December 2021

Volume 34, Issue 3



Inside this Issue:

LNPS 2022 Annual Meeting	1-3
Annual Meeting Registration Awards	4
Plant Identification in Our Area	5-8
Emerald Ash Borer (EAB) in Louisiana	9-10
Restoring Bird Habitat on the University of New Orleans Campus	11
Establishment of the Loice and Cecil Kendrick Garden, Homer, LA	11-12
2021 LNPS Grant Awardees	13

 To preserve and study native plants and their habitats 14

LNPS Notices

- To educate people on the value of native plants and the need to preserve and protect rare and endangered species
- To promote the propagation and use of native plants in the landscape
- To educate people on the relationship between our native flora and wildlife

LOUISIANA NATIVE PLANT SOCIETY



LNPS 2022 ANNUAL MEETING

February 4-6, 2022, Wesley Center, Woodworth, LA

Friday, February 4, 2022

(Snacks will be provided.)

5:30pm—6:00 pm Registration

6:00pm—6:50 pm Scanyl Matusicky, LSU student and LDWF Intern. *Incite Into Coastal Prairie Marais Floristics*

6:50pm—7:35pm Andre Buderi, ULL PhD candidate, *Grassland Pollinators*

7:40pm—8:30pm John Michael Kelley, Southeastern Grasslands and Caddo Parish Parks, *Calcareous Prairies in Louisi*ana

Saturday, February 5, 2022

7:30am Registration

7:00am—8:30am Breakfast in the Dining Hall.

8:30am—9:20am Phyllis Griffard, Biology Educator, and Tammany Baumgarten, Licensed Horticulturist, *The Louisiana* Certified Habitat Program

9:30am—10:20am Christen Steele, Tulane University, Tropical Milkweed and It's Potential Impact on Monarch Butterfly Populations 10:30am—11:20am Cindy Brown, Executive Director, Land Trust for Louisiana Conservation Efforts and Successes

11:20am—12:00pm Business Meeting

12:00pm—1:00pm Lunch

1:00pm—2:30pm Stephen Bost, Ozark Chinquapin Foundation, Ozark Chinquapin Conservation and Status

2:40pm—4:30pm Plant Auction in the Meeting Room

4:30pm—6:00pm Local Hike (TBD)

6:00pm—7:00pm Dinner in the Dining Hall

7:00pm Campfire

Sunday, February 6, 2022

7:30am—8:20am Breakfast in the Dining Hall

8:30am Meet in the front entrance of Wesley Center for morning field trip hike in the woods (location TBD)

REGISTRATION FORM

LNPS Annual Meeting, February 4-6, 2022

Wesley Center, 2350 Methodist Parkway, Woodworth, Louisiana 71485

REGISTER by JANUARY 21, 2022 at <u>REGISTRATION | Wesley Center (thewesleycenter.com)</u> or return PRE-REGISTRATION FORM below. All registrations must be received by January 21, 2022!!. After this date, please call the office for Late Registration. Roseanne Borland can be contacted directly at the Wesley Center by calling 318-449-4500 Ext. 0 between the hours of 9am till 4pm or by email at rborland@thewesleycenter.com.

Name			
Address			
City, State, 2	Zip		
Cell:	Email:		
Emergency	Contact: Name	Phone:	
	TICIPANTS – for those who will be coming on F	riday and/or Saturday and	will not be staying
the night:	No meals		\$11.00
		@ \$11.00ea	<u>"</u>
	•	@ \$14.00ea	\$
	Saturday Dinner	@ \$16.00ea	\$
ONSITE L	ODGING and meals – for those who will be stay.	ing the night	
Priv	ate Room:		
	Friday and Saturday nights, includes all meals	@ \$270.16ea	\$
	Friday night, includes all meals	@ \$161.08ea	\$
	Saturday night, includes all meals	@\$161.08ea	\$
Dou	able Occupancy Room:		
	Friday and Saturday nights, includes all meals	@ \$192.14ea	\$
	Friday night, includes all meals	@ \$122.07ea	\$
	Saturday night, includes all meals	@ \$122.07ea	\$
Trip	ole Occupancy Room:		
	Friday and Saturday nights, includes all meals	@ \$176.54ea	\$
	Friday night, includes all meals	@ \$114.27ea	\$
	Saturday night, includes all meals	@ \$114.27ea	\$
		TOTAL	\$

