

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PMALI020B0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Echinodorus berteroi*
COMMON NAME: Upright Burhead
SYNONYMS: *Alisma berterioanum*, *A. berteroi*, *A. cordifolium*, *A. rostratum*, *A. sprengeli*, *Echinodorus berteroi* subsp. *patagonicus*, *E. b.* var. *berteroi*, *E. b.* var. *lanceolatus*, *E. b.* var. *patagonicus*, *E. cordiflorus*, *E. c.* var. *lanceolatus*, *E. c.* var. *berterioanus*, *E. patagonicus*, *E. radicans*, *E. rostratus*, *E. r.* var. *lanceolatus*, *Sagittaria radicans*.
FAMILY: Alismataceae

AUTHOR, PLACE OF PUBLICATION: Fassett, Norman Carter. *Rhodora* 57(677): 139. 1955.

TYPE LOCALITY: United States: "Margin of ponds, American bottom"

TYPE SPECIMEN: MO 2284234. G. Engelmann, #s.n. September 1846.

TAXONOMIC UNIQUENESS: There are five species in the genus *Echinodorus* found in the United States. *E. berteroi* is the only species found in Arizona, and was only discovered here in 1956.

DESCRIPTION: Herbs, annual or perennial, stout, to 70 cm; rhizomes present. Leaves emersed or submersed; submersed leaves mostly absent; petiole terete to triangular, 2--36 cm; blade with translucent markings present as distinct lines, elliptic, lanceolate, or ovate, 2.6--15.5 × 0.5--20 cm, base truncate or occasionally cordate to tapering. Inflorescences racemes, rarely panicles, of 1--9 whorls, each 1--3(--4)-flowered, erect, 1.5--40 × 1.7--50 cm, not proliferating; peduncles 3--5-ridged, 2.1--57 cm; rachis triangular; bracts distinct, lanceolate, 0.3--2.5 cm, coarse, margins scarios; pedicels spreading to ascending, 0.6--2.8 cm. Flowers 6--11 mm wide; sepals spreading to recurved, 9--13-veined, veins not papillate; petals clawed; stamens 9--15; anthers versatile; pistils 45--200. Fruits oblanceolate, plump, 3--5-ribbed, abaxially 2-keeled, 0.9--3.2 × 0.6--2.5 mm; glands 1--2; beak terminal, 0.6--1.3 mm. 2n = 22. (Flora of North America 2016).

AIDS TO IDENTIFICATION: *Echinodorus berteroi* is an extremely easy species to recognize when in fruit. The elongated beaks of the fruits project upward, giving the fruiting head an echinate appearance. The similar *Echinodorus tenellus* (which is not found in

Arizona) is a small plant (to 25 cm tall) with lance-shaped to linear leaves, 1 - 3 mm petals, six or nine stamens, and ten to twenty achenes per seed head.

ILLUSTRATIONS:

Photos and Herbarium Mounts:

<http://swbiodiversity.org/seinet/taxa/index.php?taxon=Echinodorus%20berteroi>.

Photos: <http://eol.org/pages/1087877/media>, and <http://calphotos.berkeley.edu>.

TOTAL RANGE: Southern United States: California to Tennessee, Georgia and Florida, north to Ohio and South Dakota; also Mexico, South America and the West Indies.

RANGE WITHIN ARIZONA: Yuma County: Imperial National Wildlife Refuge.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Annual or short-lived perennial herb.

PHENOLOGY: Flowering: mid-summer to fall.

BIOLOGY:

HABITAT: Clay soils of wet ditches, streams and shallow ponds; fresh water.

ELEVATION: 0 - 2625 feet (0-800m).

EXPOSURE:

SUBSTRATE: Mud and shallow water.

PLANT COMMUNITY: Aquatic.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. Although widely distributed throughout the southern United States as well as Mexico, South America and the West Indies, there is only a single known collection from Arizona (and the Colorado River) made in 1956.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None. In Arizona, the only occurrence is within a national wildlife refuge.

SUGGESTED PROJECTS: Survey downstream to determine if distribution has expanded.

LAND MANAGEMENT/OWNERSHIP: U.S. Bureau of Reclamation.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Fassett, Norman C. 1955. in the American Tropics. *Rhodora* 57(677): 133-148. Flora or North America (eFloras.org), accessed 2/11/2016, http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=222000050.
- JStor| Global Plants, accessed 2/11/2016, <http://plants.jstor.org/stable/10.5555/al.ap.specimen.mo-2284234>.
- Kearney, T.H., R.H. Peebles, and collaborators. 1951. Arizona flora. 2nd edition with Supplement (1960) by J.T. Howell, E. McClintock, and collaborators. Univ. California Press, Berkeley. 1085 pp.
- NatureServe Explorer, accessed 2/11/2016, www.explorer.natureserve.org.
- Tropicos, accessed 2/11/2016, <http://www.tropicos.org/Name/900217>

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: The generic name came from the fruiting head of this species. *Echinodorus* comes from the Greek words echinus, meaning "rough husk," and doros, meaning "leather bottle," referring to the prickly fruit.

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Abstract