



# VES NEWS

The Newsletter of the Vermont Entomological Society

Number 116  
Summer/Fall 2022



Spider Wasp (*Anoplius depressipes*) and  
Fishing Spider (*Dolomedes tenebrosus*)  
Indian Brook Reservoir, Essex, VT  
Photo: Laurie DiCesare;  
ID by rick\_c\_west on iNaturalist.org.

## VES Officers

Michael Sabourin	<i>President</i>
Warren Kiel	<i>Vice President</i>
Deb Kiel	<i>Treasurer</i>
Laurie DiCesare	<i>Compiler / Editor</i>
Mary Burnham	<i>Trustee</i>
<hr/>	
Bryan Pfeiffer	<i>Webmaster</i>

## Emeritus Members

Joyce Bell  
Ross Bell  
John Grehan  
Gordon Nielsen  
Michael Sabourin  
Mark Waskow  
James Hedbor  
Scott Griggs  
Rachel Griggs  
Luke B. Curtis, Jr.  
Trish Hanson

The **Vermont Entomological Society** (VES) is devoted to the study, conservation, and appreciation of invertebrates. Founded in 1993, VES sponsors selected research, workshops and field trips for the public, including children. Our quarterly newsletter features developments in entomology, accounts of insect events and field trips, as well as general contributions from members or other entomologists.

VES is open to anyone interested in arthropods. Our members range from casual insect watchers to amateur and professional entomologists. We welcome members of all ages, abilities and interests.

You can join VES by sending dues of \$15 per year to:

Deb Kiel  
147 Allen Irish Road  
Underhill, VT 05489

## CONTENTS

President's Message	pg. 3
C-Shaped Grubs and the Spikes of Death	pg. 5
Tom & Laurie's Summer Adventures	pg. 7
Slime Mold Beetles	pg. 9
Identifying Hemipterans	pg. 10
Programs of Interest and Further Reading	pg. 11
Odds & Ends: Webs (poem)	pg. 11

### Newsletter Schedule

Spring: Deadline April 7 - Publication May 1  
Summer: Deadline July 7 - Publication August 1  
Fall: Deadline October 7 - Publication November 1  
Winter: Deadline January 7 - Publication February 1

Want to submit an article?

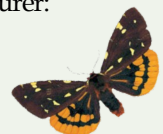
Please contact Laurie DiCesare [NatureHaven@MyFairPoint.net](mailto:NatureHaven@MyFairPoint.net),  
"VES News" on subject line, for Guidelines.

### Membership Check Your Mailing Label

The upper right corner of your mailing label will inform you of the month and year your VES membership expires.

Dues are \$15 and can be sent to our Treasurer:

Vermont Entomological Society  
c/o Deb Kiel  
147 Allen Irish Road  
Underhill, VT 05489





Greetings everyone! Summer seems to have finally slipped past us. I hope everyone was able to enjoy the season and have some outdoor fun. It has been a while since our last newsletter. We're trying to go to publishing three newsletters a year to save cost and have the newsletter be less onerous. But the topics pile up and it's hard to capture what has flown by. Looking back, we put on or supported a fair number of events through the summer.



We had our **Annual Potluck Meeting** on May 21 this year. A small group of us had a wonderful potluck dinner outside at the Vermont Agriculture and Environmental Laboratory (VAEL) building. Afterwards our gracious hosts Savannah Ferreira and Judy Rosovsky gave us a tour of the building and their facilities. We got to examine the Vermont State Insect collection.

Last year we had the VES annual meeting in September, this year in May. I think the small turnout this year in part is attributed to it being the weekend for UVM graduation. Next year we will be looking to meet earlier (April) and for a location to meet. If anyone has an idea as to where to hold next year's annual meeting, please let me know.

One tradition VES has maintained, in part in memory of the late Gordon Nielsen, is participation at the annual **Adamant Black Fly Festival**. We were surprised to arrive on June 4th this year and find ourselves headliners with our own booth. We had a steady flow of people visiting our displays and asking questions. A big shout out to Maggie Desch for the loan of her walking sticks (which are still up for adoption) and for her field trip earlier that morning to find a menagerie of temporary invertebrate pets, one of the favorites being the large iridescent green beetle (*Carabus auratus*). I was able to find a giant millipede (*Narceus americanus*) in Middlebury while surveying for ticks. The millipedes are easy to handle and good conversation items.