NOTE: All rates are per person. If you are booking double or triple occupancy please include all parties names and include payment for all parties or send in a separate reservation form for each party indicating who your roommate(s) will be. Space is limited; therefore early bookings will guarantee a room.



Driving Directions to the Wesley Center 2350 Methodist Parkway - Woodworth, Louisiana 71485

The Wesley Center can be easily reached either from Highway 165, which runs through Woodworth north to Alexandria. Or it can be approached from I-49.

From Hwy 165 north of Woodworth, turn east on Coulee Crossing Road. Then turn east again onto Methodist Parkway and into the Methodist Conference Center.

From I-49, take exit 73 onto LA 3265 West. At the first cross street, turn right onto Coulee Crossing Road. Continue on Coulee Crossing Road and turn left onto Methodist Parkway and into the Methodist Conference Center

ANNUAL MEETING REGISTRATION AWARDS

The Louisiana Native Plant Society is offering four awards for the February 2022 annual meeting. The awards will include lodging and meals for **one** night/day for high school or college students and beginning landscaping/horticulture/environmental professionals. In order to receive one of the four awards, applicants must submit the following application by January 7, 2022 by emailing lnpsinbox@gmail.com. Selection will be made based on need and involvement/interest in native plants.

Name
Address
City, State, Zip
Email and cell phone:
School Affiliation, Job title, Company, and/or organization (describe your activities, length of service)
Describe your interest in LNPS and financial need. How will attending benefit your professional efforts or program of study?:
List any relevant organizations or community groups that you are a part of:

Plant Identification in Our Area

By Dr. Charles Allen; native@camtel.net; 337-328-2252

Today, the identification of plants and other living organisms has gotten much easier with the advent of the artificial intelligence programs, with most available as apps on phones. Perhaps the most famous is iNaturalist, but there are other programs like PlantNet, PlantSnap, PictureThis, FlowerChecker, Garden Compass, Agrobase, and Plantix. There are other plant ID programs and also many for the identification of other living organisms. Most, if not all of the apps, work by matching your picture with online pictures; in other words, matching pixels in pictures. These programs search the internet for matching pixels and are a great leap forward in ID. However, these programs do not take into account the characteristics that are used to ID plants. I was recently at a nature walk and was asked to identify plants and a guy had one of these apps on his phone and kept asking how I knew the plants as my plant name would match the name he was getting with his id app. I told him that somewhere out there in the internet world, someone had to identify the plant pictures that are used for identification on his app.

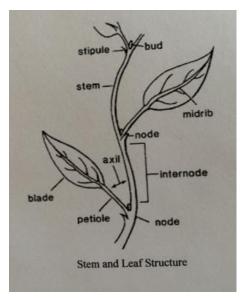
I recommend that you use the apps to get an ID if you do not recognize the plant or to double check your ID. But, keep in

mind that the apps make mistakes and sometimes are not able to ID all species; so knowing some of the basic characteristics used to ID plants is important. You can then double check the app's ID and perhaps ID some plants without the app.

The identification of any of nature's wonders: birds, butterflies, moths, beetles, bees, fungi, lichens, mosses, algae, and even plants requires that first you learn the words (glossary) used to describe and identify the organisms of that particular group. I can remember now when one of my plant id teachers (the late Dr. William Reese) tested students on words in the glossary. He would announce at the beginning of the course that the first third of words in the glossary could possibly be on the first exam, the second third on the second exam, and the last third on the third (final) exam. In many (and perhaps most) cases, a person stumbles into the identification of a group of organisms blindly. I raise my hand as that is what I did with moths, a very large group of insects. Now, I know what the "costa", "AM and PM lines", and a few other terms used in moth identification mean. I still have a long way to go before I feel confident in my moth id.

