



# Wildflowers

Growing through Education

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## Inside this issue. . .

- Education Outreach 2
- Association News & Views 3
- Upcoming Events 5
- Grant Program 6
- Book Review  
Insects and Gardens by Eric Grissell 7
- Feature Article  
How Wildflowers Adapt for Survival  
by Kathryn Lund Johnson 8
- Business & Organization  
Member Directory 10

**Our mission** is to promote, coordinate, and participate in education, enjoyment, science, and stewardship of native wildflowers and their habitats—including promoting public education of proper principles, ethics, and methods of landscaping with native wildflowers and associated habitats.



## 2002 WILDFLOWER CONFERENCE

The 2002 Michigan Wildflower Conference was a phenomenal success. The Teachers' Workshop received rave reviews. Four WAM/Glassen Grants and two WAM mini-grants were awarded to educational institutions at the awards luncheon on Monday. Our partnership with the Michigan Invasive Plant Council (MIPC) provided new topics and speakers to our members and introduced the concept and philosophy of WAM to MIPC members. Attendance of almost 450 set a new record, as did the number of exhibitors and vendors. The exhibits were moved into Big Ten A, which enabled more vendor space in the Centennial and Red Cedar rooms.

The Sunday evening Birthday Bash was a huge success—after "Detective" Tolley located the cake. It seems the regular Sunday supervisor was off and didn't leave instructions about our party and cake for the substitute supervisor. Thanks to Cheryl's persistence and investigative prowess, the cake was found and enjoyed along with the ice cream from the MSU Dairy.

Diverse topics, excellent speakers, and multiple sessions made this conference

one to remember and a real challenge for the 2003 conference committee to top. The three keynote speakers brought their ex-

perience to Michigan from Massachusetts, Toronto and Tennessee. William Cullina, author, nursery manager and propagator for the New England Wild Flower Society presented sessions on propagating wildflowers and "why you can't buy a forest in a can." Tim Grant, author, co-editor of *Green Teacher* magazine, and vice-chair of the Canadian Network for Environmental Education and Communication, shared information with teachers about Canada's monetary and educational programs for Canadian schools and his goals for promoting earth friendly education with our youth. Brian Bowen, co-founder of the Tennessee Exotic

Pest Plant Council and the Southeast Exotic Pest Plant Council, discussed the invasive species crisis and the call to action.

Altogether, a total of 28 speakers presented 35 sessions to make the 2002 Michigan Wildflower Conference the largest—and most successful—in our 15-year history. ✨



Photographs by Kathryn Lund Johnson



WAM President, Steve Keto, (top) enjoys the 15<sup>th</sup> annual conference birthday bash. Authors Lauren Brown (lower left) and Bill Cullina (right) autograph books for Cheryl Tolley, WAM VP (center).

## Threatened Native Plants: The Royal Catchfly

by Sarah Battista, Mark Budde, and Paul Hammond  
Purdue University Agronomy Department

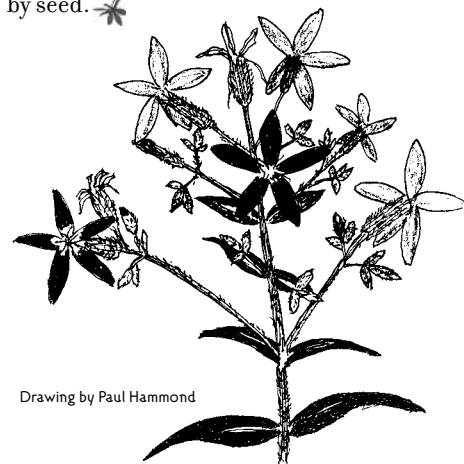
*Silene regia*, royal catchfly, is a member of Caryophyllaceae, or Pink Family. It is found naturally in open woods, glades, meadows, and prairies of the Midwest and Southeastern United States. This tap-rooted perennial blooms in mid-summer, usually July, and requires full sun with well-drained, moderately rich soil. The plant typically grows to be two to four feet tall with non-branching stems below the flowers. Ten to twenty pairs of opposite leaves are found on the stem along with bright red flowers, each consisting of five petals, a one-inch long tubular five-toothed calyx covered with sticky hairs, and ten protruding stamens. The sticky hairs give rise to the name catchfly. Hummingbirds are the chief pollinators.

Currently, royal catchfly is threatened and/or protected in most of the states in

which it is a native species. These include Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Missouri, Ohio, Oklahoma, and Tennessee. It is unclear whether it is native to Michigan. Edward G. Voss does not include it in his works. If it were naturally occurring in Michigan, it would be very rare and likely to occur in sandy prairies of southern Michigan. Interestingly, it is cold hardy enough to grow north into Minnesota. Prairie Moon Nursery in Minnesota offers it for sale.

Dangers to this wildflower may include overgrowth by woody species, casual picking and transplanting, use of herbicides, and loss of habitat due to development. These plants are chosen for gardens because of their striking color and ability to attract hummingbirds. Seed germination is im-

proved after a pretreatment of 2 to 3 weeks of cold moist stratification. Seedlings transplant rather easily. Once in the garden, royal catchfly will propagate naturally by seed. ✨



Drawing by Paul Hammond

Royal Catchfly, *Silene regia*

## Prairie Rose, *Rosa setigera*

by Faith Albertin and Cindy Wiltfong  
Purdue University Agronomy Department

*Rosa setigera*, a member of Rosaceae, is a wild rose native to North America, including Michigan and the Ohio Valley. Commonly known as the prairie rose, *R. setigera* is a climber and grows well along fencerows, roads, or in clearings and fields. It can also be used as an informal hedge or barrier. It thrives with little care and does not require pruning; however, to stop old dead wood from accumulating each year, it is best to prune the bush in late winter or early spring. This plant can grow to a height of 6 to 12 feet and spread 8 to 10 feet across. It will easily grow up a tree if trained.

*Rosa setigera* grows best in average, well-drained soil in full sun or part shade. Best flowering and disease resistance occurs in full sun. *Rosa setigera* can bloom anytime from late spring to summer depending on the region, producing deep-pink flowers that grow to be about two inches across and have little fragrance. Fiery red leaves are present in the fall and reddish purple canes persist throughout the winter, making this plant a year round eye-catcher.

