



Wisconsin Entomological Society Newsletter

Volume 36, Number 2

June 2009

During this past winter, I have become newly acquainted with a species of moth whose life cycle is in many ways the reverse of most specimens in that family. I refer to The Herald, *Scoliopteryx libatrix* (L.), which overwinters in sheltered localities such as caves (Covell, 1984, p. 162 and Plate 39, No. 12; Wagner, 2005, p. 371). Through the generosity of a friend and fellow rockhound, David Zimmerman of Brodhead, Wisconsin, I have ob-

tained several specimens of this lepidopteran (for the first time) and have come to learn of its rather curious lifestyle.

On the day before Christmas, 2008, Zimmerman was prospecting for minerals in the Stewart Tunnel, located in Exeter Township near Monticello, Green County, Wisconsin (approximate location of north entrance: 89° 34.0' W; 42° 48.7' N). This abandoned tunnel (formerly belonging to the Illinois Central Railroad), dating from the early twentieth century, was cut through the local bedrock (Ordovician-age dolostone) and is about a quarter mile in length. The tunnel is curved, so that virtually no daylight from either end reaches its center. But with the decline of the railroads and the subsequent conversion (from rails to trails) of many former tracks, all such rails have since been removed. In the tunnel, Zimmerman spotted several moths unfamiliar to him and proceeded to collect one, which he presented to me the next day with considerable surprise.

From his indication that at least several other specimens were also present, I decided to visit the tunnel for myself, although nearly another month passed before I did so. During that time, the region experienced some of the coldest temperatures on record, with lows dropping below -20° F. I wasn't optimistic that I would find many remaining specimens.

Along with my wife, I visited the tunnel on January 19, 2009, but despite extensive searching, was only able to locate and collect a single specimen of *S. libatrix*, which has since been given to a lepidopterist friend in Columbus, Indiana. This moth came from near the center of the tunnel, but closer to the north entrance, and was found on a vertical rock face, about chest-high. The walls of the tunnel were dry; no moisture or frost was apparent in the moth's vicinity. A net was unnecessary for collecting; the specimen was simply dropped into a ziplock plastic bag (as Zimmerman had done).

Please see **SCOLIOPTERYX**, page 2

A New Overwintering Locality for *Scoliopteryx libatrix* (Noctuidae: Calpinae)

by Jordan D. Marché II

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The Wisconsin Entomological Society Newsletter is published three times a year, at irregular intervals. The newsletter is provided to encourage and facilitate the exchange of information by the membership, and to keep the members informed of the activities of the organization. Members are strongly encouraged to contribute items for inclusion in the newsletter. Please send all news items, notes, new or interesting insect records, season summaries, and research requests to the editor by Jan. 15, May 15, or Sept. 15:

J. Mingari, P.O. Box 105, New Holstein, WI 53061, email: turkeyfeather@tds.net (Put WES in subject line)

NOTE: Please report any address changes to Les Ferge, 7119 Hubbard Ave., Middleton, WI 53562, email: ferge@netzero.net

SCOLIOPTERYX, from page 1

When collected, the moth was somewhat sluggish (it never tried to fly) and merely continued to crawl sporadically. Although I had not taken along a thermometer, the temperature was definitely below freezing, as the tunnel contained some large ice stalactites and stalagmites. I couldn't help but observe that this mid-January date and locality marked the most unusual situation in which I had ever succeeded in collecting live specimens of Lepidoptera in Wisconsin.*

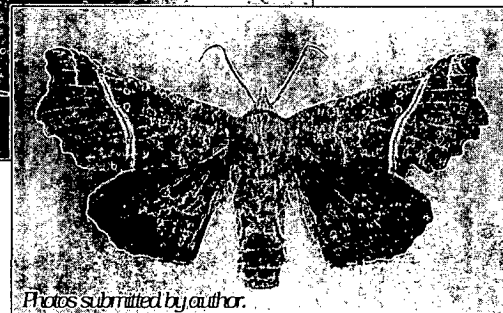
But to show that my efforts could easily be outdone, Zimmerman and a few other rockhound friends revisited the tunnel on the afternoon of January 24, and observed no less than seven other specimens of *S. libatrix*, five of which were collected and presented to me. These were kept alive in my refrigerator for about a week's time, and showed occasional movements. Four have since been turned over to Les Ferge for distribution to his and other museum collections. While I cannot say whether those moths were physically clustered together in the tunnel, they evidently came from the same general area as the earlier specimens. So all told, at least nine specimens have been documented as coming from this tunnel, during the winter of 2008-2009.