The leaves are very important in plant identification. I will include labeled pictures and/or line drawings of most of the terms that I use in the following discussion and you should

google and get additional images of these terms. First, the point on a stem where the leaf is produced is called the **node**, and at every

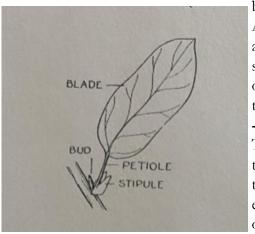


node there is at least one leaf and one lateral bud. More about the number of leaves and buds per node later. Each lateral bud has the potential of growing into a branch or lateral stem but not all do. There are other buds including the terminal bud located at the tip of the main stem and at the tip of each lateral branch. Buds that can produce flowers may also be present. One more word, the **internode** is the distance along the stem between two nodes.

The leaf is made of three parts, blade, petiole, and stipules; but note, a few plants do not have petioles and quite a few do not have stipules or the stipules are short lived. The blade is the green

Plant Identification in Our Area cont.

flattened part of the leaf and is connected back to the stem by the stalk called the **petiole**. In a few leaves, the petiole is absent and this leaf is said to



be **sessile**. A leaf with a very short petiole is often termed **sub**-sessile.

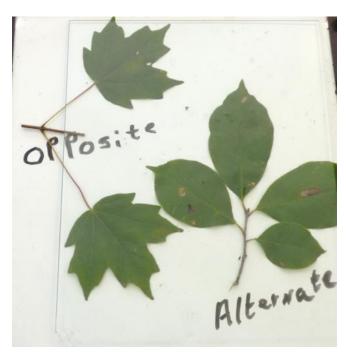
There are two plants that have edible petioles, celery and rhu-

barb. The third leaf part, the **stipules** are paired structures (always two of them) that are located on the stem at the base of the leaf (petiole). Many plants do not have stipules and the stipules in some plants fall off the plant quickly but often leave a stipule scar behind. A good example of stipules can be seen in garden or green pea plants where there are two large green ear-like structures that are the paired stipules. Magnolia and yellow poplar (both in the Magnoliaceae, Magnolia family) have **stipular ring** scars on the stem. Members of the smartweed family (Polygonaceae) have stipules that are fused into a structure called the ocrea. In some plants (example black locust), the stipules are modified into pointed prickly structures called spines.

The three most important leaf characteristics for identification are (1) the arrangement of the leaves, (2) the major veins in the blade, and (3) the kind of leaf. In these three characteristics, one of the choices is often a lot more common than the other(s). I like to think of 80% and 20% where one characteristic is more common and is seen in about 80% of plant species and the other charac-

teristic is only seen in about 20% of the plant species.

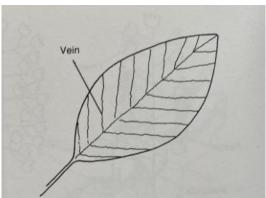
The **arrangement of the leaves** is probably the most important one to look for and is probably the easiest to recognize. Remember the node mentioned earlier; the number of leaves at a node is called the arrangement. Most plants (80%) have one leaf per node and this is called alternate. The leaves do alternate from one side of the twig to the other. Just about any tree that comes to mind has alternate leaves including willow, oaks, black cherry, persimmon, hickory, mulberry, sweet gum..... A few plants produce more than one leaf per node and this would fall into a 20% category. The most common of the more than one leaf per node is with two leaves and this is called opposite. Three common trees are noted for having opposite leaves; maples (Acer), dogwoods (Cornus), and Viburnum. A very few plants have more than two leaves per node and this is termed **whorled**. Catalpa is an example of a whorled leaved woody plant and bedstraw



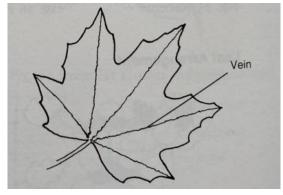
Plant Identification in Our Area cont.

