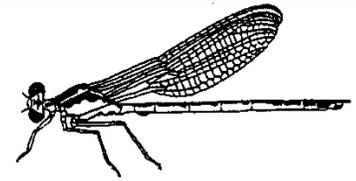


Ode News



An Occasional Newsletter about Dragonflies and Damselflies in Southern New England

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Greetings, and welcome to the 13th year of *Ode News*. Geez, we're getting old!

Following a rather wet, but mercifully benign, late fall and winter, March and April were very dry, with rainfall averaging only about one-third of normal during that period. Consequently, water levels, which had been quite high, receded to a more typical level. However, copious — in some areas torrential — rains returned during the first half of May.

April began very cold, but by mid-month temperatures had returned to normal and the first dragonflies appeared more or less on schedule. Although there were reports of Common Green Darners (*Anax junius*) from New York during the first half of April, it appears that the first dragonfly in Massachusetts was the Ringed Boghaunter (*Williamsonia lintneri*), four of which were found by Tom Murray in Harvard on 21 April. A week later, Tom and others found at least seven species of odes on the wing at this site. The first green darner in the state (and as far as we know, southern New England) was seen by Jim MacDougall in Seekonk on 26 April.

It has now been several years since any new odes have been added to the Massachusetts list, despite the presence of several potential new species on our doorstep, including Great Spreadwing (*Archilestes grandis*), Rainbow Bluet (*Enallagma antennatum*), Double-striped Bluet (*Enallagma basidens*), Blackwater Bluet (*Enallagma weewa*), and Tiger

Spiketail (*Cordulegaster erronea*). All of these are spreading in our direction from the south and/or west, and most are likely to first appear along our southern border (especially Hampden, southern Worcester, and Bristol counties). Let's make this the year we break the drought!



Ringed Boghaunter (*Williamsonia lintneri*) — male
Harvard, MA — April 2006

© Tom Murray

It looks to be another active field season, with a full schedule of walks — see page 2 for the complete listing. These walks are also posted on the *Ode News* web site at www.odeneews.org/Walks.htm.

The Northeast DSA meeting will be in the beautiful White Mountains of New Hampshire during the weekend of 23–25 June; see page 3 for details. If the prospect of a variety of boreal species is not enough to whet your

appetite, perhaps some of the most spectacular scenery in the Northeast will lure you northward!

In addition to a listing of this year's activities, this issue also contains a summary of the 2005 season in Connecticut and a review of the status of rare riverine dragonflies in Massachusetts.

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2006 MASSACHUSETTS WALKS AND PROGRAMS

Following are some of the activities scheduled in Massachusetts this season. Most of these events are free, but some are scheduled by organizations and require registration and/or a fee. Many are weather dependent, so if in doubt please contact the leader to check on the status. Details also at <www.odeneews.org/Walks.htm>.

June 10 (Saturday), 9:00 a.m. East Branch of the Swift River, Petersham, and vicinity.

Target bugs: snaketails (*Ophiogomphus*). Meet at the Millers River Environmental Center, 100 Main Street, Athol. Trip lasts until early afternoon; bring lunch, footgear for wading, nets, and the all-important sense of humor. Leaders: Dave Small (978-249-2094; dhsml@gis.net) and Lynn Harper (978-249-9436; HarperLynn@msn.com).

June 10–12. DSA National Meeting in Cave Creek, Kentucky. See details on page 12.

June 17 (Saturday), 9:00 a.m. Myles Standish State Forest, Plymouth. A search for some early season Coastal Plain specialties, such as Pine Barrens Bluets and Blue Corporals. Meet at the east entrance to the park at the intersection of Long Pond Road and Alden Road. Leader: Blair Nikula (508-432-6348; odeneews@odeneews.org).

June 23–25. DSA Northeast Meeting in New Hampshire. See details on page 3.

June 24 (Saturday) and August 12 (Saturday). Workshop: The Biology of Dragonflies. Ipswich River Wildlife Sanctuary, Topsfield. Instructor: Jim MacDougall. *Fee and registration required.* For more information or to register, call 978-887-9264.

July 2, 2006, 9:30 a.m. Local Athol Dragonflies. Join Dave Small and Lula Field as we explore local wetlands and water courses for summer dragonflies. Bring your lunch, insect net, your sense of adventure, and be prepared to get wet wading in shallow water. Meet at the Millers River Environmental Center, 100 Main Street, Athol. Information: Dave Small (978-249-2094; dhsml@gis.net).

July 5–29. Dragonfly Institute at Broadmoor Wildlife Sanctuary in Natick. See details on page 3.

