

The Maine Entomologist

A FORUM FOR STUDENTS, PROFESSIONALS & AMATEURS IN THE PINE TREE STATE

Volume 7, Number 3, August 2003



From the President

It doesn't seem possible that we have now passed the mid-summer mark but we have and, in spite of unusual weather, I hear many interesting insect stories and learn of many new treasures collected by our members. I hope to see some of these findings noted in future issues of *The Maine Entomologist*. Attendance at our field events has been generally very good and support of the MES/AES Bar Harbor meeting was excellent. These events did not come about, however, without the enthusiastic efforts of our members who pitched in to make them happen: AES President, Andrei Alyokhin; AES Treasurer, Charlene Donahue; Don Chandler (our joint NH trip with the VES); Richard Hildreth; Bob Nelson; Chuck Peters and those of you who attended and gave of their time and expertise. Thanks to you all. If you have enjoyed one or more field events, please be sure and thank the sponsor(s) and consider sponsoring one yourself. We have two more field events scheduled for this year and one extra one has been proposed, so stay tuned. We are now exploring the possibility of a winter workshop as well.

Our calendar photo contest is now closed and the response this year was excellent, with over 50 photos received. Following our judges' decisions we will notify applicants of the results. The twelve top choices will be featured in our 2004 Maine Entomology Calendar. We plan to have these new calendars ready by November so we urge all of you to think of ordering one or more for yourself or as gifts.

Our webmaster and bogstomper extraordinaire, Bob Nelson, is off to Ecuador until Christmas. We wish him well and hope that he comes back with a lot of interesting stories and photos for a winter travelogue.

The purpose of the MES is to encourage you to learn about insects and their relatives and to enjoy them in their natural setting as much as possible. I've had the opportunity this season to meet many of you and see what a great diversity of interests in entomology members have. I look forward to future visits as well, afield or through our newsletter. Thanks for your support of MES!

"Happy Bugging!"

-Dick Dearborn

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ALIEN INVASION

Harmonia axyridis in Maine and Beyond

I know that it is a pretty lame title that sounds as if it was borrowed from a B-level horror movie. I honestly tried hard to come up with a better one, but could not. Another option was to call it Asian Invasion, but I rejected that one because of its slightly politically incorrect undertones. Plus, if you think about it, the story does qualify for a B-movie script: a voracious cannibalistic alien life form invading homes in heartland America, native organisms unable to resist the onslaught, mad (but well-meaning) scientists that were hoping to use the aliens to achieve their goals, and thinly veiled accusations of a government cover-up. However, there is no muscular hero saving the universe, nor are there any love stories unfolding on the background of his universe-saving activities. Instead, more profound philosophical issues of good guys gone bad, and of one man's medicine being another man's poison, are being raised.

As you might have guessed from the subtitle (which is deliberately less sensational than the title itself), I am going to talk about the establishment of the multicolored Asian lady beetle, *Harmonia axyridis* (Pallas). This is the lady beetle that has invaded our houses every fall for the past

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several years. It is a native of Southeast Asia, normally found in southern Siberia, China, Korea, and Japan. As most of its relatives, *H. axyridis* is brightly colored, although there is a considerable color variation within the species. Because the most common color form is somewhat pumpkin-like in appearance (actually, half pumpkin-like, because it is semi-globular in shape), this species was also sometimes called the Halloween beetle. The latter common name also highlights the diabolical nature of this creature in its new environment.

Unfortunately, it did not stick, and the official common name is now a more seriously sounding multicolored Asian lady beetle.

Lady beetles belong to Coccinellidae, a large family that includes over 5,200 species worldwide, with about 475 species found in North America. They are small (usually no larger than 1 cm), oval, convex, and frequently brightly colored. Most are predators of aphids and other Homoptera, and many are important biological control agents of agriculturally important pests. Because of this habit (and perhaps also because of their bright joyful coloration), ladybeetles are almost universally admired all over the world. Actually, they are venerated to such an extent that their common names in many languages are dedicated to deities. In English, the name ladybird refers to Our Lady, The Virgin Mary. In Hebrew, Coccinellidae is called Cow of Moses

or our Teacher, in Hindi – Indra’s Cowherd, in Russian – God’s Cow, in Italian (specifically in Genoa region) – Luck Bringer, and in Cherokee – Great Beloved Woman.

People have deep respect for lady beetles for a reason. Since the invention of agriculture, millions of people were saved from starvation by these small crawling creatures. As agricultural technology developed, people started deliberately employing lady beetles for controlling insect pests. Usually that entailed bringing them from one area of the world to another, an approach known as classical biological control. The rationale behind classical biological control is that many insects build up in numbers and become pests because they arrive in the new area (often

