

The Maine Entomologist

A forum for students, professionals and amateurs
in the Pine Tree State

The Official Newsletter of the Maine Entomological Society

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PRESIDENT'S CORNER



BY HILLARY MORIN PETERSON

Dear MES Members,

I am now back from my maternity leave from both work and MES.

What a wonderful time it has been transitioning into motherhood. I had no clue how differently I would see the world before and after this transition. I have also found a new strength within myself to do whatever is needed for my little one to get the best care possible, something I think many insect parents also have found within themselves too.

When I was at the University of Maine, I was lucky enough to receive a copy of "Dame Bug and Her Babies" written by Edith Patch in 1913. It sat unread until last month, when I started to read it to Louis, and I was immediately charmed by her many stories of motherhood in the insect world.

Being a parent or caregiver is a beautiful privilege and responsibility - and it is fun to reflect on the diverse ways that insects are caregivers for their offspring. From those who provision food in a multitude of creative ways; be it beetles on dung, wasps on parasitized spiders, or parasitoids ensuring eggs are laid within another organism for their bundle of joy to devour; to more specialized care within the social insects to earwigs guarding their young for months at a time. Here is a shout out to the parents, aunts, uncles, grandparents, and other caregivers out there who have raised young - humans and other critters alike!

As a side - Louis loved his first MES event (see photo below)! - Hillary



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Special Prices on 2022 M.E.S. Birthday Shirts!

Check out the insert in this newsletter for special discounted prices on the 25th M.E.S. birthday shirts. The T-shirts are available in blue or green, sweatshirts just in blue. The insert also has the option of renewing your membership for 2023, should you want to take advantage of an early chance to avoid the rush! 😊

**Agenda for Annual Meeting
8 October, 2022**

Treasurer's Report

Audit Books

Minutes of 2021 Annual Meeting

Election of MES Officers for 2022

- President
- Vice-president
- Treasurer
- Secretary
- Two Members-at-large

Update on Facebook and Web Activity

Reflection on MES 25th Anniversary Celebration

Activities 2023

Hillary to discuss new planning system

For sure

- Winter workshop January
- Work day(s) at ME State Museum annex
- Maple syrup and insects March
- Annual Meeting October

Possible other activities

- Insect Pinning Workshop
- Writing workshop (previously postponed due to Covid) – poetry, articles, journal

Sharing insects events

Other

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**Endangered, Threatened, or Special-Concern
Insects in Maine**

The decline in populations of Monarch butterflies is well-known throughout the entomological community, and generally among the population at large. But did you know that there are 61 other insect species listed as endangered, threatened, or of special concern in Maine? Two species with historical records in Maine, the Rusty-patch bumblebee and the American burying beetle, are now listed on the federal Endangered Species list.



Nicrophorus americanus, the American burying beetle. Size is well over 1" long, and unlike other members of the genus in North America, the pronotum is red, not black. - Image from https://en.wikipedia.org/wiki/Nicrophorus_americanus

Additional species listed as endangered in Maine include one tiger beetle, five butterflies and one dragonfly. Threatened species include two mayflies, two dragonflies, three butterflies and two moths.

Those of special concern include one mayfly, four bumblebees, thirteen butterflies, seven moths, six damselflies, twelve dragonflies, and two tiger beetles.

The on-line state listing of threatened and endangered species hasn't been updated since 2015, but the listing of

those of special concern, updated in February of this year, can be seen at <https://tinyurl.com/yenh9zdf>.

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**Florida Field Trip!
Saturday, September 10, 2022**

And you don't even need air fare!

Join us at 10:00 a.m. for a fantastic opportunity in several habitat types at Florida Lake Park, Freeport, Maine. Upland mixed deciduous and predominantly deciduous forest, grass, stream, shallow lake and marsh areas, and a hemlock stand. There are no facilities. Bring collecting gear, water, insect repellent, and lunch. A folding chair, hip boots and enthusiasm are optional. Parts of trails can be wet if we have rain—boots might be a good choice. Ten bucks to anyone helping me carry my kayak in!

From I-295, take Exit 22, the Freeport-Durham Exit, and get onto Route 125/136 North towards Durham. At the blinking yellow light, turn right onto Route 125 (Wardtown Road). Drive 2.4 miles to a blue Florida Lake sign on the right. Follow the dead-end access road (Frenchs [sic] Run on Google Earth) to the parking area. There is also an entrance off Baker Road, but we will meet at the parking area at the end of Frenchs Run.

