



VES NEWS

The Newsletter of the Vermont Entomological Society

Number 73
Fall 2011



On the web at www.VermontInsects.org



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The Newsletter of the
Vermont Entomological Society

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The **Vermont Entomological Society** 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:

Steve Trombulak, VES Treasurer
 Department of Biology
 Middlebury College
 Middlebury, VT 05753

Cover Image: Kent McFarland photographed this question mark butterfly, *Polygonia interrogationis*, on September 17, 2011 in the pollinator garden at his home in Woodstock.

Back Page Photo: Ron Kelley captured this shot of two Uhler's Sundragons (*Helocordulia uhleri*) at Green River Reservoir in Hyde Park, VT on June 4, 2011.

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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

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:

Steve Trombulak, VES Treasurer
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 Middlebury College
 Middlebury, VT 05753



They Call Me Britty-bug for a Reason

By Brittany Kittle

As the daughter of a plant pathologist, I was always outside with my dad and that's where my passion for insects first took flight. I was always bringing critters of all types into the house and dissecting cocoons, wasp nests and virtually everything else on the kitchen counter. When we lived in California, I even brought a black widow spider into the house and that's when my parents had to sit me down and have the 'good spider, bad spider' talk.

All through grade school and high school I was constantly telling people that one day I would be an entomologist. I was accepted to Purdue University in Indiana, my number one choice of schools, just an hour away from home in Carmel. I started studying biology but soon realized I wouldn't truly be happy until I was studying my passion,

entomology. Dr. Linda Mason took me under her wing while I worked in her stored grain pest management lab.

Joining the Thomas Say Entomological Society for undergraduates at Purdue was one of the best decisions I ever made. I met a lot of fellow entomologists that are now my good friends and participated in a number of fun activities like a backstage tour of the field museum in Chicago where we viewed their extensive collection. We also made and sold chocolate covered crickets at 'Bug Bowl', a spring festival held once a year at Purdue that is used to educate and inform people about the wonderful world of insects.



Brittany at the Krohn Conservatory in Cincinnati, OH

This wonderful networking opportunity also brought me the chance of a lifetime, to study abroad my junior year in Italy with Dr. Alan York and a small group of students. We traveled to Sicily, Rome and Naples to learn about organic farming techniques and sustainable agriculture.

My senior project was both a lot of work and a lot of fun. I explored four counties in northwest Indiana over several months catching, marking, releasing and recapturing *Ty-*

pocerus v. ve-
lutinus, a flower longhorn beetle, to map their preferences and movement. I spent a lot of time in the field and got the chance to see a lot of amazing plant and insect diversity.

During my time at Purdue, I met and fell in love with a material science engineer named Nick. I started dragging him along with me to all of my fun insect-related activities and it has now become something we enjoy

doing together. Nick is a big fan of "bug hunting" - which we've done in all of our travels.

I was lucky enough to earn a coveted internship at Disney World in Florida. I am currently one of 2 entomology interns at the 'Living with the Land' greenhouses at Disney's Epcot theme park. I am gaining lots of experience with beneficial insects such as *Eretmocerus californicus*, a whitefly parasite, as well as biological control of pests in greenhouses. I love the fact that I also get to interact with guests everyday while guiding them on the "Behind the Seeds" walking tour of our green houses. You'd be amazed at some of the entomology-related questions

(Continued on page 4)

Member Profile (cont')



(Continued from page 3)

the guests can ask.

My boyfriend Nick decided to use my favorite ride of all time, Splash Mountain, to propose to me! Nick and I will be moving to the Burlington, VT area this December because he was fortunate enough to get a wonderful job. We both look forward to grabbing a net and the camera to explore the beauty and diversity of Ver-

mont, as soon as it warms up again! I am also seeking employment in the area and would be open to any suggestions. You can e-mail me at Brittany.Kittle@gmail.com and I will gladly provide a resume, if interested.

Editors Note: Welcome to the Vermont Entomological Society, Brittany!

