

REPORT ON THE STATUS
OF ILLINOIS VASCULAR PLANTS
POTENTIALLY ENDANGERED OR THREATENED
IN THE UNITED STATES

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Asclepias meadii

Species Information

1. Classification and nomenclature

A. Species or infraspecific taxon

1) Scientific name

Asclepias meadii Torr.

2) Pertinent synonym: none

3) Common name

Mead's milkweed

B. Family classification

Asclepiadaceae

C. Major group

Dicot, Gentianales

D. Current alternative taxonomic treatment: none

2. Present Illinois status

A. Officially listed 20 May 1980 as a State Endangered Species by Illinois Department of Conservation Administrative Order 154: Illinois List of Endangered and Threatened Species (Sheviak, 1981). This is an official listing which provides no legal protection.

B. Other formal status recommendations: none

3. Description

A. General nontechnical description:

Perennial herb up to 5.5 dm tall. Stems erect, unbranched, slender, glabrous, glaucous. Leaves opposite, usually 3-4 pairs, broadly lanceolate, narrowed to the pointed tip, rounded at the sessile base, without teeth along the edges but usually slightly rough to the touch, otherwise smooth, up to about 6 cm long. Inflorescence an umbel, borne terminally on a long stalk; umbel 6- to 15-flowered; sepals 5, green, reflexed and hidden by the larger petals; petals 5, reflexed, greenish-white, up to 10 mm long; hoods (which stand erect above the petals) usually purplish or greenish-purple, up to 8 mm long, with a short stout horn protruding from the middle and with a sharp tooth along each side. Follicles (pods) slender, tapering to the tip, rarely longer than 8 cm; seeds, when produced, with a tuft of hairs. (Biotic Consultants, 1976)

B. Photographs: provided

4. Geographical distribution

A. Geographical range (Appendix I: State distribution map)

Formerly found in prairies in scattered counties primarily in the northern half of the state. Now known from Ford and Saline counties.

B. Precise occurrences (Appendix II: Locational information)

Mead's milkweed is now extant in one railroad prairie in Ford County and two closely associated dry barren remnants in the Shawnee Hills in Saline County.

5. General environment and habitat description

Dry barren and mesic prairie (White and Madany, 1978). Dry barren is a local inclusion of prairie flora mixed with forest. The soil is shallow, over bedrock or on dry, exposed slopes. The tree layer has stunted xerophytic oaks, and the sparse grass layer is shorter than one meter. Dominant plants include Andropogon scoparius, Carex pensylvanica, Danthonia spicata, Koeleria cristata, Quercus marilandica, Quercus stellata, Quercus velutina, and Vaccinium arboreum. Mesic prairie is the typical "black-soil" prairie where soils are deep and fine-textured and derived from loess, glacial drift, or alluvium. Species diversity is high and grasses dominate the community. Dominant plants include Andropogon gerardi, Sorghastrum nutans, and Sporobolus heterolepis.

Concise statement of general environment and habitat:

Ford County. This population occurs in a mesic prairie remnant within a railroad right-of-way on a low moraine. The railroad crosses the moraine through a cut bank and is at a lower elevation than the adjacent right-of-way. Close associates of the Asclepias meadii include Sporobolus heterolepis, Amorpha canescens, Elymus canadensis, Parthenium integrifolium, Gentiana puberulenta, Silphium integrifolium, Petalostemum candidum, and Petalostemum purpureum.

The Saline County populations occur in dry barrens with a western exposure located 2 miles apart on bluffs at the northern edge of the Shawnee Hills. The bluffs represent an escarpment elevated 400 feet above the Saline River lowlands to the northwest. Both sites support prairie species in relict assemblages that are characteristic of more northern prairies in Illinois. Significant prairie species include Asclepias meadii, Sporobolus heterolepis, Koeleria cristata, Petalostemum candidum, and Polytaenia nuttallii.

Saline County, Stone Face. This population occurs in a narrow, west-facing dry barren at 700 feet elevation above a sandstone cliff. Woody plant associates of the Asclepias include Quercus marilandica,

5. (continued)

Quercus stellata, and Juniperus virginiana; grasses include Danthonia spicata, Koeleria cristata, and Sporobolus heterolepis. Herbaceous associates include Perideridia americana, Stylosanthes beflora, Lechea tenuifolia, Hypericum drummondii, Hypericum gentianoides, and Petalostemum candidum.

Saline County, Cave Hill. This population occurs in a 20-meter diameter opening surrounded by Quercus stellata, Quercus marilandica, and Juniperus virginiana. Andropogon scoparius, Sporobolus heterolepis, Danthonia spicata, Polytaenia nuttallii, Krigia dandelion, Helianthus divaricatus, Lespedeza virginica, Solidago nemoralis, and Euphorbia corollata are associated herbaceous plants.