Contact Kathy Claerr (kclaerr1@cmcast.net) or via phone at 207-666-3551) to confirm whether you'll be joining us.



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Linyphia triangularis, the European hammock spider.
- photo by Dana Wilde

“Linytri,” a Down East Invasive Spider by Dana Wilde

A few years ago if you had looked up “European hammock spider” on the *Global Biodiversity Information Facility* website, you’d have seen a map with hundreds of yellow dots crawling all over Europe and into Russia, showing where the spider had been found and documented in its native range. Across the Atlantic, North America would have been completely empty, except for one lone dot on the coast of Down East Maine.

Today, in 2022, you’ll find a few more dots in Maine and the Northeast including New Brunswick, and one far west in the vicinity of Vancouver, B.C. This is because *Linyphia triangularis*, aka the European hammock spider or dwarf weaver, sometime in the last 50 years or so found its way from Europe or Asia to Maine, and is slowly expanding its non-native range.

Daniel Jennings and Frank Graham Jr. tracked down the spider’s story after Graham found a sheetweb-weaving spider he could not identify near his home in Milbridge in 1991. He showed his specimen to Jennings, and in the next few years while gathering data for what would become their U.S. Forest Service publication *Spiders of Milbridge, Washington County, Maine*, they matched the spider to a previously unidentified specimen found in Brooksville in 1983. They determined that “Linytri,” as they nicknamed it in their notebooks, was *L. triangularis*, a non-native species of sheetweb weaver abundant in Great Britain and Europe but never before identified in North America. How it got to the coast of Maine is not known.

Linytri seems to have had a more or less immediate impact on the spider community in Down East Maine. Studies in the 2000s showed that in areas where *L. triangularis* was living in high densities, other native sheetweb weavers, such as *Frontinella communis* (bowl-and-doily spider), *Neriene radiata* (filmy dome spider), and other hammock spiders such as *Pityohyphantes*, were declining or had been driven out altogether. Linytri was

noticed evicting *Frontinella communis* from their webs and refashioning those webs to suit their own purposes.

Meanwhile, researchers working in Winter Harbor in 2002 found *Neospintharus trigonum* (dewdrop spider, a cobweb weaver formerly known as *Argyrodes trigonum*) inhabiting *L. triangularis* webs, and observed one of them eating a *L. triangularis* female in her own web. Dewdrop spiders are known kleptoparasites—stealing prey from other spiders. Now, apparently, they were eating the web owners themselves. Jennings had also found a juvenile dewdrop spider in a *L. triangularis* web in Pittston in 1999, suggesting it was already affecting spider ecology beyond the Down East coast.

The *Checklist of Maine Spiders* tags *L. triangularis* as an introduced, non-native species that appears to be established; it’s been documented in every Maine county except Aroostook, and it would be surprising if it’s not living unnoticed there too. Linytri also fits the definition of an invasive species: not native to an area and causing disruption (in this case mainly by web takeover rather than reduction of food sources).

You might well see one along the coast if you keep an eye out. The main part of Linytri’s web looks more or less like a flat sheet, up to 6 or 8 inches in length and width, fashioned in brush or shrubs or even under a railing or on furniture on your back deck. The spider hangs upside down underneath the web and waits for bugs to get stuck. It then quickly cuts a hole in the web, pulls the bug through and then eats it or wraps it up for later. Often Linytri will return to repair the hole in the web.

Like all the spiders found in Maine and practically everywhere else, the European hammock spider is extremely unlikely to bite you. In fact as far as anyone can tell, the only trouble it’s causing so far is in the spider community. In your backyard, it’s just doing routine spider business, eating things that might otherwise try to eat you or your garden.

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The Wasp Whisperer
by Frank Woodard

I don't really think I deserved the moniker of "wasp whisperer". It's not like I've never been stung. At one time there was a book called "The Horse Whisperer" and the other construction workers seemed to think it was hilarious. Hey, I was only caught once, and I wasn't actually whispering. Gee guys, it's not magic!

I don't remember being stung as a child. I do remember rolling around in the grass when my brother jumped up screaming and ran away flailing his arms. I looked where he'd been and saw all the pretty little Yellow Jackets flying around a hole in the grass. I figured I should follow my brother and slowly walked away. Just a kid being a kid. Yellow Jackets don't want to sting, they just want to be left alone. No magic there.

