A new locality for *Hetaerina titia* in SE Michigan

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The Smoky Rubyspot, *Hetaerina titia*, is an enigmatic species that seems to be rarely encountered in Michigan – in fact, we have only two localities in two different watersheds with records for a species that might easily be confused with the common *Hetaerina americana*. Earlier this year, I received nearly 500 Odonata from Dwayne Badgero of Plymouth, MI. Approximately 80% of the specimens were from Michigan localities, and all of the specimens have been checked over and catalogued. One of the last batches of specimens I looked at had one of the most interesting finds – two specimens of *H. titia* that had been misidentified as the

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common *H. americana*. I was quite pleased to see that Dwayne had collected some new records, and had planned to go visit the site during late summer/early fall, but weather conditions were never good when I was able to go. I’m presenting this new locality below, and thank Dwayne for his excellent stroke of luck in getting specimens of this “rare” species.

**Specimen data:** MICHIGAN: Jackson Co., Kat Palmer Audubon Sanctuary, Sandstone Creek @ O’Brien & McCain Roads, Sept. 29, 2002, D.R. Badgero, MOS0031676 – 1 male; same data, 1 male, MOS0031559.

Weichsel (1998) wrote of a population of *H. titia* from Davis Creek in Green Oak Twp., Livingston Co. When I visited the site with Ethan Bright and Joel Weichsel in early August 1998, the section of stream where we collected *titia* was largely wooded, with a few openings in the canopy directly over the stream, which had a mostly gravelly substrate. Kormondy (1958) listed Oakland Co., for a locality of *H. titia*, but we have not located the specimen(s) on which the record is based. However, Pratt and Catling (1999) listed several localities along the Thames and Sydenham Rivers in southwest Ontario.

Although *H. titia* and *H. americana* look nearly identical at first sight, significant differences are discernable with the naked eye or with a hand lens. The figures on page 1 should clarify the most immediate differences. The basal wing area of *H. americana* has a significant amount of red, while the basal area of *H. titia* has greatly reduced red areas, and the wing tips are infuscate. I list the most obvious characters below (Westfall and May 1996). Larval characters are provided by Ethan Bright’s on-line key: (http://insects.ummz.lsa.umich.edu/michodo/test/Hetaerina.htm).

**TITIA** - male - paraprocts in lateral view strongly curve upward; basal spot of forewing red; hindwing dull red or brown. Female - wings mostly smoky to dark brown.

**AMERICANA** - male - paraprocts not curved upward, or only very slightly; basal spot on both pairs of wings bright red. Female - wings pale yellowish to moderately smoky (the further south, darker the coloration).

I do believe that *H. titia* will turn out to be more widespread in southeast Michigan than has previously been demonstrated. The similarity with the American Rubyspot probably has led some people to bypass them, thinking it was not necessary collect such a common species. On the other hand, I don’t expect it to be very abundant in any locality, because more would have been caught by now just by sheer coincidence. Next year, I hope more people will look at woodland streams that have gravelly bottoms and wooded margins in southern Michigan. It’s possible that more of these elusive damsels will turn up in other tributaries.

**Literature Cited**


Summer 2006 Field Trips

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For me, the spring and summer of 2006 turned out to be fruitful for odonates, both monetarily and search-wise. I did three surveys for the U.S. Forest Service, two in the Hiawatha National Forest and one in the Ottawa National Forest.

The season began in the Hiawatha NF north of Rapid River in search of Ebony Boghaunter, *Williamsonia fletcheri*, and Ringed Boghaunter, *W. lintneri*. The search area was some 700 acres of bog and wetland. Much of this was not what I'd have called *Williamsonia* territory based on my experiences in Mecosta County and known locations in Kent, Montcalm, and Newaygo counties. Beginning in late May, I searched the designated stands within the compartments assigned by the USFS. Many of the expected gomphids, *Leucorrhinias*, as well as whitetails and Chalk-fronted Corporals (*Ladona julia*) were drying themselves in the forest trails, but the stands were annoyingly devoid of any target odes. Though I did find three *W. fletcheri*, one captured, none of these were within the stands. All were on sandy two-tracks in dappled light, just like I find them in the Lower Peninsula. I don’t think any of the specimens I found derived from the bogs I was to survey, but from small permanent water kettle holes dispersed in the woodlands.

