

Common Wetland Plants of Colorado's Eastern Plains A Pocket Guide

Second Edition

Prepared for:

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2018

Acknowledgements:

The *Common Wetland Plants of the Eastern Plains: A Pocket Guide*, First Edition, was funded by an U.S. Environmental Protection Agency, Region 8, Wetland Program Development Grant (CD 968121212) with oversight from Mitra Jha and Cynthia Gonzales. Brian Sullivan, Colorado Parks and Wildlife Wetlands Program Coordinator, and Colorado State University provided in-kind match. The Second Edition was funded by an U.S. Environmental Protection Agency, Region 8, Wetlands Program Development Grant (CD 96852201).

Funding for the printing of the second edition was provided in part by Tass Kelso and George Maentz.



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Printed by: Frederic Printing, Aurora, Colorado

Front Cover Photographs: playa-Denise Culver, northern water plantain-Neal Kramer, Baltic rush-Keir Morse, alkali buttercup-Steve Matson, Nebraska sedge-Trent M. Draper, smartweed-Matt Below

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Introduction to Second Edition:

In 2014, the first pocket guide was completed and distributed. Since then, I have made numerous edits and added 29 species that are found commonly occur in Colorado's eastern plains wetlands. Special thanks to Sierra Crumbaker who helped with edits and the index for the second edition. Thanks to all who have submitted comments and corrections on the first edition.

Introduction to Eastern Plains Wetlands

Wetlands in eastern Colorado?! Wetlands are likely the last habitat type that comes to mind for our eastern plains. Typically, grasses are considered the most conspicuous vegetation of the shortgrass prairie. However, wetland and riparian plants, while not as prevalent as grasses, are crucial to the overall functioning of this prairie ecosystem. Wetland vegetation provides food, cover, and shelter for waterfowl, shorebirds, amphibians, fish, and mammals. Wetland vegetation also stabilizes highly erodible prairie soils, while filtering sediments and toxicants from agricultural and municipal runoff. Wetland plants are key to providing quality waterfowl and wildlife habitat within an otherwise semi-arid landscape.

How can wetlands even exist in eastern Colorado with an average rainfall of less than 12 inches per year? The majority of precipitation on the plains falls during the growing season – 70 to 80 percent between April and September. The rolling plains and hills are dissected by large rivers, streams, and canyons that funnel rainwater towards the larger rivers. The South Platte and Arkansas Rivers gather rainwater and snowmelt runoff as they flow east from the Continental Divide towards the Gulf of Mexico. Their wide floodplains create warm-water sloughs and river edges fringed by marsh vegetation. Additionally the eastern plains support thousands of playas that retain water from spring and summer rains. This network of wetlands from marshes to playas creates a pathway for migrating waterfowl and shorebirds, as well as habitat for permanent residents such as wintering ducks, Canada geese, and amphibians.



South Platte River. Wikimedia Commons.

The *Common Wetland Plants of Colorado's Eastern Plains: A Pocket Guide* highlights the common wetland plants, both native and non-native, located within the U.S Army Corp of Engineers Great Plains ecoregion boundary (Figure 1). The pocket guide is designed to help landowners and other wetland managers correctly identify common wetland plants, manage for preferred species, and control noxious ones. Management techniques such as mowing, prescribed burning, periodic flooding and drawdown, herbicides, and grazing are discussed for applicable plants. For a comprehensive guide to all of the State's wetland plants, refer to the *Field Guide to Colorado's Wetland Plants: Identification, Ecology and Conservation* (Culver and Lemly 2013). CNHP has also produced pocket guides for Colorado's Southern Rocky Mountains (Culver 2018a) and Western Slope (Culver 2018b).

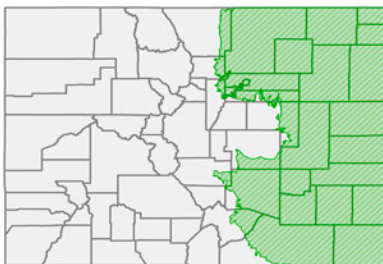


Figure 1. Geographic Range included in Pocket Guide.

Wetland Definitions and Criteria for Identification

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. In eastern Colorado, the list of wetland types include: marsh, wet meadow (natural/irrigated), playa, and riparian (slough) wetlands.

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 (EPA) 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 Great Plains Regional Supplements (e.g., USACE 2010a). 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.

Wetland Plants

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 that obtain a significant portion of their water from groundwater (e.g., cottonwoods, alders or willows). Phreatophytes are typically found along rivers and streams where the groundwater is near the surface.

Wetland plants are at the base of the food chain and thus are a major component of energy flow within a wetland. They provide habitat and influence water chemistry, acting as both a nutrient sink through uptake, and as a nutrient pump by moving compounds from sediment into the water column, thus improving water quality (Reddy et al. 1983, Reddy and DeBusk 1987). Plants also influence the sediment and hydrologic regime by stabilizing shorelines and mitigating peak floodwaters.

To create a common classification system for hydrophytic plant species, the USFWS developed the first National Wetland Plant List (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 USACE 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 National Wetland Plant List 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 1). 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) (Figure 2).

Table 1. 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

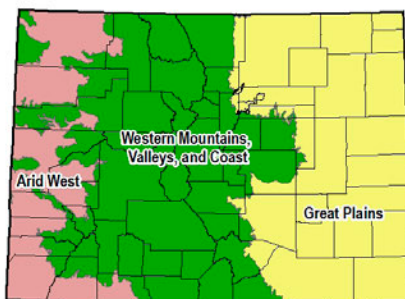


Figure 2. U.S. Army Corp of Engineers Geographic Regions within Colorado.

Eastern Plains Wetland Types

Marshes form in depressions created by landscape processes such as water and wind or by human activities (e.g., gravel mining, stock ponds, recharge ponds). They typically contain standing water in spring and early summer, are frequently or continually inundated, and are characterized by emergent herbaceous vegetation. They form in depressions in the landscape or as fringes around lakes. Marshes typically have mineral soils, but can also accumulate organic material in the top soil horizon, but not enough to form true organic soil. Vegetation is usually classified as emergent, such as cattails and bulrushes, or submerged or floating leaf plants, such as pondweed, smartweed, and duckweed. In the eastern plains, most marshes occur around impoundments, recharge ponds, and reservoirs.

Marshes provide excellent habitat and forage for waterfowl and shorebirds. A variety of wetland obligate songbirds live in marshes, including Marsh Wren (*Cistothorus palustris*), Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) and Red-winged Blackbird (*Agelaius phoeniceus*). Marsh complexes are some of the most productive waterbird areas in eastern Colorado, especially along the South Platte floodplain. They provide food and cover for numerous mammals including beaver, muskrat and other small mammals (e.g., water shrews and water voles). This type of wetland is essential for several Colorado herpetiles for either part or all of their life cycles. The most common include: tiger salamander (*Ambystoma tigrinum*), western chorus frog (*Pseudacris triseriata*), painted turtle (*Chrysemys picta*), snapping turtle (*Chelydra serpentina*), and garter snakes (*Thamnophis* spp.).



Marsh wetland. Denise Culver.

Wet meadows are the most commonly encountered wetland type in the eastern plains. They are found adjacent to rivers, ditches, or within irrigated pastures. They are dominated by graminoids (sedges, rushes, grasses) and have soils saturated near the surface in early summer, but rarely have standing water and are typically dry by the end of the growing season. In general, soils for wet meadows are mineral and demonstrate typical hydric soil characters such as low chroma and redoximorphic features. Wet meadows provide habitat and food for waterfowl, Greater Sandhill Crane (*Grus canadensis tabida*), and songbirds. Seep or spring fed wet meadows are present in the eastern plains, especially in southeastern Colorado within the Arkansas River basin. Many of these ground-water fed wetlands develop organic soils and support uncommon or rare plants.



Wet meadow at Elliott SWA. Denise Culver.

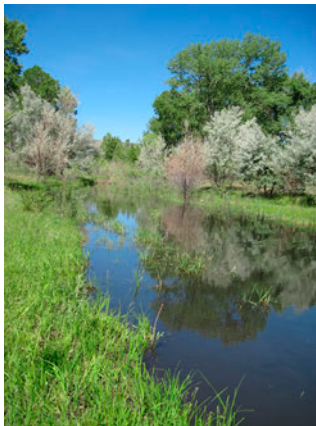
Playas are found throughout eastern Colorado. They are freshwater, shallow, depressional wetlands with clay-lined basins that periodically become inundated from rainfall and surface runoff, not from groundwater discharge. These wetlands are small, shallow, and generally isolated in an extremely localized watershed, although they are often a part of a larger complex of shallow water wetlands. Playas are characterized by irregular hydroperiods, many fill with water only occasionally and dry quickly. These fluctuations in water availability often promote diverse

herbaceous plant growth (Smith 2003, Haukos and Smith 2003). Playas serve many important ecological functions such as capturing surface runoff, recharging aquifers, and providing habitat for wildlife, especially migratory birds (Haukos and Smith 1997, Pezolesi et al. 1998). Wetland plants in playas are typically annuals that frequently change during a growing season in response to precipitation. The most commonly encountered plants include: ragweeds (*Ambrosia* spp.), goosefoots (*Chenopodium* spp.), kochia (*Bassia* spp.), spikerushes (*Eleocharis* spp.), and bulrushes (*Schoenoplectus* and *Scirpus* spp.). Bird use varies throughout the year and is determined by the wet/dry rainfall cycles. Common playa birds include: Mallard (*Anas platyrhynchos*), American Blue-winged Teal (*Anas discors*), Northern Pintail (*Anas acuta*), and shorebirds such as Long-billed Curlew (*Numenius americanus*), and American Avocet (*Recurvirostra americana*). Canada Goose (*Branta canadensis*) and Snow Goose (*Chen caerulescens*) also migrate and winter in the playa lakes region in relatively large numbers (Rocky Mountain Bird Observatory 2012).



Playa. USFWS Creative Commons.

Riparian wetlands are associated with moving water and intermittent flooding. They typically have a seasonally high water table because of their proximity to subsurface water. Riparian wetlands are commonly recognized by bottomland, flood-plain, and streambank vegetation dominated by trees and shrubs with a diverse herbaceous layer. Sloughs form in low areas along slow-flowing streams and rivers. Riparian and slough wetlands are characterized by a combination of high animal diversity and high biomass productivity. Riparian wetlands are particularly productive ecosystems, receiving large inputs of water and nutrients from upstream sources during flood events. Riparian wetlands and their associated aquatic habitat are extremely important for nutrient cycling, food chain support, and animal habitat. Riparian wetlands provide forage, thermal cover, and protection from predation, as well as nesting and brood-rearing habitat for numerous animals. The complex structure of woody vegetation with tall, medium and low shrubs, that include herbaceous understories, provide habitat structure for deer, beaver, and a large suite of landbird species (e.g. warblers, song sparrows, flycatchers, tanagers, and woodpeckers).



Slough along the South Platte River. CNHP.



Wetland-Dependent Wildlife

Wetland ecosystems support a diverse array of wildlife species that are dependent upon varied and dynamic water regimes. The interaction of plants and animals within wetlands is a particular emphasis of the Pocket Guide and wildlife use and management comments are specified on each species profile page. A list of Colorado Parks and Wildlife (CPW) priority wetland-dependent wildlife species is provided in Table 2 (CPW 2015).

Table 2. CPW Wetland-dependent Priority Wildlife Species (excluding fish).

Common Name	Scientific Name	Status*
Game Birds		
Mallard	<i>Anas platyrhynchos</i>	Tier 1
Northern Pintail	<i>Anas acuta</i>	Tier 1
American Green-winged Teal	<i>Anas crecca</i>	Tier 1
Gadwall	<i>Anas strepera</i>	Tier 1
American Wigeon	<i>Anas americana</i>	Tier 1
Blue-winged Teal	<i>Anas discors</i>	Tier 1
Cinnamon Teal	<i>Anas cyanoptera</i>	Tier 1
Lesser Scaup	<i>Aythya affinis</i>	Tier 1
Barrow's Goldeneye	<i>Bucephala islandica</i>	Tier 2
Non-game Birds		
Greater Sandhill Crane	<i>Grus canadensis tabida</i>	Tier 1
Southwestern Willow Flycatcher	<i>Empidonax trailii extimus</i>	Tier 1
Western Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Tier 1
American Bittern	<i>Botaurus lentiginosus</i>	Tier 2
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Tier 2
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Tier 2
Black Rail	<i>Laterallus jamaicensis</i>	Tier 2
Black Swift	<i>Cypseloides niger</i>	Tier 2
Black Tern	<i>Chlidonias niger</i>	Tier 2
Least Tern	<i>Sterna antillarum</i>	Tier 2
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Tier 2
Long-billed Curlew	<i>Numenius americanus</i>	Tier 2

Common Name	Scientific Name	Status*
Piping Plover	<i>Charadrius melodus circumcinctus</i>	Tier 2
Northern Harrier	<i>Circus hudsonius</i>	Tier 1
Piping Plover	<i>Charadrius melodus</i>	Tier 2
Short-eared Owl	<i>Asio flammeus</i>	Tier 2
Veery	<i>Catharus fuscescens</i>	Tier 2
Western Snowy Plover	<i>Charadrius alexandrinus</i>	Tier 2
White-faced Ibis	<i>Sphyrapicus nuchalis</i>	Tier 2
Mammals		
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	Tier 1
River Otter	<i>Lontra canadensis</i>	Tier 2
Amphibians		
Boreal Toad	<i>Anaxyrus (Bufo) boreas</i>	Tier 1
Northern Leopard Frog	<i>Lithobates (Rana) pipiens</i>	Tier 1
Plains Leopard Frog	<i>Lithobates (Rana) blairi</i>	Tier 2
Reptiles		
Black-necked Garter Snake	<i>Thamnophis cyrtopsis</i>	Tier 2
Common (Red-sided) Garter Snake	<i>Thamnophis sirtalis</i>	Tier 2
Yellow Mud Turtle	<i>Kinosternon flavescens</i>	Tier 2

*Tier 1 species are highest priority for project funding. See www.cpw.co.us/WetlandPrioritySpecies.aspx

Birds

Birds are often cited among the most visible indicators of a wetland's total productivity (Weller 1999). Eighty percent of the United States' breeding bird population and more than 50% of the 800 protected migratory bird populations rely on wetlands (Mitsch and Gooselink 2007). Wetland-dependent birds, in particular, are extremely diverse, reflecting their adaptations to these varied environments. Examples of morphological adaptations include bills that strain, peck, spear, store, and grab, as well as feet that allow swimming, diving, wading and walking on mudflats. Obligate wetland birds are species that cannot survive without water or wetland vegetation. These species forage for food, build nests and rear young in or near wetlands and spend the majority of their life cycle in the water.

Amphibians

Colorado's eastern plains are considered the most species-diverse region in Colorado for amphibians and reptiles (Rondeau et al. 2011). Nearly 80% of Colorado's native amphibians and reptiles occur in the eastern plains (Hammerson 1999), as do 45% of our native fish (Rondeau et al. 2011). Wetland and riparian plants are crucial to the survival of these wetland-dependent animals. The Northern leopard frog (*Lithobates* [= *Rana*] *pipiens*) and the plains leopard frog (*Lithobates* [= *Rana*] *blairi*) are classified by CPW as Species of Concern and by the Forest Service as Sensitive Species. Additional common amphibians that occur in Colorado's wetlands are the chorus frog (*Pseudacris maculata*), tiger salamander (*Ambystoma mavortium*) and the exotic bullfrog (*Lithobates* [= *Rana*] *catesbiana*).



Northern leopard frog. Denise Culver.

Reptiles

Only a few reptiles ranked as Species of Concern utilize wetlands, including the common garter snake (*Thamnophis sirtalis*) and the yellow mud turtle (*Kinosternon flavescens*). The common garter snake inhabits marshes, ponds, and stream edges within the lower South Platte basin (Hammerson 1999). The yellow mud turtle habitat includes permanent and intermittent streams, permanent ponds and isolated temporary ponds on the eastern plains. This species prefers aquatic habitats with sandy or muddy bottoms and areas with aquatic vegetation are preferred. The yellow mud turtle is fairly common in localized areas along the eastern margin of Colorado, especially along the Republic River (Hammerson 1999). The painted turtle (*Chrysemys picta*) is mainly found in eastern Colorado with scattered occurrences in southwestern Colorado. Painted turtles require permanent water, such as ponds, reservoirs, marshes and slow-moving streams with soft, muddy beds and abundant aquatic plants and submerged logs for basking. Snapping turtles (*Chelydra serpentina*) are a common species occurring throughout eastern Colorado. They are found in permanent streams, lakes, reservoirs, and ponds, especially in waters with submerged



Spiny softshell turtle. NDIS/NREL Commons.



Yellow mud turtle. Wikimedia Commons.

Wetland Management

Historically, wetlands were areas that were intentionally drained and destroyed as part of population growth and agriculture. The severe reduction of waterfowl brought about a new awareness of the value for wetlands — as essential habitat for birds and animals. Since then, wetland wildlife management philosophy has evolved to first obtain existing data, identify the limiting factor(s), plan, implement, and then evaluate effectiveness. Experts do agree that one should work with or enhance the natural system and simulate natural processes and landscapes (Ringleman 1991). Since most of Colorado's eastern plains wetlands are in private ownership, a major key to long-term management is incentive. There are several federal, state, and non-profit programs that will provide expertise and funding to assist in wetland restoration and protection (e.g., CPW Wetlands Program, NRCS Wetlands Reserve Program and Wildlife Habitat Incentive Program, USFWS Partners for Fish and Wildlife, Ducks Unlimited, and land trusts).



Moist soil management. Ducks Unlimited Commons.

Waterfowl management of eastern plains is directly related to the annual cycle of breeding, nesting and migrating. For ducks, seasonal habitat requirements (breeding and nesting) is of utmost importance. Habitat management objectives consist of shallow water interspersed with hummocks of rushes and sedges for nest cover. A desirable wetland complex for waterfowl in the eastern plains would range from ephemeral wet meadows to semi-permanent cattail and/or bulrush ponds. A wetland with diverse vegetation will result in a higher density and diversity of waterfowl (Ringelman 1991). Shallow water is needed to provide food, especially protein for egg production. A wetland complex should encompass numerous small ponds where ducks can isolate themselves in heavy vegetation. A common rule of thumb for maximizing dabbling ducks is a complex with a 50:50 ratio of open water to patches of emergent vegetation (Ringleman 1991). Patches of emergent plants, sparse enough to allow a duck to swim through, are more attractive than large thick blocks of vegetation. Nest sites range from emergent vegetation (cattail, bulrush), used by most diving ducks to tall, dense grasses, used by dabbling ducks (Martin et al. 1951, Weller 1999).



Marsh wetland. Kirk Navo.

Active marsh management commonly includes the control of wetland succession through water manipulation, regular soil disturbance, and control of undesirable plants to meet management objectives. The most commonly used technique is moist soil management (MSM). MSM is recommended for shallow water impoundments to simulate natural seasonal wetlands and to maximize food production for waterfowl and shorebirds. The main objective is to maintain early successional plants, typically annuals. Preferred plants for waterfowl and shorebirds include protein-rich seeds and tubers. Wading birds also take advantage of larvae or small fish present in moist-soil wetlands. Managers usually flood in fall and winter and disk, till, mow, or apply herbicides to reduce woody

vegetation and perennial plants (e.g., cattails and willows). The use of herbicides within a wetland should be considered only after other control means have been exhausted. Moist-soil plants (e.g., pondweed, smartweed, millet), thrive after a slow natural or managed drawdown of water to expose mudflats with seed banks. The water drawdowns are planned to coincide with migratory patterns to provide staging areas with abundant foods such as sedges, bulrushes, rushes, grasses, and agricultural grains (Cross 1988, Ringelman 1991, Baldassarre and Bolen 1994, McKinstry et al. 2004).

Riparian areas and associated floodplains are among the most impacted ecosystems in eastern Colorado. Since the time of westward expansion, human activities have focused in or near streams and floodplains. Riparian habitat losses have been severe, up to 95% in most western states (Krueper 1993). The main stressors for eastern Colorado include: water development, livestock grazing, gravel mining, and recreation. Water development is by far the most severe impact to wetlands. Habitat alteration, irreversible in many cases, has been caused by dam building, channelization, groundwater pumping, road building, irrigation diversions and urban development. All these impacts lead to loss of habitat, introduction of exotic plants, loss of biodiversity, and decrease of wetland functions. Dismantling dams can be an option, but is difficult to implement. Management of instream flows to maintain or enhance groundwater levels and associated wetland vegetation is also an option, but does not consider long-term needs of plant communities, structural diversity for birds, channel meandering and floodplain building (McKinstry et al. 2004). Improper grazing



Arkansas River in Pueblo. Wikimedia Commons.

practices have caused widespread deterioration of riparian areas, streambank erosion, and introduction of noxious plants. Management practices to reverse or restore riparian health include: appropriate grazing rotation, fencing, installing stock ponds, designating stream crossings, and developing buffers that will allow stream connectivity to the floodplain. Gravel mining directly destroys riparian areas and floodplains. Restoration practices for wetlands that have been mined include: replanting of native vegetation and contouring pond banks for wildlife and fish habitat. Recreation is another impact that is often overlooked. Riparian areas are popular for recreation in the eastern plains, especially in urban areas. Many bicycle/pedestrian paths follow the rivers, essentially channelizing the stream and restricting the floodplain.

The majority of playa wetlands are located within working landscapes on the eastern plains. Playas have been impacted extensively by human disturbances e.g., sedimentation, excavation, road construction, agriculture, urban development, overgrazing, and deliberate filling (Haukos and Smith 2003). If the management goal is for waterfowl, moist-soil management is a common technique with planned water drawdowns to promote annual plant growth (Haukos and Smith 1992). If restoration of excavated playas is a goal, then management would focus on re-filling the pit and terracing the sides of the excavated playa to produce a littoral zone for vegetation and seed production.

Non-Native Plants

Numerous non-native species occur within Colorado wetlands. Some are nearly ubiquitous, like the common dandelion (*Taraxacum officinale*). However, some aggressive, non-native species, referred to as noxious weeds, pose a significant threat to Colorado wetlands because they can replace or outcompete native species. The Colorado Department of Agriculture Noxious Weed Program lists species according to their degree of invasiveness. List A species are designated by the State Commissioner for eradication. List B weed species are species for which the State develops and implements state noxious weed management plans designed to stop the continued spread of these species. List C weed species are species for which the State develops and implements state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands (Table 3).

Table 3. List A, B, C, or Watch Listed noxious species that are in the Pocket Guide.

Scientific Name	Common Name	Class	Present in CO?	Great Plains
<i>Lythrum salicaria</i>	Purple loosestrife	List A	Yes	OBL
<i>Cardaria draba</i>	Hoary cress	List B	Yes	NI
<i>Carduus nutans</i>	Musk thistle	List B	Yes	FACU
<i>Cirsium arvense</i>	Canada thistle	List B	Yes	FACU
<i>Cyperus esculentus</i>	Yellow nutsedge	List B	Yes	FAC
<i>Elaeagnus angustifolia</i>	Russian olive	List B	Yes	FAC
<i>Elytrigia (=Elymus) repens</i>	Quackgrass	List B	Yes	FACU
<i>Euphorbia esula</i>	Leafy spurge	List B	Yes	NI
<i>Hesperis matronalis</i>	Dame's rocket	List B	Yes	FACU
<i>Lepidium latifolium</i>	Broadleaved pepperweed	List B	Yes	FAC
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	List B	Yes	OBL
<i>Tamarisk chinensis</i>	Saltcedar	List B	Yes	FAC
<i>Bromus tectorum</i>	Downy or Cheatgrass	List C	Yes	NI
<i>Conium maculatum</i>	Poison hemlock	List C	Yes	FACW
<i>Epilobium hirsutum</i>	Hairy willowherb	Watch List	Yes	FACW
<i>Phragmites australis</i>	Common reed	Watch List	Yes	FACW
<i>Typha angustifolia</i>	Narrowleaf cattail	Watch List	Yes	OBL

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 common in eastern plains wetlands. The 2012 National Wetland Plant List (Lichvar 2012), filtered for the state of Colorado 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 22 counties in the eastern plains at elevations below 5,000 ft. That list was compared to records in SEINet (www.swbiodiversity.org) with at least 10 records or more in the database. The CPW list of plants beneficial to waterfowl was also consulted. Plants documented from the *Lower South Platte River Basin Wetland Profile and Condition Assessment* (Lemly et al. 2014) with a maximum cover of 30% or a frequency of 5% or more were also reviewed for inclusion resulting in 119 plant species for the First Edition. The Second Edition includes 29 additional species for a total of 148.

Basic Organization

The book contains detailed descriptions, photos and illustrations, but no dichotomous keys. Users should pair this field guide with dichotomous keys, such as Weber and Wittmann (2012) or Ackerfield (2012), to ensure that species not represented in this book are also considered.

Species descriptions are broken down into seven 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 physiognomic sections and number of species in the Pocket Guide.

Section	Number of Species
Aquatics	18
Fern/Fern Allies	2
Grasses	23
Rushes	8
Sedges	20
Monocot Herbs	4
Dicot Herbs	59
Woody Plants	14
Total Species	148

Aquatics include plants that have adapted to living in water. They lack the cuticles that terrestrial plants need to prevent dehydration, thus absorbing nutrients over their entire surfaces. Water provides physical support, so aquatic plants do not have structural cells needed for growing upright. Some aquatics do need to stay afloat for sunlight to reach them 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. Aquatic herbs are further classified according to the following growth forms:

Emergent plants are rooted in the soil with basal portions that 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, often rooted at some point to obtain maximum sunlight. Common examples include: smartweeds (*Polygonum* or *Persicaria* spp.), water milfoils (*Myriophyllum* spp.), pondweeds (*Potamogeton* spp.), watercresses (*Rorippa* spp.), and aquatic buttercups (*Ranunculus aquatilis*, *R. circinatus*).