One visitor to our Black Fly booth asked us about some tent makers that were doing damage to bushes on his property in East Montpelier. After going through the list of potential lepidopteran larvae suspects, we decided to visit the site when we left

Adamant. You'd be surprised how many lepidopteran larvae make tents on their hosts. We arrived in East Montpelier to find a ghostly display of white webbed bushes caused by the euonymus webworm (*Yponomeuta cagnagella*).

Several VES members participated in the **Mercy Bioblitz** on June 18th. This was the second BioBlitz conducted on the 39 acres of **Mercy Ecospirituality Center** in Benson, VT. The goal of the event was to count plants, animals and other organisms that live there as well as to raise awareness on the importance of biodiversity. Our hosts were probably the most welcoming people you'd ever meet, but the weather was a little less inviting. It was one of those gray, overcast days threatening to rain at any moment. I led a walk on the grounds during an increasing drizzle. We found a number of insects by sweeping as well as some just resting on plants. I'm always impressed though by the insects that still fly around in the rain.

The Bioblitz ended with moth scouting by JoAnne Russo. JoAnne reported that "I put my UV light out about 9:30 when it stopped raining. I also set out the UV trap. The light got about nine moths and the trap had about double that! Only 23 species in total counting the ones I had in the day time! It was cold!" Some species noted that day were Lily Leaf Beetle (*Lilioceris lili*), Newman's Mathildana Moth (*Mathildana newmanella*) and a Harnessed Tiger Moth (*Apantesis phalerata*). I was able to net a small *Cosmopterix* sp. that day, but I haven't yet gotten it to species level. Laurie DiCesare did an earlier walking loop around the pond and along a wooded trail and photographed a parasitized Mourning Cloak (*Nymphalis antiopa*) caterpillar.

The Mercy Ecospirituality Center provides accommodations to visitors. I hear tell that Laurie entertained guests at dinner that evening with her dragonfly show-and-tell and ode stories. For more information about the Mercy Ecospirituality Center see <https://mercyecology.org/about-us>. They currently have an ongoing Monarch Milkweed Project: <https://mercyecology.org/monarch-milkweed-project>

On June 25, we visited the **Burnham's Northfield Cilohocla property** for the second consecutive year. This is becoming a popular field trip in large part because of a fen with attractive Showy

## President's Message (continued)

Lady Slippers which did not disappoint this year. Mary Burnham reported "There were seven of us, and the orchids were perfect." Some other observations were Long Dash Skipper (*Polites mystic*), Modest Masked Bee (*Hylaeus modestus*), Arabesque Orbweaver spider (*Neoscona arabesca*) and Brown Leaf Weevil (*Phyllobius oblongus*).

We've been able to continue the tradition of the **Birds of Vermont Butterfly and Bug Walk in Huntington, VT**. Meeting July 9 this year with a small but receptive group, this was the first year in a long time that we didn't have any children participating. We spent a couple of hours on the Bob Spear trail until the heat got the best of us. As reported by Don Miller "I think the participants got an incredible mini-seminar in natural history, in the broadest sense ... Everyone there seemed so incredibly engaged, asked endless good questions over a terrific range of issues. I even got into the details of parasitology with Pat Bunt".

The Spear trail, which was probably once all open field, meanders from an open meadow, through young mixed hardwoods to a pond with white and yellow water lilies. Some observations from that day were Golden Tortoise Beetle (*Charidotella sexpunctata*), Orange-hipped Leafwalker (*Chalcosyrphus vecors*), Bramble Mason Wasp (*Ancistrocerus adiabatus*), Pale Green Assassin Bug (*Zelus luridus*), Fragile Forktail (*Ischnura posita*) and Brown-lined Owlet (*Macrochilo litophora*).

On July 17, VES had a combined field expedition with **Springfield's Black River Action Team**. Led by Kelly Sttetter, we explored sites around the USACE property in North Springfield and Weathersfield. Especially interesting was riverine habitat of the Black River below the Power Dam. Here sandy beaches combined with the rocky shore provided good habitat for tiger beetles and aquatic insects. We found an exoskeleton of a large stonefly and, with binoculars, you could see those of dobsonflies (*Corydalus sp.*) on an old bridge abutment. The plant, Hemp Dogbane, was found along the shore and I was surprised as to how attractive Pickerelweed flowers were to bees. We found a Brushfooted Butterfly (*Limenitis sp.*) chrysalis hanging in plain view. I also inadvertently collected a Sooty Lipocosmodes Moth (*Lipocosmodes*

*fuliginosalis*) thinking it might be a choreutid.