July 15th (Saturday), 9:30 a.m. – 3:30 p.m. Norcross Odonates. Join an exploration of the wilds of Norcross Wildlife Sanctuary in an effort to discover what kinds of dragonflies and damselflies it harbors. This is a joint effort of the Athol Bird and Nature Club (ABNC) and Norcross Wildlife Sanctuary, led by Dave Small and Norcross naturalist, Jennifer Ohop. Bring lunch, and a net if you have one. **Pre-registration required.** Call Norcross at 413-267-4859. Enroll soon: attendees are limited to 10. Athol contingent will leave from MREC at 8:15 a.m.

July 20 (Thursday evening), 7:30 p.m. Millers River, below the dam in downtown Orange. Target bugs: shadowdragons! Meet at MREC at 7:30 p.m. (that's in the evening, folks) and we'll carpool to the river. Bring nets and footgear for wading. Leaders: Dave Small (978-249-2094; dhsml@gis.net) and Lynn Harper (978-249-9436; HarperLynn@msn.com).

July 22 (Saturday), 9:00 a.m. – 3:00 p.m. Quabbin Butterflies and Dragonflies. Join Dave Small as we explore Quabbin's wetlands and water courses for summer dragonflies. Bring your lunch, insect net, and your sense of adventure. Meet at the Millers River Environmental Center, 100 Main Street, Athol. *Preregistration is requested.* Contact: abnc@millersriver.net or 978-448-9491.

July 23 (Sunday), 9:30 a.m. World's End Dragonfly survey. See details below.

August 5 (Saturday), 9:00 a.m. Bristol County. Meet at the Shaw's Super-



market on King's Highway (Exit 4, off Route 140) in New Bedford to explore some little-known areas in Bristol County. Leaders: Blair Nikula (508-432-6348; odenews@odenews.org) and Dan Zimmerlin (zimmerlin@hotmail.com).

August 6 (Sunday), 9:00 a.m. Conant Brook Reservoir, Monson. This state reserve hosts a rich variety of odonates (49 species recorded in just two visits). Meet behind the McDonalds on Route 32, just north of the MassPike toll booth (Exit 8). Leader: Blair Nikula (508-432-6348; odenews@odenews.org).

August 12 (Saturday). Workshop: The Biology of Dragonflies. Ipswich River

Wildlife Sanctuary, Topsfield. See details under June 24.

August 19 (Saturday), 9:00 a.m. Deerfield River. Canoe/kayak/tube the lower Deerfield River, from the Stillwater Road bridge to a take-out spot yet to be determined. Target bugs: all of them! Meet at MREC at 8 a.m., or at the Stillwater Road bridge in Deerfield at 9 a.m. Bring lunch, water, sunscreen, nets, and prepare to get wet. This stretch of the Deerfield is low-gradient, so there shouldn't be any rapids to worry about. Leaders: Dave Small (978-249-2094; dhsmall@gis.net) and Lynn Harper (978-249-9436; HarperLynn@msn.com).

BROADMOOR DRAGONFLY INSTITUTE

The Natural History of Dragonflies, Bob Bowker. This four-week, beginner's course will focus on the life cycle, habitat, behavior, and identification of dragonflies. Special guest Blair Nikula, author of "Dragonflies and Damselflies of Massachusetts", will give the final lecture and lead the last field trip. Sign up for one, two, or three weeks — or take the whole course! There will be four Wednesday evening lectures (7:00–8:30 p.m.; July 5, 12, 19, 26), followed by four Saturday field trips (July 8, 15, 22, 29).

Fee: \$70 (members), \$80 (non-members) for the full course; or \$20 (member), \$25 (non-member) per week. Contact the Broadmoor Wildlife Sanctuary, Natick; phone: 508-655-2296; email: broadmoor@massaudubon.org.

WORLD'S END DRAGONFLY COUNT

The Boston Harbor Island National Park is seeking amateur and professional naturalists to help identify and count dragonflies, damselflies, and butterflies at World's End in Hingham on Sunday, July 23, 2006, as part of an exciting and ambitious all-taxa biodiversity inventory (ATBI) of the insects and invertebrates of the islands. This project is led by the Harvard Museum of Comparative Zoology and the World's End event is held in conjunction with The Trustees of Reservations.

For more information and to register, contact Mary Raczko at 617-223-8596 or Mary_Raczko@nps.gov. *Reservations are required*; the event begins at 9:30 a.m.

2006 DSA NORTHEAST MEETING

The Dragonfly Society of the Americas' 2006 northeast regional meeting will be in Twin Mountain, New Hampshire, the weekend of 23–25 June. Situated in the White Mountains, one of the most scenic areas in the Northeast, the meeting will focus on northern species such as Superb Jewelwing (*Calopteryx amata*), Taiga (and possibly Subarctic) Bluets (*Coenagrion resolutum & interrogatum*), assorted clubtails and emeralds, and five species of White-faces (*Leucorrhinia*).

