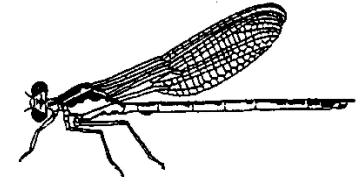


# Ode News



An Occasional Newsletter about Dragonflies and Damselflies in Southern New England

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Another field season is underway, and this one may prove to be among the most interesting yet. This issue of *Ode News* marks the beginning of our eighth year of publication. We're amazed at all that has transpired in those eight short years!

In the previous issue of *Ode News*, we announced that we (Jackie Sones and Blair Nikula) were working on a Stokes' Beginner's Guide to Dragonflies and Damselflies, scheduled for publication later this year. Well, the book is now essentially done, but the publisher (Little, Brown & Co.) has decided, primarily for marketing purposes, to postpone publication until next spring. Such are the trials and tribulations in the publishing world! The guide will cover about 100 of the most common and widespread species in North America and will be illustrated with over 150 full-color photographs — all for a price of about \$10! It is one in a series of beginner's guides, others of which will cover butterflies, shorebirds, warblers, hummingbirds, bats, and bird-feeding.

In addition to announcements of upcoming walks and programs, this issue contains articles by Blair Nikula on those befuddling meadowhawks, another by Blair on odonate numbers at a coastal plain pond, and a contribution from Jim MacDougall on the small odonate collection at the Peabody Museum in Salem, Massachusetts.

The upcoming field season is shaping up to be a very busy one for many ode watchers, with a variety of programs, formal surveys, atlases, and more. Gail Howe and Dave Small are interested in learning more about the odonate fauna of the Miller's River watershed in northern Worcester County and have

scheduled a workshop to explore the area, while Jackie Sones has again scheduled a 3-day workshop at the Wellfleet Bay Wildlife Sanctuary (see page 2 for details on these and other programs). The Rhode Island atlas project enters its fourth year, while to our north the Maine atlas begins its third.

Although well-monitored in Rhode Island recently, the rare and endangered Ringed Boghaunter (*Williamsonia lintneri*) has received little attention in Massachusetts the past couple of years. This spring, Leah Gibbons and Jim MacDougall have been surveying for the species throughout eastern portions of the Bay State under contract with the Massachusetts Natural Heritage and Endangered Species Program. Although there are over two dozen historical sites recorded for this small, inconspicuous dragonfly, there are few recent records and its current status in the state is very uncertain. Tune in to the next issue of *Ode News* to learn the results of Jim and Leah's efforts.



Eastern Amberwing (*Perithemis tenera*)  
Brewster, MA—07/01

© Blair Nikula

Also under contract with the MNH&ESP, Blair Nikula will be conducting surveys in western Massachusetts for the federally endangered Hine's Emerald (*Somatochlora hineana*), a species known

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primarily from a few sites around the western Great Lakes. Although unrecorded from the Northeast (or anywhere east of Ohio), potentially suitable habitat exists in places. While the chances of finding Hine's Emerald in New England may be remote, the surveys will also afford an opportunity to search for a number of state-listed species in an under-worked portion of Massachusetts and, with luck, should fill many gaps in our knowledge of the state's odonate fauna.

If the weather gods cooperate, it should be a very productive season. See you in the field!

## 2001 DSA NORTHEASTERN MEETING

This year's Northeastern Meeting of the Dragonfly Society of the Americas will be held in Gloucester County, in southern New Jersey the weekend of 9–10 June. Hosted by Allen Barlow, the meeting will be based in Williamstown and will visit, among other sites, the Winslow Wildlife Management Area. For more information contact Allen at: [tramea@optonline.net](mailto:tramea@optonline.net) or 973-426-0074.

## 2001 MASSACHUSETTS WALKS AND PROGRAMS

Following are some of the activities scheduled in southern New England this season. Some of these events are free, while others are scheduled by organizations and require registration and a fee. Many are weather dependent, so if in doubt please call ahead.

**24 May – 14 July: Workshop at the Miller's River Environmental Center** in Athol. Four Thursday evening classes (5/24, 6/7, 6/21, & 7/12) followed by Saturday field trips (5/26, 6/9, 6/23, & 7/14). Focusing on the Miller's River watershed in northern Worcester County, this workshop will be conducted by Gail Howe and Dave Small. Fee for the series is \$30, and pre-registration is required. For more information or to register, contact Dave Small: 978-249-2094 or [dhsml@gis.net](mailto:dhsml@gis.net).