From Your VES Treasurer



By Steve Trombulak

Please remember that the cycle of membership is based on the calendar year. Dues for 2012 are due as of January 1st. If in doubt about your membership status, please look on the mailing label of your newsletter, where you will see the due date for your renewal. If it says "Jan-2012," then your membership will be due on the first of the year. Membership dues remain the same this year as they have for the past several years: \$15 for individuals, \$30 for families. Please send a check for the appropriate amount made out to the Vermont Entomological Society to Steve Trombulak, Program in Environmental Studies, Middlebury College, Middlebury, VT 05753.

Also, some advanced notice about my schedule: I am on sabbatical this academic year and will be doing a fair amount of travel. I will be out of the country from December 9th to January 3rd, and then away again from January 9th to February 1st. So don't worry if checks for membership renewals are not processed as quickly as usual. Anything sent to me in December will be taken care of during the first week of January, and anything sent to me after that will be taken care of in February. If you need information from me regarding the status of your membership, it would be best to write me before December 9th. I won't have email until my return, and my in-box is likely to be so full that I might not get through it all that quickly.

VES at the Shelburne Farms Harvest Festival



By all reports, VES member Maggie Desch, with the assistance of Dawn Anderson, Laurie DiCesare and Deb Kiel (as well as some showy and cooperative live arthropods from Maggie's menagerie) were a huge hit at the Shelburne Farms Harvest Festival on September 17th. Deb said, "I have never seen little kids so willing to have rather large and intimidating creatures walk up and down their arms. Good thing we were pretty far away from the chickens!"

We owe a lot to these VES members for helping make the day so successful. Fostering insect-friendly attitudes is always worthwhile, and the Vermont Entomological Society has been a driving force in that regard during this popular Chittenden County event.



Lubber Grasshopper, *Romalea microptera*



Buckner Preserve Field Trip

By Michael Sabourin

Two individuals participated in the Buckner Preserve trip on September 11th. It was a pleasant afternoon with enough clouds and wind to abate the heat. Open areas along Tim's trail were primarily explored. Solidago was abundant and correspondingly numerous wasps, flies, and other insects were visiting the yellow blossoms. Highlights of the day included Laurie DiCesare netting a Canada Darner in flight and observation of a Crowned Slug Moth larva found on the ground.

Selected Buckner Preserve Species

Identified by VES Members Michael Sabourin and Laurie DiCesare

Sept. 11, 2011 (1:30 to 4:30 p.m.)

Conditions: Partly sunny, warm with light breeze.

Insects and Allies

Butterflies and Moths (Order Lepidoptera)

- Blue, Eastern-tailed (*Everes comyntas*)
- White, Cabbage (*Pieris rapae*)
- Sulphur, Common (*Colias philodice*) some white females present
- Sulphur, Alfalfa (*Colias eurytheme*)
- Swallowtail, Black (*Papilio polyxenes*)
- Crescent, Pearl (*Phyciodes tharos*)
- Fritillary sp. (*Speyeria* sp.)
- Question Mark (*Polygonia interrogatoris*) some fresh specimens with a violet tinge to the wing borders
- Monarch (*Danaus plexippus*)
- Skipper sp.
- Moth, Tortricid (*Eucosma dorsisignatana*)
- Moth, Sparganothis Fruitworm (*Spraganothis sulfurneana*)
- Moth, Pyralid (*Scoparia* sp.)
- Moth, Garden Webworm (*Achyra rantalis*)



Pearl Crescent, *Phyciodes tharos*

Michael Sabourin

- Moth, Crowned Slug (*Isa testula*) limacodid moth, larva on ground (*Editor's Note: See "New Leps" on page 6.*)
- Moth, Snowberry Clearwing (*Hemeris diffinis*) larva on honeysuckle
- Moth, Hickory Tussock (*Lophocampa caryae*) larvae on tree trunk
- Moth, Black-and-Yellow Lichen (*Lycomorpha pholus*)
- Moth, Celery Looper (*Anagrapha falcifera*) visiting blossoms
- Moth, Looper (*Caenurgina* sp.)



