Ode News - An Occasional Newsletter for Dragonfly Enthusiasts in Southeastern Massachusetts

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Snowbound greetings! Outdoors, a foot and a half of snow whitens the ground and trees. We've had a lot of shoveling to do, but we've also been able to complete this final edition of Volume II. We're pleased to introduce two new artists, Gabriel Willow from Liberty, Maine, and Jeremiah Trimble from Mashpee, Massachusetts. We hope you enjoy their illustrations. [Ilustrations not yet reproduced for the electronic version of Ode News…sorry!]

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Highlights: Late Summer and Fall 1995

Green-striped Darner (*Aeshna verticalis*) and **Canada Darner** (*Aeshna canadensis*). On 19 August at a large vernal pool in Bourne, Peter and Jeremiah Trimble and Blair Nikula caught three species of blue darners (genus *Aeshna*), including three Green-striped Darners, the first of this species we've encountered on Cape Cod. Two more were captured at the same site on 4 September. In late August, Jeremiah captured the very similar Canada Darner at Washburn Pond in Mashpee. Blue darners in general are a difficult, challenging group. Most are very similar in appearance, usually requiring careful, in-hand examination for identification. In addition, they are powerful, fast flyers, not easily captured; most are seen only briefly and very few ever see the inside of a net! Consequently, the status of Green-striped and Canada Darners (two of the most difficult to separate) on Cape Cod remains unclear. There have been scattered historical records of both. In his 1917 Manual of the Odonata of New England, Howe reports a Green-striped Darner collected in Provincetown and lists Canada Darner records from Chatham and Woods Hole. In 1951, the Gibbses collected Canada Darners at four sites from Woods Hole to Orleans; they did not find Green-striped Darners during their three summers of work in the area. Ginger collected both species in the 1980s, but no more than a couple of each. We look forward to

clarifying the local status of these beautiful insects in the upcoming field seasons. Watch future issues of Ode News for more about *Aeshnas* on Cape Cod.

Clamp-tipped Emerald (*Somatochlora tenebrosa*). Jeremiah Trimble came through with the only capture of this species on Cape Cod during the past two years. On 10 July 1995, he found one flying along a narrow woodland path in Osterville. Typical of other emerald sites, there is an Atlantic White Cedar Swamp and an open sphagnum bog nearby. Jeremiah also observed a swarm of emeralds near this area during late afternoon on 15 August, but was unable to catch any for identification. In her book, Ginger Carpenter mentions catching two Clamp-tipped Emeralds, one in Dennisport and another in Brewster, and spotting a few in other locales. Apparently, the entire genus is rare on Cape Cod. The only other striped emerald recorded on Cape Cod is the Broomtail, or Walsh's Emerald (*Somatochlora walshii*), which is known from only one sight record.

Pied Skimmer (*Libellula luctuosa*). Although there are historic records for this species on Cape Cod, the Pied Skimmer eluded us in 1994. Not so in 1995, however, as Peter Trimble discovered it flying on 2 and 4 August at a few sites in Bourne: Osbornes Pond, Deep Bottom Pond, and Donnelly Pond. Historic records also come from the Upper Cape. From 10 July - 26 July 1953, the Gibbses found the Pied Skimmer at three sites in Falmouth: Oyster Pond, Sippewisset Beach, and Goodwill Park. The factors limiting the Pied Skimmer's distribution on Cape Cod are unclear, although it may be that the acidity of the ponds here has some effect on the survival of the nymphs.

