

**Andropogon saccharoides Swartz var.
longipaniculatus var. nov.**

F. W. Gould¹

Andropogon saccharoides Swartz, the familiar silver beardgrass or silver bluestem, is a widely ranging polymorphic species. The interrelationships of the numerous named and unnamed varieties and forms of this species, and their relationships to *Andropogon barbinodis* Lag., *A. altus* Hitchc. and other species of this complex, have long been a perplexing problem to agrostologists.

Cytological studies (Brown, 1950; Church, 1940; Gould, 1951, 1953; Nielson, 1939) have given new and valuable evidence concerning the phylogeny and systematic relationships of these grasses. It has been shown that all taxa are relatively high polyploids, with chromosome numbers of $2n=60$ and $2n=120$ predominating. Available evidence indicates that in this group "divergent evolution", resulting from gene mutation and isolation, has been offset by occasional hybridization, allopolyploidy, and the resulting "convergent evolution"

Andropogon saccharoides is represented in the United States by two well-defined types, distinguished as follows:

- Panicles relatively small, mostly 6-10, occasionally 13, cm. long; spikelets broad, blunt, and usually glaucous in plants of the U. S.; pollen averaging 32-38 microns in diameter; chromosome number $2n=60$; plants usually glaucous, with leaves predominantly in a basal tuft.....1. *A. saccharoides*
- Panicles relatively large and dense, the primary panicles of vigorous plants 13-22 cm. long; spikelets narrow, pointed, shiny green; pollen averaging 39-42 microns in diameter; chromosome number $2n=120$; plants green or glaucous, large, coarse and leafy, the leaves not clustered basally.....2. *A. saccharoides* var. *longipaniculatus*

1. ANDROPOGON SACCHAROIDES Swartz Prodr. Veg. Ind. Occ. 26. 1788. *Range*: — South-central U.S. southward through Mexico, the Caribbean Islands and Central America, to Argentina and Peru. In the United States ranging from Missouri and Colorado south through Oklahoma, Alabama, Texas, New Mexico, and eastern Arizona.

The name *Andropogon saccharoides* is based on a Swartz collection from Jamaica. The plants of this area are relatively slender, with small panicles, and small, narrow, shiny

¹Curator of the Tracy Herbarium, Dept. of Range & Forestry, Texas A.&M. College; and Collaborator, Southern Methodist University Herbarium.

green spikelets. Segregates of *A. saccharoides* have been variously recognized as species and varieties (*A. torreyanus* Steud., *A. saccharoides* var. *torreyanus* (Steud.) Hack., *A. laguroides* DC., *A. saccharoides* var. *laguroides* (DC.) Hack., *A. tenuirachis* Fourn., *A. jamesii* Torr.). All plants of the United States are referable to *A. saccharoides* var. *torreyanus*, the type specimen of which is from "Canadian River", Texas. Plants of this variety, however, cannot be satisfactorily differentiated from those referable to *A. saccharoides* var. *laguroides*, based on a type specimen from Mexico. The latter variety is more or less intermediate between the var. *torreyanus* and plants from Jamaica, the type locality of *A. saccharoides*.

2. ANDROPOGON SACCHAROIDES var. **longipaniculatus** Gould var. nov. Planta magna, culmi robusti; nodi glabri vel brevis-barbati. Panicula densa, magna, 13-22 cm. longa; rami stricte appressi, inferiores multiramulosi. Spiculae angustae, nitido-virides, anguste acutae, 3.5-4.5 mm. longae; arista 11-17 mm. longa. Pollinis grana diametro 39-42 micra. Chromosomata somatica 120.

Plants large and coarse; culms stout, the nodes glabrous or short-bearded. Panicle large, dense, on vigorous plants 13-22 cm. long; panicle branches stiffly erect-appressed, the lower branches freely re-branched; spikelets narrow, shiny green, narrowly pointed, 3.5-4.5 mm. long; awn 11-17 mm. long. Pollen grains averaging 39-42 microns in diameter; chromosome number $2n=120$.

