



KANSAS NATIVE PLANT SOCIETY

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NEWSLETTER OF THE KANSAS NATIVE PLANT SOCIETY

APRIL 2022

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Baker University Wetlands and Discovery Center

— JILL DOEDEN

The Baker University Wetlands lies on the floodplain of the Wakarusa River south of Lawrence, Kansas. The wetlands encompass 927 acres of rich, diverse habitat with nearly ten miles of trails for hikers, birders, and outdoor explorers. The Wetlands' Discovery Center is filled with exhibits, interactive displays, a Wonder Room, and it is home to native critters who have been adopted as "Animal Ambassadors." Outdoors, there is a mosaic of open water, wet meadows, prairies, and riparian woodlands that support a variety of plant and animal species native to Kansas. In the years since Baker University acquired the land in 1968, the mission of the Baker Wetlands has evolved to incorporate hands-on environmental learning, to foster scholarly research by scientists and students, and to maintain ecological viability of an ever-decreasing ecosystem.

There is a wall of windows in the Wetlands Discovery Center that faces south and looks out onto the tall grasses, the marshy meadows, and a bronze statue known as the Prairie Spirit. A work of art created by local artist Elden Tefft, the Prairie Spirit peeks out through the brown of winter, the greens of summer, and the yellows of August sunflowers. She is always there through the Kansas seasons, blending perfectly into the backdrop of the land.

Along this same wall, is housed an ornate box turtle named Theodore. He crunches down on his salad, completely unaware of his infamous status as Kansas' State reptile. Along with Theodore, the Discovery Center also has a speckled kingsnake and tiger salamander, named Alvin and Simon. These Animal Ambassadors of the wetlands have been introduced to many 'oohs' and 'ahhs' of area grade school kids during field trips to the Discovery Center. The kids

— CONTINUED ON PAGE 4

OUR MISSION

The mission of the Kansas Native Plant Society is to encourage awareness and appreciation of the native plants of Kansas in their habitats and in our landscapes by promoting education, stewardship, and scientific knowledge.

The Kansas Native Plant Society Newsletter is published quarterly: Winter (January), Spring (April), Summer (July), Fall (October). Readers tell us how much they enjoy the newsletter in paper format. Contributions help us continue to produce a publication of this length in this form.

You may send your gift to KNPS at:

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BOOK REVIEW

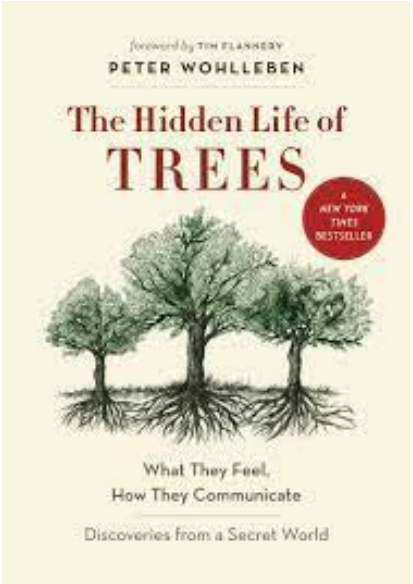
The Hidden Life of Trees

What They Feel, How They Communicate – Discoveries from a Secret World by Peter Wohlleben

– KAREN HUMMEL

The title of this book provides insight into the author’s approach. The three phrases present the theme, clarify the focus, and open the door of the reader’s mind, revealing the labyrinth of sights, sounds, and sensations of the old growth forest.

The entire book is written from the perspective of the trees. The ground rules are laid out for the reader early on. Trees in old growth forests exist as families. Nourishment is shared through root systems for the optimal benefit of all. Airborne scents alert neighboring trees of predacious herbivores or insects.

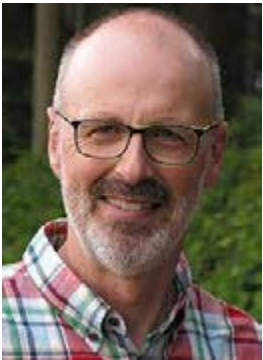


Communication via electrical impulses passes between root systems at a rate of one third of an inch per second, as compared to the millisecond rate for human neural transmissions. The expected life of a tree in a natural forest is at least five hundred years. A one hundred year old tree is considered a ‘teenager’, and is likely still sheltered by the mother tree, connected through the root system. Communication is facilitated by nitrogen fixing microrrhizae that aid in communication transmissions. An article in the journal Science dubbed this network of fungal filaments as the “wood wide web”. A native forest is its own microcosm, encompassing numerous ecosystems. The trees, birds, insects, microbes, animals, fungi, soils and all other entities

compete and cooperate, keeping the systems mainly in dynamic equilibrium.

Therefore, slow down, and think in terms of eons of time and widely connected communities as you approach this book. Peter Wohlleben presents the life of trees in the Hummel beech forest, and other forests, gracefully and in detail, always from the perspective of the trees and their environmental influences. There is no way, in a few words, to convey the scope of this book.

For example, here is an excerpt from the chapter Why is the Forest Green: “...every material absorbs light differently or converts it into other kinds of radiation. Only the wavelengths that remain are refracted and reach our eyes... Chlorophyll helps leaves process light. If trees processed light super-efficiently, there would be hardly any left over — and the forest would then look as dark during the day as it does at night. Chlorophyll, however, has one disadvantage. It has a so-called green gap, and because it cannot use this part of the color spectrum, it has to reflect it back unused. This weak spot means that we can see this photosynthetic leftover, and that’s why almost all plants look deep green to us.”



The evolutionary and environmental labyrinth at work in an old growth forest is captivating. I shall never look at a tree the same way again. Read the book.

Peter Wohlleben is a German forester and author who writes on ecological themes in popular language. Other books include *The Inner Life of Animals*, *The Secret Wisdom of Nature* and *The Heartbeat of Trees*. Movies include *The Hidden Life of Trees* and *Intelligent Trees*.

President’s Message

– KRISTA DAHLINGER

Spring in Kansas has brought us everything: forty-degree temperature swings, ice pellets, dry spells and sunny days. On March 5, I observed a first-of-year bee and a yellow sulphur butterfly while tentative signs of green growth began appearing in the native plant world.

I have been busy making plans for two KNPS annual gatherings. Mark your calendars for these events in 2022 and make plans now to join us!

June 11 & 12 Mini-AWW Spring/Summer Board Meeting and Outings in Miami County. We will be based in Paola and explore several prairie and woodland remnants and public lands. Lenora Larson, butterfly gardener sans pareil will welcome us to tour her personal gardens. See her article in this newsletter.

August 26, 27, and 28 2022 Annual Wildflower Weekend “The Heart of the Flinthills” near Emporia.

As plans for both events are finalized, itineraries with locations, times, and dates will be published to the KNPS website, social media, and the KNPS listserv. These events are the highlights of the year when we can get together in person to explore native plant communities in various regions of Kansas.

On another note, KNPS receives more and more email requests for sources of native plant seeds and live plants. I have developed a list of native plant nurseries to recommend for different areas, mostly in northeast Kansas where people populations are concentrated. I am glad to read in various publications that the “Butterfly Garden” articles that used to recommend cultivars of zinnia, daisy, or coneflower are now recommending straight native plant species and providing the scientific names. This is real progress in reporting. However, without additional resources for seed or live plants from different areas, it is difficult for gardeners to access straight species to grow their own plants. Being a member of KNPS has been very helpful in making connections with people and organizations that are able to identify and grow native plants.

