

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PMPOA0W010

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Beckmannia syzigachne*

COMMON NAME: American Sloughgrass

SYNONYMS: *Panicum syzigachne* (Basionym), *Beckmannia eruciformis* subsp. *syzigachne*.

FAMILY: Poaceae

AUTHOR, PLACE OF PUBLICATION: Fernald, Merritt Lyndon. *Rhodora* 30(350): 27. 1928.

TYPE LOCALITY: Japan. (Isotype).

TYPE SPECIMEN: MO-440036. P.F.W. Goering (#17). No date. (Isotype).

TAXONOMIC UNIQUENESS: *Beckmannia* is a genus of two species: an annual (or in some situations a weak perennial) usually with one fertile floret per spikelet that is native to North American and Asia, and a perennial species with two fertile florets per spikelet that is restricted to Eurasia (Barkworth et al, 2007).

DESCRIPTION: Annual (can be short-lived perennial). Culms tufted, erect, soft, 15–90 cm tall, 2–4-noded. Leaf sheaths glabrous, usually longer than internodes; leaf blades 5–20 cm, 3–10 mm wide, grayish green, scabrid or abaxial surface smooth, apex acute; ligule 3–8 mm. Inflorescence 10–30 cm; racemes erect or narrowly ascending, 1–4 cm. Spikelets orbicular-cuneate in outline, flattened, 2.5–3 mm, gray-green, floret 1(–2); glumes glabrous or hispid, slightly inflated, laterally compressed, veins prominent, linked by oblique transverse veinlets; lemma scaberulous, apex cuspidate-aristate. Anthers 0.4–1 mm. Caryopsis oblong, ca. 1.5 mm, with a tuft of hairs at apex. Fl. and fr. Apr–Oct. $2n = 14$. (Encyclopedia of Life.)

AIDS TO IDENTIFICATION: The spikelets have very short pedicels and are arranged on only one side of the panicle branches.

ILLUSTRATIONS:

Photos and herbarium sheets: <http://eol.org/pages/1114727/media>.

Photos and drawings: <http://plants.usda.gov/core/profile?symbol=BESY>.

TOTAL RANGE: North America and Asia. Throughout Canada to Alaska. In the continental United States, from Maine to California following a southwest diagonal line that includes Pennsylvania, Missouri, Kansas, New Mexico and Arizona (but not Oklahoma and Texas).

RANGE WITHIN ARIZONA: Known from 10 collection sites in Coconino and Apache Counties, clustered in four localities: (1) springs and small lakes on the North Kaibab Walhalla Plateau, (2) Tule Canyon in the Sycamore Canyon Wilderness Area, (3) Luna Lake and near Greer and Alpine, and (4) Wheatfield Lake and Canyon de Chelly and the Chuska Mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Tall, annual (or short-lived perennial), grass.

PHENOLOGY: Range-wide: Flowers and fruits April to October. Fruits were noted on Arizona collections from July to September.

BIOLOGY:

HABITAT: Moist habitats such as marshes, floodplains and meadows, edges of ponds, lakes, streams and ditches, and in standing water (Barkworth et al, 2007). Species has also been considered as a preferential halophyte which exhibits its best growth on saline soils, but will also grow on non-saline soils (Chapman 1960 in EOL).

ELEVATION: From Arizona collections: 6340 – 8400 feet (1933 - 2561m).

EXPOSURE: Not specified, but probably either open, or partially shaded by forest trees surrounding the wetland locality.

SUBSTRATE: Not specified, but apparently moist to aquatic soils, including saline.

PLANT COMMUNITY: Aquatic or semi-aquatic communities associated with high-elevation wetlands in aspen-fir, mixed conifer, and Ponderosa pine forests. Species associated with Arizona collections include: *Ranunculus*, *Phleum*, *Poa pratensis*, *Agrostis alba*, *Glyceria* spp., *Achillea millefolium*, *Veronica Americana*, *Juncus*, *Eleocharis*, *Medicago lupulina*, *Ceratocephala testiculata*, *Rorippa teres*, *Equisetum*, *Plantago major*, *Bromus tectorum*, *Salix*, *Mimulus*, *Solidago*, *Alisma plantago-aquatica*, *Navarretia proponqua*, and *Polygonum amphibium*.

POPULATION HISTORY AND TRENDS: Not known for Arizona. First collected from a small lake on the Walhalla Plateau in 1951, and was recollected again in 1998. The most recent collection listed the plant as “common.” Accordingly, since this site has hosted the species for nearly 50 years and most recent collections rank the plant as common, this population can be considered as well established and stable. Note that its location within the Grand Canyon NP also offers protection from grazing. The wide but clustered distribution of the 10 collections in Arizona suggests that the full distribution has yet to be determined.

There is less population data available from other sites in and near the Chuska Mountains of the Navajo Nation, and within national forests, but at one of the Navajo Nation sites only four plants were seen in 1991. The species is currently listed by NatureServe as critically imperiled in Arizona with on six known collection sites identified. During a review in 2013, and additional four element occurrences were mapped.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.
STATE STATUS: None.
OTHER STATUS: None.

MANAGEMENT FACTORS: Known to be palatable to livestock.

PROTECTIVE MEASURES TAKEN: None known, but for the three collection sites within the Grand Canyon NP and Canyon de Chelly NM, there would be protection from grazing. Five sites are with National Forests, but the species is not listed as sensitive so it is unlikely that much protection is offered.

SUGGESTED PROJECTS: Conduct surveys at other higher elevation wetland locations to better ascertain the distribution of the species.

LAND MANAGEMENT/OWNERSHIP: Of the 10 known sites, two are within the US National Park Service Grand Canyon NP and one within Canyon de Chelly NM, two are on the BIA Navajo Nation lands, and the remaining five were found on US National Forest lands (one on the south Kaibab, and four in Apache-Sitgreaves NF).

SOURCES OF FURTHER INFORMATION

REFERENCES:

Barkworth, Mary E., et. al. 2007. Manual of Grasses for North America. Intermountain Herbarium and Utah State University Press, Logan UT. p. 112.

Encyclopedia of Life, *Beckmannia syzigachne*, accessed 4/24/2014.
<http://eol.org/pages/1114727/details>.

Hitchcock, A.S. 1971. Manual of the Grasses of the United States. 2nd ed. Vol I. Dover Publications, NY. p. 508.

JSTOR| Global Plants, accessed 4/24/2014.
<http://plants.jstor.org/search?plantName=%22Beckmannia+syzigachne%22&syn=1>

NatureServe Explorer, An Online Encyclopedia of Life, accessed 4/24/2014.
<http://explorer.natureserve.org/index.htm>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: *B. syzigachne* is palatable to livestock, and if sufficiently abundant can be an important forage grass. The grass can also be cut for hay (Hitchcock, 1971).

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