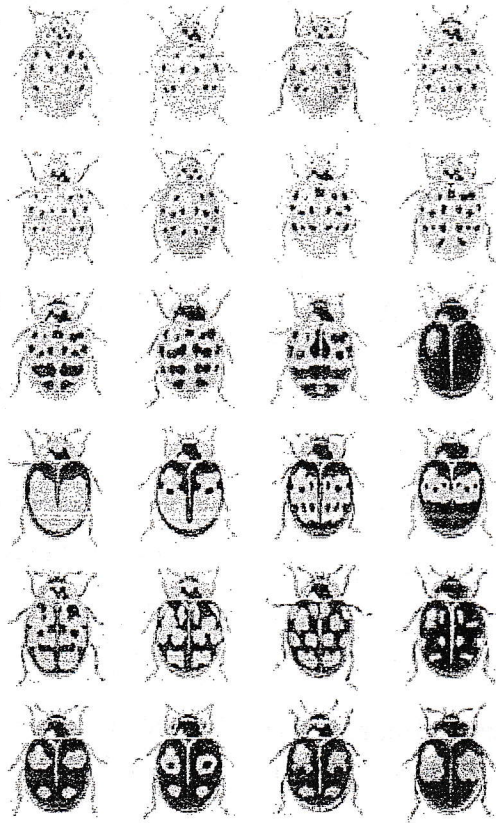
with human help), while their natural enemies are left behind. By bringing their predators and parasites, people hope to re-establish the natural balance of things. The introduction of the vedalia beetle, *Rodolia cardinalis* Mulsant, from Australia to California to control cottony cushion scale was the first and, to the present day, one of the most successful examples of biological control. Many other lady beetle introductions followed, including the introduction of *H. axyridis*.

The Asian lady beetle was first released in California in 1916, followed by additional releases in 1964 and 1965. Multiple releases were also made between 1978 and 1985 in our very own state of Maine, as well as in Nova Scotia, Connecticut, District of Columbia, Delaware, Georgia, Louisiana, Maryland, Mississippi, Ohio, Pennsylvania, and Washington. High hopes were placed on their potential to improve agricultural production, and, ultimately, the quality of life in North America. Unfortunately, soon they went the same way many (if not most) high hopes usually go...

For a while, the beetles did not make themselves noticed. Actually, they were first found in the wild only in 1988 in Louisiana. This provided biological control practitioners from the state and federal agencies with a good excuse when confronted by angry homeowners: none of the beetles that we released established. The ones that bug you originated from a few individuals sneaking in with ship cargo

to New Orleans, and then spreading to the rest of the country. Of course, this might be true. Multiple introductions of numerous individuals might have failed. Never mind that it is very common for the populations of invasive organisms to have low densities for a while after invasion (the so-called “lag phase”), either because they have to adjust to their new environment first, or because we do not pay much attention until they start causing trouble. This might have not been the case with *H. axyridis*. What do I know?

Anyway, the Asian lady beetle is here. I am not exactly sure when it first showed up in Maine. Significant numbers of this species were first documented in potato plots at



The Multicolored Asian Lady Beetle, *Harmonia axyridis*, has many color forms. Image courtesy of Oregon State University Extension.

the Aroostook Research farm in Presque Isle in 1995. Probably they've been around longer. We will never know for sure. We have to deal with them, though.

First of all, *H. axyridis* annoy the homeowners by coming to their houses in great numbers in the fall. They do not do it because they miss human companionship. In their natural environment, Asian lady beetles usually overwinter in the cracks of the rocks. Therefore, when days become short, signaling imminent winter, beetles head towards large objects, which often happen to be our houses. The ones that make it through hibernate for a few months, and then break diapause and show up again in late winter or early spring. When disturbed, they exude bright orange fluid, which is distasteful or toxic to predators. It also leaves quite visible stains on drapery and wallpaper.

Secondly, *H. axyridis* appears to be replacing many of the native lady beetle species. It definitely has a very healthy appetite, can tolerate a broad range of environmental conditions, and is extremely aggressive. In addition to its usual diet of a wide variety of aphids, Asian lady beetles will happily devour eggs and larvae of other lady beetle species. As many other lady beetles, they are also cannibalistic. However, they have a strong preference to eating other species, while some of the natives would eat each other as readily as they eat different species (I guess, another vivid example of the universal principal "united we stand, divided we fall").

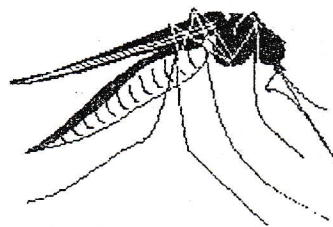
Asian lady beetles might also be more successful hunters than native species, thus depriving them of their native aphid prey. As a result, we observe a significant shift in lady beetle communities within potato plots that we study, with *H. axyridis* playing an increasingly dominant role. I do not yet know if the same is true for other habitats, although a similar situation has been reported in West Virginia apple orchards. Our lab is beginning a project investigating this issue, and, hopefully, in a few years we will have an answer.

Third, Asian lady beetles can cause some damage to fruit by feeding on it. Worse yet, they tend to be harvested with grapes and make wine taste musky. I do not think that it will ever become a particularly important agricultural pest, especially in the state of Maine, but it adds insult to an injury.

