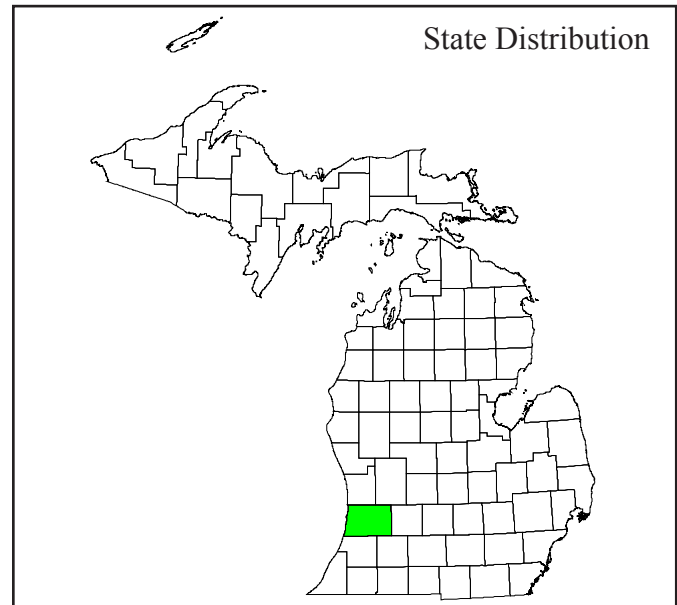
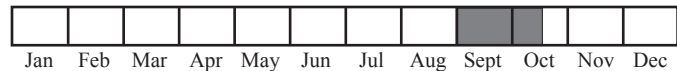




Britton & Brown 1913 @ USDA-PLANTS Database



Best Survey Period



Status: State special concern

Global and state rank: G5/S1

Other common names: rough dropseed

Family: Poaceae (grass family); also known as the Gramineae

Synonyms: *S. clandestinus* var. *canovirens*, *S. canovirens* Nash

Range: This species occurs primarily in eastern North America, ranging from Texas to Florida in the southern portion of its distribution, and north to Kansas and the southern Midwest and also ranging along the Atlantic coast up to Massachusetts. It is considered rare in Connecticut, Delaware, Illinois, Iowa, Kentucky, Maryland, New Jersey, New York, Pennsylvania, and West Virginia, and is known only from historical records in the District of Columbia (NatureServe 2006).

State distribution: *Sporobolus clandestinus* is known from a single Michigan record in Allegan County, where it was discovered in the Allegan State Game Area by A.A. Reznicek in 1995.

Recognition: *S. clandestinus* is perennial that grows in tall, slender clumps or tufts or as solitary stems

and is sometimes rhizomatous. The stems are leafy, with relatively well-spaced, involute (infolded) leaves that are hairy and have long sheaths, with the lower sheaths on the stem often hairy as well. The stem terminates in a spike-like inflorescence, which is a tightly contracted, dense flowering panicle of numerous, tiny spikelets. Each spikelet, which is only a few millimeters long, consists of two glumes at the base, the first or lowermost attached glume only about 2/3 long as the second glume. The glumes subtend (sit below) a single floret with a lemma (the outermost bract of the floret) that ranges from about 3-7 mm in length and is finely pubescent.

This dropseed species is most similar to *Sporobolus asper*, a common and widespread species in Michigan that can be distinguished from *S. clandestinus* primarily by its smooth lemmas. According to Gleason and Cronquist (1991), the outer wall of the mature seed, known in grasses as a pericarp, is reportedly gelatinous when wet in *S. asper* versus being loose but not gelatinous in *clandestinus*. Overall, grasses are difficult species to determine, and thus accurate identification requires a working knowledge of basic grass morphology and growth habit as well as an attention to fine detail in order to enable determinations to be made.

Best survey time/phenology: The sole Michigan collection was made in late September. Until more data



are available, it is presumed that the optimal survey period is September through mid-October.

FQI Coefficient and Wetland Category: 9, UPL

Habitat: Few data are available for the sole Michigan site; the specimen was collected in a dry, sandy barrens opening within an area succeeding to closed canopy forest, where it was locally frequent in remnant openings and associated with *Schizachyrium scoparium* (little bluestem) and *Opuntia humifusa* (prickly pear cactus). Elsewhere within its range, *S. clandestinus* occurs in dry sandy soils and prairies, and may be common along roadsides (Flora of North America 2003). In Wisconsin, Shinnars (1941) described this species as occurring on a low sand hill as a native relic within the Driftless Area, where it occurred in association with little bluestem, *Leptoloma cognatum* (witch grass), *Lespedeza capitata* (round-headed bush-clover), and *Solidago speciosa* (showy goldenrod). In Jones's 1944 overview of the historical distribution of Ohio prairies, he includes *S. clandestinus* as a subdominant species but provides no specificity as to prairie type or types, although it likely occurred in dry prairies. In the Chicago region this dropseed occurs locally in sandy prairies with such typical associates as *Artemisia campestris* (wormwood), *Asclepias amplexicaulis* (clasping milkweed), *Rubus flagellaris* (dewberry), *Liatriis aspera* (rough-leaved blazing star), and *Linaria canadensis* (blue toadflax) (Swink and Wilhelm 1994). Baskin and Baskin (2000) report *S. clandestinus* as a component of limestone and dolomite glades in the Ozarks and Midwest regions, and Baskin et al. (1995) also report it for similar limestone glades in northern Alabama.

Biology: *S. clandestinus*, frequently referred to as rough dropseed, is a rhizomatous perennial of dry sandy soils, including dry prairie types, oak barrens, and other open habitats with well drained substrates. It is universally associated with fire-dependent habitats. In addition to its adaptation to fire, it also has physiological adaptations for occurring in xeric (dry or desert-like) habitats. In a study of the floristic ecology of limestone glades in Alabama, Baskin et al. (1995) compiled a comprehensive list of plant associates and assigned each of the 269 taxa identified in the study to a photosynthetic pathway (C_3 , C_4 , or CAM), of which *S. clandestinus* was classified as a C_4 species. As a C_4 species, *S. clandestinus* possesses an alternative

photosynthetic pathway that enables it to grow in water-stressed environments.

Conservation/management: *S. clandestinus* is generally protected within its sole known Michigan locality, but will most likely require active management in order to persist. Since prescribed fire management is taking place within considerable portions of the Allegan State Game Area (SGA) to restore oak barrens and savannas, directed management in the specific locality for this rare grass is feasible and consistent with the SGA master plan. In addition to considering future management of the site, more detailed inventories are needed to better establish the status of the species locally and within the state.

Comments: This grass species may be easily overlooked or assumed to be a more common dropseed species, which is perhaps why it was not discovered in Michigan until relatively recently, when it was encountered and identified by a graminoid specialist.

Research needs: In addition to much need inventories in similar habitats, studying the response of this species to management would provide information critical to maintaining and perpetuating the population and others if discovered.

Related abstracts: oak barrens, oak-pine barrens, black rat snake, culver's root borer, dusted skipper, Eastern massasauga, frosted elfin, Karner blue, leadplant flower moth, red-legged spittlebug, Alleghany plum, dropseed, Gattinger's gerardii, Hill's thistle, paniced hawkweed, prairie smoke, Richardson's sedge, smooth beard tongue, whiskered sunflower.

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