Rainpool Gliders (*Pantala* species) - With a growing interest in dragonfly migration (see related article on page 5), rainpool glider sightings in mid-summer proved most interesting. On 30 July, three different observers saw large numbers of gliders along the coast. Jackie Sones was on South Beach in Chatham during mid-day and noted hundreds of dragonflies moving northwest into the wind. Blair Nikula arrived on Morris Island in Chatham a little before 2:00 p.m. and was surprised to see one hundred or more dragonflies, most cruising along the east bluff. He then went to South Beach and noted hundreds more during the latter part of the afternoon. The majority (80+%) of dragonflies seenat these two sites were Wandering Gliders (*P. flavescens*), with lesser numbers (5-10%) of Spot-winged Gliders (*P. hymenaea*) as well as a few Common Green Darners (*Anax junius*), Violet-masked Gliders (*Tramea carolina*), Black-mantled Gliders (*T. lacerata*), and Blue Dashers (*Pachydiplax longipennis*). On Cuttyhunk Island, Peter Trimble recorded about one hundred Wandering Gliders along with a few of the other species noted above. Late in the day, Chris Leahy saw large numbers of *Pantalas* at Cape Ann, and thousands were seen moving north past Cape May, New Jersey.

Clearly there was a significant northward (and primarily coastal?) movement across the Northeast on 30 July. Jackie returned to Morris Island the following morning but could find no evidence of the previous day's flight. We are not aware of any significant movements in the few days prior to 30 July, though with so few odonatists in the Northeast major flights could easily pass undetected.

What triggered a mid-summer movement of such magnitude? We can only wonder, but weather factors may have played a role. Drought conditions prevailed throughout the spring and summer

across most of the eastern U.S., and may have forced these insects out of the Southeast in search of suitable breeding conditions elsewhere (Soltesz et al., 1995. A spring dragonfly flight in the Northeast. *Argia*, 7[3]:10-14). Heat-wave conditions prevailed for several days preceding 30 July with very warm southwesterly winds which could have carried them our way. Rainpool gliders are notorious vagabonds and it has been speculated that their movements are associated in some way with tropical storms. However, no such connection is apparent to us in this instance.

Elegant Spreadwing (*Lestes inaequalis*). This beautiful damselfly was recorded at two sites this year: a small unnamed pond south of Lumbert Mill Road in Osterville on 6 and 18 July, and at Island Pond in Harwich on 6 July. The Gibbses found the first Cape Cod record for this species on 24 June 1953 at Randall Pond in Falmouth.

Rambur's Forktail (*Ischnura ramburii*). The last issue of Ode News detailed the discovery of Rambur's Forktails on Cuttyhunk Island. The species was also found at a Cape Cod site this summer. On 19 August, several individuals were observed at Nobska Pond in Woods Hole, a site where Chris Leahy collected the species in the 1970s. This is the only known site for the species on the Cape, though it may well occur elswehere.

An Odd Couple. On 26 August, while dragonflying along a marshy stretch of the Quashnet River in Mashpee, Blair Nikula found a Band-winged Meadowfly (*Sympetrum semicinctum*) in tandem with an Eastern Amberwing (*Perithemis tenera*). Mixed species couplings are occasionally noted among odonates, but most seem to involve different species within the same genus. Has anybody else noticed such odd pairings? We'd love to hear about it!

Observed Flight Periods - 1994 & 1995 Compared

This table compares the Cape Cod flight periods for species we observed in 1994 and/or 1995. Our coverage has been uneven, so these dates are not comprehensive (and in some cases are very inadequate). However, they do give some idea of when to look for the various species. It is interesting to note the effect of the cold weather in November 1995. For the few species that fly that late, the season apparently ended at least two weeks earlier than in 1994. Observers contributing dates were: Blair Nikula, Jackie Sones, Jeremiah Trimble, and Peter Trimble.

Species	1994	1995
Ebony Jewelwing *(Calopteryx maculata)*	11 June - 27 Aug.	18 June - 17 Aug.
Spotted Spreadwing *(Lestes congener)*	? - 13 Nov.	18 July - 14 Oct.
Common Spreadwing *(Lestes disjunctus)*	20 June - 9 Oct.(?)	? - 4 Sept.
Amber-winged Spreadwing *(Lestes eurinus)*	not recorded	30 May - 4 Aug.
Sweetflag Spreadwing *(Lestes forcipatus)*	? - 29 Oct.	24 June - 16 Sept.
Elegant Spreadwing *(Lestes inaequalis)*	not recorded	6 July - 18 July

