an Uintah Basin endemic found only in Colorado and Utah. Bees, hummingbirds and hawk moths are the major pollinators.



Jerry Lee Murray CalPhotos

Wetland Status: AW: NI
Native Status: Native
Conservation Status: G4
C-Value: 10
Duration: Perennial
Elevation: 5,600 ft.-9,700 ft.
Synonyms: None
USDA PLANTS Symbol: AQBA

- ◆ **Sepals yellow, reflexed or horizontally spreading, pink to red below and yellowish above**
- ◆ Spurs evenly tapered from the bases, pink to red; beaks of mature fruits 8-12 mm long

***Aquilegia micrantha* Eastw.**
Manco's columbine

Ranunculaceae (Helleboraceae)



Al Schneider Southwestern Colorado Wildflowers

Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status: AW: NI
Native Status: Native
Conservation Status: G5
C-Value: 10
Duration: Perennial
Elevation: 4,600 ft.-9,100 ft.
Synonyms: None
USDA PLANTS Symbol: AQMI

Key Characteristics:

- ◆ Stems 30-60 cm tall
- ◆ Basal leaves 2-3 times ternately compound, 10-35 cm, much shorter than stems, leaflets 13-32 mm
- ◆ Leaflets viscid with sticky, glandular and pilose hairs, typically with dirt and sand stuck to leaves
- ◆ Sepals and spurs white or cream, sometimes tinged with pink or blue, petals white or cream
- ◆ Fruits 10-20 mm long, beaks 8-10 mm

Similar Species: *A. barnebyi* is also found in hanging gardens, but does not have sticky hairs and the sepals are distinctly reflexed.

Habitat and Ecology: Locally common on moist cliffs and hanging gardens on West Slope.

Comments: Global range includes Utah, Arizona and Colorado.

***Argentina anserina* (L.) Rydb.**
Silverweed cinquefoil

Rosaceae



Amadej Imkoczy CalPhotos



Richard Scully



Jeannie R. Janish Vascular Plants of the Pacific Northwest



Louis M. Landry CalPhotos

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Perennial
Elevation: 4,550 ft.–10,000 ft.
Synonyms: *Potentilla anserina* L.
USDA PLANTS Symbol: ARAN7

Key Characteristics:

- ◆ **Low-growing, stoloniferous with red stolons; herbage without glands**
- ◆ Leaflets 7-25, green above, densely white tomentose below, green or gray above (bi-color)

Similar Species: Silverweed is easy to recognize with the distinctive silver, white undersides of leaves and stoloniferous habit.

Habitat and Ecology: Common along pond and stream margins and in seepage or swampy areas, often in sandy soil and disturbed areas.

Comments: This plant has been cultivated as a food crop for its edible roots, but the wild plants are too small to make harvesting practical.

- ◆ **Flowers yellow, solitary at nodes of stolons;** pedicels 3-15 cm, silky-tomentose
- ◆ **Sepals 3-5.5 mm long, entire to toothed;** petals 5.5-11 mm long, yellow, rounded; stamens 20-25
- ◆ **Achenes ovoid, about 2 mm long, light brown**

Geum aleppicum Jacq.

Yellow avens

Rosaceae



© Al Schneider
Al Schneider Southwestern Colorado Wildflowers



J.S. Peterson USDA-NRCS PLANTS Database

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FAC

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 5,000 ft. - 10,000 ft.

Synonyms: *Geum aleppicum* Jacq. ssp. *strictum* (Aiton) R.T. Clausen

USDA PLANTS Symbol: GEAL3

Key Characteristics:

- ◆ Stems 4-12 dm tall, leafy, finely puberulent; roots fibrous
- ◆ Basal leaves 15-24 cm long, petiolate, pinnately divided, 3-5 lobed, double-crenate toothed
- ◆ **Cauline leaves 3-5 foliolate, terminal leaflet enlarged with cuneate bases;** stipules 12-22 mm long

- ◆ Cymes of few to several flowers on long pedicels; inflorescence stiffly hirsute, hairs bulbous-based
- ◆ **Flowers yellow, sepals reflexed, hairy on inside; styles geniculate, non-glandular, hairy or glabrous**

Similar Species: *G. macrophyllum* var. *perincisum* also has yellow flowers. It has small glandular hairs on the lower part of the styles, and the terminal leaflets of basal leaves are enlarged with cordate or rounded bases.

Habitat and Ecology: Found growing along streams, in moist meadows, and occasionally in coniferous forests.

Comments: Globally common from Alaska, throughout Canada, south to California, Arizona, New Mexico to the eastern United States.

***Galium trifidum* L. ssp. *subbiflorum* (Wiegand) Piper**
Threepetal bedstraw

Rubiaceae

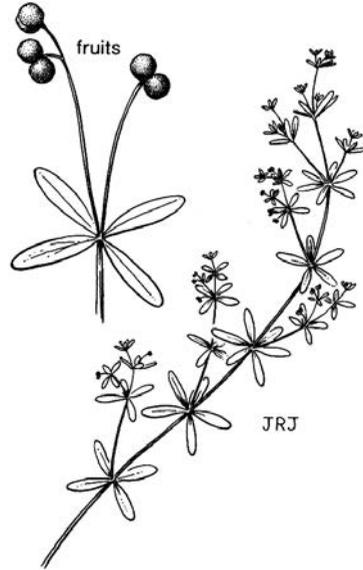


Steve Olson



Steve Olson

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5T5
C-Value: 7
Duration: Perennial
Elevation: 4,960 ft.-11,300 ft.
Synonyms: None
USDA PLANTS Symbol: GATRS2

Key Characteristics:

- ◆ Stems square, slender, 0.5-6 dm long, **scrambling, forming dense mats**, retrorsely-scabrous
- ◆ Leaves in whorls of 4 (5-6), linear to narrowly elliptic, 5-15 (20) mm long, blunt, 1-nerved

- ◆ Peduncles terminal or axillary, often 1-3 on axillary branches, 1- to 3-flowered
- ◆ Corolla white with 3 (4) lobes, 0.5 mm long, obtuse
- ◆ **Fruits glabrous**, 1-2 mm across, mature segments distinct at maturity

Similar Species: *G. bifolium* can also be found in wetlands. The fruits are pubescent and the leaves are strongly 3-nerved with short awn tips. *G. boreale* is a much more stout, erect plant that is common. It has solitary, unbranched stems with lanceolate, blunt-tipped leaves and the flowers are in a pyramidal inflorescence.

Habitat and Ecology: Common in willow cars, wet meadows and shady forests.

Comments: *Galium* spp. belong to the Rubiaceae (coffee family). The combination of a squared stem, whorled leaves and fragrant flowers makes for an easy identification of this genus. The common name bedstraw is from the use of mattress stuffing for American pioneers due to its pleasant fragrance.

***Sullivantia hapemanii* (J.M. Coult. & Fisher) J.M. Coult. var. *purpusii* (Brand) Soltis** *Purpus' sullivantia*

Saxifragaceae



Janis Lindsey Huggins



Janis Lindsey Huggins

Walt Fertig WYNDP



© Walter Fertig

Wetland Status: AW: FACW

Native Status: Native

Conservation Status: G3T3

C-Value: 10

Duration: Perennial

Elevation: 5,630 ft.-10,000 ft.

Synonyms: *Sullivantia purpusii* (Brand) Rosend.

USDA PLANTS Symbol: SUHAP

Key Characteristics:

- ◆ Flowering stems erect, 5-60 cm, rhizomatous, clings to wet cliffs
- ◆ Leaves basal, palmately 5-11 lobed, 1-11 cm wide, 1-2 times dentate, margins entire or with bristles
- ◆ Inflorescences erect, primary and higher branches perpendicular to central axis
- ◆ Sepals triangular to triangular-ovate, 0.6-1.7 mm x 0.6-1.2 mm, not as broad as long at apices
- ◆ Petals white, 2.5-3.1 mm, ovate and abruptly clawed, gradually tapering to claw, 1-1.8 mm wide

Similar Species: *Heuchera* spp. (alumroots) grow in rock crevices and have similar rounded basal leaves, but are seldom found in hanging gardens or seeps.

Habitat and Ecology: Uncommon in hanging gardens and on wet cliffs.

Comments: Endemic. The type specimen is from the Black Canyon of the Gunnison. It is also known from Piceance Basin, Hanging Lake in Glenwood Canyon and East Rifle Creek where it grows on travertine deposited by water dripping off limestone cliffs.

***Limosella aquatica* L.**
Water mudwort

Scrophulariaceae



Steve Matson CalPhotos



Denise Culver Colorado Natural Heritage Program

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Annual, Perennial

Elevation: 5,000 ft.-10,400 ft.

Synonyms: None

USDA PLANTS Symbol: LIAQ

Key Characteristics:

- ◆ Emergent, caespitose, non-branching, usually from a single stem; short stolons
- ◆ Leaves simple, basal, long-petiolate, 1-3 cm long x 3-12 mm wide, 3(5)-veined

- ◆ Inflorescence consists of many elongated pedicels, arising from the axils of tufted leaves
- ◆ Flowers solitary, near base of plant; calyx green with purple spots; corolla white or pink
- ◆ Capsules 3.2 mm long, ovoid-spherical, membranous

Similar Species: *Potamogeton* spp. have similar leaves and can occur with *Limosella*. However, pondweed flowers are in axillary or terminal spikes, not grouped at the base. *Isoetes* spp. have tufted, basal leaves like *L. aquatica*, but lack true flowers.