In the Ottawa NF in late June, I was surveying west of Iron River in a mix of moraine and Iron Range hills on the border with Wisconsin. In the Ottawa NF, I had been left to find my own sites to survey. The Mud Lake Vegetative Management Project had many species of odes present, but for the first time in the five surveys I have done for the Ottawa NF, I did not find any of the target species sought. The waters were just not that conducive to the clubtails and emeralds I was after, though I did see some great scenery, got in some canoeing, and waded considerable lengths of stream. However, I did find the leps to be the best of anyplace I’ve visited in the forest. One trail I took led to a small opening with hundreds of butterflies of some ten species and an interspecies courtship between a Northern Pearl Crescent and a Silvery Checkerspot, both of which were common at the site.

On my return to the Lower Peninsula, I stopped at Horserace Rapids on the Paint River near the Michigan-Wisconsin border. I caught a few common species of damsels there. Looking that location up on the MOS database, I noted I had caught the same species as Kormondy in the 1950s and may have stood in the same place to collect.

Back at Rapid River at the end of July, I needed to redo the same 700 acres for Incurvate Emerald, *Somatochlora incurvata*, and do another 1300 designated acres for *S. incurvata* and Hine’s Emerald, *S. hineana*. While there was no habitat in the survey area for Hine’s Emerald, I did locate six sites where I collected the Incurvate Emerald and saw another 18-20 individuals in the same and other sites. What was particularly of interest in this survey was the dominance of buckthorn (*Rhamnus frangula*) in several stands: acres and acres of nothing but impenetrable buckthorn. In the evenings, I spent some time collecting along the Big Bay de Noc shoreline and the Rapid River, finally collecting two of my nemesis species - the Black Meadowhawk and Variegated Meadowhawk (*Sympetrum danae* and *S. corruptum*).

One set of bogs I needed to cover for both surveys was nearly a section in size and ranging in vegetation from aspen uplands (on crevice-filling ridges) to *Carex oligosperma* bogs, mixed with very difficult to negotiate lowland brush. I was nearly taking Gatorade by IV and ended up with painful cramps both visits. I also did this group of stands on the hottest days of both the May and July heat waves. The big plus side of the work in the Hiawatha was I really learned to use a compass and GPS. There was a lot of cross-country work just to get to some on the designated stands.

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From both trips to the Hiawatha NF, I came away with about a dozen county record butterfly species for the MSU collection and several ode records, including a Zebra Clubtail, Stylurus scudder, as a road kill on the edge of US-2 near St. Jacques.

Stopping along the Pointe La Barbe road near the Mackinac Bridge, I was able to snag another of my nemesis species, a Wandering Glider, Pantala flavescens, and a Missaukee County record of Elusive Clubtail, Stylurus notatus, in the Muskegon River.

Tools of the Trade

I've been wondering for several years if the eye-blackening used by football players would be of use while collecting odes. I purchased a tube of No Glare at a local sport shop and gave it a try. It does help, but it does "bleed" with sweat and easily comes off if you wipe sweat off your face and it also stains cloth. Near the end of the season, I did get a pack of the stick-on No Glare strips, but have not had a chance to try them. The pack claims to be 66% more effective than paste, won't smear or be affected by sweat. Give them a try. Both can be obtained at sport shops and big box places like MC Sport and Dunhams. Meijer's claims to have them seasonally and Wal-Mart probably does also. (Editor’s note -- I’m trying to imagine Stephen in the field with what might look like running mascara...MFO).

—Stephen Ross

2006 Odonata Surveys in the Hiawatha National Forest

Lucas Langstaff

The Hiawatha National Forest (HNF) worked with three odonate contractors to conduct wetland and river surveys for rare and sensitive odonate species in 2006: Stephen Ross, Ken Tennessen, and Doug Munson. HNF biologists also conducted Odonata surveys. The target species were Hine’s Emerald (Somatochlora hineana), Incurvate Emerald (S. incurvata), Ebony Boghaunter (Williamsonia fletcheri), Ringed Boghaunter (W. lintneri), Rapids Clubtail (Gomphus quadricolor), and Green-faced Clubtail (Hylogomphus viridifrons). These species were selected as targets because of their status as Federally Endangered or Regional Forester Sensitive Species (R9). R9 species are those that have known occurrences on a National Forest in Region 9 of the Forest Service and have a TNC global, national, or trinomial rank of G1-G3, N1-N3, or T1-T3.