Slender Spreadwing *(Lestes rectangularis)*	4 Aug. - 5 Nov.	3 July - 3 Oct.
Lyre-tipped Spreadwing *(Lestes unguiculatus)*	not recorded	18 July - 30 July
Swamp Spreadwing *(Lestes vigilax)*	6 Aug. - 21 Sept.	16 June - 10 Sept.
Eastern Red Damsel *(Amphiagrion saucium)*	not recorded	5 June - 18 June
Variable Dancer *(Argia fumipennis)*	19 June - 17 Sept.	10 June - 3 Oct.
Aurora Damsel *(Chromagrion conditum)*	not recorded	28 May - 1 July
Bog Bluet *(Enallagma aspersum)*	18 June - 20 Sept.	27 May - 4 Sept.
Familiar Bluet *(Enallagma civile)*	mid-June - 11 Sept.	24 June - 3 Sept.
Northern Bluet *(Enallagma cyathigerum)*	24 May - 18 June	17 May - 24 June
Turquoise Bluet *(Enallagma divigans)*	19 June	18 June - 1 July
Atlantic Bluet *(Enallagma doubledayi)*	? - 21 Sept.	10 June - 3 Oct.
Big Bluet *(Enallagma durum)*	not recorded	11 July - 19 Aug.
Stream Bluet *(Enallagma exsulans)*	30 Aug.	1 July - 8 Aug.
Skimming Bluet *(Enallagma geminatum)*	6 June - 17 Sept.	18 June - 3 Oct.
New England Bluet *(Enallagma laterale)*	31 May - 19 June	28 May - 15 June
Little Bluet *(Enallagma minusculum)*	19 June	1 June - 5 Aug.
Scarlet Bluet *(Enallagma pictum)*	not recorded	6 July - 23 July
Barrens Bluet *(Enallagma recurvatum)*	6 June - 11 June	1 June - 24 June
Orange Bluet *(Enallagma signatum)*	19 June - 27 Aug.	18 June - 20 Aug.
Slender Bluet *(Enallagma traviatum)*	not recorded	3 July - 5 Aug.
Vesper Bluet *(Enallagma vesperum)*	16 June - 3 Sept.	15 June - 8 Aug.
Citrine Forktail *(Ischnura hastata)*	10 Sept. - 2 Oct.	17 June - 4 Sept.
Lilypad Forktail *(Ischnura kellicotti)*	16 Aug. - 30 Aug.	3 July - 20 Aug.
Fragile Forktail *(Ischnura posita)*	24 May - 20 Sept.	14 May - 4 Sept.
Rambur's Forktail *(Ischnura ramburii)*	not recorded	19 Aug.
Eastern Forktail *(Ischnura verticalis)*	3 May - 21 Sept.	4 May - 3 Oct.
Sphagnum Sprite *(Nehalennia gracilis)*	not identified to species	22 June - 8 Aug.
Sedge Sprite *(Nehalennia irene)*	not identified to species	22 June - 28 June
Sprite species *(Nehalennia sp.)*	30 May - 26 June	22 June - 8 Aug.
Mottled Darner *(Aeshna clepsydra)*	31 July - 8 Oct.	16 Aug. - 3 Oct.
Spatterdock Darner *(Aeshna mutata)*	6 June - 18 June	17 June - 3 July
Black-tipped Darner *(Aeshna tuberculifera)*	23 July - 20 Sept.	19 Aug. - 10 Sept.

