

Iowa Native Plant Society

Newsletter



May 2000

Vol. 6, No.1

Alliaria petiolata: history, control and general characteristics

by Matthew Dornbush

Through modern improvements in technology and transportation, the exchange of thoughts, goods, and people has increased worldwide. As a consequence, physical barriers traditionally maintained by mountains, oceans, and distance are disappearing. These technological advancements provide the potential for increased availability of goods and improved standards of living worldwide, but as always, technological improvements come with a price. The price is the worldwide introduction of non-native plants and animals into new environments. These organisms, once established, are capable of massive alterations to native ecosystems. We as Americans are all too familiar with the results of these introductions. Examples such as Dutch elm disease, chestnut blight, kudzu, purple loosestrife, water hyacinth, starlings, house sparrows, and grass carp remind us of the severe consequences of alien establishment. Sources suggest that here in Iowa alone, 404 species out of our total vascular flora of 1,958 species are naturalized exotics. In this article I will focus on one of these non-native invaders, *Alliaria petiolata* (M.Bieb.) Cavara and Grande (Garlic Mustard), a plant whose invasive nature has elevated it to a status of serious concern for many conservationists stretching from here all the way to the East Coast.

A. petiolata may be an unfamiliar plant to many central Iowans but sadly it is already all too familiar in many parts

of the U.S. This plant is well established in Northern Illinois and N.E. Iowa, and continues to march across our precious few remaining natural woodlands. Unfortunately, as *A. petiolata* continues to invade new areas, our understanding of the conditions under which this species flourishes lags far behind its progress across the United States. Anecdotal evidence aside, most research to date has focused on the control of established colonies, rather than on the ecological preferences of *A. petiolata*.

History and Distribution

Alliaria petiolata was first recorded in North America in 1868 on Long Island, New York. This introduction was likely a result of early colonial cultivation of *A. petiolata* for both dietary and medical applications. Since the time of this initial introduction, *A. petiolata* has increased its range to include areas stretching from British Columbia to New England, and from Ontario south to Tennessee.

The distribution of this plant is not limited to its introduced range here in North America. *A. petiolata* is a native of Europe, where it ranges from about 68 degrees north southwards, becoming less common to the south. This range includes areas from England east to the Czech Republic, and from Sweden and Germany south to Italy. *A. petiolata* has also established itself in North Africa, India, and Sri Lanka. Thus, this species has proven itself as a successful invasive weed striving towards a worldwide distribution.

Life History

A. petiolata is a biennial plant surviving winter as a basal rosette or lying dormant as seed. Seed germination generally occurs in early spring, but growth is limited to the fall of the first year, or more commonly, to that of the second year. Following winter dormancy, *A. petiolata* matures and produces inflorescences. Most flowering is completed by late spring, with seeds developing in siliques, and under normal conditions, seeds are released by mid-summer. Fol-

In this Issue

Alliaria petiolata	1
Picture Acknowledgements	2
In Memoriam:	3
Steele Prairie Fieldtrip	3
Eddyville Bypass Update	3
You too can identify Sedges!	4
The Lonely Marsh on the Hill	7
Iowa's Very Own VII.	8
Lamson Woods Fieldtrip	9
Crawford County Fieldtrip	9
Field Trip Schedule For 2000	10

Continued on page 6

President: Ed Freese
120 Sixth Ave. S.W.
Waverly, IA 506n

Vice-President: Mary Jane
Hatfield, 2505 Tullamore Lane,
Ames, IA 50010
(515) 232-7555

Secretary: Linda Scarth,
1630 Wildwood Drive NE, Cedar
Rapids, IA 52402
(319) 366-6817
lscarth@mmc.mtmercy.edu

Treasurer: Mary Brown
330 Windsor Dr.
Iowa City, IA 52245
(319) 338-3875
mlbrown@blue.weeg.
uiowa.edu

Issues/Action Committee:
Jane Clark
9871 Lincoln Ave.
Clive, IA 50325
(515) 223-5047
jrclark@radiks.net

Program Committee:

Chairman: Mark Leoschke
2212 East Rose Ave. #13
Des Moines, IA 50320-2613
mleosch@max.state.ia.us

Mary Brown (see above)

Judy Felder
335 Beldon Ave.
Iowa City, IA 52246
(319) 351-n18
rfelder@blue.weeg.uiowa.edu

Tom Rosburg
P.O. Box 234
Colo, IA 50056
(515) 3n-2930
thomas.rosburg@drake.edu

William C. Watson
P.O. Box 281
cedar Falls, IA 50613

Historian: Deborah Q. Lewis
Dept. of Botany, ISU
Ames, IA 50011-1020
(515) 294-9499

Editor: Charlie Butterworth
Dept. of Botany
ISU, Ames, IA 50011
(515) 294-4035
cbutter@iastate.edu



Printed on recycled paper

Leaves from the President's Notebook...



According to the Gregorian calendar which we use to keep track of time and events, we are now in the two-thousandth year. In less than a year, we will be celebrating the beginning of a new century and new millennium. I was wondering which accomplishments we will be celebrating - have we done enough to protect the environment? Are there now enough pieces left so that with time and nurturing our children's children can enjoy or study a quality prairie, savanna, wetland, or forest here in Iowa?

A few weeks ago, I visited Palisades-Kepler State Park to photograph fresh fallen snow. The river appeared to be frozen over except for the southern side. All I heard was water going over the old dam and a few chickadees. Light snow covered cedar boughs and last year's seed pods. I walked along the bank looking at the stone outcrops and scared up a hawk. Reaching where the bird had flown from, I saw signs in the snow indicating a struggle of the hawk's catching a rabbit for its breakfast.

Later that day, I walked around Rochester Cemetery prairie/savanna. I tried to get a good photo of snow-laden limbs of the many large, open-growth oaks. One large tree, in particular, has been photographed many times and has appeared on the cover of the 'Iowan' magazine, along with a gravestone and prairie flowers (Spring 1979). The featured article in that issue is titled, 'The Passing of the Prairie'.