I believe that I have sufficiently demonized this poor little creature. Now it is time to say a few words in its defense. First, we do see a dramatic drop in aphid populations in Maine potato fields following *H. axyridis* establishment. Obviously, it makes farmers very happy, and

might be worth tolerating a few of them (lady beetles, not farmers) hibernating in our houses. Secondly, the beetle did not deliberately come here to pester us and destroy native ecosystems, inadvertently or deliberately, but we were the ones bringing it here. It is too late to do anything about this particular species, but we should try not making the same mistakes in the future. Of course, biological control is an important technology that will be useful for the years to come. However, much research on possible long-term effects of introduced organisms needs to be done before implementing biological control programs. Also, all necessary precautions should be taken to prevent accidental importation of alien species.

-Andrei Alyokhin



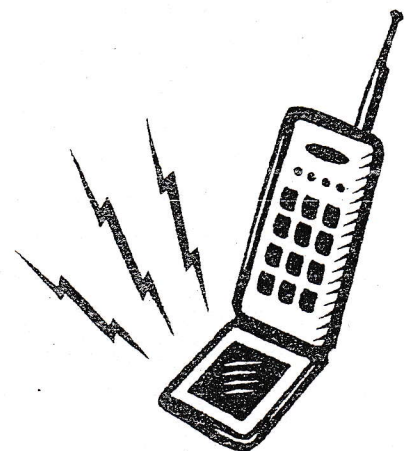
Mosquito Repellant On-the-Go

A recent posting on the ABC News website led me to wonder about bugs in the 21st century. A story in the July 11th edition titled, "Mobile phones to bug mosquitoes," states that SK Telecom, a Korean mobile phone manufacturer, is offering a new service that allows cellular phone users to download a sound that 'repels troublesome mosquitoes.'

The sound should be capable of clearing the insects within a range of one meter, an SK Telecom representative says. The company says the technology worked during tests. Subscribers will be able to download the sound, which will cost around four U.S. dollars, from the firm's wireless Internet service. The sound plays constantly and is faintly audible to the human ear. Repelling the bugs will use up to 30 percent more of the phone's battery power, however. SK Telecom controls more than half of Asia's third-largest mobile market.

Does this mean that you will now be able to talk on the phone, drink a coffee, floss your teeth, and stop West Nile virus, all while driving your car? Hmmm...

-Chuck Lubelczyk



MES Butterfly Count

The first annual MES Butterfly count was held on July 19th in Waterford, Maine. The weather was not very cooperative and only two people performed the count, which lasted from 10:30 am to 1:30 pm. The species identified were as follows:

Adults

- Clouded Sulfur (*Colias philodice*) 22 (including 2 white females)
- Eastern Tailed Blue (*Everes comyntas*) 12 (including 1 female ovipositing)
- Great Spangled Fritillary (*Speyeria cybele*) 12
- Mourning Cloak (*Nymphalis antiopa*) 1
- Northern Crescent (*Phyciodes coccyta*) 5
- European Skipper (*Thymelicus lineola*) 1
- Northern Cloudywing (*Thorybes pylades*) 1
- Long Dash Skipper (*Polites mystic*) 1
- Dun Skipper (*Euphyes vestris*) 6

Caterpillars

- Viceroy (*Limenitis archippus*) 13 on quaking aspen
 - Harris Checkerspot (*Chlosyne harrisii*) 57 nests at an estimated 30 individuals per nest on *Aster umbellatus*
 - American Lady (*Vanessa virginiensis*) 2 on pearly everlasting
- Gail Everett

Mystery Butterfly

The scene: Pipeline right-of-way in Waterford, a Saturday afternoon. Specifically, August 9, 2 pm, the first partly sunny day in at least a week.

Action: The second brood of Viceroys and White Admirals is out, and there are numerous individuals flying and mud puddling in this damp area. Suddenly, I see a dark butterfly, and, hoping it is one of the *Limenitis arthemis* hybrids, I follow it. It is extremely cautious, but eventually I get a close look at it on a branch. Sure enough, it lacks the white band of the *artemis* subspecies. But I also notice that the underside of the wings is quite orange; in fact, this side is reminiscent of a Viceroy. I try to net it, but to no avail. Before I can get close again, it is flying high, pursuing a real Viceroy with what appears to be romantic interest.

Last word: I did eventually capture the butterfly, and verified my sight impression. I have a number of *artemis/astyanax* hybrids in my collection, and this has more orange on the underside than any of them. It doesn't have the heavy black scaling on the veins that the Viceroy has, but it certainly doesn't look like the usual hybrid (if there is such a thing). Butterfly experts are welcome to speculate on its true identity.

-Gail Everett

The Spiral Dance of the Banded Hairstreak

For the past few summers, I have had the luxury of looking out my desk window, to watch the behavior of banded hairstreaks *Satyrium calanus*. In 2001, they were active as of July 1st; in 2002, they were seen on July 6th; and this year, Kevin and I have watched them from July 13 to the 20th.

The hairstreaks display a wild and rapid dance that swirls, zigzags, and spirals so quickly that the eye can barely follow the motions. In fact, neither of us can accurately count how many hairstreaks are involved, because they are so fast. Two butterflies will start the dance then one or more will join in. The party will often break apart into two groups, with additional butterflies joining, then breaking apart again. And then, suddenly, the whirling stops, and they all abruptly perch on the surrounding vegetation for a rest.