Following their hibernation, adults of *S. libatrix* re-emerge in the spring and lay eggs. Larvae feed on either willow (*Salix spp.*) or poplar (*Populus spp.*). Mature larvae are bright green with narrow yellowish lateral stripes. Pupation occurs during the

summer, wherein a cocoon is formed between leaves of the host plant. Adults emerge in late summer or early fall and seek shelter for hibernation. While nocturnal, adults are attracted to lights and also sugar baits. They are regarded as an "uncommon but very wide-



**Stewart Tunnel,
above
*Scoliopteryx
libatrix*, at right**



spread species" (University of Alberta website [below]).

Because these moths must have been living (and overwintering) in the area of the tunnel, long before it was ever constructed, some adults must also seek shelter inside narrow rock crevices or under overhangs, but in which they are virtually never seen (and thus remain well-protected from potential predators and sub-freezing temperatures). Because natural (or unnatural) features

like caves (or tunnels) are relatively scarce, those landscape features cannot provide the only sites of protection for this species. It seems likely, however, that this shift or reversal in its life cycle evolved to enable *S. libatrix* to avoid the traditional predators encountered in the usual summer period of adult activity.

I wish to thank David Zimmerman for his presentation of the first (and later) specimen of *S. libatrix*, and Les Ferge for confirmation of its identity, along with that of the other tunnel-dwelling Noctuids.

*On this same trip, one specimen of another noctuid, *Hypena humuli*, was also collected on a small horizontal ledge.

References:

Covell, C. V. (1984). *A Field Guide to the Moths of Eastern*

North America. Boston: Houghton Mifflin [Peterson Field Guide Series].
Wagner, D. L. (2005). *Caterpillars of Eastern North*

America. Princeton and Oxford: Princeton University Press [Princeton Field Guide Series].

http://
www.entomology.ualberta.ca/
searching_species_details.php?
c=8&rnd=41105413&s=3872

Historian of science Jordan Marché has been interested in entomology for over 30 years, and collects in all the orders but is partial to the Coleoptera and the Cerambycidae in particular.



Mystery Insect



Photo by Linda Curtis

Send your IDs to the editor: P.O. Box 105, New Holstein, WI 53061 or email with WES in the subject line: turkeyfeather@tds.net.

Spring Mystery Insect: Golden-Backed Snipe Fly



Ron Huber responded with a correct ID: "The spring mystery insect is almost certainly one of the snipe flies (family Rhagionidae) and looks like the very beautiful

Chrysopilus thoracicus which I stumble across occasionally here. There are over 30 species in the genus, but the Latin means 'golden-haired thorax' and that certainly fits."

Bug Gathering & Cookout at Swamp Lover's Preserve

July 18, 2009
noon to midnight

Join us for Bugs n' Grub at Swamp Lover's Preserve on July 18, 2009. Jerry Goth (owner in part) will provide brats. Please bring a side dish to share. After lunch spend the rest of the day exploring the preserve. The site boasts remnant bluff prairie, restored tall grass prairie, dry hilly oak/hickory woodland, and remnant wetlands. Excellent insect diversity, including numerous unusual species. Stay after dark for blacklighting if you enjoy the night life!

Directions: Located just outside of Cross Plains, West of Madison. Heading WEST on US-14, just West of Cross Plains go NORTH (RIGHT) on county road KP for slightly less than ½ mile, and go WEST (LEFT) onto Scheele Road. You will see a BIG prairie hillside and road going up it...that's the end destination! Go down Scheele Road for roughly ½ mile, and take a right (we'll post a sign). Follow the road up the prairie hillside to the top, where you will see a picnic area. NOTE: The road up the prairie hillside is quite steep. If you don't feel comfortable driving up just park at the bottom and we'll pick you up!

In case of bad weather July 19 will be an alternative date.

Please contact Kyle Johnson kejoh-son4@wisc.edu or (920) 639-8390 for questions and if you plan on attending.