Shadow Darner *(Aeshna umbrosa)*	10 Sept. - 31 Oct.	15 Aug. - 10 Oct.
Green-striped Darner *(Aeshna verticalis)*	not recorded	19 Aug. - 4 Sept.
Common Green Darner *(Anax junius)*	24 April - 22 Nov.	23 April - 14 Oct.
Comet Darner *(Anax longipes)*	25 June - 21 Aug.	16 June - 20 Aug.
Springtime Darner *(Basiaeschna janata)*	12 June - 15 June	28 May
Fawn Darner *(Boyeria vinosa)*	27 Aug.	23 July - 16 Aug.
Swamp Darner *(Epiaeschna heros)*	30 Aug.	1 June - 21 Aug.
Harlequin Darner *(Gomphaeschna furcillata)*	30 May - 26 June	not recorded
Black-shouldered Spinyleg *(Dromogomphus spinosus)*	30 Aug.	31 July - 20 Aug.
Lancet Clubtail *(Gomphus exilis)*	14 May - 23 July	27 May - 3 July
Common Sanddragon *(Progomphus obscurus)*	26 June - 30 July	19 June - 5 Aug.
Stream Cruiser *(Didymops transversa)*	11 May - 26 June	23 May - 10 June
Swift River Cruiser *(Macromia illinoiensis)*	31 July - 30 Aug.	15 July - 29 Aug.
Petite Emerald *(Dorocordulia lepida)*	12 June - 26 June	22 June - 16 July
Common Baskettail *(Epitheca cynosura)*	28 May - 30 July	27 May - 3 July
Prince Baskettail *(Epitheca princeps)*	19 June - 30 Aug.	6 June - 26 Aug.
Clamp-tipped Emerald *(Somatochlora tenebrosa)*	not recorded	10 July
Calico Pennant *(Celithemis elisa)*	4 June - 30 Aug.	10 June - 10 Sept.
Halloween pennant *(Celithemis eponina)*	23 July - 2 Aug.	7 July - 19 Aug.
Banded Pennant *(Celithemis fasciata)*	23 July - 16 Aug.	19 June - 4 Sept.
Martha's Pennant *(Celithemis martha)*	23 July - 30 Aug.	10 June - 29 Aug.
Eastern Pondhawk *(Erythemis simplicicollis)*	4 June - 13 Sept.	30 May - 10 Sept.
Seaside Dragonlet *(Erythrodiplax berenice)*	23 June - 1 Sept.	5 July - 30 Aug.
Dot-tailed Whiteface *(Leucorrhinia intacta)*	22 May - 20 June	6 May - 8 July
Golden-winged Skimmer *(Libellula auripennis)*	19 June - 21 Aug.	10 June - 4 Sept.
White-spangled Skimmer *(Libellula cyanea)*	4 June - 2 Aug.	30 May - 20 Aug.
Blue Corporal *(Libellula deplanata)*	24 May - 19 June	6 May - 8 July
White Corporal *(Libellula exusta)*	24 May - 26 June	17 May - 3 July
Slaty Skimmer *(Libellula incesta)*	17 June - 20 Sept.	22 June - 10 Sept.
Pied Skimmer *(Libellula luctuosa)*	not recorded	2 Aug. - 4 Aug.
Common Whitetail *(Libellula lydia)*	18 June - 13 Sept.	2 June - 2 Oct.
Needham's Skimmer *(Libellula needhami)*	25 June - 3 Sept.	2 July - 4 Sept.

Twelve-spotted Skimmer *(Libellula pulchella)*	18 June - 13 Sept.	18 June - 4 Sept.
Four-spotted Skimmer *(Libellula quadrimaculata)*	5 June - 26 June	4 May - 22 June
Painted Skimmer *(Libellula semifasciata)*	5 June - 16 Aug.	28 May - 8 Aug.
Great Blue Skimmer *(Libellula vibrans)*	not recorded	2 June - 24 June
Blue Dasher *(Pachydiplax longipennis)*	11 June - 20 Sept.	15 June - 14 Sept.
Wandering Glider *(Pantala flavescens)*	not identified to species	6 June - 14 Oct.
Spot-winged Glider *(Pantala hymenaea)*	not identified to species	6 June - 3 Sept.
Glider species *(Pantala sp.)*	19 June - 8 Oct.	6 June - 14 Oct.
Eastern Amberwing *(Perithemis tenera)*	2 July - 30 Aug.	3 July - 26 Aug.
Saffron-bordered Meadowfly *(Sympetrum costiferum)*	30 July - 17 Sept.	27 July - 9 Oct.
Ruby Meadowfly *(Sympetrum rubicundulum)*	18 June - 5 Nov.	24 June - 14 Oct.
Band-winged Meadowfly *(Sympetrum semicinctum)*	late July - 17 Sept.	28 June - 4 Sept.
Yellow-legged Meadowfly *(Sympetrum vicinum)*	23 July - 29 Nov.	18 July - 13 Nov.
Violet-masked Glider *(Tramea carolina)*	27 June - 20 Sept.	1 June - 4 Sept.
Black-mantled Glider *(Tramea lacerata)*	1 Aug.	6 June - 15 Aug.