Because the rose roots very easily, and because birds love the hips (rose berries), seeds for *Rosa setigera* can spread quickly and may become invasive. If one is interested in attracting wildlife, roses serve as a good food source for birds. The hardy stems are often eaten by deer. The rose hips are a good source of vitamin C and can be used to make jelly. The oil from the rose can be used to cool inflammations or as a perfume. Rose water can be made from the petals and used as an astringent to cleanse the skin.

This species rose is a parent of some modern climbers. The Canadian Explorer series is a particularly cold hardy group. New Dawn also has some *R. setigera* in its lineage. Good sources of species roses, shrub roses, or modern varieties for northern growers include Hortico Nurseries, Inc. based in Canada. Pickering Nurseries, also based in Canada, specializes in roses of all types, including *R. setigera*. Wildtype Native Plant Nursery, located in Mason, Michigan, also sells *R. setigera* along with many other shrubs and roses. ✨

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# Association News & Views

## Thank You Purdue University

Over the past several years, the Wildflower Association of Michigan has been fortunate to receive articles submitted by students studying at Purdue University with Paul Hammond, a graduate assistant in the Agronomy Department. Paul is graduating in August – it is with mixed emotions that we see him go. Thank you, Paul, for your dedicated involvement with WAM. We wish you all the best in your move to Virginia.

As editor of the newsletter, I have been privileged to work closely with Paul, and will miss his e-mails and articles. Last fall I received a flat of royal catchfly plugs following the completion of the project related to the catchfly article in this issue of *Wildflowers*. All the plants have popped up in my butterfly garden this spring and I'll try to save seeds for any members who might want them.

And...if we're very lucky...the next graduate assistant who follows Paul will also have his or her students study native plants and continue to submit their findings to be printed in future WAM newsletters. —Marji Fuller

## President's Note

To our loyal members, tireless board, energizing speakers, quality vendors, thoughtful exhibitors and selfless volunteers, a hearty THANK-YOU! The superior effort and enthusiasm everyone shared made the 2002 Wildflower Conference a rousing success. It is because all of you care so deeply for our natural heritage that the Wildflower Association of Michigan can put together this exciting event. Since the end of the 15th annual conference, I have received calls and notes with your positive comments. I am grateful for your support of WAM and your kind words.



From the time I attended my first WAM conference, that early weekend in March has heralded my official start of spring. The season of spring means many things to many people. The long days, warm air, wet earth and green growth trigger special feelings in gardeners all over the state.

As soon as I return home from each conference, it's a nonstop race with pots, soil, plants and water to ready all the crops in time for Michigan's all important bedding plant season. One square foot at a time, acres are filled with a dazzling diversity of flora. It's the process of spring accelerated

under greenhouse cover.

While the calendar and the thermometer in March and April don't agree with me, it's definitely T-shirt weather in the greenhouse. Each day the heaters run less, as the power switches to the sun. On the best days, the sky is cool and blue, vents are open, the air is quick but warm and the changing fragrance of life is all around me.

The living demands of agriculture mean that the greenhouse work becomes a lifestyle. We work, we garden, and we celebrate and rest at times askew from our neighbors—much the way running a restaurant changes the norms of mealtime. I have even noticed a change in my language that has come from working in this industry, so tied to the rhythms of the seasons.

Take the carefree and youthful promise of *spring break*. Except when speaking about my children, I rarely ever link these two words. As most of my colleagues would agree, the season of spring affords NO breaks. Our fates and fortunes rest in the cycles of the earth—we keep up or fall behind—no going back.

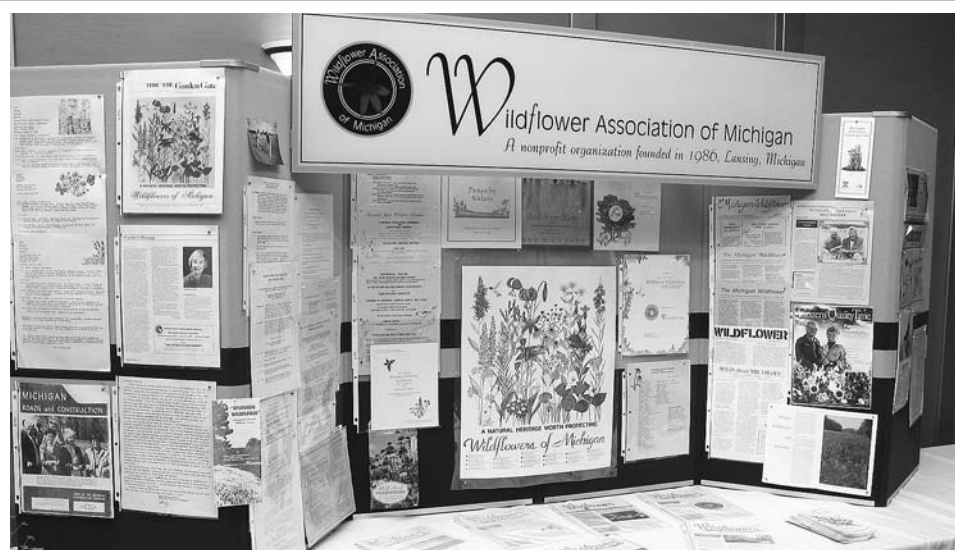
I am thankful that for me the long days, warm air, wet earth and green growth have the ability to invigorate the soul, enough to overcome weary muscles. Do yourself a favor—take some time to enjoy the season ahead. See you in the garden!

—Steve Keto

## WAM Exhibit Travels this Summer

The WAM exhibit was used at the 2002 conference to display items from the past as we celebrated our 15th anniversary as an official organization. Our thanks to vice president Cheryl Tolley who gathered all the memorabilia and put together such an interesting display.

WAM was also represented when vice president Marji Fuller took the exhibit to the *Decorate Michigan* program held in May at the Michigan Historical Museum in Lansing to kick off Michigan Week. Treasurer and membership coordinator, Marilyn Case, took our exhibit to the Calhoun County Ag Expo in June and Cheryl Tolley will take it to the Meijer Gardens in June and again in July.