We would like to be able to recommend additional seed and live plant sources from different ecoregions of Kansas. Spring ephemerals such as May apple found in wetter shady areas in northeast Kansas will not thrive in the dry sunny, sandy southwest part of the state. Sand lovegrass from the Sand Hills near Hutchinson will not persist in the non-sandy garden soil of my south-central Kansas home. Each ecoregion of Kansas hosts a range of plants suited for the soil type and rainfall in that region. Collecting seeds and growing native plants is “slow gardening” for sure but important to the gardeners and land stewards who want to include more natives in their landscapes.

I welcome hearing from anyone in Kansas who is willing to collect seeds and/or grow native plants for their ecoregion. Send an email to seeds@KSnp.org to let me know about your slow gardening possibilities. To view the ecoregions of Kansas, vegetation maps, and hydrology maps, point your browser to www.kansasnativeplantsociety.org/ecoregions. There is a vast amount of information available on the KNPS website that is crucial to understanding local conditions that support specific native plants and then selecting plants that will thrive. Come and join us!



ABOVE, TOP TO BOTTOM New Jersey Tea (*Ceanothus americanus*) bloom; Sandsage prairie in bloom; Spider antelopehorn milkweed (*Asclepias asperula*).

KRISTA DAHLINGER PHOTOS

A GRAND VISION

– CYNTHIA RHODES

The ambitious America the Beautiful initiative seeks to conserve and restore thirty percent of U.S. lands and waters by 2030. Known as the 30 x 30 Plan, this initiative goes beyond protecting public lands, it also encourages improving stewardship practices on private agricultural lands, restoring fire-prone forests, repairing ailing streams, and conserving coastal and marine habitats.

For more information about this initiative and the Kansas response, look for the “30 x 30 Report” written by Michael Kaye, KNPS Board of Directors member and Public Policy Committee Chair, at the KNPS website at www.kansasnativeplantsociety.org. A brief summary of this initiative will be in the next issue of the KNPS Newsletter. Read about this historic vision to be informed.



Baker Wetlands

CONTINUED FROM PAGE 1

learn that Alvin is a constrictor and not venomous, and some even muster the courage to touch him. They learn that Theodore used his sharp beak to hatch from his egg and that he enjoys munching on strawberries. They also learn that Simon is an indicator species for the wetlands. The health and population dynamics of salamanders can help determine the overall state of a wetland's ecosystem. A curiosity is piqued in the kids' minds with each animal introduced to them.

The Discovery Center is filled with illustrated display boards with information on wetlands habitats that will ignite anyone's interest into this special ecosystem. Wetlands filter out excess pollutants and are able to hold water to prevent flooding of nearby cities and towns. Native aquatic plants, like cattails and duckweed, are able to absorb nitrates, one of the biggest chemical pollutants, and use it to grow. Cattails also provide shelter and nesting habitat for birds and other species while duckweed is an important food source for waterfowl and fish. The overarching theme of these informative exhibits is that wetlands can provide an all-encompassing safety net for the local environment as long as we work to rehabilitate and preserve them.

Throughout the Discovery Center, the outdoors seeps in by way of interactive displays and a 'touch table.' There are taxidermy hawks and owls, a mink, a whooping crane, and a visitor favorite, a very large stuffed beaver. The 'touch table' is an interactive discovery with turtle shells, animal furs, bones, hooves, and even dried snake skin. Visitors are able to feel and see life-sized animals on display, some of which may be nocturnal or a very rare sight. The center has on display a taxidermy river otter, a species that was over-hunted and eradicated from Kansas in the early 1900s. Only in recent years has the area begun seeing river otters make their way back to the state. Someday, maybe otters will not be so uncommon.

Rarer still is a microscopic eight-legged animal, the tardigrade. Lovingly nicknamed 'water bears,' tardigrades live in tree canopies, mosses, and lichens. In the summer of 2021, a group of Baker University students participated in a summer-long research project collecting and identifying different species of tardigrades at the wetlands and throughout Kansas counties. The fascinating tardigrade display inside the center shows a variety of tardigrade genus' as well as their habitat and a re-creation of tardigrade eggs in a shed cuticle. This display highlights how the diversity of wetlands

TOP, LEFT TO RIGHT The view from the top of the watchtower; In June, Night Heron Shallows comes to life with American Lotus. **LEFT** A monarch caterpillar munches on butterfly milkweed.

creates a suitable habitat for tardigrade survival. Eight different species of tardigrades have been discovered at the Baker University Wetlands, with an emphasis on understanding how habitat conditions can help better the management and restoration goals of the wetlands.

Tucked within the multitudes of wetlands exhibition is the Wonder Room, a place for younger minds and the young at heart to play and learn and introduce themselves to the natural world. The Wonder Room has a large Cabinet of Curiosities, inspired by the Victorian era's obsession with displaying oddities collected on world travels. The Discovery Center's cabinet takes visitors along a journey from rock formation to mammal skulls and a mummified turtle. There are butterfly specimens, seeds of native prairie plants, and a taxidermy great-horned owl with golden eyes and sharp talons. Every piece in the cabinet can create a scientific mystery worth solving.

Walking out of the Discovery Center, a trail lined with prairie grasses leads to a watchtower that overlooks the wetlands. From the top of the tower, riparian woodlands can be seen in the distance as it follows along the Wakarusa River. The landscape flows and changes from ponds filled with floating and emergent vegetation to wet meadows dominated by cordgrass (*Spartina pectinata*) and sedges like Missouri sedge (*Carex missouriensis*) and wooly sedge (*Carex pellita*). Red-winged blackbirds and a variety of sparrows and warblers dart through the skies.

Along the trails and boardwalks, spring and summer will bring colorful blooms of prairie perennials. After the browns of winter start to fade, phlox species will show their pinks and purples. Jacob's ladder (*Polemonium reptans*), bloodroot (*Sanguinaria canadensis*), and iris species will join in on the colorful blitz of blooms.

As spring turns toward the endless summer days, reds, oranges, and pinks of swamp milkweed (*Asclepias incarnata*) and butterfly milkweed (*Asclepias tuberosa*) dot the prairie, waiting for the beloved monarch caterpillars to feast. May through September brings those quintessential Kansas species that can be mistaken for a postcard: coneflowers (*Echinacea spp.*), blue false indigo (*Baptisia alba*), blazing stars (*Liatris spp.*), goldenrods (*Solidago spp.*), and beardtongues (*Penstemon spp.*) to name a few. Summer at the wetlands feels alive with turtles and snakes out basking in the warmth, great blue herons fishing in the ponds, and Night Heron Shallows overflowing with blooming American lotus (*Nelumbo lutea*). By August, the Baker Wetlands creates a nature grand-finale of sorts with bursts of wild sunflowers and pink petals of the prairie wild rose (*Rosa arkansana*) before winding down into a cold, dormancy of waves of golden amber. Until the next spring, when the cycle begins again.

Plant species found within the Baker Wetlands provide an array of benefits including providing cover, habitat, and food sources for local wildlife and the filtering of excess nutrients from pollution and agricultural runoff. Given the important ecological functions of native plants, the Baker Wetlands staff have moved invasive control to the forefront of their restoration and management plans.