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.), common duckmeat (*Spirodela polyrrhiza*), watermeals (*Wolffia* spp.), and water fern (*Azolla mexicana*).

Floating-leaf plants flourish in fluctuating or turbid water because they send up long stalks from often large, buried tubers. Examples include: pondweeds (*Potamogeton* spp.), water-starworts (*Callitriche* spp.), and waterweeds (*Elodea* spp.).

Grasses are herbaceous monocots with narrow leaves and specific floral parts (Figure 2). 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 2 glumes and 1 or more florets. Each floret is surrounded by 2 floral bracts—the outer lemma and the inner palea. 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. Grass stems or culms are hollow, have ligules, leaf sheaths, and swollen nodes or knees. Common wetland grasses include: cordgrasses (*Spartina* spp.), brookgrass (*Catabrosa aquatica*), saltgrass (*Distichlis stricta*), bluegrasses (*Poa* spp.), bentgrasses (*Agrostis* spp.), foxtails (*Alopecurus* spp.), and reed canarygrass (*Phalaris arundinacea*).

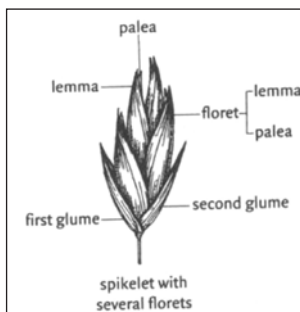


Figure 2. Grass floret.

Rushes are grass-like plants but with lily-like flowers with 3 sepals, 3 petals, 3 or 6 stamens and a pistil with a 3-parted stigma (Figure 3). The ovary is superior, eventually maturing into the capsule. For identification of rushes, the bracts, capsules and seeds are important diagnostic characters, often requiring a 10-20x hand lens to see. Most Colorado wetlands will have at least one if not several species of rushes.

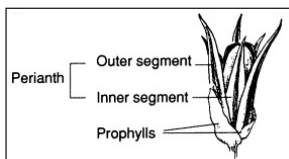


Figure 3. Rush flower.

Sedges are likely the most commonly encountered wetland plants. They have a grass-like appearance, but can be distinguished from rushes and grasses by their 3-angled, solid pith stems (except some bulrushes that have round stems); non-jointed stems (no “knees”); closed leaf sheaths; absent or reduced ligule; florets that are subtended by 1 bract (=pistillate scale); and achenes that are enclosed by a bract or perigynia (sac-like structure that surrounds the seed) (Figure 4). The main identifying features for sedges are perigynia and scales. Major genera include: sedges (*Carex* spp.), bulrushes (*Scirpus* or *Schoenoplectus* spp.), spike-rushes (*Eleocharis* spp.), and flat sedges (*Cyperus* spp.).

Monocot herbs are flowering plants that have one-seed leaf (cotyledons), parallel leaf veins, floral parts in 3's and usually simple branching. Major wetland species include: arrowgrasses (*Triglochin* spp.) and cattails (*Typha* spp.).

Dicot herbs include flowering plants that have two-seed leaves (cotyledons), netted leaf veins, floral parts in 4's and 5's and usually complex branching. The major eastern plains wetland plant families include: Asteraceae (sunflower), Brassicaceae (mustard), Polygonaceae (buckwheat) and Ranunculaceae (buttercup).

Woody plants are defined by woody stems and buds that survive above ground in winter. Trees are woody plants that have a single, well-defined trunk and shrubs typically have branched trunks. Woody plants often grow by emerging from shallow water or damp soil much like emergent plants, but are separated from herbaceous plants due to the difference in physical structure. Examples include willows (*Salix* spp.) and cottonwoods (*Populus* spp.). The most helpful characters for identification are the leaf and branch arrangements (opposite, alternate or whorled), leaf types (dissected, simple, serrate), and fruits.

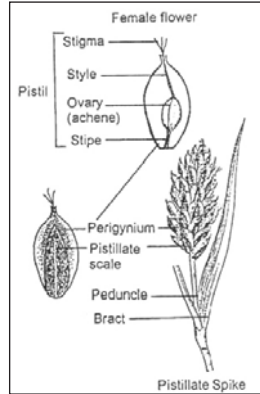


Figure 4. Female sedge flower.



Prairie Wetland. Michael Menefee.

Species Profile Key

1

Carex praegracilis W. Boott

2

Clustered field sedge

Cyperaceae

3



Susan McDougal USDA-NRCS PLANTS Database



Hurd et al. 1998 U.S. Forest Service



Hurd et al. 1998 U.S. Forest Service



4

Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

Elevation: 3,280ft.-11,430ft.

Synonyms: None

USDA PLANTS Symbol: CAPRS

5a-5g

6

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

7

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

9

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: *Carex praegracilis* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds.

- ◆ 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

1. Scientific Name: USDA-NRCS PLANTS National Database (2012) 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 2012), 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 three 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 1 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 are from the 2012 National Wetland Plant List published by the U.S. Army Corps of Engineers (<http://rsgisias.crrel.usace.army.mil/NWPL/>) and are specific to the the Great Plains Region (GP) 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)
G4/S4	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. Elevation range derived from SEINet and Ackerfield 2015.

5g. 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+).

5h. 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 identifying Colorado plants.

- *The Flora of Colorado* (Ackerfield 2015) includes species descriptions and distribution maps.
- *Colorado Flora: Eastern 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 Trnkoczy CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



J.R.J.

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

Elevation: 5,000ft. -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: *Alisma 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: *Alisma triviale* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Sagittaria cuneata Sheldon

Arumleaf arrowhead

Alismataceae



Irent M., Draper CalPhotos



Louis M., Landry CalPhotos

Jeanne R., Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6
Duration: Perennial
Elevation: 3,500ft. -10,000ft.
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
- ◆ **Sepals recurved, ovate, 4– 9 mm long;** petals white, 7– 19 mm long; anthers longer than filaments
- ◆ **Fruiting heads globose, 5– 13 mm across; achene beaks straight, minute, 0.1– 0.4 mm long**

Similar Species: *Sagittaria brevirostra* - also has erect achene beaks, but they are recurved, not straight and prominent (up to 1.7 mm long). *Sagittaria 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. *Sagittaria cuneata* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds.

Sagittaria latifolia Willd. Broadleaf arrowhead

Alismataceae

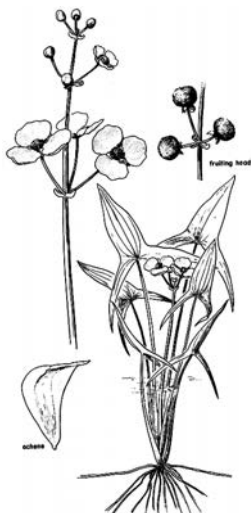


Graves Lovell Forestry Images



Louis M. Landry CalPhotos

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

Elevation: 3,800ft. - 6,000ft.

Synonyms: *Sagittaria latifolia* Willd. var. *obtusa* (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
- ◆ Sepals reflexed in fruit, 4– 10 mm long; petals white, showy, 7– 20 mm long; filaments glabrous
- ◆ Fruiting heads 1–1.7 cm, achenes obovate, 2.5– 3.5 mm long; **beaks lateral, horizontal, 1– 2 mm**

Similar Species: *Sagittaria cuneata* - achene beaks are erect and straight.

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.

Azolla mexicana Schldl. & Cham. ex C. Presl

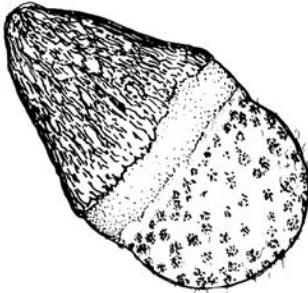
Mexican mosquitofern

Azollaceae (Salviniaceae)



Scott Smith

0.1 mm



Laurie Lange Flora of North America

Key Characteristics:

- ◆ Free-floating, aquatic fern, forming multi-layer mats to 4 cm thick; roots thread-like
- ◆ Stems prostrate, 1-1.5 cm, **forming extensive red-dish mats, velvety in appearance**

- ◆ Leaves scale-like, in 2 rows, small, sessile, compact, less than 1 mm wide
- ◆ Megaspores pitted like a golf ball, covered with few, long filaments

Similar Species: Other small floating plants include *Lemna* spp., *Spirodela* spp. or *Wolffia* spp. The fronds of these species are bright green, not becoming red, except for the underside of fronds in *Lemna minor*.

Habitat and Ecology: Locally common, found floating on slow-moving or stagnant waters on the Eastern Slope, often with *Lemna* ssp.

Comments: Blue-green algae have evolved a symbiotic relationship with *A. mexicana*. The blue-green algae live in the leaves absorbing or fixing nitrogen from the air. This provides nutrients for *Azolla mexicana*, while the plant provides habitat and minerals for the blue-green algae.

Scott Smith



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 S4
C-Value: Not Assigned
Duration: Annual, Perennial
Elevation: 3,580ft. -5,560ft.
Synonyms: None
USDA PLANTS Symbol: AZME

Nasturtium officinale W.T. Aiton

Watercress

Brassicaceae



Thomas Stoughton CalPhotos



Louis M. Landry CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: OBL

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Perennial

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

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

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 hermaphroditica L.

Northern water-starwort

Callitrichaceae (Plantaginaceae)

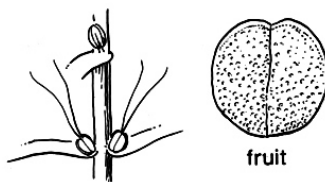


Zoya Akulova CalPhotos

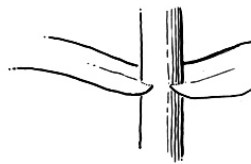


Zoya Akulova CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



fruit



JRJ

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

Elevation: 6,500ft.-10,000ft.

Synonyms: *Callitriche autumnalis* L.

USDA PLANTS Symbol: CAHE2

Key Characteristics:

- ◆ **Completely submerged**, stems to 40 cm long, rooting from lower nodes
- ◆ **Leaves uniformly linear-lanceolate, narrowed to clasping bases, 1-nerved, 5– 20 mm long**
- ◆ Flowers solitary in leaf axis, not subtended by bracts

- ◆ Staminate flowers inconspicuous; pistillate flowers minute
- ◆ Fruits small, 1– 2.5 mm wide, orbicular, deep groove across fruits, wings present on margins

Similar Species: *Callitriche palustris* - leaves can be different shapes with oblong floating leaves and linear submerged leaves, usually longer than 13 mm and bases connected by a ridge.

Habitat and Ecology: Found in ditches and slow-moving streams and along shallow pond and lake margins, often in calcareous waters.

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

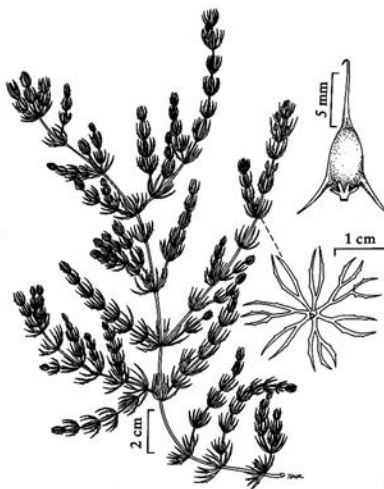


Neal Kramer CalPhotos



John Hilty Illinois Wildflowers

Yevonn Wilson-Ramsey Flora of North America



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 1

Duration: Perennial

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

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. *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

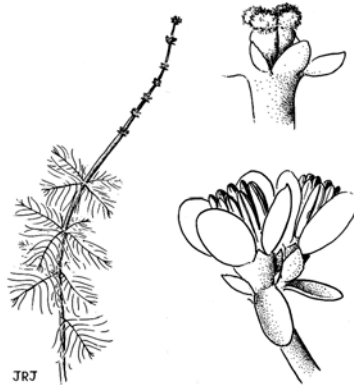


Louis M. Landry CalPhotos



George W. Hartwell CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



JR7

Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3

Duration: Perennial

Elevation: 4,870ft.-11,590ft.

Synonyms: *Myriophyllum exalbescens* Fernald,
Myriophyllum spicatum L. ssp. *exalbescens* (Fernald)
Hultén

USDA PLANTS Symbol: MYSI

Key Characteristics:

- ◆ Submergent, stems stout, whitish or tan; **forms turions, that appear as condensed areas of leaves**
- ◆ Leaves whorled, stiff, 5–12 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: *Myriophyllum verticillatum* - has strongly dissected floral bracts that are feather-like and the staminate flowers have yellowish-green petals. *Myriophyllum spicatum*, the noxious weed, 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. *Myriophyllum sibiricum* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

Elodea canadensis Michx.

Canadian waterweed

Hydrocharitaceae

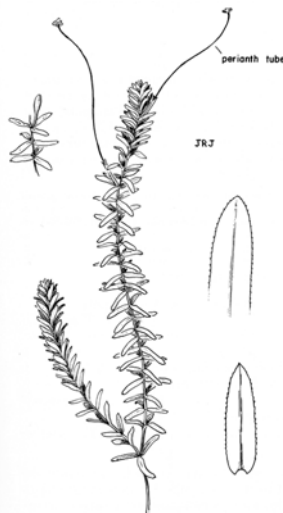


Louis M. Landry CalPhotos



Kristian Peters Flickr Creative Commons

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

Elevation: 4,000ft.-9,500ft.

Synonyms: *Anacharis canadensis* (Michx.) Planch.,
Elodea brandegeae H. St. John

USDA PLANTS Symbol: ELCA7

Key Characteristics:

- ◆ Submergent, stems terete, slender, freely branched; winter buds may be present
- ◆ **Leaves in 3s at nodes, to 13 mm long, 1.5-3 mm wide, tips taper to blunt points**, appear crowded near tips

- ◆ Flowers, if present, produced on thread-like stalks
- ◆ Staminate flowers 4-5 mm long, remain attached at maturity; pistillate flowers with sepals 2-2.5 mm long
- ◆ Capsules 4–5.7 mm long, seeds not covered with long hairs

Similar Species: *Elodea bifoliata* - has opposite leaves and seeds that are densely covered with hairs. *Elodea nuttallii* - has narrower leaves (less than 1.7 mm wide). *Hippuris vulgaris* - has whorled leaves as well, but leaves are more robust, thicker and the flowers and/or fruits are clustered in leaf bases not on stalks.

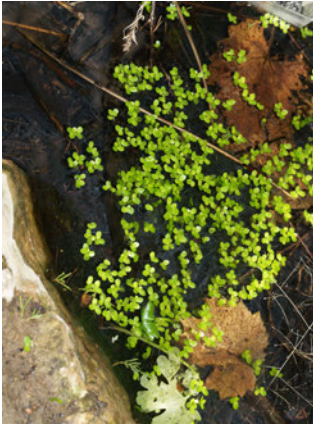
Habitat and Ecology: Found in ponds, sloughs and lakes; tolerant of polluted and eutrophic waters.

Comments: *E. canadensis* is an important part of freshwater ecosystems providing good habitat for many aquatic invertebrates and cover for young fish and amphibians.

Lemna minor L.

Common duckweed

Lemnaceae (Araceae)

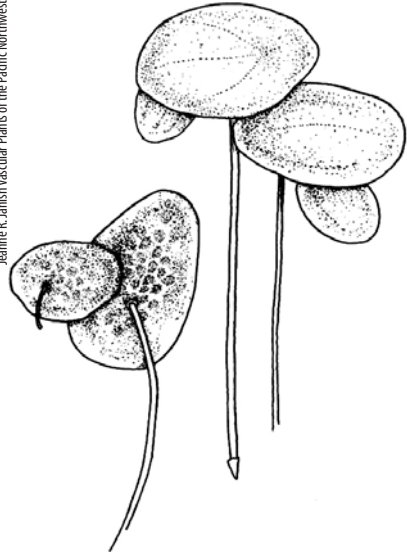


Steve Olson



Louis M. Landry CalPhotos

Jeanne R. Jamish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 2
Duration: Perennial
Elevation: 3,500ft.-9,840ft.
Synonyms: *Lemna turionifera* Landolt
USDA PLANTS Symbol: LEMB3

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: *Lemna minuta* - fronds are 1-nerved and do not turn red.

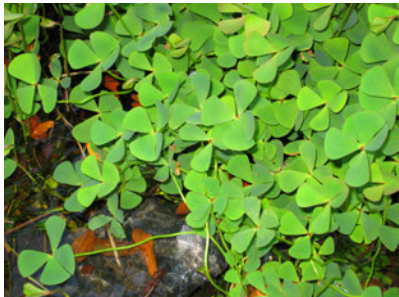
Habitat and Ecology: Commonly found in slow-moving streams, ponds and lakes. The most common duckweed in Colorado.

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

Marsilea vestita Hook. & Grev.

Hairy watercress

Marsileaceae



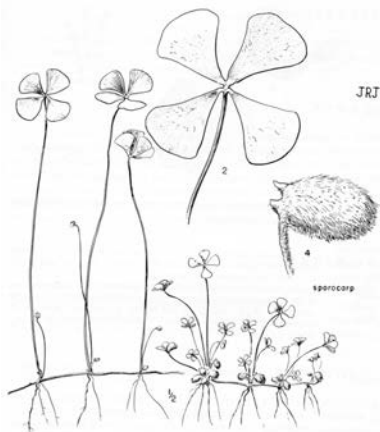
Scott Smith



Crosal Stroupe



Crosal Stroupe



Jeanne R. Janish Vascular Plants of the Pacific Northwest

Key Characteristics:

- ◆ Emergent, fern, forming dense clones; long-creeping rhizomes well-developed
- ◆ **Fronds borne on nodes, with long stipes terminating in a 4-parted leaf blades (laminae), like four-leaf clovers**

Similar Species: Clovers (*Trifolium* spp.) have similar leaves, but have large compact flower heads. Clovers are never aquatic, although a few (e.g. *T. wormskjoldii*) may be found in wetlands. Wood sorrel (*Oxalis oregana*) also has similar leaves, but has leaflets of three rather than four and is a forest species and typically not found in aquatic habitats.

Habitat and Ecology: Plants form diffuse or dense clones in temporary pools, low swales, ditches, shallow water at the edges of ponds and in fields. Spore cases are eaten by waterfowl and the plant provides cover for fish and invertebrates.

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 S4

C-Value: 7

Duration: Perennial

Elevation: 4,100ft.-7,530ft.

Synonyms: *Marsilea fourmieri* C. Chr., *Marsilea mucronata* A. Braun

USDA PLANTS Symbol: MAV2

- ◆ Spores borne in hairy, pubescent sporocarps arising from short, unbranched stalks
- ◆ Distal teeth of sporocarps 0.4– 1.2 mm long, acute
- ◆ Scars left from deciduous hairs often appear as purple or brown specks

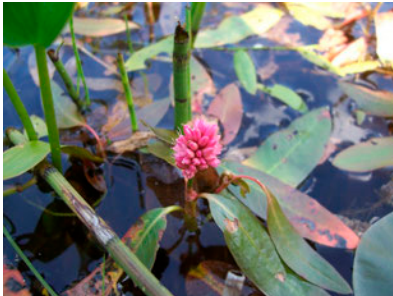
Polygonum amphibium L. var. *emersum* Michx

Longroot smartweed

Polygonaceae



© Al Schneidder
Al Schneider southwestern Colorado Wildflowers



Matt Below CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5T5 SNR

C-Value: 4

Duration: Perennial

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

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

USDA PLANTS Symbol: POAME

Key Characteristics:

- ◆ 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, especially 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. *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

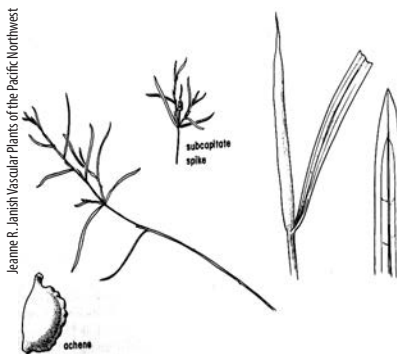
Potamogetonaceae



Neal Kramer CalPhotos



Neal Kramer CalPhotos



Jeanne R. Janish Vascular Plants of the Pacific Northwest

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

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

Synonyms: None

USDA PLANTS Symbol: POF03

Key Characteristics:

- ◆ 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**; floating leaves similar to submerged leaves
- ◆ 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: *Potamogeton 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.

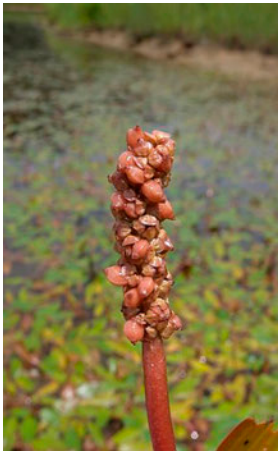
Comments: *Potamogeton foliosus* is recommended as a beneficial plant for waterfowl, especially mallards who are largely vegetarian, due to its palatability and nutritional value.

***Potamogeton nodosus* Poir.**
Longleaf pondweed

Potamogetonaceae



Neal Kramer CalPhotos



John Hilty Illinois Wildflowers

Jeanne R. Janishi Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,500ft. -10,00ft.
Synonyms: None
USDA PLANTS Symbol: PONO2

Key Characteristics:

- ◆ Partially emergent, 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: *Potamogeton alpinus* - has leaves that are red-tinged and tapering to the stem, rather than long-petiolate with mature spikes that are 3 cm long or less. *Potamogeton 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.

Stuckenia pectinata (L.) Börner

Sago pondweed

Potamogetonaceae

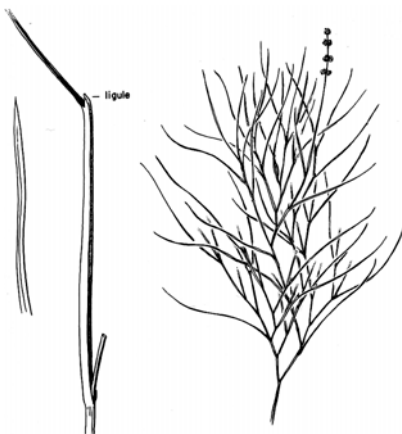


L. Watson and M.J. Dallwitz DELTA Database



Denise Culver Colorado Natural Heritage Program

Jeanne R. Janisch Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

Elevation: 3,500ft. -10,790ft.

Synonyms: *Potamogeton pectinatus* L.

USDA PLANTS Symbol: STPE15

Key Characteristics:

- ◆ Submergent, 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

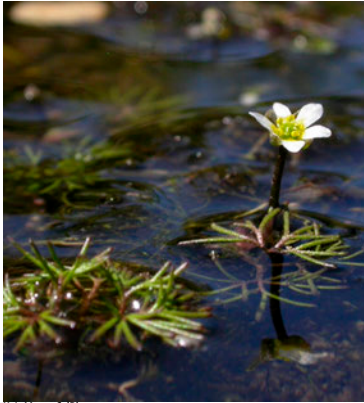
- ◆ Stipules adnate to the base of the leaf blades for 2–3 cm, forming a short ligule, 1 mm long
- ◆ Spikes elongate, 1–3 cm long, with 2–6 floral whorls; peduncles lax, filiform, to 15 cm long
- ◆ Fruits yellowish to tawny, 2.7–4 mm long, egg-shaped, beaks short

Similar Species: *Stuckenia 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. *Potamogeton pusillus* - has smooth, rounded fruits and glands that are usually present at the base of the stipules. *Zannichellia palustris* - 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.

***Ranunculus aquatilis* L.**
White water crowfoot

Ranunculaceae

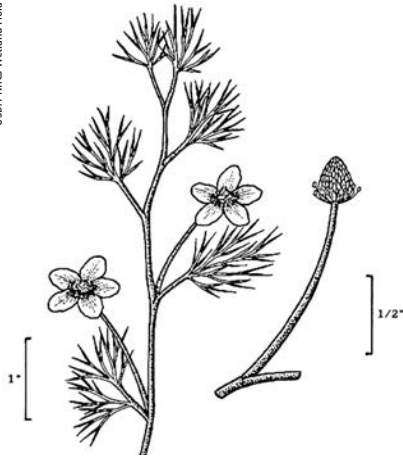


Keir Morse CalPhotos



Keir Morse CalPhotos

USDA-NRCS Wetland Flora



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,500ft. -10,500ft.
Synonyms: *Batrachium circinatum* (Sibth.) Rchb. ssp. *subrigidum* (W. Drew) Á. Löve & D. Löve, *Ranunculus longirostris* Godr., *Batrachium aquatile* (L.) Dumort., *Ranunculus trichophyllus* Chaix var. *hispidulus* (E. Drew) W. Drew
USDA PLANTS Symbol: RAAQ

Key Characteristics:

- ◆ Submergent, 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 surface
- ◆ 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*, 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 eurycarpum Engelm.

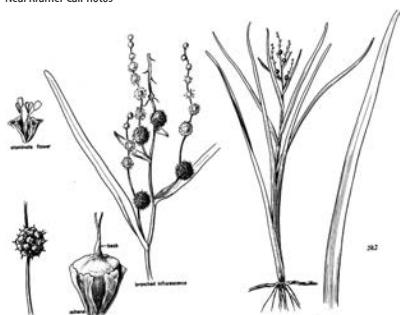
Broadfruit bur-reed

Sparganiaceae (Typhaceae)



Neal Kramer CalPhotos

Neal Kramer CalPhotos



Jeanne R. Janish Vascular Plants of the Pacific Northwest

Key Characteristics:

- ◆ Emergent or sometimes floating, robust, stems 0.5–2.5 m long, branches short
- ◆ Leaves erect, distinctly V shaped, 2.5 m long x 6–20 mm wide
- ◆ Pistillate heads 1–6, peduncled on main rachis, sessile on branches, 1.5–5 cm across; stigmas 2

Similar Species: Only bur-reed with 2 stigmas, sessile fruits and tepals with a spot at tip.