# Association News & Views

## Harry and Elin Doehne Wildflower Meadow Frederik Meijer Gardens & Sculpture Park

In 1988, Harry and Elin Doehne founded the Michigan Wildflower Farm, dedicated to the production of native Michigan wildflowers. Their work can be enjoyed in many areas, including the wildflower plantings along I-96, between Grand Rapids and Lansing.

Frederik Meijer Gardens & Sculpture Park is located at 1000 East Beltline NE, Grand Rapids, Michigan. For more information please call 1-888-957-1580 or visit the Web site: <http://www.meijergardens.org>.

Article submitted by Julie Francke, Head Horticulturist, Frederik Meijer Gardens & Sculpture Park.

Editor's Note: The Wildflower Association of Michigan donated \$1,000 to Frederik Meijer Gardens & Sculpture Park for the Harry & Elin Doehne Wildflower Meadow. The late Harry Doehne was a founding member of WAM.

Harry & Elin Doehne's love of native plants will be shared with thousands of visitors each year who visit the *Harry & Elin Doehne Wildflower Meadow*. Located within Frederik Meijer Garden's 30-acre Sculpture Park, the meadow will feature native wildflowers and grasses on the hillsides surrounding *Scarlati*, a 25 foot tall corten and stainless steel sculpture by Mark di Suvero.

Elin Doehne provided the vision for the meadow, which consists of all native Michigan species, comprised of 80% forbs and 20% grasses. To ensure the planting would be a success, the gardens worked closely with Esther Durnwald, owner of Michigan Wildflower Farm in Portland; Cheryl Tolley, owner of Sandhill Farm, Rockford; and the staff at Katerburg-VerHage, a landscaping firm in Grand Rapids, Michigan.

growth. In early June, the cover crop was treated with a non-selective herbicide, mowed, and the soil lightly scarified. A mixture of wildflowers and grasses was broadcast and the soil was gently raked to incorporate the seed.

As summer of 2002 progresses, the meadow will be inspected for weeds, which will be pulled by hand. In the fall, wildflower plugs will be planted, and will include species that are more difficult to establish from seed. The cooler fall temperatures and more consistent rains will help ensure their successful establishment. The fall planting of wildflower plugs has been made possible through the generosity of the Wildflower Association of Michigan. We truly appreciate your support!

We hope you will visit Frederik Meijer



Photo by Cheryl Smith Tolley

*Harry and Elin Doehne Wildflower Meadow site surrounding Scarlati by Mark di Suvero at Frederik Meijer Gardens & Sculpture Park*

The soil in the Sculpture Park is a heavy, clay loam and site preparation and species selection were conducted with this in mind. In April, annual rye was sown, to provide a green cover for the park's opening, as well as to control erosion and suppress weed

Gardens & Sculpture Park and watch the progress of the *Harry & Elin Doehne Wildflower Meadow*. It is our hope that the meadow will be enjoyed not only for its beauty but will inspire others to learn about, preserve and protect our native plants.

ASSOCIATION NEWS & VIEWS CONTINUES ON PAGE 11

## DNR Celebrates 30 Years of Natural Areas Program

The Michigan State Department of Natural Resources has announced a summer-long, statewide tour highlighting 11 of the more than 70 natural areas in Michigan.

The Michigan natural areas movement originated in 1925, when extensive tree cutting threatened the Porcupine Mountains. Over the years, generations of resource managers have recognized that state park or other state land designations alone are not enough to preserve Michigan's virgin forests, waterfalls, scenic shorelines and other ecological resources.

The Michigan Natural Resources Commission established DNR guidelines in the 1950s and designated many natural areas throughout the 1950s and 60s—still, there was no legally binding protection for natural areas until 1972 with passage of the Wilderness and Natural Areas Act. Today, 20 areas of state-owned land are dedicated under the natural areas legislation. 59 additional areas are protected as natural areas. The DNR protects more than 130,000 acres statewide. "This program allows us to protect and preserve some of

our truly special places for future generations to enjoy," explains Amy Clark Eagle, DNR Natural Heritage Specialist. "We hope nature enthusiasts will join us for the various tours and interpretive experiences we're planning." Information about Michigan Natural Areas is available on the DNR Web site, [www.michigan.gov/dnr](http://www.michigan.gov/dnr)

The following areas are scheduled to be part of the tour:

- July 13 Ludington Dunes Natural Area, Ludington State Park
- July 27 Little Presque Isle Natural Area  
Escanaba River State Forest
- Aug 10 Algonac Prairie & Savanna Natural Area  
Algonac State Park
- Aug 24 Porcupine Mountains Wilderness Area  
Porcupine Mountains Wilderness State Park
- Sept 14 Tobico Marsh National Natural Landmark  
Bay City State Recreation Area
- Sept 28 Tahquamenon Falls-Betsy Lake Natural Area  
Tahquamenon Falls State Park
- Oct TBA Wilderness State Park Natural Areas  
Wilderness State Park

## Southern Michigan Prescribed Fire Council Hosts Two-day Workshop in Lansing

Prescribed fire is increasingly being used across our state as a management tool, on both public and private lands, for fuel reduction, ecological maintenance, restoration of natural communities, and training. With this increased use of prescribed fire comes the increased need to address issues such as safety, burning techniques, liability, and public education. Failure to consider these issues could lead to the loss of prescribed fire as a management tool for all of us. The Southern Michigan Prescribed Fire Council was formed to address the issues of using prescribed fire in a safe, proper, and effective way, and to raise awareness on the use of prescribed fire.

On August 2 and 3, 2002, the council will host the Third Annual Prescribed Fire Council Workshop. Sessions focusing on both technical and general interest topics will be presented during this workshop, to be held at the Michigan State Library/Historical Center in downtown Lansing from 8 a.m. to 3:45 p.m. on Friday and 8:30 a.m. to 4:15 p.m. on Saturday.

Friday's topics include the current state of the fire council; monitoring fire effects; fighting aliens with fire; ecological impacts

of fire on invasive species; burning in oak systems with Karner blue butterfly as a case study; the effects of prescribed fire on grassland birds; an analysis and comparison of long- and short-term responses; and incidents, escapes, and burning in the urban interface.