My last stop was at the Herbert Hoover birthplace at West Branch. I photographed the small cabin with melting snow on the roof. On the other side of the National Landmark, I stopped at the graves surrounded by snow-covered evergreens. Looking out over the Hoover Prairie, I saw the brown plant stems standing out against the snow.

No matter what the season, there is always someplace to explore in Iowa. Access during the winter months is the limiting factor as many roads are not ploughed and gates are unopened. But the air is clean and crisp. There are birds looking for food. Last year's seed pods can be identified. The slopes and rock outcrops are visible through bare branches. It may not be a complete cure for cabin fever, but it is good to get outside and away from things.

According to the groundhog and calendar, spring will be arriving soon. It will be time to start looking for the first spring flowers and bird migrants. We have several field trips planned, so we can see new plants and places during the coming year. See you there.....

Ed Freese

Picture Acknowledgements

Pictures in this issue of the INPS newsletter came from the following sources:

page 6. *Alliaria petiolata*. Radford, A.E., H.E. Ahles & C. R. Bell. 1968. Manual of the flora of the Carolinas. Univ. of North Carolina Press, Chapel Hill.

Page 8. *Panicum leibergii*. Pohl, R.W. 1966. *The grasses of Iowa*. Iowa State Journal of Science, 40.

Page 9. *Camassia scilloides*. Gleason, H.A. 1952. The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada. Hafner Press, New York.

Page 4&5. *Carex* spp. were kindly drawn by Denise Friedrich.

In Memorium:

The Iowa botanical and conservation community has lost two "champions" this spring.

Kyle Swanson, INPS member, was killed in an automobile accident on March 13th. Kyle had worked for the Iowa Natural Heritage Foundation for the last seven years. Memorial contributions in his name may be made to the Iowa Natural Heritage Foundation (for more information, contact the INHF at 515-288-1846).

Dr. Lawrence J. Eilers died of an aneurysm on March 26th. Larry is well known for his extensive knowledge of the Iowa flora, exemplified in the publication co-authored with Dean Roosa, *The Vascular Plants of Iowa*. Larry also was an active member of the Iowa Chapter of The Nature Conservancy, having served as chairman of the state board of directors and taking the lead in establishing the Iowa Field Office. Memorial contributions may be made to the Iowa Chapter of The Nature Conservancy (for more information, contact the TNC at 515-244-5044).

Steele Prairie Fieldtrip

by **Thomas Rosburg**

Come visit one of northwest Iowa's premiere prairies - Steele Prairie in Cherokee County. At 200 acres, Steele Prairie is one of Iowa's largest remnants. It occurs in two pieces, 160 acres in one tract and 40 acres in another. Steele is one of just a few examples of mesic prairie on the Northwest Iowa Till Plains, a landform characterized by a gently rolling terrain with a fairly well-established network of branching streams. This external drainage, combined with a drier climate, sets this landform apart from the Des Moines lobe in north central Iowa. Although most of Steele is mesic prairie and dominated by typical species such as big bluestem, porcupine grass, panic grasses, golden alexanders, prairie clover, and stiff sunflower, there are also smaller communities of sedge meadow and riverine marsh present. A total of 159 plant species have been recorded. Some of these that may be in flower during our visit include: Michigan lily, swamp lousewort, Culver's root, and wild prairie onion. We will meet at 10:00 AM at the north entrance to the 160 acre tract. To get there, take Highway 59 north out of Larabee. From the intersection of 59 and County C16 on the north edge of Larabee, go 1 mile north. Turn west on a gravel road and take it 1.75 miles to Steele Prairie.

Eddyville Bypass Update

by **Glenda Buenger & Pat McAdams**

In December 1999, the Rock Island Corp of Engineers sent a letter to the IDOT stating that the bypass project did not meet federal guidelines restricting permit issuance to the least environmentally damaging practicable alternative. The Corps' letter indicated that the Far East Alternative might be a better pick. Last month, IDOT Director Mark Wandro proposed building the Far East. Director Wandro pointed-out that the Far East would be safer and cheaper to build, and could be constructed in the same amount of time as the Near East Alternative. The City of Eddyville still wants the IDOT to build the Near East Alternative. After all the concern about traffic past the elementary school, Eddyville says that the Far East Alternative would remove too much traffic from town.

The Near East is the route that was moved slightly west to avoid the orchid swale at 182nd street. The Far East is the route that, for the most part skirts the Dunes along their eastern boundary. Although both routes locate an interchange at the Teno property (the sand prairie and wetlands north of the Eddyville cemetery that we visited on the INPS hike), the Far East route would have less overall impact on the Dunes.

We are in a 'wait and see' mode while discussions take place. As always, thank-you for your interest and support.

You too can identify Sedges!

by William R. Norris

Chances are, most of us will be taking to the woods in April and May to enjoy the colorful display of spring ephemerals on the forest floor. Spring beauty, hepatica, bloodroot and other wildflowers are all old friends to most of us. But how many of us are eager to greet the sedge species which appear at this time of year? I suspect that many of us tend to walk on by these newly emergent sedges, afraid of the unknown. "After all", one might offer in apology, "who could possibly learn to identify a sedge?"

Well, I have news for you. *It is possible to identify many of the 15 to 25 sedge species which inhabit the woodland nearest you!* The key is to begin learning them in the spring, when one might reasonably expect to find only three different species in reproductive condition. Although the major-

ity of woodland sedge species flower and fruit in late May and June, *Carex pensylvanica*, *C. pedunculata* and *C. eburnea* almost always poke their reproductive heads out of the soil by the middle of April. Unfortunately, the majority of popular field guides to wildflowers ignore sedges. My goal in this article is to provide you with the necessary descriptions and illustrations of the above species so that you can go out and identify them yourself.