A major issue that is being addressed is the encroachment of woody species into the prairie areas as well as patches of invasive species populations throughout the property. These species



can outcompete native species and change the dynamics of the ecosystem. Integrating different control methods (such as chemical, mechanical, and cultural) to decrease unwanted woody vegetation can help native species thrive. Through the green seasons, Wetlands staff and volunteers are collecting seeds of native Kansas plants, hoping to utilize them to increase diversity and richness within the wetlands and prairies. Staff and volunteers are also working on an extensive survey to map the pockets of invasive infestation previously undocumented. These pockets will be treated in accordance to the most recent treatment recommendations for the given problem species.

The trails at the Wetlands meander through the nature preserve with subtle changes from muddy and marsh, to woodland, then tallgrass prairie. Waterfowl find a home in the ponds and coyote pups can be seen playing near the mudflats. The scenery always changes season to season, offering something new with every visit. In 2016, the Baker University Wetlands was voted the most beautiful place in Kansas and it is easy to see why. With a new emphasis on managing for native plant species and creating more diversity, the Wetlands will likely hold that title for many years to come.

TOP Native animal species on display inside the Discovery Center. **ABOVE** A monarch butterfly rests on sunflowers at the wetlands.

Kansas Ferns

— CRAIG FREEMAN

For most people, the word fern brings to mind a small, graceful, delicate plant with dissected leaves, growing in the deep shade of a forest. That image certainly applies to many Kansas ferns, but not to all. One of our largest ferns, *Osmunda regalis* (royal fern), has leaves that can grow over four feet long, while our smallest, *Azolla mexicana* (mosquito fern), has leaves shorter than an inch. Mosquito fern is strictly aquatic and grows on the surface of still water in pools, streams, and backwaters. In contrast, *Myriopteris* (lip ferns) usually clings to exposed bedrock, their roots wedged in cracks and crevices.

Like our many familiar flowering plants, ferns bear roots, stems, leaves (usually called fronds), and vascular tissue, which is a plumbing system that allows water, sugar, and other compounds to be moved throughout the plant. Vascular tissue is one feature that distinguishes these “vascular plants” from ones without it, like mosses, liverworts, and algae. So, how do ferns differ from flowering

plants? Most significantly is how they reproduce sexually. While flowering plants reproduce by seeds that form in flowers, ferns produce spores—tiny, one-celled reproductive bodies. Spores form in small, capsule-like structures called sporangia, which are often borne in brownish masses on the lower surfaces of green fronds or on specialized spore-bearing fronds. When mature, sporangia split and release their spores, which then are carried by the wind, potentially for long distances. Those spores that land in suitable habitat—maybe rich organic soil in a forest or a damp crack in a cliff—germinate, and each grows into a tiny, heart-shaped plant called a prothallus. Often just a few millimeters long and rarely seen by most people, the prothallus produces the gametes (egg and sperm) that fuse to produce a single-celled zygote. With time, the zygote grows into the many-celled, spore-producing fern plant that we see in the wild, where the reproductive cycle repeats.

Besides the archetypal ferns, there are several other groups of vascular plants that reproduce by spores, but most have highly reduced or modified leaves. Collectively called fern allies, they include familiar groups like *Equisetum* (horsetail or scouring rush), and less familiar groups like *Selaginella* (spikemoss) and *Isoetes* (quillwort). Ferns and fern allies have ancestors that appear in the fossil record around 400 million year ago, much earlier than the ancestors of flowering plants, around 130 million years ago. With an estimated 12,000 species worldwide, ferns and fern allies are the second largest group of living vascular plants, well behind the flowering plants, with around 300,000 species.

It probably comes as no surprise that Kansas, historically dominated by grasslands, has relatively few kinds of ferns and fern allies compared to forested regions of the U.S. Forty-one species are known in Kansas compared to roughly 70 each in adjacent Colorado, Oklahoma, and Missouri. The much larger states of California and Texas each have around 120 species!

The diversity, distribution, and abundance of ferns in Kansas is closely tied to water. Generally speaking, more of it means more kinds of ferns. East of the Flint Hills, numbers range from ten to twenty species per county. Westward, numbers drop significantly except in the southern Smoky Hills, where a few more species find refuge in the moist, slightly more acidic sandstone-derived soils associated with seeps and springs. A few counties, like Greeley and Grant, have no documented ferns or fern allies. Eight species of Kansas ferns each are known from just one county.

Miami County, where KNPS is hosting outings on June 11 and 12, has thirteen species of ferns and fern allies. Rich forests and woodlands are excellent places to see bladder ferns, rattlesnake fern, woodsia, and ebony spleenwort. With a bit of luck, we might also encounter walking fern and purple cliff-brake on limestone boulders and escarpments. Other species known from the county will be more challenging to find, but who knows what we might encounter. We hope you will join us in June to see what discoveries await us.

ABOVE LEFT Northern Maidenhair Fern (*Adiantum petatum*)
LEFT Southern Bladder Fern (*Cystopteris protrusa*)



ABOVE Rattlesnake Fern (*Botrypus virginianus*)

Miami County Ferns and Fern Allies

Isoetaceae (Quillwort Family)	
<i>Isoetes butleri</i>	Butler's Quillwort
Aspleniaceae (Spleenwort Family)	
<i>Asplenium platyneuron</i>	Ebony Spleenwort
<i>Asplenium rhizophyllum</i>	Walking Fern
Cystopteridaceae (Bladder Fern Family)	
<i>Cystopteris protrusa</i>	Southern Bladder Fern
<i>Cystopteris tennesseensis</i>	Tennessee Bladder Fern
Ophioglossaceae (Adder's-tongue Family)	
<i>Botrypus virginianus</i>	Rattlesnake Fern
<i>Ophioglossum engelmannii</i>	Limestone Adder's-tongue
<i>Sceptridium dissectum</i>	Dissected Grape Fern
Pteridaceae (Maidenhair Fern Family)	
<i>Adiantum pedatum</i>	Northern Maidenhair Fern
<i>Argyrochosma dealbata</i>	False Cloak Fern
<i>Pellaea atropurpurea</i>	Purple Cliff-brake
Salvinaceae (Floating Fern Family)	
<i>Azolla mexicana</i>	Mosquito Fern
Woodsiaceae (Lady Fern Family)	
<i>Woodsia obtusa</i> subsp. <i>obtusa</i>	Blunt-lobed Woodsia

KNPS 2022 Winter Board Meeting

— PHYLLIS SCHERICH

The KNPS 2022 Winter Board meeting was held virtually in the afternoon on January 15 with sixteen board members in attendance. Due to the resignation of Mickey Delfelder as secretary, Phyllis Scherich was nominated and approved by the board to fill this position until the next election.

Committee reports included 730 current paid members; a healthy financial report with the new budget adopted; Plant-a-Prairie project update; 660 Newsletters sent in October; and openings on the Nominations, Website, and Plant Resources committees. There are several board positions currently open and applications from members are welcome. Interested members should request further information at email@ksnps.org.

The Mini-AWW will be June 11-12 in the Miami County/ Paola area, and the 2022 AWW (including annual meeting) will be August 26-28 in the Flinthills/Emporia area. More information is to come about these outings, but put these dates on your calendar now! And watch the KNPS media sources for updates and more information to come.