On July 20, we visited **Cranberry Meadows in Woodbury, VT**. This is a unique fen that the Town of Woodbury is in the process of purchasing. It was an interesting visit as the day had been very hot and sultry but at the meadow, we were somehow gifted with the edge of a rain cloud. At the fen, three of us got wet having to wade through at least a foot of water till we reached higher ground.

Though it was rather cool with a light rain, we were able to observe some insects flying and flushed and swept for others. Bog Coppers (*Lycaena epixanthe*) popped out whenever the sun did. We did see some bog/wetland endemics such as Forked Grass-Veneer (*Crambus bidens*). Susan Sawyer identified a number of wetland plants in bloom such as Marsh St John's-Wort, Bog Goldenrod, and American Cranberry.

Our last organized field trip on Aug. 6 was an outing with **Putney Mtn. Association**. We primarily checked out two wooded wetlands off of the Hinton trail. The most entertaining aspect of this field trip was attempts by participants at catching Fritillary (*Speyeria sp.*) butterflies; not so easy. A nice discovery that day was a Skullcap Skeletonizer Moth (*Prochoreutis inflatella*). For more information on the Hinton Woods see : <https://putneymountain.org/the-hinton-woods/>

Michael Sabourin



VES at Black Fly Festival Photo: Laura Ziegler



Savannah Ferreira with insect specimens  
Photo: Michael Sabourin



Euonymus Webworms  
Photo: Michael Sabourin



Lily Leaf Beetle (*Liloceris lili*)  
Photo: JoAnne Russo



## C-Shaped Grubs and the Spikes of Death

By Judy Rosovsky

The C-shaped grubs, sometimes known as white grubs or grubs, are well known to gardeners. The larvae eat grass roots then emerge and defoliate vegetation such as your prize roses. They are members of the Scarabaeidae family. One of the more notorious is the Japanese beetle (*Popillia japonica*). Another common genus is *Phyllophaga*, which includes the May/June beetles, sometimes known as the true white grubs. Chaferes are another common group. A sample of chaferes like the American rose chafer (*Macrodactylus subspinosus*); European chafer, a.k.a. the green rose chafer (*Cetonia aurata*); the masked chafer (*Cyclocephala* spp.); and the Oriental beetle (*Anomala orientalis*), a shining leaf chafer, indicates the taxonomic diversity of these commonly encountered larvae. Hence the need to group them by easily recognizable characteristics, like the C-shape posture that the larva form.

Juicy grubs like these are a desirable prey item, so well before they emerge as defoliating adults you can be forewarned that they are in your neighborhood because their natural enemies, skunks and moles have dug up your lawn to find and feed on them. This is a mixed blessing, as encouraging natural enemies is a free and environmentally beneficial form of insect control, but although you might yearn for a smooth-flowing lawn, some upheaval must be tolerated. You can console yourself by considering that the lawn without the natural enemies would look even worse, as the grubs feeding on their roots turns the grass brown.

Lawns lacking in organic matter, with infertile soil, may have more white grubs than healthier lawns because they aren't supporting the smaller natural enemies of grubs like ants and spiders. Using pesticides to treat the grubs can reduce natural enemy populations, too. Other, larger natural enemies include birds, which don't make a



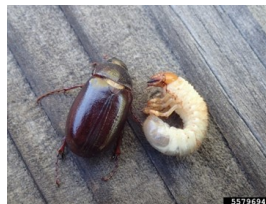
North American Rose Chafer, (*Macrodactylus subspinosus*)

Photo: 206800638, (c) jeanrimbaud, some rights reserved (CC BY-NC)

<https://creativecommons.org/licenses/by-nc/4.0/>

mess of the lawn, and a variety of parasitoids and parasites. The Japanese beetle is targeted by a tachinid fly. If you see the eggs of this fly attached to a Japanese Beetle, don't kill it. Let the parasitoid do its work and proliferate. Biocontrol via nematodes is possible for some species of C-shaped grubs, notably the Japanese and Oriental beetles. There is a form of BT, *Bacillus thuringiensis galleriae*, that is available for use against white grubs, though results can be minimal. Please make sure that any product you use is registered for use in Vermont and follow the instructions on the label.