Habitat and Ecology: Found in shallow water of ponds from foothills to montane zones.

Comments: Excellent food and habitat for waterfowl. Muskrats and deer eat the entire plant. Common from Canada to Newfoundland, south to New Mexico and Florida.

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 S2

C-Value: 6

Duration: Perennial

Elevation: 3,400ft.-7,500ft.

Synonyms: None

USDA PLANTS Symbol: SPEU

- ◆ Tepals with dark subapical spots, tips entire to subentire
- ◆ Fruits sessile, straw-colored, darkening with age, pyramidal, not constricted in the middle

Zannichellia palustris L.

Horned pondweed

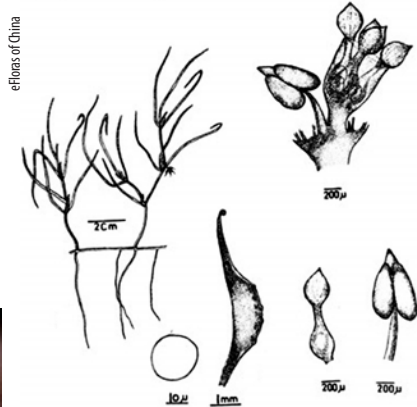
Zannichelliaceae



Graves Lovell Forestry Images



Courtesy of The Morton Arboretum
Morton Arboretum



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

Key Characteristics:

- ◆ Submerged, monoecious, with tendril-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* - 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.

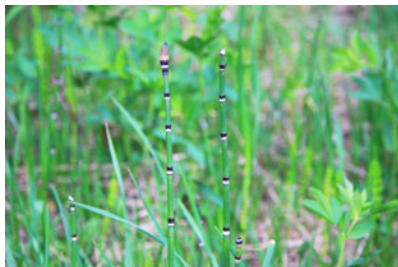
Habitat and Ecology: Found in slow-moving streams, ditches and along pond margins.

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

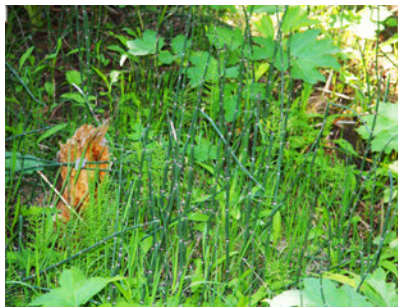
Equisetum hyemale L. var. *affine* (Engelm.) A.A. Eaton

Scouringrush horsetail

Equisetaceae

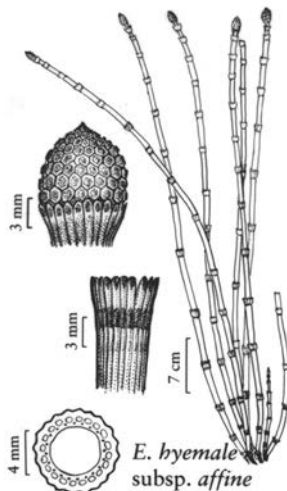


Scott Smith



Scott Smith

Laurie Lange eFloras of North America



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5T5 SNR

C-Value: 4

Duration: Perennial

Elevation: 3,650ft.-10,140ft.

Synonyms: *Hippochaete hyemalis* (L.) Bruhin 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: *Equisetum 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

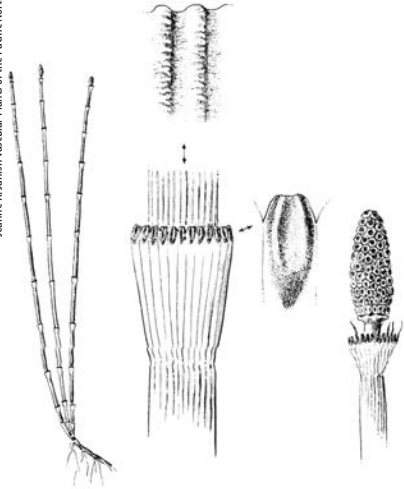


Scott Smith



Scott Smith

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FAC

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

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

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: *Equisetum variegatum* - stems are slender, not stout and the sheaths are loose with fine-pointed persistent teeth. *Equisetum hyemale* var. *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 streambanks.

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 stolonifera L.

Creeping bentgrass

Poaceae



Russ Kleinman and Kelly Kindscher Western New Mexico University



Matt Lavin

Key Characteristics:

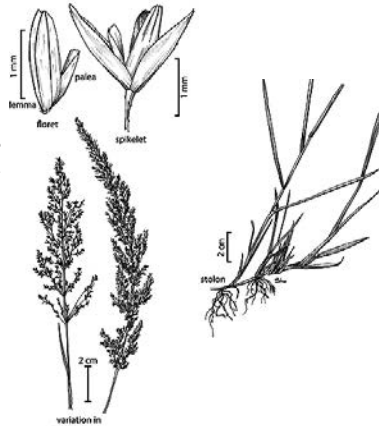
- ◆ **Stoloniferous, spreading from a decumbent base, rooting at lower nodes;** culms 2–10 dm tall
- ◆ Leaf sheaths occasionally purplish or reddish; ligules membranous, 2–8 mm long; blades up to 1 cm wide
- ◆ Inflorescence a narrow panicle at maturity, 5–30 cm long; branches spreading, densely-flowered, whorled

Similar Species: *Agrostis 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 WMVC: FACW

Native Status: **Non-native**

Conservation Status: G5 SNA

C-Value: 0

Duration: Perennial

Elevation: 3,600ft.-10,520ft.

Synonyms: *Agrostis alba* L. var. *palustris* (Huds.)

Pers., *Agrostis alba* L. var. *stolonifera* (L.) Sm., *Agrostis palustris* Huds.

USDA PLANTS Symbol: AGST2

- ◆ **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

Alopecurus pratensis L.

Meadow foxtail

Poaceae



Steve Matson CalPhotos



Steve Hurst USDA-NRCS PLANTS Database

Key Characteristics:

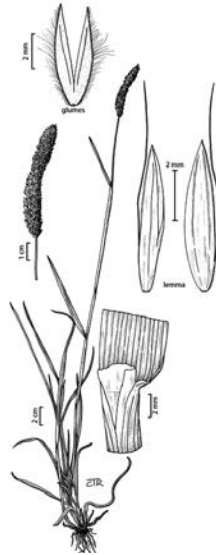
- ◆ Cespitose; culms 3–11 dm tall, erect, sometimes rooting at lower nodes
- ◆ Leaf sheaths open; ligules membranous, 1.5–3 mm long, obtuse; blades 6–40 cm long x 2–10 mm wide
- ◆ Inflorescence a cylindrical panicle, short-pedicel spikelets, tightly contracted, 3.5–9 cm long

Similar Species: *Alopecurus arundinaceus* - can occur with *A. pratensis*, but the lemma apices are truncate, not acute, and the glume apices are divergent, not parallel. *Phleum pratense* - also has a spike-like inflorescence, but the glumes are awned or horned, not the lemmas.

Habitat and Ecology: Frequently planted in hay meadows or road revegetation, then escaping to wet meadows adjacent to streams and ponds.

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

Cindy Talbot Roché Manual of Grasses for North America



Wetland Status WMVC: FACW
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,280ft.-12,800ft.
Synonyms: None
USDA PLANTS Symbol: ALPR3

- ◆ Spikelets 1-flowered, strongly flattened, 4–6 mm long, disarticulation above the glumes
- ◆ **Glumes 4–5 mm long, apices acute, keels ciliate; lemmas 4–6 mm long, awns 5–8 mm long**

Bromus arvensis L.

Japanese brome

Poaceae



Biopix



Biopix



Matt Lavin



Steve Hurst USDA-NRCS PLANTS Database

Wetland Status WMVC: FACU
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Annual
Elevation: 3,500ft.-8,500ft.
Synonyms: *Bromus japonicus* Thunb.
USDA PLANTS Symbol: BRAR5

Key Characteristics:

- ◆ Solitary to tufted; culms erect to geniculate at base, 2–7 dm tall
- ◆ Sheaths with soft, pilose hairs, **closed to near summit**; ligules erose-ciliate, 0.5–2 mm long, pilose; blades flat, 10–20 cm long, softly pilose both sides
- ◆ Inflorescence a dense panicle branches usually with more than 1 spikelet, often drooping

- ◆ Spikelets 5- to 10-flowered, soft pubescent, florets imbricate
- ◆ Glumes 5–7.5 mm long, 3- to 5-nerved; **lemmas lanceolate, over 1.5 mm wide**, with hyaline margins 0.3–0.6 mm wide, **bifid lemma apices shorter than 1 mm; awns 8–13 mm long, often flattened and twisted at base**

Similar Species: *Bromus tectorum* - lemmas are linear to narrowly lanceolate, to 1.5 mm wide, teeth of the bifid lemma apex 1–5 mm long and awns are much longer, 10–65 mm long

Habitat and Ecology: Common on dry slopes, along roadsides, in shortgrass prairie and in disturbed areas. Seed germination usually occurs in the fall, then young plants overwinter and grow rapidly in the spring.

Comments: Only palatable to livestock in early summer.

Bromus inermis Leys.

Smooth brome

Poaceae



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

USDA-NRCS PLANTS Database Hitchcock, 1950



Wetland Status WMVC: UPL
Native Status: **Non-native**
Conservation Status: G5 SNR
C-Value: 0
Duration: Perennial
Elevation: 4,500ft. -11,800ft.
Synonyms: *Bromopsis inermis* (Leys.) Holub.
USDA PLANTS Symbol: BRIN2

Key Characteristics:

- ◆ Solitary or loosely tufted with extensive creeping rhizomes; culms erect to spreading, 5– 13 dm tall, glabrous
- ◆ **Sheaths closed**, glabrous, rarely pubescent; auricles small, if present; ligules erose to ciliolate membrane, truncate; blades flat, 15– 40 cm long, **'W' or 'M' imprint noticeable on fresh specimens**
- ◆ Inflorescence narrow to open panicle, 5– 20 cm long, branches appressed to ascending or spreading
- ◆ Spikelets terete, 15– 40 mm long, 5- to 13-flowered
- ◆ Glumes glabrous; lemmas glabrous to scabrous, rounded back, prominently 3-nerved

Similar Species: *Schedonorus (Festuca) pratensis* - looks similar but has prominent auricles and open leaf sheaths.

Habitat and Ecology: Common in disturbed areas, meadows and grasslands, along riparian zones roadsides. It has been used extensively for reseeding projects along roadsides and as pasture grass.

Comments: Excellent forage for livestock.

Bromus tectorum L.

Cheatgrass

Poaceae

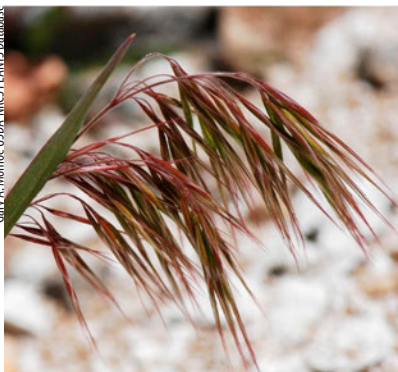


Max Licher Arizona State University Herbarium



Steve Hurst USDA-NRCS PLANTS Database

Geny A. Monne USDA-NRCS PLANTS Database



Wetland Status WMVC: NI
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Annual
Elevation: 3,800ft. -10,500ft.
Synonyms: *Anisantha tectorum* (L.) Nevski
USDA PLANTS Symbol: BRTE

Key Characteristics:

- ◆ Solitary to tufted; culms decumbent at base to erect, 0.5– 9 dm tall, softly pubescent throughout
- ◆ **Sheaths retersely softly pubescent**, round, margins connate; ligules 1– 3.5 mm long; blades 4– 16 cm long x 2– 7 mm wide, usually pubescent
- ◆ Inflorescence an open panicle, 5– 20 cm long, initially erect but drooping, densely branched, generally 1-side
- ◆ Spikelets 1– 24 mm long, purplish to greenish, 4- to 8-flowered
- ◆ Glumes narrowly lanceolate; lemmas lanceolate, margins hyaline, 9– 12 mm long, **apex bidentate, 13 mm long; awns straight, 10– 18 mm long**

Similar Species: *Bromus arvensis* - lemma is broad and rounded at apex, abruptly awned, not tapering.

Habitat and Ecology: Common in fields, grasslands, meadows, shrublands, forests, disturbed areas and on dry slopes.

Comments: *Bromus tectorum* is designated as a List C species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manger to verify identification. Once confirmed, eradication methods will be discussed. Livestock will graze on new growth. Presence of cheatgrass in large quantities increases fire frequency. The common name of cheatgrass refers to its early spring emergence and cheating other vegetation out of moisture.

Distichlis spicata (L.) Greene

Saltgrass

Poaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

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

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
- ◆ Spikelets dioecious, 5- to 20-flowered, pistillate spikelets green, disarticulation above the glumes; staminate spikelets straw-colored, not disarticulating
- ◆ Glumes unequal, glabrous; lemmas acute, 3-6 mm long with yellow coarse margins; no awn

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 soil flats on both Eastern and Western Slopes.

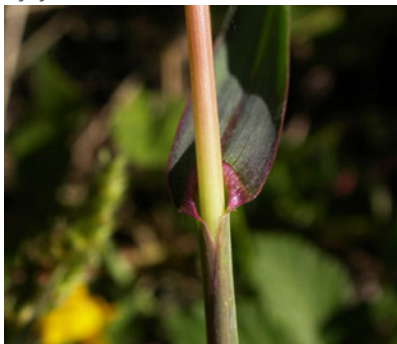
Comments: Saltgrass is a warm season grass that is very tolerant of saline and sodium soils. It is an important forage for large animals. Saltgrass is a larval host plant for many skipper butterflies, including the San Luis Valley sandhills skipper (*Polites sublet ministigma*). It is also an important 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 GalPhotos



Keir Morse GalPhotos

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

Similar Species: *Echinochloa 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: *Echinochloa crus-galli* has a high value for waterfowl. It is a preferred plant for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or herbicides to reduce woody and perennial plants.

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



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

- ◆ Spikelets with 1 well-developed floret (1 fertile and 1 sterile), crowded, oval, turgid
- ◆ **Fertile lemma rounded, 3-nerved, broad, apices acuminate to awned; sterile lemma with line of short hairs**

Elymus repens (L.) Gould

Quackgrass

Poaceae



Keir Morse CalPhotos



Keir Morse CalPhotos

USDA-NRCS PLANTS Database Hitchcock 1950



Wetland Status WMVC: FACU
Native Status: **Non-native**
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 4,000ft. -10,000ft.
Synonyms: *Agropyron repens* (L.) P. Beauv., *Elytrigia repens* (L.) Desv. ex Nevski
USDA PLANTS Symbol: ELRE4

Key Characteristics:

- ◆ **Strongly rhizomatous;** culms decumbent to erect, 5–10 dm tall, green, occasionally glaucous
- ◆ Sheaths glabrous to pilose below; auricles often over 1 mm long; ligules erose-ciliate membrane, to 1 mm long; blades flat, 10–30 cm long x 4–10 mm wide, smooth below, upper scabrous, margins scabrid; **leaves often constricted at tips**
- ◆ Inflorescence is an erect spike, 10–15 cm long
- ◆ Spikelets usually solitary, 1–27 mm long, 3- to 7-flowered, appressed or ascending
- ◆ Glumes keeled distally, scabrous and conspicuous, apices awn-tipped to awned; **lemmas glabrous to scabrous, acute to awned**

Similar Species: *Elymus trachycaulus* - rhizomes absent, culms are upright, sometimes geniculate, lemmas are awned, straight, 1-40 mm long and the glumes are 1.8-2.3 mm wide.

Habitat and Ecology: Common in meadows, grasslands, forests, riparian habitats and along roadsides.

Comments: *Elymus repens* is a non-native, List B Weed, 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. Managers should consider control. Common weed in flower beds and urban lawns. Difficult to eradicate due to the extensive rhizomes. Excellent forage for large animals.

Hordeum jubatum L.

Foxtail barley

Poaceae



Steve Olson



Steve Matson CalPhotos

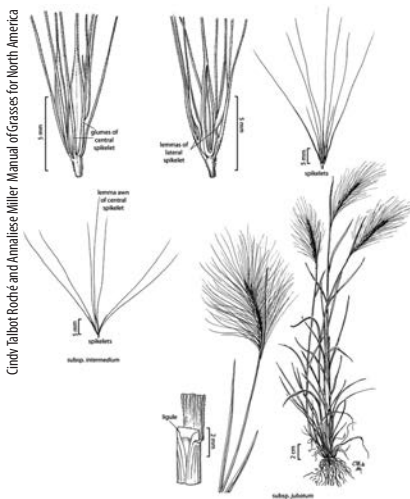
Key Characteristics:

- ◆ 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**

Similar Species: *Hordeum pusillum* - also an annual, but glumes are straight, not divergent at maturity, and awns are 7-18 mm long.

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.



Cndrh, Jabor, Rodié and Amalaise Miller Manual of Grasses for North America

Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 2

Duration: Perennial

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

Synonyms: *Critesion jubatum* (L.) Nevski

USDA PLANTS Symbol: HOJU

◆ **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

Hordeum pusillum Nutt.

Little barley

Poaceae



Matt Lavin



Matt Lavin

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: 1

Duration: Annual

Elevation: 3,400ft.-6,500ft.

Synonyms: *Critesion pusillum* (Nutt.) Á. Löve

USDA PLANTS Symbol: HOPU

Key Characteristics:

- ◆ Solitary to cespitose; culms erect, sometimes with a geniculate base, 1–6 dm tall, glabrous
- ◆ Sheaths inflated, glabrous to pilose; ligules erose to short ciliate membrane, 0.2–0.8 mm long; blades flat, glabrous to scabrous, 1–12 cm long x 2–5 mm wide
- ◆ Inflorescence an erect spike, 2–9 cm long excluding awns, 3–8 mm wide
- ◆ Spikelets 3 per node, central spikelet sessile, fertile, lateral spikelets pedicellate on curved pedicels, 0.3–0.7 mm long
- ◆ Glumes dissimilar, outer glumes are awn-like and central glumes broadened above the base and narrowed to slender awns, 7–18 mm long, straight, not divergent; lemmas of central spikelet tapering into a small awn

Similar Species: *Hordeum brachyantherum* - glumes are all similar and awn-like. It is a perennial and forms tufts.

Habitat and Ecology: Found in disturbed areas, grasslands, and on dry slopes.

Comments: Native grass that grows in disturbed areas of irrigated pastures and crop lands. Often found on roadsides and other disturbed rural areas. Not significant forage.

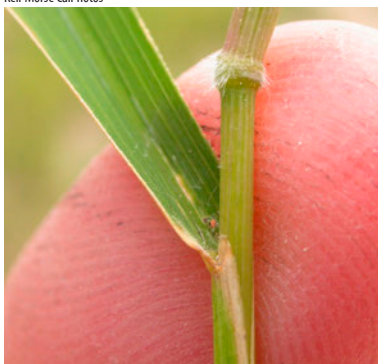
Leersia oryzoides (L.) Sw.

Rice cutgrass

Poaceae



Keir Morse CalPhotos



Matt Lavin

Key Characteristics:

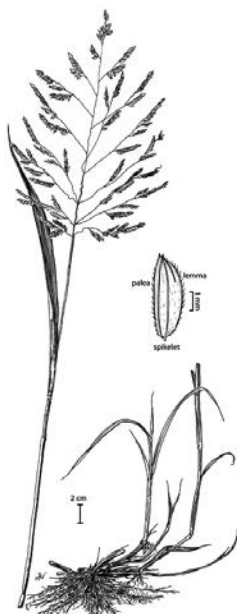
- ◆ Rhizomatous; culms weakly decumbent, 5– 15 dm tall, simple to branched above, **nodes pubescent**
- ◆ Sheaths open, glabrous to scabrous; ligules firm, minutely erose-ciliate; **blade surfaces abrasive**
- ◆ Inflorescence an open panicle, 10– 20 cm long, nodding to erect, cleistogamous (self-fertilizing)

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* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Linda A. Vorobik/Manual of Grasses for North America



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Perennial

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

Synonyms: None

USDA PLANTS Symbol: LEOR

- ◆ 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

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

Poaceae

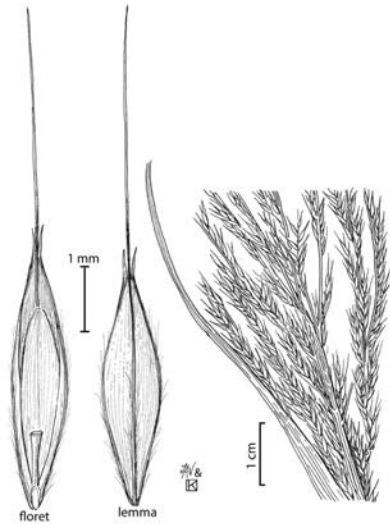


Tom Cochrane CalPhotos



Tom Cochrane CalPhotos

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



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Annual

Elevation: 3,500ft.-6,800ft.

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

USDA PLANTS Symbol: LEFUW

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* [LEDU, NI, ITIS 41822] 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: *Leptochloa fusca* ssp. *fascicularis* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Muhlenbergia asperifolia (Nees & Meyen ex Trin.) Parodi

Scratchgrass

Poaceae

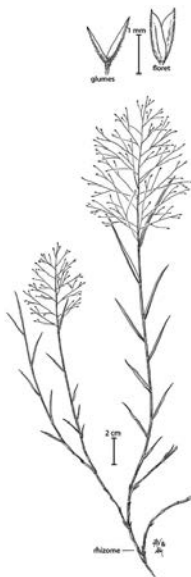


Matt Lavin



Matt Lavin

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



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

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

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.

Panicum virgatum L.

Switchgrass

Poaceae



Steve Olson



Pam Smith Colorado Natural Heritage Program

USDA-NRCS PLANTS Database Hitchcock 1950



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,400ft.-8,000ft.
Synonyms: None
USDA PLANTS Symbol: PAV12

Key Characteristics:

- ◆ Solitary to clumped, rhizomatous, forming dense stands; culms decumbent to erect, 0.4–3 m tall
- ◆ **Sheath margins ciliate; ligules ciliate membranes; blades flat, hairs present at leaf bases**
- ◆ Inflorescence an **open panicle**; branches ascending to spreading, solitary, paired or whorled

Similar Species: *Sporobolus airoides* from a distance looks like *P. virgatum*. *S. airoides* has a ring of hairs on the ligule, spikelets are 1-flowered and it is densely tufted. *P. virgatum* is 2-flowered, one fertile and one sterile, and disarticulates below the glumes.

Habitat and Ecology: Commonly found on the plains and in the foothills of Eastern Colorado. It occupies areas where moisture accumulates, e.g., roadsides and ditches.

Comments: *P. virgatum* is a tallgrass prairie species that provides high quality hay for livestock and white-tailed deer. Seeds are edible. It provides nesting and cover and food for game birds, songbirds and rabbits.

- ◆ Spikelets 2-flowered (look for sterile lemma); glabrous, 2.5–8 mm long, 1.2–2.5 mm wide; glumes unequal
- ◆ Fertile lemma indurate, shiny, clasping paleas at bases

Pascopyrum smithii (Rydb.) Love

Western wheatgrass

Poaceae



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

Key Characteristics:

- ◆ **Strongly rhizomatous; culms erect, 2–10 dm tall, glabrous to glaucous**
- ◆ Sheaths open; auricles absent, or when present 0.2–1 mm long, purple; ligules membranous to 0.1 mm, truncate; blades rigid, 2–26 cm long x 1–4.5 mm wide, upper surface strongly nerved, glaucous
- ◆ Inflorescence is an erect spike, 5–17 cm long, **spikelets closely imbricate**

Similar Species: *Elymus lanceolatus* - glumes are widest at or above the middle, symmetrical.

Habitat and Ecology: Common along roadsides, in grasslands and on dry slopes. Often found in drier areas of riparian zones.

Comments: Provides valuable forage for large animals. Appears to increase under extreme grazing. Western wheatgrass is Wyoming's state grass (Go Wyoming Cowpokes!).

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

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

Synonyms: *Agropyron smithii* Rydb., *Elymus smithii* (Rydb.) Gould

USDA PLANTS Symbol: PASM

- ◆ Spikelets solitary or sometimes 2 per node, glaucous, 12–26 mm long, 2- to 12-flowered
- ◆ Glumes asymmetrical, slightly curving to one side toward the tip, tending to taper from below mid-length to a pointed tip; lemmas lanceolate, acute, 6–14 mm long; awn-tipped

Phalaris arundinacea L.

Reed canarygrass

Poaceae



Matt Lavin



Louis M. Landry CalPhotos

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

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.

Linda A. Vombik and Hana Pazdřiková Manual of Grasses for North America



Wetland Status WMVC: FACW

Native Status: Native, Non-native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Perennial

Elevation: 4,500ft. -10,000ft.

Synonyms: *Phalaroides arundinacea* (L.) Rausch.

USDA PLANTS Symbol: PHAR3

- ◆ 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**

Phleum pratense L.

Timothy

Poaceae



Louis M. Landry CalPhotos



Keir Morse CalPhotos

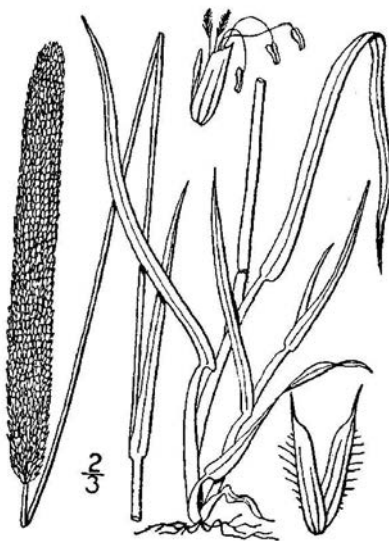
Key Characteristics:

- ◆ Tufted; culms 4–10 dm tall, erect, swollen and bulbous at base
- ◆ Sheaths glabrous, not inflated; auricles absent or very small; ligules 2–4 mm long, obtuse; blades 4–8 mm wide x 5–20 cm long, flat, scabrous
- ◆ **Inflorescence a panicle, dense, cylindrical, spike-like, 5–15 cm long**

Similar Species: *Alopecurus pratensis*, as is with all *Alopecurus* spp., the lemmas are awned, not the glumes.