Saturday's topics cover prescribed burn planning, break-out groups to write a demonstration mock burn plan, fire equipment stations (ignition, holding, communications, weather), pre-burn briefing and implementation of mock burn plans (from plans developed in morning), and post-burn review with meeting wrap-up.

Registration is required by July 12. The cost is \$25 per day, which includes lunch. For more detailed information and a registration form, contact Sherri Laier, Southeast Michigan Land Steward, The Nature Conservancy, 2840 E. Grand River Ave., Ste 5, E. Lansing, MI 48823. Phone 517.332.1741 x39, fax 517.332.8382, e-mail [slaier@tnc.org](mailto:slaier@tnc.org) or David Borneman, Manager, Natural Area Preservation Division, Ann Arbor Dept. of Parks and Recreation; 1831 Traver Rd.; Ann Arbor, MI 48105; PH: 734-994-4834; FAX: 734-997-1072; [dborneman@ci.ann-arbor.mi.us](mailto:dborneman@ci.ann-arbor.mi.us)

## Southern Michigan Prescribed Fire Council

The mission of the Southern Michigan Prescribed Fire Council is to protect, conserve and expand the uses of prescribed fire on the southern Michigan landscape.

Objectives are to provide a framework for communications in relation to prescribed fire objectives, techniques and issues; review prescribed fire problems and suggest courses of action; promote the safe and responsible use of prescribed fire; disseminate technical information; promote the development and utilization of prescribed fire practices commensurate with desirable environmental resource management; and promote public understanding of the benefits of prescribed fire.

The council's steering committee includes representatives from conservation groups, Michigan State Fireman's Association, municipal government, Michigan Department of Natural Resources, and U.S. Department of Agriculture. For more information on the council, contact Jack McGowan-Stinski, Chair, at The Nature Conservancy, West Michigan Office, 456 Plymouth Road, Ste. A, Grand Rapids, MI 49505. (616) 776-0230, ext. 11 or [jmcgowan-st@tnc.org](mailto:jmcgowan-st@tnc.org). 

# Johnson Elementary, WAM/Glassen Grant recipient, featured in Detroit News article

## Nature blossoms at Milford school

### Students rebuild natural habitats

By Janet Vandenabeele / The Detroit News

MILFORD — Grasslands. Woodlands. Wetlands.

Each year, thousands of acres of natural habitats in the land that makes up Huron Valley School District disappear; eaten up by new housing developments, strip malls and the roads to serve them.

But for some tenacious Monarch butterflies, students and teachers at Johnson Elementary School in Milford might never have embarked on a project that has taken years to blossom: rebuilding natural habitats right on school grounds.

It's a many-fold mission that pays off for students and the community, say teachers and parents who've helped bring a little bit of nature back to the school yard, which sits near Mill Pond on General Motors Road, just outside Milford's downtown.

"We're trying to equip our kids to be conservationists, and teaching them that if they're not environmentally fit, they're going to be in trouble pretty soon," said teacher Darlene Smith, watching her fourth- and fifth-grade students as they spread mulch to make pathways through one of the habitat areas.

"We're running out of this kind of habitat," Smith said, as she pointed to areas that will be developed to support butterflies and woodland plants. "If (the kids) are going to have their own kids one day, they have to realize this."

Parents and landscape specialists have helped, but a lot of the work is also being done by students so they can learn first-hand what it takes to re-create these lost spaces.

The idea for the garden took root about five years ago, after several teachers started looking into the possibility of installing a butterfly garden at the school so students could study life cycles.

Though fast-food restaurants and trendy boutiques have sprung up near the school, the grounds still attract many of the orange- and black Monarchs, which migrate every year by the millions to Mexico. The butterflies are also seen as important harbingers of the environmental health of an area.

Students from Milford High School even come down to the elementary school to capture and tag Monarchs to study migration patterns.

At some point—no one's quite sure when—Pam Carter, at the time a Johnson parent, got wind of the teachers' idea.

Carter is a member of the Huron Valley Environmental Council, which at the time was looking for a community educational project to get involved with, in hopes of spreading the word about the council's existence—and the need to protect the environment in one of Oakland County's fastest growing areas.

"I hope above all else the kids will learn to love nature and learn about their role in environmental issues," Carter said.

The students have enjoyed the work so far, which has included growing some plants from seeds in the classroom and then trans-

planting them.

"The good thing about this is that it's fun," said Kristen Forster, a fourth-grader, as she wielded a rake after helping put down mulch.

Linda Nehasil, one of the co-chairs of the parent committee assisting the project, said the work is also good for getting kids to connect to the land beneath their feet.

"Some of the kids had never done planting, getting their hands in dirt," she said.

Those working on the project want to make sure students, parents and community members understand the end result isn't going to look like a well-manicured landscape. It might even seem a bit messy at different times of the year.

"We're not doing a garden. We're doing a habitat," said Nancy Daviskiba, a fifth-grade teacher and avid gardener who's affectionately known as "the Butterfly Lady" and "Madame Butterfly" for her interest in the Monarchs.

The butterfly habitat and a woodland habitat are being built on the side of the school. Out front will be a grasslands habitat. Some of the plants went in the ground last year, but most of the planting won't be done until the first week of June this year.

The site is now officially registered with the National Wildlife Federation's Schoolyard Habitats program. More than \$8,000 in grants from the wildlife federation, CVS Corporation, state and local sources have helped make the garden a reality.

The school has also put in for a grant through the school district for an educational display board to go outside the school, similar to those found in nature parks. The "Look and Learn" board will show viewers the habitats and how they change with the seasons.

Michelle Kokowicz, who along with Daviskiba is one of the originators of the project, is hoping another area can be created on the grounds for a wetlands habitat.

"We're trying to get as many living habitats around the school as we can," said Kokowicz, a second grade teacher.

You can reach Janet Vandenabeele at (248) 647-7225 or [janaylor@detnews.com](mailto:janaylor@detnews.com).