It is axiomatic in pest control that before you reach for your spray can or other tools of destruction, you must know your target. The C-shaped grubs have a brown head, white body, the end of the abdomen is slightly larger and darker than the rest of the body. They curl into a C position when



Adult and immature May/June beetles, (*Phyllophaga* sp.)  
Photo: Whitney Cranshaw, Colorado State University, Bugwood.org; <https://creativecommons.org/licenses/by/3.0/us/>

disturbed. Having used your powers of discernment to confirm that these are C-shaped grubs, they can be identified to species by looking at a combination of anal slits and raster hair patterns. Michigan State University (MSU) has an excellent resource for this at <https://www.canr.msu.edu/fieldcropsent/uploads/files/03GrubID.pdf> (DiFonzo *et al.*). Another great grub ID website is at <https://grubid.cals.cornell.edu/getting-started/> (Cornell CALS, 2022). Clemson University advises us to boil water, remove it from the stove and drop in the larvae for 3 to 4 minutes, thus killing the insects and the gut bacteria that would darken the color of the grub and make it harder to identify (Forrester, 2022).

Once the insects are dead, MSU suggests cutting off the hind end and standing it upright (on the cut end) in water or alcohol. If that is too gruesome, the whole curled body can be placed in a small dish of sand so that the butt end is visible for examination (Forrester, 2022). For example, both



the European chafer and the May/June beetles have a Y-shaped anal slits. The European chafer's raster hair pattern is a diverging zipper, while the May/June beetles raster hairs is a parallel zipper. Getting a good ID is helpful because you can estimate your potential damage levels by checking how many grubs you have per square foot, though this number will vary by species. A density of seven or more beetles/square foot of Japanese beetles does not bode well for your lawn, while healthy grass can tolerate up to 20 beetles/square foot of the Southern masked chafer (Forrester, 2022).



Spikes of Death lawn aerating sandals  
Photo: Dreamstime.com, <https://www.dreamstime.com/spiked-shoes-liven-up-lawn-aeration-gardening-concept-garden-care-image198652510>

Once you have identified the grubs and determined that they occur in potentially damaging levels, there are a number of control options. The simplest is to let nature have its way and watch your vegetation be defoliated. Since different species emerge at different times, you can observe sequential defoliation. The rose chafers come out early at my house and eventually yield to the Japanese beetles. By the time the JB's come out, I am fed up with catching the chafers and drowning them in soapy water, so the Japanese beetles go unmolested. Rose chafers can be toxic to birds though, so I prefer to expend my energy on eliminating them. Other adults of the C-shaped grubs may feed at night which is less convenient for hand-picking.

Nematodes can be purchased commercially and released for use as bio-controls on Japanese and Oriental beetles. It is possible that the nematodes in the genus *Heterorhabditis* are more effective than the two species of *Steinernema* nematodes (Raupp, 2022). Milky spores are a readily available product but we are cautioned that they are specific to Japanese beetles, not to the whole suite of grubs that may inhabit your lawn. The spores require three months of warm weather and can take years to build up a high enough population to be effective. Some people have reported good results so you might try and see for yourself. Keep your lawn healthy, and apply chemical treatments, if need be, bearing in

mind that using them may curtail or eliminate soil dwelling and other natural enemy populations. There is a plethora of parasitoids that attack the white grubs, too, but they aren't as easy to find and apply as other treatments.

There are other methods for controlling grubs, especially for JB's, that can be found online. One last, important non-chemical means of grub destruction that aerates your lawn as well as controls the grubs are the infamous Spikes of Death! (Search online for 'lawn aerating sandals'). You can put attachments on your shoes which look a bit like mountaineering crampons or athletic shoe spikes. Walk around your yard, lawn or garden with these shoes at the



Entomopathogenic nematode female (right) and 2nd stage juveniles (left) (*Heterorhabditis bacteriophora*)  
Photo: Jonathan D. Eisenback, Virginia Polytechnic Institute and State University, Bugwood.org; Image Number: 5442351

appropriate time of year for your target Scarab pest and you will impale them as they are close to the surface. Added bonus: your lawn becomes aerated in the process.