Habitat and Ecology: Found in shallow water, temporary pools, along muddy shores of ponds and creeks. The petioles will grow as long as the water is deep. Common throughout the western half of the United States into Canada.

Comments: Mudwort is a very inconspicuous herb that is often found matted in mud around lakes, reservoirs and stock ponds. Widespread throughout much of the Northern Hemisphere.

Mimulus eastwoodiae Rydb. Eastwood's monkeyflower

Scrophulariaceae (Phrymaceae)



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Amelia Duveen Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL

Native Status: Native

Conservation Status: G3G4

C-Value: 10

Duration: Perennial

Elevation: 4,700 ft.-5,800 ft.

Synonyms: *Mimulus cardinalis* Eastw., non Douglas ex Benth.

USDA PLANTS Symbol: MIEA

Key Characteristics:

- ◆ Stems 0.5-3 dm long, glandular-pubescent, climbing to pendulous
- ◆ **Stoloniferous**, stolons producing new fertile plants
- ◆ Leaves sessile, lower fan-shaped, upper leaves obovate to oblanceolate, toothed, palmately 3-5 veined
- ◆ Calyx 16-23 (27) mm long, lobes subequal, 4-7 mm long, lanceolate, acuminate, ciliate
- ◆ **Corolla 40 mm long, scarlet to orangish-red**, bilabiate, upper lips erect or arched, with fused lobes

Similar Species: No other red-flowered monkeyflower occurs on seeps and cliff walls.

Habitat and Ecology: Found in cracks, overhanging cliff walls, moist shaded places in crevices of sandstone walls in southwestern Colorado.

Comments: *M. eastwoodiae* is an endemic to the canyonlands of southeastern Utah, southwestern Colorado and northern Arizona. It is pollinated primarily by hummingbirds due in part to the red flowers, a narrow tubular corolla, and reflexed petals. Alice Eastwood was first to collect this plant, but called it *Mimulus cardinalis*. Rydberg collected it in 1913 and realized it was an undescribed species and named it after Eastwood (1859-1953).

***Mimulus floribundus* Lindl.**
Manyflowered monkeyflower

Scrophulariaceae (Phrymaceae)



Gary A. Monroe USDA-NRCS PLANTS Database



Gary A. Monroe USDA-NRCS PLANTS Database

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 10
Duration: Annual
Elevation: 5,500 ft.-9,200 ft.
Synonyms: None
USDA PLANTS Symbol: MIFL2

Key Characteristics:

- ◆ Stems erect to decumbent, 0.3-2.2 (4) dm tall, glandular-pubescent, sometimes viscid and slimy
- ◆ Leaves distinctly petiolate with petioles 1-12 mm long; blades (0.3) 0.8-2(3) cm x (1) 5-13 mm

- ◆ Calyx cylindric, 3.5-7 (9) mm long, glandular-pubescent, lobes 0.8-1.6 (2) mm long, triangular, ciliate
- ◆ Corolla soon dropping after flowering, 7-14 mm long, yellow often with red spots
- ◆ Capsules included, 3.5-5 mm long, obovoid to elliptic

Similar Species: The petiolate leaves are a distinctive identification character.

Habitat and Ecology: Found in moist places, cliff overhangs, along streams and in moist rock crevices. Distribution is throughout western United States into British Columbia and Alberta, Canada.

Comments: The genus name *Mimulus*, the diminutive form of the Latin *mimus*, "a buffon or actor in a farce or mime," and the common name, "monkey-flower," were both derived from the resemblance of the flowers to small, grinning, ape-like faces.

Mimulus glabratus Kunth

Roundleaf monkeyflower

Scrophulariaceae (Phrymaceae)

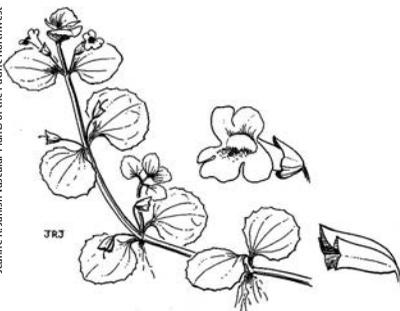


Crystal Strouse



Ernie Marx Eastern Colorado Wildflowers

Jeanne R. Janisch Vascular Plants of the Pacific Northwest



Max Kiefer Arizona State University Herbarium



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 5

Duration: Perennial

Elevation: 3,510 ft.-8,700 ft.

Synonyms: None

USDA PLANTS Symbol: MIGL

Key Characteristics:

- ◆ Stems 1-5 dm long, decumbent, rooting at lower nodes, glabrous to glandular-pubescent
- ◆ **Leaves short-petiolate below, sessile above;** blades usually broader than long, palmately 3-5 veined

- ◆ Calyx bell-shaped, 5-11 (16) mm long, glabrous, sometimes spotted with red
- ◆ **Corolla throats open, not closed by palates,** 10-20 mm long, yellow
- ◆ Capsules included, 5-9 mm long, broadly ovate, rounded

Similar Species: *M. guttatus* is another yellow monkeyflower, but the corolla throats are closed at the palate and the calyx teeth are 1 mm or more in length.

Habitat and Ecology: Common along streams, especially around seeps and springs.

Comments: The genus name *Mimulus*, the diminutive form of the Latin *mimus*, "a buffon or actor in a farce or mime," and the common name, "monkey-flower," were both derived from the resemblance of the flowers to small, grinning, ape-like faces.

***Mimulus guttatus* DC.**
Seep monkeyflower

Scrophulariaceae (Phrymaceae)



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status AW: OBL

Native Status: Native

Conservation Status: G5

C-Value: 8

Duration: Annual, Perennial

Elevation: 5,000 ft.-12,000 ft.

Synonyms: None

USDA PLANTS Symbol: MIGU

Key Characteristics:

- ◆ Stems 0.5-5.5 (9) dm tall, **lacking stolons or rhizomes**
- ◆ Leaves petiolate below and often sessile above; blades (0.5) 1.5-5.5 (10) cm x (5) 10-40 (85) mm
- ◆ **Inflorescence 5 or more flowers** in foliose-bracteate racemes; pedicels 1-3.5 (5.5) cm long

Similar Species: *M. tillingii* has a yellow corolla that is closed at the throat but the plants usually have 1-3 flowers, not more than 5. It is stoloniferous/rhizomatous, growing at much higher elevations. *M. glabratus* corolla is yellow, but the throat is mostly open, not closed at the palate.

Habitat and Ecology: Common along and sometimes emerged in streams, marshes, seeps and springs.

Comments: Widespread throughout the west to California and the Pacific Northwest.

- ◆ Calyx 6-16 (20) mm long, red-tinged; corolla 9-23 (30) mm long, yellow, distinctly bilabiate
- ◆ Capsules included, (7) 9-12 mm long, oblong or obovate, rounded distally, narrowed to stipitate bases

Veronica americana Schwein. Ex Benth

American speedwell

Scrophulariaceae (Plantaginaceae)



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Keir Morse CalPhotos



Barry Breckling CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



JRJ

Wetland Status: AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 4,980 ft.-12,600 ft.
Synonyms: None
USDA PLANTS Symbol: VEAM2

Key Characteristics:

- ◆ Emergent, 0.5-3.5 (6) dm tall, glabrous, widely branched; rhizomatous
- ◆ Stems erect, ascending, usually decumbent at the base and rooting at the lower nodes
- ◆ **Leaves opposite**; blades 1.5-3 (5) cm long x 7-20 (30) mm wide, lanceolate to ovate; **petiolate**

Similar Species: *V. americana* is distinguished from the other speedwells that grow in shallow waters by its petiolate leaves. *V. anagallis-aquatica* leaves are sessile and clasping. *V. scutellata* leaves are sessile and clasping.

Habitat and Ecology: Common in shallow water, inundated meadows and along streams.

Comments: American speedwell is edible, tasting similar to *Nasturtium officinale* (= *Rorippa nasturtium-aquaticum*), but with a distinctly bitter taste. Common from Alaska to New Mexico to eastern United States.

- ◆ Flowers in axillary racemes, 10- to 25-flowered, corolla blue; pedicels 5-10 mm long
- ◆ Capsules 2.5-3.8 mm long x 3-4 mm wide, entire or scarcely notched; styles 1.7-3 (4) mm long

***Veronica anagallis-aquatica* L.**
Water speedwell

Scrophulariaceae (Plantaginaceae)



Keir Morse CalPhotos



Keir Morse CalPhotos

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status: AW: OBL
Native Status: Native, **Non-Native**
Conservation Status: G5
C-Value: Not Assigned
Duration: Biennial, Perennial
Elevation: 3,500 ft. - 10,200 ft.
Synonyms: *Veronica catenata* Pennell, *Veronica salina* Schur.
USDA PLANTS Symbol: VEAN2

Key Characteristics:

- ◆ Emergent, 1-6 (10) dm tall, stems erect, branched at base, glabrous; rhizomatous
- ◆ **Leaves opposite, clasping, lanceolate to ovate,** 2-6.5 cm long x 5-25 mm wide, **sessile**
- ◆ Flowers in axillary racemes, glabrous to glandular-puberulent, more than 30-flowered
- ◆ Calyx 3-5.5 mm long, segments broadly lanceolate
- ◆ Corolla 5-10 mm across, blue or pale violet with purplish lines; **capsule is not notched**

Similar Species: *V. scutellata* has a strongly 2-lobed capsule with a conspicuous notch and the leaves are linear, 4-20 times longer than wide. Vegetatively, *Potamogeton richardsonii* can look like *V. scutellata*, but has clasping leaves and fruits in dense spikes.