Habitat and Ecology: Common in meadows, grasslands, disturbed areas and along roadsides. Cultivated as a hay grass. Prevalent in riparian areas

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Perennial

Elevation: 3,800ft.-11,000ft.

Synonyms: None

USDA PLANTS Symbol: PHPR3

- ◆ Spikelets 1-flowered, flattened, 2.5–3.5 mm long excluding awns
- ◆ **Glumes equal, 2.5–3.5 mm long, strongly ciliate along the margins, much longer than the lemmas, with horn-like awns; lemmas 1.2–2 mm long, truncate, minutely awned**

Phragmites australis (Cav.) Trin. ex Steud.

Common reed

Poaceae



Matt Lavin



Matt Lavin

Key Characteristics:

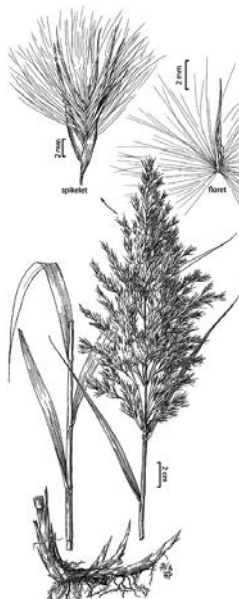
- ◆ Rhizomatous with stout, creeping rhizomes; culms erect, 2–6 m tall, glabrous
- ◆ Sheaths open, margins hyaline; ligules ciliate to 1 mm long; blades flat, 15–40 cm long x 2–4 cm wide

Similar Species: *Phalaris arundinacea* - 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.

Linda A. Vombik and Hana Pazdřiková Manual of Grasses for North America



Wetland Status WMVC: FACW

Native Status: Native, Non-native

Conservation Status: G5 SNR

C-Value: 0

Duration: Perennial

Elevation: 3,500ft. -8,900ft.

Synonyms: *Phragmites communis* Trin.

USDA PLANTS Symbol: PHAU7

- ◆ Inflorescence a dense panicle, 15–35 cm long, often purplish, straw-colored with age; **rachilla hairy**
- ◆ Spikelets 3- to 10-flowered; glumes thin, lanceolate, lower 3–7 mm long, upper 5–10 mm long
- ◆ Lemma tips long-acuminate and appearing like awns, margins slightly in-rolled

Poa compressa L. Canada bluegrass

Poaceae



Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

Key Characteristics:

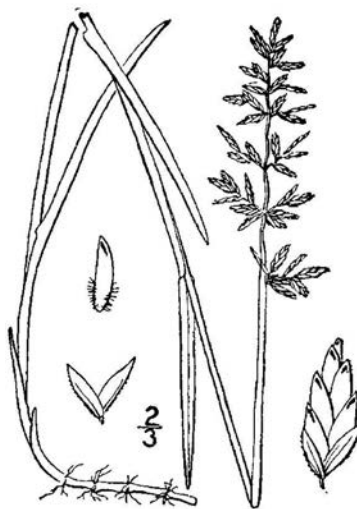
- ◆ Strongly rhizomatous, usually with solitary shoots or sometimes loosely tufted; **culms strongly flattened, 2-edged**, 1.5– 5 dm tall, often geniculate at nodes
- ◆ **Sheaths strongly compressed-keeled, glabrous; ligules 0.5– 1.5 mm long, ciliate**, obtuse; blades 1– 4 mm wide x 2– 10 cm long, tips prow-shaped, bluish green, somewhat scabrous
- ◆ Inflorescence a panicle, 2– 10 cm long, usually compact, dense, occasionally spreading
- ◆ Spikelets 3– 7 mm long, 3- to 8-flowered, crowded on short branches, laterally compressed
- ◆ Glumes keeled, 3-nerved; calluses with scant or absent cobwebby hairs; lemmas 2– 4 mm long, usually purplish near tip, **marginal nerves pubescent, glabrous between nerves**

Similar Species: The strongly compressed stems and nodes distinguish *P. compressa* from other bluegrasses.

Habitat and Ecology: Found in grasslands, forests, meadows, and along streams. Has been used in seed mixtures for road and soil stabilization projects.

Comments: Does not contribute significantly to forage. *Poa compressa* 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.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Perennial

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

Synonyms: None

USDA PLANTS Symbol: POCO

Poa pratensis

Kentucky bluegrass

Poaceae



Keir Morse CalPhotos



Keir Morse CalPhotos

Key Characteristics:

- ◆ **Sod-forming from extensive rhizomes**; culms 2–10 dm tall, erect, glabrous
- ◆ Sheaths closed from 1/4 to 1/2 their length; ligules 0.2–3 mm long, truncate, entire; blades 2–3 mm wide x 5–25 cm long, tips strongly prow-shaped
- ◆ Inflorescence a panicle, 2–15 cm long, open, pyramidal, branches spreading in whorls of 2–7

Similar Species: *Poa compressa* - culms are strongly flattened and lemma margins are short-hairy. *Poa palustris* - culms are decumbent from a purplish base, leaf blades not diverging from culm and lemma tips are often bronze.

Habitat and Ecology: Common in lawns, moist places, grasslands, meadows and forests.

Comments: *Poa pratensis* 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 control. Provides significant forage for large animals.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: **Non-native**

Conservation Status: G5 SNR

C-Value: 0

Duration: Perennial

Elevation: 3,500ft. -11,000ft.

Synonyms: *Poa agassizensis* B. Boivin & D. Love

USDA PLANTS Symbol: POPR

- ◆ Spikelets 3–7 mm long, 2- to 5-flowered, strongly laterally compressed, green or purplish
- ◆ Glumes distinctly shorter than lemmas, scabrous on keel; **calluses with abundant cobwebby hairs at base and at least half the length of lemma**; lemmas 2.5–6 mm long, villous on keel and nerves; awns none

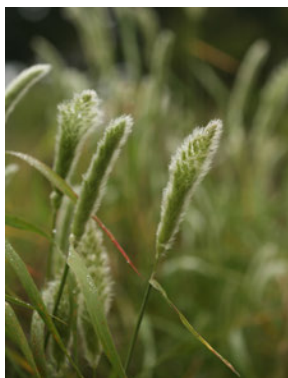
Polypogon monspeliensis (L.) Desf.

Annual rabbitsfoot grass

Poaceae

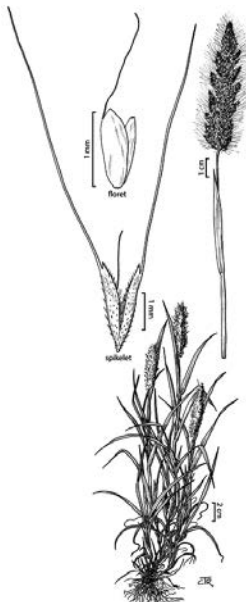


Steve Matson CalPhotos



Steve Matson CalPhotos

Cindy Talbot Roche Manual of Grasses for North America



Wetland Status WMVC: FACW
Native Status: **Non-native**
Conservation Status: GNR SNA
C-Value: 0
Duration: Annual
Elevation: 3,600ft. -7,700ft.
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: *Polypogon 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.

Schedonorus pratensis (Huds.) P. Beauv.

Meadow fescue

Poaceae



Matt Lavin



Matt Lavin

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: G5 SNA

C-Value: 0

Duration: Perennial

Elevation: 4,800ft.-9,500ft.

Synonyms: *Festuca pratensis* Huds., *Lolium pratense* (Huds.) S.J. Darbyshire

USDA PLANTS Symbol: SCPR4

Key Characteristics:

- ◆ Tufted, short rhizomatous; culms ascending to erect, stout, glabrous, 6– 12 dm tall
- ◆ Sheaths smooth to glabrous; **auricles prominent**, glabrous, appearing sickle-shaped; ligules 0.3– 0.5 mm long; blades 5– 20 cm long x 2– 5 mm wide, generally scabrous
- ◆ Inflorescence a narrow panicle, slightly nodding, 1– 25 cm long
- ◆ Spikelets 10– 15 mm long, 4- to 10-flowered, disarticulation above the glumes
- ◆ Glumes unequal, lanceolate, margins hyaline; lemmas 5– 8 mm long, apices hyaline, acute, **unawned to short awned to 0.2 mm long**

Similar Species: *S. arundinaceus* occurs in similar habitats, but has distinctive ciliate auricles and a longer lemma awn, up to 4 mm long. *Festuca* spp. differ primarily by lack of auricles and presence of awned lemmas.

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

Comments: *Schedonorus pratensis* 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. Not a significant forage grass.

Spartina pectinata Bosc ex Link

Prairie cordgrass

Poaceae



Larry Allain USDA-NRCS PLANTS Database



Matt Lawin

Key Characteristics:

- ◆ Strongly rhizomatous, rhizomes elongated, 4–10 mm thick; culms erect up to 2.5 m tall
- ◆ Sheaths open, glabrous; **ligules ciliate membranes**, 2–4 mm long, truncate; blades 6–15 mm wide

Similar Species: *Spartina gracilis* - culms are shorter, the leaf blades are less than 5 mm wide and the glumes are not awned.

Habitat and Ecology: Occurs in moist to wet areas in warm water sloughs, irrigation ditches, and along lake shores, especially on the Eastern Slope.

Comments: *S. pectinatus* is not a preferred forage, but does provide habitat for songbirds and waterfowl. This is an excellent grass for stabilizing streambanks and pond margins.

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



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 7

Duration: Perennial

Elevation: 3,500ft.-6,900ft.

Synonyms: None

USDA PLANTS Symbol: SPPE

◆ **Inflorescence consists of several 1-sided spikelets, 10–50 cm long with appressed branches**

◆ Spikelets 1-flowered, sessile, 10–25 mm long, strongly compressed

◆ Glumes unequal, lower 5–10 mm long, as long as floret, upper 10–20 mm long, awns over 3 mm

Juncus arcticus Willd. ssp. *littoralis* (Engelm.) Hultén

Arctic rush

Juncaceae



Brent Miller CalPhotos



Keir Morse CalPhotos

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: *Juncus 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. *Juncus 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 (2012) 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.



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5T5 SNR

C-Value: 4

Duration: Perennial

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

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

Hultén, *Juncus arcticus* Willd. var. *balticus* (Willd.)

Trautv., *Juncus balticus* Willd.

USDA PLANTS Symbol: JUARL

- ◆ 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 Trnkoczy CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 S4
C-Value: 3
Duration: Annual
Elevation: 4,700ft.-10,000ft.
Synonyms: *Juncus bufonius* var. *occidentalis* F.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 at least 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

Creative Commons



Weg-Binse, *Juncus compressus*.

Wetland Status WMVC: FACW
Native Status: *Not native*
Conservation Status: G5 SNA
C-Value: 0
Duration: Perennial
Elevation: 4,530ft.-6,700ft.
Synonyms: None
USDA PLANTS Symbol: JUCO

Key Characteristics:

- ◆ Short-creeping or densely branching rhizomes, appearing caespitose; 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**

Similar Species: *Juncus 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. Introduced.

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

- ◆ 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; seeds not tailed

Juncus dudleyi Wiegand Dudley's rush

Juncaceae



Robin R. Buckallew USDA-NRCS PLANTS Database



John Hilty Illinois Wildflowers

Key Characteristics:

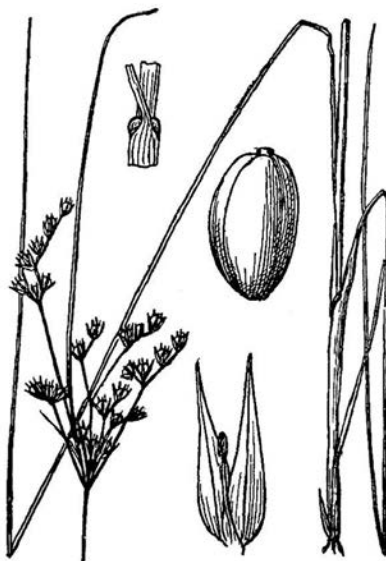
- ◆ Rhizomatous; stems 1–20, 2–10 dm tall, densely branching
- ◆ Leaves basal; auricles yellowish, waxy, 0.2–0.4 mm, hard, leathery, tips rounded; blades flat, 5–30 cm long

Similar Species: *Juncus tenuis* - has longer auricles (2–5 mm) with pointed tips. *J. interior* - has purplish auricles and sheaths. *Juncus confusus* - has a retuse or notched capsule.

Habitat and Ecology: Commonly found along stream banks, wet meadows and marshes.

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

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

Elevation: 3,800ft.-9,010ft.

Synonyms: *Juncus tenuis* Willd. var. *dudleyi* (Wiegand) F.J. Herm.

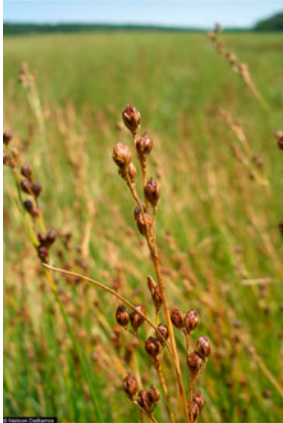
USDA PLANTS Symbol: JUDU2

- ◆ Inflorescence compact, 20–80 flowers; **bract usually exceeding inflorescence**
- ◆ Tepals greenish, lanceolate, 4–5 mm, tips acute, inner series nearly equal, spreading
- ◆ Capsules tan, 2.9–3.6 mm long x 1.5–1.9 mm wide; seeds tan to amber, 0.4–0.67 mm, not tailed

Juncus gerardii Loisel.

Saltmeadow rush

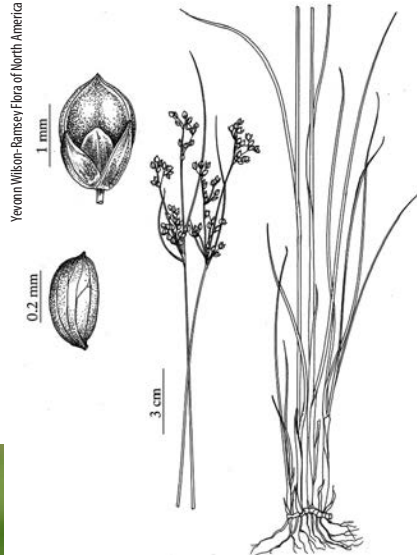
Juncaceae



Nelson DeBarros USDA-NRCS PLANTS Database



Biopix



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: Not Assigned
Duration: Perennial
Elevation: 4,800ft.-5,000ft.
Synonyms: None
USDA PLANTS Symbol: JUGE

Key Characteristics:

- ◆ Rhizomatous from long-creeping rhizomes, creating large colonies; stems 2–9 dm tall
- ◆ Leaves basal, 2–4; auricles 0.4–0.6 mm, scarios; blades flat or channeled, 10–40 cm long
- ◆ **Inflorescence 10- to 30-flowered, loose, 2–16 cm; bract rarely surpassing inflorescence**
- ◆ Tepals dark brown, lanceolate-ovate to oblong, 2.6–3.2 mm long; anthers 1.1–1.8 mm; stamens 6
- ◆ **Capsules chestnut brown, 2.5–3.2 mm long x 1.3–1.9 mm wide; equal or slightly exceeds tepals**

Similar Species: *Juncus compressus* - capsules are globose-ovoid versus ellipsoid-ovoid as in *J. gerardii*, but usually are distinctly longer than the tepals. *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 elongated.

Habitat and Ecology: Forms extensive colonies in salt marshes, warm water sloughs and floodplains within the South Platte River watershed. Ackerfield states it is introduced to Colorado.

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

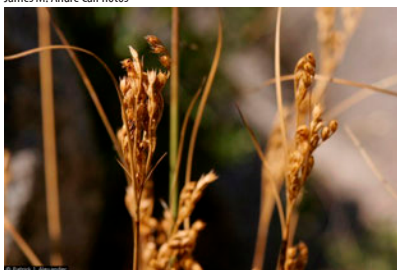
Juncus interior Wiegand

Inland rush

Juncaceae



James M. Andre CalPhotos



Patrick Alexander USDA-NRCS PLANTS Database

Key Characteristics:

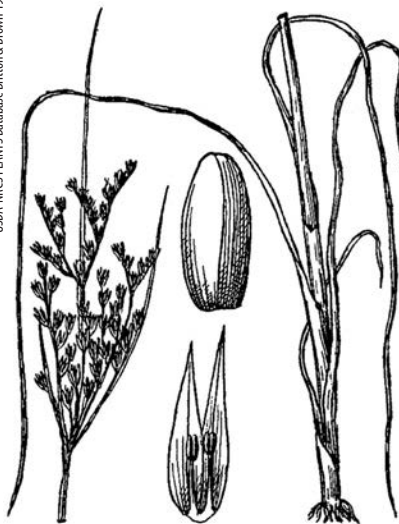
- ◆ Tufted from densely branching rhizomes; culms 1–10, 2–6 dm tall
- ◆ Leaves basal, 1–2; **auricles whitish-purplish tinged**; blades flat, 5–15 cm long x 0.5–0.1 mm wide
- ◆ Inflorescence usually somewhat compact, 1.5–7 cm; bract usually shorter than inflorescence

Similar Species: *Juncus dichotomus* (= *J. platyphyllus*) is not as common, only known from Boulder County, and has smaller capsules, (2.5) 2.8–3.5 (4.5) mm long.

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

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

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G4G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,370ft.-9,300ft.
Synonyms: None
USDA PLANTS Symbol: JUIN2

- ◆ Tepals greenish, lanceolate, 3.3–4.4 mm, apices acuminate; stamens 6
- ◆ **Capsules (3.3) 3.8–4.7 mm long, equal to or longer than tepals; seeds tan, 0.4–0.7 mm, not tailed**

***Juncus nodosus* L.**
Knotted rush

Juncaceae

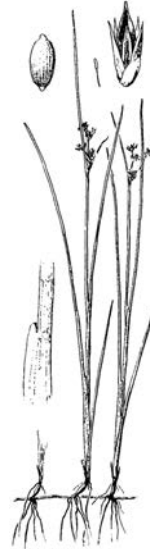


Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

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



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6
Duration: Perennial
Elevation: 3,400ft.-8,500ft.
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

- ◆ Tepals green to light brown, subulate, 2.4– 4.1 mm, nearly equal, apices acuminate; stamens 3 or 6
- ◆ **Capsules exserted, subulate, chestnut brown, 3.2– 5 mm;** seeds oblong, 0.4– 0.5 mm, not tailed

Similar Species: *Juncus torreyi* - is a much taller plant (4– 10 dm tall), the leaf blades are abruptly divergent, flowering heads are sessile and larger (10-15 mm diameter), tightly clustered, and the outer tepals are longer than the inner tepals. *Juncus 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, and rails.

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 clusters of 1– 23 globose heads, 10-15 mm diameter; bract equals or exceeds inflorescence

Similar Species: *Juncus nodosus* - is a much smaller plant (1– 4 dm high), leaf blades are erect and the capsule narrows to a long beak. *Juncus acuminatus* - is caespitose, 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.

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



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,400ft.-8,500ft.
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 brevior (Dewey) Mackenzie
Shortbeak sedge

Cyperaceae



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

Key Characteristics:

- ◆ Densely tufted without creeping rhizomes; culms sharply triangular, 2– 10 dm tall, exceeding the leaves
- ◆ Leaf blades, 1.5– 4 mm wide; sheaths tight, conspicuously white-hyaline, truncate at the mouth
- ◆ Spikes 3– 10, gynecandrous, sessile, 6– 10 mm long, perigynia crowded into a congested head
- ◆ Perigynia 3.2– 5.5 mm long x 2.4– 3.4 mm wide, broadly winged, almost round, strongly wing-margined to rounded bases, margins finely serrulate, nerveless; beaks flat, winged, serrulate, strongly bidentat
- ◆ **Pistillate scales ovate or ovate-lanceolate with an acuminate tip, shorter and narrower than the perigynia, yellowish brown with a green center and hyaline margins**

Similar Species: *C. brevior* is distinct with its broad wings that make the perigynium bodies almost round.

Habitat and Ecology: Common in moist meadows, grasslands, on floodplains, and along streams.

Max Licher Arizona State University Herbarium



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5? SNR
C-Value: 5
Duration: Perennial
Elevation: 3,500ft.-9,000ft.
Synonyms: None
USDA PLANTS Symbol: CABR10

Carex duriuscula C. A. Mey.

Needleleaf sedge

Cyperaceae



Hurd et al. 1998 U.S. Forest Service



Hurd et al. 1998 U.S. Forest Service

Key Characteristics:

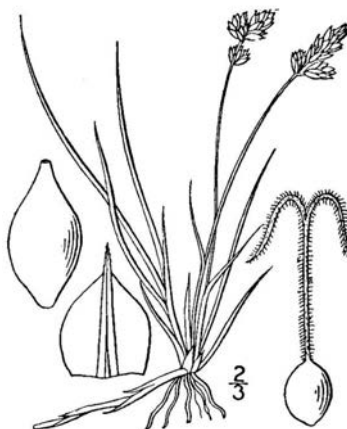
- ◆ Culms arising singly or few together from slender, well-developed rhizomes; culms slender, smooth, obtusely angled, 0.5– 2 dm tall
- ◆ Leaves closely clustered at base; blades slender involute, 0.3– 1.5 mm wide, tapering to long tips
- ◆ **Spikes indistinguishable, androgynous or rarely unisexual, small, sessile, aggregated into an ovoid head, 8– 17 mm long**

Similar Species: *C. douglasii* can be found in similar habitats. The perigynia are longer, 3.5– 7 mm long with a prominent beak, 1– 2 mm long.

Habitat and Ecology: Common in grasslands and forests, and on dry hillsides, to moist meadows.

Comments: *Carex duriuscula* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: NI

Native Status: Native

Conservation Status: G5 SNR

C-Value: 7

Duration: Perennial

Elevation: 3,800ft. -10,000ft.

Synonyms: *Carex eleocharis* L.H. Bailey, *Carex stenophylla* auct. non Wahlenb.

USDA PLANTS Symbol: CADU6

- ◆ **Perigynia broadly ovate to nearly orbicular, 1.5– 2.1 mm wide; beaks abruptly contracted into a beak**
- ◆ Pistillate scales straw-colored, broadly ovate with a firm, exerted midrib, equalling or surpassing the perigynia and concealing them; stigmas 2

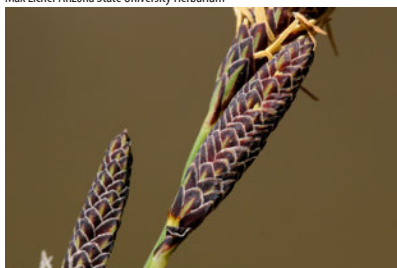
Carex emoryi Dewey

Emory's sedge

Cyperaceae

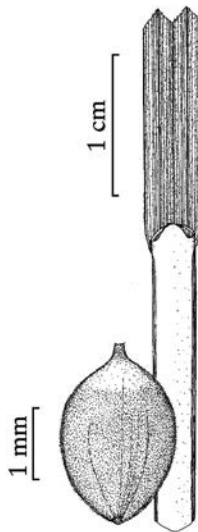


Max Licher Arizona State University Herbarium



Patrick Alexander USDA-NRCS PLANTS Database

Susan Herrick Flora of North America



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

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

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. *Carex 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: *Carex emoryi* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Carex gravida L.H. Bailey

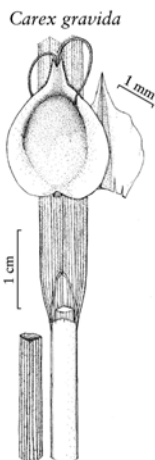
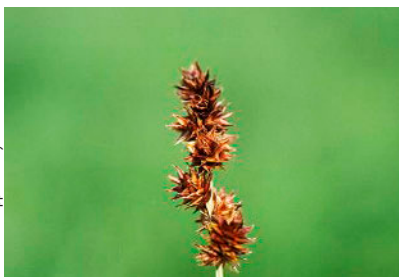
Heavy sedge

Cyperaceae



John Hilty Illinois Wildflowers

Andrew Hipp, University of Wisconsin-Stevens Point



Susan Reznicek eFloras of North America

Doug Goldman USDA-NRCS PLANTS database



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 S1
C-Value: 4
Duration: Perennial
Elevation: 3,370ft.-5,850ft.
Synonyms: None
USDA PLANTS Symbol: CAGR4

Key Characteristics:

- ◆ Cespitose, without conspicuous rhizomes; culms 3–10 dm tall, 3-angled, scabrous
- ◆ Leaf blades wide, flat; leaf sheaths with conspicuous transverse veins on backs, fronts hyaline, sometimes red-dotted
- ◆ Spikes androgynous, 5–15, 1–5 cm long x 8–15 mm wide, occasionally compound larger

- ◆ **Perigynia ovate, 3–5.5 mm long, spongy bases, shiny, margins serrulate distally; beaks 0.6–1.6 mm**
- ◆ Pistillate scales 2.5–4.5 mm long, equal to or longer than perigynia; stigmas 2

Similar Species: *C. gravida* is distinctive with all androgynous spikes and serrulate perigynia beaks.

Habitat and Ecology: Found along pond margins and river bottoms, roadside ditches, in moist canyons and on sandstone rimrock, usually on calcareous soils.

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.

