



Missouri Native Plant Society Hawthorn Chapter Newsletter

Volume 34, Number 4
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The Hawthorn Chapter of the Missouri Native Plant Society Newsletter is published monthly. Send submissions by the 26th of every month to:

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We would like to read about announcements, impressions, species accounts, photos, poems, links to scientific articles or other creative nature writing **from you, too.**

April 2019

Future Activities Calendar

13 April Sat Bradford Farm Plant Sale 10am – 2pm. This is our largest sale of the year. It is advertised by several entities in several venues. We need many hands from 1 March thru May. Contact Becky for nursery work, Paula, or Louise with questions and offers to volunteer your help.

18 April Thur 11:30 Lunch at RagTag. 10 Hitt St, just south of Broadway

20 April Sat 1 pm: Mosey on Ridgetop Trail at Grindstone. Brian will lead. Meet at Grindstone Park parking lot on Old 63 south of Stadium [across from Moss-Waters City Park]

28 April Sun 10am - 6:30 pm; Earth Day Festival in downtown Columbia. Contact Cindy, Louise, or Becky if you can volunteer that day.

3-5 May State Field trips Read Petal Pusher for all the details.

11 May Sat Garden Festival 10 - 4 at Arrow Rock SP. We need a few who can identify spring flowers and are familiar with the use of Dennison to lead short walks. Connect with Becky or Cindy as soon as you know you can volunteer for the day.

13 May Mon 6:30 pm. UU Church Monday 6:30pm Members Meeting Unitarian Universalist Church, 2615 Shepard Blvd, Columbia. Program Andy Heislet will speak on water pollution, and areas around St Charles which harbor endangered plant species.

16 May Thur 11:30 Lunch at RagTag. 10 Hitt St, just south of Broadway

18 May Sat Bass Pro 10 - 2 Columbia plant sale

19 May Sun, 1pm: Mosey to explore savanna at Big Sky near Wilton. John will lead.

21 May Thur 11:30 Lunch at RagTag. 10 Hitt St.

22 June Sat: State field trips all day just east of Fulton. Details later.



The editor sincerely appreciates Sarah, Nadia and Louise sending articles to me before “the last minute” and for catching a few mistakes.

Your input is important to all of us.

The chapter members rely on each other to share a myriad of information: links to book reviews and scientific articles with cites, original and shared poems with cite, personal stories of experiences in nature, photos to illustrate any of these submissions. We are all educated people who can write a series of sentences to form a paragraph and then two paragraphs. If you enjoy reading the thoughts of others it is best to submit your own thoughts, ideas, opinions, artistic creations.

This is the 34th year Hawthorn has supplied a newsletter to chapter members. Thanks to Doug Miller for keeping the chapter website up to date.



Announcements

At the last meeting a few more issues were resolved: most importantly how often we will hold meetings. Read the other attached document, March Meeting Minutes especially regarding the meeting schedule. Attend the next scheduled meeting 13 May 6:30.

Be sure to open all emails with [NPS] in the subject because it could be about a speaker or an activity coming up that you would be interested in attending.



Lunch at RagTag Thurs 18 April

Meet our group for lunch 11:30 at RagTag, 10 Hitt St [Just south of Broadway]. Last lunch [21 March] was attended by ten members with lively discussions about fungi, seeding, weather challenges and good ideas about future activities. Hope to see you there next time.



True Native Plants for Wildlife

It cannot be said more strongly from all evidence that our bird and insect numbers have declined by close to 50% because of declines in native plant numbers and diversity in the broad landscape. It is up to us to rehab more of our turf lawns to a diverse mix of true native plants. Please corroborate with members of your chapter to ask about the correct sources of native plants. Please purchase true native plants from local native plant nurseries – not Nativars from the big box stores. Hawthorn chapter has a native nursery. Contact beckyerick711@centurylink.net for info.