Habitat and Ecology: Common in shallow water, streams, ditches and seeps.

Comments: *V. anagallis-aquatica* is widely established in North and South America, as well as Europe, Africa and Asia. USDA-NRCS PLANTS Database designates it as native, but Colorado, Wyoming, and Montana consider it adventive.

***Veronica peregrina* L. ssp. *xalapensis* (Kunth) Pennell**
Hairy purslane speedwell **Scrophulariaceae (Plantaginaceae)**



Steve Matson CalPhotos



Russ Kleinman Western New Mexico University

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FAC
Native Status: Native
Conservation Status: G5T5
C-Value: Not Assigned
Duration: Annual
Elevation: 4,380 ft.-10,200 ft.
Synonyms: None
USDA PLANTS Symbol: VEPEX2

Key Characteristics:

- ◆ Stems erect 0.5-2 (3) dm tall, simple or branched at the bases, glandular-pubescent; taproots
- ◆ Leaves opposite, sessile or lowermost ones narrowed to petiolar bases; blades 0.5-2.2 long mm x 0.5-5 mm wide
- ◆ Flowers in terminal racemes, elongate, glandular-puberulent, bracts foliaceous; pedicels 0.5-1.5 mm long
- ◆ Calyx 3-6 mm long, segments subequal, narrowly elliptic to lanceolate; corolla inconspicuous, 2-3 mm across, whitish
- ◆ Capsule with notch 0.2-0.5 mm deep, style 0.1-0.4 mm long

Similar Species: *V. wormskjoldii* is a perennial from rhizomes. The stems are usually decumbent or prostrate at bases and pubescent with long, loose, spreading hairs. *V. serpyllifolia* var. *humifusa* is also a perennial, but has pubescent stems and the calyx has a conspicuous notch.

Habitat and Ecology: Common along streams, creeks, in wet meadows, seeps and springs.

Comments: Weber and Wittmann (2012) state that *V. peregrina* var. *xalapensis* is adventive in Colorado.

***Acer glabrum* Torr.**
Rocky Mountain maple

Aceraceae (Sapindaceae)



Al Schneider Southwestern Colorado Wildflowers



Steve Hurst USDA-NRCS PLANTS Database



Al Schneider Southwestern Colorado Wildflowers



USDA-NRCS PLANTS Database Britton & Brown 1913

Wetland Status AW: FAC
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 5,200 ft.-10,500 ft.
Synonyms: None
USDA PLANTS Symbol: ACGL

Key Characteristics:

- ◆ Shrubs or small trees, up to 8 m; usually dioecious
- ◆ **Leaves opposite, 3-5 lobed or palmately divided into 3 separate leaflets**, leaves less than 7 cm in width, margins toothed to finely serrate
- ◆ Leaves glabrous
- ◆ Young twigs red in color; flowers greenish-yellow
- ◆ **Fruit 2 united samaras, wings 2-3 cm long, glabrous**

Similar Species: *Acer negundo* leaves are ternately compound with 3 leaflets, not palmately lobed.

Habitat and Ecology: Common and widespread across the state along streams, in gulches and ravines, and in dry forests.

Comments: In midsummer the leaves develop large bright red blotches. these galls contain Eriophyid mites.

***Acer negundo* L.**
Boxelder

Aceraceae (Sapindaceae)



Matt Lavin



Al Schneider Southwestern Colorado Wildflowers



Matt Lavin

Wetland Status: AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 4,800 ft.–7,900 ft.
Synonyms: *Negundo aceroides* (L.) Moench
USDA PLANTS Symbol: ACNE2

Key Characteristics:

- ◆ Trees 4–20 m tall, dioecious; bark thin, light brown or pale gray, furrowed
- ◆ Leaves opposite, ternately compound with 3 leaflets (occasionally 5 to 7)
- ◆ Terminal leaflets with evident petiolules (leaflet stalks), lower surfaces pubescent along veins
- ◆ Young twigs green to blue, often glaucous
- ◆ Fruits of two, 1-seeded samaras, in the shape of the letter 'V'

Similar Species: There are two varieties of *A. negundo* that occur in Colorado: 1a. Young branches glaucous, smooth, pale.....var. *violaceum*. 1b. Young branches with short hairs.....var. *interius*.

Habitat and Ecology: Common across the state along rivers, creeks and in canyon bottoms.

Comments: The discussion about the native status for *A. negundo* has been on-going. Weber and Wittmann (2012) state that *Negundo aceroides* (*A. negundo*) ssp. *violaceum* is introduced and *Negundo aceroides* (*A. negundo*) ssp. *interius* is native. Ackerfield (2015) states that both subspecies are non-native. The Plains Indians made sugar from the sap.

***Baccharis salicina* Torr. & A. Gray**
Willow baccharis

Asteraceae



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 3,400 ft.-5,800 ft.

Synonyms: None

USDA PLANTS Symbol: BASA

Key Characteristics:

- ◆ Shrubs, 10-30 dm tall; twigs of season green, rib-angled, dioecious
- ◆ Leaves alternate, linear-elliptic, with 1 main vein and 2 lateral veins, resinous-varnished

- ◆ **Flowering heads numerous and crowded, sessile in large, leafy-bracteate terminal inflorescences**

- ◆ Involucres narrow, up to 1 cm high and wide, bracts thick, dry with small greenish area near tips
- ◆ Achenes 1.2-1.8 mm long, 10-nerved; pappi whitish

Similar Species: *B. salicina* resembles willows from a distance because of the freely branching growth habit.

Habitat and Ecology: Found along streams, hanging gardens, alkaline meadows and occasionally along roadsides. Known from Arkansas River Valley and Western Slope.

Comments: Global range includes Utah to Kansas south to New Mexico and Texas. Provides cover for small mammals, amphibians, and songbirds. Also an excellent nectar source for butterflies, wasps and other insects.

Chrysothamnus linifolius Greene

Spearleaf rabbitbrush

Asteraceae



Max Licher Arizona State University Herbarium



Dee Malone Colorado Natural Heritage Program



Dee Malone Colorado Natural Heritage Program

Key Characteristics:

- ◆ Shrubs, 7-35 dm tall, stems single, green becoming tan, relatively unbranched
- ◆ Leaves flat and not twisted, lanceolate and 20-75 mm long x 3-8 mm wide
- ◆ Heads in corymbiform arrays 3-12 cm wide; phyllaries in 3-4 series in 5 vertical ranks

Similar Species: *C. viscidiflorus* and *C. greenei* are shorter, bushy-branched plants of much drier sites, with narrow leaves that are typically twisted.

Habitat and Ecology: Common on floodplains, stream banks and terraces, irrigation canals, seeps and springs, especially in alkaline soils on the west slope.

Comments: Provides cover for small mammals, amphibians, and songbirds. Rabbitbrush is also an excellent nectar source for butterflies, wasps and other insects. Global range includes Montana, Wyoming, Utah, Colorado, New Mexico and Arizona.

Wetland Status: AW: FAC

Native Status: Native

Conservation Status: G5

C-Value: 6

Duration: Perennial

Elevation: 4,550 ft.-9,000 ft.

Synonyms: *Chrysothamnus viscidiflorus* (Hook.)

Nutt. ssp. *linifolius* (Greene) H.M. Hall & Clem.,

Lorandersonia linifolia (Greene) Urbatsch, R. P.

Roberts & Neubig

USDA PLANTS Symbol: CHLI3

- ◆ No ray flowers; disc flowers 5, corollas 4-5.5 mm, glabrous, yellow
- ◆ Achenes tan, 2.5-3.5 mm, 10-12 ribbed, densely hairy; pappi whitish-tan, 4.5-7 mm long

***Alnus incana* (L.) Moench ssp. *tenuifolia* (Nutt.) Breitung**
Thinleaf alder

Betulaceae



Denise Culver Colorado Natural Heritage Program



Svenn, McDonnell/USDA-NRCS PLANTS Database



Br. Alfred Brousseau Saint Mary's College CalPhotos

Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5T5
C-Value: 6
Duration: Perennial
Elevation: 4,700 ft.-10,000 ft.
Synonyms: *Alnus tenuifolia* Nutt.
USDA PLANTS Symbol: ALINT

Key Characteristics:

- ◆ Shrubs, to 12 m tall, monoecious; bark light to dark gray, lenticels horizontal, white to light orange
- ◆ Leaves alternate, simple, 3.8-10 cm long; margins doubly serrate
- ◆ Staminate flowers 3 per bract, stamens 2-4, staminate catkins pendulous, 4-10 cm long
- ◆ Pistillate flowers 2 per bract, **pistillate catkins erect to pendulous with persistent, woody bracts**
- ◆ Fruits thin-winged samara; winter buds blunt, bright red and minutely hairy

Similar Species: *Betula occidentalis* pistillate catkins are firm, but not woody, with deciduous scales and 3 flowers per bract scale instead of 2.

Habitat and Ecology: Occurring along streams, bordering lakes and wet meadows and in moist gulches in foothills and mountains.

Comments: Bacteria on the alder roots fix atmospheric nitrogen that benefits both the alder and adjacent plants. Members of the Betulaceae have lenticels that facilitate gas exchange when plants are in saturated soils with low oxygen levels. Rabbits, muskrats, moose, elk and deer eat the leaves and twigs. Perching birds eat alder seeds, buds, and catkins. Beavers eat the bark and build dams with the stems.