Field Trips will visit such sites as Pondicherry Refuge, Franconia Notch, Crawford Notch, and the Ammonoosuc River, with the possibility of longer trips to the Saco River or Nancy Pond among other destinations. The meeting is being hosted by Pam Hunt of the New Hampshire Audubon Society. Details are online at:

<<http://home.comcast.net/~smirick/odes/meeting/NEmeeting.html>>

CONNECTICUT HIGHLIGHTS – 2005

Mike Thomas & Dave Wagner

Connecticut oders added over 500 records to the state's odonate database, including 14 new county records. Of the 148 species documented for Connecticut, 110, or 74%, were reported during the 2005 field season. A summary of some of the more noteworthy finds is provided below.

Connecticut state-listing designations: [E] = Endangered; [T] = Threatened; [SC] = Special Concern. *Observers:* Margaret Ardwin, Norman Arthur, Normandeau Associates, Andy Brand, William Coppola, Raul Ferreira, Tom Fiore, Hank Golet, Greg Hanisek, Jay Kaplan, Cindy Kobak, Bob Muller, Nancy Murray, Noble Proctor, Dave Provencher, Craig Sadowski, Mark Szantyr, Mike Thomas, Preston Vander Voss, Dave Wagner, Ryan Wagner, Kristine Wallstrom.

American Rubyspot (*Hetaerina americana*) [SC]: The only report for this striking damselfly again came from a known site on the Naugatuck River (Harwinton) on 3 September (AB). More intensive surveys, especially on rivers in eastern Connecticut, may show this species to be more widespread than records indicate.

Great Spreadwing (*Archilestes grandis*): For the sixth consecutive year, this southern spreadwing was reported from the state, with reports from North Branford on 13 August and a new site in Branford on 1 September (NP). This species appears to be expanding its range northeastward and should be sought in Rhode Island and Massachusetts.

Double-striped Bluet (*Enallagma basidens*): A visit to a DOT quarry pond in Brookfield (Fairfield Co.) on 6 August yielded numerous adults of this early successional species (MT), with other observers reporting individuals from this site between 13-22 August (JK, NP). **Dusky Dancers** (*Argia translata*) were also common at this site.

Citrine Forktail (*Ischnura hastata*): The only report for this easily overlooked damsel came from a sand pit in Old Saybrook on 6 June (NP). This site also contains one of the state's largest populations of **Elfin Skimmer** (*Nannothemis bella*), with over 60 individuals observed on the same date.

Comet Darner (*Anax longipes*): Males of this stunning species were observed at traditional sites in Madison on 8 June and Branford on 21 June and 4 July (NP).

Midland Clubtail (*Gomphus fraternus*) [T]: A single male of this scarce clubtail was photographed on a sandy beach along the Connecticut River in Portland on 4 July (MT).

Cobra Clubtail (*Gomphus vastus*) [SC]: One of the most exciting discoveries during the 2005 Connecticut BioBlitz at Two Rivers Magnet Middle School, East Hartford, was a newly emerged female along the bank of the CT River on 4 June (PV). Although exuviae are frequently encountered, this is only the third time an adult of this elusive gomphid has been observed in the state.

Skillet Clubtail (*Gomphus ventricosus*) [SC]: A male of this handsome clubtail taken on the Housatonic River in Kent (Litchfield Co.) on 3 July (TF, KW) furnished just the third state sighting in the past 75 years.

Southern Pygmy Clubtail (*Lanthus vernalis*): Several new sites were found for this diminutive clubtail: a teneral adult male from Nehantic State Forest, Lyme, on 17 May (NP) provided a first for New London County; larvae from Shingle Mill Brook in Salem on 21 May (WC, CS, MT); and an adult from Branford on 21 May (NP).

Brook Snaketail (*Ophiogomphus aspersus*) & **Maine Snaketail** (*Ophiogomphus mainensis*): Larvae of both species were found in sand/gravel sediments of Latimer Brook in Montville on 7 August (WC, MT, DW, RW), providing the first records for New London County. Also found at this site were larvae of the seldom-encountered **Spine-crowned Clubtail** (*Gomphus abbreviatus*).

Riverine Clubtail (*Stylurus amnicola*) [T]: The only record for this rare and elusive clubtail was a teneral male found along the bank of the Connecticut River in South Windsor on 26 July (JK).