Now you know that when you see the tell-tale signs of grubs, or when your plants start becoming defoliated, you can implement a number of head-to-toe integrated pest management tools to help curtail the onslaught, from handpicking to the Spikes of Death.

**References:** Cornell CALS, Department of Entomology, Soil Arthropod Ecology Lab. Grub ID. <https://grubid.cals.cornell.edu/getting-started/>  
DiFonzo, C., Mackellar, B. and C. Krupke. Michigan State University, College of Agriculture and Natural Resources, Field Crops Entomology Program. <https://www.canr.msu.edu/fieldcropsent/uploads/files/03GrubID.pdf>  
Forrester, G. 2022. White Grub Management in Turfgrass. Clemson Cooperative Extension, Home and Garden Information Center. Factsheet HGIC 2156. <https://hgic.clemson.edu/factsheet/white-grub-management-in-turfgrass/>  
Raupp, M. J. 2019. University of MD Extension. BLOSSOM BUSTERS: ORIENTAL BEETLE, ANOMALA ORIENTALIS. <https://bugoftheweek.com/blog/2019/6/10/blossom-busters-oriental-beetle-anomala-orientalis>

## Tom and Laurie's Summer Adventures

By Laurie DiCesare

### Meeting Tom Scavo on iNaturalist:

This Spring, as I was dredging up old photos to post on iNaturalist, I noticed that many of my "unknown plants" were being identified by "trscavo." Checking out his profile, I noted that flowering plants and insects are Tom Scavo's primary interests. He had about 10,000 more observations posted than I had, but I boldly offered to trade some of my knowledge of edible / medicinal plants and dragonflies with him on a field trip...if he lived anywhere nearby...which he does.

### Milton Town Forest (July 7, 2022):

On a 75° sunny day, as Tom and I stepped into the field by the Carriage Barn, we started noticing butterflies right away. Both Viceroy (*Limenitis archippus*) and Monarchs (*Danaus plexippus*) fluttered by near enough for visual identification but did neither linger for a photo op. I was more interested in the 12-Spotted Skimmer (*Libellula pulchella*) and my favorite "catch" of the afternoon, a female Calico Pennant (*Celithemis elisa*). We met my friend, fellow naturalist and Milton Conservation Member, Bonnie Pease, on our way up to the pond. Bonnie and her husband, Brian, who live next door and own some of the property surrounding the MTF, are the primary caregivers for the property and work hard to keep the trails mowed, clear and well-marked for visitors from all over the county. She shared photos of a Blue Dasher dragonfly (*Pachydiplax longipennis*), a White

Admiral butterfly (*Limenitis arthemis arthemis*), and a Robber Fly (*Asilidae*) eating a damselfly, that she had taken that morning. She was also grateful that Tom spotted a trailside invasive Japanese Barberry (*Berberis thunbergii*) that she was able to remove the next day.



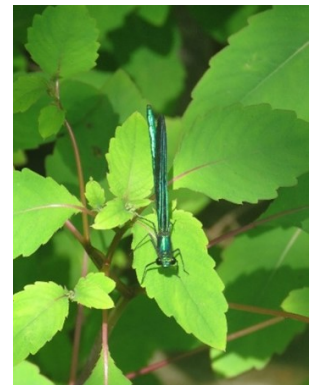
Calico Pennant  
(*Celithemis elisa*)  
Photo: Laurie DiCesare

### Indian Brook Reservoir, Essex, VT (July 13, 2022):

July 13 was another sunny and 75° day. The

bright-red Cardinal flowers (*Lobelia cardinalis*) were blooming along the outlet stream. We also noticed a few Ebony Jewelwing (*Calopteryx maculata*) damselflies nearby, which appear either iridescent green or blue depending on the light and your view point. We saw Indian Tobacco (*Lobelia inflata*) and Broad-leafed Helleborine (*Spigactis sp.*) along the trail on the western side of the reservoir. My favorite stop, though, was at a small cove where we saw a white Admiral butterfly (*Limenitis arthemis arthemis*); a Variable Dancer (*Argia funipennis*) damselfly and five dragonfly species: Chalk-fronted Corporal (*Libellula julia*); Widow Skimmer (*Libellula luctuosa*); Slaty Skimmer (*Libellula incesta*); Eastern Pondhawk (*Erythemis simplicicollis*) and a Common Green Darner (*Anax junius*). The Green Frog (*Lithobates clamitans*) and Pickerel Frog (*L. palustris*) were nice finds, too.