Betula occidentalis Hook.

Water birch

Betulaceae



Susan McDougall USDA-NRCS PLANTS Database



Denise Culver Colorado Natural Heritage Program



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G4G5

C-Value: 8

Duration: Perennial

Elevation: 5,000 ft.-9,500 ft.

Synonyms: *Betula fontinalis* Sarg.

USDA PLANTS Symbol: BEOC2

Key Characteristics:

- ◆ Small trees or shrubs, up to 10 m high; **bark smooth, dark reddish-brown, lenticels prominent**
- ◆ **Twigs covered with conspicuous reddish, resinous glands**

- ◆ Leaf blades ovate, 2-6 pairs of lateral veins, margins serrate, covered with resinous glands
- ◆ **Fruiting catkins cylindrical, 2.0 to 2.5 cm long**
- ◆ Catkin scales glabrous, ciliate, thin, not woody, deciduous

Similar Species: *Alnus incana* ssp. *tenuiflora* typically occurs with *B. occidentalis* but can be distinguished by the persistent woody cones.

Habitat and Ecology: Occurs along streams, wet gulches and at springs and seeps.

Comments: *B. occidentalis* is an indicator of a high, persistent water table, usually from a spring or seep. It is a good shrub to use for stream restoration projects. Members of the Betulaceae have lenticels that facilitate gas exchange when plants are in saturated soils with low oxygen levels. Sheep, mule deer and elk browse water birch. Beavers harvest the stems of water birch in the construction of dams and lodges. The Broad-tailed Hummingbird feeds on sap oozing from holes in the bark made by sapsuckers.

***Sarcobatus vermiculatus* (Hook.) Torr.**
Greasewood

Chenopodiaceae (Sarcobataceae)



Melissa Landon



Mart. Lavin



Melissa Landon



Al Schneider Southwestern Colorado Wildflowers

Wetland Status: AW: FACU
Native Status: Native
Conservation Status: G5
C-Value: 4
Duration: Perennial
Elevation: 4,320 ft.–8,710 ft.
Synonyms: None
USDA PLANTS Symbol: SAVE4

Key Characteristics:

- ◆ Shrubs, 10–20 dm or more tall, deciduous, many branched, thorns at right angles from main stems
- ◆ Leaves mostly alternate or sub-opposite, **linear, fleshy, sessile, roundish**
- ◆ Inflorescence with pistillate flowers solitary or paired in leaf axils; staminate above pistillate

Similar Species: *Atriplex confertifolia* can occur in similar habitats, but usually occurs in much drier substrates and the leaves are flattened, alternate and orbicular-ovate, not linear and succulent.

Habitat and Ecology: Common on alkaline flats, open slopes, playa margins and along roadsides.

Comments: The numerous seeds are wind-dispersed and help to re-establish the plants after fire, although greasewood is only slightly harmed, if at all, by fire. Greasewood is forage for many animals including jack rabbits (major food item), prairie dogs, quail, and pronghorn. The plants provide shade and protective cover for many small mammals. Greasewood does contain oxalates of potassium and sodium, especially later in the growing season, which are poisonous to cattle and sheep when eaten in large quantities.

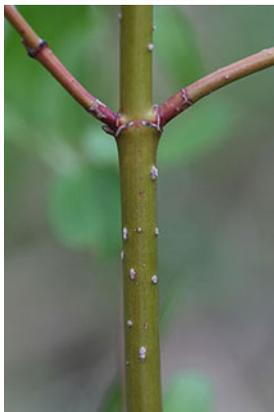
- ◆ Flowers numerous, small, greenish or yellowish, petals absent
- ◆ Fruits utricles, enclosed in fruiting bracts with circular winged margins

***Cornus sericea* L.**
Redosier dogwood

Comaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 5,000 ft.–9,800 ft.

Synonyms: *Cornus stolonifera* Michaux, *Swida sericea* (L.) Holub

USDA PLANTS Symbol: COSE16

Key Characteristics:

- ◆ Shrubs, well over 2 dm high; **red twigs and branches**
- ◆ **Leaves opposite**, over 4 cm long, ovate, lateral veins running parallel with main vein

- ◆ **Flowers numerous in terminal flat-topped (corymbose) cyme**
- ◆ Flowers white, 4 petals and sepals
- ◆ **Fruits white drupes**

Similar Species: *C. sericea* is a common and distinctive shrub. To confirm identification, take a leaf and pull gently apart. There will be white, stringy latex in the leaf veins. *Rhamnus cathartica* leaves have similar venation and can be found in gulches and canyons. The berries are black and some of the branches have been modified into spines.

Habitat and Ecology: Locally common in moist gulches and cool ravines and along streams from foothills to subalpine zones. *C. sericea* is a dominant understory shrub along Colorado's riparian areas. Branch tips will root upon touching the ground and forming new shoots.

Comments: The fleshy fruits of dogwoods are valuable to wildlife, birds, and small mammals. The fruit ripens in late summer and some of the berries may persist on the plants into the fall and winter months. Wildlife browse the twigs, foliage and fruits. The shrubs provide excellent nesting habitat for songbirds.

Elaeagnus angustifolia L.

Russian olive

Elaeagnaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



J.S. Peterson USDA-NRCS PLANTS Database

Wetland Status AW: FAC
Native Status: **Non-native**
Conservation Status: GNR
C-Value: 0
Duration: Perennial
Elevation: 3,700 ft.-7,500 ft.
Synonyms: None
USDA PLANTS Symbol: ELAN

Key Characteristics:

- ◆ Trees or shrubs, 5-12 m tall, trunks 1-5 dm thick; **stems with coarse thorns**
- ◆ **Leaves alternate**, silvery or rusty with peltate scales, lanceolate, 1 main vein, 2-9 cm long
- ◆ Flowers perfect, lacking petals; sepals 4, yellow inside, fragrant; stamens 4
- ◆ **Fruits are drupes, olive-like, cream- to brown-colored, densely covered with silver scales**

Similar Species: From a distance, *Shepherdia argentea* looks like *E. angustifolia*, but *S. argentea* has opposite leaves and red berries instead of cream colored fruits.

Habitat and Ecology: Common throughout Colorado. Initially planted for wind breaks and bank stabilization. Escaped from cultivation along roadsides, streams and floodplains.

Comments: *E. angustifolia* is designated as a List B species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manger to verify identification. Once confirmed, control methods will be discussed. *Elaeagnus angustifolia* is capable of fixing nitrogen in the roots, thus being able to grow on bare soils. Even though it is non-native it does provide a source of edible fruits for a variety of birds. Pheasants and Sharp-tailed Grouse will loaf in trees, eating the fruits. It is this seed dispersal by birds which has contributed to Russian olive's spread.

Shepherdia argentea (Pursh) Nutt. Silver buffaloberry

Elaeagnaceae



Janis Lindsey Huggins



Karin Freeman Colorado Natural Heritage Program

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status AW: FACU

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 4,500 ft. - 7,710 ft.

Synonyms: None

USDA PLANTS Symbol: SHAR

Key Characteristics:

- ◆ **Shrubs or small trees**, dioecious, with **opposite branching, stems usually with thorns**
- ◆ Leaves opposite, silvery-scurfy on both sides with stellate hairs, leaf bases acute

Similar Species: *Elaeagnus angustifolia* has cream-colored fruits and alternate leaves.

Habitat and Ecology: Common in moist places along rivers and in canyon bottoms, scattered on the Western Slope and also known from Boulder, Larimer and Weld Counties. *S. argentea* can occur as the dominant shrub in riparian areas, especially in southwestern Colorado.

Comments: Provides ideal cover and nesting sites for many birds. It is a preferred food source of many songbirds and Sharp-tailed Grouse. It is also a browse source for big game animals, as well as rodents.

- ◆ Flowers imperfect, sepals with glandular thickening at bases, stamens 8
- ◆ **Fruits fleshy, drupe-like achenes, red-orange color**

***Ribes inerme* Rydb.**
Whitestem gooseberry

Grossulariaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status: AW: FAC
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 5,500 ft. - 10,500 ft.
Synonyms: None
USDA PLANTS Symbol: RIIN2

Key Characteristics:

- ◆ Shrubs 1-3 m tall; stems with spines, 0 to 3 per node, spines 1-12 mm long
- ◆ Leaves 2.0-6.0 cm wide, 3 to 5 lobed or dentate, bases truncate, long-hairy
- ◆ Inflorescence a pendant, **solitary or 1- to 4-flowered** raceme, 1.5-3.5 cm, axis glabrous
- ◆ **Hypanthium glabrous**, campanulate; styles pilose; filaments pubescent; sepals reflexed
- ◆ **Berries palatable, greenish or reddish-purple to gray-black, glabrous**

Similar Species: *R. americanum*, no spines, also has glabrous ovaries and berries, but has distinctive leaves with yellow gland-dots on lower surfaces.

Habitat and Ecology: Common along streams, moist roadsides, in meadows and sometimes on dry slopes.

Comments: Fruits of *Ribes* species are a valuable food source for songbirds, chipmunks, ground squirrels, as well as numerous wildlife species and other animals. Currant and gooseberry are alternate hosts for white pine blister rust (*Cronartium ribicola*) which infests five-needled pines. Because of their association with the rust, *Ribes* spp. have been the targets of various eradication efforts in the west.

