

Do you know Montana's native plants?

A. It was once one of the most abundant grasses on Montana's prairie. But now the only pure stand grows in the southeastern corner of the state.

B. The roots of this delicate pink flower were used as food by western Montana's Indians. Nowadays, look but don't pick!

Answers: Page 4

Newsletter

Of the Montana Native Plant Society

Native Plant Society founded in Montana

BY KATHY AHLENSLAGER

Montana Native Plant Society President

When Peter Lesica, Virginia Vincent and I first discussed forming a Montana Native Plant Society last fall, we had no idea of the tremendous response we'd receive from throughout the state. Thank you all for your encouragement and enthusiasm.

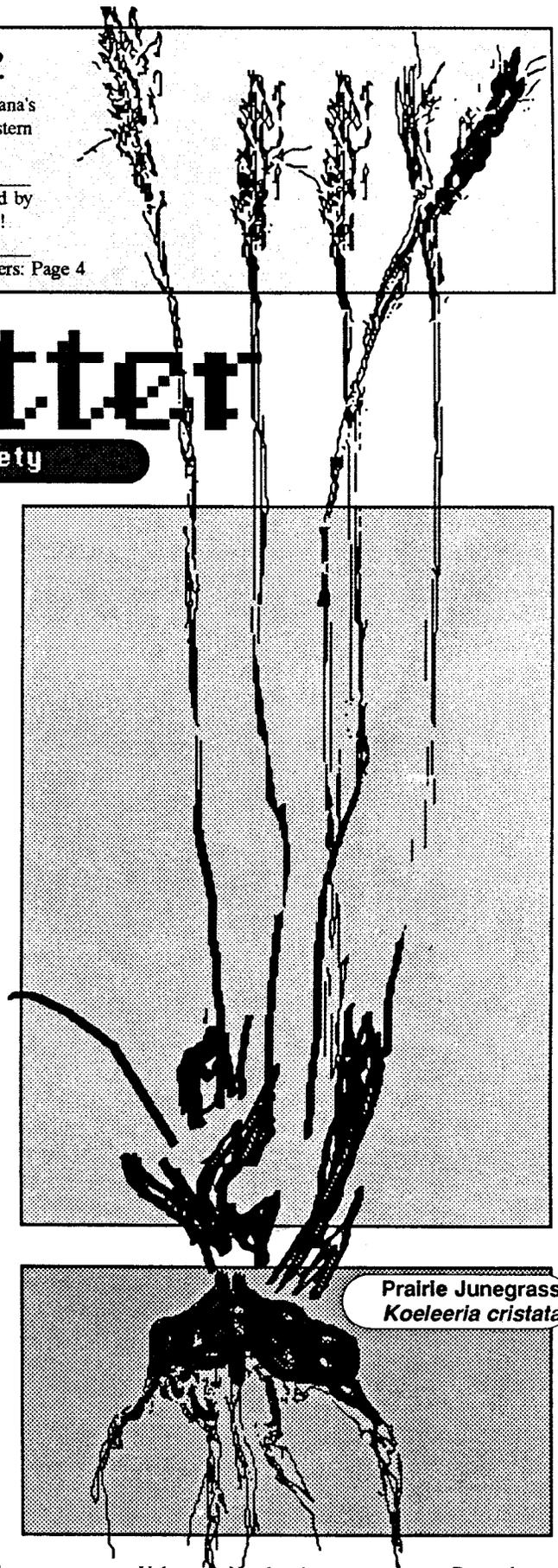
Presently our mailing list includes more than 250 names of interested persons. To stay on the list, please fill out the enclosed membership application and send it back with your dues.

Members of the Society comprise a diverse group of amateurs and professionals who share a common interest in Montana's unique flora. The society offers members an opportunity to share and acquire knowledge of wildflowers, cultivation of native plants and the conservation of threatened and endangered species. Through education and appreciation we hope to preserve Montana's botanical heritage.

We will meet several times a year throughout the state. If you are interested in helping organize a group in your area, please contact me. People already organizing activities, but welcoming help, include Shelly Bruce (Bozeman); Steve Shelly (Helena) and myself (Missoula).

Our meetings and field trips are open to the public. If you would like to present a program or lead a field trip, have ideas for future programs or trips, or have suggestions how we can improve the Montana Native Plant Society, or contributions for this quarterly newsletter, please let us know. Please have your newsletter items to Virginia Vincent, editor, by Jan. 8.

The Botany Department of the University of Montana graciously covered our initial expenses. On behalf of the Society, I would like to thank the faculty for their support.



