

Damselflies of Chicagoland



*A Photo
Field Guide*

By Marla Garrison

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by Marla Garrison

Biology Faculty
McHenry County College
Crystal Lake, IL
mgarriso@mchenry.edu

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*To Carlos -
my partner in the field and in life.*

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INTRODUCTION

A walk along almost any water's edge can be a source of never-ending delight with damselflies scattering like jewels at your feet. These dainty, often brightly-colored little insects are members of the order Odonata. The odonates include two suborders, Anisoptera (dragonflies), and Zygoptera (damselflies). Like the more commonly recognized dragonflies, damselflies can be indicators of aquatic habitat quality, and monitoring their kinds and numbers can be both useful and fun.

Dragonfly vs. Damselfly:

Unlike damselflies, dragonflies are well known to most people. They are large, strong-flying, insects that perch with their wings spread 90 degrees or more relative to their bodies and usually have eyes that fuse together on top of their heads. The smaller and more slender-bodied damselflies, on the other hand, perch with their wings folded over their backs (or, in the case of the spreadwings, at a 45 degree angle) and have widely spaced eyes. **(See Comparison Below)** Dragonflies easily draw one's attention, maneuvering over wetlands with great agility at or above eye level. Observing the much weaker flying damselflies flitting amongst the vegetation, or just above the water's surface, requires one to lower the head, drop the eyes, squint and even kneel or squat. The reward is to peer into a diminutive world of surprising color and remarkable activity. If, as Mary Oliver intimates in her poem *The Summer Day*, attention is akin to prayer, then monitoring damselflies is definitely intense worship!

Dragonfly	Damselfly
 <p>← eyes touching</p> <p>↓ wings held out away from body</p>	 <p>← eyes separated</p> <p>↓ wings folded over abdomen</p>
	

Objective:

The main purpose of this guide is to utilize close-up photography of *in situ* specimens to assist in the identification of local area species. By narrowing the field of potential species to those most likely found in Chicagoland, and by including images of both genders, the various color morphs and age-related changes, it aims to assist the nature lover and monitor alike in their efforts to quickly and accurately name the damselfly members of their Chicagoland community.

Additional Resources:

Seldom does a person consult a single reference guide for species identification. Reading a variety of descriptions and viewing multiple illustrations and images of a species greatly assists in building confidence towards a positive I.D.. Each guide contributes its own subset of useful information and interesting tidbits. This guide is more of a photo guide than a field guide. It does not contain detailed accounts of damselfly species in terms of their life histories or behaviors. It is a straight forward, simple beginning to damselfly appreciation and identification specifically for the Chicagoland area. Other manuals provide a more thorough overview of the damselflies included in this guide along with additional species not found in our area. It is recommended, therefore, that the reader keep the following resources handy in the field:

DuBois, B. 2005. *Damselflies of the North Woods*. Duluth, MN: Kollath-Stensaas Publishing.

Lam, E. 2004. *Damselflies of the Northeast*. Forest Hills, NY: Biodiversity Books.

Geographical Area & Species Accounts:

Field guides are useful in identifying species within a known geographical area. Local area field guides are helpful in narrowing the number of possible species, making identification both easier and faster. The reader should keep in mind, however, that

the area covered by a single guide does not correlate with the actual range map for a given species. The geographical region covered by this photo guide is discussed below, however the actual North American distribution of the species listed here may be viewed at OdonataCentral sponsored by the Texas Natural Science Center at the University of Texas at Austin www.odonatacentral.org.

Defining Chicagoland

Specifying a geographical area is largely an arbitrary task. Lines are drawn and borders created around political or tax districts, major roadways, natural land forms, ecological zones, population centers etc. Thus, the term Chicagoland means different things to different people. The United States Census Bureau, for example, defines it as a population density center surrounding the City of Chicago that includes counties in Illinois, Wisconsin and Indiana. The term Chicagoland defined by development, however, encompasses an increasing area each year as it sprawls outward towards Rockford and spills into more westerly and southerly counties such as Boone, Ogle, Grundy, Kendall, LaSalle and Kankakee. This guide defines Chicagoland in a more permanent way considering, instead, its topographical features.

Chicago Wilderness' An Atlas Of Biodiversity outlines a natural division between northeastern Illinois and the remainder of the state based upon its geological history which was responsible for shaping its landscape and biogeography. The repeatedly advancing and retreating glaciers of the last ice age sculpted valleys and deposited moraines across what is now a six county region in northeastern Illinois including Cook, Lake, McHenry, Kane, DuPage and Will. **(See Map Below)** The topography and soils left behind by these dynamic blocks of ice created a multitude of diverse wetlands that include bogs, fens, sedge meadows, marshes, rivers, streams, creeks, ponds, lakes, seeps, springs and seasonal pools. Although the majority of wetlands have been destroyed due to agriculture and development, some rich pockets remain in our area. In fact, Lake and McHenry counties, both seriously threatened by suburban sprawl, have the highest con-

centration of wetlands in the state.



This guide calls this once glaciated area of northeastern Illinois “Chicagoland”. Although Kenosha County in Wisconsin and Lake and Porter Counties in Indiana share the same climatological history, they are not considered here. For our purposes the northern boundary of Chicagoland is the Wisconsin state line, while its eastern border is both the Indiana state line and the shores of Lake Michigan. Its western and southern edges are less well delineated.

Chicagoland’s position on the southern edge of the north woods and the western edge of many eastern species’ ranges, together with the fact that it shares some similar habitats with these areas, creates a potential for the presence of species found in neighboring states but not currently confirmed for Illinois. Everett D. (Tim) Cashatt, Ph.D. & Timothy E. Vogt list the Taiga Bluet, *Coenagrion resolutum*, Northern Bluet, *Enallagma annexum*, Boreal Bluet, *Enallagma boreale*, Vernal Bluet, *Enallagma vernale*, and the Sphagnum Sprite, *Nehalennia gracilis*, as such species in their *Status Of Potential Chicagoland Area Dragonflies And Damselflies* checklist which they based on records from literature and collections.

Species Accounts

Despite this specified geographical area for Chicagoland, the species accounts in this guide apply to much of Illinois, especially to those counties bordering the collar counties. However,

several species found in other parts of Illinois are not listed here. For example, the Duckweed Firetail, *Telebasis byersi*, has been reported only from extreme southern Illinois. The Turquoise Bluet, *Enallagma divagans*, and the Smoky Rubyspot, *Hetaerina titia*, have been reported from downstate (*Hetaerina titia* is also known to the north in at least one Wisconsin river system), but may be present in Chicagoland. There are 39 species plates in this guide. No doubt more will be added and some removed in future editions as monitoring data continue to accumulate, and more areas are surveyed, better reflecting the actual number of species of damselflies in northeastern Illinois. In addition to the 39 confirmed species, a checklist provides 9 additional potential Chicagoland species.

In deciding which species to include in this guide for Chicagoland, information from the following sources was considered:

1. Monitoring data 2005-2009 provided by the Dragonfly Monitoring Network, Craig Stettner, Director.
2. Illinois State Museum Dragonfly & Damselfly Collection Online Database (<http://www.museum.state.il.us/ismdepts/zoology/odonata/database.html>)
3. A list of potential Chicagoland area species assembled by Everett D. (Tim) Cashatt, Ph.D. & Timothy E. Vogt based on records from literature and collections and personal communications.
4. Personal observations and identifications.

In the end, however, the final choice for inclusion or exclusion of a species in this guide was the author's, and she alone is responsible for any errors of judgment in this regard.

BASIC ANATOMY

Damselflies are insects and, as such, have six legs and a three-part body composed of a head, thorax and abdomen. There are many complex structures on each of these body segments, but only the basic structures utilized by this guide as field markings will be presented. DuBois (2005) and Lam (2004) offer detailed anatomical descriptions and comparisons which allow for more accurate separation and identification of closely related species. As the reader becomes more comfortable with basic field markings it is recommended that they begin to explore these more complex features.

Directional Terminology:

In addition to the structural vocabulary, directional terms are frequently used to indicate relative orientation of markings on the body. These terms are described in Table #1 below. Combinations of these terms (such as dorsolateral, ventrolateral etc.) are sometimes used to more accurately describe a particular region of the body residing between the two specific areas.

Table #1: DIRECTIONAL TERMINOLOGY	
TERM	DESCRIPTION
Dorsal	Toward the back
Ventral	Toward the belly
Lateral	Toward the side
Medial	Toward the midline
Anterior	Towards the head, forward
Posterior (Caudal)	Towards the tail, rear
Basal	At the base, for abdominal segments this is the anterior of the segment
Apical	At the tip, for abdominal segments this is the posterior of the segment

Anatomical Structures: Italicized structures are indicated on the figures that follow this section.

Head

Two prominent *compound eyes* are set laterally and widely apart on the head (Fig. 2). Three simple eyes, or *ocelli*, are arranged in a triangle on the dorsomedial aspect of the head (Fig. 2). Anterior and slightly lateral to the ocelli are two small *antennae*. The anterior portion of the head is the *face* and is composed of multiple sections including the complex mouthparts (Fig. 2). Many damselflies have *eyespot*s (postocular spots) which are pigmented patches lying posteriorly and slightly dorsally on the head (Fig. 3). These eyespots are sometimes connected by a medial line or band called an *occipital bar* (Fig. 3). Both eyespots and occipital bars can be important field marks.

Thorax

The thorax of a damselfly can be broken down into two parts - the most anterior region called the *prothorax* (resembling a neck) which gives rise to the first pair of legs, and the posterior portion called the *pterothorax* which gives rise to the remaining two pair of legs and four wings (Fig. 1). It is convenient to refer to the entire structure simply as the thorax.

The color and pattern of thoracic markings play an important role in field identification. A mid-line on the dorsal thorax where the plates come together is sometimes evident and is called the *mid-dorsal carina* (Fig. 3). The dorsolateral thorax is often striped, in which case there is an upper *pale shoulder stripe* which varies in color depending on the species, and a lower *dark shoulder stripe* (usually black) (Fig. 3).

Wings: Each wing is divided by many veins and cross veins that create patterns of cells unique to each species. One special cell towards the tip of each wing is pigmented and is known as the *stigma* or *pterostigma* (Fig. 1).

Legs: Damselflies have three pair of legs. However, it is very

common for them to be missing one or more of these due to injury. Each leg is composed of three anatomical parts (Fig. 4) - the upper *femur*, the middle *tibia* and the lower *tarsi*. Three separate segments make up the tarsi. The final segment ends with a pair of *claws*. Leg color is sometimes helpful in identification.

Abdomen

All odonates have abdomens composed of ten segments (Fig. 1). The pattern of markings along these segments sometimes helps in identification. Coloration along the dorsal, lateral and ventral aspects may be quite different. Dorsal markings are the most useful (especially in the pond damsels). The abdominal terminus (segments 8, 9 & 10) may be uniquely marked or colored and, thus, is worth noting in the field as well.

The *caudal appendages* are structures extending from the abdominal terminus which are involved in mating (Fig. 1). In the male they are called the *claspers*. Claspers are composed of a paired set of dorsal *cerci* (singular *cercus*) and a paired set of ventral *paraprocts* (Fig. 5). The shapes of the cerci and paraprocts are unique to each species. They grasp correspondingly unique structures on the anterior thorax of the female in order to hold her in tandem. This species-specific lock and key method reduces the risk of incorrect coupling and also provides a mechanism for absolute identification of both genders. While the shape of the claspers on the male can often be seen in the field through binoculars, or in hand with a lens, the corresponding female thoracic structures are best viewed under a dissecting scope. Thus, positive female identifications can sometimes be a challenge in the field.

Female caudal appendages include a ventrally located ovipositor which is adapted for egg laying (Fig. 5). Extending off of its tip is a pair of hair-like *styli* (singular *stylus*). Except in the case of the Sweetflag Spreadwing where the ovipositor is excessively enlarged and obvious in the field, the unique aspects of each species' ovipositor are best viewed with a hand lens or under a dissecting scope.

Figure #1: Lateral View Of A Male Damselfly (*Argia sedula*) Highlighting Common Features

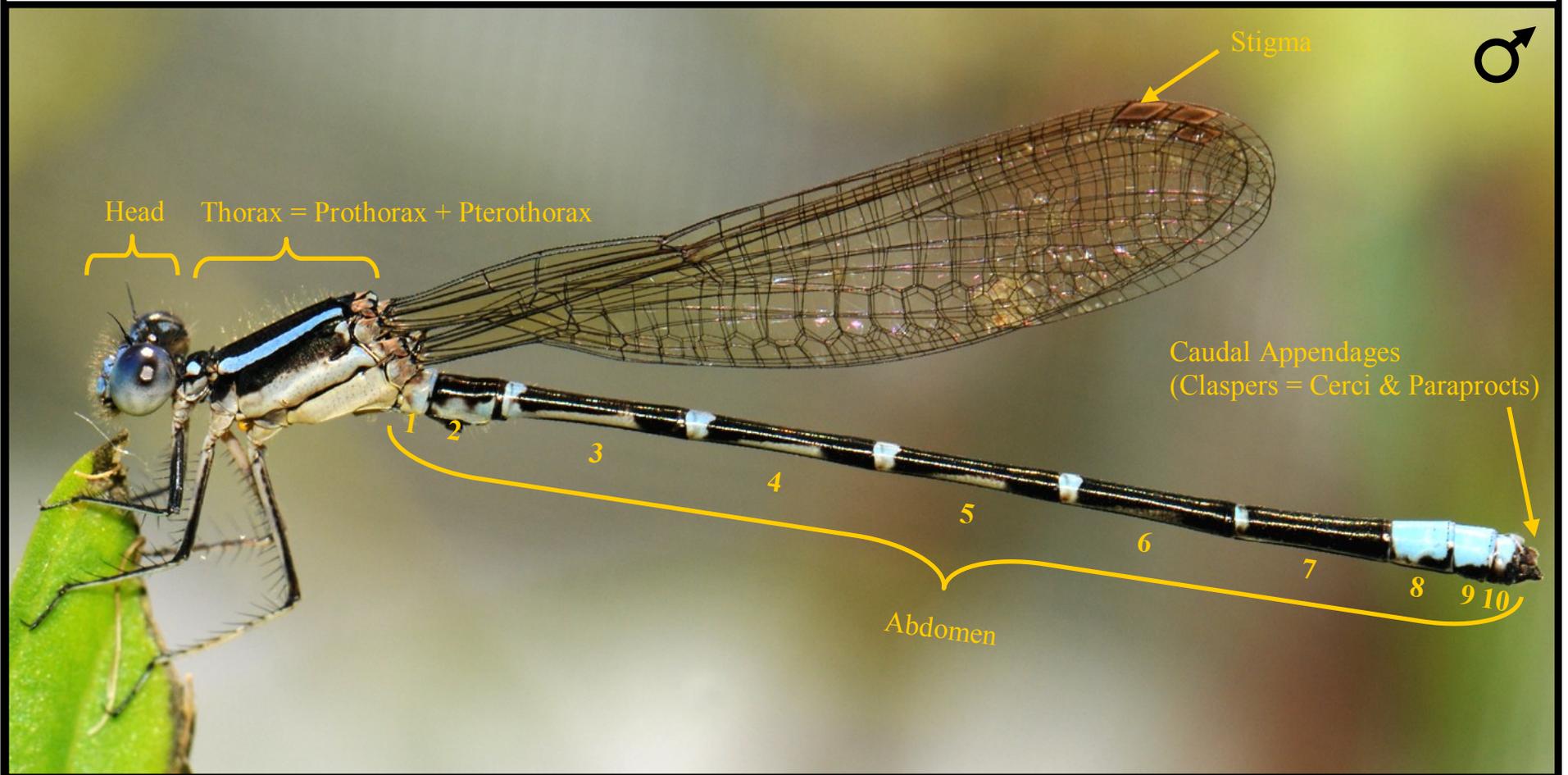


Figure #2: Anterior View of Head (*Enallagma vesperum*)