Tiger Spiketail (*Cordulegaster erronea*) [T]: Larvae of this secretive dragonfly were found at a small,

forested stream in Montville on 4 May (NA), providing a first for New London County. An adult was taken at this same site on 27 June (NP). On 17 September, larvae were found to be common in shallow portions of the creek/spring where white sands fanned out into “mini-deltas” along the reach of the creek (DW, MT). The larvae were just below the surface either burrowing in the sand or concealed beneath shallow debris. Other reports of adults came from known sites in Killingworth (Middlesex Co.) on 8 June (NP) and Canton (Hartford Co.) on 19 July (JK). With five sites now documented, perhaps this specialized dragonfly is more common and widespread than previously believed.

Ski-tailed Emerald (*Somatochlora elongata*) [SC]:

A canoe trip to Breakneck Pond in Union on 25 June (NM, MT) produced an unexpected first for Tolland County — a teneral female Ski-tailed Emerald. This northern species was previously known only from the northwestern corner of the state. Also encountered at this site were **Petite Emeralds** (*Dorocordulia lepida*) and **Lilypad Forktails** (*Ischnura kellicotti*), both new county records.

Mocha Emerald (*Somatochlora linearis*): Several females hawking insects at Hillstead Museum, Farmington, at 8:30am provided a first for Hartford County (MT), and the most northward distribution in the state.

Ringed Boghaunter (*Williamsonia lintneri*) [E]:

Several adults of this rare spring species were observed and photographed at a known site in Hampton on 19 May (NP).

Blue Corporal (*Ladona deplanata*) [SC]: This coastal plain species was discovered at a new site in North Madison at Nathan’s Pond on 15 May (NP), providing a first for Middlesex County. Adults were also reported from a known site in Nehantic State Forest on 28 May (NP).

Bar-winged Skimmer (*Libellula axilena*): Last year Noble Proctor and others (DP, MS, MT) reported adults from seven coastal towns between 11 July – 7 August. Noble re-visited many of these same sites in 2005 and found adults at only two of the sites: one male in Branford on 11 July and two males in Nehantic State Forest, Lyme, on 10 August. Based on the limited number of sightings in 2005, it seems unlikely this species will become a permanent resident.

Great Blue Skimmer (*Libellula vibrans*): For the second consecutive year, this southern dragonfly was reported in good numbers along the coast at many of the same sites it was encountered last year. Noble Proctor and other observers (MA, NA, AB, RF, HG, CK, JK, MT) reported Great Blue Skimmers from 14 sites during the period of 11 June – 1 October, establishing a new late date.

The number of individuals observed at two of the sites was impressive, with 12 males and four females observed in Killingworth on 2 September and 14 adults at a pond in Branford on 19 September (NP). A Green-backed Heron feasting on Great Blue Skimmers was photographed by Noble at the Branford site. The number of individuals



Green Heron with Great Blue Skimmer (*Libellula vibrans*)
Branford, CT — September 2005

© Noble Proctor

encountered this year suggests this species may be successfully breeding in the state.

Additional county records documented during the 2005 season include: **Blue-fronted Dancer** (*Argia apicalis*) – Fairfield Co. (NP); **Rambur’s Forktail** (*Ischnura ramburii*) – Middlesex Co. (NP), **Canada Darner** (*Aeshna canadensis*) – New London Co. (NP), and **Dusky Clubtail** (*Gomphus spicatus*) – Middlesex Co. (NP).

State-listed species that were not reported in 2005 included: **Sparkling Jewelwing** (*Calopteryx dimidiata*) [SC], **Atlantic Bluet** (*Enallagma doubledayi*) [SC], **Scarlet Bluet** (*Enallagma pictum*) [SC], **Harpoon Clubtail** (*Gomphus desertus*) [T], **Rapids Clubtail** (*Gomphus quadricolor*) [T], **Moustached Clubtail** (*Gomphus adelphus*) [T], and **Common Sanddragon** (*Progomphus obscurus*) [SC].

THE DISTRIBUTION OF RARE RIVERINE DRAGONFLIES IN MASSACHUSETTS — WHERE TO MAKE NEW DISCOVERIES!

Lynn Harper & Jennifer Loose

Massachusetts Natural Heritage and Endangered Species Program

Over the past decade, we've learned a lot about the distribution of Massachusetts odonate species. The ever-inquisitive naturalists of the area have taken up chasing odonates with a vengeance, collecting data on habitat affinity and distribution, and pointing the direction for further exploration. The increase in data has given us a better idea of where to look and when, and helped to clarify future survey priorities.

In this article, we focus on the rarer riverine dragonflies. We cover what is known about the range of state-listed riverine dragonflies— those considered rare and imperiled and thus listed as Endangered (E), Threatened (T), or Species of Special Concern (SC) under the Massachusetts Endangered Species Act (MESA). The Natural Heritage & Endangered Species Program tracks data on all state-listed species and implements their protection under MESA, as well as uses the data for a range of conservation activities. Here, we list gaps in our

knowledge in the hopes of inspiring folks to get out in the field and fill in those data gaps. There are many unexplored waters in MA that likely hold exciting discoveries!