TYPE: *Gould 6670*, College Station, Brazos County, Texas. Type in Tracy Herbarium, isotypes at U.S. National Museum, University of Texas, Southern Methodist University, University of California, Missouri Botanical Garden, Gray Herbarium of Harvard University, and Pomona College.

Range—Southern and southeastern Texas to northeastern Mexico. Plants of Guatemala, Salvador, the Panama may be referable to this taxon but are not entirely typical.

Representative Specimens. — The following collections are of the author and in the Tracy Herbarium of Texas A.&M. College unless otherwise indicated. Specimens designated (TEX) are in the Herbarium of the University of Texas. TEXAS. ANDERSON Co.: Palestine, 6144, 6145. MCLENNAN Co.: Temple, *Smith 714* (TEX). HOUSTON Co.: Crockett, 6147, 6148. LEON Co.: Marquez, 6142. MADISON Co.: Madisonville, 6150. ROBERTSON Co.: Franklin, 6134. MILAM Co.: west of Hearne, 5951; east of Rockdale, 5953. WILLIAMSON Co.: Georgetown 5955. BRAZOS Co.: College Station, 5946, 5947, 5948, 5950. GRIMES Co.:

Navasota, 6155; Shiro, *Tharp* 6732 (TEX). WALLER Co.: Sealy, 6669. FAYETTE Co.: Muldoon, *Ripple* 51-1043 (TEX) BASTROP Co.: Bastrop, 6488; west of Bastrop, 5962. LIBERTY Co.: south of Devers, 6495. HARRIS Co.: south of Fairbanks, 6099. GALVESTON Co.: Webster, 6098. FORT BEND Co.: south of Rosenberg, 6668. COLORADO Co.: Weimar, *Turner* 51-5 (TRACY). GONZALES Co.: south of Smiley, 6067. DEWITT Co.: west of Cuero, 6219. MATAGORDA Co.: Bay City, 6216; west of Bay City, 6217. ATASCOSA Co.: Pleasanton, 6284; Jourdanton, 6224. FRIO Co.: Pearsall, 6286. BEE Co.: west of Beeville, 6050. DUVAL Co.: San Diego, *Tharp* 5238 (TEX). KLEBERG Co.: Kingsville, 6035; west of Kingsville, 6044. BROOKS Co.: *Falfurrias*, 6032. HIDALGO Co.: Edinburg, 6023. MEXICO. NUEVO LEON. Sierra Anahuac, near Monterrey, 6357; El Cercado, 6328.

For the loan of specimens, the writer is indebted to the curators of the herbaria of the U.S. National Museum, the universities of Michigan, California, Texas, Arizona, and Southern Methodist University.

LITERATURE CITED

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The Texas Species of *Potentilla* (Rosaceae)

Lloyd H. Shinnery

The large and difficult genus *Potentilla* is gratifyingly represented in Texas by a very small number of easily distinguished species, but there is no complete or precise published record of those found in the state. The summary here given is based on the collections in the Herbarium of Southern Methodist University, that of the University of Texas, and the Tracy Herbarium of Texas A. & M. College. Grateful acknowledgement is made to those in charge for the use of these collections. All cited specimens are in the first named herbarium.

KEY TO THE SPECIES

- 1a. Pedicel 5-12 times as long as the calyx; flowers axillary, solitary1. *P. simplex*
 - 1b. Pedicel shorter than or equalling the calyx in flower, up to 3 times as long in fruit; flowers mostly in terminal corymbs
 - 2a. Stem leaves pinnate.....2. *P. rivalis*
 - 2b. Stem leaves palmate
 - 3a. Leaflets 3, elliptic or oblong-lanceolate.....3. *P. norvegica*
 - 3b. Leaflets 5-7, oblanceolate.....4. *P. recta*
1. *P. SIMPLEX* MICHX. Pine woods or occasionally open ground, chiefly in somewhat low, sandy places; northeastern Texas, west to Lamar, Wood, Smith, and Angelina counties. Fl. April-May. Our plants are var. *simplex*, with