Populus angustifolia James

Narrowleaf cottonwood

Salicaceae



Pam Smith Colorado Natural Heritage Program

Matt Leim



Jeanne R. Janish Vascular Plants of the Pacific Northwest

Key Characteristics:

- ◆ Trees to 20 m tall; bark light brown, shallowly furrowed
- ◆ Terminal buds 5-scaled, sticky and aromatic
- ◆ Leaves lanceolate to narrowly ovate, 2.5 cm or less wide

Similar Species: *P. x acuminata* has petioles usually over 1/3 of the blade length, leaves that are ovate and buds that are 6-7 scaled, non-aromatic and not sticky. However, there are gradations between *P. x acuminata* and *P. angustifolia*. *Salix fragilis* has yellow buds, single bud scale, and yellow twigs that break easily.

Habitat and Ecology: Common along streams, rivers and in floodplains above 5,000 ft.

Comments: Narrowleaf cottonwood provides habitat, cover, and food for a diversity of wildlife, including squirrels, beaver, bears, white-tailed deer, and many bird species.

Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 4,920 ft. - 10,400 ft.
Synonyms: None
USDA PLANTS Symbol: POAN3

- ◆ Petioles usually less than 1/3 of the blade length, 0.2-0.8 cm long
- ◆ Winter buds reddish-brown, glabrous, resinous and fragrant

***Populus deltoides* Bartram ex Marsh.**
Plains or Rio Grande cottonwood

Salicaceae

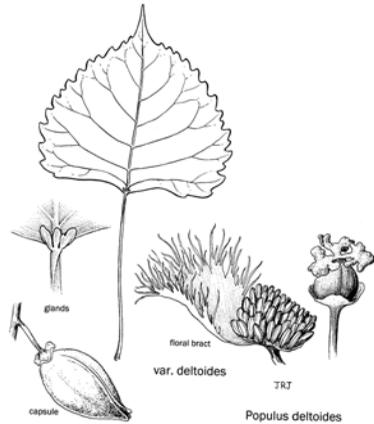


Rio Grande Cottonwood leaf blade. CNHP



Plains Cottonwood leaf blade. CNHP

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status: AW: FAC

Native Status: Native

Conservation Status: G5

C-Value: 3

Duration: Perennial

Elevation: 3,500 ft.-9,500 ft.

Synonyms: *Populus deltoides* H. Marshall ssp.

monilifera (Aiton) Eckenwalder, *Populus fremontii* S.

Watson var. *wislizeni* S. Watson

USDA PLANTS Symbol: PODE3

Key Characteristics:

- ◆ Trees to 55 m tall, 35 dm across; **bark light brown, deeply furrowed**; twigs with stellate pith; dioecious
- ◆ **Terminal buds more than 15 mm long, very resinous and sticky**
- ◆ Leaves 8.0-12.0 cm long x 4.5-6.0 cm wide, crenate-serrate margins
- ◆ **Leaves broadly triangular** with an acuminate tips and truncate bases
- ◆ **Petioles flattened, usually abruptly broadening at the bases**

Similar Species: Two varieties of *P. deltoides* occur in Colorado:

1a. Leaf tips long-acuminate, leaf bases usually with 2 round glands, pedicel length uniform, 1-6 (8 in fruit) mm....

.....*P. deltoides* ssp. *monilifera* Eastern Slope.

1b. Leaf tips short-acuminate, **leaf bases lacking glands, pedicel length uniform 1-13 (17 in fruit) mm, winter buds pubescent**.....*P. deltoides* ssp. *wislizeni* Western Slope.

Habitat and Ecology: Common along streams and rivers and on floodplains on Eastern and Western Slopes.

Comments: Both the plains and the Rio Grande cottonwood provide critical habitat for many wildlife species. They provide habitat for deer, elk, beaver, porcupines, rabbits, mice and rodents. Note: there are no known native occurrences of Fremont cottonwood (*P. fremontii* ssp. *fremontii*) in Colorado.

Populus x acuminata Rydb. (pro sp.)

Lanceleaf cottonwood

Salicaceae



Matt Lavin



Matt Lavin



USDA-NRCS PLANTS Database Britton & Brown 1913



Matt Lavin

Wetland Status AW: FAC
Native Status: Native
Conservation Status: GNA
C-Value: 5
Duration: Perennial
Elevation: 4,800 ft.–8,500 ft.
Synonyms: None
USDA PLANTS Symbol: POACS

Key Characteristics:

- ◆ Trees to 25 m tall; **bark furrowed; dioecious** (male and female flowers on separate plants)
- ◆ **Terminal buds less than 15 mm long, slightly resinous, not aromatic**
- ◆ Leaf blades 6.0–9.0 cm long x 5.0–6.0 cm wide, tapering to a point
- ◆ Leaf margins coarsely crenate, leaves equally green above and below, pinnate venation
- ◆ **Petioles grooved on upper side, not twisted**

Similar Species: *P. x acuminata* is a hybrid between *P. angustifolia* and *P. deltoides* so it can resemble either one. *P. x acuminata* is a hybrid between *P. angustifolia* and *P. deltoides* so it can resemble either one. *P. balsamifera* leaves resemble *P. x acuminata*, but the terminal buds are very resinous.

Habitat and Ecology: Found on floodplains, along creeks and streams.

Comments: Cottonwoods provides habitat, cover and food for a diversity of wildlife that includes squirrels, beavers, bears, white-tailed deer, and many bird species. Twigs and leaves are browsed by rabbits, deer, and moose and buds and catkins are eaten by quail and grouse. Beaver cut all sizes of cottonwoods to build and maintain lodges and dams and use the bark for immediate food or storage in winter caches.

Salix amygdaloides Andersson

Peachleaf willow

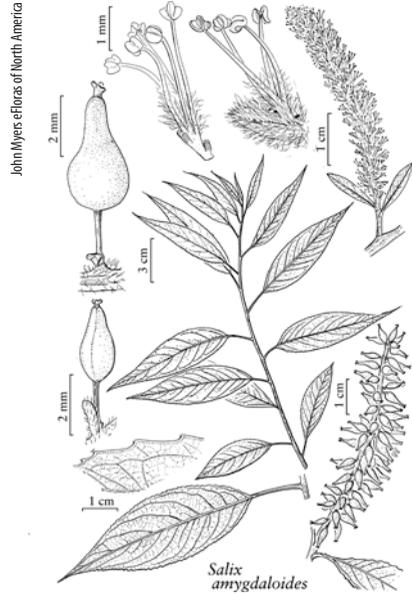
Salicaceae



Denise Culver Colorado Natural Heritage Program



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Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 5
Duration: Perennial
Elevation: 3,470 ft.-8,000 ft.
Synonyms: None
USDA PLANTS Symbol: SAAM2

Key Characteristics:

- ◆ Trees 12-20 (30) m tall, **crooked; bark shaggy; bud scales with free overlapping margins**
- ◆ **Leaves glaucous on underside, lanceolate to ovate, serrulate; petioles drooping, 5-21 mm long**
- ◆ Catkins appear with leaves, 2.5-11 cm long; peduncles 0.4-6 cm long, leafy
- ◆ **Capsules glabrous, 3-5.5 mm long; stipes 1.2-3.2 mm long**
- ◆ Flower bracts pale, deciduous in fruit

Similar Species: *S. fragilis* has duck bill-shaped bud scales and yellow branchlets. *S. gooddingii* has green, non-glaucous leaves.

Habitat and Ecology: Common along streams, pond edges, marshes, seeps and floodplains. Grows from the foothills to lower montane.

Comments: Willows are extremely important browse for moose, deer and elk, provide cover for nongame birds, game birds, waterfowl, small mammals, amphibians, and nesting habitat for migratory passerines. Willows stabilize streambanks, shade stream and river margins, and contribute organic matter and food (e.g. leaves and insects) to adjacent water bodies.

***Salix exigua* Nutt.**
Narrowleaf or coyote willow

Salicaceae



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Pam Smith Colorado Natural Heritage Program



Jeanne R. Jamish Vascular Plants of the Pacific Northwest

Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 3
Duration: Perennial
Elevation: 3,350 ft.-9,600 ft.
Synonyms: None
USDA PLANTS Symbol: SAEX

Key Characteristics:

- ◆ Shrubs, (1) 2-3 m tall, **spreading underground, forming thickets**
- ◆ **Leaves linear, 4-16 cm long x 0.3-1.1 (2) cm wide, pale or grayish-green**

- ◆ Catkins 1.5-10 cm long, appearing with or after leaves
- ◆ Capsules glabrous, 3-5 (7) mm long; stipes absent or very short, 0-2 mm long
- ◆ Flower bracts yellow, pointed, hairy, deciduous

Similar Species: *S. melanopsis* has bright green leaves, older leaves are glabrous and the flower bracts have rounded or blunt tips. *S. melanopsis* is only known from central Colorado.

Habitat and Ecology: Abundant and common along streams and rivers, ditches and floodplains throughout Colorado.

Comments: Narrowleaf or coyote willow has perhaps the greatest range of all willows, from the Yukon River in Alaska to the Mississippi river in southern Louisiana, east to west in North America.

***Salix fragilis* L.**
Crack willow

Salicaceae



Matt Lavin



Matt Lavin

Key Characteristics:

- ◆ Trees up to 25 m tall, trunk up to 1 m thick; branches stout, yellow/brown, very brittle at bases
- ◆ Leaves glaucous on underside, glandular serrate, 7-17 cm x 1.7-3.5 cm; petioles 7-20 mm long
- ◆ Catkins appear with leaves, 2-8 cm long; peduncles 1-5 cm long, leafy

Similar Species: *S. amygdaloides* has bud scales with free overlapping margins, leaves that typically droop on each side of branchlets and does not have yellow branches. *Populus angustifolia* saplings can be mistaken for *S. fragilis*. Look at bud scales and catkins if available.