The rest period is equally fascinating. The hairstreaks land on an exposed perch in the sun. It may be a young spruce twig, and arborvitae tip, or a maple leaf, but at all times it is about waist or eye level. Then each one leans over nearly on its side, exposing the flat plane of its wing area to the sun. They look like little, gray sailboats falling over on their sides. They sometimes perch close together, sometimes on the same leaf. Are they heating their bodies for another session of the rapid dance? They may rest for about a half-minute, or as long as about five minutes.

While they are in this leaning-resting mode, you can get very close to them. Kevin can close enough to get great photos. And I can take off my glasses and put my face right up to them, to notice that there is an obvious oval welt on the forewing. A scent gland?

The hairstreaks have always performed on the north side of the cabin, in an open sunny area. Is this a true lek? Over the past three years, they have perched on the same maple, arborvitae, and spruce. I have seen them in the morning and at 4pm.

Science is based on accurate observation and field data. Yet neither Kevin nor I can even count how many individual butterflies are involved in this wild dance! They are like a cartoon whirlwind. They zigzag and spiral so rapidly, its just too hard to follow. There are at least seven, and maybe nine. It would be fascinating to videotape these dances, and replay the footage slowly, to see what's really going on.

-Monica Russo

The Vespinae (Hymenoptera: Vespidae) of Maine

Most entomologists now consider that the family Vespidae includes only three subfamilies of which only two, the Vespinae and Polistinae, occur in Maine. We have already discussed our only two Polistinae (*Polistes* spp.) in *The Maine Entomologist* 5(3): 6, August 2001. Below is an annotated list of our 13 native and two introduced species of Vespinae known, somewhat incorrectly, as yellowjackets.

Yellowjackets comprise some of our only truly social wasps and all build or live in nests of varying size with brood cells protected by a plant, usually wood, fiber outer envelope. These nests can contain less than 50 cells at maturity but most often greater than 1000 cells. Well over 100,000 cells have been recorded for a single seasonal nest. All nests in Maine are probably seasonal and abandoned each fall. In a few instances nests within buildings have been in continuous use or recolonized but this is rather rare in Maine. New nests are started in the spring by overwintering, fertilized queens that have spent the winter in some protected location such as forest litter. Perennial nests are more common in warmer regions of the world and one perennial nester, *V. germanica* has produced nests estimated to contain several million cells! Vespids do not collect nectar nor make honey.

Only female yellowjackets (workers and queens) can and all will sting. Males appear only briefly to mate and then die. While most of us fear yellowjackets, most species are very efficient predators and are thereby beneficial. Unfortunately the few bad actors such as *V. germanica*, *V. maculifrons* and *V. vulgaris* can make up for the rest.

The Vespidae are a fascinating and somewhat poorly understood group as most of us prefer to stay away from them. Identification of vespids can be made on the basis of the color pattern on the head and abdomen. If I have piqued your curiosity and you want to learn more, I would suggest that you procure and read the following reference; it's worth the read:

Akre, R.D. et al. 1981. The Yellowjackets of America North of Mexico. USDA, Ag. Handbook No. 552. 102pp.

-Dick Dearborn

Vespa crabro L.

Giant or European Hornet

Introduced; The only true hornet in NA; predacious; A forest species which usually nests in tree cavities or buildings; night active at light; no confirmed Maine records; not aggressive.

Dolichovespula spp.

Aerial or rarely ground nesting; predacious.

D. albida (Sladen)

A whitejacket; northern mountains; rare.

D. arctica (Rohwer)

A whitejacket; obligate social parasite of *D. arenaria*.

D. arenaria (Fab.)

Aerial yellowjacket

Common eaves-nesting species; two forms.

D. maculata (L.)

Bald-faced Hornet

A whitejacket; not a true hornet.

D. norvegicoides (Sladen)

Rather rare yellowjacket.

Vespula spp.

Usually nest in the ground, trees cavities or walls but rarely exposed aerial nests.

V. acadica (Sladen)

Forest yellowjacket

Northern; not common in Maine.

V. austriaca (Panzer)

Obligate social parasite of *V. acadica*; northern and rare; a yellowjacket.

V. consobrina (Sauss.)

Black jacket

Has reduced white markings.

V. flavopilosa (MacDonald.?)

Hybrid yellowjacket

Has tan nests.

V. germanica (Fab.)

German yellowjacket

Introduced and spreading rapidly; aggressive.

V. intermedia (Buys.)

A white jacket; northern and rare.

V. maculifrons (Buys.)

Eastern yellowjacket

Common and aggressive.

V. vidua (Sauss.)

A yellowjacket; southern and rare.

V. vulgaris (L.)

Common yellowjacket

Common and aggressive.



Dragonfly Stocking for Mosquito Control

By the time another Maine summer has arrived and passed over 40 species of mosquitoes - most native, some

introduced - will have taken flight in our backyards, fields, and forests. Thankfully most of our mosquito species are not seeking mammalian blood meals, but those that do can be more than effective at assuming the reputation of "pest" for the group.