Where Goes That Ode?

by Richard A. Forster

One of the most fascinating aspects of birds is that they undertake predictable and often highly visible migrations. In the insect world similar migrations occur, but take place on a much smaller scale and are, by and large, far less observable. Best known among insect migrants is the Monarch, a large, showy, and conspicuous butterfly, whose migrations to and from Mexico are well chronicled. Other less- heralded but regular butterfly migrants include the Painted Lady and Red Admiral. Compared to the Monarch, these butterflies are smaller, less conspicuous, and their movements are less predictable and consequently much less observable. It may come as a surprise to some readers that some dragonflies migrate and the extent of their migrations may make the most memorable hawk or Monarch migrations pale in comparison.

At the turn of the century there was debate even among professional entomologists about whether dragonflies migrated. At that time odonatologists were actively determining and cataloging species. This is not to say that dragonfly movements were totally ignored. Early in the twentieth century Shannon (1916) documented a significant movement of dragonflies along the southern shore of Long Island, New York, that he termed migration. The flights that he observed

occurred in September and closely followed the flight paths and times of known diurnal migrants - swallows, hummingbirds, some hawks, and Monarchs.

Since that time there have been scattered references to dragonfly migration. Many of these involve a relatively small geographic area confined to the shore of Connecticut, the southern shore of Long Island, and Cape May, New Jersey. More recently, Bagg (1958) descriibed observations of dragonfly movements along the coast of Maine and over his residence in Dover, Massachusetts. An earlier note by Bagg (1957) elicited responses from other observers who had also noticed dragonfly migrations. Although the numbers of dragonflies observed by Bagg were extremely modest relative to other accounts, his major contribution was correlating dragonfly movement with a precise pattern of weather conditions. He determined that fall dragonfly migration is most observable and prevalent following the passage of a cold front with winds from a northwesterly or northerly direction.

Following close on the heels of Bagg's accounts was an observation by Nisbet (1960) in southern Ontario along the shore of Lake Erie. His observations reinforced Bagg's conclusions about migration relative to weather. Furthermore, Nisbet's sighting of a large passage of dragonflies also occurred near a large barrier of water. (This is one of the few citations of a massive movement of dragonflies away from the immediate Atlantic coast.)

Recently, as more and more people become interested in dragonflies, observations suggest that major movements of dragonflies are the norm rather than the exception. Large movements have been seen routinely at Cape May, where birdwatchers with growing divergent interests now gather in great numbers. The early descriptions of dragonfly migration referred to Common Green Darners (*Anax junius*), although Black-mantled Gliders (*Tramea lacerata*) were mentioned also. Observers at Cape May have expanded this list to include Violet-masked Glider (*Tramea carolina*), Wandering Glider (*Pantala flavescens*), Spot-winged Glider (*Pantala hymenaea*), Swamp Darner (*Epiaeschna heros*), and possibly Twelve-spotted Skimmer (*Libellula pulchella*) and Blue Dasher (*Pachydiplax longipennis*). However, the bulk of the migrants reported have been Common Green Darners.