On Aug. 31, 2022, my friend and fellow naturalist/photographer Shirley Zundel visited the eastern shore of Indian Brook Reservoir and sent a photo of a Black-shouldered Spinyleg (*Dromogomphus spinosus*) dragonfly to iNaturalist for



Ebony Jewelwing  
(*Calopteryx maculata*)  
Photo: Laurie DiCesare

confirmation. On Sept. 7, I decided to re-explore the site to see if I could photograph one for myself. Only a few paces past the canoe launch, I noticed a Black Spider Wasp (*Anoplius depressipes*) struggling to haul a much larger, moribund Fishing Spider (*Dolomedes*

*tenebrosus*) across the gravel walking path. I was able to snap a few close-up photos before the couple disappeared into the vegetation. (I thanked Rick\_c\_west on iNaturalist for his



Pickerel Frog  
(*Lithobates palustris*) with orange  
inner legs  
Photo: Laurie DiCesare

## Tom and Laurie's Summer Adventures (continued)



Cardinal flower  
(*Lobelia cardinalis*)  
Photo: Laurie DiCesare

Mills Riverside Park, Jericho, VT  
(July 15 and Sept. 9, 2022):

Mills Riverside Park on Route 15 in Jericho has a variety of habitats that support a great diversity of plant, animal and insect species. Although there are many wooded walking trails that are used by hikers and dog walkers, we concentrated our efforts around the perimeter of pond. I was glad to find an abundance of dragonflies and

damselies including an Azure Bluet (*Enallagma aspersum*), an Amber-winged spreadwing (*Lestes eurinus*), a Blue Dasher (*Pachydiplax longipennis*) and a patrolling Common Green Darner (*Anax junius*).

Tom directed my attention to a large bird he saw on a beaver lodge...on the far side of the pond. I pointed my camera toward the pile and took a few photos. Although Shirley Zundell had seen one in 2019, this was my first confirmed photo of a Green Heron (*Butorides virescens*) at the park. Tom also spotted a snapping turtle and a rare orchid.



Green Heron  
(*Butorides virescens*)  
Photo: Laurie DiCesare

Turtlehead Pond, Marshfield, VT; Damon's Crossing and Portland Pipeline, Victory, VT (July 27, 2022)

Although Turtlehead Pond is usually a good Odes site, we only saw an Ebony Jewelwing (*Calopteryx maculata*) damselfly; an Eastern Amberwing (*Perithemis tenera*) dragonfly; and a Violet / Variable Dancer (*Argia fumipennis*) damselfly along the shore. I also documented a Square-headed Wasp (Family Crabronidae). Just as we were leaving, though, I spotted a teneral Dragonhunter (*Hagenius brevistylus*) making a short flight to a nearby bush. This extremely large clubtail is usually seen chasing

large dragonflies and butterflies so rarely alights on vegetation. This one with glistening wings had recently emerged from its exuvium (nymphal case) so gifted us with a short photo op.

Tom and I then continued along Vermont Route 2 to our primary destinations of the day: Victory Bog at Damon's Crossing and nearby Portland Pipeline trail. In August of 2020, several VES members and I visited the Damon's Crossing site and were glad to find many trail improvements (a gravel path, wooden bridge and a shaded seat) that aided accessibility. On this trip, I enjoyed re-discovering the fruity scent of Pineappleweed (*Matricaria discoidea*) in the parking lot and found a new viewing platform by the pond. While Tom went bushwhacking in search of rare and unusual plant life, I narrowed my search area to the vicinity of the viewing platform, hoping to record some interesting Odonates. I only photographed one mottled darner that has yet to be identified but was able to confirm a Holarctic Azure butterfly (*Celastrina* sp.) Tom spotted a Red Admiral (*Vanessa atalanta*) and a Black Swallowtail (*Papilio polyxenes*) in the field surrounding the parking lot. We also saw yellow Canada Lilies (*Lilium canadense*) and fritillary butterflies on the roadside.

Our favorite sightings at the Portland Pipeline trail, a few miles down the road, were a pair of mating Viceroy (*Limenitis archippus*) butterflies. There were a few mottled darners patrolling the shoreline but none alighted for photos.