Snowberry Clearwing, *Hemeris diffinis*, larva

Michael Sabourin

- Moth, Underwing (*Catocala* sp.) large moth with whitish forewings and reddish hindwings, day flying

Cicadas, etc. (Order Homoptera)

- Leafhopper sp., blue
- Cicada sp., heard

Bugs (Order Hemiptera)

- Leaf-footed bug with yellow-tipped antennae

Flies (Order Diptera)

- Crane fly sp., large golden body and wings

Wasps and Bees (Order Hymenoptera)

- Bumblebees
- Hornet, White-faced (*Dolichovespula maculate*)
- Mud-daubers
- Wasps
- Yellowjackets
- Sawfly, Elm (*Cimbex americana*) det. Don Miller

(Continued on page 6)

Field Notes (cont.)

(Continued from page 5)

Selected Buckner Preserve Species

Damselflies and Dragonflies (Order Odonata)

- Damselfly, Eastern Forktail (*Ischnura verticalis*)
- Darner, Green-striped (*Aeshna verticalis*) several pair in copula
- Darner, Canada (*Aeshna canadensis*)
- Darner, Common Green (*Anax junius*) female
- Meadowhawk, Cherry-faced (*Sympetrum obtrusum*) confirmed red face
- Spreadwing, Spotted (*Lestes congener*) light green top of thorax, det. Don Miller
- Whitetail, Common (*Libellula lydia*)

Beetles (Order Coleoptera)

Family Cerambycidae: Long-horned Beetles
Locust Borer (*Megacyllene robiniae*) on goldenrod

Spiders

Spider, Argiope (zigzag design in web)
Spider, Crab

For a list of non-arthropods (plants, mammals, birds and reptiles) observed at the Buckner preserve during this field trip, contact Michael Sabourin at mothvet@yahoo.com.

New Species of Lepidoptera for the Vermont Checklist

By Warren J. Kiel

Since moving to Vermont in 2006, a number of my recent moth captures appear to be new species for the 1995 Vermont Checklist as follows. (Each is prefaced by Hodges Checklist Number.)

4629 *Acoloithus falsarius* (Clemens) (Zygaenidae).

A single female of this species was captured on 22 July, 2009 at Fairfax, Chittenden county, collected daytime visiting *Spiraea* blossoms.

4681 *Isa textula* (Herrich-Shaffer) (Limacodidae).

A single female was collected on 2 July, 2011 at mercury vapor light at Grand Isle, Grand Isle County.

9434 *Spartiniphaga includens* (Walker) (Noctuidae).

A male was collected at black light here at home in Underhill, Chittenden County.



Warren Kiel

Acoloithus falsarius,
Clemens' False Skeletonizer Moth



© Jim Vargo

Crowned Slug Moth, *Isa textula*

Incidentally, since my astonished discovery of a single larva of the Variegated Fritillary (*Euptoitea Claudia*) (Cramer) feeding on pansy here at home in Underhill (a male emerging 10 Sept., 2007), a number of sightings of this more southern butterfly were noted around our house during the summer of 2011. Have other Society members seen any this year? Perhaps the warmer temperatures have allowed the species to become at least a temporary breeding resident.

References

- Grehan, John R., et al., 1995, *Moths and Butterflies of Vermont* (Lepidoptera), A Faunal Checklist. Misc. Pub. 116.
- Hodges, Ronald W., et al., 1983, *Checklist of the Lepidoptera of America North of Mexico*.



The Bugs Move North

by R.T. Bell

During the last hurricane, as I made my way home-ward through the wind and rain from the Wake Robin dining hall, I spied an insect that I hadn't seen before. It was a very slender animal, very pale tan in color with two dark brown spots on each front wing.

When I collected it, I expected it to be a stone fly (Plecoptera). I was surprised when I got it under a scope, to see a long ovipositor at its tail end, also that the hind legs, although very slender, were clearly longer than the other legs, and were suited for hopping. It keyed to Order, Orthoptera and was clearly a tree cricket, Subfamily Oecanthinae, Family Gryllidae, named *Neoxabea bipunctata* (DeGeer). This is a definite northward advance.

Previously it has been recorded north only to Boston (Jessica Rykken has it listed for the Boston Harbor Islands) and just north of New York City. I think the animal was blown out of its tree or bush habitat by the hurricane.