**4 July (Wednesday): Southeastern Worcester County.** 9:00 a.m. – 3:00 p.m. An *Ode News* walk to West Hill Dam in Uxbridge and Wallis Pond in Douglas lead by Blair Nikula (508-432-6348; [odenews@mediaone.net](mailto:odenews@mediaone.net)). Meet at the parking area at West Hill Dam, off Hartford Avenue in Uxbridge.

**9 July (Monday): Nickerson State Park** in Brewster (Cape Cod). 9:00 a.m. – Noon. Massachusetts Audubon walk lead by Jackie Sones. Registration required. Fee: \$9 for MAS members; \$12 for nonmembers. For more information or to register phone: 508-349-2615.

**25–28 July: Workshop at Wellfleet Bay Wildlife Sanctuary** on Cape Cod. A three-day workshop conducted by Jackie Sones, combining field trips and lectures. Through hands-on experience, learn to identify adults, discuss their life cycles their fascinating behaviors. Registration required. Fee: \$210 for Massachusetts Audubon members; \$240 for nonmembers. Housing available at additional cost. Phone: 508-349-2615.

**5 August (Sunday): Workshop at Ipswich River Wildlife Sanctuary** in Topsfield. 9:00 a.m. – Noon. A half-day program conducted by Jackie Sones. Lecture followed by a walk at the sanctuary. Fee and registration required. For more information or to register, phone: 978-887-9264.

**11 August (Saturday): South Shore Sanctuaries walk,** Plymouth County. 9:00 a.m. – 3:00 p.m. Massachusetts Audubon walk with Chris Leahy and other Audubon staff. Registration required. Fee: \$12 for MAS members; \$15 for nonmembers. To register call: 781-837-9400.

## FIRST 2001 ODES

Over the winter and early spring, an abundance of precipitation, which fell mostly as snow inland and rain on the southeastern coast, resulted in extremely high water levels across most of southern New England. Many streams and rivers became roaring torrents for a period in late March, causing some serious flooding in portions of Massachusetts.

March was not only very wet, but very cool as well, with temperatures running 4–5°F below normal. Cool but very dry weather continued through most of April, punctuated by a couple of abrupt warm spells late in the month that briefly sent temperatures soaring into the 80s (°F) away from the coast. Less than an inch of rain fell in April, making it the second driest on record in Boston. In little over a month, the region transitioned from locally severe flooding to serious forest fire danger!

The first ode reported in New England this spring was, not surprisingly, a Common Green Darner (*Anax junius*), seen by Noble Proctor in Connecticut on 14 April — slightly early, despite the cool weather; Noble saw three more on the 18th. On 26 April, Noble found a Springtime Darner (*Basiaeschna janata*) and a Fragile Forktail (*Ischnura posita*).

Ginger Brown reported Rhode Island's first Common Green Darner on 20 April. Surprisingly, this individual was an ovipositing female — almost certainly the earliest any odonate has been found breeding in New England. Ringed Boghaunters (*Williamsonia lintneri*) were first seen in Rhode Island on 23 April. At the state's best site a mass emergence occurred over the next few days; more than 1,000 individuals were estimated to have emerged from this site! Ginger and crew also found boghaunters at two new wetlands in the northwest corner of the state, making a total of 22 sites now known for this rare dragonfly in the Ocean State. By early May, both Fragile (*I. posita*) and Eastern forketails (*I. verticalis*), Hudsonian Whiteface (*Leucorrhinia hudsonica*), and Harlequin Darner (*Gomphaeschna furcillata*) were all on the wing in Rhode Island.

Single Common Green Darners seen in Kingston by Fahy Bygate and at the Quabbin Reservoir by Dave Small, both on 24 April, were the first odes reported in Massachusetts. Also in that state, Jeremiah

## 2001 DSA MEETING IN TEXAS

The 2001 annual meeting of the Dragonfly Society of the Americas will be held in the Texas Hill Country, July 12-15<sup>th</sup>. The meeting is being organized by John Abbott of the University of Texas, and will be based in the town of Junction, about 120 miles west of Austin. Junction is located at the confluence of the North and South forks of the Llano River and is within a short drive of several rich natural areas, such as South Llano River State Park, Garner State Park, Lost Maples State Natural Area, and the Nueces, Frio, and San Saba rivers. There will be a post-meeting trip to the Dolan Falls Nature Conservancy property in Val Verde County, located at the intersection of three biomes.