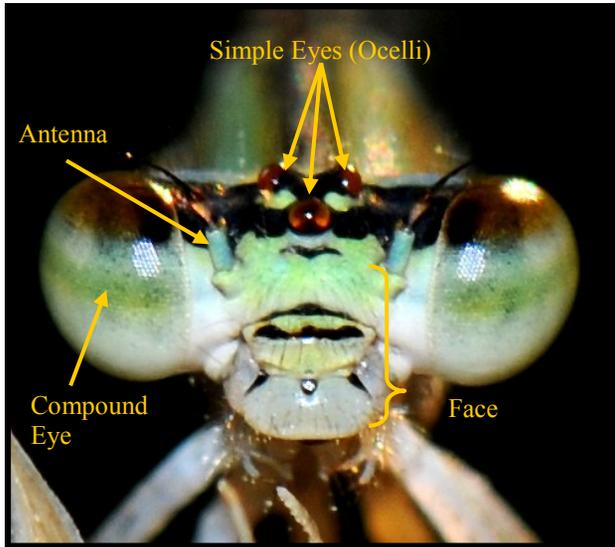


Figure #4: Leg Segments (*Argia moesta* Female)

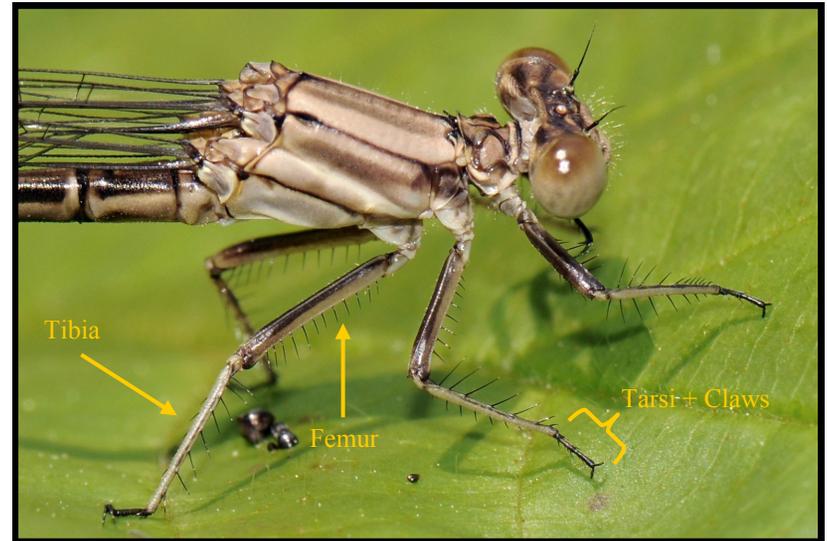


Figure #3: Dorsal View Of Head & Thorax (*Enallagma carunculatum*)

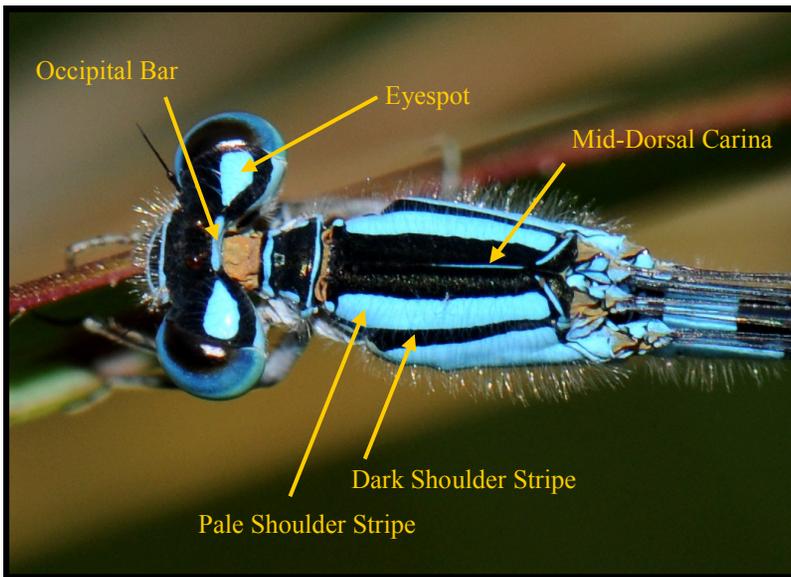
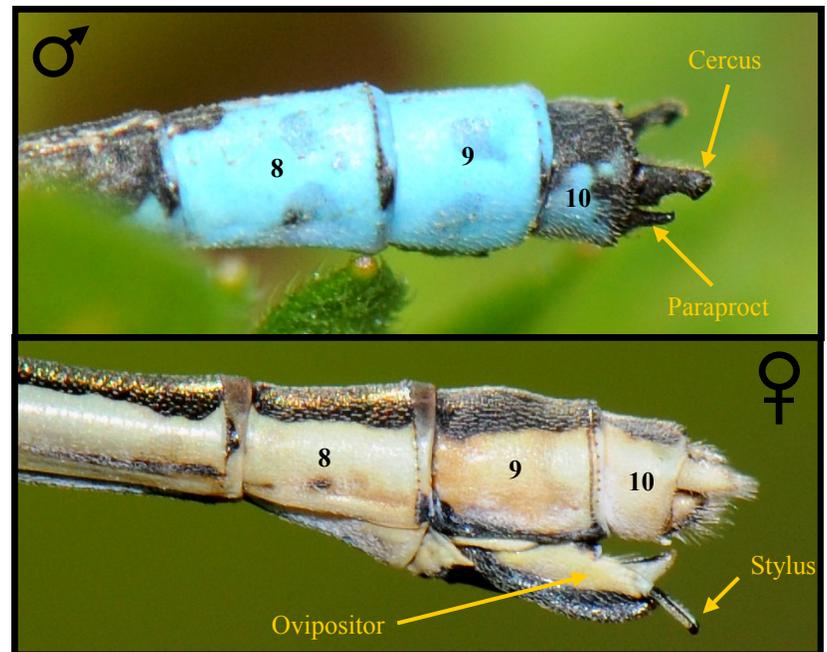


Figure #5: Male & Female Abdominal Terminus With Caudal Appendages (*Enallagma traviatum* & *Lestes unguiculatus*)



LIFE CYCLE

Damselflies undergo an incomplete metamorphosis from egg to larva to adult - no pupal stage is involved. For some species this process takes a year or more, others can complete it in a matter of weeks.

The flight period for some species involves an explosive emergence followed weeks later by a sudden disappearance. Other species may have multiple emergence events throughout the season due to asynchronous egg laying the year before. This can account for the diversity of ages seen within certain populations. Still other species, such as the Eastern Forktail, are capable of undergoing multiple generations within a single flight season, completing their life cycle in just a few weeks depending on environmental conditions. In this case the final generation of the flight season slows its maturation rate and overwinters as nymphs.

Egg:

Female damselflies lay eggs (i.e. oviposit) in stems of emergent, floating or submerged vegetation. Many spreadwing damselflies actually overwinter in this stage, relying upon the insulating effects of the vegetation and snow cover for survival till spring. Eggs of most damselfly species, however, hatch into aquatic larvae called nymphs soon after being laid.

Larva (Nymph):

The majority of damselflies overwinter in the larval stage of development. Larvae, or nymphs, live within the protective cover of submerged vegetation and bottom substrate where they feed on a variety of small animals. They have a remarkably long lower jaw which darts forward with lightning speed to capture nearby prey. They breathe through three flipper-shaped gills at their caudal end that serve for locomotion as well. As the nymphs grow they shed (i.e. molt) their stiff outer skeleton in favor of a larger more pliable one beneath. Each growth stage followed by a molt is called an *instar*. The number of instars before the nymph is ready to emerge as an adult varies and can take any-

weeks to a year or more depending on the species, water conditions, temperature, etc..

At the end of the final instar the nymph climbs out of the water onto a rock or stalk of an emergent plant, often in the early morning or late afternoon. Usually vertically stationed with its head pointing upward, the adult emerges slowly through the dorsum of the exoskeleton. Arching upward and backward, the thorax and head break through followed by the wings and abdomen, leaving behind an empty shell called an *exuviae*.



Emerging Damselfly

Adult:

The newly emerged adult damselfly (called a *teneral*) is wet and lacks color. Hemolymph (the equivalent of insect blood) flows into the wings and abdomen expanding them to their full lengths. The moist shiny wings glitter in the sun and must dry completely before purposeful flight is possible. In this vulnerable state the damselfly usually attempts to conceal itself by moving away from the water and into thicker vegetation.



A Neonate: This newly emerged female is nearly transparent and has yet to completely expand her wings or abdomen.

Young adult damselflies may take days, even weeks, to sexually mature, and can be seen at quite a distance from the water during this period. Body color intensifies initially, but can continue to change throughout adult life, darkening substantially in some species. Many, such as female forktails and male spreadwings, become *pruinose* with age, exuding a whitish-blue/gray substance that often occludes earlier field markings.



Males mature more rapidly than females and soon return to the water to establish territories. When ready to mate, females will join them. In general though, females are apt to spend much of their day away from the water's edge.

Shiny & New: This teneral male Eastern Forktail is still very dull in color and has wet, glistening wings. At this stage he cannot fly well and is, therefore, at a higher risk of predation.

MATING

A male snatches up a receptive female with his legs, curling his abdomen around to clasp her anterior thorax with both cerci and paraprocts. They are now in the "tandem" position. Prior to copulation the male transfers sperm from his testes, located on segment 9, to his secondary genitalia located on segments 2 & 3. Before transferring his sperm to the female, however, he may use a special structure to remove any sperm remaining from a previous mating from her genital orifice - thus insuring paternity! She then curls her abdomen up under his, establishing contact between the genitalia at the tip of her abdomen and his secondary genitalia. They are now said to be *in copula* or *in wheel*, a position unique to odonates. (See Figure 6 for this series of events) Couples usually remain in the wheel position anywhere from a few minutes to half an hour depending on the species. During this time they hang in vegetation near the water's edge. With the transfer completed, ovipositing begins.

**Figure #6:
Copulation
(*Argia apicalis*)**

**1
Snatch & Grab**



**2
In Tandem**



**3
Male Transfers
Sperm To
Secondary
Genitalia**



**4
In Wheel**



OVIPOSITIONING

Ovipositioning (a.k.a. ovipositing) generally occurs in tandem. Following copulation, the couple flies off together in search of an appropriate site for egg-laying. Still clasping the female, the male hovers over floating mats of vegetation while the female locates a suitable bit of plant matter, pierces it with her ovipositor and inserts a fertilized egg. This process is repeated many times before the pair disengages. During ovipositing males are said to be in the “*sentinel*” position - legs tucked under the thorax, abdomen rigid, wings closed over the abdomen. Females usually lay their eggs at or just below the water’s surface, but may descend some distance down stems, completely submerging themselves for minutes at a time. Spreadwings, on the other hand, tend to lay eggs above the water level. Ovipositing pairs often congregate in spectacular numbers at good sites.

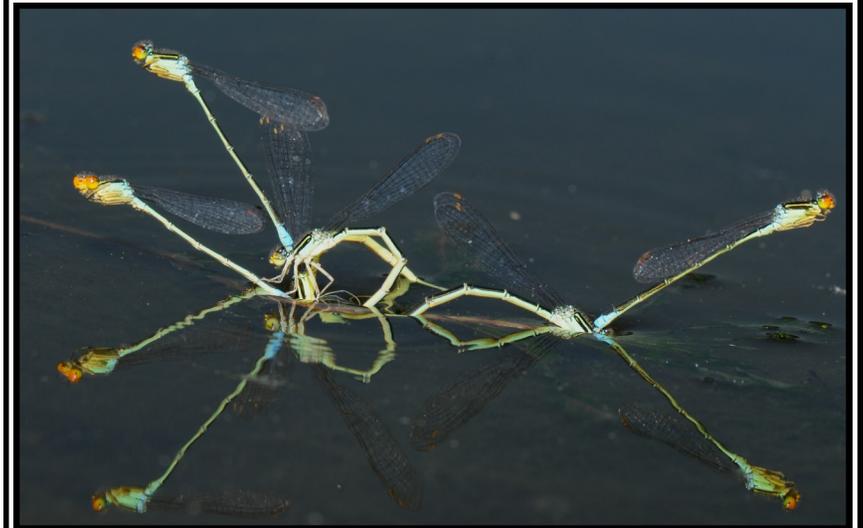
Guard Duty: Dusky Dancers (*Argia translata*), a potential Chicagoland species, ovipositing in the algae at the base of a partially submerged boulder. The male is in the typical sentinel position. (Inset) A Look Of Intensity! The purposeful stare of a male in sentinel position.



Although contact-mate guarding (i.e. sentinel position) is typical for many species of damselflies, it is not absolute. Non-contact mate guarding often occurs in Broad-winged damselflies where females oviposit singly while males patrol the area keeping other males at bay. In addition, the complete absence of mate guarding is seen in the Slender Spreadwing and some Forktails.