Why does the green darner migrate in such vast numbers, especially when compared to the majority of other dragonflies? The appearance of mature adults in early spring, without any indication of emergence, caused much speculation concerning life history and population dynamics. In two well-conceived studies, one near Montreal, Quebec, and the other in southern Ontario near Toronto, Trottier (1966, 1971) established the presence of both resident and migrant populations. The population near Montreal was comprised only of migrants that arrived in early spring, mated and oviposited in May and June, emerged in August and September, and migrated south soon after emergence. The situation was different in southern Ontario. In addition to a migratory population, Trottier identified a resident population in which adults oviposited in July and August and nymphs developed for an 11-month period to emerge the following year in June and July. During the period of his study he determined that the migratory population slightly outnumbered the resident population. This strategy ensures the survival of the green darner in southern Ontario should some catastrophe decimate the resident population.

How does all this relate to Massachusetts in general and Cape Cod specifically? Southbound migratory hordes as described recently or historically in areas to our south have not been observed in Massachusetts. Some visible migration does occur from approximately mid-August through early October. The same situation holds true for Sharp-shinned Hawks and Monarchs, whose fall movements are recorded in modest numbers relative to Lighthouse Point in Connecticut and at fabled Cape May. One of the reasons may be that the Massachusetts coastline tends to run southeasterly. The general direction for migrants in our area tends to be south or southwestward so that large concentrations would not be expected except under extremely unusual and as yet undetermined conditions. Consider two other points: areas to our south draw migrants from a much larger geographical area; and the farther south these migrants travel the more they are funneled along natural barriers. The result is that under optimal conditions truly extraordinary movements can occur at Cape May as has happened recently.

Until recently there had been virtually no visual observations of dragonflies moving northward, in spite of the fact that we know large numbers of green darners reach northeastern North America each spring. The situation is again analagous to Sharp-shinned Hawks and Monarchs, which likewise are recorded in paltry numbers during the spring, relative to their fall movements. With this in mind, the spring migration of dragonflies in early June at Provincetown (described in the last issue of Ode News) appears at first glance to be somewhat surprising. But is it really? The geography of Cape Cod is such that the extension of land at first eastward and then northward is a natural bottleneck for diurnal migrants moving northward on prolonged, strong southwest winds. Of interest is the disparity of the two Provincetown flights even though they were separated by only four days. Excellent numbers of Swamp Darners predominated the flight on 2 June. The flight on 6 June involved far fewer individuals, but brought better diversity, including many Swamp Darners, numerous green darners, a good number of Painted Skimmers (*Libellula semifasciata*), and lesser numbers of rainpool gliders (*Pantala* species) and dancing gliders (*Tramea* species). Of great significance was the apparent presence of Great Blue Skimmers (*Libellula vibrans*), a species whose historic status on Cape Cod was represented by one individual. Perhaps even more tantalizing was the appearance of a dancing glider thought possibly to be a Vermilion Glider (*Tramea abdominalis*), and several other unidentified dragonflies.

The most recent issue of Argia (newsletter of the Dragonfly Society of the Americas) contains an article by Soltesz et al. (1995) describing spring dragonfly migration in the Northeast during 1995. Species that they singled out as noteworthy were Great Blue Skimmer, Bar-winged Skimmer (*Libellula axilena*), Painted Skimmer, and Swamp Darner, among others. Their determination of a northward migration was based on the presence of individuals or small numbers of dragonflies at locations where they were not normally present or had never occurred rather than observations of dragonflies actually migrating. They speculated that the northward push of dragonflies was related to drought in the vicinity of the Carolinas, which caused an unusual number of dragonflies to disperse farther than normal.

It is my belief that dragonfly migrations like those detected in Provincetown during June 1995 are actually annual events and that the Swamp Darner is the primary species involved. The relatively small numbers of green darners observed can be attributed to the fact that most of them had already arrived and those present during the flight represented laggards. The really intriguing

aspect of the June flights is the unidentified dancing glider and other unidentified dragonflies. The potential for southern strays cannot be dismissed. The weather conditions, unseasonally warm temperatures with prolonged, strong southwest winds, were unusual but are not necessarily infrequent during that season. Perhaps future years will prove that 1995 was an exceptional year not soon to be repeated. However, there is more than one observer out there eager to prove that 1995 was not a fluke, but merely the tip of the iceberg when it comes to spring dragonfly migration on Cape Cod.