Prairie Junegrass
Koeleeria cristata

Rare and Endangered Plant Profile

BY STEVE SHELLY

Montana Natural Heritage Program, Helena

Howellia aquatilis is a very unusual member of the Campanulaceae (Bellflower family). The species is strictly aquatic, occurring as a mostly submerged plant rooted in the bottom sediments of the ponds and oxbow sloughs to which it is adapted. It is an annual, completing its entire life cycle in one growing season. The stems are branched above the base, and each branch then extends to the surface of the water, where several flowers are borne at the tips. The numerous leaves are an inch or two long, and very narrow.

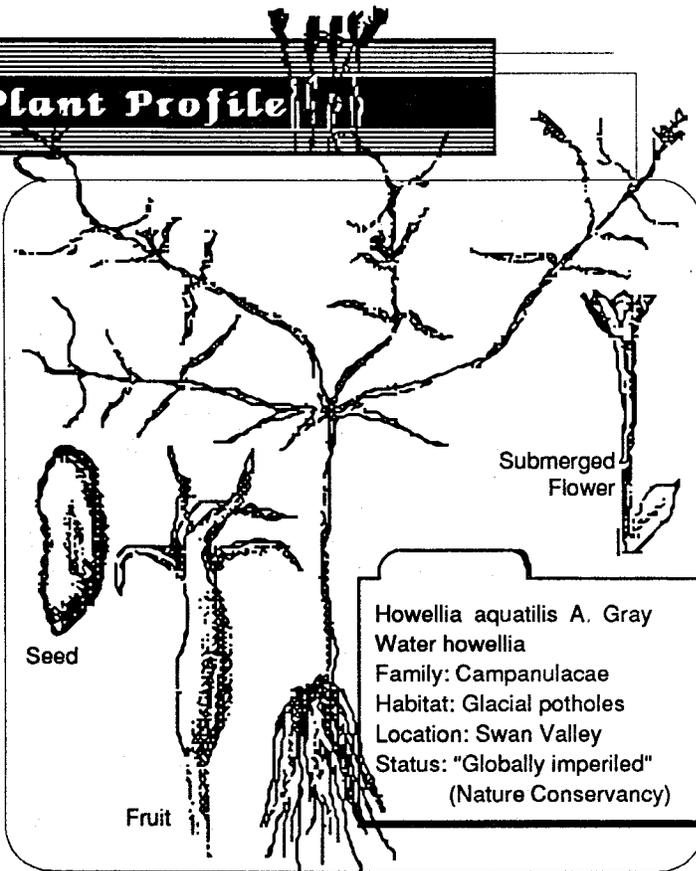
On first sight, the small, white emergent flowers are not at all reminiscent of the larger bell-shaped blue flowers of the common Round-leaved Harebell (*Campanula rotundifolia*).

In fact, *Howellia* actually produces two types of flowers: fully submerged flowers which do not develop a conspicuous corolla, or floral tube; and the emergent flowers, which occur on the tips of the stems just above the water surface, and have a more conspicuous corolla with five lobes. These emergent flowers are still quite small, however, averaging only about one-quarter inch across. Both types of flowers give rise to thin-walled fruits which are an inch or more long, and which contain one to five or so large, shiny brown seeds which can be about one-quarter inch long.

In May, 1879, two early Oregon botanists, the brothers Thomas and Joseph Howell, first discovered *Howellia* in a slough on Sauvies Island near Portland. At first, they only found plants with the inconspicuous, submerged flowers. They returned to a nearby area in August to find plants bearing the well-developed emergent flowers. The specimens were determined to be a new genus and species by Asa Gray, a prominent North American botanist, who named it in honor of its discoverers. To this day, *Howellia aquatilis* is the only known member of its genus.

The range of *Howellia* fairly large, currently consisting of sites in Washington and Montana. However, it is also historically known in Oregon (including the site where it was first found), Idaho and California. Recent searchers in Oregon and California have failed to relocate any populations in these states. Field surveys in Idaho next summer may reveal surviving locations there.

Howellia was first found in Montana in 1978 by Bruce McCune, in a pond along the Lindbergh Lake Road in the Swan Valley. Further surveys in this area a few years later, by John Pierce, revealed the presence of several other ponds harboring populations. In 1985 and 1986, surveys by Peter Lesica detected two other locations for *Howellia* in the Swan Valley, one near Swan Lake and another near Condon. In 1987, Anne Morley, Lisa Campbell, Peter Lesica and the author, through the Montana Natural Heritage Program, conducted a status survey for the U.S. Fish and Wildlife Service. As a result of all these studies, *Howellia* is now known to occur in seven areas between Swan Lake and Lindbergh Lake. At these sites, it is found in one to 12 or more adjacent ponds, at elevations from 3,100 to 4,420 feet.