Variations In Ovipositioning: **Left** - A female Eastern Forktail oviposits alone. Males have no reason to guard their mates given the fact that females of this species mate only once. **Right** - This female Lyre-tipped Spreadwing pierces a stem well above the water line using her stiletto-like ovipositor to create an opening for her eggs. Unlike other damselflies, many species of Spreadwings overwinter as eggs in above-ground stalks such as these. Eggs hatch in the spring when water returns to their usual habitat of choice, a fishless ephemeral pool.



Reflections: How many pairs of Rainbow Bluets are there in the picture above? The answer is only three! The males are all in sentinel position while the females deposit their eggs on the same submerged stem. This type of crowding is quite common.

FEEDING

When they're not mating damselflies are usually eating. They have voracious appetites and capture flying insects out of the air using their spiny legs as a catch net. Sometimes they glean prey directly off of leaves and stems. Their powerful mouthparts fit together like well designed machinery and enable them to rapidly tear apart and consume their food.

Suppertime: Any time is meal time for damselflies. Their capable jaws and spine-covered legs hold their prey fast. They devour a variety of insects, usually finding a steady perch from which to dine. This is a good time to photograph them as they are usually less willing to fly off when their mouths are full! Clockwise from left - Marsh Bluet, Eastern Forktail (female), Slender Spreadwing.



Madame Guillotine: Damselflies aren't picky about their prey. Any weaker flying insect may fall victim, even another damselfly! Taking cannibalism to the extreme this mature Eastern Forktail female attacked a young male of the same species. Scared off her prey while being photographed, she left him dead in the grass with his head bitten off!



He Ain't Heavy He's My Brother: A female Eastern Forktail carries its meal, a teneral Dancer larger than itself, to a quiet perch!

PREDATION

Despite their hunting prowess, damselflies themselves can fall prey. Birds, dragonflies and spiders are major predators of damselflies. Also, external parasites such as mites add an additional environmental stress.



From One Odonate To Another: Their name means "Toothed One" & for

good reason! **(Above Left)** A female Eastern Pondhawk devours a male Stream Bluet; **(Above**

Right) A Jade Clubtail munches on a female Eastern Forktail affording a nice comparison of head & eye size between dragonflies & damselflies (Note: unlike most dragonflies, the eyes of clubtails are not fused above).



The Widow & The Bachelor! This female Rainbow Bluet had mated and was still in tandem with the male when his head & thorax were removed by a predator, probably a dragonfly or a bird. With her dead partner's abdomen still locked in place she continued to lay her eggs. Eventually she perched on a leaf and in came a second suitor who spent a frustrating five minutes or so

attempting to clasp her, thwarted by her first husband's tenacity!



Build It & They Will Come - The owner of this web got a two for one deal as this once-tandem pair of Slender Bluets unwittingly provided a combo meal.

Caught In A Trap - If you look closely you can see that this immature female Eastern Forktail has a spider on her head! Damselflies often pay the price for their low flight amongst the vegetation. Spider webs stretched between plant stems make perfect snares.



A Heavy Load: Mites like these are common on the thorax of damselflies and are sometimes mistaken by observers as eggs. They suck fluids from the damselfly and, although usually not debilitating, can become burdensome in high numbers or interfere with mating when attached further down the abdomen. Red and brown are common mite colors.

FIELD GUIDE KEY

The key to interpreting this field guide is broken down as follows:

Name Box:

Both common and scientific names are presented at the top of each new species page along with the Illinois Status Code.

State of Illinois Status Code:

Each species has been given a rank or status by the state of Illinois in order to establish occurrence and gauge conservation concerns. The status code for each species (assembled by E.D. Cashatt & Timothy E. Vogt as of February, 2009) can be found in the upper left corner of the name box. The status codes are described by the Illinois State Museum website as follows:

S1 = Critically imperiled in state because of extreme rarity (five or fewer occurrences or very few remaining individuals) or because of some factor(s) making it especially vulnerable to extirpation from the state.

S2 = Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals) or because of some factor(s) making it very vulnerable to extirpation from the state.

S3 = Rare or uncommon in state (on the order of 21 to 100 occurrences).

S4 = Apparently secure in state, with many occurrences.

S5 = Demonstrably secure in state, and essentially ineradicable under present conditions.

SR = Reported, but without persuasive documentation.

SH = Of historical occurrence, perhaps not verified in the last 20 years and suspected to be still extant.

WL = Placed on Illinois Watch List.

Source: (<http://www.museum.state.il.us/research/entomology/status.html>)

Gender Symbols: ♂ ♀

The male and female symbols above are used throughout the guide. The male symbol appears in the top right corner of the

Name Box in order to designate all photos on that page as male. Photos on the facing page have individual gender designations placed directly upon the photo. For the most part, male specimens in this guide face to the left, while female specimens face to the right.

Habitat: The species' habitat is provided in a box below the main picture. It summarizes the primary habitats in which the species is likely to be found, but may not cover all possible localities, especially those not likely encountered in Chicagoland. This information is a combination of my own personal observations within our area together with habitats listed by Lam (2004), DuBois (2005), Walker (1953) & www.odonatacentral.org.

Flight Season Bar:

Seasonal information is provided in a bar along the left side of the main page. Although anomalies sometimes exist, the field season in Illinois ranges from April through October and each species has an individual flight season within this range. The flight season for a given species is indicated by orange coloration along the bar. This color is NOT indicative of abundance. Instead, it suggests times when you might see this species. Periodic emergences can substantially alter the number of individuals present throughout the flight season and may vary from year to year. Thus, episodic highs and lows within the time period indicated may exist but are not predicted. Data for Chicagoland is very limited in this regard. Color fading in or out of a month indicates a start or end date somewhere within the month itself.

The seasonal data are approximate and derived from my own field work, Dragonfly Monitoring Network data (2005 - 2009), the collection database of the Illinois State Museum, Walker's *The Odonata of Canada and Alaska* (1953), and *Damselflies of the North Woods* by DuBois (2005). Occasionally, individuals may be sighted outside of the listed season. Flight season data will become more precise as monitoring information continues to accumulate. Where very little information is available and the

flight season for Chicagoland is currently incomplete, comments to this regard are made in the Field Notes for that species.

Field Marks:

Field markings are described using the structural and directional terminology explained in the Basic Anatomy section of this guide. Useful field marks are noted in bold text and are highlighted on photos with yellow arrows.

Similar Species:

This section helps distinguish between species with similar morphological characteristics and to direct the reader to other possible species for consideration. Similar species for each gender are often discussed due to the fact that males may be confused with males of one species while females may be confused with females of an entirely different species.

Field Notes:

Comments in this section are my own personal field observations or experiences. They may include areas in and around Chicagoland where a species can be sighted, identification clues, behavioral nuances, etc..

Size Box & Size Bar:

The body length of a given species is provided in the top right corner of the facing page underneath the face shot. Size is given in millimeters and is derived from two sources, Lam (2004) and www.odonatacentral.org. The size range was determined as the shortest and the longest lengths provided by these references. The size bar located just to the right of the face shot acts as a ruler against which in-hand specimens may be checked. These bars are color-coded to match the family and/or genera schematic discussed at the beginning of each family section. The solidly colored area on the bar represents the minimum acceptable body length from head to tip of caudal appendages. The striped area at the bottom of the bar represents acceptable size variations. With the head situated at the top of the bar the caudal appendages should fall somewhere within this striped region.

Photo Descriptions:

Photos included in this guide may have explanatory text beside them. Different individuals at different angles are provided to assist the monitor in the field. No two individuals are exactly alike and differences due to age, sexual dimorphism and environmental factors, can be red herrings leading you away from positive identification. Therefore, photos of different individuals at various ages and viewing angles are shown whenever available.

A Note From The Author Regarding The Photography

Throughout the past five years I have stalked damselflies in their natural habitats and shot them with my camera. None of these individuals was netted, posed, frozen or artificially positioned. They are all *in situ* and, although I may have disturbed their perches by moving towards or away from them, they are all depicted unmolested within their niches. Even though I didn't net or collect them, I undoubtedly trampled upon some of their territories. In compensation perhaps, many a tick, chigger, leech and schistosome called me home, and mosquitoes and deer flies exacted their tolls through repeated exsanguinations. Stinging nettle became my nemesis. All in all, I had the very best of times getting the pictures for this guide. And, I highly recommend macro digital photography for anyone wanting to learn to identify a group of small organisms such as damselflies. Inexpensive digital cameras can often provide good quality photos for later verification and help create a phenological record for future reference. Also, I find that once I have photographed a new species, I never forget it!

Most of the photos in this guide were taken with a Nikon D70 or D300 with a Sigma 105 mm or a Nikkor 105 mm VR lens at a distance of just a few inches. This requires some stalking technique. I recommend wearing khaki or ranger green pants and shirt. Brightly colored clothing in motion seems to be more easily detected by some insects. I also find that many insects quickly pick up on a pair of eyes watching them. But, if I hold my camera up to my face as I approach them they are much less likely to fly off. Any loose straps or flapping cloth disturbs them as well. I like to approach in as low of a position as possible, from at or beneath their level if I can. The army crawl comes in very handy. They seem to be much less attuned to movement under them in the grass than to movement overhead - a sensitivity to flying predators that I imagine serves them well!

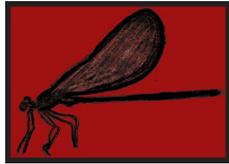
The photographs in this guide were taken by me unless otherwise indicated. Ken Tennessen and John Peters generously contributed some exceptional pictures. Their names are printed directly on these photos.

Marla Garrison

DAMSELFLY TAXONOMY

Three families of damselflies are found in Chicagoland: Broad-Winged Damsels (*Calopterygidae*); Spreadwing Damsels (*Lestidae*); & Pond Damsels (*Coenagrionidae*). There are 3 species of Broadwings, 11 species of Spreadwings and 25 species of Pond Damsels found in Chicagoland. A quick assessment in the field will enable the monitor to narrow an individual down to a family and, thus, reduce the time necessary for identification.

In order to help the monitor flip quickly to the correct family, this guide divides the three families using color-coded tabs in the bottom right-hand corner of each species plate. Refer to the descriptions at the beginning of each family section, as well as Table 1, for a summary of general family characteristics.



BROADWINGS - *Calopterygidae*

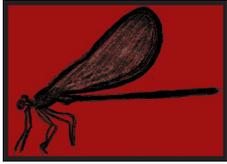


SPREADWINGS - *Lestidae*



POND DAMSELS - *Coenagrionidae*

	Broad-Winged Damsels <i>Calopterygidae</i>	Spreadwings <i>Lestidae</i>	Pond Damsels <i>Coenagrionidae</i>
Family			
Genera	<i>Calopteryx</i> (Jewelwings) & <i>Hetaerina</i> (Rubyspots)	<i>Archilestes</i> & <i>Lestes</i>	<i>Argia</i> (Dancers), <i>Enallagma</i> (Bluets), <i>Ischnura</i> (Forktails), <i>Nehalennia</i> (Sprites) & <i>Amphiagrion</i>
Wings & Perch	Wings large, broad, unstalked & pigmented; White pseudostigma present on wings of some males & all females; Perch horizontal with wings held above the abdomen	Wings narrow & stalked, usually clear; Perch vertically or semi-vertically with wings held out at 45 degree angle	Wings narrow & stalked, usually clear; Perch horizontally with wings folded against the abdomen (except the Dancers)
Size	Large-bodied, long legged	Long & narrow-bodied, long legged	Medium to tiny, short legged
Color	Metallic sheen - green or red	Body a dull gray & pale blue, or metallic green; eyes often blue	Wide array of colors, females often have multiple color morphs
Caudal Appendages	Large cerci & paraprocts	Prominent cerci & paraprocts useful in identification	Medium to small (often indistinct) cerci & paraprocts
Habitat	Running waters	Still waters, often fishless temporary pools	A wide variety of habitats, often still waters
Flight Season	Varies according to species	Often have a later (mid to late summer) emergence	Often have a long flight season from spring to fall



***Calopterygidae*: Broad-Winged Damsels (3 Species)**

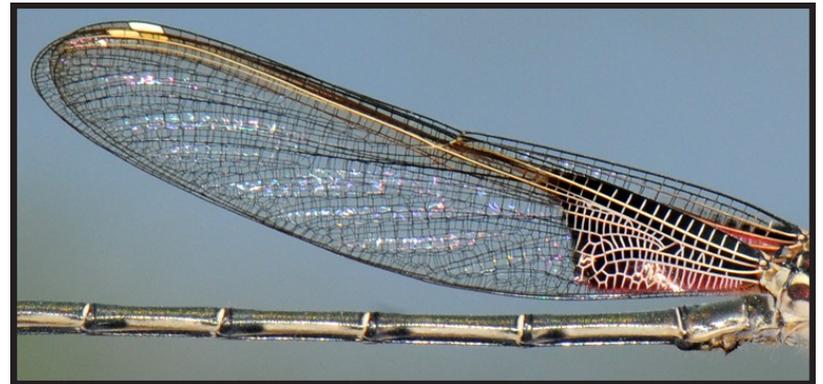
Two genera comprise this family in Chicagoland – *Calopteryx* (Jewelwings) & *Hetaerina* (Rubyspots). Their members are large-bodied iridescent species with stilt-like legs. They are most notable, however, for their wing size & wing pigment. *Calopterygidae* wings are wide, unstalked, angle sharply up from the thorax, and are usually elevated above the abdomen when perched. Wing cells are extremely numerous in comparison to the other two families. (See Figure 7 facing page) In addition, the wings are colored either amber, black, red or reddish-orange. The color may be solid or patchy. White stigma are often present and quite distinctive. Narrow your search immediately to this family if you detect any obvious wing color.

This colorful family prefers flowing water. Although Rubyspots & Jewelwings overlap in certain habitats, in general Rubyspots prefer faster flowing water while Jewelwings favor slower paced creeks and streams. Both males and females are found together in large numbers at the water's edge where courtship rituals and territorial behaviors can often be observed. Females oviposit alone, sometimes with the male watching over, but never in tandem.

There are three, possibly four, species of Broad-winged Damsels found in Chicagoland. The American Rubyspot (*Hetaerina americana*), Ebony Jewelwing (*Calopteryx maculata*) and River Jewelwing (*Calopteryx aequabilis*) have all been confirmed by this author. The Smoky Rubyspot (*Hetaerina titia*) is a potential species for the area given that it has been found in lower Wisconsin and Southern Illinois (Bob DuBois, personal communication; Illinois State Museum Data Base). The Smoky Rubyspot is listed in the appendix as a Potential Species for Chicagoland.