Carex pensylvanica (oak sedge)

By far the most easily observed woodland sedge in the spring is *Carex pensylvanica*, or oak sedge. One can usually find this species in oak woodlands at the top of gentle to rolling hilltops in eastern and central Iowa. The leafy stems of oak sedge are usually scattered (arising from an underground rhizome) and form a "sedge lawn" among the brown oak leaves on the forest floor. The leaf bases of these leafy shoots are almost always very red.

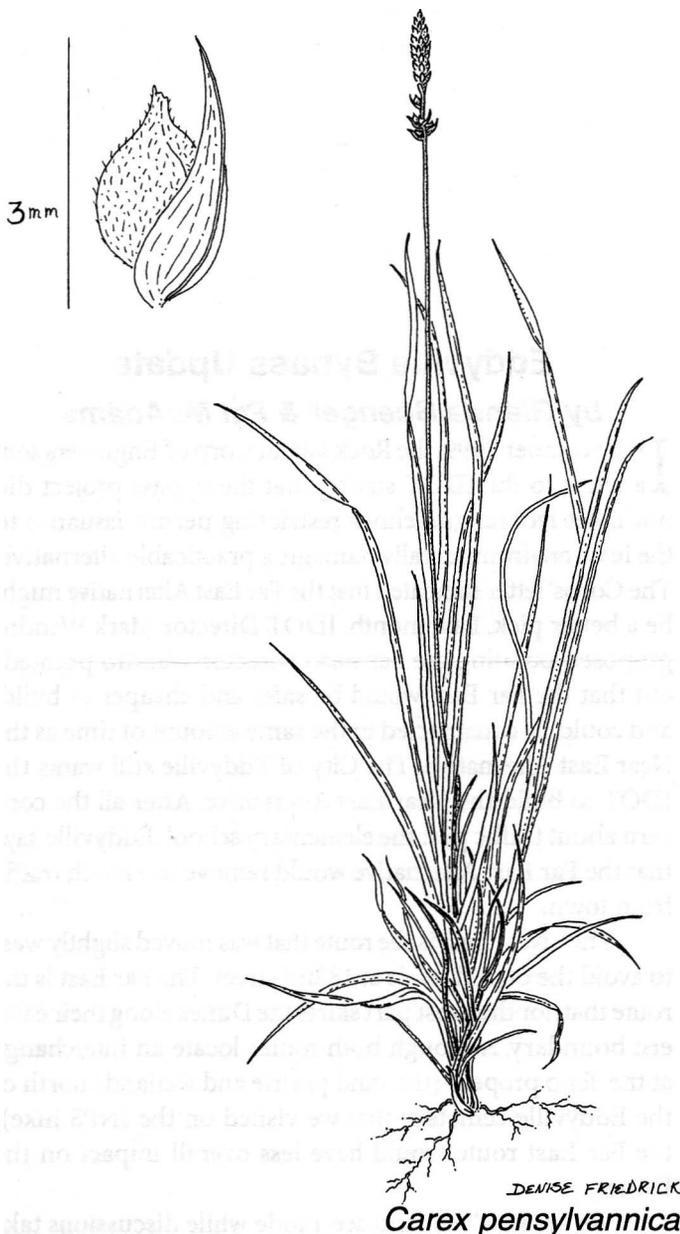
The erect reproductive structure at the tip of the flowering branch is a "spike" of male flowers; with a hand lens, one can see stamens dangling from this spike in early April. Below the male spike are the female reproductive structures (i.e., the "perigynia") which are globose and quite hairy. *Carex pensylvanica* is the only common spring-flowering sedge in eastern Iowa which has obviously hairy perigynia.

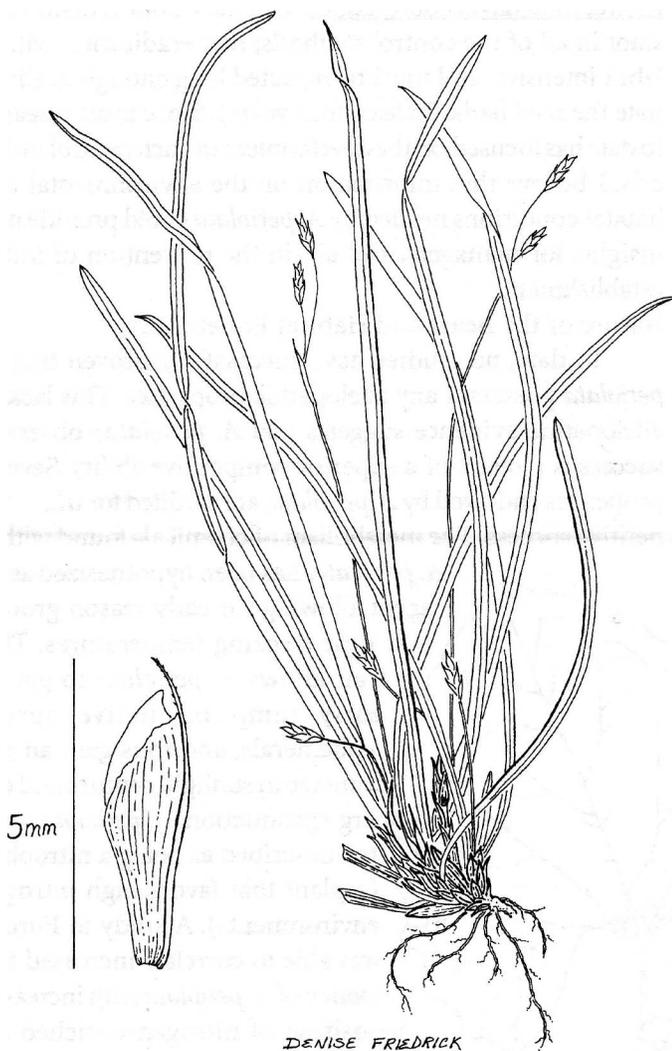
If you live in western Iowa, you have the good fortune to look for a very closely related sedge: *Carex heliophila* (not illustrated). This sedge, which I'm told by Tom Rosburg is common in grassland habitat in the Loess Hills, looks almost identical to *C. pensylvanica* except that its perigynia are slightly bigger (1.9-2.5 mm long versus 1.2-1.5 mm long in *C. pensylvanica*).