Likely Texas specialties include Chalky Spreadwing (*Lestes sigma*), Coral-fronted Threadtail (*Neoneura aaroni*), Orange-striped Threadtail (*Protoneura cara*), Comanche Dancer (*Argia barretti*), Coppery Dancer (*Argia cuprea*), Neotropical Bluet (*Enallagma novaehispaniae*), Broad-striped Forceptail (*Aphylla angustifolia*), Five-striped Leaf-tail (*Phyllogomphoides albrighti*), Four-striped Leaf-tail (*P. stigmatus*), Bronzed River Cruiser (*Macromia annulata*), Red-tailed Pennant (*Brachymesia furcata*), Black Setwing (*Dythemis nigrescens*), Ivory-striped Sylph (*Macrothemis imitans*), and Jade-striped Sylph (*M. inequiunguis*).

A web site with full details is available at:

[www.esb.utexas.edu/jcabbott/odonata/2001DSA/index.html](http://www.esb.utexas.edu/jcabbott/odonata/2001DSA/index.html)

See you there!

Trimble found half a dozen Hudsonian Whitefaces at Ponkapoag Bog in Canton on 28 April. Fred SaintOurs noted this species on 2 May in Scituate, and a few White Corporals (*Libellula exusta*) in Norwell on 3 May. Blue Corporals (*Libellula deplanata*) and Common Basket-tails (*Epithea cynosura*) were also seen in the Bay State in early May. A very early Spot-winged glider (*Pantala hymenaea*), presumably a migrant, was seen on Plum Island on 2 May. Most notable was Ken Harte's discovery of three adult Ringed Boghaunters in Concord on 6 May.

## RUN POND SURVEYS

Blair Nikula

Run Pond, located in the town of Dennis, is one of Cape Cod's most pristine coastal plain ponds. It is part of a complex of several such ponds situated along the terminal moraine on the north side of town and, to date, is the least impacted by development. Run Pond is roughly oval in shape, measuring about 1,000 feet long by over 300 feet wide, and is about 5½ acres in extent. A small boggy pool off the northwest corner is connected to the pond during times of high water. The pond lays at least partially within the town watershed, though a golf course is located to the north, separated from the pond by a wooded buffer averaging a couple hundred feet in width. Ominously, a new home recently appeared on its southern shore.

Run Pond hosts a diverse array of odonates, numbering no less than 39 species. Among these are most of the typical coastal plain species of southeastern New England, including Atlantic Bluet (*Enallagma doubledayi*), Pine Barrens Bluet (*E. recurvatum*), Comet Darner (*Anax longipes*), Common Sanddragon (*Progomphus obscurus*), Martha's Pennant (*Celithemis martha*), Golden-winged Skimmer (*Libellula auripennis*), Blue Corporal (*L. deplanata*), and Carolina Saddlebags (*Tramea carolina*). Not only is the diversity impressive, but the sheer numbers of individuals can be mind-boggling, often numbering into the thousands. On a typical mid-summer day the emergent plants, predominately Military Rush (*Juncus militaris*), are festooned with spreadwings, bluets, skimmers, pondhawks and pennants, while male darners and saddlebags cruise the shoreline, and the water's surface teems with patrolling males and tandem pairs of bluets and pennants. When conditions are favorable, a profusion of coastal plain pondshore plants, most strikingly Plymouth Gentian (*Sabatia kennedyana*) and Rose Coreopsis (*Coreopsis rosea*), provide a stunning background to the bustling winged activity.



Run Pond, Dennis, with its shoreline carpet of Plymouth Gentian

© Blair Nikula

Since 1995, I have visited Run Pond on a regular basis and estimated the number of adults of each species visible. Although these are not rigorous censuses, I have attempted to "standardize" my visits as much as possible. All visits have been made in favorable weather, and on most occasions (including all those reported here) I have made a complete circuit of the pond shore. I especially have made a point of visiting at least once each year in late July or early August, a time that seems to coincide with the peak flight period for many coastal plain species.

During the five years from 1996 to 2000, water levels at Cape Cod wetlands fluctuated dramatically and, based upon my simple censuses, there seemed to be some correspondingly dramatic changes in various odonate populations at Run Pond. The mid 1990s were characterized by very low water levels, and woody vegetation, particularly pitch pine (*Pinus rigida*), rapidly colonized the shorelines of many ponds. By 1996 some of the pines encroaching upon the Run Pond shore had reached 3–4 feet in height. Following the 1996 season, however, conditions changed abruptly and an abundance of precipitation gradually filled local ponds. Water levels were very high during 1997 and continued to increase, becoming so high by the summer of 1998 that accessing most ponds in the area was virtually impossible without wading waist-deep in places. The extremely high water inundated the shoreline, eventually killing the encroaching woody vegetation. By 1999, water levels had returned to a more normal level, but the

water was very murky and a foul odor was noticeable at times, apparently an artifact of the abundant decaying vegetation in the pond. By the summer of 2000, the water level had dropped further, becoming quite low by mid-summer, but the water quality seemed to have improved.