MINI-AWW

JUNE 11-12

MIAMI COUNTY
PAOLA AREA

2022 AWW

AUGUST 26-28

FLINT HILLS
EMPORIA AREA

UPDATES ON
KANSASNATIVEPLANTSOCIETY.ORG

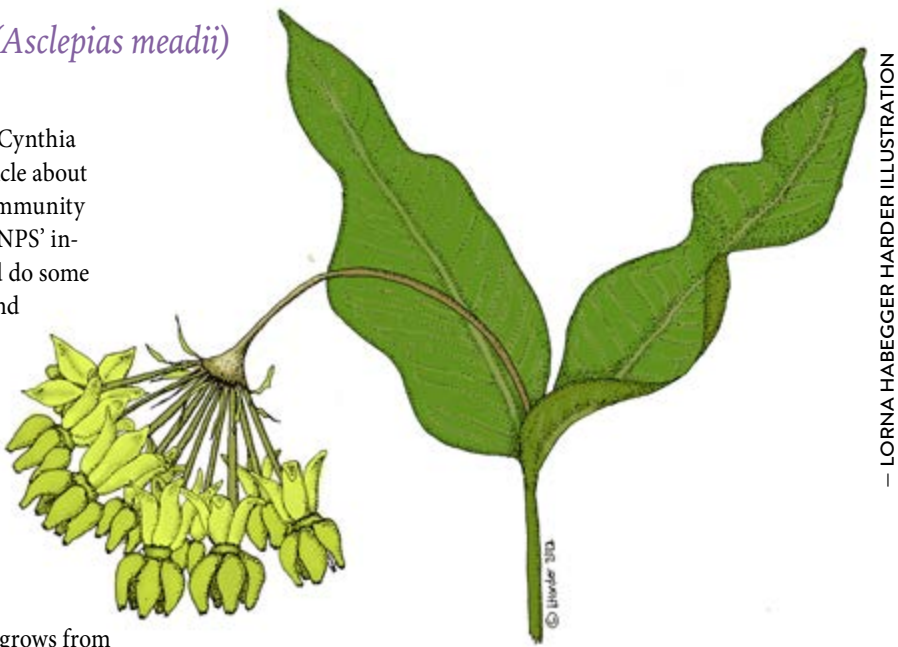
FEATURED NATIVE PLANT

Mead's Milkweed | (*Asclepias meadii*)

— LORNA HABEGGER HARDER

Last month, in her regular newsletter request email, Cynthia Rhodes wondered if I would write the featured plant article about a plant special to the Miami County area, so that our community of native plant enthusiasts could look for it during the KNPS' in-person mini-AWW later this spring. Sure, I said. I would do some background researching, consult with Craig Freeman, and then write an article. Several weeks of reading, research, and emails with Craig led me to Mead's Milkweed (*Asclepias meadii*), a species that has been federally listed as threatened across its range since 1988. Mead's milkweed is now found in Kansas, Missouri, Iowa, and Illinois. However, nearly ninety-one percent of the known populations are found in twenty-three counties in eastern Kansas and west central Missouri. Miami County, Kansas is among them!

Mead's Milkweed is a rare, long-lived perennial that grows from a slender rhizome as a single stem of up to twenty inches tall. Leaves are opposite, sessile, smooth, and narrow to obovate, from 1½ to 3 inches long and 1 to 1½ inches wide. The stem that bears the umbel of flowers is hooked, causing the elegant, arching nod of the umbel, a characteristic unique among milkweed species. Umbels with, on average, twelve individual yellowish-green flowers, appear in late May and early June. One to several narrow, spindle-shaped pods are produced from each umbel, ripening in mid-September. Pods



— LORNA HABEGGER HARDER ILLUSTRATION

contain on average seventy seeds, and like many milkweed species, germination requires cold, moist stratification.

This species is a denizen of unplowed tallgrass prairies on mesic and dry-mesic upland sites. It does not tolerate soil disturbance, it is competitive, and thus can be found growing in late successional prairies with clumping grasses, e.g. big bluestem, Indian grass, and dropseed intermixed with other tallgrass prairie forbs. Mead's milkweed populations are adapted to spring burns, showing an increase in flowering, reproduction and seedling establishment, and with more genetic diversity than populations in hayed prairies. From reports, it appears that Mead's can be elusive to spot, remaining underground during some years, showing up during others. The single stems are also easy to miss, tucked in as they are in a tallgrass prairie.

Bumble bees, other native bees especially of the genus *Anthophora*, as well as honey bees are known pollinators of Mead's milkweed. Monarch caterpillars and milkweed bugs and beetles also feed on this species.

Mead's milkweed has become rare due primarily to human agricultural activities — plowing, haying, and grazing. Plowing destroys the underground rhizomes, completely eliminating populations. However, even in existing prairies, this species has become rarer due to haying and grazing practices. While haying and grazing do not prevent vegetative growth, they do prevent flowering and seed production. Adding to Mead's milkweed rarity is its self-incompatibility — its inability to self-pollinate. To produce viable seed, pollination must occur between genetically separate clonal groups, and that requires that these clonal groups are within reasonable pollinating distance, a situation that has become problematic with fragmented habitats, reduced flower and seed production, and shrinking populations.

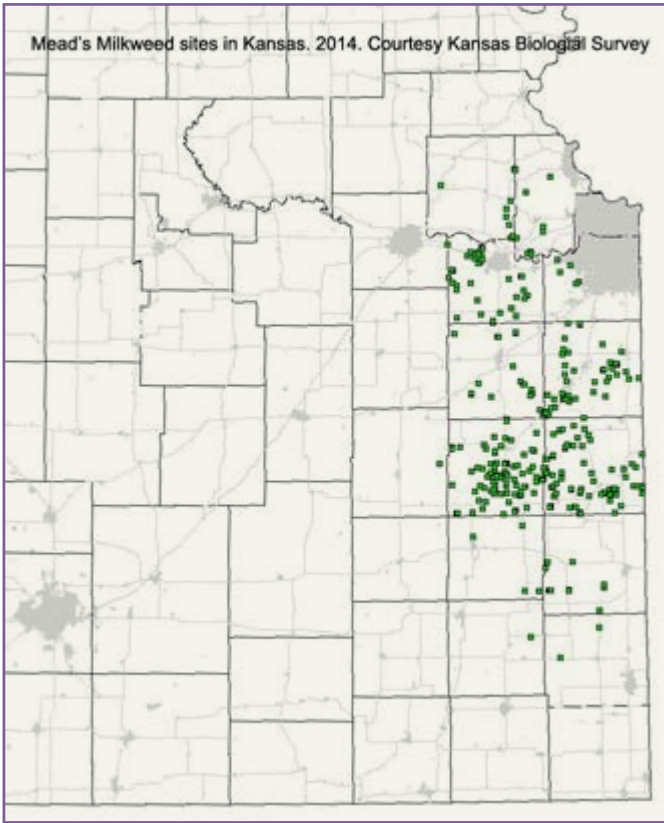
In 2003, the USFW approved a recovery plan with the goal of eventually de-listing Mead's milkweed. Additional recovery research

is occurring across the Midwestern states where populations continue to occur — observing, monitoring, reintroducing and conserving existing populations. Through the Ecological Research Center of Kansas Biological Survey, Kindscher, et al. engaged in the reintroduction of Mead's milkweed to the Marais des Cygnes National Wildlife Refuge — directly seeding, planting greenhouse-grown seedlings, and monitoring these sites within the refuge. Recovery is painstaking and it takes time. In their concluding remarks after seven years of working with Mead's milkweed, Bowles et al. commented that recovery for this late successional species with its slow growth rate, with varying levels of seed production and seedling establishment, and with varying responses to climatic conditions year-to-year, factor in to what will likely be a decades-long process in recovering this species. Time, patience, perseverance, and opportunities for our KNPS membership to play a role.

