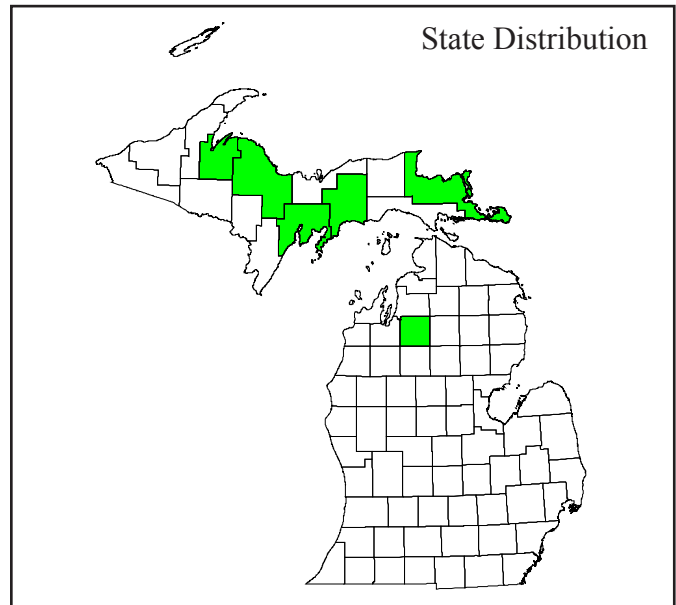
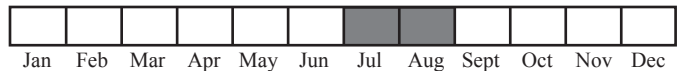


Photo by Susan R. Crispin



Best Survey Period



Status: State threatened

Global and state rank: G5/S2

Other common names: Canadian ricegrass, rice grass, Canadian piptatherum

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

Synonyms: *Piptatherum canadense* (Poir.) Dorn

Taxonomy: All North American species formerly assigned to the genus *Oryzopsis* have now been transferred to the genera *Achnatherum* and *Piptatherum*, with *O. canadensis* referred to the latter genus (Flora of North America 2007)

Range: Canada rice-grass occurs primarily in boreal eastern North America, ranging from Newfoundland to British Columbia. It reaches its southern limit in the northern Great Lakes region and the mountains of New England, with outlying localities in South Carolina and West Virginia. It is considered rare in Alberta, Maine, Manitoba, New Brunswick, Newfoundland Island, New Hampshire, New York, Nova Scotia, Saskatchewan, West Virginia, and Wisconsin, and is known only from historical records in British Columbia and Prince Edward Island (NatureServe 2007).

State distribution: Canada rice-grass is known from 21 state localities, most discovered in the 1980's and nearly half in Chippewa County, and the species is also known in Lower Michigan. Since it is an early successional species and is unlikely to persist at a given site with the development of a forest canopy, colonies represented by four pre-1960 records may no longer be extant where originally observed, though the plant may still occur elsewhere near those documented stations. The species often occurs in good numbers scattered over several acres, especially following activities such as timber harvesting, although a few colonies have been reported to consist of only a few plants. Two records have been documented in northern Lower Michigan in the Grayling region.

Recognition: The very narrow (1-2 mm), basal leaves of Canada rice-grass have **strongly inrolled (i.e. involute) margins** and are sometimes blue-green in color. The flowering stalks, which grow in loose clumps, reach 2-9 dm in height and bear **sparse, open inflorescences**. Each slender, spreading branch-tip of the inflorescence has a **single one-flowered spikelet with a distinctive, long (7-11 mm), terminal, curly awn**. *O. canadensis* closely resembles *Deschampsia flexuosa* (hair grass), with which it commonly grows. Inspection of the fruits with a hand lens will readily show that the awn of *O. canadensis* is stout and terminal, while that of *D. flexuosa* is slender and arises



from the base of the spikelet. The related *O. pungens*, which may occur with *O. canadensis*, has at best a small awn less than 2-3 mm long, or more frequently, lacks it entirely.