The table on page 6 presents my estimates for some of the coastal plain odonates as well as a few more widespread and generalist species during my late-July to early August visits from 1996–2000. Unfortunately, the extreme water levels precluded any surveys in 1998, but a couple of cursory visits to the pond that year revealed very little odonate activity. There appeared to be some dramatic changes in the populations of several odonates during the five-year period, with some of the coastal plain species declining and at least a couple of generalist species increasing.

The most striking decline was exhibited by Swamp Spreadwing (*Lestes vigilax*), which numbered into the thousands in two visits in 1996, but was absent in 1999 and nearly so in 2000. Spreadwings in general have been very scarce at many Cape Cod wetlands over the past couple of years. Martha's Pennant also dropped to near absence at Run Pond in 1999, down from hundreds in each of the previous three years. Atlantic Bluet, Common Green Darner (*Anax junius*), Comet Darner, Common Sanddragon, Calico Pennant (*Celithemis elisa*), and Golden-winged Skimmer all showed evidence of decline as well, though the results are less striking. The most amazing increase was exhibited by the Eastern Amberwing (*Perithemis tenera*), which went from absent in 1996 and 1997 to an estimated 350



Golden-winged Skimmer (*Libellula auripennis*)  
Dennis, MA — 07/96



Swamp Spreadwing (*Lestes vigilax*)  
Dennis, MA — 07/99

individuals in 1999, with a subsequent sharp drop last year. Slaty Skimmer (*Libellula incesta*) and Blue Dasher (*Pachydiplax longipennis*) also showed some indication of increases. All three of these are very common, widespread species found in a variety of wetlands.

I hasten to emphasize some important caveats at this point. None of the observations above are based upon any rigorous, scientific study. Although I have attempted to standardize my surveys of Run Pond to the extent reasonably possible in the limited time available, attempts to count adult odonates are fraught with potential errors. The numbers present on any one day, even if very accurately determined, do not necessarily reflect overall population levels. These species have seasonal flight periods that range from about 50 to 100+ days. Thus, drawing conclusions from the number of adults (the vast majority males only) present at a site for a two-hour period on just one day is clearly skating on thin ice. Indeed, in contrast to those species discussed above, other species such as Variable Dancer (*Argia fumipennis*), Eastern Forktail (*Ischnura verticalis*), and Carolina Saddlebags (*Tramea carolina*) all showed sharp spikes in numbers not obviously correlated with water levels (see table). Note also the striking difference in the number of Eastern Forktails recorded in the two 1996 dates, about 14 days apart. Additionally, my observations on water levels and water quality are subjective and based upon nothing quantitative.

I offer these observations not to draw conclusions. I simply wish to illustrate, even if at a crude level, the tremendous variability in odonate numbers, as well

as to speculate on possible reasons for this variability and to emphasize the difficulties in studying the population dynamics of these insects. Nonetheless, even given the many uncertainties in my modest efforts, some of the changes in my odonate counts at Run Pond are so great, 2–3 orders of magnitude in some cases, that it's difficult to dismiss them altogether. Of course, even if the apparent correlation between some of these numbers and water levels (and/or quality) is real, it does not prove a connection (scientists are quick to point out that “correlation does not equal causation”).

One interesting question that arises from these results, regardless of their reliability, is what determines the species composition at Run Pond and other coastal plain ponds. Why are such widespread and seemingly adaptable species such as Blue Dasher and Eastern Amberwing typically scarce to absent at Run Pond (and many other coastal plain ponds)? Are they normally precluded by competition with one or more

of the coastal plain species? If so, does this competition occur in the adult or larval life stages (or both)? If it was not a lack of competition that led to the apparent population explosion of Eastern Amberwings in 1999, was it some change in the water quality? Could water levels alone play a role? How did changing water levels and quality affect aquatic vegetation, and what impact did this have on odonate populations? The questions are nearly infinite, the answers few.

Despite all the “ifs,” “ands,” or “buts,” I believe attempts to monitor odonate populations are worthwhile — important, in fact — and undoubtedly will improve with time and accumulating knowledge. I will continue my modest efforts at Run Pond and urge others to undertake similar surveys in their own neighborhoods. Perhaps someday we will be able to answer a few of the many questions and draw some convincing conclusions.