(Galium) is an herbaceous plant with whorled leaves.

Another important leaf characteristic is the number of major veins located at the base of the blade or leaflets, this will be defined shortly. The most common (80%) category is **pinnate** major veins with one major vein. That major vein is called the midrib (more later). Examples include willow, oaks, black cherry, magnolia, persimmon... The other category (the 20% one) is palmate, defined as more than one major vein and usually an odd number, especially three or five. Maple, mulberry, sweet gum, and sycamore are noted for having palmate major veins. Another example is the original clothing store, the fig tree. Note how these leaves are wide. Hackberry or sugarberry (Celtis) is noted for being the narrowest



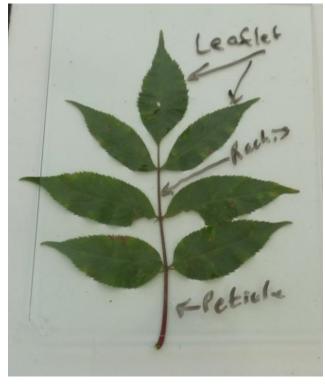
Pinnate major veins



Palmate major veins

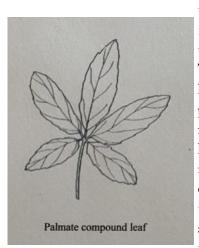
blade with palmate major veins. A NOTE: Before we go to compound leaves, it seems to me that all leaflets of compound leaves have pinnate major veins. Also, I cannot find an evergreen plant with palmate major veins.

The third characteristic is the most difficult to determine and it is the **kind of leaf**, **simple** (80%) or **compound** (20%). A simple leaf is one where the blade is not divided into smaller segments. Examples include willow, oaks, black cherry, persimmon, mulberry, sweet gum, maple, dogwood, viburnum, catalpa, buttonbush... The contrast to a simple leaf is a compound leaf where the blade is divided into smaller segments, each called a leaflet. A simple leaf evolved into a compound leaf and this can be demonstrated with a pair of scissors where you can cut up the blade of a simple leaf into segments or leaflets and create a compound leaf. There will be a lateral bud at the base of the leaf whether it is simple leaf or a compound leaf. Leaflets do not have lateral buds



Plant Identification in Our Area cont.

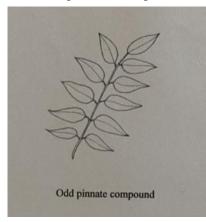
so that is one way to recognize a compound leaf; a compound leaf will have several green structures (leaflets) above the lateral bud but a simple leaf will have only one green structure, the blade above the lateral bud. The other way is that all the leaflets of a compound leaf will be or can be flattened in the same plane. Remember that simple leaves changed into compound leaves when the blade became more than one leaflet. Also, there are two major kinds of compound leaves, the pinnate compound and the palmate compound. Thus, a pinnate compound leaf originates from a simple leaf with pinnate major veins and a palmate compound from one with palmate major veins. The leaflets in a palmate compound leaf all arise at the same point and there is no rachis (see below). The leaflets in a pinnate compound leaf are scattered along the rachis. The petiole is still present in a compound leaf and is



the stalk that runs from the stem to the first leaflet(s). The stalk of a leaflet is termed a petiolule. The midrib from the simple leaf becomes the rachis in a pinnate compound leaf and thus the leaflets are attached to it via the petiolule. Pal-

mate compound leaves do not have a rachis and the petiolules of the leaflets are attached to the end of the petiole. Buckeye is a good example of a woody plant with palmate compound leaves. There are more variations possible in the pinnate compound leaf; some plants have pinnate compound leaves with a terminal leaflet thus having an odd number of leaflets and others do not have the terminal leaflet and thus an even number of leaflets. Ash and hickory have odd pinnate compound

leaves and black walnut has even pinnate compound leaves. The leaflets of pinnate compound leaves can be cut up into leaflets to create a two-pinnate (bi-pinnate) compound leaf or these leaflets could be cut up also and create a three-pinnate compound leaf. Some



woody plants with two or three pinnate (tri-pinnate) compound leaves include devil's walking stick and peppervine. Also note that poison ivy is a compound leaf with three leaflets and botanists wish that the saying "leaves of three, leave it be" were more accurate and educational: "leaflets of three, leave it be". And, you are actually looking for a four leafleted clover and not a four leaf clover as clover is a compound leaf with typically three leaflets.