Figure #7: The Broad Wings of the Broad-Winged Damselflies

The photos below present both the typical placement of the wings above the abdomen as well as the amazing number of wing cells characteristic of the Broad-Winged Damsels. Pigment is also present. **Top:** American Rubyspot Male; **Bottom:** Ebony Jewelwing Male (Note: photo overexposed to highlight wing cells)



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S5 AMERICAN RUBYSPOOT ♂

Hetaerina americana



Habitat: Rivers & Large Streams - Running Water!

Field Marks: Male: One quarter or more of wing is colored bright red at its base - especially obvious when displaying. White venation on the underside of the crimson patches is evident. Long-bodied with metallic green abdomens usually darkening to a deeper copper color with age. **The thorax & head of mature males reflect a red-orange color.** Legs are long & the thorax & wings are angled dramatically away from the abdomen. **Cerci are large with irregular bumps on the underside.** Paraprocts are not visible from above. Both males & females usually have white stigma. **Female:** Thorax is metallic green & tan, as is the abdomen (maroon in younger individuals). The red spot on the wing is less pronounced & the remaining wing is often amber in color.

Similar Species: There is a possibility that the Smoky Rubyspot, *H. titia*, exists in Chicagoland. Males of the two species must be separated based on the shape of their paraprocts.



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Field Notes: You will find these guys along any major riverine system - DuPage, Fox, DesPlaines, Illinois - in large numbers, especially later in the summer and early fall. They are usually the last damselfly on the wing in our area. It is not unusual to see them into November in some years! They fly close to the water's edge & perch facing it on overhanging vegetation or partially submerged rocks. Ovipositing females submerge themselves entirely, descending down a stem & remaining underwater for minutes on end. The consequence in a muddy river, as seen in the picture below, is to emerge an absolute unrecognizable mess!



Size: 36 - 51 mm



Left: Post-ovipositing female as described in field notes above.
Below: Female - note the typical prognathic "monkey face" of Rubyspots
(Insets: (Top) Female Anterior View; (Bottom) Ovipositor)



31

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S5 EBONY JEWELWING ♂
Calopteryx maculata



Habitat: The quintessential babbling brook with shady canopy and overhanging vegetation.

Field Marks: This is a large species with **stilt-like & spiny legs**. **Male:** Head, thorax & abdomen are metallic green, but **may appear electric blue** given the right angle of light. Wings are solid black. **Female:** Dark brown wings with **white, multi-celled stigma** at their tips & an iridescent, yet somewhat darker, body.

Similar Species: Black velvet wings & glittering emerald bodies make this species distinctive & unforgettable. The rarer River Jewelwing males are similar but with black only at the wing tips. Female River Jewelwings have light amber-colored wings.



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Field Notes: The quiet stream along the edge of the woods in the southwest corner of Bluff Spring Fen is home to a healthy population of this large & impressive species. Here, up away from the water, these shade-loving fairies flit under the canopy, often perching at eye-level or above. Males patrolling over the water perch on overhanging plants, floating mats or partially submerged rocks, flicking their wings open and closed in a territorial display (see facing page, middle bottom photo).



Size: 37 - 57 mm



Females oviposit alone, rather than in tandem, with males watching closely. One day on the Nippersink Creek, McHenry County, I watched a male mate-guarding four ovipositing females at once - a veritable harem! He hovered over them like a helicopter, landing occasionally directly upon their wings as shown in this photo.

Below: Female Lateral View (**Insets:** (**Top Right**) False Stigmas (Pseudostigmas) - Note the many cells included in the white patch; (**Bottom Left**) Ovipositor).



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S1 RIVER JEWELWING ♂

WL *Calopteryx aequabilis*

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Habitat: Muddy-bottomed clean streams & small rivers with lots of overhanging vegetation.

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Field Marks: **Male:** Face, thorax & abdomen are metallic green. **Final third of male's wings are black** with remaining wing tinted amber. Legs are long, stilt-like & black. Cerci are large & circular. Paraprocts are long and visible. **Female:** Similar body, slightly more bronze, becoming pale towards abdominal tip. **Female face is pale** & wings are amber with white stigmas. **Similar Species:** Male Ebony Jewelwings have broader, solid black wings. Although female Ebony & River Jewelwings can appear similar, Ebony females have rounder, darker wings & a much darker body. Ebony Jewelwings are common in our area, while River Jewelwings are rare.

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Field Notes: This sparkling species emerges in early June. The seasonal information for northeastern IL is scarce. Specimens taken by the state in Boone County & personal observations in McHenry County substantiate flight in June & July. A much longer flight season is noted by DuBois (2005) for the North Woods & may well be the case for our area. I have seen both sexes in equal numbers hanging out over the water on long stems & branches in shady stretches of a tributary of the Kishwaukee River. They are skittish & difficult to approach while wading, but are absolutely a marvelous sight to behold!



Size: 43 - 54 mm



Above: Back To Back - A Comparison Of Male vs. Female Wings, Face & Body! (Left): Male showing dark face & wing tips, & emerald abdominal tip; **(Right):** Female displaying lighter wings with white pseudostigma, pale lips & a more bronze/copperish abdomen with a pale tip. Note - both males & females tend to flick their wings open & closed while perching. **Below:** Female Lateral View (**Inset:** Ovipositor)



Photo by John Peters



Lestidae: Spreadwing Damsels (11 Species)

Two genera make up this family in our area – *Lestes* & *Archilestes*. The hallmark of this group is their unique habit of perching with their wings held out away from the abdomen at roughly a 45 degree angle. Only two potential species for Chicagoland (the Aurora Damsel, *Chromagrion conditum* & the Taiga Bluet, *Coenagrion resolutum*) and tenerals of other families drying their wings exhibit this tendency. (Be careful, though, because teneral spreadwings actually hold their wings closed over their abdomens!) In addition, spreadwings tend to perch vertically or semi-vertically, rather than horizontally, and often at waist height.

Spreadwings are, in general, dull-colored damselflies. They tend to be shades of brown, gray or pale blue and darken with age. However, there are several metallic green species. Pruinosity is a common feature of many species of this family and often obscures earlier field markings. Juvenile males may be initially bronze, coming into their adult colors with age and eventually developing the whitish-blue pruinescence on their thorax, wing base and abdominal tip. Females may go through a similar transformation but become a very dark gray, rather than pruinose, as they age. These color changes can make field identification quite challenging. It is best, therefore, not to rely too heavily on color when working with this taxonomic group.

The cerci and paraprocts, on the other hand, are the reliable and, in fact, definitive, field marks. The cerci of spreadwings are generally large, rounded and pincer-like. They may have unique teeth or bumps on their ventral or medial surfaces, but these are difficult to see except in hand with a lens. The paraprocts, how-

ever, are the tell-tale observable structure that you want to hone in on in the field. When viewing from above, which is easy given their penchant for perching vertically or semi-vertically, be sure to make note of the length and shape of the paraprocts. If they are clubbed it's an Emerald, if they are S-curved it's a Lyre-tipped, if they are longer than the cerci it's an Elegant and so on. Refer to drawings provided in Lam (2004) and DuBois (2005) for detailed representations of male caudal appendages.

Female spreadwings are much more of a challenge to separate and identify. They often must be seen in tandem with their male counterpart, or netted and viewed under a dissecting scope for confirmation. Abdominal segment lengths, mesostigmal plates and teeth on the ovipositor are some of the characters which may need to be assessed. Although beyond the scope of this guide, Lam (2004) and DuBois (2005) provide detailed drawings to assist with this type of microscopic identification. Eventually, however, subtle differences in the field such as pattern, size, behavior etc. may become apparent to the truly avid odonatist and confidence does ultimately build.

Typical Spreadwing

Posture: This male Sweetflag Spreadwing perches semi-vertically with wings splayed at roughly a 45 degree angle from the body - the hallmark of the Spreadwing family. His blue eyes and pruinescence (dusty whitish-blue coating) add to the complement of characteristics that are so often seen in this group of damselflies.



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S4 GREAT SPREADWING ♂

Archilestes grandis

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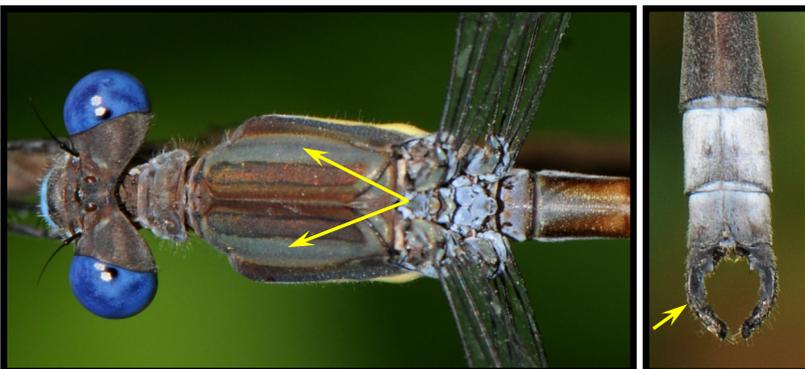
Habitat: Slow moving streams, small ponds.

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Field Marks: Male: Face & eyes are blue. Rear of head is dark. Dorsal thorax is brown with two lateral metallic green stripes that darken with age. Lateral & ventral thorax each have a distinctive yellow stripe. Abdomen is dark & iridescent dorsally, lighter ventrally, darkening with age. Segments 9 & 10 are pruinose. Cerci are large & circular while paraprocts are small & hidden. **Female:** Similar in pattern. Their abdomens are more robust, however, & lack pruinosity. Terminal segments & ovipositor are extremely 'chunky' in appearance when viewed from the side.

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Similar Species: Given its enormous size & bright yellow stripes it is virtually impossible to mistake this species for any other.

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Field Notes: This impressively large species has a wingspan that surpasses its body length! It is the biggest damselfly in North America &, as Craig Stettner, director of the DMN, says "Every time I see one fly by I think 'what was that dragonfly?'" At Harper College's natural area, Cook County, I scared up a female that flew above the tree tops - the strongest & highest flight I have ever observed in a damselfly!



Size: 50 - 62 mm



The males patrolled along a shady stretch of creek, entering into aerial skirmishes with other males & perching quite often at eye level or above. Look for this species later in the summer at wooded ponds in Illinois Beach State Park, Lake County, & along inlets of the Illinois River at Starved Rock State Park, LaSalle County.

Above: Male Dorsal View - Note the tremendous wingspan; **Below:** Female Dorsolateral View (Insets: (Top) Female Lateral Thorax; (Bottom) Caudal Segments & Ovipositor).



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S3 EMERALD SPREADWING ♂

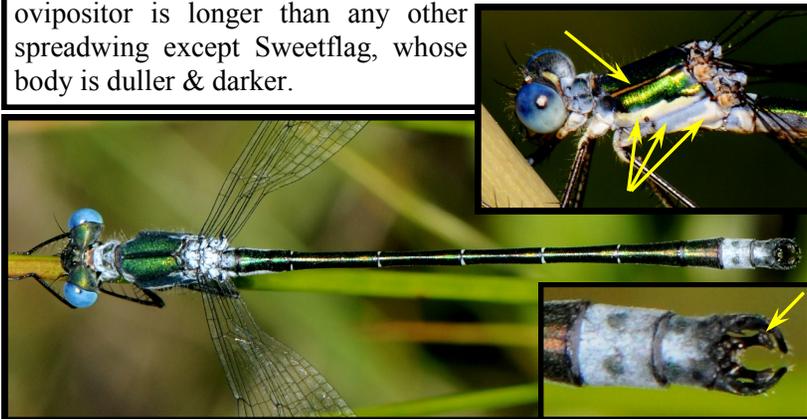
Lestes dryas



Habitat: Temporary shady woodland pools drying up by midsummer, or permanent ponds with wooded margins.

Field Marks: **Male:** Dorsal thorax & abdomen are metallic green. Lateral thorax, wing base & abdominal segments 9 & 10 turn pruinose. Lateral thorax of immature male is **striped in cream & pale blue** & a thin brown shoulder stripe interrupts the metallic green. Legs are black, eyes bright blue. Cerci are rounded, encircling the lower **paraprocts which are long, visible from above & obviously club-shaped.** **Female:** Metallic bronze-green & lacking pruinosity. Thorax has brown mid-dorsal carina & shoulder stripe. Lateral thorax is pale yellow. Ovipositor is long & the **styli extend past the cerci** & are sometimes visible from above.

Similar Species: Male Emerald is shorter & stockier than other metallic green spreadwings & paraprocts are distinctive. Female ovipositor is longer than any other spreadwing except Sweetflag, whose body is duller & darker.



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Field Notes: This is an early emergent, completing its nymphal stage expeditiously in the spring before its aquatic habitats evaporate. Fishless vernal ponds and temporary wet areas such as those at Somme Prairie Grove, Cook County, are perfect spots for sighting this gem. It was there, in fact, that I stumbled upon thirty or more tandem pairs scurrying from stem to stem laying their eggs - all in a depression in a clearing that was as dry as a bone but which carried the distant promise of next year's spring rains!



Size: 32 - 40 mm



Right: Female Face **Left:** Tandem Pair - Note the difference in color and abdominal thickness; **Below: (Top)** Female Preparing To Oviposit - She is piercing the stem in order to insert her eggs. Note the male claspers around her prothorax - cerci grabbing from behind & paraprocts attaching in front. **(Bottom)** Female Dorsolateral View **(Inset:** Ovipositor).



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S2 SWAMP SPREADWING ♂

Lestes vigilax



Habitat: Boggy, marshy ponds, acidic waters & slow streams. Copes well with fish.

Field Marks: Male: Blue eyes. Rear of head is dark. **Legs are black.** Thorax & abdomen are greenish-bronze initially, becoming a brighter metallic green with age. Mid-dorsal carina is brown. **Dark shoulder stripe is brown.** Markings may become obscured with age (see series of photos on facing page). Ventrolateral thorax is pale yellow & blue becoming pruinose. **Abdominal segments 9 & 10 are pruinose.** There is a hint of pruinosity on segment 8, but not well defined. Cerci are large, elliptical & point downward at the tips, while the **paraprocts are long & straight** & can be seen from above running along the medial edges of the cerci. **Female:** Similar markings as male but has a **cream-colored ventrolateral thorax** & lacks the pruinosity.