6. Population biology of species

A. General summary of population biology of the taxon

Asclepias meadii is a perennial milkweed that usually occurs in virgin prairies as a solitary plant or a few closely associated individuals. Reproduction is apparently rare and populations have never been observed in successional plant communities in Illinois. In a midwest study, Betz (pers. comm.) found only 15 percent successful fruit production in 125 plants. The Illinois populations probably consist of old, mature plants and may be declining due to lack of reproduction.

B. Demography

- 1) Ford County population. Approximately seven plants occur at this site. No recent reproduction has been observed. Plants were observed to abort flowers during drought in 1977.
- 2) Saline County, Stone Face population. Two plants were reported from 1953 and 1976. In 1977 seven stems were observed; four had flowered and two were producing follicles (seed pods). In 1979 nine stems were observed, two of which were fertile. The stems are all within one meter and could possibly represent vegetative reproduction, but this is unknown.
- 3) Saline County, Cave Hill population. In 1979 two plants were observed one foot apart and separated by a sandstone block (Schwegman, 1979). In 1981 six plants were observed, all without fruit.

C. Phenology

At the southern Illinois site, Mead's milkweed emerges through the soil between April 11 and 23. Growth is moderately slow until the plants are about three inches tall. Then rapid elongation takes place until the plants reach their maximum height of 4 to 5.5 dm between May 15 and June 3. Flowering time in southern Illinois has been observed between May 21 and June 18. By June 18 the last of the

C. (continued)

flowers begins to wither. At flowering time, the 3-4 pairs of leaves on the stem have gained their maximum size of up to about 6 cm length. Only single fruits develop from each inflorescence, a phenomenon characteristic of milkweeds. Young fruits known as follicles (or "pods") can be seen by late June. They elongate and obtain maximum size of 4-8 cm length by late August or early September, at which time they are greenish in color. The fruits darken as they mature, and by mid-September to mid-October, the numerous hairy seeds borne within become mature. Following the dehiscence of the fruits, and with the advent of frost, the plants begin to wither and are no longer visible by early November. (Biotic Consultants, 1976)

7. Current land ownership and management responsibility

A. General nature of ownership

Private and federal

B. Specific landowners

- 1) Ford County, Norfolk and Western Railroad Prairie, Norfolk and Western Railroad, 9860 West 143rd Street, Orland Park 60462.
- 2) Saline County, Cave Hill and Old Stone Face sites, Shawnee National Forest, U.S. Forest Service, Harrisburg, Illinois 62946.

8. Evidence of threats to survival

A. Present or threatened destruction, modification, or curtailment of habitat or range:

Agricultural development and urban growth has largely destroyed the blacksoil prairie habitat for Asclepias meadii. The mesic prairie population occurs along a railroad right-of-way and is potentially threatened by bank erosion, lack of fire, herbiciding, and plowing. The Saline County barren populations are threatened by woody encroachment on the northern site and trampling by hikers near the southern site.

B. Other natural or man-made factors:

According to Betz (1975), a decline of the plant's pollinators may account for its low reproduction success. In addition, it appears as if there are low rates of seed germination, seed production, and a long period of time before plants mature. The species also may not be self-compatible and in small populations the inability to outcross may prevent pollination or cause abortion of follicles.

Assessment and Recommendations

9. Priority of listing or status change

A. Recommended status:

Endangered

B. Recommended priority for federal action:

Priority #1--very high (scale 1-5). Low numbers and a continuing population decline, due to loss of habitat and specific pollinators, gives this plant a very high priority.

10. Recommended critical habitat

The following three sites have populations of Asclepias meadii and are recommended as critical habitat for this species. None of these sites are now officially protected for this plant. For further information contact the Illinois Nature Preserves Commission, 320 South Third Street, Rockford, Illinois 61108.

<u>County, site</u>	<u>Quadrangle</u>	<u>Legal description</u>
Ford, Norfolk and Western Railroad Prairie	Potomac 15'	Sec. 8, T23N, R14W
Saline, Cave Hill site	Rudement 7.5'	Sec. 3, T10S, R7E
Saline, Old Stone Face site	Rudement 7.5'	Sec. 9, T10S, R7E Sec. 16, T23N, R14W

11. Interested parties

- A. Dr. Robert Betz, Northeastern Illinois University, Bryn Mawr at St. Louis Avenue, Chicago, Illinois 60625.
- B. Endangered Species Protection Board, Division of Forest Resources and Natural Heritage, Lincoln Tower Plaza, 524 South Second Street, Springfield, Illinois 62706.
- C. Illinois Department of Conservation, Division of Forest Resources and Natural Heritage, Lincoln Tower Plaza, 524 South Second Street, Springfield, Illinois 62706.
- D. Illinois Natural History Survey, 607 East Peabody Drive, Champaign, Illinois 61820.
- E. Illinois Nature Preserves Commission, 320 South Third Street, Rockford, Illinois 61108.
- F. Natural Land Institute, 320 South Third Street, Rockford, Illinois 61108.