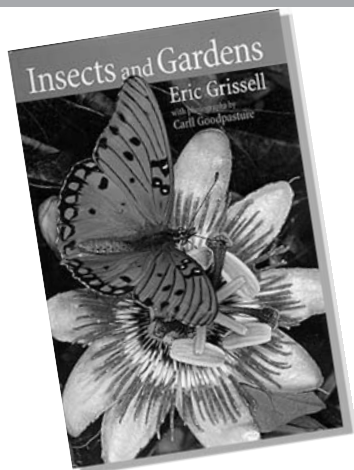
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Reprinted with permission from [the April 26, 2002 edition of] *The Detroit News—Oakland*.

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Editor's Note: Johnson Elementary School received the \$1,000 *Harry & Elin Doehne Award* from the WAM/Glassen Grand Fund in 2001.

One of the requirements of the WAM Grant Program is that schools report on their progress to our education grant coordinator. This year Amy Yeip compiled a 119-page report covering the three years the Glassen Foundation has funded our grant program, which she presented to their board of directors in April. Our hats are off to Amy for the many hours she donates to coordinate the WAM Grant Program and the Teachers' Workshop held during the wildflower conference.



## Insects and Gardens: In Pursuit of a Garden Ecology.

by Eric Grissell; Carll Goodpasture, photographer.  
Timber Press, Portland, Oregon, 2001, 345 pages.  
Publisher's price, hardcover: \$29.95

A garden is a "nonfunctional ecosystem." If that didn't grab your attention, how about this? A "natural garden" is (gasp!) an oxymoron. I came across these outrageous statements in the first three pages of Eric Grissell's highly entertaining and enlightening book, *Insects and Gardens*. Grissell is a research entomologist for the Systematic Entomology Laboratory, USDA, in Washington, D.C., and does this man know how to rattle a cage!

How dare he encourage us to begin thinking of insects as "animals," rather than the creepy crawly things we'd rather stomp on or swat at than have to look at twice? Well, he does...and quite effectively, I might add. He may even have you feeling remorse for all your years of insecticidal depravity.

Grissell achieves this formidable task with great wit (and not a small dash of cunning) by telling us about the lives of insects, pure and simple! For example: He explains that thrips are the only insects that don't have right mandibles and asserts that this tidbit is "always a good thing to remember when the party gets a little dull." Following the statement that female earwigs protect their eggs until they hatch, Grissell asks us, "Does that sound like an insect that should be condemned without some additional thought?" And he claims that "The rumor that dragonflies will sew our eyes shut while

we sleep is highly suspicious." I'm not sure I buy that one.

But Grissell's underlying theme is a serious one, and he is determined that we "get it" by the time we finish his book. That is, we gardeners (and he's one, too) must work within the laws of nature if we expect to develop gardens that function as balanced, naturalistic systems. While admitting that it's "human" to want to control, he assures us that, by relinquishing control over our gardens and allowing nature to take its course (and what could be more natural?), we can make our lives easier and ourselves and our gardens healthier.

The insect population worldwide outweighs humans by about six times. And we supposedly intelligent beings believe we can—and should—do away with as many of the members as possible. Grissell tells us that in 1993, 1.1 billion pounds of pesticides were used in the U.S.—700,000 pounds for household use alone. He implores us to give up the fight for a number of reasons: We're killing the "good guys" along with the "bad." We're reducing the food sources of the insects we like. We really haven't studied the natural history of insects thoroughly enough to be able to make educated decisions on who should live and who should die. We're encouraging insects to build greater resistance to the chemicals we're using. And I haven't even mentioned how we're contaminating ourselves and our environment!

"But my prize roses are being dessimated by aphids!" you cry. Here's where the interwoven issues of balance and diversity enter in. We learn from the author that outbreaks of insects we label "pests" are the result of a disruption in the balance of the garden. To assume stability, we need to encourage a variety of plant and animal species to make themselves at home—to invite them in as permanent residents, the author tells us, not just "for a quick visit—you can sip the nectar but you cannot stay." Grissell describes a "three-tiered system," with biological diversity increasing biological complexity, which in turn increases biological stability. If one part of this system breaks down, the others tumble, too. Here's a radical thought: What if we learned to relax

and accept the leaf munchers and miners along with the socially acceptable butterflies and other nectar-sippers? (And, by the way, many of those "undesirable" leaf munchers are the larval stage of the butterflies we so covet.) As for your roses...with a diverse array of plants, you'll invite parasitic wasps into your garden. They lay their eggs in aphids and...zap! death by natural causes. Isn't this better than running in a panic for the bug spray and letting loose, exposing yourself, your children, pets, and neighbors to chemical toxins and, at the same time eliminating many "good bugs?"

So just how do we go about bringing diversity to our gardens? A chapter is devoted to the "how-tos" of creating and increasing diversity, including embracing the different soil types in our gardens and using them as a gift of diversity rather than altering them. Grissell even suggests that those with a single type of soil might amend other areas here and there within the garden and introduce the appropriate plants—again, increasing plant diversity. He discusses the importance of including both shaded and sunny areas to lure more insects, and shares his ideas on how to create shady areas if those are lacking.

From this book we learn that, if we create it, they will come and tend it—that plant diversity leads to insect diversity, which leads to a healthy, balanced garden. And all of this is done without joining the ranks of the "nozzleheads." I highly recommend *Insects and Gardens* to all gardeners and anyone interested simply in learning more about the fascinating world of insects. You'll enjoy getting to know Eric Grissell through his dry humor and his lifelong fascination with the insect world, which is contagious. And, certainly, mention must be made of the magnificent photographs by Carll Goodpasture. They perfectly illustrate the author's concepts, from the graphic "bug-eats-bug" photos to the intimate views of the nectar-feeders. I give this book two antennae up!

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# How Wildflowers Adapt For Survival

by Kathryn Lund Johnson

Although Michigan's landscape features an ever-changing variety of wildflowers for eight months of the year, spring is considered by many to be our state's official wildflower season. Perhaps this is because the appearance of the flowers, following the harshness of winter, is a reassuring sign of milder days to come. Or it may be caused by the ephemeral quality of the early wildflowers. Our appreciation of them is intensified by their fleeting presence. But even as we take pleasure in the transitory blossoms of the spring wildflowers, subtle, yet immensely crucial, changes are occurring within the plants. Throughout the plants' lifecycles, a variety of adaptations have evolved to enhance their odds of survival in nature's competitive arena. One strategy, for example, is to flower early. A flower that blooms early, when competition with other species is less, often gets the resources necessary for survival.