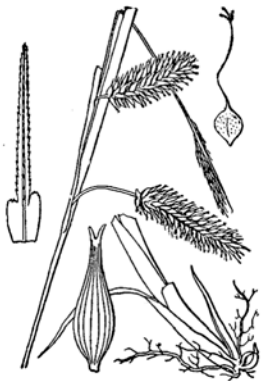
Carex hystericina Muhl. ex Willd.

Bottlebrush or porcupine sedge

Cyperaceae



John Hilty Illinois Wildflowers



USDA-NRCS PLANTS Database Britton & Brown 1913

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: *Carex 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. *Carex 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*.

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



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

Carex nebrascensis Dewey

Nebraska sedge

Cyperaceae



Irent M. Draper CalPhotos



Hurd et al. 1998 U.S. Forest Service

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

Similar Species: *Carex 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*. *Carex 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.



Hurd et al. 1998 U.S. Forest Service

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

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

Synonyms: None

USDA PLANTS Symbol: CANE2

- ◆ **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

Carex pellita Muhl. ex Willd.
Woolly sedge

Cyperaceae



Matt Lavin



Hurd et al. 1998 U.S. Forest Service

Matt Lavin

Jeanne R. Janish Vascular Plants of the Pacific Northwest



perigynium

JRJ

Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6

Duration: Perennial
Elevation: 3,280ft. -10,500ft.
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, reddish brown with light colored midstripe, hyaline margins; stigmas 3

Similar Species: *Carex 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 with alkaline soils.

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

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: *Carex 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 on male plants.

Comments: *Carex praegracilis* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds.

Cyperus acuminatus Torr. & Hook. ex Torr.

Täpertip flatsedge

Cyperaceae



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



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

Key Characteristics:

- ◆ Tufted; culms slender, 0.5–4 dm tall, roundly 3-angled, thickened at bases
- ◆ Leaves few, all from near bases, slender, 1–2 mm wide
- ◆ **Involucral bracts unequal, most surpassing the inflorescence**

Similar Species: *Cyperus squarrosus* (= *C. aristatus*) scales are (5) 7- to 9-nerved with a slender, recurved, short but distinct awn tips, and it is more common in Colorado than *C. acuminatus*.

Habitat and Ecology: Locally common occurring along streambanks and other wet places in valleys and lowlands, tolerant of alkali soils.

Comments: *Cyperus acuminatus* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: Not Assigned
Duration: Annual, Perennial
Elevation: 4,500ft.-5,700ft.
Synonyms: None
USDA PLANTS Symbol: CYAC2

- ◆ Spikelets 3–7 mm long, borne in dense, globose clusters, strongly flattened; stigmas 3
- ◆ **Floral scales 1.5–2 (2.5) mm long, strongly 3-nerved, acuminate-recurved at tips**

Cyperus esculentus L.

Yellow nutsedge or Chufa

Cyperaceae



Matt Lavin



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

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



Wetland Status WMVC: FACW
Native Status: **Non-native**
Conservation Status: G5 SNA
C-Value: 0
Duration: Perennial
Elevation: 3,430ft.-5,280ft.
Synonyms: None
USDA PLANTS Symbol: CYES

Key Characteristics:

- ◆ Culms stout, 1– 7 dm tall, sharply 3-edged; **rhizomes slender, terminating in small tubers**
- ◆ Leaves clustered at bases; blades 3– 8 mm wide
- ◆ involucre bracts elongate, unequal, slightly wider than leaves

Similar Species: *Cyperus erythrorhizos* - has scales that are 1.2– 1.6 mm long and achenes that are 0.6– 1.2 mm long. *C. esculentus* is distinct with the presence of tubers.

Habitat and Ecology: Uncommon along drying pond margins, often in sandy soils. Adventive in Colorado.

Comments: *Cyperus esculentus* has a high duck food value. However, it 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 and to discuss management.

- ◆ **Spikelets in open cylindrical spikes**, slender, 0.5– 5 cm long, 1– 2 mm wide; stigmas 3
- ◆ **Floral scales (2) 2.5– 3 (4) mm long, several-nerved, broad and overlapping**; achenes 1– 1.6 mm long

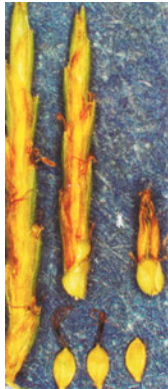
Cyperus odoratus L.

Fragrant flatsedge

Cyperaceae



led Bodner USDA-NRCS PLANTS Database



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

Key Characteristics:

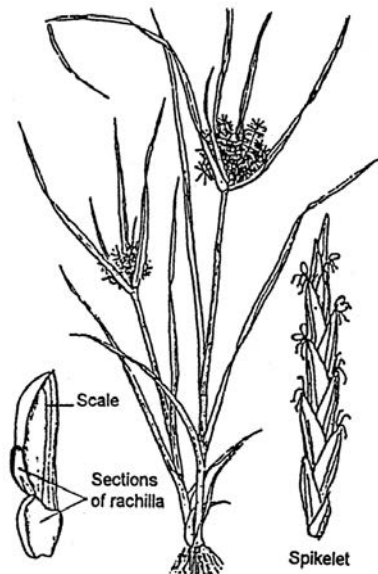
- ◆ Tufted with fibrous roots; culms up to 1 m tall, 3-angled, bases not swollen or corm-like
- ◆ **Leaves shorter than culm**, up to 10 mm wide
- ◆ Spikes with several, spreading spikelets up to 25 mm long

Similar Species: *C. odoratus* is easily identified by the cylindrical spikelets in which the corky rachilla of the mature spikelet disarticulates at the base of each scale. The mature spikelet breaks into segments each consisting of a scale and an internode of the rachilla clasping the achene with the corky wings.

Habitat and Ecology: Locally common on wet sand and mud along riverbanks, ponds, sloughs and marshes. Weber and Wittmann (2012) consider *C. odoratus* adventive.

Comments: *Cyperus odoratus* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

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



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Annual, Perennial

Elevation: 3,650ft.-5,000ft.

Synonyms: None

USDA PLANTS Symbol: CYOD

- ◆ **Spikelets breaking easily into sections comprised of a scale, internode, wings and the achene**
- ◆ Floral scales ovate, 1–2.8 mm long, imbricate; stigmas 3

Cyperus squarrosus L.

Bearded flatsedge

Cyperaceae



Patrick Alexander USDA-NRCS PLANTS Database



Steve Matson CalPhotos

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



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Annual

Elevation: 3,500ft.-7,570ft.

Synonyms: *Cyperus aristatus* Rottb., *Cyperus inflexus* Muhl.

USDA PLANTS Symbol: CYSQ

Key Characteristics:

- ◆ Tufted; culms slender, 0.3– 1.5 dm tall, 3-angled
- ◆ Leaves few, all borne near bases, 0.5– 2 (2.5) mm wide, as long or longer than inflorescence
- ◆ **Spikelets borne in dense clusters**, 4– 10 mm long, flattened

Similar Species: *C. squarrosus* is distinct with the slender, recurved tips on the floral scales that terminate in slender, short, sharp awns.

Habitat and Ecology: Common on drying pond borders and wet places in valleys.

Comments: *Cyperus squarrosus* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

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

Cyperaceae

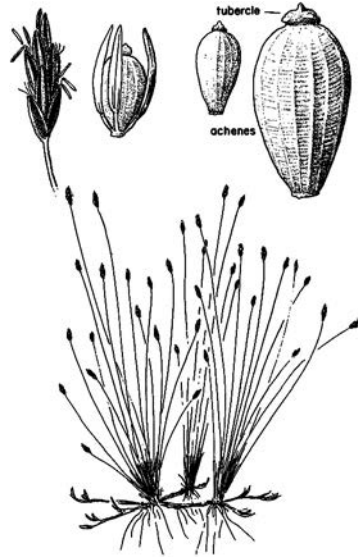


Steve Matson CalPhotos



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

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Annual, Perennial
Elevation: 3,500ft.-10,170ft.
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*, 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. *Eleocharis 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* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

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 WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

Elevation: 3,350ft.-10,700ft.

Synonyms: *Eleocharis macrostachya* Britton,

Eleocharis xyridiformis Fernald & Brack.

USDA PLANTS Symbol: ELPA3

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, 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: *Eleocharis palustris* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

***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: *Schoenoplectus 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 WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

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

Synonyms: *Schoenoplectus lacustris* (L.) Palla ssp. *acutus* (Muhl. ex Bigelow) Á. 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**

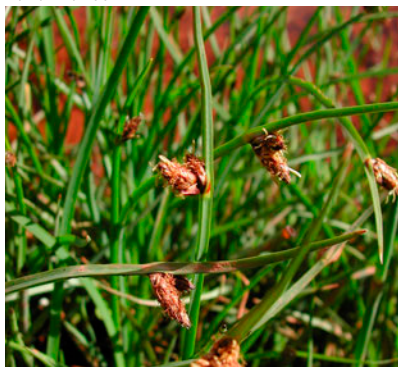
Schoenoplectus americanus (Pers.) Volkart ex Schinz & R. Keller

Chairmaker's bulrush

Cyperaceae



Neal Kramer CalPhotos



Max Licher Arizona State University Herbarium

Steve Hurst USDA-NRCS PLANTS Database



Steve Matson CalPhotos



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Perennial

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

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; **scales 2.5– 4 mm long with an apical notch 0.1– 0.3 mm long**
- ◆ **Achenes 1.5-3 mm long, obovoid**

Similar Species: *Schoenoplectus 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

Key Characteristics:

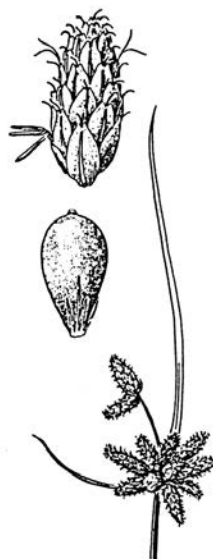
- ◆ Stout, rhizomatous, bearing firm tubers; culms 2– 15 dm tall
- ◆ Leaves to 12 mm wide; involucre bracts 1– 4, surpassing inflorescence, bracts 1– 6 mm wide
- ◆ **Inflorescence of sessile spikelets;** spikelets over 7–40 mm long; scales orange–brown to tan, 5–8 mm long, apex bifid with awn 1–3 mm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

Similar Species: *Schoenoplectus fluviatilis* - 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: *Schoenoplectus maritimus* can be considered an aggressive plant, becoming dominant in shallow water wetlands. Eradication techniques can include mowing and fire.

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



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

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

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

USDA PLANTS Symbol: SCMA8

Schoenoplectus pungens (Vahl) Palla

Common threesquare

Cyperaceae



Steve Matson CalPhotos



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



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

Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

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

Synonyms: *Scirpus pungens* Vahl.

USDA PLANTS Symbol: SCPU10

Key Characteristics:

- ◆ Rhizomatous, often vertical; **culms sharply triangular**, 1.5– 10 dm tall
- ◆ **Involucre bract subtending the inflorescence 3– 20 cm long**
- ◆ Spikelets 1– 6, sessile in a compact cluster, 7– 20 mm 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 involucre 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: *Schoenoplectus pungens* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

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

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: *Schoenoplectus 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: *Schoenoplectus tabernaemontani* can be considered an aggressive plant, becoming dominant in shallow water wetlands. Eradication techniques can include mowing and fire.

Louis M. Lamir, CalPhotos



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3

Duration: Perennial

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

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

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 WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,860ft. -9,000ft.
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, small, 2– 8 mm long, 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**, 1-3.5 mm long, minute point
- ◆ Perianth bristles persistent, 4 (6), stout, straight; achenes lenticular

Similar Species: *Scirpus 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: *Scirpus microcarpus* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Triglochin maritima L.

Seaside arrowgrass

Juncaginaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

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

Similar Species: *Triglochin palustris* - is 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.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6
Duration: Perennial
Elevation: 5,000ft. -10,500ft.
Synonyms: *Triglochin concinna* Burt-Davy
USDA PLANTS Symbol: TRMA20

- ◆ 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**

Typha angustifolia L.

Narrowleaf cattail

Typhaceae



Aaron Arthur CalPhotos



Neal Kramer CalPhotos

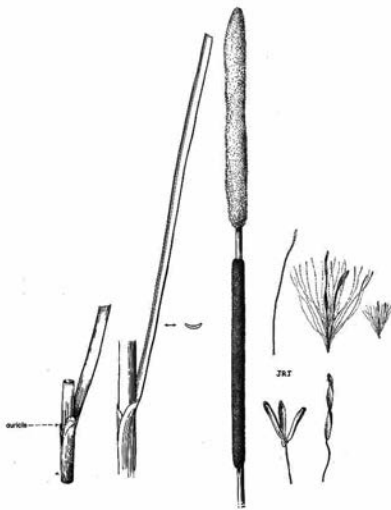
Key Characteristics:

- ◆ 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: *Typha latifolia* -spikes are not separated by an axis segment, leaves are wider, and plants less dominating. *Typha 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. 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.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native, Non-native

Conservation Status: G5 SNR

C-Value: 2

Duration: Perennial

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

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



Keir Morse CalPhotos



Pam Smith Colorado Natural Heritage Program



Keir Morse CalPhotos

Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G4G5 SNR
C-Value: 4
Duration: Perennial
Elevation: 3,400ft.-6,450ft.
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: *Typha latifolia* - spikes are not separated by an axis segment. *Typha 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:

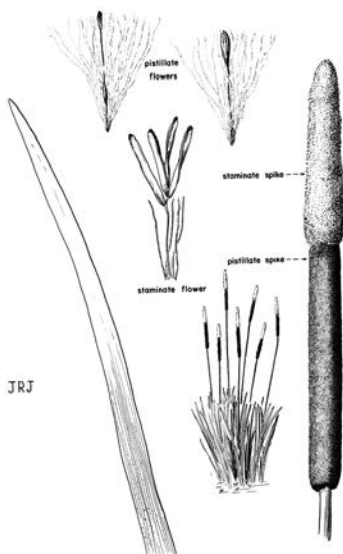
- ◆ Stems 1–3 m tall; arising from stout spreading fleshy rhizome
- ◆ Leaves light green, 8–20 mm wide, nearly flat, leaf sheaths open to bases, no auricles; absence of brown dot-like mucilage gland on leaf blade
- ◆ Spike-bearing stems as long or slightly longer than leaves
- ◆ Pistillate and staminate portions contiguous, rarely or only slightly separated
- ◆ Pistillate spikes dark brown, 10–18 cm long, staminate spikes lighter brown

Similar Species: *Typha angustifolia* - staminate and pistillate spikes are separated, exposing a portion of the axis. Pistillate spike color is dark to bright brown. *Typha 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. Cattails provide shelter and nesting cover for Marsh Wrens, Red-winged and Yellow-headed Blackbirds.

Jeanne R. Janish Vascular Plants of the Pacific Northwest



JRJ

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

***Sesuvium verrucosum* Raf.**
Verrucose seapurslane

Aizoaceae



James M. Andre CalPhotos

James M. Andre CalPhotos



Dean Wm. Taylor CalPhotos

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: Not Assigned
Duration: Annual, Perennial
Elevation: 3,900ft.-7,580ft.
Synonyms: *Sesuvium erectum* Correll
USDA PLANTS Symbol: SEVE2

Key Characteristics:

- ◆ Stems prostrate, branched, not rooting at nodes
- ◆ **Leaves opposite, succulent; stipules lacking**
- ◆ Flowers solitary in leaf axils; pedicels absent or to 2 mm long

- ◆ Calyx lobes rose or orange, 2– 10 mm; petals absent; stamens 30; styles 5
- ◆ Capsules ovoid-globose, 4– 5 mm; seeds 20– 40, 0.8– 1 mm, shiny, smooth

Similar Species: *Trianthema portulacastrum* - is in the same family, the leaves have stipules and there are 5– 10 stamens. It has been reported for southeastern Colorado.

Habitat and Ecology: Locally common. Generally occurring on alkaline wetlands or mineral flats in San Luis Valley and lower Arkansas River Valley.

Comments: Circumtropical. Widespread extending throughout the southern United States to California.

Amaranthus blitoides S. Watson

Mat amaranth

Amaranthaceae



John Hilty Illinois Wildflowers



Neal Kramer CalPhotos

Yevonn Wilson-Ramsey Flora of North America

1 mm



Wetland Status WMVC: FAC

Native Status: Non-native

Conservation Status: GNR SNR

C-Value: 0

Duration: Annual

Elevation: 3,860ft.-9,470ft.

Synonyms: *Amaranthus graecizans* auct. non L. p.p.

USDA PLANTS Symbol: AMBL

Key Characteristics:

- ◆ Stems glabrous, **prostrate, fleshy, radiating in all directions from central taproots**
- ◆ Leaf petioles half as long as blades; blades 1–2 (4) cm long x 0.5–1 (1.5) cm wide, bases wedge-shaped
- ◆ Inflorescence dense, axillary flowers; bracts of pistillate flowers narrow, thin, 1.5–5 mm long
- ◆ Tepals (3) 4–5, narrowly ovate to broadly linear; stigmas 3
- ◆ Fruits (utricle) 1.7–2.5 mm, equaling tepals; seeds black, 1.3–1.6 mm wide, dull

Similar Species: *A. albus* can also be prostrate, but the flower bracts have long excurrent (awn-like) midribs that equals or exceeds the tepal lengths.

Habitat and Ecology: Locally common in waste places, dry prairies, fields and roadsides.

Comments: *Amaranthus blitoides* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or herbicides to reduce woody and perennial plants.

Toxicodendron rydbergii (Small ex Rydberg) Greene

Western poison ivy

Anacardiaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status WMVC: FACU
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 4,500ft. -8,500ft.
Synonyms: None
USDA PLANTS Symbol: TORY

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

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.

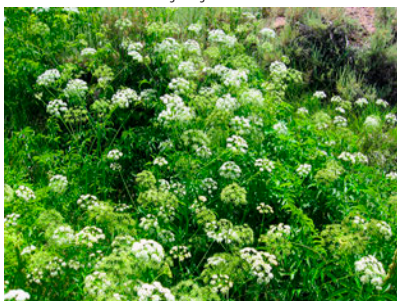
Cicuta maculata L. var. *angustifolia* Hook.

Water hemlock

Apiaceae



Pam Smith Colorado Natural Heritage Program



Scott Smith

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5T5 SNR

C-Value: 3

Duration: Perennial

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

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 WMVC: FACW
Native Status: Non-native
Conservation Status: G5 SNA
C-Value: 0
Duration: Biennial
Elevation: 3,600ft.-8,700ft.
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.

Apocynum cannabinum L.

Indianhemp

Apocynaceae



Al Schneider Southwestern Colorado Wildflowers



Patrick Alexander USDA-NRCS PLANTS Database

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FAC

Native Status: Native

Conservation Status: G5 SNR

C-Value: 2

Duration: Perennial

Elevation: 3,400ft.-7,500ft.

Synonyms: None

USDA PLANTS Symbol: APCA

Key Characteristics:

- ◆ Stems, red to purple, 3–12 dm tall, erect, mostly opposite-branched; glabrous; **milky sap present**
- ◆ **Leaves opposite**, 5.5–10 (13) cm long, 2–4 (5) cm wide, petiolate, ascending, ovate to lanceolate, acute, bases rounded or wedge-shaped
- ◆ Inflorescence a panicle, cyme or solitary

- ◆ Flowers perfect, round, **sepals and petals 5, erect, connate often with a corona, greenish-white to cream**
- ◆ Fruit a pair of follicles, 12–16 (20) cm long, pendulous at maturity; seeds 4 mm long, seeds with tuft of hair up to 2.5 cm long

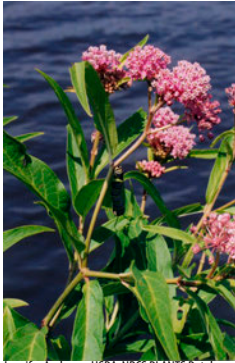
Similar Species: Other *Apocynum* spp. have leaves and corollas that are spreading, not erect.

Habitat and Ecology: Found on disturbed sand or gravel bars of rivers, washes, and ditch banks.

Comments: It is larval host for the Monarch butterfly (*Danaus plexippus*). Can be toxic if consumed in large enough quantities. Oleander (*Nerium oleander*), an extremely poisonous plant that grows in southern U.S., is also in the Apocynaceae.

Asclepias incarnata L.
Swamp milkweed

Asclepiadaceae (Apocynaceae)



Jennifer Anderson USDA-NRCS PLANTS Database



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 4
Duration: Perennial
Elevation: 3,400ft.-5,500ft.
Synonyms: None
USDA PLANTS Symbol: ASIN

Key Characteristics:

- ◆ Stems 4– 15 dm tall, solitary, **milky juice**, pubescent in lines pointing downward on nodes and petioles
- ◆ **Leaves opposite**, lanceolate, 6– 15 cm wide, acute-tipped, entire, rounded at bases
- ◆ Inflorescences few to many at end of stems and branches
- ◆ Flowers 9– 11 mm tall, calyx lobes white or green; **corolla lobes reflexed, bright pink**
- ◆ Follicles spindle shaped, 5– 8 cm long; seeds 6.5– 9 mm long; seeds with white hairs

Similar Species: *Asclepias speciosa* - pedicels are densely white-tomentose and the leaves are ovate, 40– 100 mm wide.

Habitat and Ecology: Locally common along ditches, streams, in marshes and other wet areas of the plains and foothills.

Comments: Milkweeds are poisonous to animals. They contain toxic cardenolides, which are steroids, that can cause heart failure. The monarch butterfly (*Danaus plexippus*) and its caterpillars have the ability to store the poisonous compounds in their tissues to deter predators.

Asclepias speciosa Torr.
Showy milkweed

Asclepiadaceae (Apocynaceae)

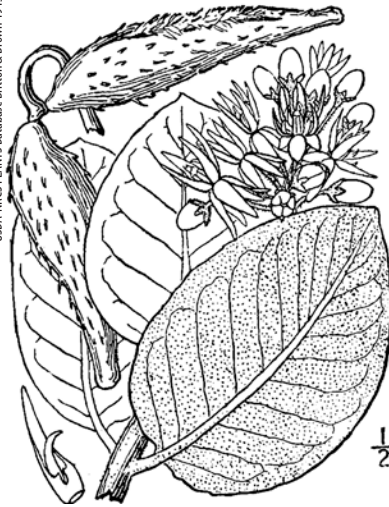


Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,400ft.-8,600ft.
Synonyms: None
USDA PLANTS Symbol: ASSP

Key Characteristics:

- ◆ Stems 6–12 dm tall, **pubescent, milky-juiced**; roots deep rhizomes
- ◆ **Leaves simple, opposite**, 10–18 cm long x 4–8 cm wide, apices rounded
- ◆ Inflorescences few-many in upper leaf axils, 10- to 40-flowered; pedicels 1.3–3 cm long, densely woolly

- ◆ Flowers 15–28 mm tall; calyx lobes green to purple-tinged; corolla lobes purplish-rose, tomentose
- ◆ Fruits white-tomentose, knobby with tubercles; seeds 6–9 mm long; coma white to tan

Similar Species: *Asclepias incarnata* - stems are pubescent in lines directed away from the nodes. The corollas are light to dark pink.

Habitat and Ecology: Very common in sandy, loamy, or gravelly soil along roadsides in ditches, in fields and along streams.

Comments: Milkweeds are poisonous to animals; they contain various toxic cardenolides. Death can result from cardiotoxic effects of the cardenolides. Milkweeds retain toxicity even when dried. The monarch butterfly (*Danaus plexippus*) lays its eggs on milkweed and then the caterpillars feed solely on the plant. Monarchs can store the poisonous compounds in their tissues thus deterring predators.

***Ambrosia linearis* (Rydb.) Payne**
Streaked bur ragweed

Asteraceae



Jim Locklear



Denise Culver Colorado Natural Heritage Program

Ann Fernwick, CO Rare Plant Field Guide



Wetland Status WMVC: NI
Native Status: Native
Conservation Status: G3 S3
C-Value: 4
Duration: Annual
Elevation: 4,280ft.-6,600ft.
Synonyms: None
USDA PLANTS Symbol: AML13

Key Characteristics:

- ◆ Sub-shrub or coarse herbs, 2– 4 dm tall, branching from bases; taproots prominent
- ◆ **Leaves sessile, 1.5– 2.5 cm long, margins revolute, deeply pinnate-lobed, lobes linear**
- ◆ **Leaf margins revolute, upper surfaces green, lower surfaces white, woolly-tomentose**
- ◆ Pistillate heads 1-flowered, ray flowers absent; involucre on staminate flowers 5 mm long
- ◆ Mature achenes bur-like with long, sharp spines (up to 9) with hooked tips

Similar Species: *Ambrosia tomentosa* - is also common along roadsides and streams, but the leaves are petiolate and much longer (3– 15 cm long) than *A. linearis*. *Ambrosia psilostachya* - leaves are usually once-pinnatifid with divisions that are linear-lanceolate, but leaves are petiolate, not sessile and the pistillate inflorescence does not have spines.

Habitat and Ecology: Found on sandy or sandy clay soils in seasonally moist habitats along margins of intermittent streams, playa lakes, roadsides and ditches.

Comments: Endemic to the Eastern Slope of Colorado (Kiowa, Elbert, El Paso, Lincoln, Denver, and Pueblo counties).

Ambrosia psilostachya DC.
Cuman ragweed

Asteraceae



Larry Allain USDA-NRCS PLANTS Database



Robin R. Buckallew USDA-NRCS PLANTS Database

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Annual, Perennial

Elevation: 4,000ft.-6,200ft.

Synonyms: *Ambrosia coronopifolia* Torr. & A. Gray

USDA PLANTS Symbol: AMPS

Key Characteristics:

- ◆ Colonial from deep-seated creeping roots; stems 2–20 dm tall, **rough-hairy throughout, often with long, spreading hairs**
- ◆ Leaves all cauline, alternate, **green on both sides**, mostly bi- or tri-pinnatifid with narrow, often small segments, up to 15 cm long

Similar Species: *Ambrosia tomentosa* - leaves are silvery-gray underneath.