Carex pedunculata

This sedge is not nearly as common as *C. pensylvanica* but is by no means rare. It can be found in dry to moist woodlands in northern Iowa and in the central part of this state. The most typical habitat for this sedge is just over the edge of a ridgetop in a soil mound or in association with the exposed roots of a large tree, often in rather thin soil. This sedge typically forms clumps growing in close proximity to one another (unlike the "lawn" growth pattern of *C. pensylvanica*). Like oak sedge, the lower foliage of *C. pedunculata* is deep red; however, the leaves have an overall wider appearance to them.

The easiest way to distinguish *C. pedunculata* from *C. pensylvanica* is to note that the former species typically has flowering/fruiting stalks growing at many different heights on the plant (see illustration). Usually, some of these fruiting stalks will be devoid of leaves and thus appear naked. Also, the perigynia (i.e., female reproductive structures) of





Carex pedunculata

Carex pedunculata are not bristly-hairy like those of *Carex pensylvanica*. It is interesting to note that *Carex pedunculata* is one of the few sedge species whose perigynia produce fat bodies (similar to the "elaiosomes" of seeds in Dutchman's breeches and squirrel corn) to attract ants for seed dispersal.

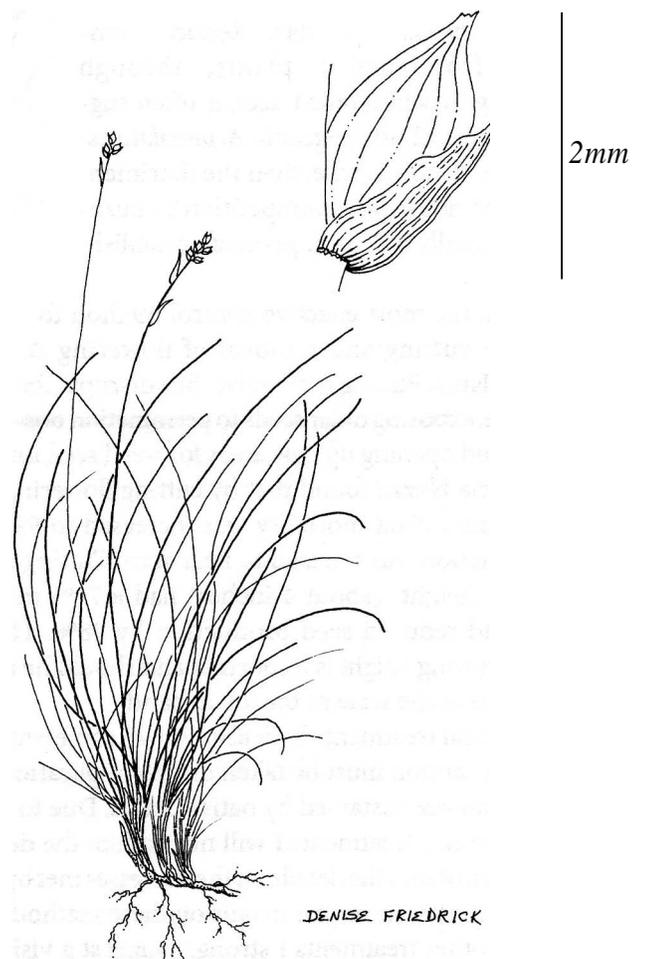
Where can one find *Carex pedunculata*? I suggest the following locations: Echo Valley Park in Fayette County (the hogback); Backbone State Park in Delaware County (the forest beyond "The Backbone"); Ledges State Park in Boone County (exposed soilbanks along the Lost Lake Trail) and upper wooded slopes of Fort Defiance State Park (Emmett County). I have also seen *Carex pedunculata* in more remote areas in Iowa such as the Mann Wilderness Area (Hardin County), Woodman Hollow State Preserve (Webster County), White Pine Hollow State Preserve (Dubuque County) and Bluffton Fir Stand State Preserve (Winneshek County). Good luck in finding this beautiful sedge!

***Carex eburnea* (ivory sedge)**

Once you see this sedge, you will never mistake it for any other sedge species. *Carex eburnea* has the thinnest of leaves, almost hairlike in texture, and grows in tufts in woodland openings and bluffs throughout much of Iowa. In fact, one can find it in many of the same forest habitats occupied by *Carex pedunculata* (usually in rocky areas where the canopy cover is not dense). Ivory sedge also forms dense turfs on steep hill prairies in northeast Iowa, especially on prairies that have not felt the hot breath of a raging fire for many years.

The reproductive structures of ivory sedge are tiny and occur at the very end of the stalk of this plant. Although white upon maturity (hence the name "ivory sedge"), the perigynia of *Carex eburnea* often turn black by the middle of summer.

Thus ends this brief tutorial in spring sedge identification. Master these three species, and you will be ready to tackle another suite of woodland sedges in early June. Many thanks to my wife, Denise Friedrich, for providing the original illustrations which accompany this article.



Carex eburnea

Continued from cover

Following the completion of flowering and seed set, *A. petiolata* dies.

Seed production, on a per plant basis, decreases with increasing plant density, although greatest total seed production is still found under the densest stand conditions. Researchers have found that seed production estimates for these stands range from around 3,500 seeds/m² to 107,500 seeds/m². Thus, the production of seed by *A. petiolata* provides a positive-feedback aiding in the maintenance of high-density stands. Current information on seed bank longevity suggests relatively short seed lives, reaching a maximum of roughly four years. Based on this short seed bank longevity, eradication does appear possible, if labor intensive control measures are undertaken.