Howellia aquatilis A. Gray
Water howellia
Family: Campanulaceae
Habitat: Glacial potholes
Location: Swan Valley
Status: "Globally imperiled"
(Nature Conservancy)

The pothole ponds in which *Howellia* most often thrives are of glacial origin, having been formed after the retreat of the glacier which covered the floor of the Swan Valley about 10,000 years ago. These ponds have some special features. They have bottom surfaces which consist of firm, consolidated clay and organic sediments; in fact, it is often possible to determine whether a pond may contain *Howellia* by the depth to which one sinks in the mud upon wading into the water! Also, these ponds are always partially surrounded by broadleaf deciduous trees, most often *Populus trichocarpa* (Black Cottonwood) and/or *P. tremuloides* (Quaking Aspen). The autumn leaf fall from these trees may have an advantageous ecological effect on the ponds in which *Howellia* occurs. Certain other plants are very characteristic of these ponds, including *Carex vesicaria* (Inflated Sedge), *Sium suave* (Hemlock Water-parsnip), and *Equisetum fluviatile* (Water Horsetail). Lastly, the ponds are usually completely dry by the end of summer, and no sign of *Howellia* can be found.

Howellia aquatilis is currently a candidate for possible listing under the federal Endangered Species Act of 1973. In addition, it is listed as "globally imperiled" by The Nature Conservancy. Unfortunately, however, none of these designations provide any legal protection for the species. In Montana, many of the ponds are threatened by logging on both public and private timber lands, and in some cases logging has occurred up to the margins of the ponds. Recently one very large site, the Swan River Oxbow near the south end of Swan Lake, was purchased by The Nature Conservancy as a new preserve. But, to insure the long-term viability of this curious plant and its sensitive habitat, other locations throughout its range will need to be protected.



Calendar

All events are open to the public. Call board members to share rides.

OCT. 29, Thursday, 7:30 p.m. Helena. Society meeting. Lewis & Clark Public Library, 120 S. Last Chance Gulch at south end of pedestrian mall in downtown Helena. Steve Shelly of the Montana Natural Heritage Program will discuss "Rare Plants of Montana" in a slide presentation.

NOV. 12, Thursday, 7:30 p.m. Missoula. Society meeting. Room 307, Botany Building, University of Montana (directly west of the University Center). Peter Lesica's slide-illustrated program, "Interesting Plants of the Pryor Mountains."

NOV. 18, Wednesday, 7:30 p.m. Missoula. University of Montana Herbarium Open House. Meet at the herbarium in Room 303 of the Botany Building. Kathy Ahlenslager, associate curator of the herbarium, will discuss the 100,000 plant collections in the herbarium and past and present contributors to the collection. She will also demonstrate plant collecting, pressing, mounting and storage techniques. Refreshments served, courtesy of the UM Botany Department.

DEC. 1, Monday, Deadline. Nominations due for Society plant 'mascot'. See ANNOUNCEMENTS.

DEC. 10, Thursday, 7:30 p.m. Missoula. Society meeting, UM Botany Building, Room 307. Dr. Roger Munro of the Western Montana Clinic will present a program, "Photography of Wildflowers."

JAN. 8, Thursday. Missoula. Deadline for all submissions to the Winter issue of the Montana Society of Native Plants Newsletter. Mail to Newsletter Editor, Montana Society of Native Plants, UM Botany Department, Missoula MT 59802.



Passages

MINUTES POSTED. August 29, 1987: Native plant enthusiasts from across the state gathered at Bonner Park in Missoula on Aug. 29 for the first meeting of the Montana Native Plant Society. After introductions of all 40 in attendance, we shared ideas regarding the structure and business of the group. Thoughts of future Society activities continued to fly as we adjourned to a potluck feast.

—Keith Shaw

JAN. 14, Thursday, 7:30 p.m. Missoula. Society meeting, UM Botany Building, Room 307. Dr. Charles Miller of the UM Botany Department will discuss "Past Vegetation of the Northern Rocky Mountains."



Announcements

CALL FOR VOLUNTEERS. Volunteers are welcome to work on projects for the University of Montana Herbarium. The herbarium has a backlog of specimens to mount and library books to organize. If you are interested in volunteering, if even for only a few hours each month, call Kathy Ahlenslager, associate herbarium curator, at 243-4743, or come to the Herbarium Open House, Nov. 17 (see Calendar listing).

—Kathy Ahlenslager

BOTANY SEMINARS. The University of Montana Botany Department will hold weekly public seminars on Mondays throughout Fall Quarter 1987. The seminars are open to any interested person. The lectures will occur at 4:10 p.m. in the UM Botany Building, Room 307, and last about one hour. The schedule is: Oct. 26, Peter Lesica, "Population Genetics, Breeding Systems and Conservation of *Howellia aquatilis*"; Nov. 2, Dixie Stark, "Pineaceous Cones in the Miocene of Maryland"; Nov. 9, Dr. Paul Hansen, "Wetlands Ecology"; Nov. 16, Kathy Ahlenslager, "Glacier National Park: A Mixture of Floristic Types"; Nov. 23, David Crabtree, "Late Cretaceous Flora from Cutbank."