Kindscher and Kuhn reported that ninety-three percent of the 155 known Mead's milkweed sites are on private property with only five sites found on state or federal lands, and four sites on conservation easement lands. In a state that ranks fiftieth in the nation in publicly held lands, we as Kansas citizens, and particularly KNPS members, people who care deeply about Kansas native plants, can be yet one more voice for the conservation of this species with private landowners. As individuals, we can use our knowledge of

this rare species to provide additional eyes in the field to observe and identify. We can share our own joy and deep satisfaction with others in introducing, observing, naming, and understanding the life histories of Kansas' rare and threatened native plants. We can also speak for this species, introducing it to our respective communities, whether urban or rural. As we already know, when we become acquainted with a few faces in that crowd of prairie plant strangers, experiences and perceptions of this Kansas prairie landscape change. Together, as empowered communities of Kansas citizens, we can work to better understand, care about, and preserve rare native plants in our prairies for perpetuity. And in late May, fingers are crossed that we will also be privileged to see this rare beauty during our mini-AWW outings!

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MEMBERSHIP NEWS

NEW MEMBERS FROM 12/11/21 TO 3/12/22

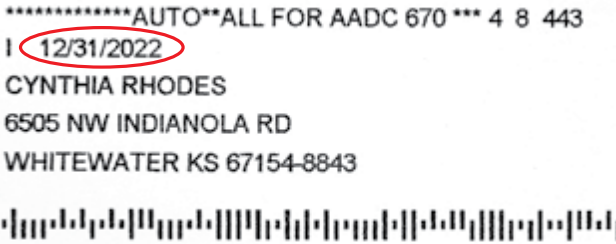
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|---------------------------------|-------------------------------------|------------------------------|
| Elby Adamson – Clay Center | Gary Cromer – Belvidere | Thomas Koffel – Lawrence |
| Mary Apt – Iola | Ryan Day – Olathe | Amanda Mayflower – Wichita |
| Ellen Austin – Derby | Barbara Grabner-Kerns – Leavenworth | Amy Meng – Manhattan |
| Bob Barnhardt – Durango, CO | Cheryl Griner – Wichita | Jacob Penner – Lawrence |
| John Barnhardt – Nixa, MO | Glen Gunselman – Emporia | Andrew Rutter – Lawrence |
| Rebecca Barnhardt – Lakin | Sarah Herzog – Manhattan | Ashley B. Sherman – Lawrence |
| Roger Barnhardt – Lakin | Hayley Hutchinson – Derby | Danelle Sorenson – Olathe |
| Shanna Binkley – Wichita | Loretta Johnson – Manhattan | Bonnie Uffman – Lawrence |
| Christine Chulick – Leavenworth | Kansas City Garden Club | Richard Young – Topeka |
| Brian Cornett – Fontana | – Overland Park | |

MEMBER RETURNING AFTER A HIATUS

- | | |
|-----------------------------|-------------------------|
| Sacie Lambertson – Lawrence | Carrie Riordan – Topeka |
| Debbie Lucas – El Dorado | Cheryl Weber – Topeka |

CHECK YOUR MAILING LABEL

Want to know the status of your KNPS membership? Check the mailing label on the back of each issue for your membership expiration date.



Information provided by Kansas Native Plant Society, see more events on our website: www.kansasnativeplantsociety.org
Please share this information and contact us about additional events to note. Thank you! email@KSNPS.org
Sturdy shoes, long pants, a hat, insect repellent, sunscreen, and water are recommended for outdoor events.
Mark your calendar now and plan to attend some fabulous happenings!

Before you travel, use the contact information to confirm an event is still happening and not cancelled or rescheduled.

APRIL | 22-25

FLORAKANSAS: GREAT PLAINS PLANT BAZAAR at Dyck Arboretum of the Plains, Hesston. This plant sale features hard-to-find native perennials plus classes and tours. Member's only sale April 21; 10% members discount on all days. Admission charge is by donation. <https://dyckarboretum.org/arboretum-event/florakansas-fall/arboretum@Hesston.edu> 620-327-8127

APRIL | 23

EARTH DAY WILDFLOWER PLANTING EVENT at Black Jack Battlefield, 163 E 2000 Rd, Wellsville 66092. Great for all ages and abilities, meet 1PM to 4PM and plant, plant, plant! Sponsored by Grassland Heritage Foundation. **RSVP required. Info at** <https://www.grasslandheritage.org/blackjack>

MAY | 5

PRAIRIE RESTORATION WORKDAY at Black Jack Battlefield, 163 E 2000 Rd, Wellsville 66092. If you are interested in learning about prairie restoration and how to support existing prairies, this workshop is for you. Meet 5PM to 7PM, no experience needed and experts will be there to guide and answer questions. **RSVP required at** <https://www.grasslandheritage.org/blackjack>

MAY | 14

MAKING WAVES AT THE PRESERVE at Tallgrass Prairie National Preserve, 2480B KS Hwy 177, Strong City, 10AM to 2PM. Amateur radio operators associated with the Santa Fe Trail Amateur Radio Club, Olathe, will be operating two amateur radio stations from the park. This tallgrass operation will be part of a Parks-On-The-Air (POTA) program that encourages portable amateur radio operations from national, state, and provincial parks. **For more info contact Heather Brown at** 620-273-6034

MAY | 14

GRASSLAND HERITAGE FOUNDATION'S 10TH ANNUAL SPRING NATIVE PLANT SALE at Trinity Episcopal Church in downtown Lawrence from 10AM to 1PM. GHF members will be able to preorder

plants for the sale online starting April 11. **Details at:** <https://www.grasslandheritage.org/plantsale>

MAY | 16

NATURE BOOK CLUB hosted by Dyck Arboretum in Hesston. Books are at the Hesston Public Library or for purchase at bookshop.org/lists/nature-book-club. Meet 6:30-8 pm by Zoom. **Contact Dyck Arboretum at** 620-327-8127. **To register:** <https://dyckarboretum.org/arboretum-event/nature-book-club/>

MAY | 21

2ND ANNUAL LITTLE JERUSALEM WILDFLOWER EXCURSION DAY! Meet at the Ramada Overlook at Little J State Park, 9AM to 12PM, and join tour guide Sara Kay to explore the trails. **More info at** <https://ksoutdoors.com/State-Parks/Locations/Little-Jerusalem-Badlands/Little-Jerusalem-Calendar>. **An annual or daily vehicle pass is required, RSVP at** sarakay.carrell@ks.gov or 620-872-2061