I certainly do remember getting stung by a hornet. That hurt! It was like being hit with a hammer! I was picking clover for a pet bunny across the river from the edge of an endless suburbia. Of course, just like a bee sting after a little bit I was fine. After that I was more careful when I picked clover for other critters.

On the farm, I've been stung twice. Both times I discovered a little brush I'd left behind after the Spring pruning. I stepped off the path to pick it up. Yellow Jackets had made nice nests under the brush. If the "One-hundred Yard Dash While Undressing" ever becomes an Olympic event, I'm quite sure I'd be a bronze medalist. Now I don't stray from the paths in the warm months. See, no magic. I've been stung.

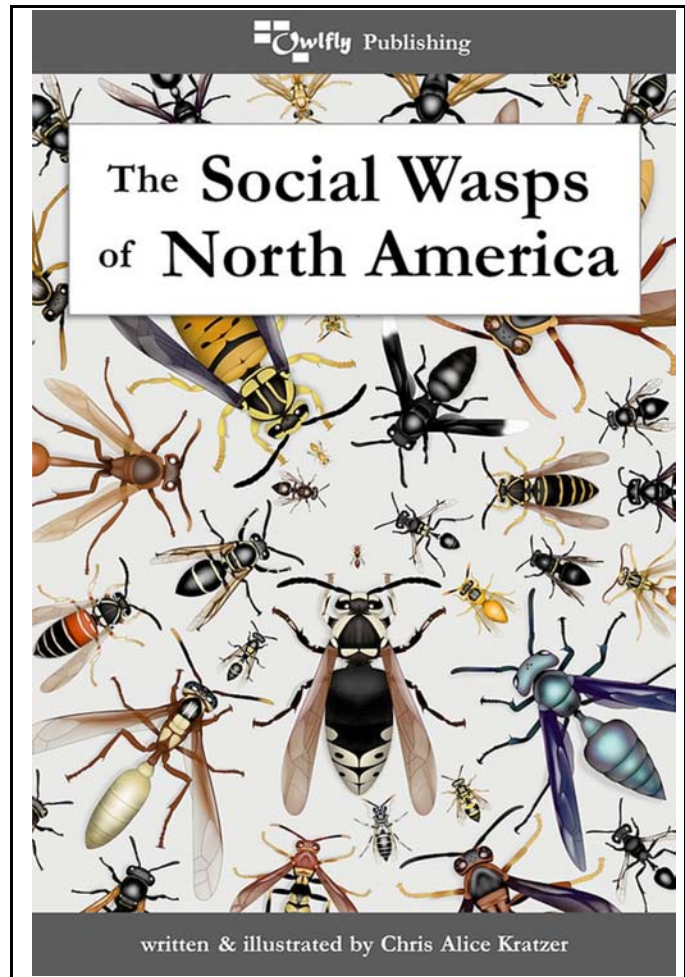
My fondest memory of Hymenoptera (Latin for "cool bees") was magical! Thirty years ago, a friend and I were walking in a state forest when I spotted a giant bald-face hornet's nest at eye level in a stand of young saplings. It was amazing! I walked up to it and marveled at their success. I turned to say something and my friend was long gone! I guess she didn't realize that Hymenoptera are tolerant as long as you respect them. I turned and walked away, just like a deer might do if it discovered a nest in a stand of tasty saplings. What incredible magic indeed!

I find Hymenoptera to be good neighbors. I claim my territory in the spring by using the paths. I often interrupt various Hymenoptera foraging or hunting in the flowers

hanging over the paths. They either move aside or ignore me. Sometimes in early spring, I have to spray water at a bald-faced hornet queen trying to build a nest on the front porch, but if she's over a shed door it's fine. I think they get used to me going in and out. While my little neighbors are very protective of their homes, it's like they understand that this little bit of the planet is a shared resource. The land feeds us all. See, no magic there.

Here on the farm I often repeat the behavior that earned me the nickname. Back then I was painting. Now, maintaining century-old buildings gives me many opportunities to talk quietly or hum a tune when working near nest sites, so that whatever Hymenoptera are nearby know I'm there but not a threat. Of course there is a limit to their tolerance. They don't mind drilling and painting, but don't hammer! It's not magic!

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Book Review: by Dana Michaud

The Social Wasps of North America, by Chris Alice Kratzer; 2022; Owlfly Publishing; 424 pages; ISBN 978-1-7378927-0-0. (\$25 list price)

The Social Wasps of North America, written and illustrated by Chris Alice Kratzer, published in 2022 by Owlfly Publishing, contains all the known species (208) of the "social" Vespidae and Pemphredonidae, found from arctic Greenland to Alaska, south to Panama and Grenada.