- G. Shawnee National Forest, U.S. Forest Service, Harrisburg, Illinois 62946.

Information Sources

12. Sources of information

A. Publications

1) References cited in the report

- a. Betz, R. 1975. Personal communication to U.S. Department of the Interior, Fish and Wildlife Service--information printed in their report on Asclepias meadii Torr.
- b. Biotic Consultants, Inc., 1976. Endangered, threatened and rare plants of the Shawnee National Forest (Illinois). Carbondale, Illinois. 39pp.
- c. Schwegman, John. 1979. New locality for Asclepias meadii. Office memorandum. Natural Areas Section, Illinois Department of Conservation, Springfield.
- d. White, J., and M. Madany. 1978. Classification of natural communities in Illinois. 311-405. In: White, J. Illinois Natural Areas Inventory technical report. Vol. I: survey methods and results. Illinois Natural Areas Inventory, Urbana.

2. Other pertinent publications and sources of information

a. Technical

1. Endangered Species Project herbarium registry cards. 1978. Natural Land Institute, Rockford.
2. Fernald, M. L. 1950. Gray's manual of botany. 8th ed. American Book Co., New York. 1632pp.
3. Gleason, H. A. 1952. The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada. 3 vols. The New York Botanical Garden, New York.
4. _____, and A. Cronquist. 1963. Manual of vascular plants of northeastern United States and adjacent Canada. Van Nostrand Reinhold Co., New York. 810pp.
5. Illinois Natural Areas Inventory files. 1977. Illinois Department of Conservation, Springfield.

6. Jones, G. N. 1963. Flora of Illinois. 3rd ed. Am. Midl. Nat. Monogr. 7. University of Notre Dame Press, South Bend, Indiana. 401pp.
7. _____, and G. D. Fuller. 1955. Vascular plants of Illinois. Illinois State Mus. Sci. Ser. Vol. 6. 593pp.
8. Keser, J. 1971. Vascular flora of Stone Face, Saline County, Illinois. Master's thesis. Southern Illinois University, Carbondale.
9. Litzow, M. 1978. Asclepias meadii: summary of the literature. University of Minnesota, St. Paul.
10. Mohlenbrock, R. H. 1975. Guide to the vascular flora of Illinois. Southern Illinois University Press, Carbondale. 494pp.
11. _____, and D. M. Ladd. 1978. Distribution of Illinois vascular plants. Southern Illinois University Press, Carbondale.
12. Sheviak, C. J. 1981. Illinois endangered and threatened plants. In: Bowles, M. L., et al., editors. Endangered and threatened species of Illinois: status and distribution. Illinois Department of Conservation, Springfield. 70-179.
13. Swink, F., and G. Wilhelm. 1979. Plants of the Chicago region. Rev. ed. The Morton Arboretum, Lisle. 922pp.

b. Popular: none

B. Museum collections cited

- 1) (F), John G. Searle Herbarium, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605.
- 2) (GH), Gray Herbarium of Harvard University, 22 Divinity Avenue, Cambridge, Massachusetts 02138.
- 3) (ILL), Herbarium of the Department of Botany, University of Illinois, Urbana, Illinois 61801.
- 4) (SIU), Southern Illinois University Herbarium, Department of Botany, Carbondale, Illinois 62901.

C. Fieldwork

Information supplied for this report was in part provided by the Illinois Natural Areas Inventory. The INAI was performed under contract to the Illinois Department of Conservation by the Department of Landscape Architecture, University of Illinois, Urbana-Champaign, and the Natural Land Institute, Rockford, Illinois.

D. Knowledgeable individuals

- 1) Dr. Robert F. Betz, Northeastern Illinois University, Bryn Mawr at St. Louis Avenue, Chicago, Illinois 60625.
- 2) Robert H. Mohlenbrock, Department of Botany, Southern Illinois University, Carbondale, Illinois 62901.
- 3) John E. Schwegman, Division of Forest Resources and Natural Heritage, Illinois Department of Conservation, 605 Stratton Building, Springfield, Illinois 62706.