Control Methods

Methods for controlling *A. petiolata* infestations have been tested and are well documented. Most authors agree that fire is a poor choice for control. Effective control by fire requires high intensity burns in consecutive years. In reality this is a requirement difficult to meet, as fuel loads are depleted following the first year of burning. Furthermore, most studies suggest that the burning harms the native woodland plants worse than the Garlic Mustard. Reduced competition from native plants, through overgrazing by white-tailed deer, is often suggested as a contributing agent in *A. petiolata* establishment. If this is true, then the detrimental effects on native plant competition by burning may actually aid in *A. petiolata* establishment.

By far, the most effective control method to date is the cutting and removal of flowering *A. petiolata* plants. Pulling is effective, but disrupts the soil surface, exposing older seeds to germination possibilities, and opening up new areas for weed seed introduction. Victoria Nuzzo found that by cutting flowering stems at the ground, plant mortality was increased to 99%, and seed production was reduced to near zero. Cutting at a ten centimeter height (about 4 inches) had a 71% mortality success and reduced seed production by 98%. Thus the choice of cutting height is important and should be considered relative to the scale of the job at hand.

Chemical treatments have also shown some promising results, but caution must be taken during application to reduce the damage sustained by native plants. Due to the nature of chemical treatments I will not go into the details of this method, or into the details on the successes met by differing chemicals. However, for details on these methods or for details on other treatments I strongly suggest a visit to the Nature Conservancy's weed web site at [http://](http://tncweeds.ucdavis.edu/esadocs)

tncweeds.ucdavis.edu/esadocs. One fact does remain constant in all of the control methods; that eradication will be labor intensive, and must be repeated long enough to eliminate the seed bank (at least four years). Since most research to date has focused on the development of such control methods, I believe that information on the environmental and habitat conditions needed by *A. petiolata* could provide new insights for managers, and aid in the prevention of initial establishment.

Nature of the Beast and Habitat Preferences

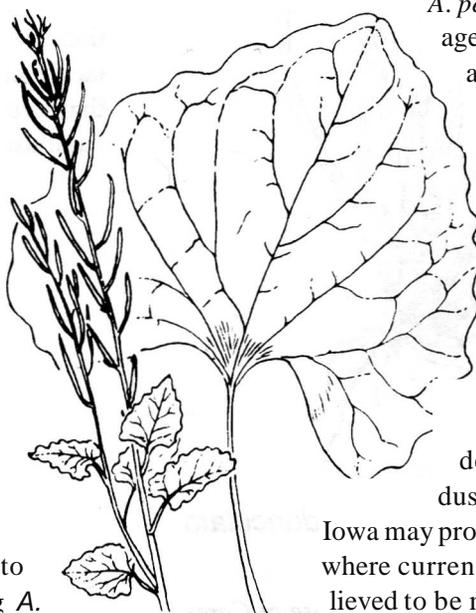
To date, no studies have successfully proven that *A. petiolata* possesses any allelopathic properties. This lack of allelopathic evidence suggests that *A. petiolata*'s observed success is a result of a superior competitive ability. Several properties endowed by *A. petiolata*, are credited for this competitive success. The metabolism of chemicals found within

A. petiolata, has been hypothesized as an agent allowing for early season growth at near freezing temperatures. This trait allows *A. petiolata* to get an early jump on native spring ephemerals, and thus gain an advantage in sunlight capture and energy production. *A. petiolata* is often described as being a nitrophile (a plant that favors high nitrogen environments). A study in Europe was able to correlate increased frequency of *A. petiolata* with increased deposition of nitrogen-enriched industrial emissions. For similar reasons

Iowa may provide an ideal habitat for such a plant, where current atmospheric deposition of N is believed to be much greater than that of Iowa's pre-fertilized landscape.

Many other factors have been suggested as contributing to *A. petiolata*'s success. One popular theory points to the effects of herbivory. For example, many blame successful invasion by *A. petiolata* on the reduced competitive ability of native plants. This is often the result of overbrowsing of native plants in high-density white-tailed deer areas. This is a realistic possibility, as field observations strongly suggest that *A. petiolata* is avoided by most North American herbivores.

Abiotic factors also play a major role in explaining the range and success of *A. petiolata*. *A. petiolata* can be found growing in many varying habitat types, from full sun to full shade, but appears to reach its highest densities in areas of partial shade. *A. petiolata* has been recorded as growing best on base-rich soils, such as in N.E. Iowa. Drought and a thick leaf litter layer may affect seedling survival and germination success. However, these hypotheses lack any quantitative



Alliaria petiolata

data, so the actual abiotic requirements of this plant are poorly understood.

The effects of *A. petiolata* invasions on native plant communities also lack solid evidence. Information obtained from a study in Illinois suggests that an *A. petiolata* establishment period greater than three years is necessary to observe any changes at the community level. However, on the species level, researchers were able to successfully show that the cover of *Dentaria laciniata* declined substantially, following an invasion by *A. petiolata*. Similar concerns are held for the fate of many other associated spring ephemerals, such as *Asarum canadense*, *Phlox divaricata*, and *Claytonia virginica*. Thus, although poorly documented, the threat posed to our native plant communities is real, and justifies action.

Plea for Help

Currently, a study aimed at answering many of the important issues mentioned in the above article is planned. In

this study we hope to document the distribution of *A. petiolata* in Iowa, and simultaneously record information on the habitat qualities associated with this plant's presence. Following completion of the study, information pertinent to managers and the general public will be compiled and made available in the form of a brochure. In order to complete this project, we need some help from the concerned conservationists here in Iowa. Information is needed on locations and accessibility to established or establishing *A. petiolata* populations across all of Iowa. If you are aware of an established or establishing population, please e-mail the location of this population to me at matt26@iastate.edu, or send a letter to the Dept. of Botany at Iowa State University, care of Matthew Dornbush. Thank you for your help.