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For Those Just Emerging - From A to Z (Anisopterans to Zygopterans)

by Jackie Sones

We hope this column is helpful to those of you who are just beginning to look at dragonflies and damselflies. Our goal is to help you become familiar with the words and phrases used in describing and observing these beautiful insects. Let us know if there is something you have questions about, and we'll do our best to explain it for you! We'll start by looking at the differences between dragonflies and damselflies.

Dragonflies and damselflies belong to a group of insects known as odonates. Consider this word and compare it to others that sound similar, e.g., orthodontist, dental floss, indentation. The connection is teeth. In dragonflies and damselflies, "teeth" may be found on the winged adults and the aquatic nymphs. They are the sharp serrated jaws of the adults and the two hooks at the

tip of the nymph's lower lip. This specialized lip is unique to odonates, and great for securing food.

Aside from having similar lips and lifestyles, dragonflies and damselflies possess some very different physical characteristics. Consider the following:

Wing Shape. In Latin, dragonflies are known as anisopterans and damselflies as zygopterans. These are difficult words to remember, but very informative when interpreted. Anisoptera means "unequal wings" and zygoptera "equal wings." Think about equality in terms of shape [and remember that all odonates have four wings, two in front (forewings) and two in back (hindwings)]. In dragonflies, the forewings and hindwings are different shapes, while in damselflies, the forewings and hindwings are similar shapes.

Wing Position. Not only does the wing shape of dragonflies and damselflies differ, but so does the resting position of the wings. When perched, dragonflies hold all four of their wings horizontally, or straight out to the sides. Most damselflies (spreadwings are exceptions) fold their wings together and hold them vertically, next to their abdomens or above their backs.

Eyes. Dragonfly eyes are massive, especially compared with the overall size of their heads. The "eyes" have it! In most dragonflies (clubtails are exceptions), the two eyes meet in the middle of the head, or "sew" it "seams." In damselflies, the eyes are smaller, and they are separated (like those of a Hammerhead Shark).

Nymphs. The aquatic stages of odonates differ in at least two ways: overall size and gill position. Dragonfly nymphs are robust, while damselfly nymphs are slender. (You might note that this also holds true for the abdomens of the adults.) The gills of dragonfly nymphs are internal, while those of damselflies are external, i.e., they are visible as three "tails" at the end of the abdomen.

News and "Noduses"

Natural Heritage Fact Sheets - The Massachusetts Natural Heritage & Endangered Species Program has produced fact sheets on several of the state-listed odonates (as well as many other plants and animals), including Comet/Long-legged Green Darner (*Anax longipes*), Spatterdock/Spring Blue Darner (*Aeshna mutata*), Ebony Boghaunter (*Williamsonia fletcheri*), Banded Bog Skimmer/Ringed Boghaunter (*W. lintneri*), New England/Lateral Bluet (*Enallagma laterale*), and Pine Barrens Bluet (*E. recurvatum*). These two-page sheets are available at no charge from: Massachusetts Natural Heritage & Endangered Species Program, Division of Fisheries & Wildlife, Route 135, Westborough, MA 01581.

Field Guides - We continue to get inquiries about field guides for dragonflies and damselflies and their availability. The most useful guides for this area are Ginger Carpenter's Dragonflies and Damselflies of Cape Cod and Sidney Dunkle's Dragonflies of the Florida Peninsula, Bermuda and the Bahamas and Damselflies of Florida, Bermuda and the Bahamas. All three of

these are available from: Patricia Ledlie Bookseller, P.O. Box 90, Buckfield, ME 04220 (ph. 207-336-2778) or the Cape May Bird Observatory, P.O. Box 3, Cape May Point, NJ 08212-0003 (ph. 609-884-2736; discounted price for members).

Ode News

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