

PHALARIS ARUNDINACEA (POACEAE: AVENEAE)
A SPECIES NEW TO TEXAS
AND A KEY TO PHALARIS IN TEXAS

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ABSTRACT

The occurrence of *Phalaris arundinacea* L., Reed canarygrass, in Texas is reported and a key to the genus *Phalaris* in Texas is provided.

RESUMEN

Se reporta la presencia de *Phalaris arundinacea* L., en Texas y se provee una clave para el genero *Phalaris* en Texas.

During the week of May 20–23, 2002, while compiling data from specimens at the herbarium of West Texas A & M University (WTS), a misidentified specimen of *Phalaris arundinacea* L. was found in the WTS collection. The sheet, originally identified as *Phalaris caroliniana* Walt., was collected by Larry C. Higgins in Hemphill County, Texas on June 29, 1978. Visits were made by the authors to the original collection site to determine whether the species still occurred in the state. In July 2002, the species could not be found, however on July 23, 2003, the species was located and persisting in the vicinity of Lake Kiowa on the Shannon Ranch in Hemphill County, Texas. At that time collections were made, and later accessioned at the S. M. Tracy Herbarium (TAES) of Texas A & M University in College Station, Texas. All specimens were identified using Chase (1951) and McGregor et al. (1986), and subsequently verified using TAES specimens.

The North American distribution of *P. arundinacea* is documented in numerous sources. Chase (1951) indicated a range from Canada extending south to New Mexico, Oklahoma, Missouri, Kentucky, and North Carolina. Allred (1993) cited occurrences in San Juan, Rio Arriba, Mora and Lincoln counties,

New Mexico. McGregor et al. (1986), reported the species as common in the northern Great Plains but rare in Oklahoma. *Phalaris arundinacea*, was not listed in Louisiana by Allen (1992) nor in Texas by Correll and Johnston (1979), Gould (1975) and Hatch et al. (1990). Jones et al. (1997) listed *P. arundinacea* L. var. *picta* L. as being in the state, however this is a cultivated variety. No records for the species, in Texas, were found in collections at the University of Texas (TEX/LL) or at The Botanical Research Institute of Texas (BRIT). Inquiries were sent to curators of herbaria in Oklahoma (OKL, OKLA, WOH) and New Mexico (NMCR, SNM, UNM). None reported having collections of *P. arundinacea* from Texas.

Phalaris arundinacea was collected from the SE end of Lake Kiowa, NE of Lake Marvin in east-central Hemphill County, Texas. Lake Kiowa is a small to moderate size lake, ca. 7 hectares, which is fed by Boggy Creek and the Dry Fork of Boggy Creek, just N of the Canadian River. At the site, *P. arundinacea* is locally abundant as an understory species along the SE margin of the lake in association with *Spartina pectinata* Link, *Juncus*, *Carex*, *Salix*, *Baccharis*, *Cephalanthus occidentalis* L., *Scirpus pallida* (Britt.) Fern., *Typha*, and other vegetation associated with mesic to wetland habitats. Although the water level had dropped by the time of collection, there was evidence to indicate the site was inundated earlier in the season. The typical habitat for this species is meadows, stream banks, ditch banks, lake margins, or floating in water, Correll and Correll (1972), Arnow (1987) and Yatskievych (1999). The Hemphill County material appears to be at the southern limits of its distribution where it grows under the canopy of shrubs and trees. This makes finding the species more difficult compared to the populations in its northern distributions. This species may have been introduced to Hemphill County when the lakes, where it is found, were created. This species is distinguished from the other *Phalaris* species in Texas, by the presence of an obvious rhizome, being perennial, and having two reduced florets that are equal in length. *Phalaris* species in Texas are described in Gould (1975), with the exception of *P. arundinacea*.

***Phalaris arundinacea* L., Sp. Pl. 55. 1753. (Fig. 1).**

Strongly rhizomatous perennials. **Culms** 50–160 cm tall, erect. **Leaves** basal and cauline. **Sheath margins** open. **Ligules** 5–9 mm long, membranous, obtuse (sometimes lacerate), decurrent. **Blades** to 35 cm long, to 16 mm wide, flat. **Panicles** 6–16 cm long, contracted, cylindrical (compact and sometimes lobed basally). **Spikelets** 4–6.5 mm long. **Glumes** 4–6.5 mm long, subequal, laterally compressed (keeled), mid-vein wingless, 3-veined, apiculate. **Sterile floret lemmas** 1–2.5 mm long, subulate, appressed pubescence, brownish. **Fertile floret lemmas** 3–4 mm long, ovate, glabrous to pubescent. **Fertile floret paleas** 2.7–3.6 mm long, appressed pubescence. **Chromosome numbers** $2n = 14, 28, 42, 56$, and aneuploid counts. **Flowering period** May–June.



FIG. 1. *Phalaris arundinacea*: a, floret, showing fertile and sterile lemmas; b, spikelet showing the strongly keeled glumes, fertile lemma, palea, and anthers; c, panicle, interrupted below; d, leaf sheath, ligule, blade, and node; e, habit, showing creeping rhizome; f, upper part of culm, showing panicle. (Used with permission: *A Flora of the Marshes of California*. Herbert L. Mason. University of California Press. 1957)

Specimens examined. **TEXAS.** Hemphill Co.: the old Boy Scout Camp 12 mi E of Canadian, 29 Jun 1978, *Higgins 12099* (WTU); Lake Kiowa, 12 mi E of Canadian, 23 Jul 2003, *Hatch* and *Hatch 8390* (TAES).

A KEY TO THE SPECIES OF *PHALARIS* IN TEXAS

1. Plants perennial; rhizomes present.
 2. Lower florets 2, about equal in length, 1–2.5 mm long _____ ***P. arundinacea***
 2. Lower florets 1 or 2, unequal in length, one 0.5 mm long, longer one 1–2 mm long _____ ***P. aquatica***
1. Plants annual; rhizomes absent.
 3. Reduced florets 1, scale-like _____ ***P. minor***
 3. Reduced florets 2, scale-like.
 4. Reduced florets broad, more than one-half the length of the perfect floret _____ ***P. canariensis***
 4. Reduced florets subulate, less than one-half the length of the perfect floret.
 5. Reduced florets 0.4–0.8 mm long _____ ***P. brachystachya***
 5. Reduced florets 1–5 mm long.
 6. Panicles 2–7 cm long; culms to 70 cm tall _____ ***P. caroliniana***
 6. Panicles 6–15 cm long; culms 60–150 cm tall _____ ***P. angusta***

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