Dr. Charles Allen, PhD. Botanist Extraordinaire. Retired from University of Louisiana at Monroe and University of Colorado. Has been teaching folks about plants for the last 50 plus years.

Emerald Ash Borer (EAB) in Louisiana

By Chris Doffitt & Wood Johnson

Emerald Ash Borer (*Agrilus plannipennis*), often referred to as EAB, is a species of beetle native to Northeast Asia that feeds on species of ash trees (*Fraxinus* sp.) and their relatives. This nonnative species likely arrived in the United States by stowing away in wood packing materials arriv-

ing in shipments from other countries. Populations in the United States were first discovered in Southeast Michigan in 2002. Since that time, this exotic pest has been responsible for the destruction of tens of millions of trees in more than 30 states. This species was first officially detected in Louisiana in Webster Parish in 2015, and by 2021 EAB had been documented from an additional 14 parishes, including Bienville, Bossier, Claiborne, Caddo, DeSoto, Jackson, La Salle, Lincoln, Morehouse, Natchitoches, Ouachita, Red River, Union, and Winn. The presence of this species in Louisiana has the potential to have notable detrimental impacts to bottomland hardwood forests, which contain a significant component of Green Ash (Fraxinus pennsylvanica). Additionally, EAB has recently been discovered attacking White

Fringetree or Grancy Greybeard (*Chionanthus virginicus*), which is primarily an upland species and is frequently planted as an ornamental. While some White Fringetree mortality may occur, the species is a less preferred host.

One of the primary means of dispersal for EAB is through the movement of firewood or other ash wood products. It can also be spread though planting of infested ash trees, packing materials, and other woody debris and trimmings including wood chips. One of the ways that you can help reduce the spread of EAB is by not moving firewood – "Buy local, burn local." Also, inspect any ash trees on your property for tell-tell signs in-

cluding yellow, thin or wilted looking foliage; unusual presence of woodpeckers and pecking holes; characteristic "D"-shaped exit holes in the bark; shoots growing from the roots; or a tree with unusually larger than normal leaves (Figure 1). Adults of this species of beetle are



Figure 1. Typical D-shaped exit hole characteristic of Emerald Ash Borer on an infected Green Ash tree and a close up of an exit hole

easily recognized by their distinctive shape and iridescent green coloration (Figure 2). However, it might not be



Figure 2. Adult Emerald Ash Borer. Photo by David Cappaert bugwood.org.

Emerald Ash Borer (EAB) in Louisiana

cont.

easy to locate adults. If you have a tree that has died, and you suspect EAB, you can peel the bark back and look for the characteristic serpentine larval gallery just under the bark (Figures 3 & 4). No other pest of ash constructs this distinctive gallery pattern. Note, however, that in a heavily infested tree (usually near death) larvae compete for resources, and galleries may not conform to this pattern.

No economical measures are available to forest managers for protecting trees on a landscape scale. However, individual, high value trees can be protected for up to two years using a variety of approved insecticides before requiring retreatment. It can take three or more years for large ash trees infested with EAB to die (hence EAB may be present for years before trees show symptoms), and EAB are difficult to detect using traps. Instead, one should begin protection measures for such high value trees while they remain healthy and when EAB are known to be within 30 miles of your location. Contact your local LSU Parish Extension Agent for more information on treatment options.



Figure 3. Serpentine galleries of the Emerald Ash Borer.
Photo courtesy of Wood Johnson.

