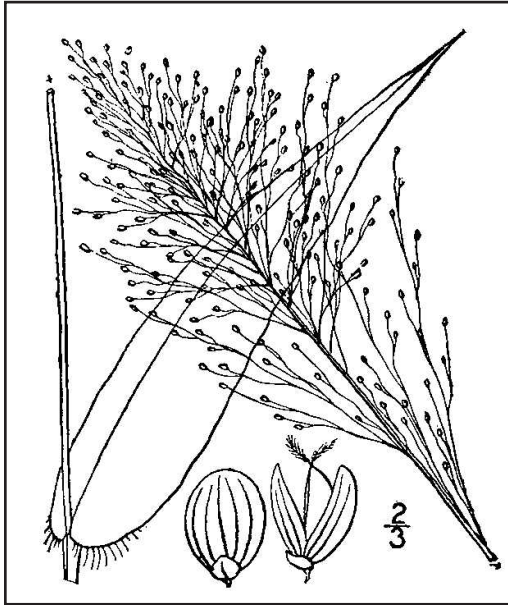
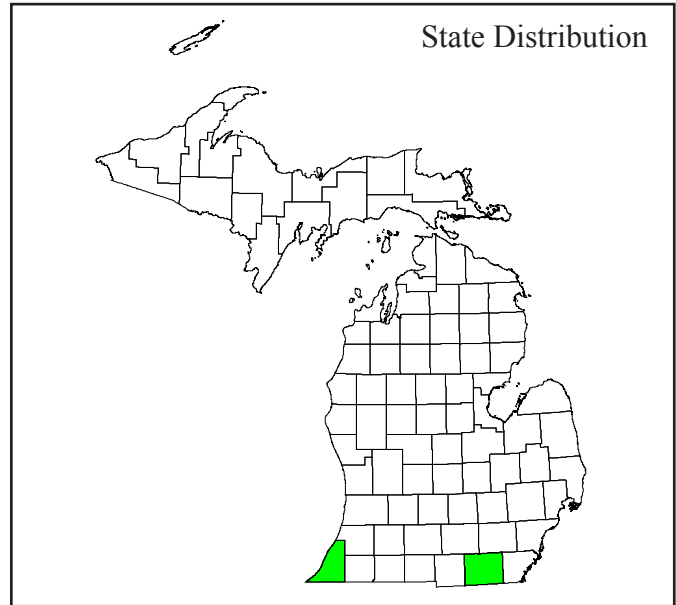


Dichanthelium polyanthes (Schult.) Mohlenbr. round-seed panic grass



USDA-NRCS PLANTS Database



Best Survey Period



Status: State endangered

Global and state rank: G5T5/S1

Other common names: many-flowered panicgrass, panic grass

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

Synonyms: *Panicum polyanthes* Schultes, *Dichanthelium sphaerocarpon* (Elliot) Gould var. *isophyllum* (Scribn.) Gould & C.A. Clark, *Dichanthelium sphaerocarpon* (Elliot) Gould var. *polyanthes* (Schult.) Gould.

Taxonomy: This species has long been known in the genus *Panicum*, and is now segregated, with several other panic-grass species, in the genus *Dicanthelium*, which is similar in overall morphology to *Panicum* but differs in significant technical details. According to the Flora of North America (2003) and others (Aliscioni et al. 2003) recent molecular data further corroborate the recognition of *Dicanthelium* as a distinct genus. NatureServe (2007), according to Kartesz (1994), places both *Dicanthelium* and *Panicum polyanthes* as synonyms of *Dichanthelium sphaerocarpon* var. *isophyllum* (Scribn.) Gould & C.A. Clark.

Range: *D. polyanthes* occurs throughout most of the eastern United States, to which it is restricted, ranging from southern Maine to northern Florida and occurring west to Illinois, Missouri and south through eastern Texas (Flora of North America 2003).

State distribution: Round-seed panic-grass is known only from two localities in southern Lower Michigan, including Berrien County, where it was first discovered in the state in 1990, and Lenawee County. Reexamination of the Lenawee County specimen indicates that it likely represents an atypical and perhaps a shade form of *Dichanthelium sphaerocarpon* (T. Reznicek, pers. comm.), although the status of *D. polyanthes* will remain as presently mapped pending confirmation of the tentative finding.

Recognition: Round-seed panic-grass is a relatively large, clump-forming *Dicanthelium*, with one to a few stems per clump, ranging from approximately 0.5-1 m in height. **The relatively large, coarse leaves**, which also form small, dense basal tufts, are well spaced along the stem and **broad in width, the widest leaves more than 15 mm in width**. The leaf sheaths are smooth to softly hairy, and the **hairs are not papillose-based** (i.e. do not arise from small, wart-like bumps – visible with good magnification). Terminating the stem is **dense inflorescence at least twice as long as broad, with**



strongly ascending panicle branches and spikelets that range from 1.4-1.7 mm in length.