Habitat and Ecology: Common in disturbed sites and open fields, often in moist soils in depressions.

Comments: Nitrates can accumulate, especially in young plants.

- ◆ Staminate heads nodding or spreading, involucre 2 mm high, lobed less than halfway to base, often with resinous dots, not ribbed
- ◆ Pistillate involucres 1 (2)-flowered, 4–6 mm long, usually with **1 series of short tubercles**, spines absent

Ambrosia tomentosa Nuttall

Skeletonleaf bur ragweed

Asteraceae



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium



Max Licher Arizona State University Herbarium

Wetland Status WMVC: NI
Native Status: Native
Conservation Status: G4 SNR
C-Value: 3
Duration: Perennial
Elevation: 4,000ft.-8,600ft.
Synonyms: None
USDA PLANTS Symbol: AMT03

Key Characteristics:

- ◆ Stems 10–30+ cm tall, deep-seated creeping roots, rough-hairy throughout, often with coarse, long, spreading hairs
- ◆ Leaves mostly alternate; petioles 8–25 mm; **blades elliptic to lance-elliptic, 50–80 long x 12–20 mm wide, pinnately-lobed, margins often revolute, upper leaf surface green and lower surface white-woolly pubescent**
- ◆ Pistillate heads clustered, normally 2-flowered; staminate heads with peduncles 2–9 mm long; involucre saucer-shaped with black nerves
- ◆ **Burs pear-shaped, somewhat flattened, 1.5–2.5 mm long, spines 1–2 mm long, tips straight**

Similar Species: *Ambrosia linearis* - leaves are sessile, not petiolate and heads are normally 1-flowered, not 2-flowered. *Ambrosia psilostachya* - has less dissected leaves and the female flowers lack spines. *Ambrosia trifida* - is a much taller, robust plant with broader leaves.

Habitat and Ecology: Common along roadsides and streams, and in disturbed places.

Comments: *Ambrosia tomentosa* has deeply dissected leaves, giving it a skeleton appearance.

***Ambrosia trifida* L.**
Great ragweed

Asteraceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Herf, McMillan, USDA-NRCS PLANTS Database



Wetland Status WMVC: NI
Native Status: Native
Conservation Status: G5 SNA
C-Value: Not Assigned
Duration: Annual
Elevation: 4,000ft.-8,300ft.
Synonyms: None
USDA PLANTS Symbol: AMTR

Key Characteristics:

- ◆ Coarse annual weed up to 2 or 3 m tall; stems spreading hairy above, often glabrous below
- ◆ Leaves large (up to 20 cm in length), mostly opposite, petiolate, serrate and palmately 3- or 5-lobed
- ◆ Staminate heads nodding, the involucre wide open with black ribs
- ◆ Pistillate flowers located in leaf axils, involucre 5–10 mm long, several-ribbed, each rib ending in a short spine; spines forming a cycle around the short, conic beak

Similar Species: Other *Ambrosia* species have much smaller leaves that are variously cleft or pinnatifid usually in numerous segments.

Habitat and Ecology: Common in disturbed areas such as ditches, stream banks and roadsides, especially in moist soils.

Comments: Ragweed pollen is a major cause of hayfever in North America.

Bidens bigelovii A. Gray

Bigelow's beggarticks

Asteraceae



Patrick Alexander USDA-NRCS PLANTS Database



Russ Kleinman Western New Mexico University



Russ Kleinman Western New Mexico University



Patrick Alexander USDA-NRCS PLANTS Database

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 S3
C-Value: Not Assigned
Duration: Annual
Elevation: 4,000ft.-9,000ft.
Synonyms: None
USDA PLANTS Symbol: BIBI

Key Characteristics:

- ◆ Stems up to 8 dm tall, glabrous
- ◆ Leaves opposite, up to 8 cm long, 2 or 3 pinnatifid, oblong with wedge-shaped bases
- ◆ Involucral bracts in 2 distinct series, ciliate margins, pubescent only at bases near peduncles

Similar Species: *Bidens tenuisecta* - involucral bracts are hispid-hirsute, not ciliate, and the ultimate leaf segments are very narrow, usually less than 2 mm wide.

Habitat and Ecology: Found in wet soils along streams and pond edges and in drier soils of canyons and hillsides.

Comments: Beggerticks provide a protein rich food source for waterfowl.

- ◆ Disk flowers yellow; ray flowers very small or absent, white
- ◆ Pappi 2– 4 awns or teeth, retrorsely barbed; achenes pubescent, strongly dimorphic

***Bidens cernua* L.**
Nodding beggartick

Asteraceae



Russ Kleinman Western New Mexico University



Russ Kleinman Western New Mexico University

Anthony Salazar Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Non-native

Conservation Status: G5 SNR

C-Value: 0

Duration: Annual

Elevation: 4,600ft. -8,880ft.

Synonyms: None

USDA PLANTS Symbol: BICE

Key Characteristics:

- ◆ Stems 1–12 dm tall, branching, nodding, glabrous with spreading hairs, often bushy
- ◆ Leaves simple, 3–18 cm long x 0.5–4.5 cm wide, acuminate, toothed, **sessile, clasping at the bases**
- ◆ Involucral bracts 5–10, lance-linear, surpassing the disk; peduncles recurved below head

- ◆ **Disk flowers 5-lobed;** ray flowers, if present, 6–8, yellow, to 1.5 cm long
- ◆ Achenes black or brown with 4 awns with distinct paler cartilaginous apices

Similar Species: *Bidens tripartita* (= *B. comosa*) also has simple leaves, but they are petiolate, heads are erect, not nodding, and the corollas of disk flowers are usually 4-lobed.

Habitat and Ecology: Common along streams, ditches, or disturbed areas.

Comments: *Bidens cernua* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

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

Asteraceae



Karin Freeman Colorado Natural Heritage Program



Karin Freeman Colorado Natural Heritage Program

John H. Rumbley Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: Non-native
Conservation Status: G5 SNR
C-Value: 0
Duration: Annual
Elevation: 3,920ft. -7,000ft.
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: *Bidens vulgata* - is not as common, but occurs in similar habitats. The flowering heads are larger, 15– 25 mm across, and disk flowers are yellow.

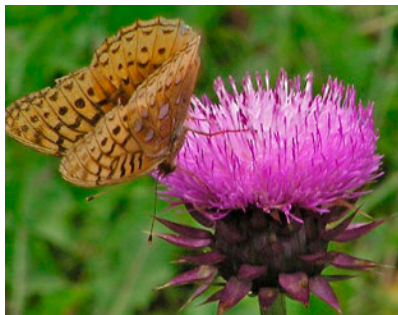
Habitat and Ecology: Common in disturbed wet areas along ditches, stock ponds and levees.

Comments: *Bidens frondosa* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/ summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Carduus nutans L.

Musk thistle

Asteraceae



Al Schneider Southwestern Colorado Wildflowers



Steve Matson CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: **Non-native**

Conservation Status: GNR SNR

C-Value: 0

Duration: Biennial, Perennial

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

Synonyms: *Carduus nutans* L. ssp. *macrocephalus* (Desf.) Nyman

USDA PLANTS Symbol: CANU4

Key Characteristics:

- ◆ Coarse, single-stemmed, up to 2 m tall, open branched, **stem spiny-winged by decurrent leaf bases**
- ◆ **Leaves glabrous or long-villous chiefly along main veins, deeply lobed, margins and midribs white**

- ◆ Heads 3– 7 cm wide, solitary and abruptly nodding at the ends of branches
- ◆ Flowers bright red-purple, involucre bracts ovate to lanceolate, 2– 10 mm wide with a shallow median constriction, nodding

Similar Species: *C. acanthoides* is found in similar habitats, and is becoming more common. It has smaller heads, 1– 2 cm in diameter and the outer involucre bracts are narrowly lanceolate, 1– 2 mm wide at base without the median constriction.

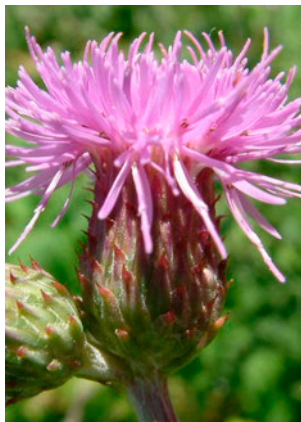
Habitat and Ecology: Common in disturbed places, open fields and meadows and along roadsides.

Comments: The first specimens of musk thistle were collected in 1953, then only known from Jefferson and Boulder counties. Now it is widespread, reported in over half of the counties. The musk thistle weevil was introduced to limit the spread of musk thistle, but it also feeds on the seeds of native thistles.

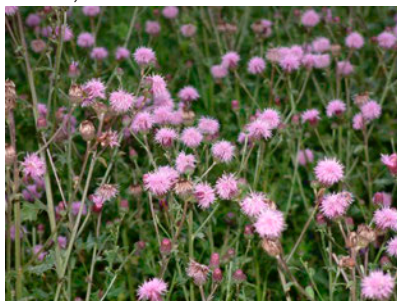
Cirsium arvense (L.) Scop.

Canada thistle

Asteraceae



Louis M. Landry CalPhotos



Amadej Irmkoczy CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNR SNR

C-Value: 0

Duration: Perennial

Elevation: 4,500ft.-9,600ft.

Synonyms: *Breea arvensis* (L.) Less.

USDA PLANTS Symbol: CIAR4

Key Characteristics:

- ◆ Stems 3–15 (20) dm tall, branching above, from deep-seated creeping roots, plants **dioecious (male and female on separate plants)**
- ◆ Leaves alternate, lance petioles, oblong or lance-shaped, white-tomentose beneath, divided into **spiny-tipped irregular lobes**
- ◆ Heads unisexual, small; involucre bracts 10–20 mm high x 5–10 mm wide, spineless, imbricate in several series
- ◆ **Flowers pink-purple**, occasionally white, pappi of pistillate heads surpassing the corollas, pappi of staminate heads are shorter than the corollas
- ◆ Achenes flattened, brown with tuft of hair on top

Similar Species: Canada thistle is easily identified due to the small heads and branching stems.

Habitat and Ecology: Common and widespread in disturbed places, along roadsides, in fields and meadows.

Comments: *Cirsium arvense* 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. Canada thistle differs from other thistles since the male and female flower heads are on separate plants. A colony of male plants can still maintain and increase due to asexual reproduction.

Conyza canadensis (L.) Cronquist
Horseweed

Asteraceae



Barry Breckling CalPhotos



Louis M. Landry CalPhotos



Neal Kramer CalPhotos

Key Characteristics:

- ◆ Slender, erect, weedy annual (1)2–15 dm tall, with a taproot, **usually strongly hirsute with spreading to ascending hairs**
- ◆ Stems simple or rarely branched below the inflorescence
- ◆ Small, inconspicuous white or yellow ray flowers borne at stem terminals

Similar Species: None.

Habitat and Ecology: Common weed found in disturbed places along roadsides, pastures, any disturbed areas that are irrigated or seasonally moist.

Comments: Leaves and flowers contain a terpene which can irritate airway especially in horses.

Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Annual, Biennial

Elevation: 3,500ft.-8,000ft.

Synonyms: None

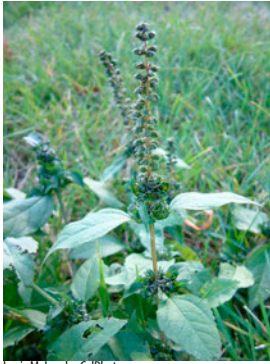
USDA PLANTS Symbol: COCA5

- ◆ **Heads numerous in diffuse panicles involucre 3–4 mm high, strongly imbricate**, brown or pale midrib and greener sides
- ◆ Pappus 2–3 mm long; achenes flattened, 2-ribbed, ivory to light brown, 1–1.2 mm long

Cyclachaena xanthifolia (Nuttall) Fresenius

Marshelder or sumpweed

Asteraceae



Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 2
Duration: Annual
Elevation: 4,000ft. -8,500ft.
Synonyms: *Iva xanthifolia* Nutt.
USDA PLANTS Symbol: CYXA2

Key Characteristics:

- ◆ Stems coarse, 0.4– 2 m tall from a taproot, glabrous below
- ◆ Leaves opposite below, alternate above, long petiolate, blade ovate, often double-serrate, distinct veins, 5– 20 cm long x 2.5– 15 cm wide
- ◆ Flowering heads disk-like, are stalkless, crowded on long, branching spikes at top of stem and upper leaf axils
- ◆ Flowers greenish-white, with 8– 20 staminate flowers and 5 pistillate flowers, flowers appear mealy
- ◆ Achenes black, compressed parallel to involucre bracts

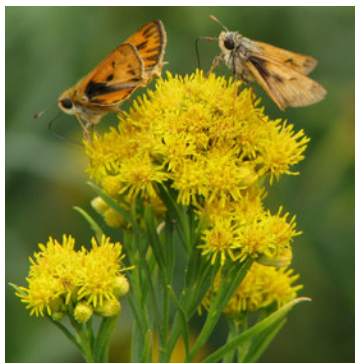
Similar Species: *Iva axillaris* - leaves have entire margins and flowering heads hang from the axils of upper leaves, leaves resemble the common sunflower and it occurs in much drier soils.

Habitat and Ecology: Common in sandy or rocky soils of moist places.

Euthamia occidentalis Nutt.

Western goldentop

Asteraceae



Jonathan Coffin Flickr Creative Commons



Jonathan Coffin Flickr Creative Commons

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 9

Duration: Perennial

Elevation: 3,650ft.-7,200ft.

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: *Euthamia 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.

Helianthus annuus L.

Common sunflower

Asteraceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Ernie Marx Eastern Colorado Wildflowers



Wetland Status WMVC: FACU
Native Status: Native
Conservation Status: G5 SNR
C-Value: 1
Duration: Annual
Elevation: 3,300ft. -9,000ft.
Synonyms: None
USDA PLANTS Symbol: HEAN3

Key Characteristics:

- ◆ Stems up to 2 m or more tall, with rough-hairy herbage, often branched and several headed
- ◆ Leaves alternate, petiolate, toothed, ovate or broader in well developed plants, lower leaves often cordate; leaf surface hispid (rough with stiff hairs)
- ◆ Flowering heads large, reddish-brown, involucre bracts ovate and narrowed above middle into an acuminate tip, hispid-ciliate on margins
- ◆ Ray flowers yellow, disk flowers yellowish to reddish brown
- ◆ Achenes usually glabrous, wedge-shaped

Similar Species: *H. petiolaris* involucre bracts are lanceolate to ovate-lanceolate, appressed short-hairy, glabrous on the margins, and the tips taper, but does not come to an abrupt point. However, it can hybridize with *H. annuus* making identification difficult.

Habitat and Ecology: Very common in open, dry to moderately moist soil, especially common in disturbed or waste places.

Comments: *Helianthus annuus* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

Heterotheca villosa

Hairy false goldenaster

Asteraceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



J.S. Petersen USDA-NRCS PLANTS Database

Wetland Status WMVC: NI
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,500ft. -10,500ft.
Synonyms: None
USDA PLANTS Symbol: HEV14

Key Characteristics:

- ◆ **Stems several or many, from an often woody base, 1–5 (7) dm tall; herbage hairy, glandular, green; taprooted**
- ◆ Leaves alternate, simple, 5 cm long x 1 cm wide
- ◆ Heads radiate, several in short, corymbiform; involucre bracts imbricate, greenish, not subtended by leafy bracts
- ◆ Disk flowers golden yellow; ray flowers yellow
- ◆ Achenes of ray flowers often 3-angled, glabrous; achenes of disk flowers obconic and villous-hirsute

Similar Species: *H. foliosa* flowering heads are subtended by one or more leafy bracts that conspicuously exceed the involucre and the plants are usually glandular. However, it hybridizes with *H. villosa* making exact identification difficult.

Habitat and Ecology: Common in open meadows and forests.

Comments: 'Hetero' is Greek for 'different' and 'theca' for 'case', referring to the differing seeds produced by the ray and disk flowers. This is an unusual characteristic, for many other sunflowers produce identical seeds from both the outer ray flowers and the inner disk flowers.

Iva axillaris Pursh

Povertyweed

Asteraceae



Neal Kramer CalPhotos



Neal Kramer CalPhotos

Key Characteristics:

- ◆ Perennial from deep-seated, creeping roots, 1.5–6 dm tall, sparsely hairy
- ◆ Leaves opposite below, alternate above, sessile oblong or broadly linear, mostly 1–5 cm long, entire
- ◆ **Flowering heads nodding, solitary on short peduncles in the axils of the reduced upper leaves**
- ◆ Small, tubular yellow flowers borne in leaf axils are produced in late summer; **involucre bracts fused to form a cup; receptacle chaffy**
- ◆ Achenes black, gland-dotted, 2.5–3 mm long; pappi none

Similar Species: *Artemisia* spp. look similar, but the involucre bracts are distinct and overlapping in 2 series.

Habitat and Ecology: Common in dry, open, sometimes alkaline places on the plains and valleys; tolerant of saline and alkaline soils. Native of western U.S., but found throughout the contiguous U.S.

Steve Matson, CalPhotos



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 2
Duration: Perennial
Elevation: 3,500ft.-7,500ft.
Synonyms: None
USDA PLANTS Symbol: IVAX

***Lactuca serriola* L.**
Prickly lettuce

Asteraceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status WMVC: FAC
Native Status: Non-native
Conservation Status: GNR SNR
C-Value: 0
Duration: Annual, Biennial
Elevation: 3,500ft.-8,500ft.
Synonyms: None
USDA PLANTS Symbol: LASE

Key Characteristics:

- ◆ Stems glabrous, 3–15 dm tall, with sharp bristles on lower 1/3 of stem, white latex present
- ◆ Leaves prickly on the midrib beneath, twisted at base to stand erect, sagittate-clasping, 5–30 cm long x 1–10 cm wide, with pale midrib
- ◆ Heads numerous, 13–27 flowered
- ◆ Flowers yellow with a dark blue stripe on abaxial side; pappus white
- ◆ Achenes with 5–7 conspicuous nerves on each face

Similar Species: *Lactuca ludoviciana* achenes have only 1 conspicuous nerve on face and the stem is glabrous. Not as common.

Habitat and Ecology: Common in waste places, disturbed sites, open grasslands, and forest clearings.

Comments: Native of Europe, naturalized throughout the United States.

Solidago gigantea Aiton

Giant goldenrod

Asteraceae

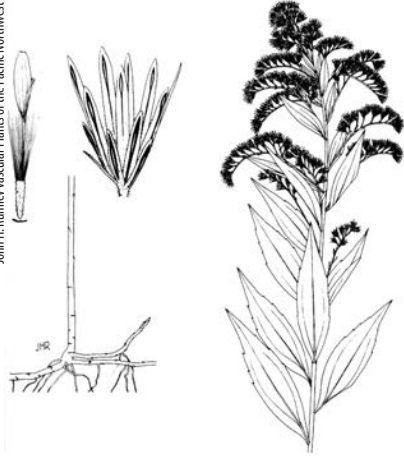


Matt Lavin



Thomas G. Barnes USDA-NRCS PLANTS Database

John H. Rumley Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FAC

Native Status: Native

Conservation Status: G5 SNR

C-Value: 6

Duration: Perennial

Elevation: 3,370ft.-9,760ft.

Synonyms: *Solidago serotina* Aiton, non Retz.

USDA PLANTS Symbol: SOGI

Key Characteristics:

- ◆ Stems (5) 10– 15 dm tall, sometimes glaucous; rhizomes short to long creeping
- ◆ Leaves narrowly elliptical, margins sharply serrate for at least half the leaf length
- ◆ Inflorescence a pyramidal panicle with recurved, secund branches
- ◆ Ray flowers 9– 15, conspicuous, yellow
- ◆ Achenes short-pubescent, 1.3– 1.5 mm long

Similar Species: *S. missouriensis* leaf margins are entire or remotely toothed and the plant is shorter, 1.5– 9 dm tall. *S. canadensis* has hairy leaves and stems.

Habitat and Ecology: Common in moist places, especially on the eastern plains.

Comments: Goldenrods are attractive sources of nectar for bees, flies, wasps and butterflies.

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 WMVC: FACW

Native Status: Native

Conservation Status: G5T5? SNR

C-Value: 5

Duration: Perennial

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

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

Hesperis matronalis L.

Dames rocket

Brassicaceae



Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU
Native Status: Non-native
Conservation Status: G4G5 SNA
C-Value: 0
Duration: Biennial, Perennial
Elevation: 4,000ft. -8,500ft.
Synonyms: None
USDA PLANTS Symbol: HEMA3

Key Characteristics:

- ◆ Stems stout, erect, 1 to few, 5– 12 dm tall, pubescent with simple, unbranched hairs; taproot
- ◆ Leaves petiolate or upper ones sessile, petioles 3– 16 (30) mm long, 7– 12 (17) cm long x 1.5– 4.5 (7) cm wide, dentate

- ◆ Racemes many-flowered; **flowers fragrant**
- ◆ Sepals 5.5– 9 mm long, oblong; **petals 17– 23 mm long, lilac to purple, rarely white**
- ◆ Siliques 5– 14 cm long, 1– 1.7 mm thick, linear, terete, torulose, glabrous; styles 0.7– 2 mm long

Similar Species: No other mustard has such large, showy, pink flowers.

Habitat and Ecology: Weedy plants found along roadsides, meadows, gardens and disturbed areas. It is common in early spring along the banks of major rivers in the Front Range, such as the Cache La Poudre.

Comments: *H. matronalis* 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, eradication methods will be discussed. Commonly escapes from gardens. The seeds are still found in several wildflower seed packets.

Lepidium latifolium L.

Broadleaved pepperweed

Brassicaceae



Jenn Forman Orth



Jenn Forman Orth

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,940ft.-7,720ft.
Synonyms: *Cardaria latifolia* (L.) Spach
USDA PLANTS Symbol: LELA2

Key Characteristics:

- ◆ Stems 4–15 dm tall, glabrous; from a vigorous, colony-forming, rhizomatous base
- ◆ **Cauline leaves oblong to lanceolate**, 2.0–10 cm long x 1.6–3 cm wide, **sessile, usually serrate**; basal leaves not pinnately lobed or pinnatifid
- ◆ Basal leaves not pinnately lobed or pinnatifid
- ◆ Flowers white; petals 4
- ◆ Silicles 2–3 mm long x 2–2.5 mm wide, broadly ovate; styles 0.05–0.15 long, lacking apical notches

Similar Species: *Lepidium (Cardaria) draba* - stem leaves have a clasping base and the fruits have cordate bases.

Habitat and Ecology: Found in disturbed areas, along ditches and roadsides and in grasslands.

Comments: *Lepidium latifolium* 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. In most mustards, the presence of sulfur and nitrogen containing glucosinolates (also known as mustard oil) helps reduce herbivory and imparts the 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 WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: Not Assigned
Duration: Annual, Biennial, Perennial
Elevation: 5,000ft. -10,500ft.
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: *Rorippa sinuata* - is pubescent with oval, white and inflated hairs. *Rorippa curvipes* - 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. Jamish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 4
Duration: Perennial
Elevation: 3,470ft. -8,500ft.
Synonyms: None
USDA PLANTS Symbol: ROSI2

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.

Saponaria officinalis L.
Bouncingbet

Carvophyllaceae

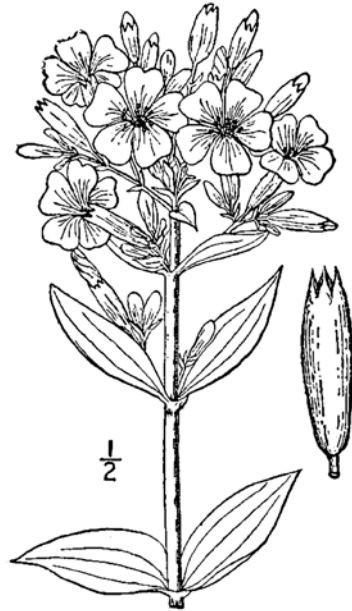


Louis M. Landry CalPhotos



Louis M. Landry CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 4,500ft. -8,500ft.
Synonyms: None
USDA PLANTS Symbol: SAOF4

Key Characteristics:

- ◆ **Stems erect, stout, branched above, 39 dm tall**
- ◆ Leaves elliptic to oblanceolate or ovate, 3.15 x 1.55 cm, 3-veined
- ◆ **Petals 5, white or pink, fragrant, slightly notched at the end, petal limb 8– 15 mm long**

- ◆ Sepals 15– 25 mm long, glabrous or with scattered hairs, not inflated
- ◆ Capsules 15– 20 mm long, dull black, round, numerous seeds per capsule

Similar Species: *Silene* spp. have petal limbs that are short, less than 8 mm, the sepals are often prominent with green or purple veins, and can be inflated.

Habitat and Ecology: Common in disturbed places, along roadsides, in floodplains and gravel bars of streams.

Comments: Toxic to animals, especially the seeds, however, most animals avoid the plant. The plant contains large amounts of saponins, which lather when rubbed under water.

Bassia scoparia (L.) A. J. Scott

Kochia or Mexican fireweed

Chenopodiaceae (Amaranthaceae)



Ernie Marx Eastern Colorado Wildflowers



Jean L. Pawek CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Annual

Elevation: 3,400ft.-9,700ft.

Synonyms: *Bassia sieversiana* (Pall.) W.A. Weber,
Kochia scoparia (L.) Schrad.