One of the first wildflowers to appear in spring is the skunk cabbage, *Symplocarpus foetidus*, a member of *Araceae*, or arum family, and a denizen of Michigan's marshes, open swamps, streambanks and wet woodlands. The flower and leaf buds actually are formed the previous fall, growing from a creeping underground stem (rhizome) to a height of four to six inches. In February, the flower buds enlarge, and heat produced from the respiration of the developing plant melts any surrounding snow. The flowerstalk (spadix) begins producing heat once the air temperature is above freezing, and maintains a temperature of around 70°F with the hood, or spathe, acting as an insulator. This heat protects the developing bud and intensifies the acrid odor of the flower. The carrion fly, among the first of the pollinating insects to appear in spring, is drawn to the odor and meat-like color of the spathe. When skunk cabbage is in bloom, one side of the spathe opens to reveal the spadix, which con-

tains both male and female parts. Following pollination, the spathe disintegrates; and the spadix, with its maturing compound fruit, is pulled toward the earth by contractions within the roots. The seeds, dispersed in late summer as the spadix decomposes, usually germinate within a few feet of the parent plant. Following germination, each new rhizome needs five to seven years' growth before it is mature enough to produce a flower.

The earliest blooming member of *Liliaceae*, or lily family, often making its appearance in late March, is the trout lily, *Erythronium americanum*, a plant that is widely distributed throughout most of the state. Sporting distinctive spotted leaves resembling the mottled markings of speckled trout, this plant can be found in rich woods, thickets and meadows. The seeds of the trout lily germinate in spring and produce small, shallow-growing underground stems, called corms. The corms, in turn, produce white, threadlike "droppers" that grow downward at a 45-degree angle. New corms, initially fed by the mother plant, develop from these droppers. By the time a dropper disintegrates, a new, independent plant has formed above ground, producing a single leaf. It is the mission of this leaf to make food, which in turn creates the energy necessary to produce more droppers. A flower ultimately is produced when the droppers strike soil too firm for them to penetrate. The inch or two of the plant that can be seen on the surface is a mere fraction of its entire height—six to 10 inches are hidden beneath the ground.

The bloodroot, *Sanguinaria canadensis*, uses food stored in corms from the previous season to produce flowers as early as March. This member of *Papaveraceae*, or poppy family, is found in rich open woods and thickets throughout most of the state. Each plant emerges as a solitary leaf and bud stalk, with the leaf wrapped around the developing bud to protect it from the cold. When the bud is about to blossom, the bud stem grows a bit taller, allowing space for the petals to open. Even then, the leaf continues to hug the bud stem and provide protection. The fragile petals of the blossom last only one or two days, and are easily blown away by harsh spring winds. Sensitive to light and temperature, the blossom closes when the

**Left, those who have smelled one know how the skunk cabbage got its name, but that foul smell actually is the best friend of this swamp denizen, helping to ensure its reproduction and consequent survival. Above, the trout lily usually grows in colonies, though it may take six years for the seeds to produce flowering plants. Each blossom of this woodland flower lasts only a few days. Photographs by Kathryn Lund Johnson.**







weather is cold or cloudy—those times when damaging winds may be strongest—and reopens in warm sunlight. The blossoms of bloodroot contain no nectar. The yellow pollen-bearing anthers lure insects that unwittingly transfer pollen from plant to plant in their search for food. The seeds of bloodroot have projections containing fatty substances, called elaiosomes, which are greatly appealing to ants. In a relationship known as myrmecochory, the ants gather the seeds and devour the elaiosomes. The uneaten parts of the seeds are then discarded in tunnels where they germinate and grow into new plants.

Jack-in-the-pulpit, *Arisaema triphyllum*, one of the most familiar and beloved of Michigan's wildflowers, begins to appear in Michigan's moist, rich woods and thickets in April. Like skunk cabbage, this fellow member of *Araceae*, or arum family, produces a spathe containing a spadix. Most of us know the spathe of this plant as the "pulpit," and the spadix as "Jack." Although it's capable of asexual propagation by producing buds from existing corms, Jack-in-the-pulpit also has developed an unusual method of reproduction. The flower, which forms at the base of the spadix, is either male or female. The pollen-bearing male flower produces no nectar; instead, insects are drawn to a fungus-like odor in the base of the spadix. Along with the spathe and spadix, the threadlike male flowers wither and decompose after blossoming. The female flowers become bright red berries that develop on the spadix. These berries remain through the summer, finally falling to the ground and germinating, or they may be eaten by birds and disseminated through their droppings. It is widely believed that the sex of an individual plant is determined by the amount of food stored in the corm throughout the growing season. This sexual "decision" occurs in the fall as the corm begins to sprout the plant that will appear in early spring. Because considerable energy is required to produce fruit, an abundance of accumulated food increases the probability the plant will be female. In spring, a large plant producing two compound leaves is invariably female, while a small plant bearing a single leaf is male. Jack-in-the-pulpit also has a unique ability to

**Left, few flowers can compete with the beauty of the bloodroot's early spring blossom. It takes the yellow lady's-slipper, center, an average of 12 years to produce a flower from seed. Right, jack-in-the-pulpit may grow almost three feet in height. Once the plant dies back, the berries mature to a bright, red cluster. Photographs by Kathryn Lund Johnson.**

alter its sex depending on environmental conditions. A male plant may develop into a female, fruit-producing plant as its energy stores increase, while a female plant may revert to a less robust male plant, no longer able to produce fruit, if energy sources and stores become depleted. This ability of the female plant to revert to a male plant is an additional survival tactic. Expending less energy, the plant is

Please see "Adapting for Survival" on Page 11

### About the Author

Kathryn Lund Johnson is a freelance writer and photographer based in Middleville, Michigan. This article was originally published in the April 1998 *Michigan Natural Resources* magazine.