Be a citizen scientist. Almost half of our scientific data from nature has come from people like you. Learn about collecting bird data [Cornell Lab of Ornithology], plant phenology data [project Bud Burst], bee data & butterfly data [Xerces Society].

Register Your Garden For Monarchs

Sign up your garden as a Monarch Waystation with Monarch Watch.

Insect conservation: Xerces Society www.xerces.org
<https://xerces.org/bringbackthepollinators/>
<https://xerces.org/2018/04/19/tropical-milkweed-a-no-grow/>
<https://xerces.org/2018/04/04/rain-gardens-are-a-win-win/>

Plant identification: USDA plant database

<http://plants.usda.gov>

Grow Native resources: www.grownative.com



New Vice-Prez

Hawthorn has a new Vice President. Nadia Navarrete-Tindall will be taking on the duties primarily of finding speakers for our meetings. And she will take over for the president if she cannot attend a meeting. If you talk to anyone who has an interesting expertise related to soils, wild plants, invasive species control, ecological restoration, , , oh goodness the list is too long – please get their contact info and let Nadia know so she can get them scheduled. We are especially interested in people who have done research. Contact Nadia here:

nativeplantsandmore@gmail.com



LINK UP!!

New links from PCA

□ Alien Plant Working Group has moved the Weeds Gone Wild website to www.invasive.org/alien/index.htm

□ USGS recently published the First Comprehensive List of Non-Native Species Established in Three Major Regions of the United States, the publication is USGS OFR 20181156 and is available online

(<https://pubs.er.usgs.gov/publication/ofr20181156>)

□ North American Pollinator Protection Campaign (NAPPC) is soon publishing this year's pollinator poster – and it's all about endangered pollinators and their habitats! You can soon order copies on the Pollinator Partnership website here <http://pollinator.org/shop/posters>

□ The Pollinator Partnership is proud to announce that June 17-23, 2019 has been designated National Pollinator Week. There will be several events during Pollinator Week held across the country, find an event near you here <http://pollinator.org/pollinator-week> More information about various events will be distributed on the PCA listserv.

□ We encourage PCA cooperators to post meetings, webinars, and research on the PCA listserv as we continue our collaborative mission to protect native plants by ensuring that native plant populations and their communities are maintained, enhanced, and restored. Listserv information can be found at <http://lists.plantconservation.org/mailman/listinfo>

Biota of North America. The distribution maps are fascinating! <http://www.bonap.org/>

iNaturalist is a world-wide site used by 300G people who have made 10M observations. Have a great time exploring!

<https://www.inaturalist.org/>

Nadia's Yard: a blog by Randy Tindall

<http://nadiasyard.com/>

Bush honeysuckle removal – contact Eric Bohle ebohle4@gmail.com

MONPS website www.monativeplantsociety.org



Follow-up to the Moss Mosey Led by Louise 16 March

It felt so-o good to get out for a walk after 4 months of winter. Eighteen members and guests greeted and reacquainted after many months of brutal weather, both hot and cold.

Louise is a completely self-taught bryologist. She was inspired and fascinated by a journal article nearly 3 years ago. Since then she has acquired a microscope, a library of books and other resources, and found people at herbariums to help her identify her collections. Her competent knowledge of the subject on the guided walk was an inspiration to some of the attendees.

Louise offers the following information to answer some of the questions of that day.

I'm happy to hear from you with your moss finds or questions. lflenner@hotmail.com

I had a few requests for more information during our moss mosey. I am including two pictures of the moss garden as originally planted back in March 2017 and as it looked a few months later in May 2017. As you can see, it was quite beautiful, but alas, did not survive. I felt less like a failure when I learned that the one planted at Missouri Botanical Gardens also did not survive. I experimented with planting both on the weed mat and on the ground. Had more success with the mat.

Some of you were trying to take notes of the various mosses and that got to be difficult. So here is a list of some of the mosses we saw.