Similar Species: Elegant Spreadwing has longer paraprocts that extend beyond the cerci, pale rear of head & lacks the pruinosity on thorax. Emerald Spreadwing is much smaller and stockier.

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Field Notes: This bright & graceful species will knock your socks off in the field! But, like so many other spreadwings it is wary of movement & a close approach requires patience. The good news is that, like so many other spreadwings, it usually doesn't fly too far when disturbed. Multitudes of this species are to be found at the ponds on the south unit of Illinois Beach State Park, Lake County, & the pond at the south entrance to Blackwell Forest Preserve, DuPage County.

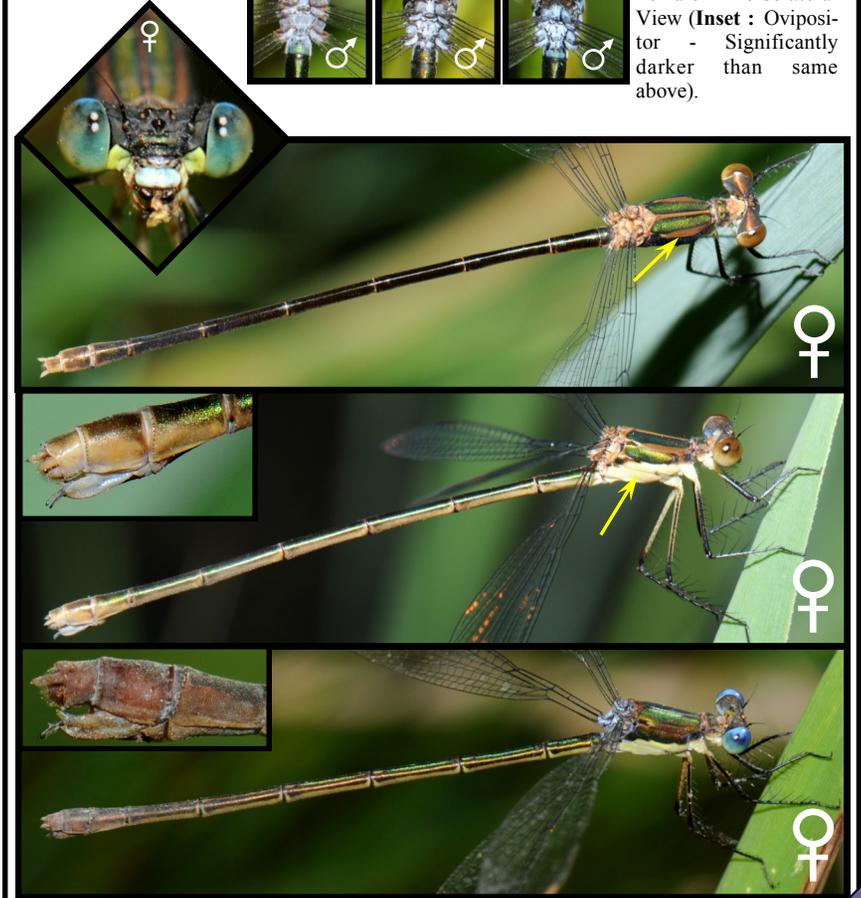


Size: 42 - 55 mm

Right: Maturity Series Showing Changes In Male Dorsal Thorax & Eyes - From left to right, youngest to oldest; **Below (Diamond):** Female Face - Note her yellow cheeks!



Below: (Top) Young Female Dorsal View; **(Middle)** Young Female Lateral View **(Inset: Ovipositor); (Bottom)** More Mature Female Dorsolateral View **(Inset : Ovipositor - Significantly darker than same above).**



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S3 ELEGANT SPREADWING ♂

Lestes inaequalis

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Habitat: Boggy or swamp-margined ponds & lakes with wooded edges, slow streams. Copes well with fish.

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Field Marks: **Male:** face is pale & showy. Body is metallic green, long, thin & gracile. Emerald thorax has thin, black (not brown) mid-dorsal carina & shoulder stripes. **Ventrolateral thorax is pale yellow** & may become slightly pruinose with age. Abdominal segments 9 & 10 are pruinose. Underside of abdomen is pale. **Paraprocts are longer than cerci & pincer-like.** They are noticeable in the field & make positive identification quite easy.

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Female: Similar but with thicker abdomen that lacks pruinosity. **Similar Species:** Swamp Spreadwing is similar in size but has obvious brown stripes on thorax & slender, shorter paraprocts. Emerald Spreadwing is much shorter & robust.

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Field Notes: Despite their state listings, I actually find the Swamp Spreadwing to be more common locally than the Elegant. Males are difficult to approach & hang out over the water, perching, if not disturbed, for long periods on overhanging or emergent vegetation. There is something about this species that causes it to stand out upon first sight.



Size: 45 - 60 mm

Whether it is the seemingly uninterrupted emerald green, gracefully slim body, or the sharply contrasting lateral division between yellow & green on the thorax, or the ridiculously long paraprocts, I can't really put my finger on it. It has that *Je Ne Sais Quoi* quality! But, the point is, the similar Swamp Spreadwing can't hold a candle to it!



Above: (Left) Male Lateral Thorax - note the fairly sharp division between dorsal metallic green & lateroventral pale yellow; **(Right)** Male Claspers Dorsal View - extremely long paraprocts; **Below:** Female Dorsolateral View



Photo by Ken Tennesen

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S3 AMBER-WINGED SPREADWING ♂
Lestes eurinus



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Habitat: Small forest ponds & spring-fed lakes. Temporary or permanent fishless pools often edged with sphagnum.

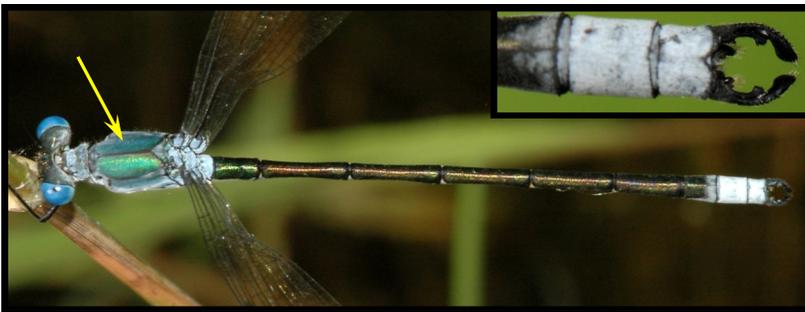
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Field Marks: A large, thick-bodied species with light amber-tinted wings (not always noticeable). **Male:** Face is pale & eyes are blue. **Dorsal thorax has a unique aquamarine sheen.** Lateral thorax is yellowish with dark bands becoming obscured by pruinescence. Abdomen is metallic green with segments 9 & 10 pruinose. Cerci are large & circular. Paraprocts are short, lightly tipped & invisible from above. **Female:** Darker with unmistakable yellow lateral thorax with blue-gray bands becoming brown with age.

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Similar Species: Although their size ranges may overlap the Great Spreadwing is usually larger, more gracile & the yellow on its lateral thorax is arranged in stripes, not blotches. The robust nature, tinted wings & aquamarine coloration of

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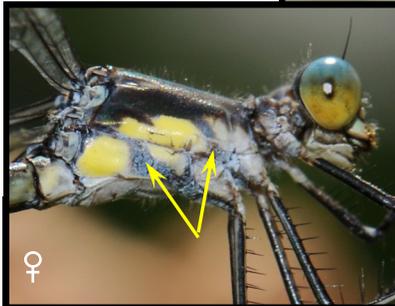
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Field Notes: The DMN has few if any records of Amber-winged Spreadwings. However, I have seen it at ponds in both DuPage & McHenry Counties. The interdunal wetlands of Indiana Dunes National Lakeshore support a healthy population of this impressively robust species. Males perch for long periods of time over the water. More documentation is necessary in order to provide accurate seasonal information for Chicagoland.



Size: 42 - 52 mm

Right: Male Perched At A Typical Angle - Note the subtle golden hue on the wings; **Below:** Immature Lateral Thorax - Note the obvious dark blue bands present on both genders. They turn brown with age, but may be difficult to discern on mature males due to pruinescence.



Below: Immature Female Dorsolateral View; (Inset) Female Caudal Appendages



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S5 SLENDER SPREADWING ♂

Lestes rectangularis

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Habitat: Shady-edged ponds, lakes, marshes, ephemeral pools, backwaters & streams.

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Field Marks: **Male:** Dorsal thorax is black with thin pale blue mid-dorsal carina. **Pale shoulder stripe is wide, pale blue or gray & constricted towards the tip.** Abdomen is slender & often appears twice or more as long as a wing. Dorsal abdomen is dark with only a slight hint of pruinosity on segments 9 & 10 (they are never completely white). Cerci are circular, curved downward at the tips & have a sharp ventromedial tooth. **Paraprocts project downward** & are visible in the field both from above & from the side. **Veins at leading edges of wing tips of both genders are pale** & often noticeable in the field at a distance, especially with males. **Female:** Thorax is similarly marked. Abdomen is not as long or thin as male's. **Rear of head is pale & tarsi are yellowish. Segment 9 is much less than half the length of segment 7.**

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Similar Species: Narrow, lengthy abdomen gives male away in the field. Female is similar to Northern, Southern & Sweetflag females, but the latter lack the pale wing tips, back of head & tarsi.

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Field Notes: This has to be the most common spreadwing in Chicagoland - the Eastern Forktail of spreadwings! It flies in a variety of habitats and throughout the summer. I consider it to have the longest flight season of any of the spreadwings in our area. Identifying males soon becomes second nature - a quick glance at the long slender body, seemingly short wings & those angelic halos on the wing tips settles the matter. Females are tricky but, again, look to the wing tips!

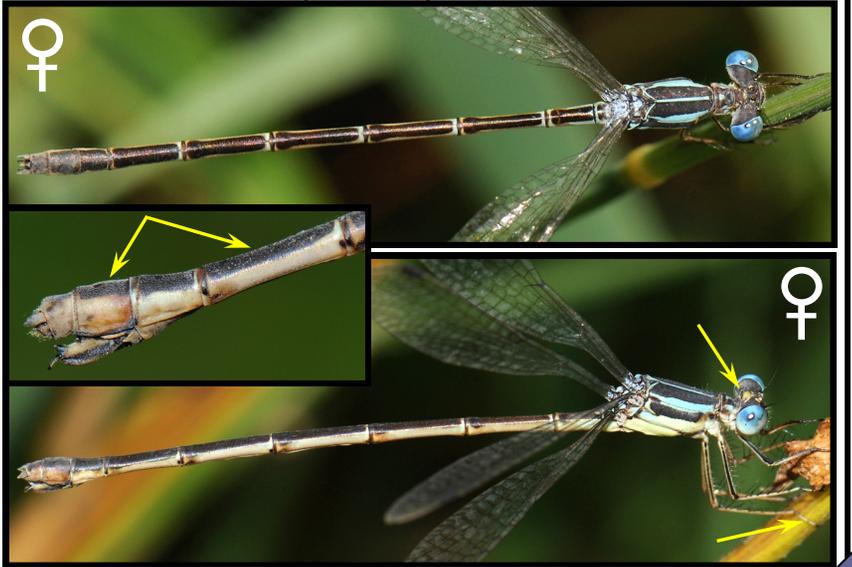
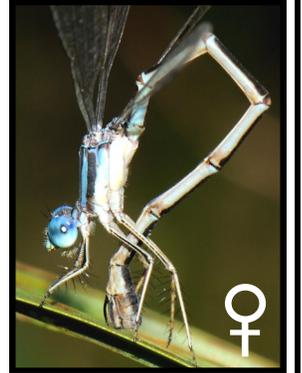


Size: 37 - 53 mm



Left: Male From Above - You just can't miss those white wing tips; **(Inset: Left)** Immature Male Dorsal Thorax - A study in bronze! **(Right)** Forewing Tip

Right: Female Ovipositing Alone; **Below: (Top)** Female Dorsal View; **(Bottom)** Female Lateral View - Noting pale back of head & tarsi; **(Inset:** Female Caudal Segments - Segment 9 is much less than half of segment 7 in length.



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S4 LYRE-TIPPED SPREADWING ♂

Lestes unguiculatus

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Habitat: Sunny, exposed temporary and permanent pools & sloughs.

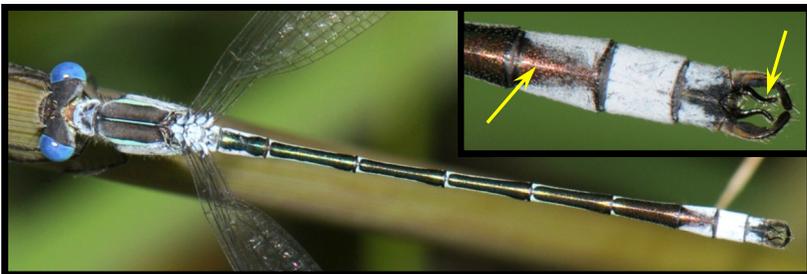
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Field Marks: **Male:** Face pale blue, eyes blue. Thorax is metallic bronze-green turning pruinose with age. Mid-dorsal carina, pale shoulder stripe & lateral thoracic stripe are yellow turning pale green-blue with age & usually still apparent despite pruinosity. Ventral thorax & abdomen turn pruinose. Dorsal abdomen is metallic bronze-green with segments 9 & 10 turning pruinose. **Segment 7 is wrapped in pruinosity but retains a dark dorsal V-shaped patch** that can be a very helpful field mark when well defined. **Paraprocts are in the shape of Orpheus' lyre** & are visible from above. **Female:** Does not turn pruinose & thus retains the metallic abdomen & thorax with pale green stripes. **Female belly is yellowish as is the rear of the head.**

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Similar Species: Northern, Southern & Sweetflag males do not have the V-shaped dark mark on segment 7 or the outwardly curved paraprocts. Northern & Southern females have dark rear of head. Sweetflag female has a much larger ovipositor.

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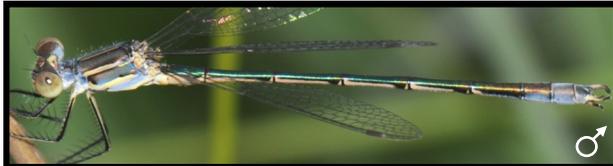


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Field Notes: Lockport Prairie, Will County, is a good spot for viewing this species. I usually see them around fishless marshy pools, often ones that are drying up. The sandy swales of the north unit of Illinois Beach State Park are great locations also. Females are quite beautiful, giving off a coppery shimmer to an extent that I have not noticed on any of the other spreadwing females. Best not to rely on this qualitative assessment for identification, though. Find them in tandem with their male counterparts to be certain!