**Run Pond mid-summer odonate survey results for selected species: 1996–2000**

Date	7/28/96	8/11/96	8/2/97	7/18/99	8/6/00
Water level	low	low	very high	very high	normal
Swamp Spreadwing ( <i>Lestes vigilax</i> )	2000	1500	500	0	75
Variable Dancer ( <i>Argia fumipennis</i> )	30	12	100	50	5
Atlantic Bluet ( <i>Enallagma doubledayi</i> )	2000	2000	500	700	400
Eastern Forktail ( <i>Ischnura verticalis</i> )	8	100	10	12	8
Common Green Darner ( <i>Anax junius</i> )	5	2	8	1	0
Comet Darner ( <i>Anax longipes</i> )	3	3	4	0	1
Common Sanddragon ( <i>Progomphus obscurus</i> )	15	4	2	1	2
Calico Pennant ( <i>Celithemis elisa</i> )	250	85	30	40	60
Martha's Pennant ( <i>Celithemis martha</i> )	200	350	200	2	60
Eastern Pondhawk ( <i>Erythemis simplicicollis</i> )	25	15	40	60	10
Golden-winged Skimmer ( <i>Libellula auripennis</i> )	75	25	75	40	15
Slaty Skimmer ( <i>Libellula incesta</i> )	30	40	20	100	50
Blue Dasher ( <i>Pachydiplax longipennis</i> )	0	2	3	15	0
Eastern Amberwing ( <i>Perithemis tenera</i> )	25	0	0	350	30
Carolina Saddlebags ( <i>Tramea carolina</i> )	6	5	60	12	2

## THE PEABODY MUSEUM COLLECTION

*Jim MacDougall*

The Peabody Essex Museum in Salem, Massachusetts has had a long history as a repository for corpses of various animal groups as well as dried and flattened plants, rocks, seashells and bird nests. Back in the 1830's a group of Salem sea captains and landed gentry founded the Essex County Natural History Society. They were seeking a place where they could dump all of their exotic specimens from every corner of the world. (No doubt a form of one-upmanship before football and baseball were instituted.) They established a hall at the East India Trading Company and sat around the table ogling what each had brought back from the far, middle and near east. Sea turtles, birds of paradise, ostriches, ostrich eggs, you name it. They deposited all of this stuff at their "Club." Eventually they began studying nature closer to home and, with the wealth generated from their worldly commerce, were able to house and endow professional naturalists to do the interpretation for them. This led to such writings as the *Flora of Essex County* by John Robinson, *Geology of Essex County* by John Sears, and the *Birds of Essex County* by William Townsend. One of the curators was Albert P. Morse who wrote the *Orthoptera of North America* and that is where our interest begins.

It was around the turn of the twentieth century that A. P. Morse and Frank Walker, among others, started to collect dragonflies and damselflies in Massachusetts. Although A. P. Morse's interest was primarily grasshoppers and crickets, he did collect odonates along the way. And being a curator, he took very good care of his specimens. Each is pinned and labeled, placed in individual boxes labeled to genus, and stored in air tight trays in steel cabinets. These steel cabinets, institutional gray, are housed in a little corner of the museum called the "dead room" — a term used by the current Executive Director of the Museum. This room guards all of nature's forms which are the inspiration for all of the art, porcelain, and crafts housed in the lion's share of the museum.

The odonate collection is not large, but for me it represents the value in collecting and taking proper care of our victims. That lesson seems to have impressed others as well. Within the collection are the results of a more recent effort to learn and

understand the demographics of odonates. In archival boxes is the collection of odonates from the years of 1970 and 1971 by Chris Leahy of the Massachusetts Audubon Society. All the specimens are neatly placed in glycine envelopes with a card explaining the identification and location of each. They are arranged in pairs with a specimen of male and female in each envelope.



Lyre-tipped Spreadwing (*Lestes unguiculatus*)  
Valentine, NE — 07/99

© Blair Nikula

There is only one problem with this collection. The collection by Morse was indexed, and many of the specimens are labeled with collection number instead of the origin of the specimen. Well, it seems the bound index book is missing. Reportedly, there were three of these bound books and none can be located. So the origin of many specimens remains a mystery.

