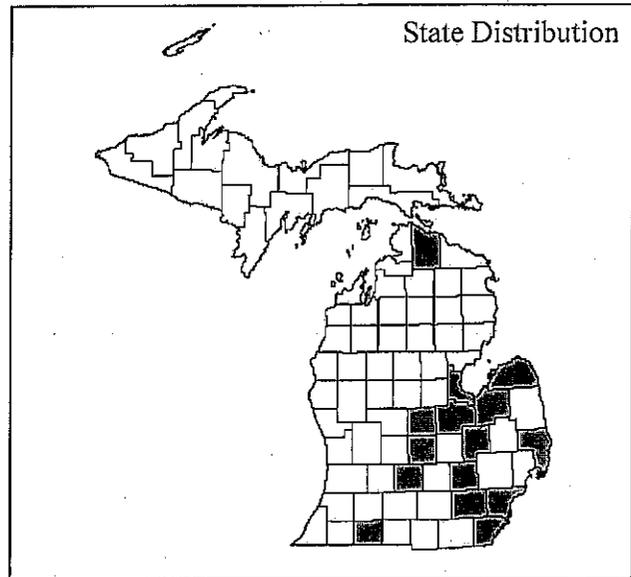


***Platanthera leucophaea* (Nutt.) Lindley eastern prairie fringed-orchid**



Best Survey Period



Legal status: State endangered, Federal threatened

Global and state rank: G2/S1

Other common names: White fringed-orchid, prairie white fringed-orchid.

Family: Orchidaceae (orchid)

Synonyms: *Habenaria leucophaea* (Nutt.) A. Gray

Taxonomy: Formerly included within the genus *Habenaria* by Correll (1950), this species, in addition to several other Michigan taxa, is widely recognized as appropriately belonging to *Platanthera* (Case 1987). Western populations of what had once been considered *P. leucophaea*, comprising most populations west of the Mississippi River, have been distinguished by Sheviak and Bowles (1986) as *P. praeclara* (western prairie fringed-orchid) based on significant differences in morphology, pollination mechanism, and geographic distribution.

Total range: Centered about the Great Lakes, *P. leucophaea* occurs east to Virginia and along the St. Lawrence drainage to Maine, ranging west into the Great Plains to the Dakotas and Iowa, and south in the Mississippi drainage to Missouri and Oklahoma. Now near extinction throughout much of its range, most populations are concentrated in the southern Great Lakes region, occurring primarily in southern Wisconsin, Illinois, Ohio, and southern Lower Michigan. This species is considered rare in Illinois, Iowa, Maine, Missouri, Ohio, Oklahoma, Virginia,

Wisconsin, and Ontario. It is considered extirpated in Indiana, New Jersey, and Pennsylvania, and is known only from historical records in New York and South Dakota.

State distribution: *Platanthera leucophaea* was once known from more than 20 counties, primarily in southern Lower Michigan, with one anomalous disjunct locality documented in Cheboygan County. Extensive habitat modification and destruction has caused this species to severely decline. It is now extant in fewer than 10 counties, persisting mostly in the remnant lakeplain prairies of Saginaw Bay and western Lake Erie. The relatively high numbers of plants observed in 1984 declined markedly following years of high lake levels and drought. An exhaustive 1990 inventory of this species' remaining strongholds in Michigan found approximately 1100 plants total, with few populations supporting large numbers of plants in good quality, viable habitat. In recent years, only a fraction of the plants tallied before have been observed in many habitats, apparently due to highly droughty growing seasons.

Recognition: Prairie fringed-orchid is a tall, striking plant. It produces single stems that range from approximately 20 cm to 1 m or more in height, bearing long, narrow, sharp-pointed leaves that become progressively reduced upward. The leaves are strongly sheathing, becoming bract-like beneath the inflorescence. The stems are terminated by relatively **wide, showy racemes of up to 40 or more creamy white, stalked flowers.** Each flower has a long (2-5



Michigan Natural Features Inventory
P.O. Box 30444 - Lansing, MI 48909-7944
Phone: 517-373-1552

consideration of fire management, noting that the orchid's shallow subterranean buds can be easily damaged during spring or fall burns. At present, fire should be employed only as a very selective experimental tool, to be used in testing alongside other approaches, such as mechanical brush removal and soil disking. Prescribed burns may be desirable when brush removal and soil scarification enhance the vulnerability of populations to exotics such as purple loosestrife and other invasives.

Lastly, one of the greatest recognized threats to this elegant species is poaching and trampling by orchid enthusiasts, photographers, and others. At least one Michigan colony has been obliterated by poachers, and thus great caution must be taken with regard to remaining sites. Based on the aforementioned threats and the great vulnerability of this species, Case (1987) considers Eastern prairie fringed-orchid to be possibly the most "severely endangered orchid of our region".

Comments: According to an early report, *P. leucophaea* once grew so abundantly near the bath houses on Belle Isle Park, Detroit, that visitors there gathered it in bouquets (Foerste 1882). Several decades ago, this species also grew in abundance along Saginaw Bay. These are, however, scenarios unlikely to be witnessed again.

Research needs: Important research areas include pollination and breeding system studies, and especially the role of various management techniques required to sustain viable populations and restore functioning lakeplain prairie communities and landscapes.

Related abstracts: lakeplain prairie, lakeplain wet prairie.

Selected references

- Bowles, M.L. 1983. The tallgrass prairie orchids *Platanthera leucophaea* (Nutt.) Lindl. and *Cypripedium candidum* Muhl. ex Willd.: Some aspects of their status, biology, and ecology, and implications toward management. *Nat. Areas J.* 3:14-37.
- Bowles, M.L. 1993. Recovery Plan for the Eastern Prairie Fringed Orchid, *Platanthera leucophaea* (Nuttall) Lindley. Draft recovery plan prepared for U.S. Fish and Wildlife Service - Region 3, Minneapolis, MN. 53 pp + appendices.
- Case, F.W., Jr. 1987. Orchids of the Western Great Lakes Region, 2nd ed. Cranbrook Inst. Sci. Bull. 48, Bloomfield Hills, MI. 251 pp.
- Correll, D.S. 1950. Native Orchids of North America. Chronica Botanica, Waltham, Mass.

Cuthrell, D.L., P.J. Higman, and M.R. Penskar. The Pollinators of Ohio and Michigan populations of Eastern prairie fringed orchid (*Platanthera leucophaea*). Michigan Natural Features Inventory, Lansing, MI. 20 pp.

Luer, C.A. 1975. The Native Orchids of the United States and Canada, Excluding Florida. NY Bot. Gard. 361 pp.

Sheviak, C.J. and M.L. Bowles. 1986. The prairie fringed orchids: A Pollinator-isolated species pair. *Rhodora* 88:267-290.

Abstract citation

Penskar, M.R. and P.J. Higman. 2000. Special plant abstract for *Platanthera leucophaea* (eastern prairie fringed-orchid). Michigan Natural Features Inventory, Lansing, MI. 3 pp.

Copyright 2004 Michigan State University Board of Trustees.

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

Funding for abstract provided by Michigan Department of Natural Resources - Parks and Recreation Division and Wildlife Division.

3-00/mrp