There are 26 major watersheds in Massachusetts (Figure 1). Some of these watersheds, like the Chicopee or the Taunton, cover large areas of the state; others, such as the Bashbish Brook section of the Hudson, have only a small portion of their extents in Massachusetts.

There are 14 species of state-listed riverine dragonflies (Table 1). Note that the Umber Shadowdragon, *Neurocordulia obsoleta*, inhabits both rivers and lakes (or reservoirs) in the state. Table 2 shows which species are documented from each watershed, based on records in the NHESP database.

Table 1. Rare Riverine Odonates of Massachusetts.

Common Name	Scientific Name	State Status
Ocellated Darner	<i>Boyeria grafiana</i>	Special Concern
Spine-crowned Clubtail	<i>Gomphus abbreviatus</i>	Endangered
Harpoon Clubtail	<i>Gomphus descriptus</i>	Endangered
Midland Clubtail	<i>Gomphus fraternus</i>	Endangered
Rapids Clubtail	<i>Gomphus quadricolor</i>	Threatened
Cobra Clubtail	<i>Gomphus vastus</i>	Special Concern
Skillet Clubtail	<i>Gomphus ventricosus</i>	Special Concern
Brook Snaketail	<i>Ophiogomphus aspersus</i>	Special Concern
Riffle Snaketail	<i>Ophiogomphus carolus</i>	Threatened
Riverine Clubtail	<i>Stylurus amnicola</i>	Endangered
Zebra Clubtail	<i>Stylurus scudderi</i>	Endangered
Arrow Clubtail	<i>Stylurus spiniceps</i>	Threatened
Umber Shadowdragon	<i>Neurocordulia obsoleta</i>	Special Concern
Stygian Shadowdragon	<i>Neurocordulia yamaskanensis</i>	Special Concern

Ocellated Darner (*Boyeria grafiana*, Special Concern)

Where they've been seen: The Ocellated Darner inhabits small to large, fast-moving, rocky rivers in the western part of the state. Extensive surveys by Lynn Harper in 2002 and 2003 found the likely range of this species in Massachusetts to extend through the rivers of the hills and mountains of the northern and central Berkshires. Ocellated Darners have been documented from 15 sites in the Deerfield, Westfield, Hoosic, Housatonic, and Connecticut watersheds (not from the Connecticut River itself, however). While adults are reasonably easy to catch, nymphs and exuviae are even easier and extend the season in which this species can be documented. Nymphs of Ocellated Darners cling to woody debris, much like their congener, the Fawn Darner (*Boyeria vinosa*). Exuviae can be found on any vertical or near-vertical surface within 10 feet or more of the stream or river, including overhanging banks, trees, rocks, and bridge abutments. Adults usually are found flying from late August through early October, while exuviae have been found as early as 8 July and well past the flight-period, depending on weather and the tenacity of the exuviae clinging to their emergence site

Where to look: Although the Farmington River would appear to be appropriate habitat for Ocellated Darners, they have yet to be documented from that river. Other possible rivers and streams for this species include the Little River in Russell and the main stem of the Westfield below Crescent Mills in Russell.

Spine-crowned Clubtail (*Gomphus abbreviatus*, Endangered)

Where they've been seen: The Spine-crowned Clubtail inhabits large to medium-sized rivers, ranging from fast-moving to slow and deep. Natural Heritage records show it on ten rivers: the Connecticut, the Deerfield, the Indian Head, the Millers, the Nashua, the Nissitissit, the Quaboag, the Stillwater, and the Ware Rivers (there are two, presumably anomalous, records from Cape Cod as well). Nymphs and exuviae of this species are difficult to identify accurately, as they are very similar to the more common Mustached Clubtail, *Gomphus adelphus*. Generally, it is better to seek adults or to raise nymphs to emergence to document this species.

Where to look: Given the state-wide distribution of

this species, it can be looked for in any river. However, it has yet to be documented from the Connecticut below the Holyoke Dam, from eastern watersheds such as the Taunton or the Blackstone, or from far-western watersheds such as the Housatonic or Hudson. To identify positively this tricky species as a nymph or exuviae, NHESP requires specimens be sent in to the Program for confirmation. Photograph or voucher records of adults are also accepted. Adults are on the wing from mid-May through the end of July.

Harpoon Clubtail (*Gomphus descriptus*, Endangered)

Where they've been seen: Harpoon Clubtails seem to prefer medium-sized to small rivers, with fast current and rocky bottoms. In Massachusetts, they have been documented from just five rivers: the Farmington, the East and Middle Branches of the Westfield, the Green River in the Deerfield watershed, and the East Branch of the Swift River in the Chicopee drainage. As with the Spine-crowned Clubtail, adults of this species are the safest life-stage to use for identification. Natural Heritage records show this species flying in June, with one record of a teneral on 26 May.