The odonate collection numbers just 132 specimens, but comprises a diverse 79 species. Most of these are from northeastern Massachusetts, though a few of those donated by Chris Leahy are from New Hampshire. Of particular interest are a few species collected in Essex County which have not been found there in a couple of decades or more, suggesting possible population declines. Among these are an undated American Rubyspot (*Hetaerina americana*), a species that seems to have disappeared from much of eastern Massachusetts recently; two Lyre-tipped Spreadwings (*Lestes unguiculatus*), one undated from Marblehead and a 1971 specimen from Newbury; an undated Variable Darner (*Aeshna interrupta*) from Wenham, apparently the only state

record east of Worcester County; a Kennedy's Emerald (*Somatochlora kennedyi*) from Middleton in 1920; and a Ringed Boghaunter (*Williamsonia lintneri*) also from Middleton in 1929. Other interesting specimens include an undated Elfin Skimmer (*Nannothemis bella*) from Wellesley, a species probably long gone from this extensively developed Boston suburb, and a 1910 specimen (location unspecified) of Variegated Meadowhawk (*Sympetrum corruptum*), a rare vagrant from the West, recorded only a few times in New England.

The collection is now in a temporary storage facility which, due to the extensive renovations at the Museum, is currently not open to the public. Contact the curator of Natural History for an update on the status of the renovation and whether or not the specimens are available for study.

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## NEW BERKSHIRE COUNTY RECORDS

Brad Compton and Kasey Rolih, new residents of Massachusetts, spent some time looking for odes in the western reaches of the state last year and filled in a few holes in the Berkshire County list. They found American Rubyspot (*Hetaerina americana*) on the Housatonic River in Sheffield, both Boreal Bluet (*Enallagma boreale*) and Northern Bluet (*Enallagma cyathigerum*) in Washington, and Fawn Darner (*Boyeria vinosa*) in Sheffield. These four species bring the Berkshire list to just over 100 species.

Somewhat older news from the Berkshires, not previously reported here, was the discovery of Zebra Clubtail (*Stylurus scudderi*) and Arrow Clubtail (*Stylurus spiniceps*), both state-listed species, on the Housatonic River in 1999. Numerous exuviae of both were found during ongoing field work related to the massive PCB cleanup project currently underway along the river in the Pittsfield area. Staff from Woodlot Alternatives, a consulting firm based in Maine, collected odonate exuviae throughout the season, which were subsequently identified by Jeremiah Trimble. They also collected a few adult dragonflies, among which were Forcipate Emeralds (*Somatochlora forcipata*) from two sites, a species known from only four other sites in the state and recorded only once previously in the Berkshires.

## NEW BUG BINOCULARS

For those of us whose most important possession is our binoculars, there has been no shortage of good news in recent years. Over the past decade or so, optics manufacturers finally came to recognize the potential of the birder/naturalist market and have since been falling over themselves in a rush to introduce new and better models for bird and bug watchers. Better for a naturalist means not only higher quality optics, but improved water proofing, lighter weight, increased eye-relief, and, especially for bug watchers, closer focusing.



During the Texas Tropics Nature Festival in early April, your humble editors had an opportunity to examine some new binoculars that should prove very attractive to bug watchers. They are made by Kahles, an Austrian company we had never heard of, but which has been manufacturing binoculars

since 1898. The Kahles line apparently is now being distributed in the U.S. by another, much better known Austrian outfit, Swarovski Optic. Kahles makes three models: 8x32, 8x42, and 10x42. The 8x32 model will be of greatest interest to bug watchers, as it has a minimum focus of about 4½ feet, as close as any quality binocular on the market! Minimum focus on the 8x42 and 10x42 models is about 7½ feet — decent, but not on a par with several other makes currently available.

Compared with the top-of-the-line “bug glass,” the Bausch & Lomb Elites, the Kahles 8x32 is somewhat smaller, lighter (21.5 oz. versus 29.5 oz.), and focuses almost a foot closer. Like other high quality glasses, they are rubber armored and are water and fog proof (through nitrogen purging). They also have excellent eye-relief, screw down eyecups, and are very comfortable in the hand. They are expected to sell for about \$550, roughly \$200 less than the B&L Elites. Although we did not have a chance to field test the Kahles, we were impressed with their design and apparent quality. For more information, visit their Web site at: [www.kahlesoptik.com](http://www.kahlesoptik.com), or phone: 800-426-3089.



## MEADOWHAWK MORASS

Blair Nikula

Among the most common, widespread, and familiar of dragonflies are the meadowhawks of the genus *Sympetrum*. Even many non-naturalists have noticed these small, reddish dragonflies, as they are perhaps the most frequently encountered “backyard” odes. They are often not very wary and will occasionally land on light-colored clothing, particularly on cool autumn days.

Despite their familiarity, the meadowhawks present one of the greatest identification and taxonomic challenges among North American odonates. Novices are often surprised to find that even the most experienced odonatists are unable to identify some individuals. Even a microscopic examination of specimens can fail to provide a conclusive identification.