I had a note from Jerry Jenkins, a field botanist who works mostly in the Adirondacks, recording an unfamiliar cicada from the silver maple bottomlands along the extreme south end of Lake Champlain. It's too late in the summer to be the 17 year cicada or the little Okanogan cicada, so it must be a *Tibicen*, but is definitely not the common *T. canicularis*.

He believes it to be *T. linnei*, or less likely *T. tibicen* (based on its call). It will be necessary to get a specimen to confirm its identity.

This is not as big a jump as was that of the tree cricket, as it has previously been collected at Albany, N.Y. These northern range extensions could possibly be due to global warming.



Two-spotted Tree Cricket, *Neoxabea bipunctata*

Rich Hoyer, BugGuide.net



A

Matrioptera, BugGuide.net



B

Centralny1, BugGuide.net



C

Jim Bliss, BugGuide.net

A-C: *Tibicen canicularis*, *T. linnei*, and *T. tibicen*.

IT'S NOT JUST A RIDE, IT'S PHORESY!

By Kent McFarland

I really don't like weeding. My wife seems to get into a Zen-like state and just gets it done. But for me, I find just about anything else to capture my attention. So it was with great pleasure when just moments into weeding I spotted a dragonfly on one of the nearby plants acting strangely. What immediately caught my eye was a pile of tiny, red, egg-like sacs all over its thorax. I ran to grab my camera, and at this point, I am sure, my wife was rolling her eyes. But heck, I was just about to bear witness to phoresy.

Frankly, I didn't know the term either. But it turns out that those little red sacs weren't eggs at all, but rather larvae of water mites and they were hitching a ride on the dragonfly. Ecologists call it phoresy, the process of using another organism to move about.

Arrenurus water mite adults are a mere three millimeters long and usually brown or greenish so you wouldn't really notice them in the water unless you were really looking for them. They mate in the spring and the female lays up to 400 red eggs on underwater objects, one egg at a time.

The six-legged larvae hatch in one to six weeks, depending on water temperature, and they immediately

swim around looking for an insect larva. When they find a mosquito, stonefly, damselfly or a dragonfly larva that is in its late stages of growth, they grab onto it, waiting until the larva goes airborne.

As the dragonfly larva crawls out of the water and sheds its exoskeleton, the mites jump off the cast shell

and onto the dragonfly. Now they are not only hitchhiking, but they also become parasites. They form a tube that pierces the exoskeleton of the dragonfly so that they can feed on the victim's hemolymph, kind of like blood in an insect's circulatory

system. After the mite grows enough, its exoskeleton becomes like a sac and inside the larva develops into a nymph.

When the nymph is fully developed, it just drops off the host when it is over water. Now, like all arachnids, it has eight legs and looks similar to an adult water mite. They eat the same foods as adults too – tiny insects, worms and even other mites. After they eat and grow, if they avoid being eaten themselves, they find an object to attach to and form another sac to develop into an adult.

It's a complicated life cycle for the minute water mite. I never would have guessed that they visited our nicely weeded garden far from water.



Dragonfly with phoretic mites

BUCKEYES TAKE VERMONT BY STORM

By Kevin Hemeon

This was an exciting year in the world of Vermont butterflies. At least three southern species made it to the state in large numbers and most likely bred here this summer. Perhaps the most commonly found and most attractive (in my opinion) was the Common Buckeye (*Junonia coenia*).

A resident from central California to North Carolina southwards, this butterfly moves north during the summer.

Only rarely as far as Vermont, however. Common Buckeyes were first documented in the state in 2004 during the Vermont Butterfly Survey. They were only found three more times during the 2002-2007 survey period but, only as lone individuals and only in the southern part of the state.



Common Buckeye, *Junonia coenia* (Photo by Roy Pilcher)

There was a much different scenario in 2011. The first sighting was on June 24th and the last (to this point) was on September 30th. Multiple specimens were seen in many locales and they were found as far north as Middlesex and the county of Grand Isle.