Where to look: With so few records in the state, it is hard to guess where else Harpoon Clubtails might be found. Rivers to try might be the Hoosic, the West Branch of the Westfield, both branches of the North River in Colrain, and the upper reaches of the Ware River.

Midland Clubtail (*Gomphus fraternus*, Endangered)

Where they've been seen: In Massachusetts, Midland Clubtails are known only from the Connecticut River in early to mid-June and a recent anomalous record from Middleborough. As with many species on the Connecticut, it has not yet been documented from below the Holyoke Dam.

Where to look: Check the Connecticut River below the Holyoke Dam. It may also be present in other big, slow rivers in the state, such as the Merrimack or the Housatonic.

Rapids Clubtail (*Gomphus quadricolor*, Threatened)

Where they've been seen: Rapids Clubtails, despite their name, have been found on the Connecticut River at one site in Sunderland. They are also documented from the Middle Branch of the

Westfield River. As with Midland Clubtails, Rapids Clubtails seem to be extremely scarce in Massachusetts. The flight period is from late May into early July.

Where to look: Rapids Clubtails may be found elsewhere in the Connecticut River, the Merrimack or the Housatonic Rivers.



Rapids Clubtail (*Gomphus quadricolor*) - male
Lake Lucerne, NY — June, 1998

© Blair Nikula

Cobra Clubtail (*Gomphus vastus*, Special Concern)

Where they've been seen: Cobra Clubtails are known only from the Connecticut River (though not below the Holyoke Dam) and the Merrimack River. Based upon exuviae counts, this is the most common clubtail on at least the northern half of the Connecticut River. This species is relatively easy to identify from nymphs, exuviae, and adults, but the adults are much harder to find. Exuviae are usually found on the river bank itself within ten feet of the water. Emergence begins in early June and occurs in a pulse, with thousands of larvae crawling up on shore and eclosing within a few feet of the water.

Where to look: This species should be looked for in the lower stretches of the Connecticut River in Massachusetts, but it might also be worth checking the Housatonic River and possibly the Chicopee. Michael Veit recently rediscovered *G. vastus* on the Merrimack River, where it was last collected by Hagen in 1917.

Skillet Clubtail (*Gomphus ventricosus*, Special Concern)

Where they've been seen: Another inhabitant of the upper reaches of the Connecticut River, this species was also found once far upstream on the Mill River,

a tributary of the Connecticut, and there is one record from the Merrimack watershed. All records of this species in Massachusetts, both adults and exuviae, are from June.

Where to look: This species should be looked for on the Connecticut below the Holyoke Dam and on the other large, slow rivers in the state such as the Merrimack, Housatonic, and Chicopee.

Brook Snaketail (*Ophiogomphus aspersus*, Special Concern)

Where they've been seen: Brook Snaketails have been documented in five watersheds, mainly in the center of Massachusetts. This is not a dragonfly of large, slow rivers like the Connecticut, but is found in small tributaries to the Connecticut, as well as in the Millers, Nissitissit, Quaboag, Squannacook, and Ware Rivers, mostly in stretches that are fast-moving, shallow, and rocky but with intermittent, sandy-bottomed pools. It is reasonably easy to identify as a nymph or exuviae. Exuviae tend to be found close to the water's edge, often on rocks sticking up out of the river. Emergence seems to be in very late May through June into early July in Massachusetts, while the adults are usually seen flying in June and July.

Where to look: This species can be looked for in many more watersheds of the state. It has yet to be documented from the Deerfield or Westfield watersheds, despite much field work and what appears to be suitable habitat, nor from the far western watersheds. It is not known east of the Nashua and Blackstone watersheds. Any small to medium-sized, rocky, fast river or stream should be checked for this snaketail.

Riffle Snaketail (*Ophiogomphus carolus*, Threatened)

Where they've been seen: In contrast to the preceding species, Riffle Snaketails are documented mostly from the main stems of western watersheds. Seven occurrences are known from four watersheds – the Westfield (with the majority of sites), the Deerfield, the Housatonic, and, oddly perhaps, the Chicopee, where there is one record from the Ware River. Most observations in Massachusetts are of adults in June and July, with the few discoveries of exuviae coming from mid-May to mid-June.