Chris Doffitt is the Botanist/Natural Area Registry Coordinator, Wildlife Division for the Louisiana Department of Wildlife and Fisheries, Pineville, LA.

Wood Johnson is an entomologist with the U.S, Forest Service Pineville Research Station.



Figure 4. Emerald Ash Borer larva. Photo courtesy of Wood Johnson.

What's Happening in Your Neck of the Woods

"Restoring Bird Habitat on the University of New Orleans Campus"

By Wendy Rihner

An important eco-restoration project on the campus of the University of New Orleans kicked off in early November. This project, the UNO Urban Birding Trail, will establish a mile-long urban birding corridor with the help of a grant awarded to UNO by the National Fish and Wildlife Foundation. On the first Saturday in November, volunteers from the Native Plant Initiative of Greater New Orleans, the Orleans Audubon Society, Master Naturalists of NO, and members of the community worked alongside faculty and students to carry out the project's first stage: removal of invasive tree saplings from a small woodlot (Camphor, Tallow, Chinese Elm, etc.) to make room for native species. The small woodlot is one of two sites (both totaling four acres) designated for replanting.

Tammany Baumgarten, President of the Native Plant Initiative, documented quite a few native species already growing in the woodlot: Black Cherry, Cherry Laurel, Live Oak, Water Oak and Slash Pine, just to mention a few. In the next few months, NPI will determine which native tree and shrub species will be planted in the two sites.

To date, 130 species of birds have been documented on campus. With the addition of the birding corridor, UNO will not only help birds, but it will educate the public on the importance of native plants for birds.



"Establishment of the Loice and Cecil Kendrick Garden, Homer, LA"

By Pat Bates

The Loice and Cecil Kendrick Native Plant Garden in Homer, LA was initiated in 2021, thanks to a \$500 grant from Louisiana Native Plant Society (LNPS).

An art and music show honoring the Claiborne Parish Timber Ridge Boys' and Girls' Club, along with a garden tour, was our first special event. Located next to a historic site listed on the national register and known first as the PanAm Filling Station (ca 1920), our native plant garden is immediately behind the station and is on North Second Street beside the former Torbet's Feed and Seed Store. For interested visitors wanting directions to the site, contact Pat Bates, Master Gardener, pbates@lsus.edu.

Bill Fontenot's *Native Gardening in the South, 2nd Edition*, and the Fontenot lectures at LNPS annual meetings have guided initial plans. Phase I has included site and soil analysis, hardscape and garden design, and initial installation. The soil, common to the Homer area, is mainly clay and iron ore rock and has required the amendment of a loam and sand mixture. Hardscape features, either already

installed or nearing installation, include a wrought iron decorative marker, two metal benches donated by inmates at David Wade Correctional Institution, metal trellises. and a winding brick path.



What's Happening in Your Neck of the Woods cont,

"Establishment of the Loice and Cecil Kendrick Garden, Homer, LA" cont.

A central feature of the landscape is a circular rain garden containing yellow iris, a Red Oak sapling, a native Yaupon, and a variety of herbs (nonnative), Purple Coneflowers, and Black-eyed Susans around the perimeter. Saplings located near corners of the main garden include a Female Fringe tree (Grancy Graybeard) now bearing fruit, a Pawpaw, a Sassafras, and a White Oak. In laying out the landscape and winding brick path, we have been led by Fontenot's reminder that nature doesn't like a straight line.



Carolina Buckthorns, Sycamores, native Persimmons, and an American Beautyberry (French Mulberry) along with Sweet Violets, Mist Flower, and Smart Weed will be planted in due season. Plants already in the ground and

those now in the home nursery have been chosen for a three-fold purpose: 1.) to fulfill the overarching aim that ³/₄ of the entire garden is native, qualifying it for a Louisiana Certified Habitat status; 2.) to provide food, nectar, and shelter especially for birds, pollinators, and humans; and 3.) to have a teaching garden with something in fruit or in bloom, attracting visitors interested in learning about landscaping with natives. An informational brochure will be prepared, and docents will be trained to lead tours at designant contents.

nated times, but the garden will be open to the community at all times.