USDA PLANTS Symbol: BASC5

Key Characteristics:

- ◆ Stems erect, much branched, 3– 10 (40) dm tall, pilose to villous, sometimes glabrate below; taproots
- ◆ Leaves alternate, 1.5– 4 cm long x 1.5– 4.5 (7) mm wide, oblanceolate, bases attenuate to petiole, apices acuminate, veins 1– 3, parallel, prominent beneath
- ◆ Inflorescence of solitary flowers or 3(5)-flowered glomerules in leaf axils, glomerules sometimes associated with tufts of hair
- ◆ Calyx urn-shaped to globose, **glabrous except for 5 ciliate-margined lobes sometimes thick and tubercle-like**
- ◆ Seeds horizontal, 1.5– 2.5 mm wide, brown to black, dull

Similar Species: *Bassia hyssopifolia* - perianth segments have hooked appendages from the back, the leaves are well-developed along the stem and the flowers are in terminal spikes and axillary clusters.

Habitat and Ecology: Common in disturbed places, fields and along roadsides, sometimes on alkaline soils. Kochia has a specialized leaf structure known as Kranz anatomy. This leaf structure enables the plant to photosynthesize 50% more efficient than other plants.

Comments: Kochia is native to Eurasia but is naturalized throughout temperate North America. It was introduced as an ornamental in the early 1900s. Plants can sometimes contain high nitrate levels and can be toxic.

Chenopodium album L.

Lambsquarters

Chenopodiaceae (Amaranthaceae)



© Keir Morse
Keir Morse CalPhotos



Louis M. Landry CalPhotos

Key Characteristics:

- ◆ Stems erect, single, sometimes reddish, branches ascending, 2–7 (15) dm tall, farinose
- ◆ Leaves alternate, ovate, petioled to 4 cm long, 2–4 (6) cm long x 1–4 cm wide, upper surfaces glabrate or glabrous, **bases wedge-shaped, margins irregularly sinuate-dentate, apices rounded with mucronate tips**

Similar Species: *Chenopodium glaucum* - sepals are 3-4, glabrous and not keeled and the leaves are densely farinose below and green, glabrous above. *Chenopodium chenopodioides* - leaves and sepals are glabrous and the leaves are triangular with dentate margins. *Chenopodium rubrum* - leaves and sepals are glabrous, triangular leaves and sepals are green to red at maturity. *Chenopodium simplex* - leaves and sepals are glabrous, 5 sepals, green, fruit is horizontal and the flowers are in terminal and lateral panicles.

Habitat and Ecology: Common in disturbed places, along roadsides, and open places.

Comments: *Chenopodium album* 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, out competing native plants. If feasible, managers should consider eradication.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: G5 SNA SNA

C-Value: 0

Duration: Annual

Elevation: 4,800ft.-9,000ft.

Synonyms: None

USDA PLANTS Symbol: CHAL7

- ◆ Inflorescence consists of erect, axillary and terminal panicle, glomerules usually crowded
- ◆ Calyx deeply 5-parted, segments broad and overlapping, farinose
- ◆ Fruits 1.1–1.5 mm diameter, rim obtuse, **smooth or faintly pitted**

Chenopodium rubrum L.

Red goosefoot

Chenopodiaceae (Amaranthaceae)



Biopix



Biopix

Key Characteristics:

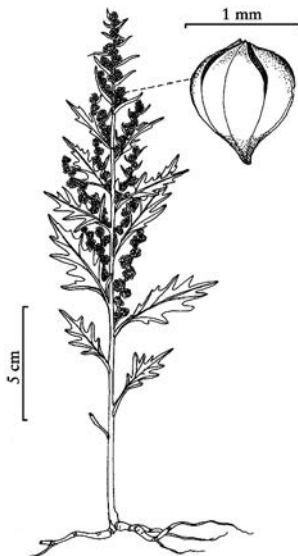
- ◆ Stems erect to ascending or prostrate, much-branched, 0.1–6 (8) dm tall, glabrous
- ◆ Leaves green, glabrous or only slightly farinose beneath
- ◆ Inflorescence of lateral glomerules, sessile on numerous axillary and terminal spikes

Similar Species: *Chenopodium chenopodioides* - is distinguished from *C. rubrum* by the fused sepals.

Habitat and Ecology: Uncommon in moist or disturbed places, usually in alkaline or saline soil.

Comments: *Chenopodium* spp. contain oxalates that will cause kidney failure if eaten in large quantities. The North American range is throughout the western and midwestern portion of North America.

Yevonn Wilson-Ramsey/Flora of North America



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 2

Duration: Annual

Elevation: 3,900ft. -10,600ft.

Synonyms: None

USDA PLANTS Symbol: CHRU

- ◆ Perianth segments 3 or 4, usually free at bases, apices broadly acute to rounded
- ◆ Fruits are ovoid, reticulate-punctate, seeds 0.6–1 (.2) mm across, reddish-brown, smooth

***Chenopodium simplex* (Torr.) Raf.**
Mapleleaf goosefoot

Chenopodiaceae (Amaranthaceae)



Louis M. Landry CalPhotos



Larry Blakely CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: NI

Native Status: Native

Conservation Status: G5 SNR

C-Value: 2

Duration: Annual

Elevation: 3,600ft.-7,000ft.

Synonyms: *Chenopodium gigantospermum* Aellen

USDA PLANTS Symbol: CHS12

Key Characteristics:

- ◆ Stems erect, single, with spreading lateral branches, conspicuously angled, 1.5(2) dm tall, bright green, glabrous, sometimes sparsely farinose when young
- ◆ Leaves alternate, petioles 1.24(6) cm long, blades thin, **principal ones large, 4.5– 10(17) cm long x 4– 8(10) cm wide, triangular, deeply dentate, pinnately veined**
- ◆ Inflorescence of axillary and terminal cymose-panicles, flowers usually separated
- ◆ Calyx deeply 5-parted, 1.2– 2 mm long, segments with a prominent midrib, opening at maturity to expose fruit
- ◆ Fruit 1.3– 1.8 mm in diameter, strongly dorsiventrally flattened with an angled margin; seeds shiny black

Similar Species: *C. simplex* has large, triangular leaves and is the only goosefoot in Colorado that is not densely farinose.

Habitat and Ecology: Found along creeks and rivers, in shady forests, and cool ravines.

Salsola tragus L. Russian thistle

Chenopodiaceae (Amaranthaceae)



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Key Characteristics:

- ◆ Stems erect, much branched, main branches opposite, near base, 2–8(10) dm tall, **red- to purple-striate, glabrous, plant forming a rounded tumbleweed at maturity**
- ◆ Leaves sessile, alternate, 1.5–5 cm long, 0.3–1 mm thick, linear to filiform, apex spinose, often persistent through flowering
- ◆ Inflorescence an open spike of solitary, axillary flowers, flowers subtended by a rigid bract, bracts spreading, often reflexed
- ◆ Calyx 5-lobed, 2.5–5 mm long, winged with 3 broad wings and 2 narrow wings
- ◆ Fruit enclosed in the persistent calyx, pericarp free from seed

Similar Species: *S. collina* inflorescence is dense, not interrupted, the bracts are strongly imbricate and ascending and the fruits lack wings. It is not as common.

Habitat and Ecology: Common in disturbed areas, along roadsides, in fields, forming huge masses along fence rows and houses, making a fire hazard. Tumbleweeds crossing roads are also a hazard for vehicles.

Comments: The main stems, after drying, can break off at the ground level under windy conditions, which allows the plants to disperse the seeds as they tumble with the wind. The skeletons will usually persist for at least one year and are typically found stacked along fences and other structures.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNRTNR SNA

C-Value: 0

Duration: Annual

Elevation: 3,500ft.–9,000ft.

Synonyms: *Salsola kali* L. ssp. *tragus* (L.) Celak., *Salsola australis* R. Br., *Salsola iberica* (Sennen & Pau) Botsch. ex Czerep.

USDA PLANTS Symbol: SATR12

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

Chenopodiaceae (Amaranthaceae)

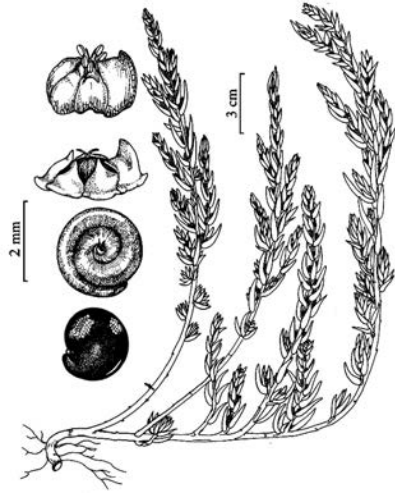


George W. Hartwell CalPhotos



George W. Hartwell CalPhotos

Yevonn Wilson-Ramsey Flora of North America



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Annual, Perennial

Elevation: 4,720ft.-8,450ft.

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

USDA PLANTS Symbol: SUCA2

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: *Suaeda 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.

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

***Suckleya suckleyana* (Torr.) Rydb.**
Poison suckleya

Chenopodiaceae (Amaranthaceae)



Greg Goodwin SELNet



Hank Jorgensen Snowbirdpix

Key Characteristics:

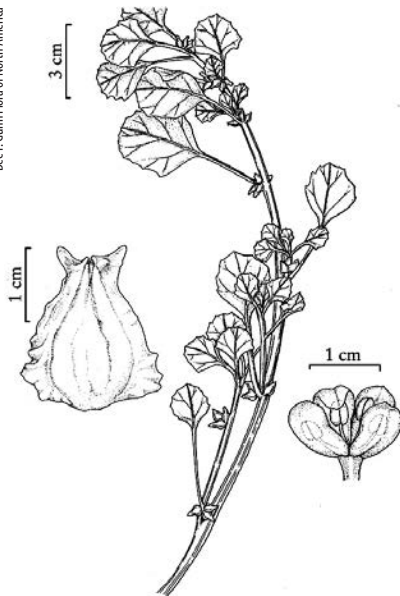
- ◆ **Stems stout, purplish-red, prostrate, 5–30 cm tall**
- ◆ **Leaves 1–3 cm long x 0.5–2 cm wide, fleshy, triangular, acute teeth; flowers inconspicuous in leaf axils**
- ◆ **Staminate flowers with 4 perianth lobes, 2 segments longer than others**

Similar Species: *Atriplex* spp. fruiting bracts are not vertically keeled.

Habitat and Ecology: Found along margins of lakes and ponds, in dried lake bottoms and dry beds of seasonal pools and in pastures. Primarily found on the Eastern Slope.

Comments: *S. suckleyana* contains cyanogenic glycosides that can produce hydrogen cyanide. When chewed or crushed, the glycosides become cyanide.

Bee F. Gunn Flora of North America



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 4
Duration: Annual
Elevation: 3,550ft.-8,380ft.
Synonyms: None
USDA PLANTS Symbol: SUSU2

- ◆ **Pistillate flowers with 4 marginal fused perianth lobes; stigmas 2**
- ◆ **Fruits are reddish-brown, enclosed by 2 dark brown bracts with ventricular keels, united to tip, ovate with winged margins, joined at tips**

Convolvulus arvensis Field bindweed

Convolvulaceae



Barry Breckling CalPhotos



Luigi Rignanese CalPhotos

Key Characteristics:

- ◆ Vines from rhizomes; stems climbing by twining or creeping, 1m long, glabrous to pubescent
- ◆ Leaves alternate, petiolate, blades 4–8 (10) cm long x 2.5–6 (8) cm wide, sagittate to hastate bases
- ◆ Peduncles from leaf-axils, 1-flowered, 3.5–12 cm long

Similar Species: *C. equitans*, a native bindweed, has a longer calyx, 6–12 mm long, and is densely pubescent. It is found in drier areas in southeastern Colorado.

Habitat and Ecology: Common along roadsides, in fields and other disturbed places.

Comments: *Convolvulus arvensis* is designated as a List C species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manger to verify identification. Once confirmed, eradication methods will be discussed. Field bindweed is one of the most aggressive perennial plants in Colorado. It is difficult to eradicate for its roots are extensive and deep, up to 10 feet. Seeds can remain viable in the soil for up to 50 years.

Neal Kramer CalPhotos



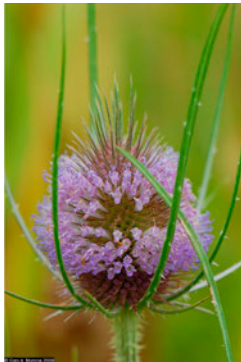
Wetland Status WMVC: NI
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,500ft.-8,500ft.
Synonyms: None
USDA PLANTS Symbol: COAR4

- ◆ Calyx 3–5 mm long, glabrous, corolla 4–6 cm long, broadly funnellform, white to pinkish
- ◆ Capsules 10 mm long, 4-seeded; seeds flattened on 2 sides

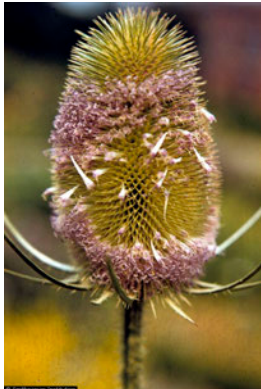
Dipsacus fullonum L.

Fuller's teasel

Dipsacaceae

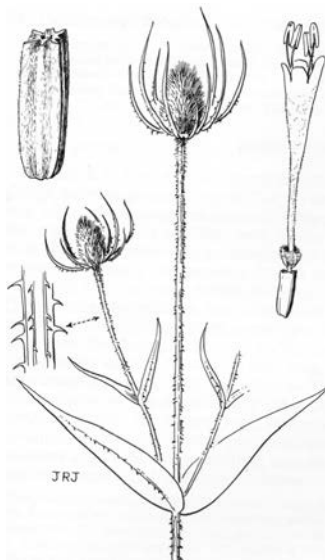


Gary A. Monroe USDA-NRCS PLANTS Database



R. A. Howard, Smithsonian Institute USDA-NRCS PLANTS Database

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACU

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Biennial

Elevation: 4,600ft.-7,000ft.

Synonyms: *Dipsacus fullonum* L. ssp. *sylvestris* (Huds.) Clapham

USDA PLANTS Symbol: DIFU2

Key Characteristics:

- ◆ Biennial 0.5– 2(3) m tall, stout
- ◆ **Stems prickly, 4-angled**
- ◆ Leaves opposite, sessile, lanceolate to oblanceolate, up to 3(4) dm long, upper most leaves not connate, hooked

- ◆ Distinct flowering heads with long involucre bracts that surpass the head
- ◆ **Flowers violet**

Similar Species: *D. laciniatus* stem leaves are dissected, the leaf bases are joined together forming a cup around the stem, and the involucre bracts are shorter or equal to the flowering head.

Habitat and Ecology: Found in moist, disturbed places such as along roadsides and in wet ditches.

Comments: *D. fullonum* 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, eradication methods will be discussed. Teasel heads are a perfect device for raising the nap on woolen fabrics; the process called fulling. This is where the common name is derived from this operation (Weber and Witmann 2011).

***Euphorbia esula* L.**
Leafy spurge

Euphorbiaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status WMVC: NI
Native Status: **Non-native**
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,500ft. -9,000ft.
Synonyms: *Tithymalus uralensis* (Fischer) Prokhanov, *Tithymalus esula* (L.) Scopoli
USDA PLANTS Symbol: EUES

Key Characteristics:

- ◆ Vigorously colonial, stems 3–7 dm tall, **milky sap**; strong-rooted, pink buds form new shoots on root crowns
- ◆ Leaves alternate, numerous, broadly linear, 3–9 cm long x 3–8 mm wide, 1-nerved, rounded at apex, not crowded

Similar Species: *E. cyparissias* leaves are smaller, 1–3 cm long x 0.5–3 mm wide and crowded on stem. Plants are also shorter, 1–4 dm tall. Weber and Wittmann (2012) recognize *Tithymalus uralensis* (*E. uralensis*). The main difference is in the leaf shape.

Habitat and Ecology: Common in disturbed areas, fields, grasslands, on floodplains, and along roadsides and streams. *E. esula* 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, eradication methods will be discussed. Leafy spurge produce a prolific and often deep root system. It produces abundant seeds that explode when dry, often projecting seeds as far as 15 feet. Seeds can remain viable up to 8 years. Entire plant contains milky juice reported to cause severe irritation of the mouth and digestive tract in cattle. Economically, this family contains important species that are the source for rubber, castor oil, and tapioca.

- ◆ Inflorescence an umbel with 7–15 rays, with a pair of well-developed leafy, heart-shaped bracts
- ◆ **Cyathium (cup-shaped involucre) 2–3 mm high, glands 4, yellowish-green**
- ◆ Seeds ellipsoid, 2–2.5 mm long, smooth with a caruncle (protuberance near attachment)

Glycyrrhiza lepidota

American licorice

Fabaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: 3

Duration: Perennial

Elevation: 3,800ft.-8,600ft.

Synonyms: None

USDA PLANTS Symbol: GLLE3

Key Characteristics:

- ◆ Stems 3– 10 (12) dm tall, coarse, thinly pubescent with fine hairs
- ◆ Leaves alternate, odd-pinnately compound with conspicuously glandular-punctate under magnification
- ◆ Inflorescence a dense, axillary spike

- ◆ Flowers aromatic, zygomorphic, greenish-white or ochroleucous; sepals 5, connate, teeth subequal; petals 5, composed of a banner, wing, and keel; stamens 9, the free stamen lacking
- ◆ **Pods sessile, densely covered with stout hooked prickles;** seeds 2– 4, purplish brown, 2.5– 3 mm long

Similar Species: None. Pods are unique in Fabaceae with pods, covered with stout, hooked prickles.

Habitat and Ecology: Colonial and common along streams and ditches, along roadsides, in disturbed areas.

Comments: Native Americans used American licorice as a medicine, usually as a tea made from dry, peeled roots.

***Lycopus americanus* Muhl. ex W. Bartram**
American water horehound

Lamiaceae

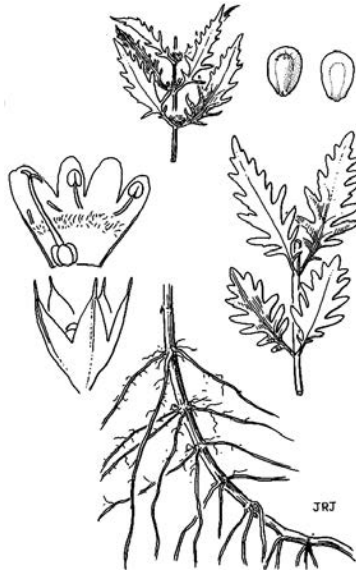


Richard Scully



Richard Scully

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,770ft.-7,500ft.
Synonyms: None
USDA PLANTS Symbol: LYAM

Key Characteristics:

- ◆ Stems 2–8 dm tall, square, simple or branched, hairy at the nodes, especially upward
- ◆ Lower leaves pinnatifid, others irregularly sharply serrate
- ◆ Calyx lobes 5, 2-3 mm long, narrow, firm, slender-pointed, with midnerve surpassing the mature nutlets
- ◆ Corolla 4-lobed, white, 2–3 mm long, barely if at all surpassing calyx; staminodes small, club-shaped
- ◆ Nutlets with a smooth, corky ridge, lateral ridges confluent around the top

Similar Species: *Lycopus asper* - leaf margins are sharply, but evenly serrate, not pinnatifid and both arise from tuberous roots. *Lycopus uniflorus* - leaf margins are sharply, but evenly serrate, not pinnatifid and both arise from tuberous roots.

Habitat and Ecology: Common in moist soil, sometimes in standing water.

Comments: Even though *Lycopus* spp. are in the mint family, they do not have aromatic leaves. They are pollinated mainly by bees.

Lythrum salicaria L.

Purple loosestrife

Lythraceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Non-native
Conservation Status: G5 SNA
C-Value: 0
Duration: Perennial
Elevation: 4,600ft.-7,100ft.
Synonyms: None
USDA PLANTS Symbol: LYSA2

Key Characteristics:

- ◆ Stems 5–15 (20) dm tall, colonial, sub-glabrous or pubescent, clustered; rhizomes extensive, long
- ◆ Leaves opposite or sometimes whorled, sessile, lanceolate to nearly linear, 3–10 cm long
- ◆ Inflorescence a spike-like panicle, **flowers 3 or more in axil of each bract**, lower bracts leafy

Similar Species: *Lythrum alatum* - is a native loosestrife that has a winged stem and flowers that are solitary or paired in the axils.

Habitat and Ecology: Locally common in moist places, along margins of ponds, in irrigation ditches and wetlands.

Comments: *L. salicaria* is designated as a List A species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manager to verify identification. It is an aggressive weed that should be eliminated immediately upon discovery.

- ◆ Floral tubes 4–6 mm long, green, 8- to 12-nerved; sepal lobes narrow, thread-like
- ◆ Petals 6, rose-purple, 7–12 mm long; **stamens mostly 12**; stigmas and anthers bent up

Plantago major

Common plantain

Plantaginaceae



Sheri Hagwood USDA-NRCS PLANTS Database



Ernie Marx Eastern Colorado Wildflowers

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FAC
Native Status: Non-native
Conservation Status: G5 SNA
C-Value: 0
Duration: Perennial
Elevation: 3,500ft.-10,500ft.
Synonyms: None
USDA PLANTS Symbol: PLMA2

Key Characteristics:

- ◆ Stems from a short, stout, erect caudex, **glabrous**, **not woolly at crown**
- ◆ Leaves, all basal, **broadly elliptic**, broadly ovate, or cordate-ovate, 4–18 cm long x 2.5–11 cm wide, blades abruptly narrowed at base to a petiole
- ◆ Spikes are dense but narrow, less than 1 cm thick, elongate, 5–30 cm long, glabrous; bracts broad, thin-margined, 2–4 mm long
- ◆ Corolla lobes reflexed, 1 mm long, stamens 4, exerted
- ◆ Capsules 2.5–4 mm long; seeds 6–30, black or brown, strongly net-veined

Similar Species: *P. major* is easily identified by its glabrous herbage and broad, elliptical leaves.

Habitat and Ecology: Common weed in disturbed places and lawns, and along roadsides.

Comments: *P. major* 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, out competing native plants. If feasible, managers should consider eradication. A poultice of leaves can be applied to wounds and stings for healing and prevention of infection.

Polygonum achoreum S.F. Blake

knotweed

Polygonaceae



Emmet J. Judziewicz University of Wisconsin at Stevens Point



Emmet J. Judziewicz University of Wisconsin at Stevens Point

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: Native

Conservation Status: G5 SNR

C-Value: 1

Duration: Annual

Elevation: 5,000ft.-6,000ft.

Synonyms: *Polygonum erectum* L. ssp. *achoreum* (S.F. Blake) Á. Löve & D. Löve

USDA PLANTS Symbol: POAC3

Key Characteristics:

- ◆ Stems prominently 8– 16-ribbed, light green, erect then decumbent, 50– 70 cm long
- ◆ Leaves with pinnate venation, elliptic to ovate or obovate, same size throughout, **often covered with a whitish, powdery mildew**
- ◆ **Tepals connate to above the middle**, enlarged at the base and abruptly pinched and narrowed above, inner tepals white-margined; anthers yellowish
- ◆ Achenes yellow-green to light brown or tan

Similar Species: *Polygonum aviculare* - leaves are linear to oblong, not as broad as *P. achoreum*. Also the fruiting perianth is 2– 3 mm long, not constricted or beaked with purple to pink tepals. *Polygonum ramosissimum* - stems usually erect, with yellowish-green margins on tepals. Leaves are also linear and the achenes are smooth. Common in disturbed places.

Habitat and Ecology: Uncommon weed in disturbed places.

Comments: *Polygonum achoreum* is a preferred plant for waterfowl. It is also 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 and end up crowding out native plants. If feasible, managers should consider eradication.

***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 WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: Not Assigned
Duration: Annual
Elevation: 3,500ft.-10,170ft.
Synonyms: *Persicaria lapathifolia* (L.) Gray
USDA PLANTS Symbol: POLA4

Key Characteristics:

- ◆ Emergent or submergent, 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: *Polygonum pennsylvanicum* (= *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.

Polygonum pensylvanicum L.

Pennsylvania smartweed

Polygonaceae



Dan Tenaglia CalPhotos

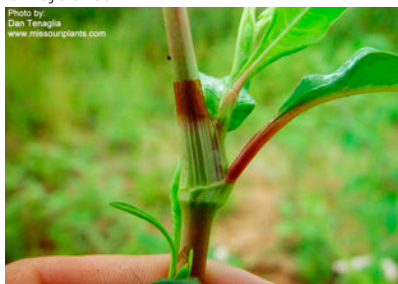


Photo by Dan Tenaglia
www.mesquitemplants.com

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 1

Duration: Annual

Elevation: 3,700ft.-8,560ft.

Synonyms: *Persicaria bicornis* (Raf.) Nieuwl.,

Persicaria pensylvanica (L.) Small

USDA PLANTS Symbol: POPE2

Key Characteristics:

- ◆ Stems 1–20 dm tall, ribbed, glandular or stipitate-glandular
- ◆ Racemes erect or rarely arching; **peduncles with stalked red-purple glands**
- ◆ Perianth glabrous or rarely glandular, **segments 5, without anchor-shaped vein**

Similar Species: *Polygonum lapathifolium* - has 4 perianth segments, the outer ones with a midvein that is divided at the top giving the nerve an anchor shape.

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

Comments: *Polygonum pensylvanicum* is preferred for moist-soil management. Flooding in fall/winter, drying in spring/summer maintains early succession to maximize food production for waterfowl and shorebirds. Techniques include disking, tilling, mowing, or using herbicides to reduce woody and perennial plants.

- ◆ Tepals pink or rose, rarely greenish-white; styles and stamens not exerted
- ◆ Achenes brownish-black to black, one side usually concave and other with central hump, shiny

Polygonum persicaria L.

Spotted ladysthumb

Polygonaceae



Keir Morse CalPhotos



Keir Morse CalPhotos

Key Characteristics:

- ◆ 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: *Polygonum persicaria* is a preferred plant for waterfowl. It is also 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 and can end up crowding out native plants.