Where to look: Possible new sites for this species include the upper Deerfield River, the upper Ware River, the Swift River in the Chicopee watershed, the

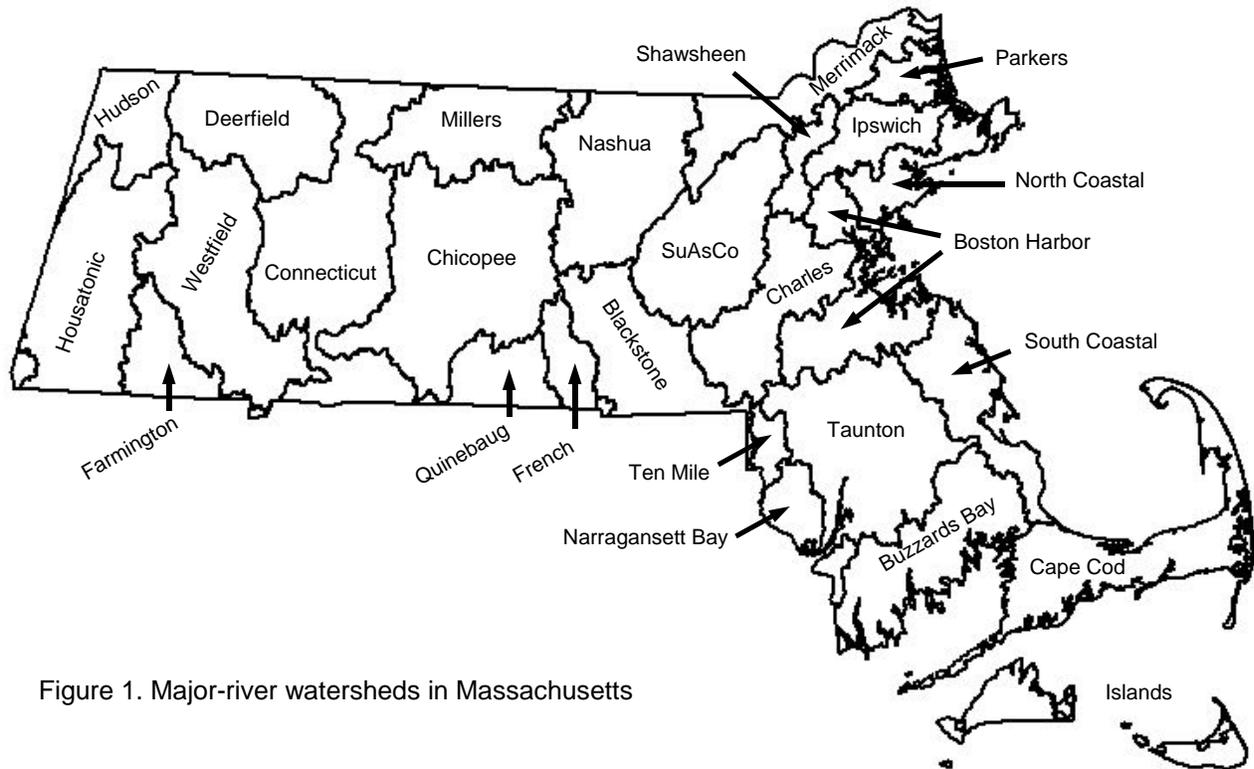


Figure 1. Major-river watersheds in Massachusetts

faster stretches of the Quaboag River, the lower Housatonic River, and the Hoosic River.

Riverine Clubtail (*Stylurus amnicola*, Endangered)

Where they've been seen: The Riverine Clubtail has been documented on the Connecticut River in Massachusetts, although records are sparse. It was also recently found on the Merrimack River. Like the other stylurids in the state, it is easy to identify from nymphs or exuviae – a good thing, too, since adults are so hard to catch! Exuviae and adults have been found from mid-June through August.

Where to look: The urban lower reaches of the Connecticut River should be checked for this species, along with the lower freshwater stretches of the Merrimack. It is possible this species inhabits the Housatonic, as well. Records are few for this species, and any additional data from known rivers also would be valuable.

Zebra Clubtail (*Stylurus scudderii*, Endangered)

Where they've been seen: Several new sites for

Zebra Clubtail have been found in the past few years. Currently, there are twenty documented sites in nine watersheds: the Chicopee, Connecticut, Deerfield, Hoosic, Housatonic, Merrimack, Millers, Nashua, and Westfield watersheds. Nymphs burrow in sandbars, from which they are easily dredged and identified. Exuviae are very close to the water's edge, often on sand or mud, and are usually found in mid-July. Adults fly through mid-September.

Where to look: It is likely that this species will be found in other rivers in Massachusetts. It seems to need only patchy sand bottoms as a nymph, not rivers that are wholly sandy.