Other articles by Kathy have appeared in *The American Gardener* magazine, published by the American Horticultural Society, and include "Plants That Turn Up the Heat" in January/February 2000, "Compost Critters" in July/August 2001, a review of Eric Grissell's book *Insects and Gardens: In Pursuit of a Garden Ecology* in May/June 2002 (see a reprint on page seven of this newsletter), and "Growing Ferns from Spores" in the upcoming July/August 2002 issue. Her photographs have been published in *Nature Photographer* magazine.

Kathy is a member of WAM and co-chairs the conference vendor and exhibit committee. We are fortunate, indeed, to welcome her as our new Editor of *Wildflowers*.

# Business & Organization Member Directory

**Ann Arbor Parks Department, Natural Areas Preservation Div.**—Dave Borneman, 1831 Traver Road, Ann Arbor, MI 48105. 734.996.3266, e-mail: [dborneman@ci.ann-arbor.mi.us](mailto:dborneman@ci.ann-arbor.mi.us). Publications: *Native Plants and Your Landscape & Natural Areas* brochures for southeast Michigan.

**Creekside Herbs & Art**—Wendy Wagoner, 752 N. Blindline Road, Cedarville, MI 49719. 906.484.2415. e-mail: [creekside@northernway.net](mailto:creekside@northernway.net). Family-owned business in U.P. Renovated barn, display gardens, and nature trails along creek in ancient white pines. Creekside strives to provide education, market hand crafted items by local artisans, supply earth-friendly products and herbal plants. Features Michigan plants and artisans when available. More info at [www.TheEnchantedForest.com/creekside@northernway.net](http://www.TheEnchantedForest.com/creekside@northernway.net).

**Edison Environmental Science Academy**—924 Russel Street, Kalamazoo, MI 49001. 616.337.0550. K-6 public magnet school in partnership with the Kalamazoo Nature Center providing an integrated environmental science curriculum in three science labs, a year-round greenhouse, and many different outdoor learning areas.

**Gaia Grass**—Jean and Craig Weirich, 3947 E. St. Joe, Grand Ledge, MI 48837. 517.627.7927, e-mail: [weirichj@aol.com](mailto:weirichj@aol.com). Early stages of native grass seed production.

**Grass Roots Turf & Ornamental**—Tom Smith, P.O. Box 4001, East Lansing, MI 48826. 517.337.2405, e-mail: [grassroots@voyager.net](mailto:grassroots@voyager.net).

**J.F. New & Associates and J.F. New Native Plant Nursery**—Dustin New, Contracts & Marketing Manager, 708 Roosevelt Road, Walkerton, IN 46574. 219.586.3400 (corp. office), e-mail: [dnew@jfnew.com](mailto:dnew@jfnew.com) or 219.586.2412 (nursery), [www.jfnew.com](http://www.jfnew.com). Ecological Restoration Specialists: wetland scientists and environmental engineers for creation, restoration and enhancement of natural areas; wetlands, prairies, and woodlands.

**Kalamazoo Nature Center**—Randy Grey, 7000 N. Westledge Avenue, Kalamazoo, MI 49004. 616.381.4682. [www.naturecenter.org](http://www.naturecenter.org), e-mail: [rgrey@naturecenter.org](mailto:rgrey@naturecenter.org). The mission of this not-for-profit organization is to inspire people to care for the environment

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**Kent County Conservation District**—1328 Bradford NE, Grand Rapids, MI 49503. 616.336.8868, e-mail: [conservationkent@aol.com](mailto:conservationkent@aol.com).

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**Michigan Meadow Perennials**—Natalie Hockamier, 2074 Brook Trails Court SE, Grand Rapids, MI 49508-2654. 616.245.1104, e-mail: [nhockamier@aol.com](mailto:nhockamier@aol.com). Native Michigan wildflowers and grasses. Plants available at Fulton Street Farmer's Market in Grand Rapids.

**Michigan Wildflower Farm**—Esther Durnwald, 11770 Cutler Road, Portland, MI 48875. 517.647.6010, fax: 517.647.6072, e-mail: [wildflowers@voyager.net](mailto:wildflowers@voyager.net). Producers of premium native Michigan wildflower and grass seed. <[www.michiganwildflowerfarm.com](http://www.michiganwildflowerfarm.com)> Consulting and installing services available. Call for free seed catalog. Member MNPPA.

**Natural Connections**—Jerry Stewart, 62791 Shaffer Road, Constantine, MI 49042. 616.435.2208, e-mail: [jerrystewart51@yahoo.com](mailto:jerrystewart51@yahoo.com). Professional Native Plant Establishment & "Seeding Specialists" with 15+ years experience: seeding services—Truax no-till and bare soil seeding. Planning and site management—analysis and prep, species selection, management plans, prescribed burning. Wetland enhancement—seeding and plugging, mitigation, pond edge vegetation, detention/retention basins. Shoreline stabilization—pond, stream & shoreline, vegetation, biologists, vegetated seawalls, and on-site consultations and coaching.

**Nativescape LLC**—Chris Lehr, P.O. Box 122, Manchester, MI 48158, 517.56.9696, e-mail: [chris@nativescapes.net](mailto:chris@nativescapes.net). <[www.nativescapes.net](http://www.nativescapes.net)>. Michigan genotype native seed—catalog available. Natural landscape design, ecological consultation, restoration, habitat creation and land management; presentations and slide shows.

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**R. Vix Kennedy, Inc.**—Vix Kennedy, 7362 High Hill Drive, Brighton, MI 48116. 810.231.3419, e-mail: [mdrvki@ismi.net](mailto:mdrvki@ismi.net). Landscape Design and Consultation in all areas of horticulture and arboriculture, [www.horthelp.com](http://www.horthelp.com)

**Raven Hill Discovery Center**—Cheri and Tim Leach, 04737 Fuller Road, East Jordan, MI 49727. 231.536.3369, fax: 231.536.0132, e-mail: [rhdc@voyager.net](mailto:rhdc@voyager.net). Hands-on museum with emphasis on science, history and the arts. Ravin Hill offers school field trips, special events for all ages, professional development for teachers, summer classes, scout activities, and is open to the general public.

**Sandhill Farm**—Cheryl Smith Tolley, 11250 10 Mile Road, Rockford, MI 49341. 616.691.8214, fax: 616.691.7872, e-mail: [cherylt@iservnet](mailto:cherylt@iservnet). Call for free mail order catalog. Open by appointment. Licensed Michigan Native Plant Dealer. Michigan native forbs—woodland & wetland, and grasses. Member MNPPA.