Authorship

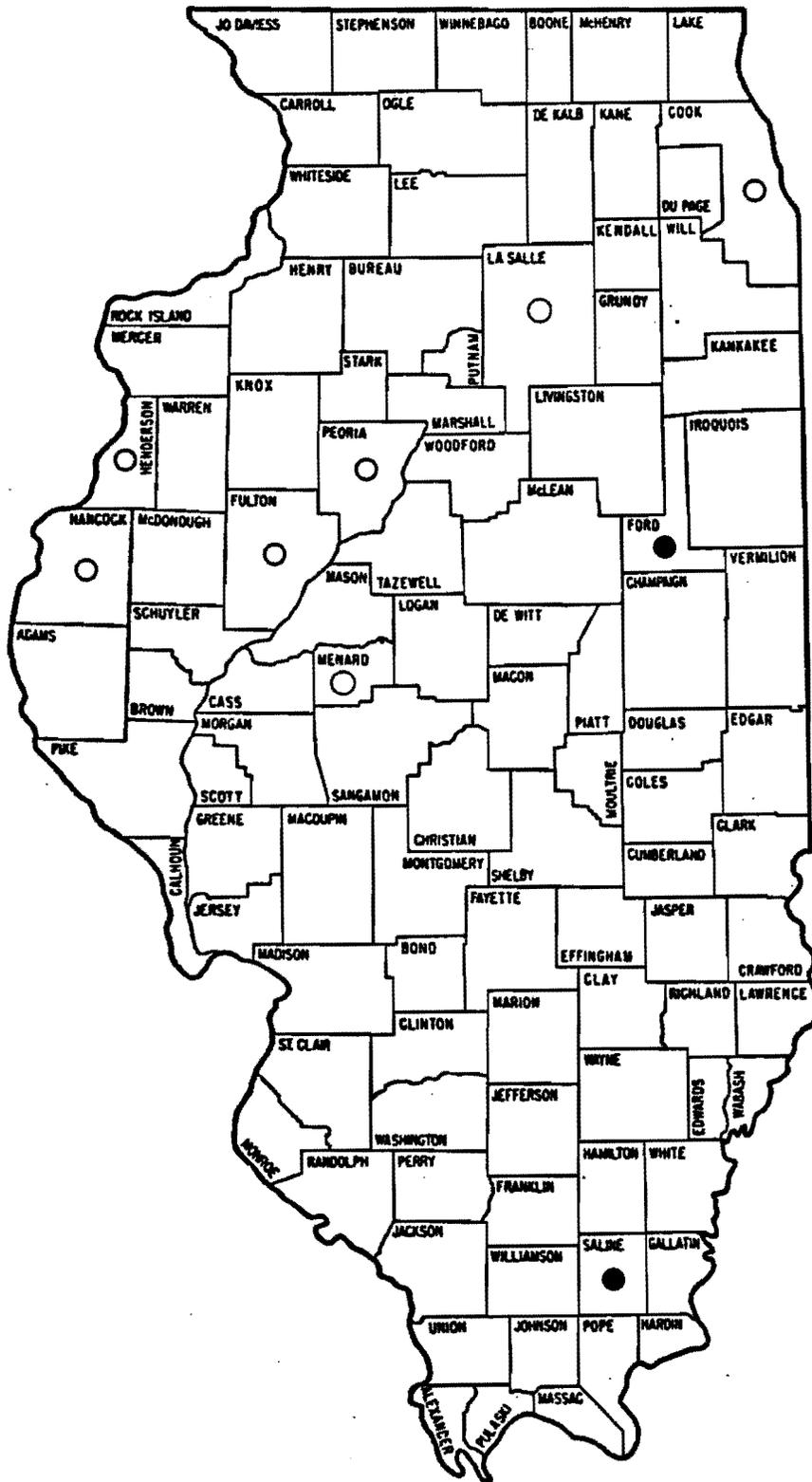
13. Initial authorship

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APPENDIX I
STATE DISTRIBUTION MAP

ASCLEPIAS MEADII



● = POPULATION EXTANT

○ = POPULATION STATUS UNKNOWN

Explanation of information sources and codes for Appendix II

The museum collection data in Appendix II was taken from herbarium registry cards compiled by the Natural Land Institute for the Illinois Endangered Species Project. Because there are often a large number or series of collections from a given site or county, only a representative sampling is provided in this Appendix. Complete herbarium collection records are maintained by the Natural Land Institute and the Illinois Department of Conservation.

Many extant sites for plants are not represented by voucher herbarium specimens; in this situation other sources of information are provided. These sources include material compiled by the Illinois Natural Areas Inventory, records of the Illinois Nature Preserves Commission, botanical literature, and knowledgeable people.

Whenever possible, significant collection data taken from the source of information is provided in Appendix II. The following codes allow an interpretation of this information:

- A The exact legal description was obtainable from the herbarium sheet or other source of information.
- B The location was probably within the listed legal description.
- C The location was possibly within the listed legal description but the source of information was too vague to be specific.
- ? An area small enough to be useful could not be determined.
- [] The information was not on the original source and was determined by this project.