In the past, insect pest management has been nearly synonymous with the spraying of chemical insecticides, and mosquito control was no exception. As late as the 1950s, aerial spraying of DDT occurred over Maine's islands and coastal communities in an effort to gain temporary relief for summer residents and visitors. More recently, other chemicals - pyrethroids, malathion, methoprene, a strain of bacteria named *Bti*, and more - have been substituted for DDT in aerial spray programs across New England. While less toxic to humans and other vertebrates, negative impacts to non-target, beneficial insects have been demonstrated by even the most taxonomically-specific of these products (*Bti* and methoprene), suggesting the unfortunate reality that *no pesticides only kill mosquitoes*.

Whether informed by scientific literature or simple ecological intuition, most landowners and municipalities have shied away from large-scale pesticide spray programs for mosquito control. If not immune to their effects, Mainers have learned to tolerate summer mosquitoes by using repellents, altering behavior (like skipping that warm, mid-summer hike by the marsh), or just grinning and bearing it. After all, anything that helps feed our swallows, flycatchers, bats, and dragonflies must have a greater purpose.

The fact that dragonflies eat mosquitoes has not gone unnoticed by certain town managers seeking alternatives to spraying for mosquito control. The Wells Chamber of Commerce, for example, has been pooling residential orders for dragonfly nymphs (larvae) from private supply companies in Massachusetts for over 25 years. The program is slowly growing in popularity with commercial orders recently totaling between 15,000 and 20,000 nymphs per year from Wells alone! Perhaps in part due to the notoriety that the Maine Damselfly and Dragonfly Survey has brought to odonates in Maine, I have received an increasing number of inquiries about the effectiveness and availability of dragonfly nymphs for mosquito control.

While using artificially-enhanced dragonfly populations for biological control of mosquitoes may seem intuitively appealing, there are important issues that should be considered

before assuming the practice is ecologically benign, or even effective. Below, I outline several specific concerns that prevent the Maine Department of Inland Fisheries and Wildlife (MDIFW) from currently recommending this practice:

Introduction of Exotics - As with most taxa, odonate diversity increases toward southern latitudes. This means that biological supply companies to our south risk incidental introductions of nonnative dragonfly species into our waters. This is because suppliers don't grow their larval stock in-situ, but rather "mine" wild larvae on demand from local watersheds. Not surprisingly, this leads to little or no control of the species-mix that is exported in a given shipment. Indeed, the supply companies that I interviewed admitted to having no capability for tracking the specific origin or species composition of any orders being filled in Maine.

Aquatic Ecosystem Impacts - Dragonfly larvae, or nymphs as they are sometimes called, are among the top aquatic predators in fishless swamps, ponds, and headwater streams. As such, their density is subject to limitation by prey populations and vice versa. Artificially inflating dragonfly densities by several orders of magnitude can have unintended effects on the ecology of local waters by increasing competition and predation on other aquatic organisms, including native odonates. If difficult to envision the effects of manipulating a small, cryptic, submerged predator, then consider a reasonable terrestrial analogy: manipulation of the number of wolf packs on an off-shore island hosting a small moose population.

Terrestrial Ecosystem Impacts - Presumably the ultimate goal of a larval-stocking program is enhancement of local populations of adult dragonflies. While often billed as "mosquito-hawks," the fact is that dragonflies eat just about anything that fits into their jaws, be it black flies and mosquitoes OR butterflies, moths, mayflies, wasps, honey bees, beetles and other native pollinators and beneficial insects. In some locations populations of state-endangered insects could be threatened by the added mortality caused by artificially inflated dragonfly populations.

Efficacy - Many dragonflies have rather specific habitat associations, with preferences determined by substrate-type, aquatic plant composition, and water flow, among other variables. Therefore, it is quite plausible that a random sweep of larval dragonflies from an unidentified source wetland in Massachusetts will produce a suite of species entirely unsuited to the wetland targeted for stocking. Also, given the mobility and fecundity of our native dragonflies, it's likely that any natural wetland inherently capable of producing dragonflies already hosts the appropriate species composition and carrying capacity of larvae. In this case, adding ecologically nonviable species or

densities amounts to wasted effort and money.

Legality - Possession and importation of Maine's wildlife species, including invertebrates, are subject to conditions specified under the state's Wildlife Possession and Importation Rules administered by MDIFW. As such, it is technically illegal to import any species (with the exception of a short list of popular pet trade species) of the animal kingdom into the state without securing a permit from the commissioner of MDIFW. While MDIFW has not enforced these provisions with respect to dragonfly importation for mosquito control, the Department is actively reviewing this policy in light of the issues outlined above. During this process we welcome input from MES members (please send your written comments to Phillip deMaynadier in Bangor, digitally or by mail).