—Kathy Ahlenslager

NEWSLETTER CONTEST. Most native plant societies have taken a plant as their 'mascot' for newsletters and journals. *Fremontia*, a genus endemic to California, is the name of the California Native Plant Society Journal. Similarly, *Mentzelia*, a common genus in Nevada, is the mascot for the Nevada Native Plant Society's publication. If you would like to nominate a plant for our mascot, please send a brief written description about the plant and you reason for nominating it to me by December 1. A special committee to be appointed will judge the entries. The winner receives a free membership for a year. Volunteers for the judging committee are welcome, too. The winning plant mascot will be announced in the January newsletter, and we will then be in search of an artist to design an appropriate logo.

—Kathy Ahlenslager

Canoeing on the Swan

BY PETER LESICA

Montana Native Plant Society

On Saturday, Sept. 19, members of the Montana Native Plant Society took a canoe trip in the lower Swan Valley in Lake County. We put in on the Swan River at the Porcupine Creek Bridge and floated four miles down to Swan Lake. The trip was led by Anne and Greg Morley of Swan Lake. Participants included 13 folks from Missoula, five from the Flathead, and four from Helena. We ate lunch on a gravel bar just above the lake, amidst much discussion of social and scientific import. Afterwards we explored aquatic and wetland plant communities at the southwest end of the lake and had a look at some beds of wild rice. Wild rice, a native of northeastern North America, has been seeded into many lakes in Flathead and Lake counties, but Swan Lake is one of only two places in the state where it has become naturalized. Late in the afternoon of this perfect late summer's day our flotilla of nine canoes crossed the lake and took out at a Forest Service recreation area.

Following is a list of wetland plants we observed on the trip. Abbreviations after the scientific name indicate the plant's habitat: gb=gravel bar; m=marsh; aq=aquatic bed.

Shortawn foxtail (*Alopecurus aequalis*) gb; Columbia sedge (*Carex aperta*) m; Kellog's sedge (*Carex lenticularis*) gb;

Inflated sedge, (*Carex vesicaria*) m; common spike-rush (*Eleocharis palustris*) m; common horsetail (*Equisetum arvense*) gb; water horsetail (*Equisetum fluviatile*) m; northern mannagrass (*Glyceira borealis*) m; reed mannagrass (*Glyceria grandis*) gb; ; mare's-tail (*Hippuris vulgaris*) m, q; dagger-leaf rush (*Juncus ensifolius*) gb;

Small-flowered forget-me-not (*Myosotis laxa*) gb; water-milfoil (*Myriophyllum spicatum*) aq; wavy water-nymph (*Najas flexilis*) aq; yellow water-lily (*Nuphar polysepalum*) maq; reed canary-grass (*Phalaris arudinacea*) gb, m; grass-leaved pondweed (*Potamogeton gramineus*) m, aq; broad-leaved pondweed (*Potamogeton natans*) aq; fennel-leaved pondweed (*Potamogeton pectinatus*) aq; small pondweed (*Potamogeton pusillus*) aq;

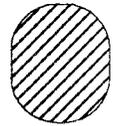
Richardson's pondweed (*Potamogeton richardsonii*) aq; marsh yellowcress (*Rorippa islandica*) m; wapato (*Sagittaria cuneata*) aq; water-parsnip (*Sium suave*) m; floating bur-reed (*Sparganium angustifolium*) aq; simplestem bur-reed (*Sparganium emersum*) gb; wild rice (*Zizania aquatica*) aq; white water-buttercup (*Ranunculus aquatilis*) aq.

Answers to Page 1 Quiz:

- A. Buffalograss (*Buchloe dactyloides*)
- B. Bitterroot (*Lewisia rediviva*)

Montana Native Plant Society

Botany Department
University of Montana
Missoula MT 59802



THIRD CLASS

Society Board...Kathy Ahlenslager, Missoula, President, 542-0522; Shelly Bruce, Bozeman, Vice President, 587-3400; Keith Shaw, Fairfield, Secretary, 467-2268; John Pierce, Missoula, Treasurer, 542-2640; Virginia Vincent, Missoula, Newsletter Editor, 543-8078.

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The Montana Native Plant Society

University of Montana Botany Department
Missoula, MT 59802

Membership categories:

- \$8.00 Individual
- \$25.00 Business/Corporation
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Will you help with _____ Membership;
_____ Newsletter; _____ Publicity;
_____ Speakers; _____ Field Trips;

_____ Other.

All contributions to the Montana Native Plant Society, a non-profit organization, are tax deductible. Please make checks payable to the Montana Native Plant Society.