As in similar situations among birds (e.g., *Empidonax* flycatchers) and other fauna and flora, identification and taxonomy are inextricably intertwined. Until recently we have been accustomed to defining species primarily based upon visual (and in some taxa, vocal) characteristics that are unique to one form. When one or more such characteristics are well defined with little variation across forms, we have little trouble recognizing the forms. But when the characteristics vary (often geographically) to the point that there is overlap between two or more forms, we run into problems. Such is the case with the meadowhawks: several forms, while distinct in some portion(s) of their ranges, vary to the extent that they are inseparable — to our eyes, at least.

At least seven species of meadowhawks are known from southern New England. Four species are reasonably distinct taxonomically and, with experience, can usually be identified in the field at close range based upon visual characteristics (“field marks”). The Variegated Meadowhawk (*Sympetrum corruptum*) is a rare vagrant from the west and has a boldly patterned abdomen that is unique among the genus. The Band-winged Meadowhawk (*S. semicinctum*) occurs throughout the region and has distinct, broad amber bands across the base of the hindwings. The Saffron-bordered Meadowhawk (*S. costiferum*) also occurs throughout the region, though is very local in distribution. The yellowish venation in the leading edges of the wings, reddish stigmas,

and reduced blackish markings on the abdomen are usually sufficient for identification. The Yellow-legged Meadowhawk (*S. vicinum*) is an abundant, late-flying species; it is the last odonate on the wing in this area, with records into early December when weather conditions are favorable. Any meadowhawk seen after mid-October in New England is probably this species. It also has reduced black on the sides of the abdomen and the stigmas vary from brown to reddish. Yellow-legged Meadowhawks have yellow legs only when immature, they darken to dark brown (but never black) with age. Older individuals, although readily identifiable in the hand, can present some identification pitfalls in the field, as discussed below.

Here in the Northeast, we have an additional three or four species whose taxonomy is unclear and who, consequently, provide headaches to those of us who wish to attach a name to everything we see. Three of these have been recognized and widely accepted as species for quite some time, while the fourth was described fairly recently and remains much debated. My intent here is to describe (though certainly not resolve!) this currently muddled situation.

The three “old” forms are the Ruby Meadowhawk (*Sympetrum rubicundulum*), Cherry-faced Meadowhawk (*S. internum*), and White-faced Meadowhawk (*S. obtrusum*). Both Cherry-faced and White-faced meadowhawks are northern species with similar distributions that extend across Canada and the northern states, from coast to coast. The Ruby



Ruby Meadowhawk (*Sympetrum rubicundulum*)  
Barnstable, MA — 08/00



© Blair Nikula

White-faced Meadowhawk (*Sympetrum obtrusum*) — male.  
Face is bright white, legs black. Monhegan, ME — 09/98

Meadowhawk has a more southerly distribution, barely making it into south-central Canada and occurring as far south as Georgia, Kansas, and New Mexico; although it occurs as far west as the eastern slope of the Rockies, it is absent from the West Coast.

In 1993, Frank Carle described a fourth species, Jane's Meadowhawk (*S. janeae*), further obfuscating an already difficult situation. According to Carle, Jane's Meadowhawk (named after his wife) is a species intermediate, both in form and geographical distribution, between Ruby and Cherry-faced meadowhawks. However, some experienced odonatologists have questioned this new species, though no contrary opinions have been formally published.

Recognizing these four meadowhawks as a group is pretty straightforward. Mature males are bright red with black triangular markings on the lower sides of the abdomen, blackish legs, and clear wings (though often with a small patch of amber coloration at the base of the hindwing; in the Midwest, these patches are much more extensive on the Ruby Meadowhawk and some Cherry-faced Meadowhawks, creating confusion with the Band-winged Meadowhawk). Females are yellow-brown to olive-brown where the males are red, but with similar black markings on the abdomen. Immatures of both sexes are rather bright yellow. However, distinguishing these three or four species in the field using visual characteristics is, at least in southern New England, simply not possible given our current understanding (or lack thereof!).

As their name suggests, White-faced Meadowhawks often have a strikingly white face; however, this

feature is found only in mature males, is variable, and is lacking in females and young males. Likewise, mature male Cherry-faced Meadowhawks often have a distinctly reddish face. Unfortunately, this also is highly variable: In the western half of its range, the reddish face is quite reliable (and they also have distinct reddish venation in the wings in the West), but here in the East, the face is more typically a dull yellowish-brown or yellowish-ivory in color, which is essentially identical to the face color of Ruby Meadowhawk or the putative Jane's Meadowhawk. Despite the suggestive common names of two of these species, face color is of very limited use for identification in southern New England.