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACW

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Annual, Perennial

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

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

USDA PLANTS Symbol: POPE3

- ◆ 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

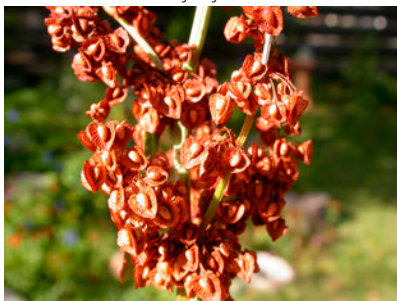
Rumex crispus L.

Curly dock

Polygonaceae



Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FAC

Native Status: Non-native

Conservation Status: GNR SNA

C-Value: 0

Duration: Perennial

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

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 present, base truncate or subcordate, margins entire or subentire to very weakly erose, flat, apices, with a tubercle (swelling)
- ◆ 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: *Rumex crispus* is a preferred plant for waterfowl. It is also 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 and can end up crowding out native plants. If feasible, managers should consider eradication.

***Rumex stenophyllus* Ledeb.**
Narrowleaf dock

Polygonaceae



Neal Kramer CalPhotos



Neal Kramer CalPhotos

Key Characteristics:

- ◆ Stems 4–8 (13) dm tall, erect, branched; rootstocks vertical, spindle-shaped
- ◆ Leaves lanceolate to oblong-lanceolate, 2–7 cm wide with truncate bases
- ◆ Inflorescence is terminal, flowers 20–25 in whorls

Similar Species: *Rumex obtusifolius* - leaves are oblong to broadly ovate, 10–15 cm wide, with cordate bases and there is only one inner tepal with a tubercle.

Habitat and Ecology: Locally common along shores of lakes, creeks, in marshes and ephemeral ponds.

Comments: *Rumex stenophyllus* is a preferred plant for waterfowl. It is also 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 and can end up crowding out native plants. If feasible, managers should consider eradication.

Bobbi Angell Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,500ft.-5,460ft.
Synonyms: None
USDA PLANTS Symbol: RUST4

- ◆ Inner tepals (valves) 3.5–5 mm x 3–5 mm, margins denticulate, apices acute; **tubercles normally 3**
- ◆ Achenes usually reddish-brown or dark brown, 2–2.5 (3) mm long x 1–1.5 mm wide

Ranunculus cymbalaria Pursh

Alkali buttercup

Ranunculaceae



Steve Matson CalPhotos



Steve Matson CalPhotos

Yevonn Wilson-Ramsey Flora of North America



Wetland Status WMVC: OBL

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

Elevation: 3,600ft.-10,000ft.

Synonyms: *Halerpestes cymbalaria* (Pursh) Greene
ssp. *saximontana* (Fernald) Moldenke

USDA PLANTS Symbol: RACY

Key Characteristics:

- Stems 0.2-3 dm tall, erect; **stolons prostrate**, rooting nodally, glabrous
- Basal leaves simple, undivided, **ovate to cordate with crenate margins, 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
- 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**

Similar Species: *Ranunculus 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.

***Ranunculus macounii* Britton**
Macoun's buttercup

Ranunculaceae



Trent M. Draper CalPhotos



Trent M. Draper CalPhotos

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 7
Duration: Perennial
Elevation: 5,000ft.-9,600ft.
Synonyms: None
USDA PLANTS Symbol: RAMA2

Key Characteristics:

- ◆ Stems 2– 10 dm tall, stems with long, spreading hairs; sometimes emergent
- ◆ Basal leaf blades simple or pinnately 3-5 lobed, 3– 9 cm long
- ◆ Cauline leaves similar to basal

Similar Species: *Ranunculus 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.

- ◆ Sepals 3.5– 8.5 mm long, hairy, reflexed; **petals 5, yellow**, 4– 6 mm long x 3.5– 5 mm wide
- ◆ Heads of achenes globose; **achenes 2– 3 mm long, glabrous; beaks 0.8– 1.5 mm long**

Verbascum thapsus Common mullein

Scrophulariaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

Wetland Status WMVC: UPL
Native Status: **Non-native**
Conservation Status: GNR SNR
C-Value: 0
Duration: Biennial
Elevation: 4,000ft. -9,500ft.
Synonyms: None
USDA PLANTS Symbol: VETH

Key Characteristics:

- ◆ Stout biennial, producing a rosette of leaves the first year, a tall, stout flowering stem the second, 3– 20 dm tall, winged by decurrent leaf-bases, herbage densely woolly hairs
- ◆ **Leaves are basal and alternate, overlapping, light green, densely woolly**

Similar Species: *Veratrum tenuipetalum* - from a distance looks similar, but the leaves are glabrous, not woolly, and flowers are dull green, not yellow.

Habitat and Ecology: Common in meadows, along roadsides, on open slopes, and in disturbed areas.

Comments: *V. thapsus* is designated as a List C species in the Colorado Noxious Weed Act. Managers are recommended to contact the County Weed Manger to verify identification. Once confirmed, eradication methods will be discussed.

- ◆ **Inflorescence a compact spike-like panicle, pedicels short; flowers sessile**
- ◆ Calyx 8– 12 mm long, lanceolate; corolla 12– 30 mm in diameter, yellow or rarely white, lobes scurfy-pubescent on back; stamens of 2 distinct types
- ◆ Capsules 7– 10 mm long, densely tomentose with stellate hairs; seeds 0.7– 0.8 mm long

Veronica americana Schwein. Ex Benth

American speedwell

Scrophulariaceae (Plantaginaceae)



Keir Morse CalPhotos



Barry Breckling CalPhotos

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6
Duration: Perennial
Elevation: 4,980ft. - 12,600ft.
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: *Veronica americana* - is distinguished from the other speedwells that grow in shallow waters by its petiolate leaves. *Veronica anagallis-aquatica* - leaves are sessile and clasping. *Veronica 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. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: OBL

Native Status: Native, Non-native

Conservation Status: G5 SNR

C-Value: Not Assigned

Duration: Biennial, Perennial

Elevation: 3,500ft.-10,200ft.

Synonyms: *Veronica catenata* Pennell, *Veronica salina* Schur.

USDA PLANTS Symbol: VEAN2

Key Characteristics:

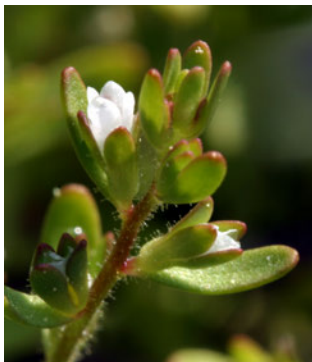
- ◆ Emergent, 1–6 (10) dm tall, stems erect, branched at base, glabrous; rhizomatous
- ◆ Leaves opposite, clasp, lanceolate to ovate, 2–6.5 cm long x 5–25 mm wide, sessile
- ◆ Flowers in axillary racemes, glabrous to glandular-puberulent, more than 30-flowered
- ◆ Calyx 3–5.5 mm long, segments broadly lanceolate
- ◆ Corolla 5–10 mm across, blue or pale violet with purplish lines; capsule not notched

Similar Species: *Veronica scutellata* - has a strongly 2-lobed capsule with a conspicuous notch and the leaves are linear, 4–20 times longer than wide. *Potamogeton richardsonii* - vegetatively, 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 WMVC: FACW
Native Status: Native
Conservation Status: G5T5 SNR
C-Value: Not Assigned
Duration: Annual
Elevation: 4,380ft.-10,200ft.
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: *Veronica wormskjoldii* - is a perennial from rhizomes. The stems are usually decumbent or prostrate at bases and pubescent with long, loose, spreading hairs. *Veronica serpyllifolia* ssp. *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.

Phyla cuneifolia (Torrey) Greene

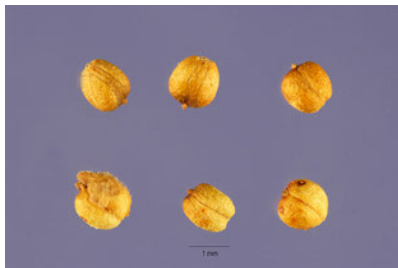
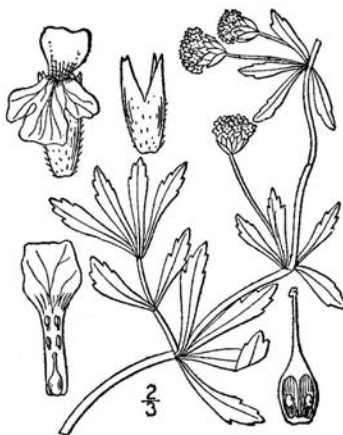
Wedgeleaf

Verbenaceae



Ernie Marx Eastern Colorado Wildflowers

USDA-NRCS PLANTS Database Britton & Brown 1913



Jose Hernandez USDA-NRCS PLANTS Database

Wetland Status WMVC: FAC

Native Status: Native

Conservation Status: G5 SNR

C-Value: 4

Duration: Perennial

Elevation: 3,500ft.-6,300ft.

Synonyms: *Lippia cuneifolia* (Torr.) Steud.

USDA PLANTS Symbol: PHCU3

Key Characteristics:

- ◆ Stems several, slender, **prostrate, sometimes rooting at nodes, up to 1 m long, from woody, deep-seated, creeping roots**
- ◆ **Leaves opposite, narrowly wedge-shaped**, 1.5–5 cm long x 2–8 mm wide, with 1–3 teeth at top, 1 prominent midvein, usually fascicled

Similar Species: *Phyla lanceolata* - leaves are broader, lanceolate or ovate, 5–30 mm wide, toothed along entire margin, not just at apex, not fascicles with conspicuous second veins

Habitat and Ecology: Locally common in moist places along the margins of ponds and streams, occasionally in open prairies.

- ◆ Flowers axillary, in a dense head-like, cylindrical spike on long peduncles, 8–12 mm in diameter, zygomorphic
- ◆ Sepals 2–4 toothed, 2-lipped; petals 5-lobed, cylindrical tube, white to pink or purplish
- ◆ Fruits are 2 nutlets, 2 mm long

***Verbena hastata* L.**
Swamp verbena

Verbenaceae

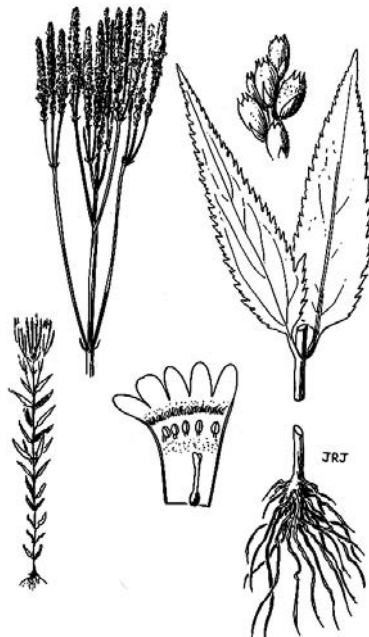


Louis M. Landry CalPhotos



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Patrick Alexander USDA-NRCS PLANTS Database

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 4
Duration: Biennial, Perennial
Elevation: 3,370ft.-9,000ft.
Synonyms: None
USDA PLANTS Symbol: VEHA2

Key Characteristics:

- ◆ Stems 4– 15 dm tall, square, branched above only, hairy
- ◆ Leaves **opposite**, lanceolate, 5– 15 cm long, lower leaves hastate, **distinctly petiolate, not veined**

- ◆ Fruiting spikes narrow to 7 mm wide, usually numerous spikes in an upright panicle
- ◆ Sepals 2.5– 3 mm long; petals blue to purplish or pink, tubes 3 mm long, limbs 2.5– 4 mm wide
- ◆ **Fruits dry, separating into 4 nutlets at maturity**

Similar Species: Other *Verbena* spp. sepals are either glandular or densely hairy. *V. bracteata* also has blue flowers arranged in spikes, but is an annual.

Habitat and Ecology: Found along margins of ponds, lakes, streams and ditches.

Comments: Widespread throughout the contiguous United States.

Symphoricarpos occidentalis

Western snowberry

Caprifoliaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

USDA-NRCS PLANTS Database Hitchcock 1950



Wetland Status WMVC: UPL
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,500ft.-8,500ft.
Synonyms: None
USDA PLANTS Symbol: SYOC

Key Characteristics:

- ◆ Shrubs, 0.3–1 m tall, spreading freely from rhizomes and forming dense colonies
- ◆ **Leaves opposite**, elliptic or ovate, entire, **2.5–8 cm long x 1.5–5 cm wide**, with irregular teeth, glabrous above, hirsute-puberulent beneath and along veins
- ◆ Flowers actinomorphic, several, 6–15 in dense, spicate clusters in the uppermost leaf axils
- ◆ Corolla white, 5–8 mm long, densely hairy within, lobes spreading; stamens and style exserted from the corolla
- ◆ **Berries white**, subglobose, 6–9 mm long; nutlets 3.5 mm long x 2–2.5 mm wide

Similar Species: Other snowberries known in Colorado occur in drier, open sites. *S. albus* can occur along riparian areas, it does not form dense colonies, stamens and style are included, and the leaves are shorter, 1–3 cm long. *S. rotundifolius* has glabrous corollas, not hairy and is found in drier habitats.

Habitat and Ecology: Common near streams and lakes, and in meadows.

Comments: The bitter berries are toxic when eaten in quantity. The branches, leaves, and roots are also poisonous.

Elaeagnus angustifolia L.

Russian olive

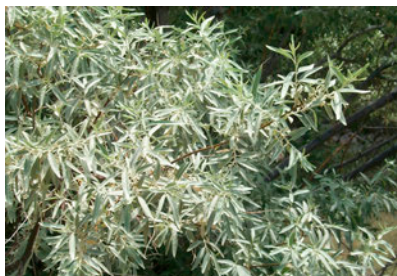
Elaeagnaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



J.S. Peterson USDA-NRCS PLANTS Database

Wetland Status WMVC: FAC
Native Status: **Non-native**
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,700ft. -7,500ft.
Synonyms: None
USDA PLANTS Symbol: ELAN

Key Characteristics:

- ◆ Trees or shrubs, 5–12 m tall, dioecious, 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.

***Amorpha fruticosa* L.**
Desert false indigo

Fabaceae



Crystal Strouse



Crystal Strouse

Key Characteristics:

- ◆ Shrubs, usually over 1 m tall, commonly 2 m tall
- ◆ Alternate, compound leaves, not gland-dotted, mostly 2–5 cm long
- ◆ **Inflorescence a dense terminal, spike-like raceme, one to several spikes in a cluster**

Similar Species: *A. nana* is usually 1 m or less tall, has conspicuously gland-dotted leaflets and is not usually found in wetlands.

Habitat and Ecology: Found in thickets and open woods, especially along streams or roadsides on the Eastern Slope.

Comments: *A. fruticosa* is utilized extensively for establishing wildlife food and cover on upland sites. A primary use is for escape cover for Scaled Quail coveys in southeastern Colorado. Additionally, it attracts birds and butterflies that feed on flowers and seeds. Widespread throughout the contiguous United States.



Crystal Strouse



Steve Hurst USDA-NRCS PLANTS Database

Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 7

Duration: Perennial

Elevation: 3,700ft.-6,000ft.

Synonyms: *Amorpha fruticosa* L. var. *angustifolia* Pursh

USDA PLANTS Symbol: AMFR

- ◆ Flowers dark blue or purple, composed of banner, wings and keels; stamens 10, united in twos
- ◆ **Pods glabrous**, 5–9 mm long x 1.5–4 mm wide

Ribes aureum Pursh

Golden currant

Grossulariaceae



Al Schneider Southwestern Colorado Wildflowers



Gary A. Monroe USDA-NRCS PLANTS Database



Steve Hurst USDA-NRCS PLANTS Database



Al Schneider Southwestern Colorado Wildflowers

Key Characteristics:

- ◆ Shrubs, 1–3 m tall, lacking spines or bristles
- ◆ Leaves 4.0 cm or less wide, commonly 3–5 lobes, sub-obtuse, margins coarsely dentate, finely hairy to glabrous
- ◆ Hypanthium cylindrical, (4)5–10(13) mm long, glabrous

Similar Species: Two varieties occur in Colorado:

- 1a. hypanthium mostly less than 10 mm long, usually less than twice as long as the sepals; largest leaves usually 3 lobed with obtuse teeth...var. *aureum*
- 1b. hypanthium mostly 10 mm or more long, usually at least twice as long as the sepals; largest leaves usually 5-lobed with pointed teeth...var. *villosum* DC. [= *Ribes odoratum* H. Wendl.]

Habitat and Ecology: Common on dry, often sandy slopes, along ditches and streams, and along roadsides.

Comments: Important food source for Native Americans. Fruits were eaten fresh or dried and mixed with meat to make pemmican.

Wetland Status WMVC: FACU
Native Status: Native
Conservation Status: G5 SNR
C-Value: 6
Duration: Perennial
Elevation: 3,500ft.-8,500ft.
Synonyms: None
USDA PLANTS Symbol: RIAU

- ◆ **Flowers bright yellow, solitary or in erect racemes, with a smell of cloves**
- ◆ Berries red or orange, 5.2–10 mm in diameter, glabrous

***Ribes inerme* Rydb.**
Whitestem gooseberry

Grossulariaceae



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers



Al Schneider Southwestern Colorado Wildflowers

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 5,500ft.-10,500ft.
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: *Ribes americanum* - also has glabrous ovaries and berries, but has distinctive leaves with yellow gland-dots on lower surfaces and no spines.

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 deltoides* Bartram ex Marsh. ssp. *monilifera
Plains cottonwood

Salicaceae

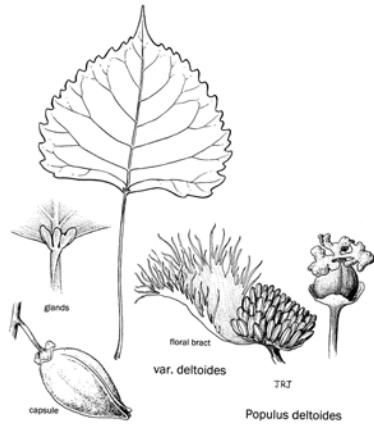


Diane Blaser



Al Schneider Southwestern Colorado Wildflowers

Jeanne R. Janish Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,500ft.-9,500ft.
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 (male and female flowers on separate plants)
- ◆ **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: Cottonwoods provide critical habitat for many wildlife species. They provide habitat for deer, elk, beaver, porcupines, rabbits, mice and rodents.

Salix amygdaloides Andersson

Peachleaf willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program

Key Characteristics:

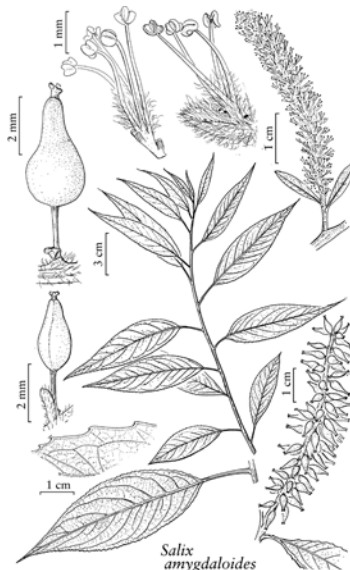
- ◆ Trees 12– 20 (30) m tall, crooked; bark shaggy; bud scales with free overlapping margins
- ◆ Leaves glaucous on underside, lanceolate to ovate, serrulate; petioles drooping, 5– 21 mm long

Similar Species: *Salix fragilis* - has duck bill-shaped bud scales and yellow branchlets.

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.

John Myers eFloras of North America



Salix amygdaloides

Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G5 SNR

C-Value: 5

Duration: Perennial

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

Synonyms: None

USDA PLANTS Symbol: SAAM2

- ◆ 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

***Salix exigua* Nutt.**
Narrowleaf or coyote willow

Salicaceae



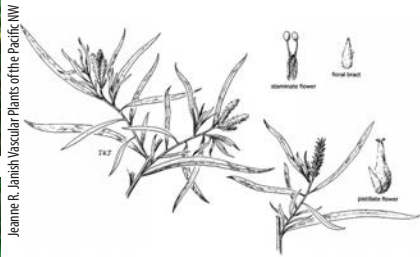
Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program



Pam Smith Colorado Natural Heritage Program



Jeanne R. Jamish Vascular Plants of the Pacific, NW

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G5 SNR
C-Value: 3
Duration: Perennial
Elevation: 3,350ft.-9,600ft.
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: *Salix 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.

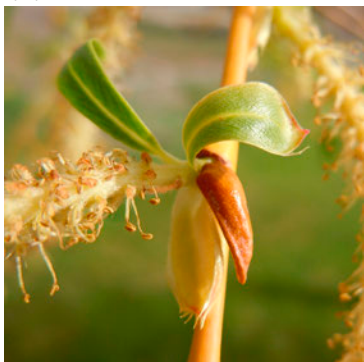
Comments: Narrowleaf or coyote willow has perhaps the greatest range of all willows, from the Yukon River in Alaska to the Mississippi river in southern Louisiana, east to west in North America.

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

Similar Species: *Salix 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, multiple = cottonwood and single = willow, 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 control. 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 WMVC: FAC
Native Status: Non-native
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 4,700ft.-9,000ft.
Synonyms: None
USDA PLANTS Symbol: SAFR

- ◆ Catkins appear with leaves, 2–8 cm long; peduncles 1–5 cm long, leafy
- ◆ 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 irrorata Andersson

Bluestem or dewystem willow

Salicaceae



Allison Shaw Colorado Natural Heritage Program



Allison Shaw Colorado Natural Heritage Program



John Myers Flora of North America



Danise Oliver Colorado Natural Heritage Program

Wetland Status WMVC: FACW
Native Status: Native
Conservation Status: G4G5 SNR
C-Value: 7
Duration: Perennial
Elevation: 5,100ft.-9,500ft.
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: *Salix drummondiana* - is typically found in the mountains, has hairy capsules and leaves with dense silver hairs on the underside. The distinguishing character for *S. irrorata* is that the previous year's branchlets are distinctively pruinose, not the first year branchlets. *Salix geeyeriana* - has hairy leaves and hairy capsules.

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 lutea* Nutt.**
Yellow willow

Salicaceae



Denise Culver Colorado Natural Heritage Program



Denise Culver Colorado Natural Heritage Program



Wetland Status WMVC: FACW

Native Status: Native

Conservation Status: G4G5 SNR

C-Value: 6

Duration: Perennial

Elevation: 3,690ft.-8,900ft.

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: Locally common 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

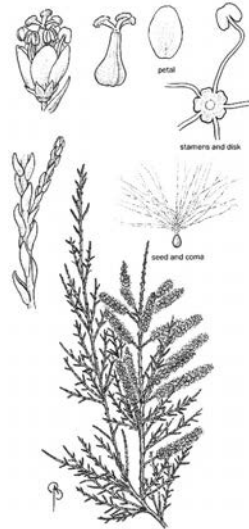


Michael H. Cota Flickr Creative Commons



Al Schneider Southwestern Colorado Wildflowers

Bobbi Angel Vascular Plants of the Pacific Northwest



Wetland Status WMVC: FACW
Native Status: **Non-native**
Conservation Status: GNR SNA
C-Value: 0
Duration: Perennial
Elevation: 3,390ft.-8,000ft.
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: *Tamarix parviflora* - *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 Manger 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 very small, pink to white, 5 petals, 1.4–2.5 mm long, appearing with and after leaves
- ◆ Capsules lance-subulate, 3–4 mm long

Parthenocissus quinquefolia (L.) Planchon

Virginia creeper

Vitaceae



James H. Miller USDA-NRCS PLANTS Database



Patrick Alexander USDA-NRCS PLANTS Database

USDA-NRCS PLANTS Database Britton & Brown 1913



Wetland Status WMVC: FACU

Native Status: **Non-native**

Conservation Status: G5 SNA

C-Value: 0

Duration: Perennial

Elevation: 5,000ft.-8,000ft.

Synonyms: None

USDA PLANTS Symbol: PAQU2

Key Characteristics:

- ◆ **Stems woody vines, with white pith; tendrils with adhesive cups**
- ◆ **Leaves palmately compound, usually with 5 leaflets, coarsely serrate, dull green above**
- ◆ **Inflorescence terminal and from upper axils, forming a panicle of cymes with a central axis**

Similar Species: *Vitis riparia* - leaves are simple, not palmately compound and stems have brown pith.

Habitat and Ecology: Cultivated, commonly grown on stone buildings and occasionally found on fencerows around towns.

Comments: Berries are reported to be poisonous.

- ◆ Flowers 25–200 per inflorescence; calyx flat; petals 5, separate, yellowish-green, 2–3 mm long
- ◆ Fruit a drupe black or dark blue, globose, 5–8 mm in diameter

***Vitis riparia* Michx.**
Riverbank grape

Vitaceae



Ernie Marx Eastern Colorado Wildflowers



Ernie Marx Eastern Colorado Wildflowers

USDA-NRCS Wetland Flora



Wetland Status WMVC: FAC
Native Status: Native
Conservation Status: G5 SNR
C-Value: 5
Duration: Perennial
Elevation: 3,500ft.-7,000ft.
Synonyms: None
USDA PLANTS Symbol: VIRI

Key Characteristics:

- ◆ Woody vine to 25 m, tendrils normally opposite most leaves, bark of old stems shedding
- ◆ Leaves simple, serrate, deeply lobed, upper surface glabrous, lower glabrous or pubescent along the veins or cobwebby pubescent at the base
- ◆ Inflorescence is a thyse (densely compact panicle), usually greater than 8 cm long
- ◆ Calyx united at apex; corolla deciduous
- ◆ Berries crowded, 7–11 mm in diameter, purple-black, with a heavy bloom, acid

Similar Species: *Parthenocissus quinquefolia* - leaves are palmately compound and the stems have white piths.

Habitat and Ecology: Found along streams, in canyons and open hillsides from the Eastern Slope to foothills.

Comments: *V. riparia* grapes are edible and provide food for song birds, game birds, waterfowl and wildlife.

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.

- 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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