The arguments presented here are by no means a tacit endorsement for controlling mosquitoes using potentially ecologically damaging chemicals. Frankly, if asked which practice is likely to have the least net impact to the environment - judicial aerial applications of Bti or methoprene OR widespread stocking of imported dragonfly larvae - I don't think I could provide a well-defended response. There are simply too many ecological unknowns and potential for incidental impacts from either practice. However, it is my intention to question some of the commercial literature and growing public rumors that dragonfly stocking is an ecologically benign and effective practice. Learning to accept mosquitoes as an important, albeit annoying, component of our natural ecosystems is, hands down, the least risky alternative of all.

-Phillip deMaynadier
941-4239

The above article was excerpted from the most recent issue of Mainensis, the newsletter of the Maine Damselfly and Dragonfly Survey, with permission from Maine Department of Inland Fisheries & Wildlife.

Tech Tips: We'll Leave the Light on For Ya

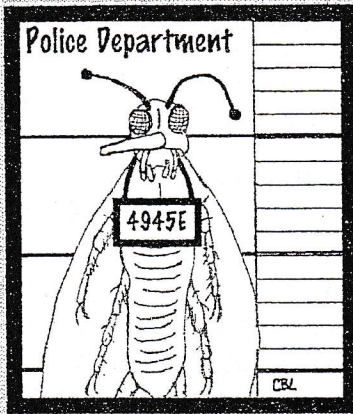
In my last article I encouraged you to rescue "bug zappers," which needlessly kill harmless and helpful insects, to employ their UV black light bulbs for the attraction of insects allowing selective collection or observation. Another very effective approach to attracting night-flying insects is with a mercury vapor bulb. Mercury vapor bulbs were once used as streetlights (high-pressure sodium bulbs are now more commonly used because they attract fewer insects) and are often found as home security lights because of their low cost and high operating efficiency. They are constructed with an internal tube containing mercury and usually argon gas which when energized allows an arc to jump between the two electrodes. This arc produces a very intense light, which includes much of the visible spectrum as well as UV energy. This broad spectrum and their high intensity allow them to attract a wide variety of insects from even greater distances than UV black lights. Unfortunately, mercury vapor lamps for insect collecting can be rather expensive, approaching \$200. But the resourceful entomologist on a shoestring budget can find a solution!

Home Depot and most hardware stores stock mercury vapor home security lamps (which look like small streetlights) for a mere \$20-\$30. That price includes a 175-watt bulb, an internal ballast to provide the high voltage for starting and maintaining the arc, and a housing which provides protection from raindrops hitting the hot bulb.

With a few modifications the lamp will be ready to attract insects. First, it's a good idea to remove the white plastic shield around the bulb to allow for a more intense lighting effect. The one I purchased required a little work with a pair of pliers to uncrimp the soft metal holding the shield in place. Next, since the lamp is intended to be hard-wired to an electrical system, you will have to connect the three wires of a heavy-duty electrical cord with a plug on one end to the three wires in the lamp. This is not difficult but if you are unsure, have someone who knows the basics of wiring help you. You will also need a way to support the housing. Generally intended for direct mounting to the side of a building or on a pole, the housing could also be suspended. I bolted mine to a hardwood board with a hole drilled through it. Placing a short threaded rod with a T-handle epoxied on the top end through the hole allows me to mount it directly to a photo tripod. Many of these security lights employ a photoelectric switch to turn them on in the night and off in the day. I found that placing mine near a white sheet caused it to switch off due to the reflected light. A simple fix was to cover the sensor (a clear dome-shaped device on the top of the housing) with black electrician's tape so it would remain on when plugged in.

UV black lights do offer a few advantages over mercury vapor lights. They are smaller, lighter, and can be used in places where a bright light might keep people awake. I often use one of my disarmed 'bug zappers' when we're camping. But if you really want to kick it up a notch, try a mercury vapor light!

-Chuck Peters



The Bug Mug Shot: The Dogbane Beetle

Order: Coleoptera (Beetles)
Family: Chrysomelidae (Leaf Beetles). This is the fourth largest family of beetles with nearly 1500 species in North America. It is estimated that there are more than 300 species in Maine although they have not yet been catalogued. This is a very diverse group and difficult to characterize.

Species: *Chrysochus auratus* Fab. The Dogbane Beetle or Golden Beetle. It ranges throughout most of North America, east of the Rocky Mountains wherever dogbane (*Apocynum* spp.) grows.

Description: Adult beetles are oval with females 10 by 5 mm and males 8 by 4mm. They are among the most brilliantly colored of our beetles. While they are bright, shiny, metallic green in bright sunlight they also exhibit a vivid reddish or even metallic greenish-blue shine in some light. The color remains evident even in artificial light after they have died. The white larvae of the dogbane beetle are C-shaped with a brownish head and grow to about 12 mm at maturity. Unlike most other white grubs, the dogbane beetle larvae have lateral lobes on the ventral side of all abdominal segments which resemble the prolegs of Lepidoptera.

Primary Habitat: Old fields, roadsides, and waste places.

Food: Only species of dogbane or Indian hemp, *Apocynum* spp., in Maine. Although *C. auratus* has reportedly been observed feeding on milkweed, this species seems to prefer dogbane in Maine. The only other North American species in the same genus, *C. cobaltinus*, the Blue Milkweed Beetle, is strictly western and seems to prefer milkweed. Both adults and larvae feed on plants; adults most often externally chew on foliage, while larvae are primarily root feeders.