In Delta County, vouchers of S. incurvata were taken at 6 new locations. Six other new locations were discovered for this species, but no vouchers were taken. Two new locations for W. fletcheri were identified with vouchers as well. In Mackinac County one new location for W. fletcheri was identified with a voucher.
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Approximately 200 exuviae were collected during surveys in 2006 and are being identified by Ethan Bright under contract.

The central and eastern Upper Peninsula experienced a second consecutive year of drought conditions in the spring/summer 2006. Because of this, survey conditions were very poor for bog and fen habitats this year. Very few Somatochlora spp. were observed during the flight season. Curiously enough, many of the observations that were made were S. incurvata. If the dry conditions recur, there will be interesting research opportunities to study the effect of these conditions on odonate life cycles.

Odonata surveys are being planned for spring and summer 2007 in the Hiawatha National Forest. Biologists are planning to conduct some additional searches for S. incurvata, Williamsonia lintneri, and W. fletcheri exuviae in bog habitats where adults have been vouchered.

Common Names Update

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The Common Names Committee of the Dragonfly Society of the Americas has been responsible for the list of common names of North American (Canada/US) Odonata since about a decade ago when the names were first made ‘official’ by the society.

We have always been concerned with stability of the names, but we have recommended changes in a small percentage of them when we realized, and then agreed, that a particular name was really quite inappropriate for the species to which it had been applied. We thought it would be better to make these decisions early in the history of the names rather than leaving some future committee to deal with them. Of course we have also coined names for newly described species and those newly recorded in our geographic area, as well as made decisions about names for species split or lumped.

It was recently called to my attention that it would be a courtesy for the committee to make known our recommendations as quickly as possible for those people writing books or other treatises on Odonata that involved the use of these common names. With early enough notice, names could be changed in book manuscripts so the book wouldn’t be ‘out of date’ when published. We have usually considered the name change official when published in ARGIA, the DSA newsletter, but in consideration of the authors out there, we will from now on disseminate these changes on listserves as soon as the committee has established them. Thus I am informing you of three name changes by the committee. These will be published in the next issue of ARGIA.

Stripe-winged Baskettail, Epitheca costalis, is now to be called Slender Baskettail.

Ski-tailed Emerald, Somatochlora elongata, is now to be called Ski-tipped Emerald.

Faded Pennant, Celithemis ornata, is now to be called Ornate Pennant.
I was recently going through some old materials in the museum (where we are well-known for accumulating such things), and dug out some of the old lantern slides that were used in lectures up to 60 years ago. Most of the lantern slides were made before 1945. They are about 3.25" x 4", sealed with black tape, and the image is a positive black and white photograph. One image is that of *Libellula cyanea*, and the caption reads “specimen and slide by A.F. Combs,” placing it before the 1920s. Combs published one paper on Michigan Odonata (Combs, A.F. 1917. Notes on a collection of Odonata from Schoolcraft County, Michigan. Occ. Papers Mus. Zool. Univ. Michigan 41:1-8.).

The specimen in the slide is obviously pinned, and the wings are outstretched. This was state of the art back then -- cameras and films were not up to the task of photographing living dragonflies. Most of the printed images from that time are pen and ink illustrations of larvae and adults and artists of the time did amazingly nice renditions of Odonata. Photographs would have to be of static things, because of the limitations of the camera technology. Lantern slides were in wide use for all types of educational and entertainment purposes from the mid-1800s on, and even before photography appeared, hand-painted slides were used for entertainment. Once photographic technology made photographic lantern slides feasible, the main use for instruction was often copying the images that appeared in books and scientific publications -- much like the way overhead projectors and xeroxed transparencies were used many years later, and then followed by Powerpoint presentations.

The appearance of the 2x2 slide made the glass lantern slide obsolete, and they were pretty much gone from use by 1950, except I suppose, at universities where some professors needed to keep using what they were familiar with. The weight savings alone made the transport of slide presentations manageable. With the advent of better camera technology, people with 35mm cameras were able to photograph living dragonflies and capture their behavior on film, rather than some artist’s conception (or misconception, in some cases). That really has expanded our knowledge and dissemination of information. A talk to a group of people could be given with color slides to illustrate the talk, and provide the visual cues needed for identifying the species. The 35mm color transparency (Kodachrome, then Ektachrome) has been the medium of choice for biologists for many years. Easily sorted, arranged, and stored, the slides were a staple of presentations for 50 years. In addition, they were sent to publishers for use in various books and magazines.

Enter the digital age.