Amber-winged Spreadwing (*Lestes eurinus*)  
Photo: Laurie DiCesare



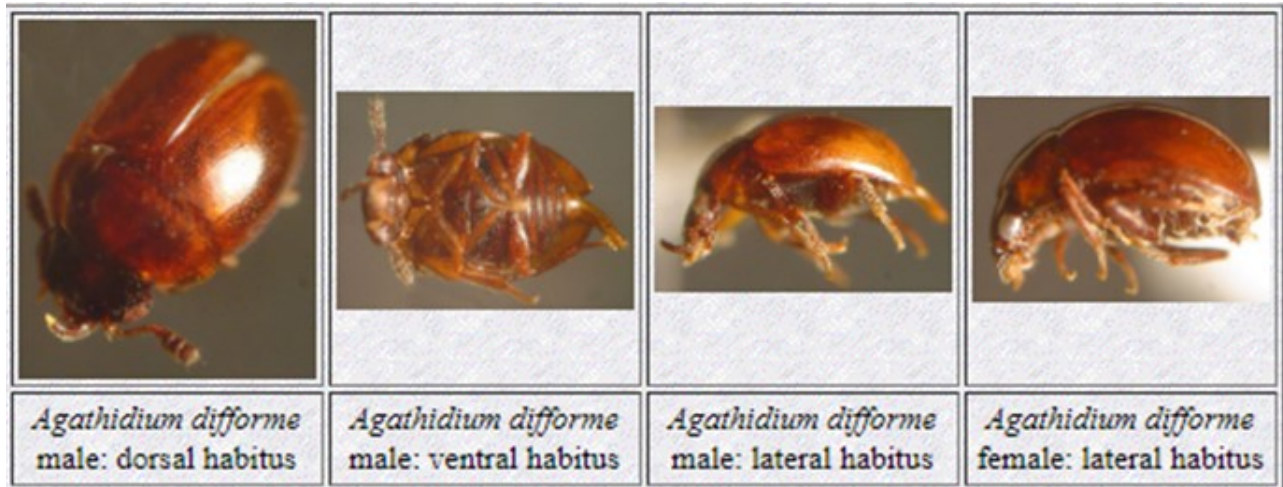
## Slime Mold Beetles

By Savannah Ferreira

“Slime mold” is a term used to describe several free-living, single-celled eukaryotes in the kingdom Protista. Slime molds spend part of their lifecycle in a gelatinous, slimy state, in which many single-celled organisms work together to find and share food and other resources. They move by pulsating calcium back and forth and consume microbes, fungi and non-living organic matter on a variety of surfaces.

Slime molds are consumed by beetles in the genus *Agathidium*, although their presence in the northeast has been sporadic and not well

documented. These insects are part of the family Leiodidae, also known as round fungus beetles. To date, 100 species of *Agathidium* have been observed and documented in North America. These beetles are mostly found in association with mature sporocarp stages (fruiting body) of slime molds but they are also able to seek out and consume its single-celled state. Many species of slime mold beetles can roll up into a more or less complete sphere. Some male slime mold beetles have a distinct horn on their left mandible that aids in identification.



Slime mold beetle (*Agathidium difforme*)

Photo: Christopher Majka & Empty Mirrors Press



Dog Vomit Slime Mold  
(*Fuligo septica*)

Photo: Gary Emberger, Messiah University.



## Identifying Hemipterans

by Beck Kerdman

Hello:

My name is Beck Kerdman and my major is Biology & Society with an ecology focus. I'm minoring in Entomology at Cornell in Ithaca, NY and also help curate the university insect collection ([CUIC](#)).

As for the basics of identifying Hemipterans, I recommend becoming familiar with the suborders to get started. Currently, there are believed to be 4 suborders, but only 3 are commonly observed. Members of all Hemipteran suborders share piercing/sucking mouthparts (a common trait of the order) but the suborder morphology is otherwise quite different.

- Hemelytra in adults, wing bugs in nymphs
- Long rostrum (sucking mouthpart)
- Large scutellum (especially in certain families like coreidae, pentatomidae, scutelleridae)

**Suborder Sternorrhynca:** plant-parasitic hemipterans. Less commonly observed in general, but families most often seen:

- aphids (Aphididae)
- scale insects (Cocomorpha)

I hope this helps!

Beck

P.S. For help with hemipteran questions, please contact [bkerdman20@gmail.com](mailto:bkerdman20@gmail.com), or find me on iNaturalist @mydadguyfieri.