Size: 31 - 44.5 mm



Above: (Top) Juvenile Male - Note the brown eyes, yellow striping on thorax & emerald green abdomen. Claspers are flared in preparation for defecation; **(Bottom)** Middle-aged Male - turning pruinose but still reflecting a metallic sheen on thorax; **(Right)** Ovipositing Pair In Tandem; **Below: (Top)** Female Lateral View; **(Inset: Ovipositor & Caudal Segments); (Bottom)** Female Dorsal View.



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S4 SWEETFLAG SPREADWING ♂

Lestes forcipatus

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Habitat: Marshes & temporary or permanent fishless pools or ponds with sedges & thick emergent vegetation.

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Field Marks: **Male:** Blue face & eyes. **Thorax of young male has pale, blue-green shoulder stripe & mid-dorsal carina.** Thorax darkens & turns pruinose eventually obscuring markings. A **black dash may be present anteriorly on ventral thorax** of both sexes. Abdomen is dark dorsally except for segments 9 & 10 which are pruinose & segment 8 which may be slightly pruinose. **Paraprocts are long & straight.** **Female:** Similar markings but gray/tan/brown coloration & no pruinosity. **Ovipositor is long, extending well beyond abdominal tip & an obvious field mark.**

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Similar Species: Sweetflag, Southern & Northern Spreadwing males are almost identical, especially younger individuals. If the black belly mark is not visible, refer to Lam (2004) pg. 35 for specifics on in-hand identification. Spotted Spreadwings have two black belly marks. Female Sweetflags have a giant ovipositor in comparison with all other females in our area.

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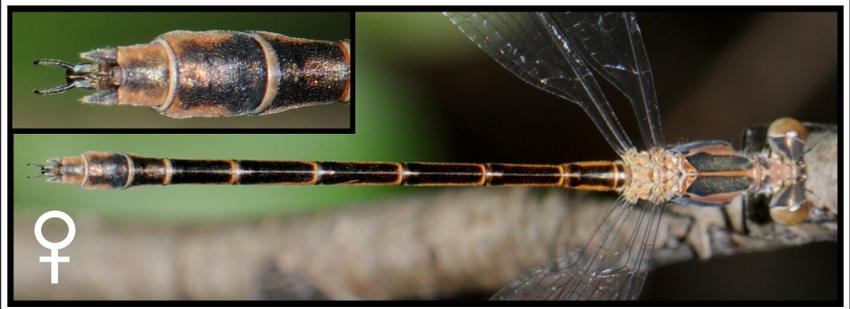
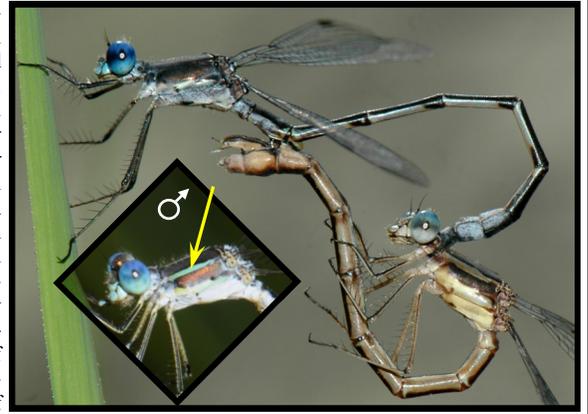
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Size: 33 - 42.5 mm

Field Notes: The robust female abdomen with its exaggerated tip make this species a fun field find. Somme Prairie Grove, Cook County, Illinois Beach State Park & Volo Bog, Lake County, & Fel-Pro RRR, McHenry County, are all good sites for spotting this spreadwing. In our area I have only seen it in permanent &/or temporary wetlands lacking fish, but Lam (2004) & DuBois (2005) note that it can sometimes be found at slow-moving streams as well.

Right: Mating pair in wheel - Note ventral dark mark on each; **(Inset:** Young male still displaying thoracic stripes); **Below: (Top)** Female Dorsal View - Note brown shoulder stripes narrow towards their tips causing the dark dorsal stripes to take on a "waistcoat" appearance from above; **(Inset:** Female Caudal Appendages Dorsal View - Styli extend extraordinarily far!); **(Bottom)** Female Lateral View - Note cluster of mites on belly; **(Inset:** Female Ovipositor - Tip of ovipositor extends well beyond the last abdominal segment...a sight that is actually quite noticeable in the field).



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S4 SOUTHERN SPREADWING ♂

Lestes australis



Habitat: Marshes, pools, ponds, lakes & slow moving streams.

Field Marks: A dull Spreadwing. **Male:** Face & eyes blue. Dorsolateral thorax dark gray with pale blue-green, thin, mid-dorsal carina & **pale blue-green shoulder stripe narrowing at tip**. Ventrolateral thorax is pale turning pruinose. Dorsal abdomen dark gray. Segments 9 & 10 pruinose with diffuse pruinosity on segment 8. **Ventrolateral abdomen lightly colored with apical dark patches**. Cerci are circular, paraprocts longish. **Female:** Similarly marked but usually a lighter, pale green & tan color with a pale yellow ventrolateral thorax. They lack pruinosity but darken with age. Juveniles of both genders are brown-bronze.

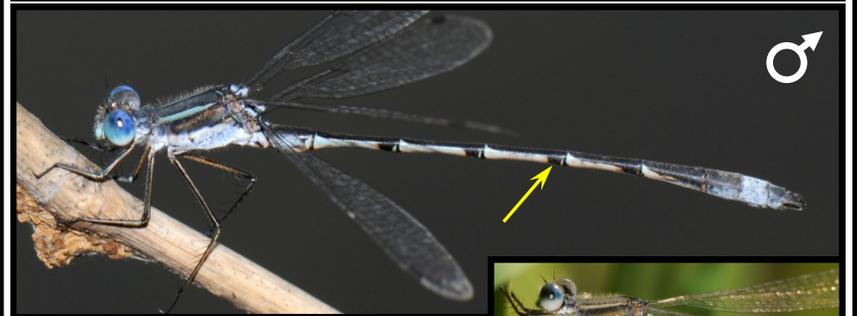
Similar Species: Sweetflag males are often darker & may have a ventral black spot on thorax. Separating Southern & Northern Spreadwing males must be done in hand by examining the teeth on the cerci (see Lam, 2004). Southern, Northern, Slender & Lyre-tipped Spreadwing females should be identified in tandem. Sweetflag females have a much larger ovipositor.

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Field Notes: Once referred to as the Common Spreadwing "Southern" subspecies (*Lestes disjunctus australis*), *L. australis* is now its own species. It is much more common than *L. disjunctus* in our area (Timothy Vogt, personal communication), yet I find it much less often than many of our other spreadwings. Mark Donnelly has observed an emergence of *australis* as early as the beginning of May in DuPage County. Lam (2004) & Walker (1953) report the flight season beginning earlier for *australis* than for *disjunctus*. Flight seasons will be better delineated through more specific monitoring efforts in future.



Size: 36 - 46 mm



Above: An Older Male Dorsolateral View - Note the apical dark patches on the lateral aspect of the middle abdominal segments (these are not usually as distinct on the Northern Spreadwing). The substantial pruinosity on the belly & on segment 9, along with the darkened dorsal abdomen, thorax & shoulder stripe, occur with age; **Left:** Mating Pair In Wheel - A rather dull sight compared to many other damselfly couples; **Below:** Probable Juvenile Female Dorsal View - The brown-bronze coloration is typical of juvenile spreadwings. (**Inset:** Female Caudal Segments & Ovipositor - Compare segment 9 with segment 7. It is a little less than half the length, whereas the Slender Spreadwing female displays a much smaller ratio.



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SR NORTHERN SPREADWING ♂
Lestes disjunctus

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Habitat: Marshes, densely vegetated pools & ponds (often fishless), lakes & slow moving streams.

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Field Marks: A dull, dark spreadwing. **Male:** Dark gray on thorax & dorsal abdomen. **Pale shoulder stripe is pale blue-green narrowing at tip.** Mid-dorsal carina pale blue-green. Pruinosity appears on prothorax, ventrolateral thorax, S2, S9 & S10, & ventrally on S8. Cerci are circular with two sets of paired teeth & paraprocts are longish. **Female:** Similarly marked but somewhat lighter with pale yellow undersides & lacking pruinosity.

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Similar Species: Northern, Southern & Sweetflag males are best separated in hand by examining the caudal appendages as described by Lam (2004). Unless in tandem, female Northern, Southern, Slender & Lyre-tipped Spreadwings should be identified in the lab according to the features outlined by Lam (2004).

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Size: 32.5-42.5mm

Field Notes: This species was previously clumped with its close cousin the Southern Spreadwing under the general name “Common Spreadwing”. Each now has its own species designation. Although their ranges may, in fact, overlap here, it is suspected that the majority of the Common Spreadwing sightings in Chicagoland have been *australis* rather than the rarer *disjunctus*. Although slightly smaller & thinner bodied (& slightly more metallic in my opinion) in hand identification is necessary & is a tricky business! Flight season for our region is unknown so is given based on DuBois (2005) for the North Woods where it is abundant and emerges later than *australis*. Precise identifications by monitors will add to local seasonal information.



Left: Young Female Dorsolateral View - Note the metallic green sheen along the abdomen of this female. This is sometimes noticeable on the male as well. The pale shoulder stripe is actually brown. The dark shoulder stripe is black and the ventral thorax is pale yellow.

Right: Mature Female Dorsolateral View - Note the pale shoulder stripe is no longer brown as above, but has turned a pale green. The body has darkened substantially and the eyes have turned blue. These types of radical color changes can really make identifying spreadwing females a frustrating task at times.



Photo by Ken Tennesen

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S4 SPOTTED SPREADWING ♂

Lestes congener

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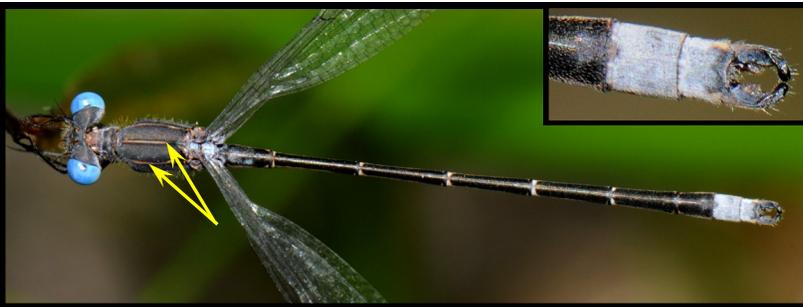
Habitat: Thickly vegetated permanent & temporary ponds & marshy areas.

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Field Marks: This is a dark spreadwing. **Male:** Eyes & face are blue. Dorsal thorax & abdomen are dark gray-black. **Mid-dorsal carina & shoulder stripes are narrow & brown.** Lateral thorax is pale turning pruinose. **Two black streaks are evident on the ventrolateral surface of the thorax** of both sexes (hence the common name). These marks are more dashes than spots, however. They can be seen in the field, but only when viewing low on the side. Male abdomen is narrow with segments 9 & 10 pruinose. Cerci are circular, paraprocts blunt and extending roughly half the distance of the cerci. **Female:** Similarly marked but with stockier abdomen and no pruinosity.

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Similar Species: Dashes on underside of thorax are definitive. Sweetflag, Northern & Southern Spreadwings have paler, wider shoulder stripes and their paraprocts are visibly longer.

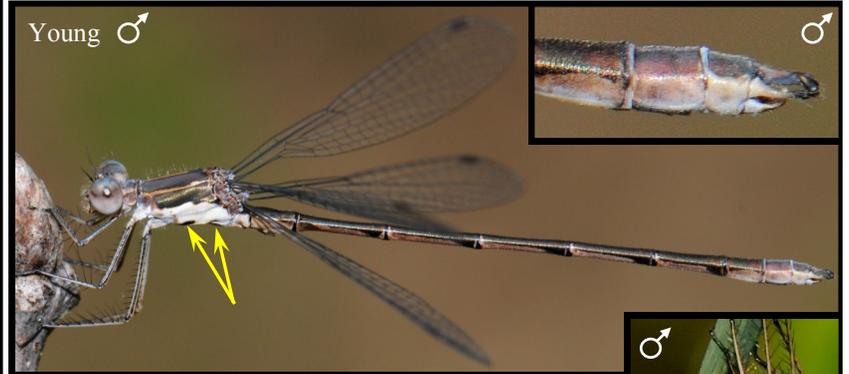
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Field Notes: Spotted Spreadwings show up in abundance late in the season, ushering in the fall and drawing the field season to a close. They are small, thin & dark, flitting from stem to stem just a few feet from the ground, occasionally hanging awkwardly from the underside of leaves (photo below). Once while hiking Pleasant Valley, McHenry County, I came upon a small depression of cattails that was rapidly drying up & was instantly immersed in Spotted & Lyre-tipped Spreadwings *en masse* at my knees, along with half a dozen Lance-tipped Darners circling just a few feet above my head. Ah, bliss!



Size: 31 - 42 mm

Young ♂



Above: Young Male - Note the eyes are not yet blue and there is scant evidence of pruinosity at the abdominal tip (**Inset:** Male Caudal Appendages Lateral View); **Far Right:** Male Ventral View - Displaying the tell-tale black dashes; **Near Right:** Female Caudal Appendages & Ovipositor; **Below:** Female Lateral View - Except for her greater abdominal girth, she is almost identical to the male!





Coenagrionidae: Pond Damsels (25 Species)

This is the largest and most varied group of damselflies in Chicagoland. It includes the five genera outlined below. Wing venation is the main criterion for the taxonomic divisions within this family. However, other more easily recognizable characteristics are presented here. Pond damsels, although often present at a wide variety of habitats, tend to be found, as their name suggests, near still water (the dancers being the most notable exception).

Genus *Argia* - Dancers (6 Species)

Dancers are medium to large-sized noticeable damsels present at slow moving waterways. They perch mainly on partially submerged rocks or the ground at water's edge. They are named for their bouncy flight. Their wings, when folded, are usually held above their abdomens. Their cerci and paraprocts are indistinct in the field. They have long tibial spurs that set them apart from the other pond damsels. Given the fact that several dancer species are blue and black, they can sometimes be confused with similarly colored bluets. Make sure to note the size, habitat and wing position of your subject to first establish the correct genus.