For better or worse, we have become a Powerpoint Nation. Once the choice of the geeky or the business professional, Powerpoint is now used universally as the virtual slide show. No longer does one have to carry around a slide carousel to a meeting or lecture. Instead, the slides have given way to a USB flash drive that carries all of our presentation material from computer to computer. In a worse-case scenario, we bring our laptop to hook up to an LCD projector. Although no LCD projector can match a slide projector for enlargements and color fidelity, we are able to incorporate a lot more text, sounds, and multimedia into a presentation with a minimum of fuss. Done well, a Powerpoint-based presentation can be a thing of beauty and full of information. Done badly... well, we have all seen too many of those.

The other aspect of digital imaging is obviously the web, and its manifestation into nearly any aspect of our life. Need to find an answer? “Google” it. Need to find a dragonfly photo? Search Google images. Never before has so much information (and sometimes misinformation) been available so readily and easily. This means we have to do our best to ensure that information provided online is correct, to the best of our knowledge.

Odonata Central (http://odonatacentral.bfl.utexas.edu/) is a fantastic resource that incorporates images, databases, maps, and text. This of course, is obvious to all of you, so why am I bothering to write about it? Well, think back to those glass slides and how they were made and used, as well as how little information was available about Odonata to anyone but those able to do scholarly work. Even for them, the magnitude of the lack of information and availability of journals and images made it quite a task to see if someone had already described a species or had published some aspect of its biology. No wonder there are so many synonyms today of sometimes widespread species. With the plethora of readily available databases, literature, images, and web

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pages, there is a lot more information available to anyone doing work on Odonata than there was 10 years ago. Part of that is due to the popularity of Odonata as survey subjects, but that popularity was fanned by the internet.

As some people know, Google and the University of Michigan are working to put a majority of its library holdings online. I'm pushing for the UMMZ to get all of its back issues of Museum publications scanned and made available over the web under one of the UM Library’s programs. There is a lot of great information in some of those old papers by Williamson, and it would be great to have them available online.

Another aspect of all of this is that when the Michigan Odonata Atlas is finally written, it does not have to be the end-all, be-all tome on Michigan Odonata. The data will still be available online, and updated as necessary. For as we know, the minute anything is published today, it’s already a year out of date. This isn’t a hindrance, augmenting publications by referring the readers to a web site is now commonplace, and works well so long as the site remains available.

One application of all this is that I see is having a hand-held device such as a photo iPod with images of odes with the characteristic features available so when one is out in the field, identification becomes a lot easier. We go back to the glass slide again, but this time it’s only a small window to an information warehouse that fits in our pocket.

Recent Odonata articles pertinent to the Great Lakes region


New aquatic insect book emerging

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One of the more anticipated series of talks at this year’s North American Benthological Society (NABS) annual meeting in Anchorage, Alaska, were those regarding the forthcoming new edition of An Introduction to the Aquatic Insects of North America. Fourth Edition (Kendall/Hunt Publishing Co., Dubuque, Iowa), which is edited by Richard Merritt, Kenneth Cummins, and Martin Berg (the latter new to this edition). It is expected to be available in early 2007. There are many changes to the life history tables, and the bibliography section has been expanded to over 6,000 citations. Of particular interest to less experienced taxonomists is the inclusion of an interactive CD disk that allows identification to order and (I think) families of most of the groups. It will be based on the Lucid computer key program. The user then will refer to the book for more taxonomic resolution.

The chapter for Odonata is written by Ken Tennessen. Few changes if any are expected for the Odonata of the Great Lakes area. New additions and changes to the keys largely treat those Neotropical taxa having been recently found in the southern regions of the United States, such as the Florida Keys, southern Texas, and Arizona. New taxa and descriptions have been added to Ephemeroptera and Plecoptera, reflecting many detailed systematic studies that have occurred since 1995. Most of the changes in the keys involve the large Holometabolous orders of insects, especially Diptera, Coleoptera, and Trichoptera. For example, with regards to Diptera, Thaumeleidae, which has 26 spp. in two genera in North America, all our species are transferred to /Androprosopa/. The distribution and species resolution of Blephariceridae will be improved. The family Axymyiidae, whose larvae burrow into water-saturated wood, is now included. Another new family included is Oreoleptidae, whose larvae live in torrential streams, a dangerous habitat most do not sample. With Simulididae, /Piezosimulium/ disappears, as the type specimen of this genus turned out to be a deformed specimen of /Parasimulium/. Chironomidae — with the number of genera having grown to 223 — has so many changes that the previous edition may be considered unreliable.

