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TAXONOMIC ADJUSTMENT IN *SCHIZACHYRIUM* (POACEAE: PANICOIDEAE: ANDROPOGONEAE)

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ABSTRACT

Schizachyrium scoparium subsp. *divergens* is elevated to the rank of species: **Schizachyrium divergens** (Hack.) Wipff, **comb. et stat. nov.**

Hackel (1889) described *Andropogon scoparius* subsp. *maritimus* var. *divergens* Hack. based on a specimen from Texas. Hitchcock (1933) elevated var. *divergens* Hack. to the rank of species, *A. divergens* (Hack.) Andersson ex Hitchc.

Silveus (1933) and Hitchcock (1935) considered *Andropogon divergens* as endemic to pinelands of eastern Texas, whereas Hitchcock (1951) expanded the distributional range to include the dry pinelands from Mississippi to Arkansas and Texas. Fernald and Griscom (1935) extended the range of var. *divergens* further to "Florida to Texas and Mexico, northward to Arkansas, and very locally, to Delaware Co., Pennsylvania." Shinners (1954) considered this variety as endemic to southeastern Texas. Bragg and McMillan (1962), Grelen (1974), and Bruner (1987) reported the distribution of var. *divergens* (including var. *virile* (Shinners 1954)) as restricted to dry pinelands from Mississippi to Arkansas and Texas. Gould (1967) transferred *A. scoparius* var. *divergens* to *Schizachyrium*.

Gould (1975) recognized five varieties in *Schizachyrium scoparium*: var. *frequens* [= var. *scoparium*]; var. *divergens*, var. *virile*, var. *littoralis*, and var. *neomexicanum*. Gould (op. cit.) reported var. *divergens* as being a shade-tolerant variety frequent in open pine forests and pine-hardwood woodlands from Arkansas and Mississippi to eastern Texas. Gandhi (1989) reported the distribution range of subsp. *divergens* (including var. *virile*) as Texas, Oklahoma, Arkansas, Missouri, Louisiana, and Mississippi. Wipff (2003) treated *divergens* (including var. *virile*) at the rank of variety and listed its range as from Texas, Oklahoma, Arkansas to Mississippi, and found mainly the pinelands of the Coastal Plain. Weakley et al. (2023) reported the distribution of var. *divergens* (including var. *virile*) as longleaf pine sandhills, upland longleaf pine savannas, barrens, prairies, and various other open habitats in Kentucky, Arkansas, Texas south to the Panhandle Florida, Alabama, Mississippi, and Louisiana. Weakly et al. (2023) is currently the most authoritative documentation of the exact distribution.

Bagg and McMillan (1962) and Grelen (1974) concluded from transplant studies that the unreduced pedicellate spikelet of var. *divergens* and var. *virile* is a reliable distinguishing character from the other taxa in *Andropogon scoparius* complex, but leaf pubescence is not reliable in distinguishing between var. *divergens* and var. *virile*. And since the absence of leaf pubescence is the only character to separate the var. *virile* from var. *divergens* (Shinners 1954), var. *virile* has been included as part of var. *divergens* by most authors. Even Gould (1975) stated that "Plants of *Schizachyrium scoparium* var. *divergens* frequently grow intermingled with plants of var. *virile* and to a lesser extent var. *frequens* [= *scoparium*]. The character of herbage pubescence does not appear to be of great taxonomic significance."

Gandhi (1989) concluded that except for var. *scoparium*, these varieties (i.e., vars. *divergens*, *littoralis* and *neomexicanum*) occupy definite geographical areas. On account of this distribution

pattern and the morphological distinctness of these taxa, Gandhi (1989) and Gandhi & Smeins (1996) regarded the rank of subspecies as more appropriate — subsp. *scoparium,* subsp. *divergens,* subsp. *littorale,* and subsp. *neomexicanum.* These taxa are morphologically and ecologically distinct and maintain their biological distinctiveness across a largely sympatric distribution with *S. scoparium,* features that warrant their recognition at the rank of species. *Schizachyrium littorale* (Nash) E.P. Bicknell and *S. neomexicanum* (Nash) Nash have already been recognized as such — for the second revision of 'Guide to the Texas Grasses' (Texas A&M University Press), the following new combination is proposed.

Schizachyrium divergens (Hack.) Wipff, **comb. et stat. nov.** *Andropogon scoparius* Michx. subsp. *maritimus* (Chapm.) Hack. var. *divergens* Hack., in A. & C. Candolle, Monogr. Phan. 6: 385. 1889. *Andropogon divergens* (Hack.) Andersson ex Hitchc., J. Wash. Acad. Sci. 23: 456. 1933. *Schizachyrium scoparium* (Michx.) Nash var. *divergens* (Hack.) Gould, Brittonia 19: 73. 1967. *Schizachyrium scoparium* (Michx.) Nash subsp. *divergens* (Hack.) Gandhi & Smeins, Harvard Pap. Bot. 8: 68. 1996. **NEOTYPE**: (designated by Gandhi & Smeins, Harvard Pap. Bot. 8: 68. 1996). **Texas.** Jasper Co.: 16 Oct 1987, *K.N. Gandhi 339* (NLU!; isoneotypes: GH, MO, NCU, NY, TAES, TEX, US).

Andropogon scoparius var. *virilis* Shinners, Rhodora 56: 36. 1954. *Schizachyrium scoparium* (Michx.) Nash var. *virile* (Shinners) Gould, Brittonia 19: 73. 1967. *Schizachyrium scoparium* (Michx.) Nash subsp. *divergens* (Hack.) Gandhi & Smeins fo. *virile* (Shinners) Gandhi & Smeins, Harvard Pap. Bot. 8: 68. 1996. **TYPE**: **Texas.** Upshur Co.: 15 Sep 1953, *L.H. Shinners 16,009* (holotype: BRIT; isotype: US image!).

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