MAY | 21

GRASSLAND HERITAGE FOUNDATION SPRING NATIVE PLANT GARDENING WORKSHOP at Little Prairie Community Garden, Lawrence. Hosted outdoors, the workshop will cover native plant gardening. Meet 10AM to 12PM; **RSVP is required. Info at** <https://www.grasslandheritage.org/littleprairie>

MAY | 23

JAYHAWK AUDUBON SOCIETY'S 50TH YEAR ANNIVERSARY DINNER & PRESENTATIONS. Location: Maceli's Banquet Hall, 1031 New Hampshire St., Lawrence. Info at: jayhawkaudubon.org

MAY | 28

PRAIRIE RESTORATION WORKDAY AT BLACK JACK BATTLEFIELD, 163 E 2000 Rd, Wellsville 66092. If you are interested in learning about prairie restoration and how to support existing prairies, this workshop is for you. Meet 9AM to 12PM, no experience needed and experts will be there to guide and answer questions. **RSVP required at** <https://www.grasslandheritage.org/blackjack>

JUNE | 11

KNPS MINI-AWW POLLINATOR PARTY at Long Lips Farm, 27995 Plum Creek Rd, Paola, 8:00AM to 11:00 AM. See native plants in three settings with special focus on butterfly host plants. Long Lips Farm has earned certification as a Butterfly Garden by the North American Butterfly Association. Look for the colony of Digger bees that will be active. **More info: Lenora.longlips@gmail.com 913-284-3360**

JUNE | 11-12

KNPS MINI-AWW MEETING: Miami County and Paola area (south of Kansas City). Come for a day of botanizing on remnant prairie fields on private property. **Watch for more information in this Newsletter, at the KNPS website, and on social media. Contact: email@ksnps.org**

JUNE | 14

NATURE BOOK CLUB, hosted by Lawrence Public Library in Lawrence. Join us to talk about fiction and nonfiction connected to the natural world. New book recommendations from co-leaders Jake Vail and Shirley Braunlich and other book club members. Meet 6:30-8 pm. **Contact Shirley to RSVP: sbraunlich@lplks.org 785-843-3833**

JULY | 24-28

THE 2022 NORTH AMERICAN PRAIRIE CONFERENCE will take place in Lincoln, Nebraska. **Learn more:** <http://www.northamericanprairie.org/>

AUGUST | 26-28

KANSAS NATIVE PLANT SOCIETY'S 43RD ANNUAL WILDFLOWER WEEKEND (AWW) in Emporia and the beautiful Flint Hills area. Enjoy a full weekend of outings, board meeting, membership meeting, programs, silent auction, photo contest, local dining, and socializing! Come and Join Us! **Watch for more details at the KNPS website and social media. Contact: email@ksnps.org**

Join the KNPS email list to receive the latest event announcements: www.kansasnativeplantsociety.org/email_list.php

Mosses of Kansas

— BRAD WILLIAMSON

The unexpected beauty of a winter moss viewed through a hand lens more than fifty years ago sparked my life-long, but casual interest in mosses. This interest is why I often carry a hand lens in the field hoping to recapture that long ago epiphany. But until my retirement this interest primarily focused on the aesthetics of mosses; I did not really know much about their ecology or even their names.

With retirement I now have some time to focus more on the comings and goings of these often overlooked plants. I am finding bryophytes and their stories to be a fascinating new world to explore. I tried to find some local experts to help guide the way, but the folks that make their living studying bryophytes are hard to find these days. Fortunately, amazing new resources are available that make moss identification more accessible to the rest of us. There is great potential for the amateur to add to our knowledge of bryophytes in Kansas.

Winter or spring is one of the best times to begin your appreciation for mosses. Kansas mosses seem to thrive in the cooler months. Bryophytes respond to rain or the moisture of melting snow and provide a welcomed touch of green in an otherwise subdued winter landscape. Some mosses are truly small with leaves only 0.5 mm in length but others are much larger and more obvious at the right time of the year.

One such early spring moss, baby tooth moss (*Plagiomnium cuspidatum*) demands attention after almost any precipitation event. With fresh moisture it becomes hydrated, spreading its leaves to soak up sunlight as it soaks up newly available water. In the eastern half of the state, you will find this moss growing in lush, thick mats on the seepy soil next to paths or trails in wooded habitat. It also grows on the bases of trees, under shrub thickets, and occasionally on rock outcrops. Starting in February the moss starts to put up a miniature forest of yellow-green reproductive structures called sporophytes. These sporophytes turn a bright orange as the capsules mature providing a nice color complement to the yellow green of the moss bed.

This moss is unusual in that it has both vegetative stems that lie along the ground with flattened, oval-shaped leaves on either side and reproductive stems with whorls of leaves rising vertically providing a base for the sporophytes. "Cuspidatum" refers to the toothed margins along the upper half of the leaves. The leaves of this moss are up to three- to four-millimeters in length with a strong midrib (costa) running down the center of the leaf creating a tip at the top of the leaf. There is another *Plagiomnium* in Kansas with leaves not quite as large as "cuspidatum" and the entire leaf margin is toothed. With a relatively inexpensive 10x hand lens/jewelers loupe you can see these characters to confirm the identification of this moss. (Google 10x jeweler's loupe to find one you might want to purchase.)



ERICA REYNOLDS

layer. The light dazzles at the surface of the rock, and the rich aroma of the soil establishes additional sensory stimulation that helps to define the world of moss. Heady stuff. By the way, I would not recommend this close encounter for moss communities growing along trails where folks tend to walk their dogs. (Do not ask how I know.)

Still, find yourself a hand lens, find some baby tooth moss and start to explore this exceptionally beautiful micro-Kansas habitat. Go out this spring and early summer and see if you can find and identify your first Kansas moss. And, if you happen to have a familiarity with mosses already, then find someone and share this knowledge. You will find the reward worth the effort.

RIGHT, TOP TO BOTTOM An outstanding mat of baby tooth moss in April with capsules just starting to mature. Lawrence Nature Park, Lawrence; View through a 10x hand lens of a small sample of baby tooth moss. You can see the mid-rib/costa on the leaves, the overall shape of the leaves and the toothed margins on some of the leaves. Note the translucent nature of the leaves; Baby tooth moss emerging from a snow bank in March with a few sporophytes starting to grow. You can see both vegetative and reproductive shoots in this image. Lawrence Nature Park, Lawrence; Baby tooth moss, mature sporophytes/capsules. Lawrence Nature Park, Lawrence.

ABOVE Viewing a moss specimen through a hand lens. Overland Park Arboretum, Johnson County.

BRAD WILLIAMSON PHOTOS





Searching for the Perfect Tree

— KEN O'DELL

We have an estimated one thousand species of trees in North America. That gives us plenty of wonderful trees to love. For the past twenty-five years, I have spent hundreds of hours searching for perfect trees. It seems like all of them are perfect in one way or another. If you want to find and study such trees for yourself, I suggest taking a copy of *Trees, Shrubs, and Woody Vines in Kansas*, revised and expanded edition by Michael John Haddock and Craig C. Freeman. I have a paperback edition in full color on slick paper (6 x 9 inch) that fits in the pocket of my winter coat. While you are at it, Google the scientific name for more information as you are looking at a tree. I visit “my” perfect trees several times each year season after season. Here are some special places that you, too, can walk around and enjoy Mother Nature and her perfect trees.