While summer breeding was not confirmed by finding and documenting immature stages, it can be assumed by multiple sightings of fresh adults at the same sites

over the course of the summer. In addition, large numbers of adults were recorded at some sites. The largest known count was of 39 individuals. This is not typical of singular strays moving north. Perhaps searching patches of larval food plants (members of the Snapdragon family and, in this area, Plantain) for caterpillars in areas that have not had frost would still yield results. These caterpillars feed alone.

It is important to document any sightings on the BAMONA website: <http://www.butterfliesandmoths.org>. Apparently, we may be witnessing a change in

the occurrence of this butterfly and it is important to document this as completely as possible. Even pictures of poor quality can confirm sightings of this distinctive species. One on the BAMONA site was taken at distance with a cell phone.

It remains to be seen if this year's movement was a fluke or a trend. In any case, it was a welcome and beautiful diversion.

Thanks to Kent McFarland for permission to use data from The Vermont Butterfly Survey Final Report to the Natural Heritage Information Project of the Vermont Department of Fish and Wildlife.

Editor's note: If you would like to join the VTLEPS list (VTLEPS@list.uvm.edu) so that you can receive e-mails and/or contribute observations on Lepidoptera, simply visit: <http://list.uvm.edu/cgi-bin/wa?A0=VTLEPS>.



WINGS: An Exhibit of My Nature Photography

Korongo Gallery in Randolph, VT
October 14 – November 23, 2011
by Bryan Pfeiffer

Birds leaping and gliding in flight. Tiny butterflies sipping nectar from a flower. And damselflies making love. These are among luminaries in a premier of my photography at Korongo Gallery in Randolph starting October 14.

The exhibit, titled simply "Wings: Bryan Pfeiffer's Images from Nature," is the first formal presentation of my photography. It will feature a lecture and workshop series to help



© Bryan Pfeiffer / Wings Photography

nature lovers capture better results from their digital cameras.

As a field naturalist I see in nature every day the drama of life on earth: birth, awareness, reproduction, struggle, death. And I see beauty. It's what I try to bring home through the lens of my camera, to share with folks who don't necessarily work where I work – in mountains and bogs and forests.

Although life in flight constitutes a major portion of my photography, I'll also bring to Korongo other images from my wanderings outside: a panorama from the Grand Canyon, an elegant scallop on a beach and a tranquil sunset a day after Tropical Storm Irene battered Vermont.

Korongo is at 18 Merchants Row in Randolph, Vermont. 802-728-6788 or korongotex@aol.com.

BUGS... Outside The Box Discover the Art Within the Science

Academy of Natural Sciences of Drexel University
Philadelphia
October 22, 2011 – January 16, 2012

Now is your chance to examine all the intricacies of the insect world...without a microscope!

This world-premiere exhibit features an array of enormous and scientifically accurate insect sculptures by noted Italian artist Lorenzo Possenti. Paired with live bugs and colorful specimens from the Academy's world-renowned invertebrate collection, Bugs Outside the Box provides a surprising and rarely seen look at these amazing creatures.

Visit www.ansp.org/bugs-outside-the-box for more information.



SAWTOOTHED GRAIN BEETLE

By Rod Crawford

I'm inspired to a contribution on these creatures because over the last few days I've eaten a large number of them! They were infesting a container of rice; they made no apparent contribution to the flavor, but doubtless marginally increased the protein content... You might say that "some inner voice" told me to write about them.

The family Cucujidae are called "flat bark beetles" and have "a depressed elongate form adapting them for life under the bark of trees, where they probably feed on organic debris... Like some of the Ostomatidae and Tenebrionidae with similar habits, some of the Cucujidae have become important meal and stored product pests." (Hatch).

Two species of *Oryzaephilus* (Greek: rice-lover) are found in Seattle. Both are cosmopolitan in distribution and no one seems to know where they came from originally (or if anyone does know, they won't admit it!).

O. surinamensis (so called by Linnaeus because his specimens came from Surinam: shades of the German cockroach!) is the commoner and infests a wide range of grain-like products, from rice to corn flakes to birdseed to pancake flour to tapioca. The first Washington records date from 1932. *O. mercator* ("merchant") was first found here in 1938 and is more likely to infest tropical products like coconut, dates, and coffee (Starbuck's take note! In fact, I've identified this species from Starbuck's coffee beans supplied to a restaurant!).