Habitat and Ecology: Naturalized trees, very common along streams and pond edges in plains, foothills and lower montane regions.

Comments: *S. fragilis* is a non-native plant that has become naturalized in the U.S. Naturalized plants have become established in areas other than their place of origin. Naturalized plants can end up crowding out native plants. If feasible, managers should consider eradication. Called crack willow because the twigs easily break off at the base, especially in the spring. Introduced in colonial times to provide charcoal for gunpowder and as a shade tree.



Matt Lavin

Wetland Status AW: FAC
Native Status: Non-native
Conservation Status: GNR
C-Value: 0
Duration: Perennial
Elevation: 4,700 ft.-9,000 ft.
Synonyms: None
USDA PLANTS Symbol: SAFR

- ◆ Capsules glabrous, 4-5.5 mm long; stipes 0.5-1 mm long
- ◆ Bud scales duck bill-like, margins fused; flower bracts pale and deciduous in fruit

Salix geyeriana Andersson

Geyer willow

Salicaceae



Liz Makings Arizona State University Herbarium



Steve Matson CalPhotos

John Myers eFloras of North America



Wetland Status AW: OBL
Native Status: Native
Conservation Status: G5
C-Value: 6
Duration: Perennial
Elevation: 5,800 ft.-10,000 ft.
Synonyms: None
USDA PLANTS Symbol: SAGE2

Key Characteristics:

- ◆ Shrubs, (1) 1.5-7 m; **first year branchlets pruinose**
- ◆ Leaves narrow, 2-6 cm long x 0.6-1.5 cm wide, entire, hairy on both sides; petioles 2-9 mm long
- ◆ Catkins appear with leaves, 0.6-2 (2.5) long; peduncles 0.1-1.8 cm long, leafy
- ◆ **Capsules 3-6 mm long, short, hairy**; stipes 0.3-1.2 mm long
- ◆ Flower bracts pale, persistent in fruit

Similar Species: *S. drummondiana* leaves are densely hairy and the catkins lack leafy peduncles. *S. irrorata* has glabrous or glabrate leaves, glabrous capsules and the previous year's branches are pruinose.

Habitat and Ecology: Common in moist meadows, along streams, pond borders and irrigated pastures.

Comments: *S. geyeriana* often takes on the look of a *f--mushroomf--* after intense grazing by livestock or wildlife. Willows are extremely important browse for moose, deer and elk, provide cover for nongame birds, game birds, waterfowl, small mammals, amphibians, and nesting habitat for migratory passerines. Willows stabilize stream-banks, shade stream and river margins, and contribute organic matter and food (e.g. leaves and insects) to adjacent water bodies.

Salix irrorata Andersson

Bluestem or dewystem willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



Allison Shaw Colorado Natural Heritage Program



John Myers Flora of North America



Denise Culver Colorado Natural Heritage Program

Wetland Status AW: FACW
Native Status: Native
Conservation Status: G4G5
C-Value: 7
Duration: Perennial
Elevation: 5,100 ft.-10,000 ft.
Synonyms: None
USDA PLANTS Symbol: SAIR

Key Characteristics:

- ◆ Tall shrubs, 2-7 m high; **branchlets strongly pruinose on previous year's twigs**
- ◆ Leaves 4.7-11.5 cm long x 0.8-2.2 cm wide, glaucous on underside, glabrous or sparsely hairy

- ◆ **Catkins appear before leaves**, 1.8-4.2 cm long; peduncles 0-0.5 cm long, leafy
- ◆ **Capsules glabrous**, 3-5 mm long; stipes 0.3-1.2 mm long
- ◆ **Flower bracts dark, persistent in fruit**

Similar Species: *S. drummondiana* has hairy capsules and leaves with dense silver hairs on the underside.

Habitat and Ecology: Grows along creeks and streams, canyon bottoms.

Comments: The global range includes Wyoming, Colorado, Arizona and New Mexico. Willows, especially those with early spring catkins, provide nectar to native bees and honey bees before other food sources are available. Willows stabilize streambanks, shade stream and river margins, and contribute organic matter and food (e.g. leaves and insects) to adjacent water bodies.

***Salix ligulifolia* (C.R. Ball) C.R. Ball ex C.K. Schneid.**
Strapleaf willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



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Key Characteristics:

- ◆ Shrubs to 6 m tall; **year old branchlets predominantly reddish-brown on top, yellow underneath**
- ◆ **Leaves strap-shaped**, glaucous, 5-10 (12) cm x 1-2.5 (3.5) cm; petioles 3-12 (15) mm long

Similar Species: *S. eriocephala* is a complex of six taxa that gradually intergrade where their ranges overlap. For Colorado, these include: *S. lutea* and *S. ligulifolia*. *S. lutea* is distinguished from *S. ligulifolia* by leaves with serrate margins, longer stipes (0.8-2 (4) mm long) and previous year's branchlets that are not reddish.

Habitat and Ecology: Common along floodplains, streams and next to springs.

Comments: Willows are extremely important browse for moose, deer and elk, provide cover for nongame birds, game birds, waterfowl, small mammals, amphibians, and nesting habitat for migratory passerines. Willows stabilize streambanks, shade stream and river margins, and contribute organic matter and food (e.g. leaves and insects) to adjacent water bodies.

Wetland Status AW: FACW

Native Status: Native

Conservation Status: G5

C-Value: 7

Duration: Perennial

Elevation: 4,500 ft.-10,000 ft.

Synonyms: *Salix eriocephala* Michx. var. *ligulifolia* (C.R. Ball) Dorn, *Salix lutea* Nutt. var. *ligulifolia* C.R. Ball

USDA PLANTS Symbol: SALI

- ◆ **Catkins appear with leaves**, 2-6 cm long; peduncles 0-0.9 cm long, leafy when present
- ◆ **Capsules glabrous**, 3.5-6 mm long; stipes 0.5-2 (2.5) mm long,
- ◆ **Flower bracts dark**, persistent in fruit

***Salix lucida* Muhl.**
Greenleaf, shining, or Pacific willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



Pam Smith Colorado Natural Heritage Program

John Myers Flora of North America



Wetland Status AW: FACW
Native Status: Native
Conservation Status: G5
C-Value: 7
Duration: Perennial
Elevation: 4,200 ft.-9,000 ft.
Synonyms: *Salix lasiandra* Benth.
USDA PLANTS Symbol: SALU

Key Characteristics:

- ◆ Shrubs or trees (2) 3-6 (12) m tall, smooth, gray bark becoming dark and fissured in larger individuals
- ◆ **Leaves may be glaucous on underside, tips long acuminate, glands on bases;** petioles 13-30 mm long
- ◆ Catkins appear with leaves, 1.7-10 cm long; peduncles 0.8-6.5 cm long, leafy
- ◆ **Capsules glabrous,** 4-7 mm long; stipes 0.5-4 mm long
- ◆ **Flower bracts pale,** deciduous in fruit

Similar Species: Two varieties of *S. lucida* occur in Colorado: 1a. Leaves about equally green above and below, underside of leaves not glaucous, leaf tips long-acuminate (2 cm or more), capsules 4-7 mm long, greenish-brown... *S. lucida* var. *caudata* (= *S. lasiandra* var. *caudata*). 1b. Leaves paler below than above, underside of leaves glaucous, leaf tips long acuminate, capsules mostly 4-7 mm long, greenish-brown... *S. lucida* var. *lasiandra* (= *S. lasiandra* var. *lasiandra*).

Habitat and Ecology: Common along rivers, creeks and streams, abandoned oxbow bends and sloughs. The bright yellow male catkins in May/June are a good diagnostic character.

Comments: Common from Alaska to the Midwestern United States.

***Salix lutea* Nutt.**
Yellow willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



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John Myers eFloras of North America

Salix lutea

Wetland Status AW: OBL

Native Status: Native

Conservation Status: G4G5

C-Value: 6

Duration: Perennial

Elevation: 3,690 ft.–8,900 ft.

Synonyms: *Salix eriocephala* Michx. var. *famelica* (C.R. Ball) Dorn, *Salix eriocephala* Michx. var. *watsonii* (Bebb) Dorn

USDA PLANTS Symbol: SALU2

Key Characteristics:

- ◆ Shrubs, up to 8 m high; year old branchlets yellowish or greenish- or reddish-brown
- ◆ **Leaves glaucous on underside**, (3.5) 4–8 (11) cm x (0.8) 1–3 (4.5) cm; petioles 4–15 (25) mm long
- ◆ Catkins appear slightly before or with leaves, 1–6 cm long; peduncles 0–0.7 (1.7) cm long, leafy
- ◆ **Capsules glabrous**, 3–5.5 mm long; stipes (1) 1.5–4 (4.5) mm long
- ◆ **Flower bracts dark**, persistent in fruit

Similar Species: *S. eriocephala* is a complex of six taxa that gradually intergrade where their ranges overlap. For Colorado, these include: *S. lutea* and *S. ligulifolia*. *S. ligulifolia* (= *S. eriocephala* var. *ligulifolia*) has leaves that are distinctly toothed and dull above and branches that are usually reddish above and yellow below.

Habitat and Ecology: Uncommon willow that occurs along streams and floodplains.