Genus *Enallagma* – Bluets (13 Species)

This is a diverse group of damsels that, despite its name, comes in many different colors besides blue. In fact, there are orange bluets, yellow bluets, green bluets, tan bluets etc. However, a very common color pattern is blue with black markings. The amount of black on the abdomens of blue bluets varies. Thus, blue bluets are often referred to as either 'blue-type bluets', 'intermediate-type bluets' or 'black-type bluets' based on increasing amounts of black along their dorsal abdomens. In the field, noting the relative amount of black on the abdomen of your subject can quickly help narrow your search. However, for this often confusing group of damsels, observing both pale and dark

shoulder stripes, eyespots and cerci will greatly enhance your ability to identify individuals. Start learning this group by closely observing them along the edges of ponds.

Genus *Ischnura* – Forktails (4 Species)

These small-bodied damsels are named for a minute bifurcated spine that extends off of abdominal segment 10. This is not, however, a noticeable field mark except for the Citrine Forktail, (*I. hastata*). Forktails have bold dark shoulder stripes. They are generally weak flyers and hang low in the vegetation. Some, such as the Citrine Forktail, are often overlooked for this reason. Females of several species in this group have an immature orange state becoming pruinose with age. Females oviposit alone, not in tandem.

The Eastern Forktail is the single most common damselfly at any pond in Chicagoland. Because of radical age-related color changes, and sexual dimorphism, it is possible to think you are viewing three or four different species instead of just one!

Genus *Nehalennia* – Sprites (1 Species)

This group of slender-bodied diminutive damsels consists of our most cryptic species. Their metallic green, needle-thin bodies hang low in thickly vegetated areas surrounding ponds and marshes. Even when spotted, tracking one can be frustrating – the slightest turn and it slips away, disappearing completely from view. For this reason, sprites are, undoubtedly, underreported and much more abundant than documented in Illinois. We have only one species in our area, *irene* (Sedge Sprite), but *gracilis* (Sphagnum Sprite) is suspected.

Genus *Amphiagrion* – Eastern Red Damsel (1 Species)

This is also a single-species genus in our area. *Amphiagrion saucium*, the Eastern Red Damsel, is the only truly red damselfly in Chicagoland. However, it is easy for the beginner, to misinterpret the orange of the immature female forktails with the actual red of this species. It haunts clean springs, seeps and culverts with short sedges, flying very low to the ground.

Pond Damsels

#25 Species

Dancers

(*Argia*)

#6 Species

Bluets

(*Enallagma*)

#13 Species

Forktails

(*Ishnura*)

#4 Species

Sprites

(*Nehalennia*)

#1 Species

Red Damsel

(*Amphiagrion*)

#1 Species

#4 Blue-Type

#2 Intermediate

#4 Black-Type

#3 Other Colors

Table 2: General Characteristics of Pond Damself Genera

Genus	Relative Size	Color	Wings	Habitat
Dancers <i>Argia</i>	Medium	Various shades of blue, purple & gray	Wings held above the abdomen when perched	Most often near running water & riffles; often perch on ground & stones
Bluets <i>Enallagma</i>	Medium to Small	Blue-type (mostly blue abdomen); Intermediate-type (blue & black abdomen); Black-type (mostly black abdomen); & other colors	Wings held against the abdomen when perched	Wide variety, but most prefer still water ponds & lakes
Forktails <i>Ishnura</i>	Small to Tiny	Males yellow, green or blue; young females often orange, mature females olive or pruinose	Wings held against the abdomen when perched; Forewing & hindwing stigma often different colors	Wide variety
Sprites <i>Nehalennia</i>	Tiny	Metallic sheen (green or copper)	Wings held against the abdomen when perched	Densely vegetated still waters
Eastern Red Damself <i>Amphiagrion</i>	Tiny	Red	Wings held against the abdomen when perched	Short sedge areas around seeps & springs

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S5 POWDERED DANCER ♂
Argia moesta



Habitat: Rocky areas of rivers & streams with rapid current.

Field Marks: Male: As their name suggests mature males are pruinose white. Eyes are gray. Face is white. Dorsal thorax of young males is pale blue. Lateral thorax has **two pale cream shoulder stripes separated by a wide dark gray shoulder stripe** underlying a thin black suture line. Ventrolateral thorax is pale blue & cream. These markings all become obscured by pruinosity. Abdomen is dark with light basal rings on Segments 3-7. Segments 8, 9 & 10 become distinctly pruinose. **Female:** Two color morphs - brown and blue. The **narrow black suture line is visible** in both. There is a **crossvein just below the stigma** in both sexes creating two lower cells. **Abdominal segment 9 is mostly pale laterally.**

Similar Species: Male is unique. Female is difficult to distinguish from female Blue-fronted Dancer. Stigmas are definitive - Blue-fronted stigma lacks crossvein beneath. Abdominal segment 9 of Blue-fronted usually has a dark lateral mark.



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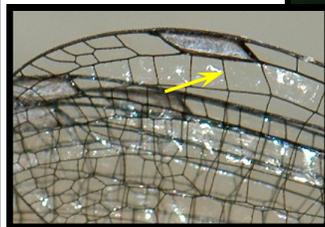
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Field Notes: Partially submerged rocks & stones make perfectly cryptic perches for the males of this species. Find them where you find rapids & riffles! Walk any mowed path up away from a river in mid to late summer & you will be inundated by the females dancing along the edges at or below chest level. Blue & brown forms seem to be present in similar numbers.



Size: 37 - 42.5 mm

Right: Mating Pair In Wheel - Blue-form females like this one darken in tandem! **Below:** Wing Tips (Female) - Note crossvein beneath stigma.



Below: (Top) Brown-Form Female Lateral View (**Inset:** Ovipositor - Note pale side of segment 9); (**Bottom**) Blue-Form Female Lateral View.



S5 BLUE-FRONTED DANCER ♂

Argia apicalis



Habitat: Gently flowing rivers & streams, occasionally lakes & ponds.

Field Marks: Male: Thorax, face, eyespots & last three abdominal segments are a shocking light bright blue. **Bright blue thorax appears like armored plates** with thin black mid-dorsal carina & shoulder stripe. Middle abdominal segments have pale basal rings. Immature males are brown. Male thorax darkens noticeably when in tandem (see picture facing page) & at cooler temperatures. **Female:** Brown & pale blue forms. Similar thoracic striping. Abdomen is dark dorsally, lighter laterally. Segments 8,9 & 10 have dorsal tan slash marks. **Segment 9 is dark ventrolaterally. Stigma of both sexes is short with a single undivided cell beneath.**

Similar Species: Male is unique. Female like Powdered Dancer female & must be separated by the length of the stigma & the presence or absence of a crossvein beneath (see photo, facing page). Also, sides of segment 9 are pale in Powdered Dancer females.

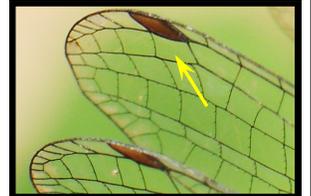


Size: 33 - 40 mm

Field Notes: Damselflies don't get more ostentatious than this! The bright blue males force you to bend down & take notice. They perch low, often on rocks or bare ground. Although found in much the same places as the Powdered Dancer, Blue-Fronted Dancers are sometimes seen at slower or still water habitats as well. As obvious as the male is, he can be difficult to identify when in tandem ovipositing over the water. In this reproductive state his thorax can darken so significantly that he takes on the dark gray appearance of a Blue-tipped Dancer!



Above: Color Change of Male in Tandem - Note the darkening of the thorax sometimes leading to misidentification; **Right:** Wing Tips With Stigma - Note single cell below; (compare to Powdered Dancer wing tips with crossvein); **Below: (Top)** Brown Form Female; **(Bottom)** Blue Form Female **(Inset:** Ovipositor & Caudal Abdominal Segments - Noting dark lateral aspect of segment 9).



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S2 BLUE-RINGED DANCER ♂

Argia sedula

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Habitat: Rivers & streams with gentle current, lakes & ponds with heavy vegetation.

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Field Marks: **Male:** Strikingly blue heads, eyes & pale shoulder stripes. Dorsal thorax is black. **Dark shoulder stripe is black, wide, irregular below & often broken at the top leaving a small blue dot. Segments 3-7 have blue rings at their bases. Segments 8-10 are blue. Wings of both genders may have an amber hue. Eyespots are irregular and stippled.** **Female:** Brown with a **hair-thin black shoulder stripe ending in an arrowhead. Just below the stripe is a darkened area. Female ovipositor is pale and quite long in comparison with other dancers.**

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Similar Species: Black-type bluets (Azure, Skimming & Stream) are similar to male Blue-ringed Dancers but distinguishable by the amount of blue at the abdominal tip & lack of wing pigment. Blue-fronted, Powdered & Blue-ringed Dancer females have similar shoulder stripes but the former two lack the dark line beneath.

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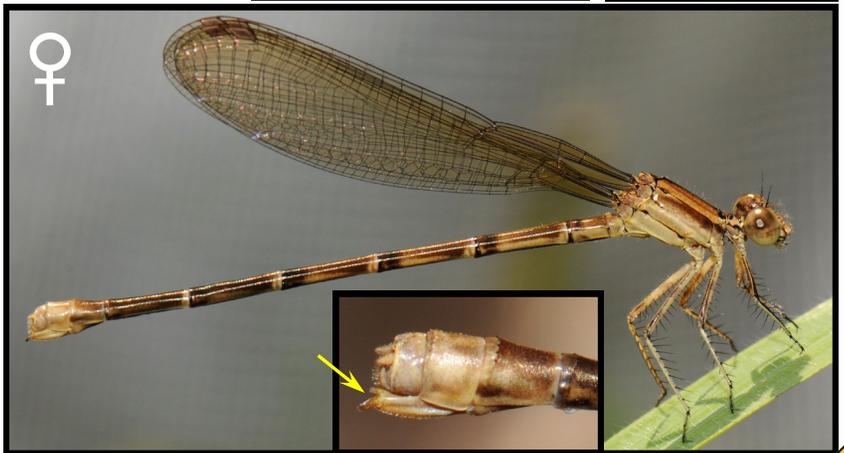
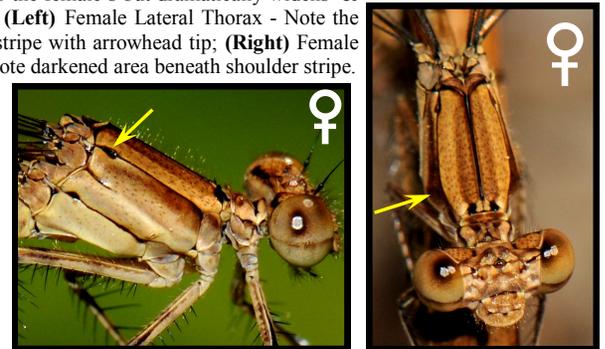
Field Notes: I have seen this species in abundance at Kickapoo State Park, Vermilion County and also along the Fox River at Silver Springs State Park. It struck me that, unlike many of our other dancers, it preferred to land on vegetation rather than ground or rock. Also notable were the seemingly widespread eyes in comparison to the narrow thorax. The stippling of the eyespots in both genders, as well as the thorax in the female, stands out in the field. The amber-colored wings are simply a pleasant surprise!

Size: 29 - 34 mm



Above Series: Males At Different Stages Of Maturity - Aging left to right. Note the thoracic stripe starts out identical to the female's but dramatically widens & darkens with age; **Below: (Left)** Female Lateral Thorax - Note the highlighted thin shoulder stripe with arrowhead tip; **(Right)** Female Dorsal Head & Thorax - Note darkened area beneath shoulder stripe.

Bottom: Female Lateral View - Note the very slight amber hue on the wings; **(Inset:** Ovipositor - It is pale, extends beyond the abdominal terminus & is longer than that of the other dancers).



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S5 BLUE-TIPPED DANCER ♂

Argia tibialis



Habitat: Small & medium-sized rivers & streams with riffles & shaded banks, sometimes ponds & sloughs.

Field Marks: Male: Purple face. Dorsal thorax is purple with mid-dorsal narrow black carina. Thorax turns dark gray with age. Black shoulder stripe is wide and sometimes forked at the tip. Lateral thorax is pale & bisected by a thin black line. Abdomen is mostly black with pale basal rings on segments 3-7. Segment 8 is black, but sometimes with a tiny blue spot. Segments 9 & 10 are pale blue. **Female:** Blue & brown forms. Small eyespots may be present. Thoracic markings are similar to male. **Wide black shoulder stripe is usually obviously forked at the tip.** Abdomen is dark with pale basal rings. **Segment 10 is cream colored.**

Similar Species: Blue-ringed Dancer male has basal abdominal rings as well, but has a blue thorax with blue shoulder stripes & blue on segment 8. Violet Dancer male has a purple abdomen. Female Violet & Blue-tipped Dancers are similar but for the degree of forking of the shoulder stripe & the abdominal



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Field Notes: Look for Blue-Tipped Dancers flying with Powdered and Blue-Fronted Dancers. Perching on rocks along banks is common, but they sit upon vegetation as well. Although the younger males can be a pleasant shade of violet, the older males turn a dark, duller shade of purple-gray as seen in the pictures below.



Size: 30 - 38 mm



Young ♂



Older ♂

Left: Immature male - brown with whitish abdominal tip; **Below: (Top)** Older Male - Thorax has darkened to a deep purple/gray but abdominal tip is still bright; **(Middle)** Blue-form Female Eating Moth - Note forked shoulder stripe; **(Bottom)** Brown-form Female - Note light abdominal tip.



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S5 **VIOLET DANCER** ♂
Argia fumipennis violacea



Habitat: Slow streams with clay or stone beds & ponds with thick vegetation along the course of streams.

Field Marks: **Male:** Bright purple head, thorax & abdomen. Mid-dorsal thoracic line is black. **Dark shoulder stripe is black & forked** towards the tip in both sexes. The top prong is arrow-shaped & the lower prong falls just shy of the end of the thorax. Male abdomen is purple with small black patches through segment 6. Segment 7 is mostly black. **Segment 8 is lavender. Segments 9 & 10 are pale blue.** **Female:** Tan, darkening with age. Black marks extend laterally along the abdomen to segment 9.

Similar Species: Male's coloration is unique. Female resembles Blue-Tipped female brown-form but Violet female's abdomen is lighter & rings are less pronounced.