Naturally occurring under shingle oak:

Atrichum angustatum (slender starburst moss) We saw lots of this along the trail in mounds usually.

Anomodon attenuates (tree apron moss) Saw this at parking lot and often on trees and in soil along the trail

Ditrichum pallidum (saffron moss) Soft moss under the shingle oak in my yard

Planted in my moss garden or found in the woods:

Entodon Seductrix (cord glaze moss) Also seen growing on the logs and rocks of the old homestead at Rockbridge.

Dicranum scoparium (windswept broom moss) All the leaves look blown to one side.

Rhodobryum ontariense (rose moss) We saw it at the end of our walk growing on the ground in several spots. Looks like an open rose. Only one of this genus in Missouri.

Climacium dendroides (palm tree moss) In garden, tall moss that looks like a palm tree.

Plagiomnium cuspidata (baby tooth moss) The one that grows on my place and has taken well in the moss garden. Leaves are rounded like small baby teeth.



Thuidium delicatum (delicate fern moss) stems look like ferns. Was growing well under the cedar trees in the woods.

Grimmia pilifera (hoary cannikin moss) dark moss growing on the rocks. Has white hairs.

We also saw a lichen with beautiful red tops growing on a twig. That was British soldiers (*Cladonia cristatella*)

Hopefully this gives you a start on identifying the mosses that grow in this area.

Some books of interest:

[Common Mosses of the Northeast and Appalachians](#) (field guide) by McKnight, Rohrer, Ward, and Perdrizet.

[Gathering Moss, A Natural and Cultural History of Mosses](#) by Kimmerer.

[Moss Gardening, Including Lichens, Liverworts, and other Miniatures](#) by Schenk.

[The Magical World of Moss Gardening](#) by Martin.

Link (old but free) to a book of moss ID called [Mosses with a Hand Lens](#):

<http://www.biodiversitylibrary.org/item/114835>



Above: Louise's moss garden 21 March 2017

Below: Louise's moss garden 9 May 2017



The Botany of Hoary Puccoon

Text and photos by Sarah J MacDonald PhD



My parents purchased some land in the Ashland area over a year ago now and I was very excited this past spring to find out what plant species it held. I was stunned to find several I had never seen in real life before. We have seen early blooming *Erythroniums* and lovely Bloodroots as well.

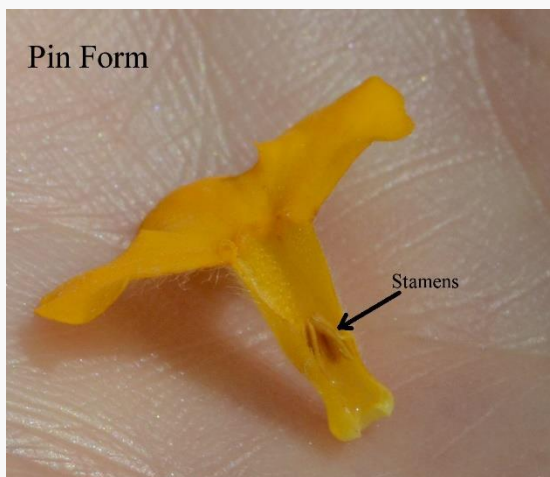
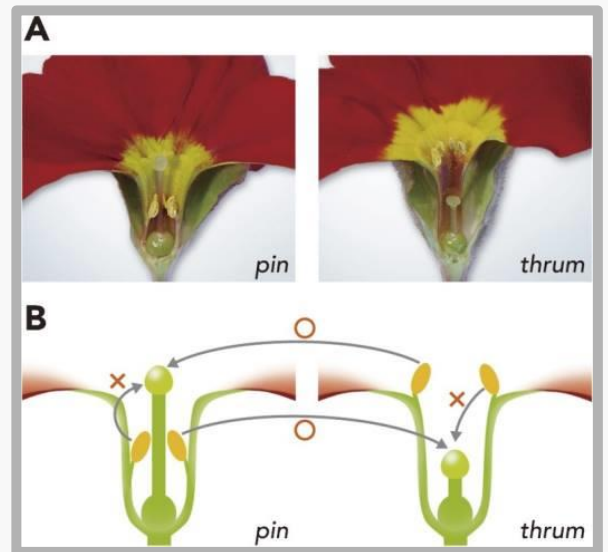
One of the species that was new to me I had only learned about through the Missouri Native Plant society's Facebook group. This plant is Hoary Puccoon, scientific name *Lithospermum canescens*. It is truly a contender for most interesting plant common name. Hoary refers to hoar frost which describes the white hairs often found on this species. Puccoon is a term for a dye plant as Native Americans once used the roots for a red dye. Unfortunately it is no longer common enough to be harvested for this purpose.