Within its typical habitat, *D. polyanthes* is most likely to be confused with *D. sphaerocarpon*, which has a comparable habit and spikelets that are similarly sized and roundish. *D. sphaerocarpon* can be distinguished by its leaves, which are less than 15 mm in width, nodes with pustular (elevated) glands and upward pointing (antrorse) hairs, and its generally smaller size. *D. latifolium* is a very similar species but occurs in woodlands, thickets, and forest edges and has spikelets that are 3-4 mm long, whereas the similarly wide-leaved *D. xanthophysum* and *D. clandestinum* also have 3-4 mm long spikelets.

Best survey time/phenology: Michigan's records were both collected in early and late July, respectively, and thus in the absence of more phenological information, the best survey period is estimated to be July through early August, which may be somewhat conservative.

FQI Coefficient and Wetland Category: 10, FACU

Habitat: In the Berrien County locality, round-seed panic-grass was observed on the edge of a sandy sedge meadow, where it was associated with such species as *Spiraea tomentosa* (steeplesh), *Calamagrostis canadensis* (blue-joint grass), *Apios americana* (groundnut), *Penstemon digitalis* (foxglove beard-tongue), *Eupatorium perfoliatum* (boneset), *Rhynchospora capitellata* (beak-rush), *Sisyrinchium angustifolium* (blue-eyed grass), and a number of other graminoids. In the Lenawee County locality, this species was found in markedly different habitat, occurring in larch and maple woods along the edge of a lakeshore, where it was associated with *Larix laricina* (eastern larch), *Acer rubrum* (red maple), *Rubus pubescens* (swamp dewberry), *Lobelia spicata* (pale spiked lobelia), *Carex diandra* (sedge), *Carex bebbii* (sedge), *Osmunda regalis* (royal fern), *Osmunda cinnamomea* (cinnamon fern), *Agrimonia gryposepala* (tall agrimony). Elsewhere within its wide eastern U.S. range, this panic-grass occurs in woods, along stream banks, ditches, the shores of ponds and lakes, and in mucky substrates, swamps, wet woods, flatwood depressions, and several other types of low, wet ground (Flora of North America 2003, Godfrey and Wooten 1979).

Biology: *D. polyanthes* is a perennial grass, and as is typical of many panic-grasses, forms both terminal summer (vernal) inflorescences and lateral fall (autumnal) inflorescences, which may be very different in morphology. For identification purposes, summer inflorescences are preferable in this genus.

Conservation/management: In the Berrien County locality, round-seed panic-grass occurs within an artificially disturbed habitat adjacent to a highway weight station where it is associated with a number of other rarities managed and protected by the Michigan Department of Transportation. The status of the putative occurrence in Lenawee County is unknown, where there was fairly extensive habitat along a lakeshore. This species may depend on soil disturbance and/or water table fluctuations for its perpetuation, in order to create and maintain moist sand substrates, reduce competition, and stimulate seed banks.

Comments: A molecular analysis of the genus *Panicum* and its systematic relationship to *Dicanthelium* and other genera is provided in an extensive overview by Aliscioni et al. (2003).

Research needs: Status inventories are a principal need for this species at the present time, and also monitoring, which is likely to provide information that will inform management activities.

Related abstracts: Intermittent wetland, southern wet meadow, black-fruited spike-rush, Blanding's turtle, box turtle, eastern massasauga, northern appressed clubmoss, whorled mountain mint, rose pink.

Selected references:

- Aliscioni, S.S., L.M. Giussani, F.O. Zuloaga, and E.A. Kellogg. 2003. A molecular phylogeny of *Panicum* (Poaceae: Paniceae): Tests of monophyly and phylogenetic placement within the Panicoideae. *Am. J. Bot.* 90: 796-821.
- Flora of North America Editorial Committee. 2003. *Flora of North America, North of Mexico*. Volume 25: *Magnoliophyta: Commelinidae (in part): Poaceae, part 2*. Oxford Univ. Press. New York, N.Y. 783 pp.



- Godfrey, R.K. and Wooten. 1979. Aquatic and Wetland Plants of Southeastern United States. Monocotyledons. Athens, GA. Univ. of Georgia Press. 933 pp.
- Gould, F.W. 1974. Nomenclatural changes in the Poaceae. Brittonia 26: 59-60.
- Gould, F.W. 1958. Chromosome numbers in Southwestern grasses. Am. J. Bot. 45: 757-767.
- Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. 2nd edition. 2 vols. Timber Press, Portland, OR.
- NatureServe. 2007. NatureServe Explorer: an online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 11, 2007).
- Swink, F. and G. Wilhelm. 1994. Plants of the Chicago Region, 4th ed. Indiana Acad. Sci., Indianapolis. 921 pp.

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