Phase II of development will include additional plantings and other hardscape features such as bistro lighting and elimination of nonnative Mimosa and Chinaberry. A well-established nonnative Bradford pear will remain to provide a woodland habitat for the Sweet Violets and nesting Bluebirds. Phase III will include a courtyard garden to be installed adjacent to the historic filling station structure once it is restored.

In closing, I'd like to quote Bill Fontenot regarding the case for using native plants—a quote to be used in our brochure: "First, from an economic standpoint, natives represent a longterm investment that can only increase in value as time goes on. Obviously natives are naturally hardier and more disease resistant due to millennia of local adaptation and natural selection. Local climatic quirks involving extremes in precipitation, temperature, and humidity are easily handled by natives, whereas many exotics may become weakened or 'set back,' and thus more susceptible to disease and insect problems. Too, natives require less maintenance in order for them to thrive. As a result, natives, when properly selected and properly sited, normally live longer and look better (without chemical aid) than their exotic counterparts" (12 Native Gardening in the South).

2021 LNPS Grant Awardees

By Jacalyn Duncan

A 2021 student grant in the amount of \$500 was awarded to **Kimberly Hamm, University of Louisiana at Lafayette**. Her area of interest is pollination ecology. Her research seeks to understand the effects of urban warming on plant-pollinator relations. She will choose six native plant species and five native bee species to compare pollination services on an urban-rural temperature gradient. Her hypothesis is: as urbanization and temperature increases, there will be a decline in bee abundance and a decline in pollination services resulting in pollen limitation and reduced fruit and seed set.

A 2021 organization grant in the amount of \$500 was awarded to **Native Plant Initiative (NPI) of Greater New Orleans**. Theirs is an ongoing project involving the Rosa Keller Library and Community Center where a mini-prairie and a storm water management demonstration garden have been installed. NPI has coordinated efforts with the local Master Gardeners and with the Orleans Parish Department of Parks and Parkways. Because this location has a high frequency of visitors, there has been much interaction with the public and involvement with the librarians. Increased signage, QR coding, and maintenance continues to be needed.

A 2021 organization grant in the amount of \$500 was awarded to **Shreveport Green Urban Farm**. Shreveport Green is a nonprofit organization dedicated to promoting a healthy, sustainable, and economically vital community through public outreach, community enhancement with a specific respect for the natural and built environment. Their project includes the development of native pollinator areas within the Urban Farm for the mutual benefit of both the farm crops and the local bird, bee and insect populations while serving the dual purpose of informing the community of the importance of native plants.

LNPS NOTICES

- 1. **WEBMASTER** The LNPS webmaster position remains vacant. If you would like to volunteer for this position or know someone who is willing to help out, please contact LNPS by email lnpsin-box@gmail.com. LNPS has completed the contract for a newly designed website. The new webmaster would be responsible for posting updates to the website.
- 2. 2022 ANNUAL MEETING. Register for the 2022 Annual Meeting scheduled for February 4-6, 2022 at REGISTRATION | Wesley Center (thewesleycenter.com) I know I missed seeing everyone this past year because of the COVID pandemic. I looked forward to seeing you next year.
- 3. If you are interested in the **Louisiana Certified Habitat Program**, please email louisianacertifiedhabitat@gmail.com for more information and to receive the application.
- 4. NOLA BugLady, Linda Auld, is announcing the **Monarch Citizen Science 2022** project which continues the 5-year studies of Tulane University's Christian Steele. This research will promote a better understanding of the OE issue by further monitoring the fluctuations of the protozoan parasite in the New Orleans metro area and hopefully help answer the question of "Where do these raised-incaptivity butterflies go when they are release?" More information will be available at the winter meeting or contact Linda Auld at thisauldhouse@bellsouth.net or 504-421-8285.

Or, memberships and donations may be paid online at:

www.lnps.org