This species is small and showy but extremely difficult to propagate artificially. Collected seeds rarely germinate and those that do so often fail to thrive. Because of this it occurs only in areas not overly damaged by human disturbance. Since this plant enjoys bright sunlight it is often found in prairies or other habitats with open spaces.

As a scientist I discovered all of this by reading published papers and other articles about the plant. During my search, I stumbled across information that brought back my basic botany course. Hoary Puccoon is one of the few plants that exhibits something called heterostyly. It sounds like a horrible word but it means that plants of the same species produce flowers that are quite different in the arrangement of their reproductive parts. The function of this structure is to help promote cross pollination. One form is called Pin with a longer style tipped by a stigma (female parts) than the stamens (male parts) which are near the bottom. The other form is Thrum with stamens close to the top of the flower and the style much shorter. Plants that produce Pin flowers can only pollinate Thrum and vice versa. I found both Pin and Thrum variants on my parent's property.

Figure 1 below is a diagram of Pin and Thrum flowers.

You can imagine the tubular tongue of a butterfly matching up with the yellow stamens of the Pin to meet the receptive stigma of the Thrum. Similarly the higher stamens of the Thrum match quite nicely with the long style and stigma of the Pin flower. This matching is also not just for improved pollination. An individual plant will only produce either Pin or Thrum flowers for its entire life. It is in a sense a "gender" even though both types produce both male and female reproductive structures. This is important since Pin and only be pollinated by Thrum and vice versa. A stand of Hoary Puccoon that is only Pin or Thrum will not be able to produce seeds.



<<< Figure 2 shows the floral tube of the Pin form of Hoary Puccoon, with stamens on the bottom of the tube

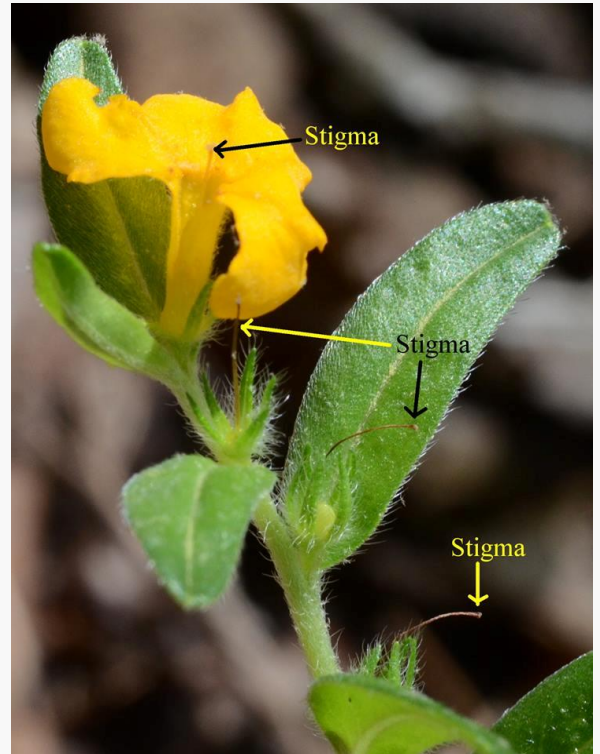
>>>Figure 3 shows the stamens near the top of the flower in the Thrum form.





