

# Bunchgrasses of McDowell Sonoran Preserve

A field guide created by Steve Jones and McDowell Sonoran Conservancy



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# Bunchgrasses

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## Non-Native Species



### **Buffelgrass**

*Pennisetum ciliare*

Non-native grass introduced as a dry-land range grass that has spread into American and Australian desertlands. Leaves are variable, 3 to 50 cm long and wider than most natives, 2 to 13 mm across. Mature leaves often have red-purple coloration. **The spikelike inflorescence and bristly flowers and seeds help separate it from native bunchgrasses.** Seedlings appear flattened; leaves emerge at 180 degree angles to each other.

***How to ID:*** *Wide leaves; spikelike inflorescence; bristly flowers; when dry, yellowish coloration from a distance*



### **Fountain Grass**

*Pennisetum setaceum*

An ornamental grass that has escaped landscaped areas. A tall, dense plant to 1.5 meters. Leaves are 20 to 65 cm long and 2 to 3.5 mm wide. The lateral margins of the leaves are serrate. Running a finger along the edge indicates how rough they are. They are capable of cutting skin if not handled carefully. Flowers and seeds are located on the terminal 8 to 32 cm of the flowerstalk. Seeds have numerous long bristles and red-purple coloration, fading to beige with age. Typically grows in boulder piles and along washes.

***How to ID:*** *Narrow, long leaves, rough on edges; long flowerstalk; tall, dense, grass from a distance; beige when dry*

## Native Species



### **Arizona Cottontop**

*Digitaria californica*

Bunchgrass to 1 meter tall with conspicuous white seedheads, these with 4 to 10 finger-like branches atop a long stem. Stem is often bent at the base. Short leaves 2 to 12 cm long and 2 to 5 mm across. Seed 3 to 5 mm long with dense white hairs. Usually found on north slopes and in boulder piles.

**How to ID:** *Showy white, cottony seedheads*



### **Big Galleta**

*Hilaria rigida*

Large bunchgrass that bears some resemblance to buffelgrass. Leaves are short, 2 to 10 cm long and 2 to 5 mm wide. The flowers and seeds, if present, differ from buffelgrass in that they have only a single bristle on each seed. Seeds do bear hairs, though. Look for the wide bract below the flower or seed. Also look for fine, cobwebby hairs on the stems and leaves. (If the plant is hairless but otherwise fits the description, it may be big galleta's cousin *tobosa* grass.) From a distance, note the whitish appearance of the plants, compared to the yellowish coloration in buffelgrass.

**How to ID:** *Single bristle on each seed; fine hairs on stems and leaves; when dry, whitish appearance from distance*



## Bullgrass

*Muhlenbergia emersleyi*

The plant is over 1 meter tall, with leaves to 50 cm long; leaves can be flat or folded, 2 to 6 mm across. Flowering and fruiting heads are dense with some reddish color. Short, fine awns on the seeds give the inflorescence a feathery appearance.

**How to ID:** Tall grass with dense, soft inflorescence



## Bush Muhly

*Muhlenbergia porteri*

Bushy, weak-stemmed grass often growing with support of shrubs. It can reach 1 meter tall or more. It is a very fine, feathery plant. Leaves are short, 2 to 8 cm long and 0.5 to 2 mm wide. Fresh growth is green, but it turns red-purple with time, fading after maturity to beige. The inflorescence branches stiffly at right angles from the stem; flowers and seeds are found at the ends of long stalks.

**How to ID:** Dense, weak-stemmed grass with short leaves



### Cane Beardgrass

*Bothriochloa barbinodis*

Tall, open grass with a few to many stems, most over a meter tall. Flowerheads green, 5 to 14 cm long at the end of the long stalk; mature seedheads are conspicuously white. Seeds are densely hairy with a single long, once-bent awn; hairs arise from the base of the seed (seeds appear similar to desert needlegrass). Leaves are 30 cm long and 2 to 7 mm wide. Also called cane bluestem, among other names.

***How to ID:*** *White seedheads; hairy seeds with bent awn*



### Curly Mesquite

*Hilaria belangeri*

Small perennial plant about 35 cm tall. Leaves are short, 3 to 15 cm long and 1 to 3 mm wide. It reproduces by seed as well as by above-ground stolons (also called runners). The flowerheads have some purple coloration. Large, spreading bracts below the seeds help with the ID, as well as with its cousin big galleta grass.

***How to ID:*** *Large spreading bracts below the seeds*



## Desert Needlegrass

*Pappostipa speciosa*

Medium-sized, fine-leaved, dense bunchgrass under 1 meter tall. Leaves are 10 to 30 cm long and only 0.5 to 2 mm wide, usually rolled (see photo). Flowerhead and seedhead spikelike. Seed hairy with a single bent awn above. Hairs arise from along the awn (seed similar to cane beardgrass).