It is amazing how many city parks, arboreturns, rights of way, and planned landscapes at public and private buildings have interesting trees. Just so you know, trees have grand openings year after year. Timing is rewarding to us as weather hurries or slows everything on and about the trees. Keep these things in mind as you search for your perfect trees.



TOP, LEFT TO RIGHT Horse chestnut (*Aesculus hippocastanum Baumannii*) and Bald cypress (*Taxodium distichum*), Lawrence City Library; Pecan (*Carya illinoensis*) Wallace Park, Miami County

ABOVE Ozark chinquapin (*Castanea ozarkensis*) male & female flowers, Baker University

First of all, Miami County has the beautiful forty-two-acre Wallace Park in Paola with playgrounds for all ages, softball, tennis, basketball, picnic areas, and many giant trees well-spaced that are truly a pleasure. Included are huge pecan trees, large red bud trees, and big hickory trees that have so much fruit the squirrels cannot eat all of them. Also found there are several large species of maple trees, oak trees, and choice persimmon trees. Then take the time to look for the large sweet gum trees planted around on the streets of Paola. In fall, covered by their autumn colors, you will notice some streets seem to have ONLY sweet gum planted.

In Douglas County on the south side of Lawrence, Baker University has a very rewarding eighteen-acre arboretum with all of the trees clearly labeled with flat, in-ground signs. Dozens of varieties are perfectly cared for including green alder (*Alnus viridis*), English walnut (*Juglans regia*), Western soapberry (*Sapindus saponaria var. drummondii*), and at least three different species of linden trees (*Tilia*). Douglas County also has the beautiful, well-planned Rotary Arboretum on 27th Street in the west side of Lawrence. This is a younger arboretum and very interesting with ten- and twenty-year old trees properly marked with easy to read labels. The trees are young, strong, and sturdy as you can see in the *Juglans regia* photograph with this article. You will see common buckeye (*Aesculus flava*), the sugar maple cultivar (*Acer saccharum*) “Caddo”, a beautiful hybrid Pacific sunset maple (*Acer truncatum X*), Norwegian sunset maple (*Acer platanoides “Keithsform”*), Bloodgood planetree (*Platanus X acerifolia “Bloodgood”*), chestnut oak (*Quercus prinus*), and many other beautiful, clean, young, strong species and varieties of trees.

Ottawa University is in Franklin County where you will see a very nice grove of blue ash trees that were planted about twenty years ago. Go by the old train station and see the giant tree that has been standing there for many years. Franklin County is also home to a dozen community parks, and a visit to Forest Park near the flood plain wall in Ottawa will give you some delightful medium size trees to look at and study.

Johnson County has the beautiful, well-cared-for Overland Park Arboretum and Botanical Gardens. Several hundred acres of planned, planted, and well maintained gardens are enjoyed by thousands each year. Each contains many carefully planted and

neatly labeled trees and several special gardens for visitors to view and observe. Maps are available that detail the many acres of creek bottoms and steep hills with giant rocks as big as trucks with naturally planted giant trees and thousands of Paw paws growing so thick you cannot see through them.

Another Johnson County Park, Black Bob Park, is on 151 Street in Olathe. This is a young park with hundreds of trees planted during the past thirty or so years among some older trees that were there before the park. Swimming, hiking, ball games, and playground areas are easy to get to. On the west side of the park there are some large London plane trees and the largest Amur cork tree I have seen in the metropolitan area. Male and female Chinese pistache (*Pistachia chinensis*) in two areas produce red berries. Several twelve to fifteen foot Pond cypress (*Taxodium ascendens*) can be located. Near the big swimming pool is a large American beech tree. Another park, Wyandotte County Lake Park is fifteen hundred acres of paths and wilderness mixed in with friendly trails and more trees than you can count. A good starting point to begin to explore these parks is to go to the Mr. and Mrs. F. L. Schlagle Public Library at 4051 West Drive in Kansas City, Kansas. Stop and get information there and then stick to the blacktop roads when you drive about.

Leavenworth Kansas in Leavenworth County is not only the oldest city in Kansas, but it has a large military base, and if you make the right contacts you can see some of the large flood-plain areas of the base and some of the plantings that happened years ago. Contact the base and ask for the forester and go from there. Many trees were planted there many years before the area was developed to what it is now.

Across the state line to the east at the Kansas City Art Institute is the Greater Kansas City Community (GKCC) champion Ginkgo tree. There are actually three of them of enormous size within one hundred feet of each other. The GKCC champion Persian ironwood (*Parrotia persica*) is two hundred feet north of the large Ginkgo trees. All of this is directly across the street from the Nelson-Atkins Museum of Art where you can see the magnificent planting of many



RIGHT, TOP TO BOTTOM English walnut (*Juglans regia*), Rotary Park, Douglas County; Persian ironwood (*Parrotia persica*) GKCC, KCAI

ABOVE Green alder (*Alnus viridis*) male flowers, Baker University



Ginkgo trees next to many Redmond American linden trees (*Tilia Americana “Redmond”*). These trees are perfectly aligned as if painted by Michelangelo!

Not far from Nelson-Atkins is the well-kept and well-marked Linda Hall Arboretum on Cherry Street. With 130 species of trees including plenty of champion trees, it is easy to spend the day looking at these giant trees and wondering if they were planted in 1946 when the library was set up for the public to enjoy. Loose Park is just a stone’s throw from Linda Hall Arboretum and it will take several trips to see all of the beautiful trees (many are old, some are recently planted) that are perfectly maintained by Kansas City Parks. Several champion trees are growing at Loose Park alongside many younger twenty- and thirty-foot beauties that will be champions in their own day.

We humans have a different idea for trees than Mother Nature does. I am sure you have heard that there is no bad tree; it is just not planted in the right place. Spend some time looking at trees and you will agree they are beautiful in their own right; they are perfect for the person that planted them whether it was you, your neighbor, or Mother Nature. Somewhere in past years, I realized the perfect tree is the one I am looking at during any given moment. It is like my favorite child or grandchild: the one I am talking to at the moment is my favorite. Now go and find your perfect trees.

Our Native Pollinators

— LENORA LARSON

Introduction

Flowering plants (angiosperms) evolved from the primitive gymnosperms about 250 million years ago. Most require an animal mediator to carry the male pollen from one flower to the female stigma of another flower of the same species. Insects serve as the primary pollinators in our temperate zone. Pollinators do not know that they are the love connection for plants, so the flower must first attract them with color, fragrance, and/or shape. They then bribe the pollinators to return by repeatedly dispensing small doses of delectable nectar.

The Number One Pollinators: Bees

Bees co-evolved with flowering plants and are uniquely adapted as specialized pollinators in both their behavior and their morphology. For instance, adult bees not only eat nectar and pollen, they care for their larvae and feed them mixtures of nectar and pollen. Bees are also unique in being “flower faithful”. Each day a bee chooses a species of flower that they will visit for that day, thus ensuring that pollination will occur. Only female bees can sting; the males die after mating and do not care for the larvae.

Native Bees

Over 400 species of native bees live in Kansas. All visit flowers and feed their larvae regurgitated pollen and nectar. Because they are solitary and do not defend a hive, native bees are peaceful and do not sting unless harassed.