Both are small and inconspicuous (until you add the milk to the cereal and they float!), about 2.5-3 mm long, narrow and dark colored. Even under a microscope they are very similar, but *surinamensis* has tiny differences in the shape of the head and antennal club, and the 3 median ridges of the pronotum are not as convergent anteriorly. Also, in *mercator* the pronotum is somewhat constricted in front of the saw-teeth (see figures above). In both, the male has a tooth on the hind femur; the female does not.

Eggs "are laid singly or in small batches ... in some crevice in the food supply ... in Washington, D.C. the females emerge in April and lay from 45 to 285 eggs." (Mallis). The full grown larva is almost 3 mm long or slightly bigger than an average adult, paler colored, with a pair of abdominal prolegs in addition to the 6 true legs on the thorax. "It moves about nibbling hither and yon, and probably cannot feed on the whole grain." Thus, when these beetles are found in whole grains

such as birdseed it is probably in association with other insects that perform the initial opening on the seeds. The larval cycle is 27-35 days, with 2-4 molts depending on temperature. On raisins in a California lab, the complete egg to egg generation time was 51 days. The adults are potentially long-lived (one was recorded living over 3 years; it is not known how the researcher knew it was the same individual!) but require relatively high (e.g. summer) temperature and humidity to breed.

Considered as a pest, this beetle has greater impact from making food unsalable and/or distasteful to the squeamish than from the relatively small amount of food actually consumed. Its size and shape makes it highly adapted for penetrating apparently intact packages. Mallis records a case where "the beetles and larvae have been known to enter

every single package in a very badly infested grocery store."

As with other stored product pests, control is primarily a matter of identifying the infested packages and destroying (or, preferably, cooking and eating) them, then

thoroughly vacuuming all cracks and crevices in the kitchen, storeroom, or whatever. At most a few cycles of this should suffice to exterminate any ordinary infestation.

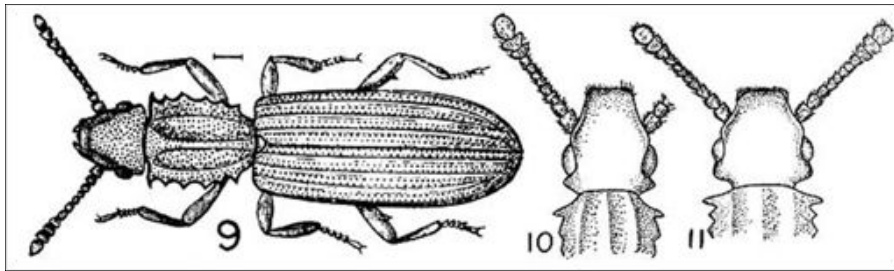
A recent Internet correspondent inquired as follows: "I fed my two little kids rice-crispies this morning and didn't pay a lot of attention until the three year old said, "oh look, bugs!" The cereal was infested with little beetles, which I keyed out to *Oryzaephilus surinamensis* (Sawtoothed Grain Beetle). Any known worries about eating maybe 500 of these little beetles? Both my kids were kind of disgusted, as was my wife when she woke up. The fact that I had a microscope and all my bug books out on the kitchen table didn't exactly help..." To which someone responded, "A little protein never hurt anybody. I've eaten dozens myself. Got to the point where I didn't care any more. They're good in pancakes too!"

References

Hatch, Melville H. 1961. The Beetles of the Pacific Northwest, Part III. University of Washington Press. P. 206, 446.

Mallis, Arnold. 1990. Handbook of Pest Control. 7th edition. Cleveland: Franzak & Foster Co., pp. 524-6.

Editor's Note: This article originally appeared in Scarabogram (the newsletter of the Seattle Entomological Society), February 1997, New Series No. 202, pp. 2-3. See <http://crawford.tardigrade.net/bugs/BugofMonth28.html>



Oryzaephilus surinamensis (figs. 9, 11); *O. mercator* (fig. 10); after Hatch.



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Uhler's Sundragons (*Helocordulia uhleri*) at Green River Reservoir in Hyde Park, VT.



Ron Kelley