**How to ID:** *Fine-leaved grass with rolled leaves smooth to the touch*



## Fluffgrass

*Dasyochloa pulchella*

Fluffgrass (aka low woollygrass) is a very small perennial grass. No more than 15 cm tall, it is awfully bristly for a plant with those common names. The tips of the leaves are sharp. New leaf growth is covered in a fine cobwebby material that soon blows or washes away. The seeds are densely hairy and white.

**How to ID:** *Very short; seeds densely haired and white*



### Green Sprangletop

*Leptochloa dubia*

Green sprangletop is a 1-meter tall, fall-flowering bunchgrass. The open panicle resembles that of sand dropseed, although the plant is taller and the branches of the inflorescence are longer, to 19 cm. Sand dropseed branches are up to 6 cm long.

**How to ID:** *Panicle inflorescence with branches at 90-degree angle from the culm*



### Littleseed Muhly

*Muhlenbergia microsperma*

Small plant with fine features, generally no more than 50 cm tall. Leaves 3 to 8 cm long and 1 to 2.5 mm wide. Inflorescence weakly spreading; fine awns present on the seeds. All parts of the plant can have some red-purple coloration. Similar to its larger cousin bush muhly.

**How to ID:** *Small grass with open inflorescence; small, awned seeds*





Photo by Mark Hyde



Photo by Don Davis

### Nine-Awned Pappus Grass

*Enneapogon desvauxii*

Small, dense bunchgrass with very fine leaves; under 45 cm tall. It is one of the few native grasses with bristly seedheads similar to the non-native *Pennisetums*. But as the name indicates, the "bristles" are in fact awns, which are gray to white in color.

**How to ID:** Short plant; bristly seedheads



### Poverty Three-Awn

*Artistida divaricata*

A relative of purple three-awn and sharing many characteristics, including the awned seeds. But the inflorescence is stiff and branches at right angles from the stem. It is not as common as its cousin, and is often found growing with it. It reaches about 75 cm in height. Leaves are short and narrow, 20 cm long and 1 to 2 mm wide, and are often rolled or folded.

**How to ID:** Short, narrow leaves, often rolled; right-angle branching; three awns on seeds



### Purple Three-Awn

*Aristida purpurea*

The mature plant is dense with many leaves and inflorescences. Leaves are 25 cm long and 1 to 1.5 mm wide. Purple three-awn has feathery inflorescences; Parish's purple three-awn inflorescences are stiff. Flowers and immature seeds have three awns parallel to each other; with maturity the awns spread by twisting a bit at the base.

**How to ID:** *Short, narrow leaves; stiff or feathery inflorescence; three awns on seeds*



### Sand Dropseed

*Sporobolus cryptandrus*

Typically found at higher elevations and moist areas. Open plant to 1 meter or more tall. Leaves 5 to 25 cm long and 2 to 6 mm wide. Flowerstalk with right-angle branching and a long-pyramidal shape. Seeds large, rounded, about 1 mm long. Some red-purple coloration in the seedhead.

**How to ID:** *Pyramid-shaped panicle with branches at right angles from culm*



## Sideoats Grama

*Bouteloua curtipendula*

Medium height plant to 80 cm tall. Leaves are 30 cm long and from 2.5 to 7 mm across. Flowers and seeds are borne along one side of the inflorescence, a distinct character in this group. Old flowerstalks often show the points of attachment along one side of the stem. Flowers often have some red-purple coloration. Most common on north-facing slopes and boulder piles.

**How to ID:** *Flowers/seeds on one side of inflorescence*



## Slim Tridens

*Tridens muticus*

Small to medium-sized, open bunchgrass to 80 cm tall. Leaves narrow, 1 to 4 mm wide and usually rolled or folded. Spikelets alternating from one side of the flowerstalk to the other (see photos). Flowers and seeds have some red-purple coloration and short hairs.

**How to ID:** *Alternating spikelets with 5–10 seeds each; short hairs on spikelets*



## Squirreltail

*Elymus elymoides*

Medium-sized dense bunchgrass 40 to 60 cm tall with a striking inflorescence. Awns are 2 to 12 cm long, straight in flower, twisting at the base when ripe, creating an easily-recognizable seedhead. Leaves are short and narrow, usually folded or rolled. Seeds break away readily when ripe, but some may be retained on old inflorescences.

**How to ID:** *Seeds with long, straight awns; bristly inflorescence resembling squirrel's tail*



## Tanglehead

*Heteropogon contortus*

An uncommon grass to 1.5 meters tall. Leaves are short, only 10 to 15 cm long and 2 to 7 mm wide. The yellow-brown foliage on old plants bears some resemblance to old buffelgrass foliage. Flowers are dark brown, as are young seeds. The long awn twists at the base as it matures but is a very dark color as compared with other twisted-awn species. The twisted awn will relax when wet; alternating twisting and relaxing actions help to drill the sharp-pointed seed into the soil. Occasionally a twisting awn will wrap itself and a clump of other seeds around the flower stalk. The bare flower stalk is often topped with a small spindle-like structure.

**How to ID:** *Stiffly erect stems with dark flowerhead and seeds*

## Bunchgrasses of McDowell Sonoran Preserve

Notes:



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