This new edition will warmly greeted by the professional community. The life history tables and bibliography alone make this reference an incredible resource. The introductory chapters on morphology, systematics, ecology and life history, collection methodology, and the chapters on identification make this volume a virtually required purchase for anyone seriously interested in aquatic insects.

Sometimes they fly to me

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Perhaps it’s just fitting that a rare species (for Michigan) flies into my front yard. I live in an older neighborhood in Ann Arbor, with well-developed woods in my backyard, a small pond beyond that, and 2 miles from the University of Michigan’s central campus. Some readers may remember that a few years ago I photographed (but did not catch) a strange variant of the common Four-spotted Skimmer, Libellula quadrimaculata, that I originally thought was a Painted Skimmer, L. semifasciata. That was about a half-mile from my house. The dragonflies seem to keep coming to me though, now that they are clamoring to become famous. Or at least they would if they only knew.

On the 10 June I walked out into my front yard to photograph some flowers, and saw a baskettail flying around a corner of the yard. It finally settled down on a silene stem, and I slowly approached it to take some photos. I crept closer, shooting all the while, until I was a foot away! After I was satisfied with the images, I looked closely and wondered if what I was shooting was Stripe-winged Baskettail (now Slender Baskettail, see page 5!) Epitheca costalis, not a Common Baskettail, E. spinigera as I first thought. I didn’t have a net handy, so I slowly got a hand in from the rear of the dragonfly and captured it with my fingers. I don’t think I have ever had a capture go so smoothly. After I preserved it, I checked its identity, and it is indeed an Epitheca costalis. I do not know whether this individual came from a nearby habitat or had flown in from a longer journey. That it was so easily caught makes me wonder if it was resting after a long flight. In any case, we now have an E. costalis voucher from my front yard.
Elusive Clubtail no longer eludes us!

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Buoyed by our success at finding Russet-tipped Clubtails (*Stylurus plagiatus*) at the Humbug Marsh unit of the Detroit River International Wildlife Refuge in mid-August, we returned in early September two days in a row. It was breezy and cool, and just about everything eluded us. Russet-tipped Clubtails were still present, but we saw them in lower numbers than previously. Nearly the whole brownfield area was covered with goldenrods and eupatorium, and the bee and wasp numbers were truly impressive. When I told Mark O’Brien about this, he and his wife Adrienne accepted our invitation to try again for odés and hymenopterans; although Mark is the #1 ode guy in the state, his original expertise is wasps. I’d say there were more bees and spiders and the wasp diversity was diminished from the previous weekend.

On 9 Sep, we were once again on the hunt for hanging clubtails. We saw only one Russet-tipped Clubtail, but were hopeful to voucher Arrow Clubtail (*Stylurus spiniceps*). And both of us had seen some smaller, dark *Stylurus* in these recent trips, and the candidate foremost in our minds was, *S. notatus*, Elusive Clubtail. Typically a treetop dweller, they are...elusive. The only county records were two larval specimens taken in 1984 from the Detroit River at Grosse Ile. The distance between the Humbug brownfield and Grosse Ile can be measured in yards.

After an hour or so of wandering, I got a radio call from Darrin that he had nabbed a male *Stylurus*. When I looked at it, I was pretty sure it was not *S. spiniceps*, it did not seem large enough. And the teal-blue eyes sure looked familiar to me. We had netted a female *notatus* in Wisconsin some years ago. I trotted it over to Mark, who confirmed the genus and thought it was probably *spiniceps*. We had nets and camera gear up the ying-yang, but no gomphid genitalia cheat sheets, so we continued our exploration until we were once again caught by rain.

Back home, a quick look at the hamules and length of abdominal segment 9 confirmed my initial hunch: this was *Stylurus notatus*. In the photo at right, check out the long hamule on the reference specimen of *S. spiniceps* on the top, compared to the small, pointy hamule on the *S. notatus* below it. *S. spiniceps* also has a very long segment 9, around 1.25 times longer than s8, while these two segments are about the same length in *notatus*. To the right, *notatus* is on top.

This is the first adult specimen for Wayne County, and only the ninth adult specimen for the state. Elusive Clubtail is a species of special concern for Michigan, so we consider it a great success that we have confirmed it for the Refuge. Finding these insects will help guide management and restoration, and it’s also good to know that after 22 years, the Detroit River is still supporting *S. notatus*!

[Note that this unit of the Refuge is not open to the public, but the authors were performing bird and odonata surveys for the USFWS.]