A Few Observations on the Emerald Ash Borer (*Agrilus planipennis* Fairmaire) in Southeastern Michigan

by Jordan D. Marché II

Background

The discovery in 2008 of the first specimens of the Emerald Ash Borer in eastern Wisconsin's Ozaukee County, along with a confirmed infestation in the Upper Peninsula of Michigan (Houghton County), only demonstrates what had long been anticipated and feared with regard to the spread of this invasive species. Following the announcement of its presence in southeastern Michigan in July 2002, repeated occurrences of the EAB have gradually been confirmed across Ontario, Canada, the adjoining Great Lakes states of Ohio, Indiana, and Illinois, along with Pennsylvania, New Jersey, Maryland, West Virginia, and Missouri. Despite the quarantines and prohibitions introduced against firewood removal, this beetle has nonetheless been distributed by largely human means. Intensive research efforts, costing more than \$100 million federal dollars, have now been spent in trying to understand more about the insect's life cycle, and how it may be combated by either pesticide application or through the release of its naturally-occurring biological controls.

The EAB (Buprestidae; Agrilinae) is a native of Asia. Adults range in size from 8.5 – 13.5 mm, are metallic emerald green above, and a more iridescent yellowish-green below. Their life cycle is annual; adults generally emerge between May and July and are quite host-specific. Only ash trees of the genus *Fraxinus*, which includes the White Ash (*F. americana*), Green Ash (*F. pennsylvanica*), Black Ash (*F. nigra*), and the less common Blue Ash (*F. quadrangulata*), are currently known to be targeted by (or else susceptible to) the beetle. While adults may consume small quantities of leaves, it is the beetle's larvae which perform the damage and ultimately kill the trees. Eggs

are laid in the crevices of bark, and newly-hatched larvae then tunnel beneath the bark, where they sever the fluid-containing vascular channels that carry nutrition to the tree's upper reaches. Larvae excavate shallow S-shaped feeding traces that may be exposed when the overlying bark is removed. After reaching an inch or more in size, larvae then pupate in the early spring; adults emerge through D-shaped exit holes a few months later. Signs that a tree is infested with the EAB include crown dieback (thinning and death of its upper leaves and branches, from starvation), the aforementioned exit holes and larval galleries beneath the bark, basal sprouting, and sometimes enhanced woodpecker activity. Adult beetles probably fly less than a mile or two from their place of birth; rapid spread of this species cannot be attributed to the insect's flight behavior alone.

The common name "Emerald Ash Borer" was coined for the insect by Michigan State University Extension plant pathologist David Roberts, who first investigated why the ash trees in a Wayne County condominium complex were dying. But the beetle that he linked to the ash trees' demise had to be identified by a European taxonomist. It is conjectured that beetle larvae first arrived in wooden pallets shipped from Asia to the greater Detroit area sometime in the 1990's, perhaps 5-10 years before the insect and its resulting damage were identified. Newer research has focused on the development of pesticides, along with recognition and effectiveness testing of three species of Asian parasitic wasps that keep the beetle's native population in check.

Personal Observations

Because my parents live in Hillsdale County, one of the southeastern Michigan counties where

this beetle was positively identified, I have had the opportunity to be kept informed of its spread westward, along with the chance to collect a few specimens and observe this beetle's habits. [I have likewise performed some voluntary survey work and reported my results to an MSU Extension agent in that county.] What follows are a few (limited) observations on the time of adults' emergence and comparison to other domestic species of the genus *Agrilus* found in the Midwest.

On two different occasions (17 July 2006 and 16 July 2008), specimens were observed and collected at Owen Memorial Park, Hillsdale, Hillsdale County. On the first date, when the temperature was around 90° F, a single specimen was caught on a young but nearly decimated ash tree on the park's west side, very near to the adjoining Baw Beese Lake. On the second date, additional specimens were collected there, and from a much larger, mature ash tree located near the center of the park (the temperature was probably in the mid-80s). In each case, adult beetles were found on the tree trunks, typically several feet or more above ground. Individuals were not located on leaves of the trees. Adults seemingly possess good eyesight and are quite wary; thus, one must be prepared to act quickly. When approached or otherwise threatened, the beetles will fly a few feet away, but almost invariably come right back to the trunk. They are fairly slow and relatively weak fliers; all one needs is a small sweep net in order to capture them, although one was taken directly off the tree by hand. Only once was a beetle seen to re-land on a leaf, and that one I failed to capture.