(continued on next page)

Social Wasps (cont.)

This includes 21 genera in the Vespinae & Polistinae among the Vespidae, and the only social Pemphredonidae, *Microstigmus*. The book excludes the asocial Vespidae, including the Euparagiinae, Masarinae, and the Eumeninae, as well as the remaining Pemphredonidae.

In her Introduction, Kratzer explains that she had to narrow the field covered by her book, because the number of known wasps exceeded 115,000 species and that number was expected to more than double in this century, as more are constantly being discovered and described. Her "social species" of true wasps, in the Aculeata, excludes the ants and bees, both of which have had a number of guides already published about them.

In the Ecology section, she covers briefly the role social wasps play in the scheme of things, covering life cycle, prey/food sources, pollination, parasites and diseases, revealing a few tidbits she's learned while researching this book.

In the section titled Evolution and Taxonomy, pages 23-32, Kratzer touches upon how old insects are, and that the Aculeata, being new in the evolutionary line, appeared in the Carboniferous Period (310 million years ago). She explains the phylogenetic tree for Vespidae, explaining what is a species and genetic barcoding.

In her next chapter, Wasps and Humans, pages 33-45, the vital role the social wasps play in pollination is covered. Kratzer then covers venom and how studies have shown that the various species differ, and that a few have yielded potential medicines that destroy cancer cells, while leaving healthy cells alone. The topic of entomophagy (consuming them as food) and honey are covered. Some species in this group produce honey to rival the famous honeybee. The topics of biodiversity, habitat loss, climate change, and invasive species, are touched upon. In pages 40-45, entitled "How YOU can help", the ideas of habitat restoration, collecting specimens, and working with museums (which is how Kratzer got into studying wasps) are explored.

The topics of Anatomy and Behavior, pages 46-61, are covered quickly, explaining all the terminology Kratzer uses in her book. She then goes into internal anatomy, genetics, and finally mimicry. Here she reveals some of the remarkable aspects of insects' adaptive simplicity. Male wasps, always from unfertilized eggs, are clones of their mother. The topic of nest building and strength in numbers, gives way to why other insects mimic these stinging insects, and the many groups that do so, be it Batesian (harmless look-alike insects) or Mullerian (look-alikes that sting).

In her following section, Species Plates, pages 62-72, she explains how to use the guide itself, and what her symbols mean on the following Plate Series. She explains regional color forms, color variations, common and scientific names, range maps, field ID ratings, and nest structure.

In the Plate Series, pages 73-394, where Kratzer presents the three major groups covered by this guide, the Vespinae (pages 73-106), the Polistinae, (pages 107-387), and 5 species of *Microstigmus* in the Pemphredonidae (pages 388-394), each of the three sections break down to

genera and all the species known at the time. Each genus is treated independently with description of size (compared to coinage), distribution, Latin & common names (she gives a common name to all species covered), and about the type/size of nests each genus builds, through diagrams or colored photos.

Kratzer presents each species/subspecies independently, dedicating a page to each. With the common name at the top, the scientific name below, and the range map centrally below the names, her lifelike artwork depicts the female on the left and the male on the right (except the Vespinae, which also includes the worker caste). The facial view, with the entire dorsal depiction below reveals a creative approach to variation in a species. When there are color variations, Kratzer portrays the left half as one form and the right side as another, melanic (black) vs ferruginous (reddish) for example. Below her colorful drawings, which cover about ½ the page, Kratzer presents the various information about the species covered, listing abundance, field ID rating/identification, size, habitat, and other information about that species.

Kratzer's artwork and her novel approach to portraying the 208 species, by creatively splitting the adult and showing the two extremes of color variation that occurs in many of the species, is a testament to the thousands of hours she spent researching and drawing to produce this book. Although it covers a wide area, and most species are not found in Maine, the book does cover the surrounding regions. *The Social Wasps of North America* is narrow in scope, but does covers the entire Vespinae and Polistinae subfamilies.

I hope Kratzer produces a companion volume(s) covering the remaining Vespidae; even though the Masarinae and Euparagiinae don't occur in New England, the Eumeninae do. If so, I'll add it to my Hymenoptera section of field guides. She started to produce this informative and well-illustrated book in 2018, and the final product, *The Social Wasps of North America*, is well worth the cover price of \$25.