Life History: Adults emerge in July and August and begin feeding on dogbane foliage. They seem to chew on leaf margins even as the milky plant juices flow from the wounds. By late July they have paired up to mate. The yellowish eggs are laid in small groups of two or more on the foliage, stems or in litter at the base of the plants. The eggs are covered in a small cone of excrement forming a capsule. After hatching in a week or so the larvae eat their way out and drop to the soil where they tunnel down to feed on the perennial roots. Larvae can be found at almost any time and some may take up to two years to develop. Winter is probably spent in the larval stage.

Notes: These beetles are so brightly colored that they show up as jewels on dogbane foliage even at a distance. Perhaps this is why this species was among the first wave of North American insects to be described by J. C. Fabricius in 1775. Insects such as this inspired the insect jewelry craze of the early 1900s and still do in countries around the world.

Don't Miss
the Last
Two Trips
of 2003!



September 13. Rockland (Knox County). This collecting trip will begin at 10 am at the **Oyster River Bog**. Contact Rick Mack for directions and details at (207) 288-3250 or rick@aerohydro.com.

October 13. Mt. Vernon (Kennebec County). The **Annual Meeting** will once again be held among the fields and fall foliage of Dick and Marj Dearborn's home in Mt. Vernon on Monday, October 13 (Columbus Day). This event will run from 10 am to 4 pm with a chicken BBQ and potluck lunch at noon and the annual meeting at 1 pm. This is the meeting where the 2004 MES officers will be elected and next year's field trips will be proposed. Collecting will take place throughout the day, so bring your gear. Please RSVP by calling (207) 293-2288 or e-mailing modear@prexar.com.

To get to the Dearborn residence, take I-95 to Augusta. Get off exit 30 and follow Routes 17/202 west towards Manchester. At Manchester, bear right onto Route 17 towards Readfield. In Readfield, turn right onto North Road and drive for approximately 1.5 miles. Turn right onto Wings Mill Road for about 2 miles. Wings Mill Road takes a sharp right turn at the bottom of a hill. Instead of taking this turn, go straight onto Cottle Hill Road. Take your first right onto Spring Hill Rd. Dick and Marj's house will be the first house on the right.

June AES/MES Meeting Summary

The second joint meeting of the Acadian and Maine Entomological Societies was as rousing a success as the first meeting in 2002 in Machias. Bar Harbor was a beautiful setting for the June 22-24 meeting and the College of the Atlantic (COA) an excellent facility. The impetus for holding the meeting in Bar Harbor in June was the problem the area has with the stinging ant *Myrmica rubra*, an introduced species that makes life miserable for residents and visitors alike. University of Maine researchers have been studying the problem for a number of years in Acadia National Park and it was decided ants would be good focus for a meeting. Acadia National Park helped sponsor the ant specialists at the meeting, as well as providing camp sites for meeting attendees at Black Woods Campground. Sixty-seven people attended the paper sessions, a number swelled by an additional 22 members of the general public for the keynote speaker, Dr. Graham Elmes of the Centre for Ecology and Hydrology, Dorset, England.

The meeting kicked off on Sunday with dual collecting trips. One group went on a general collecting trip to the Donnell Pond Public Reserve area. The weather was cool and cloudy so collecting was marginal from most accounts but the 20 or so people who went reported having had a good day. The other group went on an "Ant Blitz" in Acadia National Park, the first time collecting of this sort has been allowed in the park. The 26 people were divided into six teams, consisting of an ant expert, someone familiar with the area to be sampled, and two or three willing participants. Teams hand searched pre-designated areas, set out baited traps, collected soil samples and searched leaf litter samples. Specimens and samples were returned to the lab at COA where Berlese funnels were set up for the soil samples and all the ant specimen information was recorded.

Presentations on Monday and Tuesday morning were divided into sessions on ants, arthropods of medical significance and general entomology covering a broad range of topics. The presenters hailed from Maine, Quebec, Massachusetts, Connecticut, Maryland, New York, Hawaii, California and Arizona with participants coming from even more states and provinces.

The ant workshop Tuesday afternoon began with a quick trip to see *Myrmica rubra* in action and then broke into two groups. One group was for people new to ant identification and the second for those particularly inter-