Best survey time/phenology: Most Michigan observations and collections of this species have occurred in July, and this species has been observed from late June through late September. July and August is estimated to be the optimal survey period for this species.

FQI Coefficient and Wetland Category: 9, UPL

Habitat: This species is primarily associated with pine barrens. In Schoolcraft and Chippewa Counties, Canada rice-grass inhabits sandy, moist areas that have recently been cleared of their jack pine cover. It is especially common around the margins of small, acid depressions vegetated by *Chamaedaphne calyculata* (leatherleaf), *Vaccinium angustifolium* (blueberry), *Deschampsia flexuosa* (hair-grass), and *Sphagnum capillifolium* (sphagnum moss). Other typical associates include *Coptis trifolia* (goldthread), *Cornus canadensis* (bunchberry), and *Danthonia spicata* (poverty grass). In Marquette County, the habitat of *O. canadensis* is a dry, sandy upland forest of jack pine, red pine, and quaking aspen. Throughout its range, Canada rice-grass inhabits open woods, and acid, peaty soil, often on slopes, and also occurs in grasslands (Flora of North American 2007).

Biology: *Oryzopsis canadensis* is a rhizomatous perennial. Mature fruits are usually found at Michigan localities from July until late August and into September.

Conservation/management: In the central and eastern Upper Peninsula, this grass clearly benefits from logging activities in its jack pine-dominated habitat, which not only open up habitat but scarifies the soil and stimulates seed banks. If recent management prescriptions are continued in the general areas of this species' occurrence, there should be no dearth of available habitat for it. Prior to European settlement, wildfires in jack pine forests were probably the primary disturbance process responsible for maintaining early successional habitat for this species. At least nine populations of this grass lie in Hiawatha National Forest, as well as several occurrences on state forest land.

Comments: Detailed cytotaxonomic studies of *Oryzopsis* are provided by Johnson (1945). *O. canadensis* was noted as an indicator species in salvage-logging sites in Quebec (Purdon et al. 2004), and was also listed as an associate in coniferous boreal forests undergoing stand disturbances elsewhere in Quebec (Payette and Delwaide 2003).

Research needs: Studies of population dynamics related to disturbance regime would assist in understanding how to best conserve and manage this species.

Related abstracts: Pine barrens, dusted skipper, eastern box turtle, frosted elfin, Karner blue, Kirtland's warbler, prairie warbler, red-legged spittlebug, secretive locust, sharp-tailed grouse, Alleghany plum, Hill's thistle, pale agoseris, rough fescue.

Selected references:

- Dore, W. G. & J. McNeill. 1980. Grasses of Ontario. Canad. Dept. Agr. Monogr. 26.
- Flora of North America Editorial Committee. 2007. *Flora of North America, North of Mexico*. Volume 24: *Magnoliophyta: Commelinidae (in part): Poaceae, part 1*. Oxford Univ. Press. New York, NY. 908 pp.
- Johnson, B.L. 1945. Cyto-taxonomic studies in *Oryzopsis*. Botanical Gazette 107: 1-32.
- 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).
- Payette, S. and A. Delwaide. 2003. Shift of conifer boreal forest to lichen-heath parkland caused by successive stand disturbances. *Ecosystems* 6: 540-550.
- Purdon, M., S. Brais, and Y. Bergeron. 2004. Initial response of understorey vegetation to fire severity and salvage-logging in the southern boreal forest of Québec. *Applied Veg. Sci* 7: 49-60.



Abstract citation:

M.R. Penskar and S.R. Crispin. 2009. Special Plant Abstract for *Oryzopsis canadensis* (Canada rice-grass). Michigan Natural Features Inventory. Lansing, MI. 3 pp.

Copyright 2009 Michigan State University Board of Trustees.

Michigan State University Extension is an affirmative-action, equal-opportunity organization.

Funding for abstract provided by the Michigan Department of Transportation.