The Lonely Marsh on the Hill

by Wi/son Phalarope

What has become of Engeldinger Marsh? The wetland, bisected by a highway, was at the center of the storm for a long while. Lately information about the area is difficult to come by.

Planning of the road has been difficult for the DOT. The recognition by the public that the wetland complex was a significant public resource delayed and eventually derailed plans to widen the existing roadway. The designation of the marsh as 4(f) land (sections 4f of the Federal Highway Code) meant that if there was a feasible alternative to paving the marsh it must be taken.

The search for an alternative route has taken place this past year. All the alternatives around the marsh were found to contain pluses and minuses. Some split farms while others threatened to destroy remnant wetland or prairie. There didn't seem to be a 'good' avoidance alternative.

All alternatives regardless of route had a common nexus at the northeast juncture with the original route. Then came the butterfly! *Poanes massosoit*, the Mulberry Wing is an insignificant dark brown to black butterfly with yellow spots. It lives in freshwater marshes and bogs munching on sedges as a caterpillar and sipping nectar as an adult. It loves sedge meadow and has become equally as rare as an Iowa sedge meadow. As sedge meadows were systematically destroyed,

the Mulberry Wing also disappeared. It is listed as a T&E species in Iowa and protected by law. Unfortunately for the highway planners, it was found to like sedges at the northeast juncture of all alternatives and is suspected to be in other adjacent areas, including Engeldinger.

An effort to redesign an alternative to avoid butterfly habitat is currently underway. The DOT is under pressure to keep the redesign of this dangerous stretch of highway on schedule. An announcement of the preferred alternative should be forthcoming.

Engeldinger Marsh is a resource for future Iowans to study and learn from. Today's Iowans should learn something from the process too. If public officials had taken their responsibilities seriously from the beginning of this process and done an honest assessment of the natural values present at the marsh, a great deal of time and money could have been saved. Vindictive speech about valuing plants over people has no place in the professional world, nor is anti-DOT bashing helpful. The natural treasure of the marsh is a public trust that is being and will be protected by individuals on both sides of the controversy. Let us hope that we can rise above the petty power struggles of the past and work in common toward preserving the remaining fragments of Iowa's natural wealth.

Iowa's Very Own VII. Leiberg's Panic-grass, *Panicum leibergii* (Vasey) Scribn.

Thomas G. Lammers

The genus *Panicum* L. (Poaceae) comprises about 500 species of annual and perennial grasses, distributed throughout the globe. For lack of a better common name, most North American species are called "panic-grass". Note that this is merely a corruption of the genus name, and has nothing to do with the plants inducing sudden, unreasonable, overwhelming fear. In fact, most panic-grasses are quite non-descript and easily overlooked by the average nature-lover. *Panicum miliaceum* L., the cultivated Proso or Broomcorn Millet; *P. capillare* L., the weedy Witchgrass; and *P. virgatum* L., the Switchgrass of our prairies, are perhaps the most conspicuous and best known species.

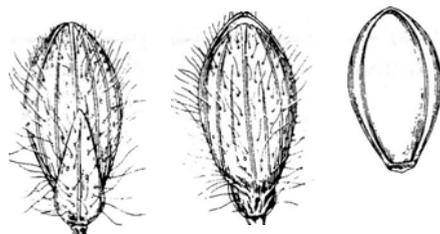
The flora of Iowa includes 17 species of panic-grass, one of which was originally described on the basis of a specimen collected in the state. *Panicum leibergii*, though originally described from Iowa, is now known to grow in dry prairies and other, open ground from Ohio and Michigan to Manitoba, South Dakota, and Kansas, with disjunct populations in central New York and Pennsylvania. It is a tufted perennial 1-2 ft tall with small panicles of rounded one-flowered spikelets.

Panicum leibergii was named in honor of its discoverer, John Bernhard Leiberg (1853-1913), who was born in Sweden and emigrated to America sometime after 1868. He is best known to botanists for the numerous specimens he obtained in Oregon, Idaho, and other western states while serving as a collector for the U.S. Department of Agriculture (1895-96) and U.S. Geological Survey (1897-1903). He also spent a year as a forestry inspector in the Philippines (then an American possession), and a second year in a similar capacity in the western states, prior to his retirement.

Unfortunately not much is known about Leiberg's activities in Iowa or how he came to collect the type of the panic-grass named in his honor. However, various labels attached to the type specimen of *P. leibergii*, which is deposited in the U.S. National Herbarium at the Smithsonian Institution, do provide some clues. The specimen was collected by Leiberg at an unspecified locality in Plymouth County, Iowa, sometime during 1878. At some point, he gave the unidentified specimen to Joseph Charles Arthur (1850-1942). Arthur was a native of Charles City, who received his botanical training (B.S. 1872, M.S. 1878) at what is now Iowa State University. Though he became a world authority on rust fungi (Uredinales) after moving to Purdue University in 1887, while in Iowa he was much interested in the state's flora. In 1876, he published the first catalogue of Iowa plants, which was updated through the 1880's via a series of articles in the *Proceedings of the Davenport Academy of Science*. Per-

haps it was this catalogue or its supplements that induced Leiberg to send specimens to Arthur.

Arthur, in turn, sent the specimen as #34 of his distribution of "Plantae Americae Septentrionalis" [Plants of North America] to Frank Lamson-Scribner (1851-1938), who scribbled "n. sp.?" and the manuscript name "*Panicum leibergii*" on it in 1884. [Note that new names cannot be promulgated in this fashion, that the plant must be described in print somewhere in order to be christened]. The following year, Lamson-Scribner went to work for the USDA as a



Spikelet of *Panicum leibergii*

botanist specializing in grasses. He showed the specimen to his new colleague, George Vasey (1822-1893), who was a

scudator of the U.S. National Herbarium from 1872 to 1893. Vasey at first identified it as *P. pauciflorum* Ell., then decided it seemed akin to *P. scoparium* Lam. He formally described the plant and named it *P. scoparium* var. *leibergii* Vasey in an 1889 *USDA Division of Botany Bulletin*.