**Truax Company, Inc.**—Jim Truax, 4821 Xerxes Avenue, Brooklyn Center, MN 55430. 763.537.6639, fax: 763.537.8353, e-mail: [Truax@pclink.com](mailto:Truax@pclink.com). or [www.truaxcomp.com](http://www.truaxcomp.com). Manufacturers of native grass and wildflower seeding equipment. Customized grass and grain drills to meet your needs and site conditions.

**Wayne County MSU Extension**—Kristine Hahn, 640 Temple, 6th Floor, Detroit, MI 48201. 313.833.3275, e-mail: [hahnk@msue.msu.edu](mailto:hahnk@msue.msu.edu)

**Wetlands Nursery**—Jewel Richardson, P.O. Box 14553, Saginaw, MI 48601, 989.752.3492, e-mail: [JewelR@aol.com](mailto:JewelR@aol.com).

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### *Wildflowers* NEWSLETTER

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Membership information and form on back cover. Questions: contact Marilyn Case, 15232 24 Mile Road, Albion, MI 49224-9562 • 517.630.8546 • e-mail: MCase15300@aol.com.

#### **Editor**

Kathryn Lund Johnson • kathyj@voyager.net • 616.795.9691

#### **Managing Editor and Designer**

Marji Fuller • marji@iserv.net • 616.948.2496

#### **President**

Stephan Keto • 616.343.1669 • fax 616.343.0768

#### **1st Vice President**

Marji Fuller • see Managing Editor above

#### **2nd Vice President**

Cheryl Tolley • cherylt@iserv.net • 616.691.8214

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Valerie Reed • vfrrabbit@aol.com • 616.964.0477

#### **Treasurer and Membership Coordinator**

Marilyn Case • see above

#### **Education Grant Coordinator**

Amy Yeip • asasey@ameritech.net • 810.329.6186

#### **Webmaster**

Tim Shoales • shoales@comcast.net •

WAM@iserv.net

www.wildflowersmich.org

## **Adapting For Survival**

Continued from Page 7, Column 3

better able to survive a poor growing season, and has the opportunity to rebuild its energy stores, biding time until it is robust enough to regain its status as a female plant.

Yellow lady's-slipper, *Cypripedium calceolus*, a member of *Orchidaceae*, or orchid family, emerges in swamps, bogs and wet wooded areas from mid-April to late June. It's widely distributed throughout most of the state, with the exception of some counties in the midwestern part of the Lower Peninsula. All orchids, trilliums and certain other native wildflowers are protected under the "Christmas Greens Law" of 1962. The yellow lady's-slipper, along with other members of the *Cypripedium* genus, requires the presence of a mycorrhizal soil fungus for its survival. The fine, powder-like seeds of the lady's-slipper contain no food for the young, developing plant. The fungus, when present in the surrounding soil, attacks the seeds and digests the outer cells. The remaining inner cells absorb nutrients,

which the fungus obtains from the soil, and then germinate. Following germination, an underground stem, called a protocorm, is formed. With the help of the fungus, the plant continues to absorb nutrients from the soil while the fungus uses photosynthetically manufactured food obtained from the corm. Even when this mutually beneficial relationship is a prosperous one, it takes the maturing plant approximately two years to produce its first flower.

The adaptations described in the lifecycles of these spring wildflowers are merely a few methods developed by plants in their pursuit of survival. Awareness of the vastly diverse adaptations of wildflowers can make us more mindful of our need to retain their fragile and intricate ecosystems. As our knowledge increases, so will our appreciation of Michigan's native wildflowers, a most treasured natural resource. ✨

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## **Association News & Views**

**A Heads-up for the 2003 Wildflower Conference—**Everyone had such a fun time at the 2002 Birthday Bash that the Board decided to try and top that in 2003. So here it is—a *Sunday Show & Tell* party. If you have something to show or tell about, such as your new landscaping or prairie installation, take pictures to tell the story and put them on a poster or in a scrapbook and bring it to the conference. At the party you can set up your display and talk to other party-goers who come by to learn about your project and ask questions. Along with the *Show & Tell* will be music, snacks, a cash bar, speakers to autograph their books, and good networking with other members. Holding the party in room Big Ten A will also afford guests an additional opportunity to look at the exhibits. So, get your thinking cap on for *your* show and tell.

**We're late, we're late, for a very important date—**This issue of *Wildflowers* is a combined spring and summer enlarged newsletter for several reasons, but mainly because graduating from college and starting a new business temporarily drew my time and attention away from my volunteer newsletter editor position. I'm happy to say we should be on schedule from now on. There is always something good that comes from adversity and this time it was persuading Kathy Johnson to be our editor, and discovering how great a 12-page newsletter would be if we could do it on a regular basis.

To produce a larger newsletter, we will have to look for a grant to help pay the additional cost of printing and postage, and find two helpers—one to gather items for our upcoming calendar page and a second to compile information for an environmental issues column. These volunteer positions could involve more than two people, with a lead person responsible for collecting and submitting the information on a timely basis. With an enlarged newsletter, there also would be the possibility of a question and answer column, which would work well as a cross-over for our Web site if someone were interested in coordinating such a column.

Please keep in mind that we are always looking for feature articles and other items of interest to our members. Feel free to contact Kathy or me with any suggestions, or if you'd like to help us out—we'd love to get YOU involved in your growing organization! —Marji Fuller ✨

# Wildflower Association of Michigan

A nonprofit organization founded in 1986, Lansing, Michigan  
 c/o Marilyn Case • 15232 24 Mile Road • Albion MI 49224-9562



Courtesy Michigan DNR

Michigan's State Wildflower  
 dwarf lake iris, *Iris lacustris*


Your WAM membership expires on the date above your name.  
 This is the only notice you will receive. If it's time, please renew.

The next quarterly meeting of the Board of Directors is Thursday, July 24, 2002, 9:00 a.m. to 4:00 p.m., Hancock Turf Center (Farm Lane and Mt. Hope), Michigan State University, East Lansing, Michigan. Members are always welcome.

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