Because of its relatively large size and unique coloration, the EAB is unlikely to be confused with any domestic species of *Agrilus*, whose habits/behavior also differ significantly. In comparison to domestic agrilines found in this area, only *A. anxius* (up to 13 mm) is comparable in size, having elytra that are a dark olivaceous color, while the head and thorax are bronzy/cupreous. The next two largest

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species, *A. vittaticollis* (8-10 mm) and *A. arcuatus* (5-9 mm), closely resemble one another, sharing dark olivaceous to blackish elytra and a brassy-cupreous head and thorax. While *A. cyanescens* (reportedly up to 11 mm) has a bright bluish-green color above, and is black with a greenish reflex below, its more common size in Wisconsin (around 6-7 mm), rules out its confusion with the EAB. This last-named species was also introduced from Europe and is not mentioned within the older literature.

Yet, not a single one of the 57 species of *Agrilus* from the northeastern U.S. is known to feed on ash trees (Downie and Arnett, 1994, pp. 763-772). This somewhat surprising result may perhaps in part explain why our ash trees have been so susceptible to the EAB. Domestic ash trees apparently have not developed any natural adaptations or resistance to such feeding strategies. In turn, most domestic agrilines, and especially the smaller species, usually are encountered on leaves (rather than trunks) of their host plants/trees. When approached, they will 'play dead' and simply roll off the leaf, which necessitates placing one's net underneath a specimen for capture. These are the principal differences that I have observed thus far between our domestic species and the EAB.

Further recognition of this species' spread is likewise dependent upon continued public education regarding its appearance, feeding habits, and destructive effects upon various ash trees found in this region and elsewhere. The EAB is likely to spread far and wide before appropriate methods can be implemented to control the damage that it has already exerted.

Reference:

Downie, N. M., and Arnett, R. H., Jr. (1994). *The Beetles of Northeastern North America*, Volume I. Gainesville, FL: Sandhill Crane Press.



***Agrilus planipennis*, actual size**

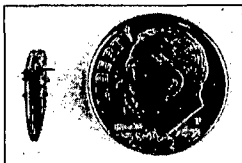


Photo by Jordan D. Marché II

Emerald Ash Borer in Wisconsin

(Are those boxes blue or purple?)

"Surveyors with the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) are currently searching for signs of the emerald ash borer in your area. [...] The traps being deployed this summer will help us get a better idea of the size of the known infestations and, possibly, if there are other areas in the state where the ash borer has arrived.

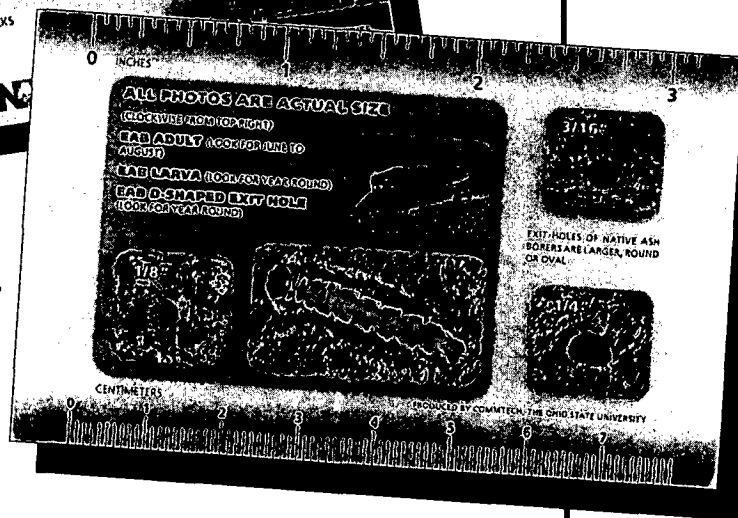
"The purple contraption hanging in your ash tree is one of those traps. It utilizes a special scent as bait for the beetle, and is coated with a sticky substance that traps the beetles when they land on them. It will be inspected for beetles once or twice during the summer and then removed before the end of September.

"The trap is not harmful to trees or people and only catches small, flying insects found in the canopy of the tree. Butterflies, moths and similar insects are rarely caught in these traps. [...] Large, healthy trees can succumb to EAB usually within three to five years. However the signs of an infestation in a tree can be very subtle at first, and it's

commonly too late to save the tree once it's determined that EAB is the cause of the problem."