Honey Bees are not native. They were imported from Europe in 1622 and quickly naturalized across the continent. An individual worker bee lives about six weeks, but since honey bees are constantly replaced, you will see them foraging from early March to Thanksgiving.

None of our native bees make honey or build large social hives of wax. They are solitary and most species have only one brood each year. The adults of each species live only six weeks to mate, lay eggs, and feed their larvae. When the larvae pupate, its parent has

completed its mission and dies. The bee will remain in its pupa until it emerges as an adult the next year and lives for six weeks, raising its young and pollinating flowers.

Bumblebees are our only native social bee, forming small colonies in underground shelters, usually mouse nests. Only the young pregnant queen survives the winter to start a new colony in spring. Bumblebees are superior as pollinators because their furry bodies allow them to forage from dawn to dusk and during inclement weather. They also “sonicate”, i.e., the frequency of their wings’ vibration induces pollen release from a flower, especially members of the tomato family.

Seventy percent of the native bee species build tunnels in bare dirt to house their larvae. The other thirty percent lay their eggs in old trees, primarily in tunnels formed by beetle larvae. Seventy percent of native bees are generalists when choosing a flower; however, about thirty per cent require a specific native plant. For instance, the blue sage bee can only use nectar and pollen from blue sage, AKA pitcher sage (*Salvia azurea*). This common prairie plant blooms with brilliant blue flowers in September, the only time that the blue sage bee is active.

Other Pollinators

Wasps and hornets are not bees because they feed their larvae insects, i.e., meat. But the adults are peaceful vegetarians that act as significant pollinators as they visit flowers to eat the pollen and nectar. Many species are social insects that build paper nests. Yes, they will attack and sting if you threaten their nest, which contains their children, their sisters, and their mother. Would you not fight to defend your family? When foraging, they are not aggressive. You can be the wasp whisperer and easily coax one onto your hand without fear of being stung.

Many species of flies eat pollen and drink nectar. The adorable Syrphid flies evolved as bee-mimics in appearance and behavior. They are active pollinators but have no stinger. Their bee-like striped bodies deter most predators. They can be distinguished from bees in having no antennae and two wings instead of four. The Syrphids lay their eggs on aphid-prone plants like milkweeds. When the larvae hatch they are voracious predators of aphids and other small insects.

FAR LEFT Leaf Cutter bee on Butterfly Weed (*Asclepias tuberosa*). The adults don’t emerge from their pupa until the daytime temperatures are consistently over 85 degrees, so you won’t see them until late August when they emerge for their 6 weeks of life.

LEFT Species of Mason Bees (*Osmia*) emerge in early to late spring, perfect timing for flowers from their preferred family *Roseaceae*, which includes fruit trees. They will readily make their solitary nests in bee houses.

Getting Together Outside: Join the Pollinator Party!

KNPS members are always welcome at Long Lips Farm; however, a special time has been reserved for Mini-AWW attendees on Saturday, June 11, from 8:00 to 11:00 am

Long Lips Farm
27995 Plum Creek Road
Paola, KS 66071
913-284-3360; lenora.longlips@gmail.com.
The farm is 1/2 block south of 68 highway in northwestern Miami County.

See native plants in three settings: A highly managed ornamental garden, a “Prairie Garden” and as a Prairie restoration. A special focus on butterfly host plants has earned Long Lips Farm certification as a Butterfly Garden by the North American Butterfly Association.

The colony of Digger Bees under my porch is active for six weeks from early June to mid-July. You’ll see thousands of bees peacefully digging their burrows and feeding their larvae.

Butterflies and some moths have high energy requirements and visit flowers to drink nectar through their straw-like tongues. In Kansas, hawk moths are the primary pollinators of night-blooming flowers. Beetles are frequently found stumbling about on flowers, simultaneously devouring pollen and mating. They fly from flower to flower searching for mates but carry pollen as they go. Ants act as pollinators when they collect pollen to take back to their nest to feed their larvae. Ants may even protect their flower friend by attacking other insects that try to visit the plant.

Threats to Pollinators

Loss of habitat is accelerating as prairies and wetlands are converted to shopping centers and subdivisions. Herbicides wipe out flowering “weeds”, further reducing habitat. All pollinators are in grave peril from wide-spread use of insecticides. The systemic neonicotinoids pose a special threat since the residues persist in the plant tissue and poison the pollinators that feed on them. Climate change is shifting the range and timing of many pollinators and their flowers. Can they adapt and survive?

How Can You Help Pollinators?

Your garden should contain a multitude of native flowers blooming from early March to late November. Beware of fancy sterile hybrids! Eliminate the use of insecticides. Before purchasing plants, confirm with the seller that no systemic insecticides like Imidacloprid were used. You can also help our native bees by preserving and creating habitat. Leave tree snags and areas of bare ground. Many species will use bee houses, which you can build or purchase.

Humans have a vested interest in protecting pollinators since at least seventy percent of our foods depend on the services of these hard-working insects. It is also our moral duty as stewards of this beautiful planet to preserve the pollinators, and we need to do better.



WILDLIFE FEDERATION



LENORA LARSON PHOTOS



ABOVE, TOP TO BOTTOM As many as 300 species of Halictid or “Sweat Bees” live in Kansas. They are attracted by perspiration and only sting if disturbed.

Hummingbird Moths, AKA, Hawk or Sphinx Moths, are the pollinator for nighttime blooming flowers like Jimson Weed (*Datura*). That tongue is 10 inches long! And its furry body carries pollen as it flies from flower to flower.

Carpenter Bees are our largest native bee and are easily differentiated from Bumble Bees by their shiny black butt. They have two broods so you’ll see them in your garden in late spring and again in late summer.



KANSAS NATIVE PLANT SOCIETY

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University of Kansas
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Lawrence, KS 66047-3729

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MEMBERSHIP APPLICATION AND RENEWAL GUIDELINES

Annual dues are for a 12-month period from January 1 through December 31. Dues paid after December 1 are applied to the next year. Note to new members: the first year of annual membership is effective from the date of joining through December 31 of the following year. See upper right of mailing label for expiration date.

Please complete this form or a photocopy.
Send the completed form and a check payable
to the Kansas Native Plant Society:

Kansas Native Plant Society
R. L. McGregor Herbarium
University of Kansas
2045 Constant Ave.
Lawrence, KS 66047-3729

A membership to the Kansas Native Plant Society makes a great gift for friends and family members. Recipients of gift memberships will receive notification of your gift membership within two weeks of receipt of your check. The Kansas Native Plant Society is a 501(c)(3) non-profit organization. Gifts to KNPS are tax deductible to the extent provided by law.

Kansas Native Plant Society welcomes everyone to join our membership. Read our full Statement of Diversity, Inclusion, and Non-Discrimination Policy on the website, ksnps.org.

MEMBERSHIP APPLICATION/RENEWAL FORM

Member Information

Name _____
Address _____
City/State _____
Zipcode _____
Phone _____
Email _____
County (if KS) _____

Membership Category

☐ Student \$15.00
☐ Individual \$20.00
☐ Family \$30.00
☐ Organization \$35.00
☐ Contributing \$100.00
☐ Lifetime \$500.00

Additional Donation: Legacy Fund \$ _____ Scholarship Fund \$ _____ General Fund \$ _____