Comments: Willows, especially those with early spring catkins, provide nectar to native bees and honey bees before other food sources are available. Willows stabilize streambanks, shade stream and river margins, and contribute organic matter and food to adjacent waters

Tamarix chinensis Lour.

Saltcedar

Tamaricaceae

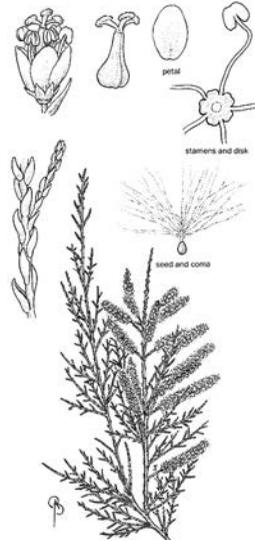


Michael H. Cota Flickr Creative Commons



Al Schneider Southwestern Colorado Wildflowers

Bobbi Angell Vascular Plants of the Pacific Northwest



Wetland Status AW: FAC
Native Status: Non-native, CO Noxious Weed List B
Conservation Status: GNR
C-Value: 0
Duration: Perennial
Elevation: 3,390 ft.–8,000 ft.
Synonyms: *Tamarix pentandra* Pall., *Tamarix ramosissima* Ledebour
USDA PLANTS Symbol: TACH2

Key Characteristics:

- ◆ Shrubs or small trees 2–8 m tall, **many stemmed with slender branches**, forming thickets
- ◆ Bark on stems and branches reddish–brown
- ◆ **Leaves small, scale-like, 1–3 mm long**

Similar Species: *T. parviflora* is not as common and has 4–merous flowers appearing before the leaves and has dark brown branches.

Habitat and Ecology: Common along streams and lake margins and reservoirs on the Eastern and Western Slopes where it has escaped cultivation.

Comments: *T. chinensis* is designated as a List B species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manager to verify identification. Once confirmed, control methods will be discussed. Tamarisk is an aggressive, non-native shrub that can thrive along low-order streams. It is a prolific seed producer, becoming a monoculture throughout lower elevation rivers (e.g., Colorado, South Platte and Arkansas Rivers). The release of the tamarisk leaf beetle (*Diorhabda* spp.) has proven to be an effective biological control on the invasive shrub. However, the Southwestern Willow Flycatcher does nests in both tamarisk and willow riparian shrublands.

- ◆ Flowers pink to white, very small, 5 petals, 1.4–2.5 mm long, appearing with and after leaves
- ◆ Capsules lance-subulate, 3–4 mm long

Glossary

(Adapted from *Plant Identification Terminology: An Illustrated Glossary*. Second Edition. 2003. James G. Harris and Melinda Woolf Harris, *Colorado Flora, Eastern and Western Slopes*. Fourth Editions. 2012. William A. Weber and Ronald C. Wittmann, and Flora of Colorado. 2015. Jennifer Ackerfied.)

- Acaulescent** – Without a stem, or the stem so short that the leaves are apparently all basal, as in the dandelion.
- Achene** – A small, dry, hard, one-celled, one-seeded, indehiscent fruit with the seed attached to the pericarp at one point.
- Actinomorphic** – Radially symmetrical, so that a line drawn through the middle of the structure along any plane will produce a mirror image on either side.
- Acuminate** – Tapering to a pointed apex with concave sides along the tip.
- Acute** – Tapering to a pointed apex with more or less straight sides.
- Adnate** – Fusion of unlike parts, as the stamens to the corolla.
- Adventive** – Not native and not fully established; locally or temporarily naturalized.
- Alien (=Exotic)** – A species that is non-native to the region or state, introduced by accident or spreading after being deliberately planted for another purpose.
- Androgynous** – With both staminate and pistillate flowers, the staminate flowers borne above the pistillate (as in some *Carex* spp.).
- Anther** – The expanded, apical, pollen-bearing portion of the stamen.
- Apical** – Located at the apex or tip.
- Attenuate** – Tapering gradually to a narrow tip or base.
- Auricle** – A small, ear-shaped appendage.
- Auriculate** – With auricles.
- Awn** – A bristle-shaped appendage.
- Basal** – Positioned at or arising from the base, as leaves arising from the base of the stem.
- Beak** – A narrow or prolonged tip, as on some fruits and seeds.
- Bidentate** – With two teeth.
- Bifid** – Deeply two-cleft or two-lobed, usually from the tip.
- Bipinnate** – Twice pinnate; with the divisions again pinnately divided.
- Bipinnatifid** – Twice pinnately cleft.
- Blade** – The broad, usually flat part of a leaf.
- Bract** – A modified leaf subtending a spike or inflorescence.
- Bractlet** – A small bract, often secondary in nature.
- Callus** – A hard thickening or protuberance; the thickened basal extension of the lemma in many grasses.
- Calyx** – The outer perianth whorl; collective term for all of the sepals of a flower.
- Campanulate** – Bell-shaped.
- Canescent** – Gray or white in color due to a covering of short, fine gray or white hairs.
- Capsule** – A dry, dehiscent fruit composed of more than one carpel.
- Carpophore** – A slender prolongation of the receptacle or carpel forming a central axis between the carpels, as in the fruits of some members of the Apiaceae and the Geraniaceae.
- Caruncle** – A protuberance or appendage near the scar on a seed marking the attachment of a seed (as in grasses).
- Catkin** – An inflorescence consisting of a dense spike or raceme of apetalous, unisexual flowers as in Salicaceae and Betulaceae; an ament.
- Cauliscent** – With an obvious leafy stem rising above the ground.
- Cauline** – Of or on the stem.
- Cespitose (Caespitose)** – Growing in dense tufts.
- Ciliate** – With a marginal fringe of hairs.
- Ciliolate** – With a marginal fringe of minute hairs.
- Clavate** – Club-shaped, gradually widening toward the apex.

- Cleistogamous** – Flowers which self-fertilize without opening.
- Coma** – A tuft of hairs, especially on the tip of a seed.
- Connate** – Fusion of like parts, as the fusion of staminal filaments into a tube.
- Cordate** – Heart-shaped, with the notch at the base.
- Coriaceous** – With a leathery texture.
- Corolla** – The collective name for all the petals of a flower; the inner perianth whorl.
- Corona** – Petal-like or crown-like structures between the petals and stamens in some flowers.
- Corymb** – A flat-topped or round-topped inflorescence, racemose, but with the lower pedicels longer than the upper.
- Corymbiform** – An inflorescence with the general appearance, but not necessarily the structure, of a true corymb.
- Crenate** – Rounded teeth along the margin.
- Culm** – A hollow or pithy stalk or stem, as in the grasses, sedges, and rushes.
- Cyathium** – An inflorescence consisting of a cup-like involucre containing a single pistil and male flowers with a single stamen; as in the *Euphorbia*.
- Cyme** – A flat-topped or round-topped determinate inflorescence, paniculate, in which the terminal flower blooms first.
- Deciduous** – Falling off; not evergreen; not persistent.
- Decumbent** – Reclining on the ground but with the tip ascending.
- Decurrent** – Extending downward from the point of insertion, as a leaf base that extends down along the stem.
- Dentate** – Toothed along the margin, the teeth directed outward rather than forward.
- Dichotomous** – Branched or forked into two more or less equal divisions.
- Dimorphic** – With two different sized parts or positions of parts; with two forms.
- Dioecious** – Flowers imperfect, the staminate and pistillate flowers borne on different plants.
- Discoid** – Resembling a disk.
- Distal** – end opposite point of attachment, point further away from base of plant.
- Divaricate** – Widely diverging or spreading apart.
- Drupe** – A fleshy, indehiscent fruit with a stony endocarp usually surrounding a single seed, as in a peach or cherry.
- Eglandular** – Without glands.
- Elliptic** – In the shape of an ellipse, or a narrow oval; broadest at the middle and narrower at the two equal ends.
- Emergent** – Rising out of water.
- Emersed** – Standing out of or rising above water surface.
- Endemic** – Peculiar to a specific geographic area or edaphic type.
- Ensiform** – Sword-shaped.
- Equitant** – Folded along midrib with fused margins toward the tips; overlapping or straddling in two ranks, as the leaves of *Iris*.
- Erose** – Margin irregularly toothed, as if gnawed.
- Eutrophication** – Process by which a body of water becomes enriched in dissolved nutrients that stimulate growth of aquatic plant life resulting in the depletion of dissolved oxygen.
- Exotic (=alien)** – A species that is non-native to the region or state, introduced by accident or spreading after being deliberately planted for another purpose.
- Farinose** – Mealy in texture.
- Filiform** – Thread-like; filamentous.
- Foliaceous** – Leaf-like in color and texture; bearing leaves; of or pertaining to leaves.
- Follicle** – A dry, dehiscent fruit composed of a single carpel and opening along a single side, as a milkweed pod.
- Frond** – The leaf or leaf-like part of a palm or a fern often with many divisions.
- Fusiform** – Spindle-shaped; broadest near the middle and tapering toward both ends.