As with many odonates, the most reliable means of distinguishing these three or four species are the shapes of the male hamules and the female vulvar laminae, discernable only under magnification. However, even these features can be problematic within this difficult group.

Yellow-legged Meadowhawks, though taxonomically distinct and readily identifiable in the hand, can provide some identification pitfalls as well. The legs in mature individuals are not yellow, but brownish, ranging from rather pale to very dark in some cases. However, the legs are never black as in the other species. Another confusing feature of Yellow-legged Meadowhawks is the face, which is often distinctly reddish on top. Indeed, any meadowhawk with a reddish face in southern New England is probably *not* a Cherry-faced Meadowhawk, but rather a Yellow-legged. (Nobody said this was going to be easy!)



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Female Ruby (?) Meadowhawk, Midwestern form with extensive amber patch at base of hindwing. Valentine, NE — 07/99



Yellow-legged Meadowhawk (*Sympetrum vicinum*)— male. Legs are brown, top of face red, very little black on abdomen.  
Provincetown, MA — 10/00

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There are some differences in the local distribution of these species, though again this varies depending upon whose taxonomy you accept. The White-faced Meadowhawk, while common in northern New England, has been recorded only on a handful of occasions in southern New England in the past decade or so. Historical records suggest that it once may have been much more common here. (Has a northward contraction in its range occurred, perhaps in response to recent climatic warming?) The Ruby Meadowhawk seems to be confined to the southeastern coastal plain, where it is often abundant from early July through September. Curiously, there are no confirmed records from Connecticut, and the species apparently is absent from northern New England. The Cherry-faced Meadowhawk, in contrast, is primarily an inland species, found predominately from central and western Massachusetts south through Connecticut. There are some records from the southeast coastal plain, especially historically.

This distributional description is based upon the “old” taxonomy. However, according to Carle’s interpretation, Cherry-faced Meadowhawks do not occur at all in New England! The closest specimens that Carle identified as Cherry-faced were from southern Quebec and the Great Lakes. Instead, Carle considers Jane’s Meadowhawk to be the predominate form in all of New England except the southeast coastal plain. Most of the specimens Carle examined from the coastal plain were Ruby Meadowhawks, though a few showed characteristics of Jane’s Meadowhawk.

Eventually, DNA work in progress may resolve some of the taxonomic issues in this difficult group. How-

ever, whatever DNA analysis may show, the field identification of some of these meadowhawks seems likely to remain difficult, at best.

When you see a meadowhawk, features to focus on include the relative amount of black on the sides of the abdomen (difficult to determine if you’re looking down on the dragon), the color of the legs (again, you will need a close view), the color of the stigmas, and the color, if any, in the venation on the foreword portion of the wings. However, even with an excellent look, in most cases you will be unable to make a positive identification. I hope this will not discourage you from looking more closely at meadowhawks. After all, you may discover some subtle identification aide that has been overlooked.

Readers who wish to explore this frustrating situation further will find more detailed information in the following references.

Carle, F. C. 1993. *Sympetrum janeae* spec. nov. from eastern North America, with a key to Nearctic *Sympetrum*. *Odonatologica*. 22:1-16.

Williamson, E. B. 1933. The status of *Sympetrum assimulatum* (Uhler) and *Sympetrum decisum* (Hagen) (Odonata: Libellulidae). *Occasional Papers of the Museum of Zoology, University of Michigan*. No. 264:1-11.

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## MAINE ATLAS PROJECT

The Maine Dragonfly & Damselfly Survey enters its third season this year. At the project’s web site (<http://mdds.umf.maine.edu/~odonata/>) you can find a checklist of Maine odonates, flight season tables, publications relating to the survey, 1999 results, and more. If your travel plans include Maine this summer and you would like to contribute, contact the project coordinator Phillip deMaynadier, Maine Department of Inland Fisheries and Wildlife, 650 State Street, Bangor, ME 04401. (Phone: 207-941-4239); e-mail: [phillip.demaynadier@state.me.us](mailto:phillip.demaynadier@state.me.us).

## 2000 HUMBOLDT COURSES

Paul Brunelle's very popular week-long courses on odonates at the Humboldt Field Research Institute in Steuben, Maine are being offered again this year. Topics to be covered include collection and taxonomic study, life stages, morphology, behavior, distribution, and sampling. The first course, focusing on nymphs, will be held the week of 27 May – 2 June while the second, concentrating on adults, will be 15 – 21 July. The tuition for each course is \$435, with room and board available at an additional cost (we hear the food is great!). For more information contact:

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