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Annual Meeting in Clinton on October 8

Join us on **Saturday, October 8th**, for this year's M.E.S. Annual Meeting, at Bob and Nettie Nelson's home in Clinton. The agenda is on p. 2 of this newsletter.

Minutes of the 2021 Meeting were published in the November, 2021, issue of the newsletter, on pp. 2-3. Please be ready to bring any errors to our attention, since one of the first agenda items will be to confirm to accept (or amend) these minutes.

If the weather's good, we'll meet outside; if not so great, should be able to get everyone inside. Hopefully, the latest Covid surge will be behind us, but anyone who feels more comfortable doing so can certainly wear a mask. If it looks like it could be a good day for an outdoor meeting, please bring your favorite folding lawn chair (though we do have maybe a dozen here for those who may not have one).

The grounds will be open for collecting, as usual, with some changes since last year as to habitats, and we'll try to

(continued on next page)

Annual Meeting (cont.)

have pathways cleared through the brush down in back for exploration. Our perennial sunflowers should be in full bloom at this time, and are usually a haven for late-season Lepidoptera, Hymenoptera, Diptera and other nectar and pollen feeders.

We'll have oven-roasted chicken and vegan chili available, and invite everyone to bring something else to add to the traditional pot-luck luncheon that precedes the business meeting.

We'll be ready for guests by 10:00 a.m., so people can spread out across the fields and forest for collecting. Lunch will begin around noon, and the business meeting will start at ~1:30. Dana Michaud will be in attendance, so this'll also be a good opportunity to renew your membership for 2023 (hint!). He'll also have 25th Anniversary T-shirts and sweatshirts available at discounted prices.

Please do let us know if you're planning to attend to help with our planning; preferably via e-mail at BeetleBob2003@gmail.com; or by phone at 207-426-9629 - just expect to talk to a machine, since we're getting so many robocalls these days we rarely answer the phone right off.

Signs will be posted at the ends of the Clinton off-ramps from I-95 to guide you to the meeting. Address is 779 Battle Ridge Road in Clinton; GPS coordinates for the end for the driveway are 44 degrees 41.94'N, 69 degrees 33.56'W. Please contact Bob if you need directions from another route.

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The Head of Tides field day in Belfast on July 9th, coordinated by Kathy Murray and Roger Rittmaster, brought out a large crowd of M.E.S. and Coastal Mountains Land Trust members. Attendees spanned the range of experience and age. Above, Dana Michaud is discussing a specimen found by one of the younger participants. Below, Roger Rittmaster shows how big "the one that got away!" really was. - *Kate Wilcox photos*



Nina Beckwith spotted and caught the first ringed boghaunter, *Williamsonia lintneri*, on the May 21st field day in Waterboro. Mark Ward confirmed the identification. - *Kathy Claerr photo*



Need Supplies?

With the closure of Bioquip as a business, many people have been wondering where to find a reliable source of affordable entomology supplies. Frank Guarneri has found a Canadian firm with which he's so far been quite happy: Atelier Jean Paquet. Their web site is:

<https://www.atelierjeanpaquet.com/en/>

Missing Insects?

Tony Roberts has reported a virtual dearth of insects of any kind this summer, at his Downeast coastal retreat in Steuben in Washington County. Some may remember that he first reported a decrease in what he was seeing for both abundance and diversity in boreal moths some 20 years ago.

COMING M.E.S. EVENTS in 2021-2022

(See the MES web site at <https://www.maineentsociety.org/events> for additional information on any event, especially upcoming webinars - which will be posted as soon as information is available.)

- September 10:** Field Day, Freeport (Kathy Claerr; see p. 2)
- October 8:** Annual Meeting, Clinton (Bob Nelson; see p. 7)

The Maine Entomologist is the quarterly newsletter of the Maine Entomological Society. Dues are \$15 per year, or \$18 if paid via PayPal through our web site (<https://www.maineentsociety.org/join>). Checks should be made payable to the M.E.S. and sent to Mr. Dana Michaud, M.E.S. Treasurer, at 3 Halde Street, Waterville, ME 04901-6317 (e-mail: djmichaud1@gmail.com). If you're unsure about your dues status, please contact the Treasurer. Individual articles reflect the opinions of the authors and mention of any specific commercial products or businesses should not be construed as formal endorsement by the M.E.S. of any such product or business.