In 1895, George Valentine Nash (1864-1921) of the New York Botanical Garden concluded that *P. scoparium* was a strictly southern species and that northern plants that had been called by that name were in fact an undescribed species, which he named *P. scribnerianum* Nash, in honor of Frank Lamson-Scribner. To be consistent with Nash's findings, Lamson-Scribner two years later transferred the Iowa variety to the new name, making the combination *P. scribnerianum* var. *leibergii* (Vasey) Scribn. in volume 6 of the *USDA Division of Agrostology Bulletin*. Not long after, he decided that his initial impression in 1884 had been correct, that the plant from Iowa was quite distinct. In volume 8 of the same USDA publication, he promoted the variety to specific rank as *P. leibergii* (Vasey) Scribn.

In recent years, some taxonomists have segregated as the genus *Dichanthelium* (Hitchc. & Chase) Gould those species of *Panicum* that form distinct overwintering rosettes of basal leaves and have a second flowering season later in the summer. The combination *Dichanthelium leibergii* (Vasey) Freckmann was made in 1978 for those who agree with this classification of the panic-grasses.

Field Trip to Lamson Woods and Wood Thrush Woods (Jefferson County)

by William R. Norris

A group of about 22 people gathered for a field trip to Lamson Woods State Preserve on the morning of Saturday, April 29. Our able field trip leader, Laura McCormick (of Fairfield), led us through this wooded parcel with the familiarity that only comes with dozens of hours of field work. Indeed, Laura has been conducting a plant inventory of this preserve since mid-summer 1999 and has found many unusual plant species here. Within one minute of setting foot into these woods, she showed us the rare spring avens (*Geum vernum*), which has delicate yellow flowers on distinct stalks. Although our group was soon spread out along the trail, it was impossible to miss the beautiful camass lilies (*Camassia scilloides*) in bloom at trailside. As pointed out by Dr. Diana Horton, the blossoms of these plants exhibited a pale shade of blue seldom seen in other wildflower species. A special treat for me was to see flowering Ohio buckeye (*Aesculus glabra*) almost everywhere in this forest.

By noon, the group reassembled near one edge of



Camassia scilloides

This plant has leafy stems (like the much more common yellow violet, *V. pubescens*) but has creamy white petals with the lower petal finely striped purple. At last, we all arrived back to our cars and made our way to a city park for lunch.

Lamson Woods where Laura showed us a rare spiderwort species, *Tradescantia virginiana*, flowering on a steep embankment. This spiderwort species differs from other, more common Iowa spiderworts (e.g., *T. bracteata*, *T. ohioensis*) in having densely hairy (and eglandular) sepals. During the walk back to the car, we encountered a large colony of a rare white-flowered violet species: *Viola striata*, in a

Most participants lingered in the afternoon to travel to Wood Thrush Woods (also a state preserve) to see more plants in bloom. The highlight of this trip was probably a plant that *wasn't* in bloom: false hellebore (*Veratrum woodii*). Somebody pointed out that the foliage of this plant closely resembled that of several orchid species! Laura mentioned that none of the plants in this colony had flowered last year. Another botanist in attendance, Tom Cady (of Washington, Iowa), confirmed that he too had noticed this plant's reluctance to flower on a regular basis in southeast Iowa. We all spent at least two more hours in Wood Thrush Woods, during which time several amateur (professional?) mycologists in the group pointed out some very interesting fungi species to us all. These included *Morchella semilibera*, an elongate morel species with a small ebony cap, and several other species whose names escape me. During our leisurely hike back to our cars, Dr. Horton lured most of us down to the edge of a meandering creek to explore sandbars and soilbanks for the unique (but often overlooked) plant species typical of these habitats. It was 4 PM by the time most of us reluctantly exited Wood Thrush Woods to say our goodbyes at the side of the road.

I know I speak for all participants when I thank Laura for organizing this splendid field trip to Lamson Woods and Wood Thrush Woods! She did an excellent job of sharing her knowledge about these plants and these preserves (as well as being absolutely certain of her whereabouts despite an utter lack of trails in Wood Thrush Woods). Hopefully, INPS will schedule another field trip to this corner of the state soon.

Crawford County Fieldtrip

by Glenn Pollock

Crawford county has six pioneer prairie cemeteries. I plan to take you to the best. King cemetery is known for its forb diversity and drop seed. Buck Grove may have been a true oak savanna, it also has local ecotype switch grass. The old Catholics cemetery is dominated by bluestem. Willow is a loess hill plant type community. Vail cemetery has had a rough treatment in the past - a part of the prairie had a couple of feet of dirt removed, but prairie plants have moved back into that area. Valley View cemetery is a true oak savanna. We can not make all of them in a single day, but we will try. We will meet in Vail by the ball park at IOAM. For lunch we will stop at my parents' farm for my Mom's famous home made cookies, lemonade and bathroom break.

The Iowa Native Plant Society Field Trip Schedule For 2000

Compiled by Mark J. Leoschke

Please note that there have been some changes from the tentative schedule that appeared in the December 1999 newsletter. Thanks should go to the Program Committee and field trip leaders for organizing these field trips. All field trips are held on Saturdays and begin at 10 a.m. Come prepared for the weather, rain or shine, and wear appropriate clothing and footwear. Bring a lunch and something to drink.