For more information or to report a trap blown down by the wind (refer to trap number), call 1-800-462-2803.

Information provided by the DATCP: Jennifer Statz, EAB Program Manager.



Insect Publications and Websites of Interest

by Andrew Khitsun

The Moths of America North of Mexico (now renamed **The Moths of North America**) series continues with **volume 17.2 – Geometridae (Part)** by D. Ferguson. Apart from getting a new name, these books are now hardcover. **Moths of Western North America** by J. Powell & P. Opler describes 2,500 out of 8,000 named species in the region, including micromoths. I wish similar volumes were available for the Eastern US since the series mentioned just above are far from complete.

The book **Prionids of the World** by I. Jenis was just announced by Bioquip. It's the first volume of a new series devoted to Cerambycid beetles, and it seems that Bioquip is so far the sole distributor of this book.

If you just head to your local bookstore, there are some new books on the shelves there too. **The Lives of Ants** by L. Keller & E. Gordon promises yet another interesting journey into the depths of ant societies. **Urban Insects & Arachnids** by W. Robinson is the most up-to-date and comprehensive volume on integrated pest management in your house, apartment or other urban settings. **Unseen Companions: Big views of tiny creatures** by A. Warren continues the ever more popular stream of books boasting electron microscope photos of insects and other, even smaller organisms. **Guide to Night-Singing Insects of the Northeast** by J. Himmelman & M. DiGiorgio is a nice addition to your library – it lacks the huge color photos of some of the previous books mentioned here but has decent pictures of both males and females of the insects involved – sometimes helpful when dealing with insect groups displaying significant dimorphism. **The Dangerous World of**



Butterflies: The Startling Subculture of Criminals, Collectors, and Conservationists by P. Laufer speaks for itself and is very controversial – read at your own risk!

One of the best websites I recently found is **AntWeb** at <http://antweb.org/>. It provides amazing high-quality photos of ant fauna of the different regions of the world, including several North American states. The other ant site with awesome photos is <http://myrmecos.net/> (it has some other insect groups, too). **WaspWeb** at <http://www.waspweb.org/> offers super-colorful photos of African wasps. Japanese serve likewise beautiful photos of Homoptera at <http://www.ne.jp/asahi/rhyncha/index/indexE/>. **Interactive Listing of Mexican Butterflies** at <http://www.mariposasmexicanas.com/> deals with diurnal lepidoptera of our neighbors. **Odonata Central** is a depository site about everything dragonflies at <http://www.odonatacentral.org/> (under construction). Similar site at <http://www.coleoptera.org/> offers up tons of info on beetles.

Cerambycinae of Sarawak at <http://www.arbec.com.my/cerambycinae/index.htm> is very regional, but still could be of interest for longhorn beetles fans. **Massachusetts Cicadas** at <http://www.mechaworx.com/Cicada/masscic1.asp> and **Cicadas of Japan** at <http://homepage2.nifty.com/saisho/Zikade-e.html> are pretty much self-explanatory and very interesting.

And finally, the second edition of **Wildflowers of Wisconsin & Upper Midwest** by M. Black & E. Judziewicz is here (first one was sold out in no time). It's been renamed **Wildflowers of Wisconsin & The Great Lakes Region** and is now available from many brick & mortar or online stores!

For those of you who need blank insect labels, you can download pre-formatted templates from <http://www.insectnet.com/downloads.htm>



Entomological Foundation Scholarships and Awards

Deadline for all applications is July 1, 2009

BioQuip Undergraduate Scholarship

Students must attend college in US, Canada, or Mexico and be pursuing a degree in entomology or a career as an entomologist.

<http://www.entsoc.org/awards/student/bioquip.htm>

Larry Larson Graduate Student Award for Leadership in Applied Entomology

Acknowledges final-year master's students or first-year PhD students exhibiting exceptional interest in the study and application of entomology through outstanding research and leadership skills. Student must be an ESA member.

<http://www.entsoc.org/awards/student/larson.htm>

Ken Strothkamp
Visiting Associate Professor of Chemistry
Lewis & Clark College
Portland, Oregon
kgs@lclark.edu

April 1, 2009

RE: Research Project

Hi,

I am contacting the Wisconsin Entomological Society for help with a research project.