Arrow Clubtail (*Stylurus spiniceps*, Threatened)

Where they've been seen: The Arrow Clubtail is known from nine watersheds: the Blackstone, Chicopee, Connecticut, Deerfield, Housatonic, Merrimack, Millers, Nashua, and Westfield watersheds. This species seems much more associated with the larger main stems than does the Zebra Clubtail. Even in the Deerfield and Westfield

Rivers, this species has only been found, so far, near their confluences with the Connecticut River. Nymphs of Arrow Clubtails emerge from mid-June through July, and occasionally exuviae have been found as late as the end of August. Adults fly through August and well into September.

Where to look: The Taunton, Quinebaug, Quaboag, Sudbury/Assabet/Concord and Hoosic Rivers should be checked for this species.

Umber Shadowdragon (*Neurocordulia obsoleta*, Special Concern)

Where they've been seen: Unlike most of the other rare riverine odonates in the state, the Umber Shadowdragon seems to be mainly a species of eastern Massachusetts. In the western part of the state, it has been found only in the middle reach of the Connecticut River, although it is known from the river farther south in the state of Connecticut. In eastern Massachusetts, it inhabits both lakes and rivers. It has been documented from the Charles, Merrimack, Nashua, North, Squannacook, and Sudbury/Assabet/Concord Rivers, as well as from six lake or reservoir sites. This species can be identified fairly easily as an adult, nymph, or exuviae, although the adults are particularly challenging to catch. Exuviae have been found on bridge abutments and other vertical or near vertical surfaces. Natural Heritage records range from mid-June through July, for both adults and exuviae.

Where to look: Umber Shadowdragons are found fairly commonly on the Connecticut River in the state of Connecticut, so it seems likely that they are in the lower stretches of this river in Massachusetts. Fred SaintOurs looked extensively for this species in eastern Massachusetts a few years ago, but it can't hurt to search again such watersheds as the Blackstone, Parker, and Ipswich, as well as the Taunton River main stem.

Stygian Shadowdragon (*Neurocordulia yamaskanensis*, Special Concern)

Where they've been seen: The Stygian Shadowdragon has a more western distribution in the state than its congener, the Umber Shadowdragon. Both are found in the Connecticut River, although apparently the Stygian is much more common than the Umber there. Other rivers with documented Stygian Shadowdragons include the Chicopee, Deerfield, Housatonic, Millers, and Ware Rivers. Exuviae of Stygian Shadowdragon have been found

in Massachusetts from late May through late August. The skins of shadowdragons seem especially tenacious, hanging on to rocks and bridge abutments for many weeks after emergence. Stygian exuviae have also been found clinging 15 feet up tree trunks! Adults have been captured in June.

Where to look: This species could be looked for in most of the larger, slower rivers of the western half of the state, including the Blackstone, Hudson, Quinebaug, Quaboag, and lower Westfield.

Future Survey Efforts

Documentation of the ranges of rare riverine dragonflies in Massachusetts is by no means complete! Dragonflies, like birders, tend to go back to the same productive spots over and over again. We want to encourage exploration of the lesser-known watersheds of the state, in the hopes of new discoveries and a better understanding of species' ranges. In particular, the Connecticut River below the Holyoke Dam is ripe for discovery, especially in June. Several large eastern watersheds have only Umber Shadowdragons documented from them, sometimes only from reservoirs, not rivers (*e.g.*, the Charles, Concord, Ipswich, Parker, and Taunton watersheds). Some of the western watersheds also need more field work. There are only a few scattered records from the Chicopee, Hudson (Hoosic), and Housatonic watersheds, and all of the Westfield River records are upstream of the center of Russell or very near the confluence with the Connecticut River.

The Natural Heritage Program would appreciate greatly any records of state-listed dragonflies from these under-surveyed areas, as well as additional records from known sites. NHESP actively uses this information to guide land protection and for regulatory protection of rare species' habitat. Please visit <www.nhesp.org> for instructions on filling out a rare animal reporting form and submitting it to the Program. For more information, please contact Jennifer Loose at 508-792-7270, x313 (Jennifer.Loose@state.ma.us).

2006 DSA NORTH AMERICA MEETING

The Dragonfly Society of the Americas will hold their 2006 national meeting in Cave City, Kentucky, 10–12 June. This region hosts a rich variety of odonates (well over 100 species), highlighted by a diverse assemblage of riverine species, such as Handsome Clubtail (*Gomphus crassus*), Midland Clubtail (*G. fraternus*), Splendid Clubtail (*G. lineatifrons*), Rapids Clubtail (*G. quadricolor*), Rusty Snaketail (*Ophiogomphus rupinsulensis*), and Stygian Shadowdragon (*Neurocordulia yamaskanensis*).

One day will be devoted to indoor programs. A 3-day post-conference trip will travel to Crossville, Tennessee, where additional lotic species are likely. Details can be viewed online at:

<http://odonatacentral.bfl.utexas.edu/dsa1/annual_meeting.htm>

Ode News

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