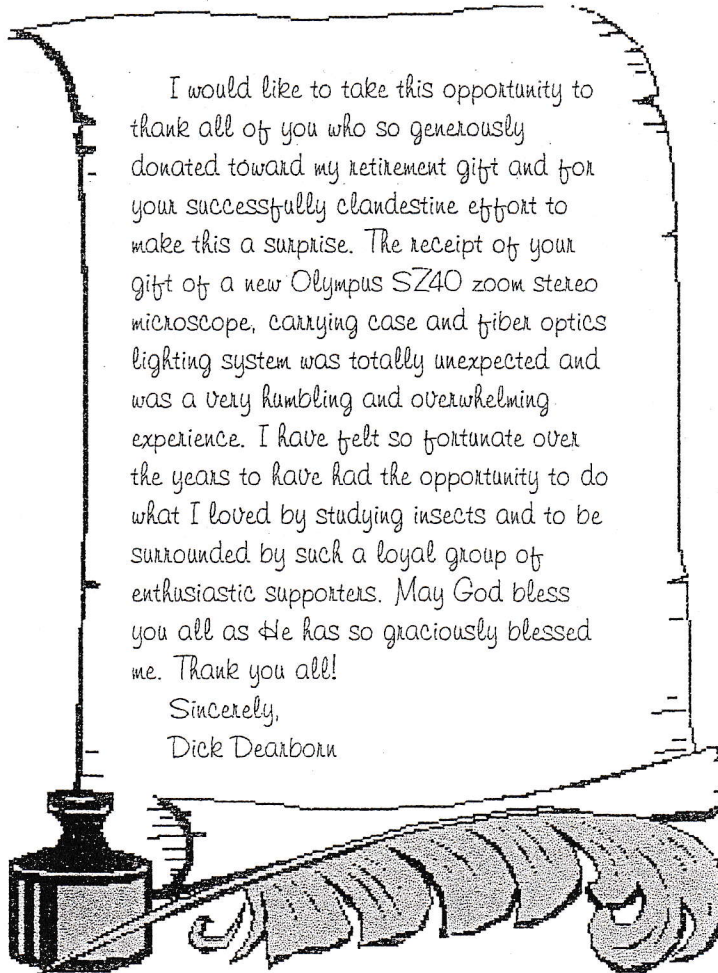
ested in *Myrmica rubra* and relatives. Microscopes, keys and knowledgeable experts as well as specimens were available for participant use. I think all went away with a deeper understanding of ants and an appreciation for the problems facing areas that are infested with *Myrmica rubra*. The ants collected in Acadia will be identified and catalogued by specialists coordinated by Dr. Ellie Groden, University of Maine. The identifications will take time but it appears there are already two state records.

Socializing took place at the Kebo Valley Golf Club with a mixer Sunday night and a lobster bake on Monday with music provided by the Green Mountain Railway band.

For those of you who did not attend, you missed a stimulating three days. The AES meetings now return to Canada with a joint meeting with the Canadian Entomological Society in October 2004 on Prince Edwards Island. The folks from New Brunswick said they hope MES members will come to the meetings in Canada because they add so much energy and enthusiasm to the meetings.

Proceedings of the meeting and notices of future meetings can be found on the AES website www.upei.ca/~aes/.

-Charlene Donahue



I would like to take this opportunity to thank all of you who so generously donated toward my retirement gift and for your successfully clandestine effort to make this a surprise. The receipt of your gift of a new Olympus SZ40 zoom stereo microscope, carrying case and fiber optics lighting system was totally unexpected and was a very humbling and overwhelming experience. I have felt so fortunate over the years to have had the opportunity to do what I loved by studying insects and to be surrounded by such a loyal group of enthusiastic supporters. May God bless you all as He has so graciously blessed me. Thank you all!

Sincerely,
Dick Dearborn

What to Look for in the Coming Months

September - The Monarch butterflies begin heading south this month, flying straight through to winter quarters. Meanwhile other insects start seeking winter quarters locally. Several of our fuzzy tussock caterpillars are striking but irritating, literally, as they ripple about seeking pupation sites. The more handler-friendly red and black-banded woollybear caterpillars can often be seen crossing roads where they can be caught (be careful now!) and observed to give out their winter weather forecast. Preying mantids and other late season orthopterans can still be found. By late September most wasp and bumblebee colonies have broken down and fertilized queens have entered the forest litter to hibernate. Vacant nests will not be reused but be careful when taking them down to see that they are indeed vacant! You will have to beat the skunks on low or ground nests as these provide a welcome treat as skunks clean out leftover, and often living, wasps and bees, and their brood and food stores. While most odonate activity has declined by now, look for abundant flight still by spread-winged damselflies (Lestidae) near slow waters, and by darners (Aeshnidae) in evening swarms.

October - With the arrival of brilliant fall colors, black and white buck moths cruise fens and marshy glades on warm sunny afternoons, and an occasional fiery colored American copper and clouded sulphurs adorn purple fall asters. Look too for a final showing by the hardy red meadowhawk (*Sympetrum* spp.) dragonflies in fields on sunny days. By now many insects are heading for winter quarters, often buildings, in droves such as the infamous Multicolored Asian Lady Beetles, boxelder bugs, smaller milkweed bugs and western conifer seed bugs. Those that get in will reappear during the winter and again in the spring as they leave.

November - Those frail tan moths now active on warmer days and nights may be males of the fall cankerworm and Bruce spanworm. The wingless females wait patiently on tree trunks nearby often keeping company with dusky firefly beetles!

December - The last of the hardy cankerworm moths take wing for the last time early in the month and are replaced by the hardy sallows and pinions (Noctuidae: Cuculliinae) which may be seen off and on until spring during warm spells.

-Dick Dearborn

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