I am a faculty member at Lewis & Clark College in Portland, Oregon.

I have become interested in the moth *Lophocampa maculata* and have begun a modest program to try to understand this species. It is apparently found across North America on both sides of the US/Canadian border and south within the US in mountainous areas (Appalachians, Rockies, Cascades/Sierra, and Coast Ranges). I first found this species in the Coast Range of Oregon. There are two parts to the project and I would welcome help with either or both:

1. Biology of the organism: any information on:
Specific locations where it has been found
Larval host plants
Flight period
Descriptions of the instars (photos would be most useful)
Photos of the adults

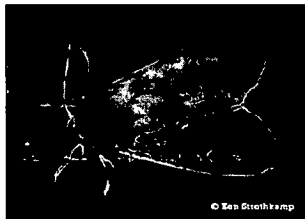
2. Population genetics: I am currently developing the RAPD-PCR method for studying the genetics of this species. I have a method to archive DNA and have carried out some preliminary analysis on material from a couple of locations. I am also planning on using other PCR-based methods for studying populations of this species. I would like to

obtain materials (eggs, caterpillars in any instar, or adults) from as many locations as possible across the continent this coming season. I am hoping to enlist the help of a network of collectors who are willing to send me material. I would, of course, be happy to reimburse individuals for shipping costs.

Possibilities for providing useful material include trapping of females and egg collection using the "brown paper bag" method; collection of caterpillars later in the season. I would appreciate hearing from anyone who might be able to help with either part of the project ("natural history" information from their locality and or/materials for genetic analysis), or from anyone who knows of a collector that might be willing to help. I would be happy to provide interested participants with further information.

Thank you in advance for any advice/help you might be able to provide. I look forward to hearing from you.

Spotted Tussock Moth or Yellow-Spotted Tiger Moth



Lophocampa maculata
Harris, 1841

Family: Tiger Moths and
Lichen Moths (*Arctiidae*)

Subfamily: Tiger Moths (*Arctiinae*)
Identification: Forewing deep yellow with four brown bands (usually merged); partial fifth band extends

inward from costa. Partial band darkest where reniform spot normally occurs. Hindwing paler yellow, translucent, unmarked. **Flight:** Not reported. **Life history:** Not reported. **Wing span:** 3.5-4.3cm.

Caterpillar hosts: Birches, maples, oaks, poplars, willows.

Adult food: Not reported. **Habitat:** Not reported. **Range:** Not reported

Moth information from *Butterflies and Moths of North America* website
<http://www.butterfliesandmoths.org/species?l=3782>

You are invited...

WES members are invited to join Southern Wisconsin Butterfly Association field trips. These trips are free and open to the general public. Information about the field trips and contact persons can be found on the SWBA website

<http://www.naba.org/chapters/nabawba/>

Trips or counts may be canceled in the case of inclement or even cloudy weather because butterflies can be hard to find in such weather. Please call the field trip leader to make sure trip will meet if weather is questionable.

Sunday, July 5

Madison Butterfly Count, Karl and Dorothy Legler

Sat., July 11

Birds, Butterflies and Dragonflies at Lakeshore Preserve, Edgar Spalding

Sat., July 18

Flowers and Butterflies of Schurch-Thomson Prairie, Rich Henderson

Sat., July 25

Scuppernong Valley Prairie and Butterflies
Rich Henderson, Karl & Dorothy Legler

Sat., Aug. 8

Butterflies of Avoca/Blue River Area, Mike Reese

Sat., Sept. 12

Monarchs and Fall Flowers at Pheasant Branch Conservancy, Ann Thering & Dreux Watermolen

Wisconsin Entomological Society

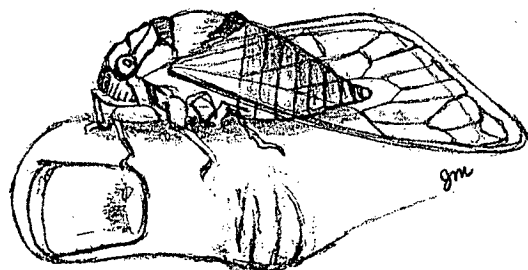


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Membership Dues

Individual Membership
\$10 per year

Sustaining Membership
\$15 per year

Family Membership
\$10 per year

Patron Membership
\$25 per year

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