<<<Figure 4 Shows the short stigma and style of the Thrum form.

>>>Figure 5 shows the very long stigmas of the Pin form of Hoary Puccoon.



Editor's note: I had this extra space and couldn't resist including an email I got thru PCA last week
 Native Plant Conservation Campaign News: **Research confirms that green spaces and natural areas are good for our health!** March 26, 2019

We have yet another reason to advocate for conservation and restoration of native plant communities and for establishment of native plant communities within cities. **Studies have found that growing up around natural areas and green spaces significantly lowers mortality rates and protects against mental illness.**

[A 2016 Harvard School of Public Health study](#) found that living among green spaces and natural areas reduces mortality. Researchers looked at more than 100,000 women participating in a nursing industry survey. During an eight-year study period, there were fewer deaths among women who lived in the greenest surroundings—their mortality rate was 12% lower than those living in homes in the least green areas. Mortality rate is a measure of the number of deaths in a particular population for a specific period of time. The authors speculated that improved mental health and air quality contributed to the findings.

Mental Health

[A new study](#) from Aarhus University, Denmark, published in February 2019, used satellite data to map the green spaces around the childhood homes of more than one million Danes. They reported that children who grow up with greener surroundings have up to 55% less risk of developing various mental disorders later in life.

The authors pointed out that this knowledge has important implications for sustainable urban planning. Not least because a larger and larger proportion of the world's population lives in cities.

"The coupling between mental health and access to green space in your local area is something that should be considered even more in urban planning to ensure greener and healthier cities and improve mental health of urban residents in the future," said co-author Professor Jens-Christian Svenning from the Department of Bioscience, Aarhus University.

[An earlier study](#), published last year, examined teen depression with similar but less dramatic results. Harvard School Of Public Health researchers studied more than 9,000 teenagers who were participating in a broader study on health issues. They also used satellite imagery to map the teens proximity to green spaces. They found that teens living near the highest-quality green space were 11% less likely to be depressed than their peers who lived around the least amounts of lush greenery. The link between green space and lower odds of being depressed was strongest among middle schoolers.

All three studies controlled for factors such as socio-economic status which also influences health.

NOTE: Locally adapted native plants require less water, chemical inputs, and maintenance than non native plants when used to expand green areas in cities. They also support local birds, pollinators and wildlife!

[Read more about the Harvard mortality study](#)

[Read more about the Harvard depression study](#)

[Read more about the Danish mental health study](#)

Please Step Forward For Service

Please contact one of the officers ready to volunteer a little time to a very good environmental and educational service. We need people to serve as officers, to grow plants for fundraising and we need people to man our information booth at events such as Earth Day and Bradford Plant Sale. If you get this only by mail, please consider requesting email delivery; it saves us money.

___ Regular (\$16.00)*

___ Student (\$11.00)

___ Contributing (\$26.00)* designate chapter or state

___ Paper postal service (\$10)

___ State Lifetime (\$200)

___ Chapter Lifetime (\$120 – you must also be a member of the state organization to utilize this option)

___ Chapter only (\$6.00 – this is for members who already belong to State and another chapter).

*Includes both Chapter (\$6) and State (\$10) dues.

Make check payable to: **Missouri Native Plant Society.**
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MEMBERSHIP FORM

Missouri Native Plant Society-

Hawthorn Chapter

July 1 through June 30. Dues are Due NOW!

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(circle preference) **Email** **Regular mail**

As of July 2015 edition of the Petal Pusher printed on paper, sent by post, will cost an additional \$10 more than standard membership. Email delivery brings you color photos and it saves NPS money. With email delivery you also receive updates and announcements between newsletters. Regular Mail includes NO interim updates or reminders without request for phone contact.