- Geniculate – Abrupt knee-like bends or joints.
- Gibbous – Swollen or enlarged on one side.
- Glabrate – Becoming glabrous, almost glabrous.
- Glabrous – Smooth; hairless.
- Glandular – With small granules or grains.
- Glaucous – With a waxy bluish or whitish covering.
- Glomerule – A dense cluster; a dense head-like cyme.
- Gynecandrous – With the pistillate flowers borne above the staminate.
- Habit – General appearance or form of a plant i.e., erect, prostrate.
- Halophyte – a plant that grows in waters of high salinity.
- Hastate – Arrowhead shaped with basal lobes turned outward.
- Hirsute – Pubescent with coarse, stiff hairs.
- Hispid – Rough with firm, stiff hairs.
- Hyaline – Thin, membranous and translucent or transparent.
- Hypanthium – A cup-shaped extension of the floral axis usually formed from the union of the basal parts of the calyx, corolla, and androecium, commonly surrounding or enclosing the pistils.
- Imbricate – Overlapping like tiles or shingles on a roof.
- Inflorescence – The flowering part of a plant; the arrangement of the flowers on the flowering axis.
- Invasive Species – A species that is non-native to the ecosystem, whose introduction causes or is likely to cause economic or environmental harm.
- Involucel – A small involucre; a secondary involucre, as in the bracts of the secondary umbels in the Apiaceae.
- Involucre – A whorl of bracts subtending a flower or flower cluster.
- Involute – With the margins rolled inward toward the upper side.
- Keel – A prominent longitudinal ridge, like the keel of a boat.
- Lax – Loose; with parts open and spreading, not compact.
- Lenticels – A slightly raised somewhat corky, often lens-shaped area on the surface of a young stem.
- Lenticular – Lentil shaped (lens-shaped); biconvex.
- Ligule – A strap shaped organ; the flattened part of the ray corolla in the Asteraceae; a membranous appendage arising from the inner surface of the leaf at a junction with the leaf sheath in many grasses and some sedges; a tongue-like projection at the base of leaves above the sporangia in *Isoetes*.
- Locule – The cavity of an organ, as in the cell of an ovary containing the seed or the pollen bearing compartment.
- Monoecious – Flowers imperfect, the staminate and pistillate flowers borne on the same plant.
- Monospecific – A genus which contains only one known species.
- Mucronate – Tipped with a short, sharp, abrupt point (mucro).
- Native Plant – A plant species that occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions.
- Nectary Scale (as in Ranunculaceae) – The scale that subtends the nectary which contains a sugary, sticky fluid secreted by glands.
- Nerve – A prominent, simple vein or rib of a leaf or other organ.
- Oblique – With unequal sides.
- Obconic – Conical or cone-shaped, with the attachment at the narrow end.
- Obovate – Inversely ovate, with the attachment at the narrower end.
- Ocrea (Ocreae) – Sheath around the stem formed from stipules and is found in members of the Polygonaceae.
- Oil Tube – Narrow ducts in the walls of the fruit of many members of the Apiaceae containing volatile oils.

- Oligotrophic** – Waters with a low concentration of plant nutrients that is usually accompanied by an abundance of dissolved oxygen.
- Ovate** – Egg-shaped in outline and attached at the broad end (applied to plane surfaces).
- Palea** – A chaffy scale or bract; the uppermost of the two bracts (lemma and palea) which subtend a grass floret.
- Panicle** – A branched, racemose inflorescence with flowers maturing from the bottom upwards.
- Paniculiform** – An inflorescence with the general appearance, but not necessarily the structure of a true panicle.
- Papilla (Pappilae)** – A short, rounded nipple-like bump or projection.
- Pappus (Pappi)** – The modified calyx of the Asteraceae, consisting of awns, scales, or bristles at the apex of the achene.
- Pedicel** – The stalk of a single flower in an inflorescence, or of a grass spikelet.
- Peduncle** – The stalk of a solitary flower or of an inflorescence.
- Pedunculate** – With a peduncle.
- Peltate** – Shield-shaped; a flat structure borne on a stalk attached to the lower surface rather than to the base or margin.
- Perfect** – With both male and female reproductive organs (stamens and pistils); bisexual.
- Perianth** – The calyx and corolla of a flower, collectively, especially when they are similar in appearance.
- Perigynium (Perigynia)** – An inflated sac-like structure enclosing the ovary (achene) in the genus *Carex*.
- Petal** – An individual segment or member of the corolla, usually colored or white.
- Petaloid** – Petal-like in appearance.
- Petiolule** – The stalk of a leaflet of a compound leaf.
- Phyllary** – An involucre bract found in the Asteraceae.
- Physiognomy** – Using the structure of a plant as the basis for its classification.
- Pilose** – Bearing long, soft, straight hairs.
- Pinnate** – Resembling a feather, as in a compound leaf with leaflets arranged on opposite sides of an elongated axis.
- Pinnatifid** – Pinnately cleft or lobed half the distance or more to the midrib, but not reaching the midrib.
- Plano-convex** – Flat on one side and convex on the other.
- Plumose** – Feathery; with hairs or fine bristles on both sides of a main axis, as a plume.
- Polygamous** – With unisexual and bisexual flowers on same plant.
- Procumbent** – Lying or trailing on the ground, but not rooting at the nodes.
- Prophyll** – One of the paired bracteoles subtending the flowers in some *Juncus* spp.
- Prostrate** – Lying flat on the ground.
- Proximal** – End closest to point of attachment, or point closest to base of plant.
- Pruinose** – With a waxy, powdery, usually whitish coating (bloom) on the surface; conspicuously glaucous, like a prune.
- Puberlent (Puberulous)** – Minutely pubescent; with fine, short hairs.
- Punctate** – Dotted with pits or with translucent, sunken glands or with colored dots.
- Raceme** – An unbranched, elongated inflorescence with pedicellate.
- Racemiform** – An inflorescence with the general appearance, but not necessarily the structure, of a true raceme.
- Rachilla** – The axis of a grass or sedge spikelet.
- Receptacle** – Tip of floral axis where sepals, petals, stamens and gynoecium are attached.
- Reflexed** – Bent backward or downward.
- Reniform** – Kidney-shaped.
- Replum** – Partition or septum between two valves or compartments of silicles or siliques in the Brassicaceae.

- Resupinate – upside down, facing upward.
- Reticulate – In the form of a network; net veined.
- Retrorse – Directed downward or backward.
- Retuse – With a shallow notch in a round or blunt apex.
- Revolute – With the margins rolled backward toward the underside.
- Runcinate – Sharply pinnatifid or cleft, the segments directed downward.
- Sagittate – Arrowhead shaped with basal lobes downward.
- Scabrous – Rough to the touch, due to the structure of the epidermal cells, or to the presence of short, stiff hairs.
- Scape – Leafless peduncle arising from ground level often from a basal rosette in acaulescent plants.
- Scarios – Thin, dry, and membranous in texture, not green.
- Secund – Arranged on one side of the axis only.
- Sepal – A segment of the calyx.
- Septate-nodulose – Divided by small transverse knobs or nodules.
- Septum – A partition, as the partitions separating the locules of an ovary.
- Serrate – Saw-like; toothed along the margin, the sharp teeth pointing forward.
- Sheath – The basal portion of the rush, sedge, or grass leaf that forms a tubular cover surrounding the stem; the portion of an organ which surrounds, at least partly, another organ, as the leaf of a base of a grass surrounds the stem.
- Silicle – A dry, dehiscent fruit of the Brassicaceae, typically less than twice as long as wide, with two valves separating from the persistent placentae and septum.
- Silique – A dry dehiscent fruit of the Brassicaceae, typically more than twice as long as wide, with two valves separating from the persistent placentae and septum.
- Spathe – A bract or pair of bracts that enclose an inflorescence.
- Spatulate – Like a spatula in shape, with a rounded blade above gradually tapering.
- Spiciform – spike-shaped.
- Spike – An unbranched, elongated inflorescence with sessile or subsessile flowers or spikelets.
- Squarrose – Abruptly recurved or spreading above the base; rough or scurfy due to the presence of recurved or spreading bracts.
- Stigma – The portion of the pistil which is receptive to pollen.
- Stipitate – Borne on a stipe or stalk.
- Stipule – One of a pair of leaf-like appendages found at the base of the petiole in some leaves.
- Stramineous – Straw-like in color or texture.
- Style – The usually narrowed portion of the pistil connecting the stigma to the ovary.
- Stylopodium – A disc-like expansion or enlargement at the base of the style in the Apiaceae family.
- Submersed – Covered with water, adapted to grow under water.
- Subulate – Awl-shaped.
- Synoeious – With staminate and pistillate flowers together in same head.
- Tepals – Perianth segment not differentiated into petals and sepals (corolla or calyx).
- Terete – Round in cross section; cylindrical.
- Ternate – In threes, as a leaf which is divided into three leaflets.
- Thallus – An expanded “stem” that functions as a leaf; as in *Lemna*.
- Thryse – A compact, cylindrical, or ovate panicle with an indeterminate main axis and cymose sub-axes.
- Tomentose – With a covering of short, matted or tangled, soft, wooly hairs; with tomentum.
- Torulose – Slightly torose (cylindrical with alternate swellings and contractions) like a small fruit with constrictions between the seeds.

Trichome – A hair or hair-like outgrowth of the epidermis.

Trigonus – Three-angled.

Tripinnate – Pinnately compound three times, with pinnate pinnules.

Truncate – With apex or base squared at the end as if cut off.

Tubercles – Small, tuber-like swelling at base of style as in *Eleocharis*.

Turions – Small, fleshy, scaly shoot or winter bud.

Umbel – A flat-topped or convex inflorescence with the pedicels arising more or less from a common point, like the struts of an umbrella; a highly condensed raceme.

Villous – Bearing long, soft, shaggy, but unmatted, hairs.

Wing – A thin, flat appendage or the border of an organ.

Zygomorphic – Bilaterally symmetrical, so that a line drawn through the middle of the flower along only one plane will produce a mirror image.

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