May 13th - Jackson County, east-central Iowa

Our president, Ed Freese, will lead this visit to Maquoketa Caves State Park, located northwest of the town of Maquoketa. The park has over 300 acres of forest, caves and river edge. A total of 341 vascular plants have been reported from here. From the intersection of highways 61 and 64 (west of Maquoketa), go north on highway 61, cross the Maquoketa River and turn left (west) onto highway 428. Follow the winding road until you see the entrance sign to the park and visitors center. We will meet in the parking lot near the restrooms.

June 3rd - Chickasaw County, northeast Iowa

Schroeder Preserve and Split Rock County Park, both owned and managed by the county conservation board, will be featured on this field trip. Schroeder Preserve is home to a diverse mesic to wet prairie flora including the stupendously gorgeous shooting star (The Most Important Plant in the Known Universe- ask the field trip leader why this is so), prairie lousewort, prairie phlox, yellow stargrass and valerian. There is also a fen with bog birch. Split Rock has a small fen with swamp saxifrage, marsh fern and marsh marigold. These sites are located on the Iowan Surface, a landform that has more fens than all the other landforms in the state combined, including the Des Moines Lobe. Mark J. Leoschke will be our guide on this tour of Chickasaw County gems.

We will meet near the Schroeder Preserve and go to Split Rock in the afternoon for lunch and a fen. From the intersection of highways 24 and 63 in New Hampton go south on highway 63 about 3.5 miles to county road B54 (Also known as 240th Street). Turn left (east) on B54 and go 3 miles to Odessa Avenue. Turn right (south) and go one mile to 250th Street. Turn left (east) and drive about 0.75 mile. Look for an old railroad right-of-way on the north side of the road and park on the road. We will walk north on the right-of way to the preserve, which is located east of the right-of-way.

June 24th - Appanoose County, south-central Iowa

Sharon Bluffs State Park is a forest, west of the Chariton River, owned by the Department of Natural Resources and managed by the county conservation board. The upland areas are dominated by white oak and shagbark hickory. The flora here includes maidenhair fern, wild geranium and New Jersey tea. The floodplain forest has pin oak, kingnut hickory and silver maple. Among the interesting herbaceous flora are Gray's sedge and cattail sedge. Mark J. Leoschke will lead this field trip.

From the intersection of highways 5 and 2 in Centerville go east on highway 2 about 3.5 miles to 248th Avenue. Turn right (south) and go about 0.8 mile to 520th Street. Turn left (east) and follow the road into the park. It will eventually turn right (south) to end at the campground. Park along the road north of the campground.

July 15th - Crawford County, west-central Iowa

Glenn Pollock, a native of Crawford County, will give us a tour of some of the best pioneer cemetery prairies in this county. We will begin with the Vail Cemetery and go to as many as time and interest allow. Lunch will be held at Glenn's home farm where Mom will offer her famous home made cookies and lemonade (Yum!). We will meet in front of the community center in Vail, which is one block north of highway 30 (Glenn assures us that Vail is a small town and so the community center should be easy to find). Vail Cemetery is located on the northwest edge of town. From the intersection of highways 59 and 30 in Denison go northeast on highway 30 to the town of Vail.

August 12th - Cherokee County, northwest Iowa

Tom Rosburg will show us one of Iowa's premiere prairies - Steele Prairie State Preserve. At 200 acres, Steele Prairie is one of Iowa's largest remnants. It occurs in two pieces, 160 acres in one tract and 40 acres in another. Steele is one of just a few examples of mesic prairie on the Northwest Iowa Till Plains, a landform characterized by a gently rolling terrain with a fairly well-established network of branching streams. This external drainage, combined with a drier climate, sets this landform apart

In a Nutshell

IPN =Iowa Prairie Network (Contact Erma Selser,IPN Newsletter editor, at 515-299-3986 for more information when specific IPN event contacts are not given)

PSMC =Prairie States Mushroom Club (Contact Sibylla Brown at 515-446-7358 for more information about PSMC events)

May 6th, 10 am (6:30 am bird walk) - Jasper County, Neal Smith National Wildlife Refuge, Prairie Learning Center, Wings and Wild Oats. Sponsored by the refuge. For more info, call 515-994-3400.

May 18th, 6 pm - Clinton County, Manikowski Prairie State Preserve Wildflower Walk, IPN.

June 3rd, 10 am - Cedar County, Rochester Cemetery Prairie/Savanna walk, IPN. For more info, contact Casey Kohrt at 309-786-0935.

June 2nd_4th - Monona County, Loess Hills Annual Seminar. For more info, contact Gloria Kistner at 1520 Morningside Ave., Sioux City, IA 51106, or kistnerg@ccc12.k12.ia.us.

June 9th - 10th - Louisa County, Big Sand Mound Field Days, sponsored by Mid-America Energy. For more info, contact Steve Johnson at 319-333-8158.

June 10th, 10 am - Jasper County, Neal Smith National Wildlife Refuge, Prairie Learning Center, Buffalo Day. Sponsored by the refuge. For more info, call 515-994-3400.

June 25th, 3 pm - Blackhawk County, Bennington Township Cemetery Prairie work day (northeast of Waterloo), IPN. For more info, contact Bruce Stiles at 319-235-9907.

July 1st, 9:30 am - Monroe County prairie remnants, IPN. For more info" contact Martha at 515-472-1459.

July 8th , 12 noon - Jasper County, Neal Smith National Wildlife Refuge, Prairie Learning Center, Millennium on the Prairie. Sponsored by the refuge. For more info, call 515-994-3400.

July 8th_9th - Van Buren County, Lacey-Keosauqua State Park and Shimek State Forest, Summer Mushroom Foray, PSMC.

July 16th - 20th - North American Prairie Conference, "Seeds for the Future - Roots of the Past", North Iowa Area Community College, Mason City. For more info, contact Carol Schutte at 515-422-4319 or visit the Prairie Conference Website at www.niacc.com/prairie2000/.

IowaNativePlantSociety
10 Deb Lewis
Department of Botany
Iowa State University
Ames, IA 50011-1020