P.P.S. Ambush bugs (Family Reduviidae) are predators with raptorial forelimbs like those of mantids.

Resources:

- [entnemdept.ufl.edu/choate/florida\\_heteroptera\\_families.pdf](https://entnemdept.ufl.edu/choate/florida_heteroptera_families.pdf)
- <https://www.ento.csiro.au/education/insects/hemiptera.html>
- <https://www.knowyourinsects.org/Hemiptera1.html>
- <https://www.amentsoc.org/insects/fact-files/orders/hemiptera.html>

A note of appreciation to Beck Kerdman for identifying Laurie's

"mystery bug" the Southern Green Stink Bug (*Nezara viridula*) (pictured below) from a recent walk to Macrae Farm Park in Colchester, VT.



Ambush Bug  
Photo: M.J. Raupp

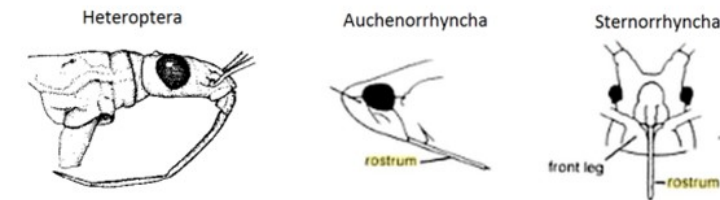


Illustration: <https://pestsandpollinators.wordpress.com/guide-to-orders/hemiptera/>

**Suborder Auchenorrhynca: hoppers.** The most common Auch. families include:

- leafhoppers (Cicadellidae)
- froghoppers (Cercopidae)
- spittlebugs (Aphrophoridae)
- cicadas (Cicadidae)
- lanternflies (Fulgoridae): ex.: Spotted Lanternfly

Common/typical traits of hoppers:

- Forewings tented/rooflike in shape
- Beak at the tip of head underside
- Antennae with a few basal segments and terminal seta.



Jagged Ambush Bug (*Phymata* sp.) & Bumble Bee  
Photo: Laurie DiCesare

**Suborder Heteroptera: true bugs.**

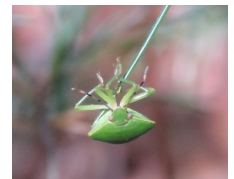
Many families. Commonly observed:

- stink bugs (Pentatomidae)
- leaf-footed bugs (Coreidae)
- assassin bugs, ambush bugs (Reduviidae)
- seed bugs (Lygaeidae)
- plant bugs (Miridae)

Common/typical traits of true bugs:



Rough Stink Bug (*Brochymena* sp.)  
Photo: Laurie DiCesare



Southern Green Stink Bug (*Nezara viridula*)  
Photo: Laurie DiCesare;  
ID Beck Kerdman

## Programs of Interest and Further Reading:

**Refuge in a Flower and Its Bee** by Bryan Pfeiffer. Bee associated with Fen Grass of Parnassus. (“Beautiful photos” Laurie D.)  
<https://bryanpfeiffer.com/2022/09/04/refuge-in-a-flower-and-its-bee>.

**Invasion of the Spotted Lanternfly** by Declan McCabe; Northern Woodlands Outside Story Aug. 22, 2022 (online.) See also the author’s recurring “Invertebrate Bestiary” articles in Northern Woodlands: Summer 2022: **Hitchhiking Beetles**; Autumn 2022: **Isopods: Crustaceans in the Forest**.

**Spider Biology, Ecology and ID** via ZOOM Oct. 31, Nov. 2, 4, 7, 9 (7 – 9 p.m.); Eagle Hill Institute, Steuben, Maine.

**Personality Differences Between Bees**, Natural History magazine cover story Sept. 2022.

**The Lives of Moths: a natural history of our planet’s moth life** by Andrei Sourakov and Rachel Warren Chad, Princeton University Press

### Webs

Unkempt webs,  
Like disheveled beds,  
Hint that the wasp  
Has won.

Each mud dauber’s tube  
Requires an egg –  
And a spider  
To nourish its kin.

But in Spring,  
While the waif wasp  
Is pumping its wings,  
A spiderling learns how to  
spin.

Laurie DiCesare



Vermont Entomological Society  
c/o Debra Kiel  
147 Allen Irish Road  
Underhill, VT 05489