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Field Notes: Unlike other dancers in our area which prefer swifter running waters, this showy species inhabits the more gentle streams & creeks. In fact, I often encounter it at ponds surrounded by thick plant life. It is actually quite common & uncommonly attractive to boot!



Size: 29 - 34 mm



Left: Mating Pair In Wheel; **Below:** Tandem Pair Ovipositing - Note the male in sentinel position.



Below: (Top) Young Female Lateral View; (Bottom) Mature Female Lateral View - Note the variability in the black lines along the abdomens of these two specimens; (Inset): Female Caudal Segments & Ovipositor.

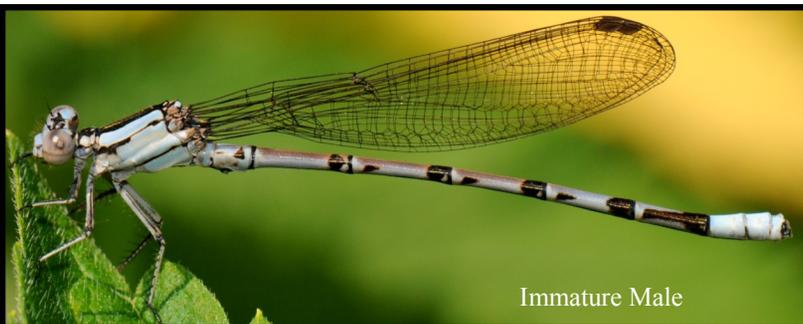


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R**S2 SPRINGWATER DANCER ♂***Argia plana*

Habitat: Small, clay-bottomed seeps and springs with shady overhang.

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Field Marks: Male: Blue face & eyes. Large, broad eyespots. Dorsal thorax black, lateral thorax blue with **unforked dark shoulder stripe wide at the base narrowing to thin line then broadening to a scalpel-like tip**. Abdominal segments blue with **basolateral black arrow-shaped spots and larger dorsolateral apical black marks**. On S7 these spots converge into a solid lateral line. S8-S10 are completely blue. **Female:** Light brown body, similarly marked. **Similar Species:** Violet Dancer has forked shoulder stripe and is mostly purple. Blue-type and intermediate-type bluets may cause confusion., but no other damsel in our area has the additional basolateral marks along the abdomen

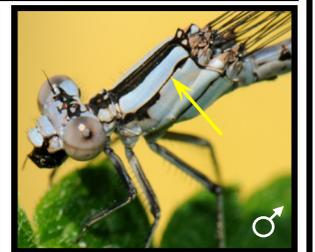
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Immature Male

Field Notes: In the spring of 2010 I discovered this more westerly species flying at Bluff Spring Fen, Cook County. This is the farthest east this species has been sighted within the continental U.S.. Previously, specimens had only been collected from two Illinois counties bordering the Mississippi River. It will be interesting to see if more sites in the Chicagoland area arise. At the fen I observed a pair in wheel perched amongst a patch of stinging nettles (for which I paid a price!) along a tree line many yards away from the spring fed stream where multiple males patrolled and a tandem pair oviposited. One comical feature of these guys is the black Mardi Gras mask on the top center of the head that seems to be staring right back at you (seen in the face shot above)!



Size: 34 - 40 mm



Above: Male Thorax (note unique shoulder stripe); **Left:** Mating Pair; **Below :** (Top) Female Dorsal View; (Bottom) Female Lateral View



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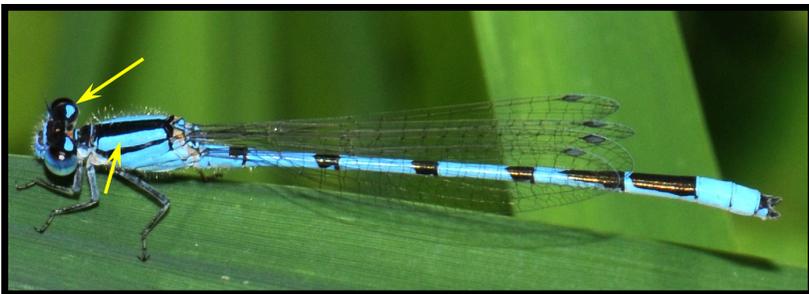
S5 FAMILIAR BLUET ♂
Enallagma civile



Habitat: Lakes, ponds & some slow streams.

Field Marks: A blue-type bluet. **Male:** Head, thorax & abdomen are mostly a bright light blue with black. **Eyespots are medium sized teardrops** with or without an occipital bar. Dorsal thorax is black. **Pale shoulder stripe is bold, blue & equally thick along its length.** Dark shoulder stripe is thinner, black & narrows towards tip. Abdominal segments 2-5 have similarly sized & shaped small black marks at their dorsal apex. Roughly two-thirds of S6 is black & black comes to a point. S7 is mostly black & S8 & S9 are all blue. S10 is black dorsally, blue laterally. **Cerci are large, wedge-shaped, blunt & easy to sight.** **Female:** May be tan, olive or blue with similar thoracic markings. An occipital bar is usually present but may or may not touch the eyespots. Dorsal abdomen is mostly black with small basal light patches.

Similar Species: Tule Bluet male has more black on middle segments &/or can be separated in hand by the cerci. Although slightly larger, female Familiar Bluets are very similar to Marsh, Hagen's & Tule females & are best identified in tandem.



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Field Notes: Widespread and common. Known as a great disperser, it is quick to colonize mitigation ponds. You soon become very familiar with the Familiar. It is large & noticeable. The wide triangular cerci extending almost the length of the final segment are hard to miss. Females aren't so easy! Wisconsin experiences a unique bimodal flight period (early & late) for this species (DuBois, 2009,

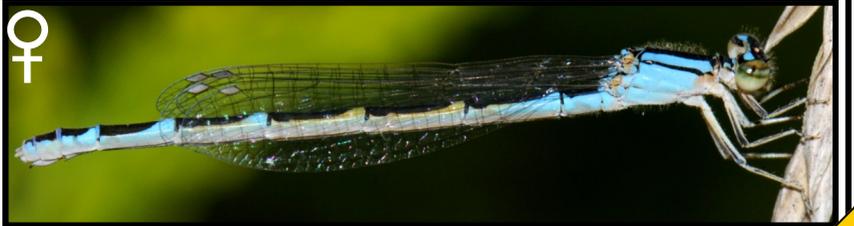


Size: 28 - 39 mm

personal communication). Monitoring will help determine if this is the case for Illinois.



Left: Mating Pair In Wheel; **(Inset:** A Bloom Of Bluets! Wheeling pairs were a dime a dozen one day in August along the Mississippi River! All three color morphs of females were present); **Below:** Females & Their Diverse Wardrobe! **(Top)** Tan-form Female; **(Middle)** Olive-form Female; **(Bottom)** Blue-form Female



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S2 **MARSH BLUET**
Enallagma ebrium



Habitat: Marshes, marshy-edged ponds, lakes & streams, prefers calcareous soils.

Field Marks: A blue-type bluet. **Male:** Medium sized, blue, paisley-shaped eyespots. Pale shoulder stripe is blue & consistently wide along its length. Dark shoulder stripe is black, bold & narrows towards tip. Abdominal segments 2-6 have similarly sized & shaped small black marks at dorsal apex. Black on S6 sometimes comes to a sharp needle-like point (not seen here). S7 is almost all black. S8 & S9 are blue. S10 is black dorsally. Rarely, dark-form variants occur with thicker shoulder stripes & more black on abdomen. **Cerci are "C-shaped"** & definitive for I.D. **Female:** Light green, tan or blue with similar head & thoracic patterns. Dorsal abdomen is black along its entire length.

Similar Species: Male Marsh & Hagen's Bluets must be differentiated by cerci. Familiar Bluet is larger & has visibly distinctive cerci. Female Marsh & Hagen's Bluets are identical except under microscopic inspection. Female Familiar Bluet is slightly larger & has some color besides black on dorsal abdomen.



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Size: 25 - 34 mm

Field Notes: Although abundant in the North Woods, this species is uncommon in Illinois except in the northern counties. I have seen it at thickly vegetated ponds in Lake & McHenry Counties in early June & in DuPage County in June & July. The flight season is uncertain for Chicagoland. Walker (1953) states that, although it is probably the same as that of *E. hageni*, populations of these two species usually do not overlap due to differences in soil preferences (calcareous vs. acidic).



Above: Mating Pair In Wheel- Note the pale green thorax (not olive like the Familiar Bluet Female) ; **Below: (Top)** Young Tan Female Dorsal View; **(Bottom)** Blue-Form Female

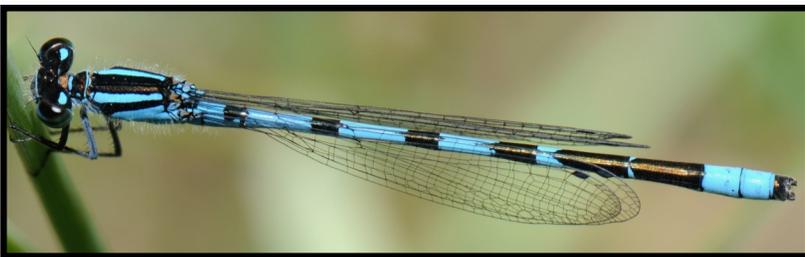


S2 HAGEN'S BLUET
Enallagma hageni ♂



Habitat: Bogs, boggy marshes, ponds & slow streams.
Tolerates acidic water.

Field Marks: A blue-type, sometimes intermediate-type bluet.
Male: Blue, medium sized, paisley-shaped eyespots. Blue shoulder stripe is wide & very slightly wider at the base. Black shoulder stripe is bold & narrows slightly towards the tip. Abdominal segments with apical black marks changing only slightly in size through S5 then increasing amount of black on S6 & S7 (which is almost completely black). S8 & S9 are blue. S10 is black dorsally. The amount of black along the abdomen varies, and darker-form individuals are not uncommon. **Cerci are upwardly "scooped"** & definitive for I.D. Paraprocts are slightly longer than cerci. **Female:** Tan, light green or blue with similar head & thoracic pattern. Dorsal abdomen is black along its entire length. **Similar Species:** Male Marsh & Hagen's Bluets should be differentiated by cerci. Familiar Bluet is larger & has visibly distinctive cerci. Female Marsh & Hagen's Bluets are identical except under microscopic inspection. Female Familiar Bluet is slightly larger & has some blue on the dorsal abdomen.



Field Notes: I have never seen this species in the Chicagoland area. The flight season provided is based upon Walker (1953) for southern Ontario & DuBois (2005) for the North Woods. Specimens in the Illinois State Museum collection are from Winnebago & Lake Counties. More data is necessary to confirm the Chicagoland season. The photos on these pages were taken in the upper peninsula of Michigan where Hagen's Bluet is quite abundant and flies at the same time as the almost identical Marsh Bluet. The only way to tell these two species apart is by viewing the cerci in hand with a lens. Also, it may help to know that their populations do not usually overlap.



Size: 26.5 - 33 mm

Right: Cerci & Paraprocts Lateral View - Note the upward turn of the cerci & compare to the "C"-shape of the Marsh Bluet;



Left: Cerci & Paraprocts Dorsal View - The claspers almost appear like Aces of Spades from above.

Right: Male Dorsal Head & Thorax - Although not a field marking to be relied upon, note the slight narrowing of the blue shoulder stripes towards their tips that is less apparent on the Familiar Bluet.



Below: Female Dorsolateral View - Note the all black dorsal abdomen; (Inset: Terminal Abdominal Segments & Ovipositor).



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S3

TULE BLUET

*Enallagma carunculatum*M
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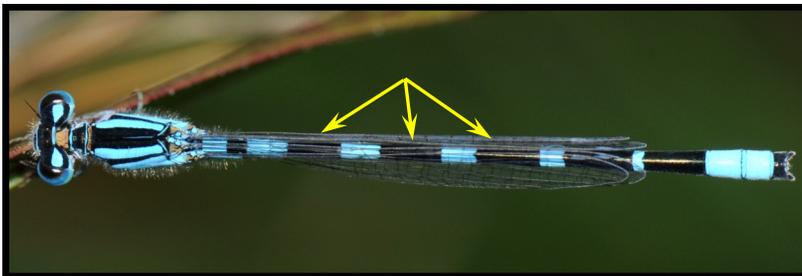
Habitat: Shores of large lakes (Lake Michigan), ponds & rivers. Often along the shores of deeper waters.

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Field Marks: An intermediate-type bluet. **Male:** Face & eyes are blue. Blue eyespots are prominent & teardrop-shaped with or without an occipital bar. Body is blue & black. Dorsal thorax is black. Pale shoulder stripe is blue & of almost equal width along its length. **Dark shoulder stripe is black, less wide & narrows towards its tip.** Ventrolateral thorax is blue. Abdominal segments 8 & 9 are completely blue. Segment 10 is black dorsally. **All other segments are at least 50% black dorsally.** The degree of black, however, is variable. Cerci are medium sized & visible. **Female:** Blue, olive or brown with smaller eyespots, similar thoracic markings, & mostly black dorsal abdomen lacking blue at the tip.

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Similar Species: Familiar, Marsh & Hagen's Bluets are most similar but lack the more extensive black on abdomen. Female Familiar Bluets are indistinguishable from Tule Bluet females except microscopically.

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Field Notes: I have seen this species multiple times flying in the company of its look-a-like, the Familiar Bluet, along the Mississippi River, Lake Michigan and I & M Canal, reminding me to always look closely at every bluet I see! It emerges relatively later than most other *Enallagma* species in Chicagoland. Van Patten Woods & Illinois Beach State Park, Lake County, are great places to see Tule Bluets in late July when they are plentiful. It has been reported along the DuPage River as well.



Size: 26 - 37.5 mm

Right: Fuzzy Wuzzy Was A Bluet! Note the many fine hairs on the head & thorax of this male; **Below: (Top)** Male Dorsolateral View - Compare the lesser degree of black on this male's abdominal segments 3, 4 & 5 with the larger amount of black on the same segments of the individuals on the opposite page. **(Bottom)** Female Lat-

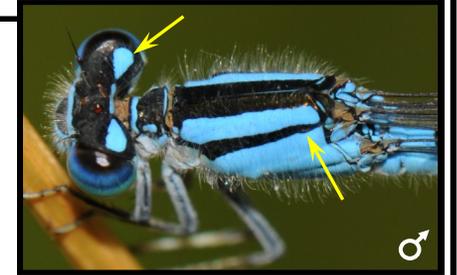


Photo by Ken Tennesen

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S5 DOUBLE-STRIPED BLUET ♂

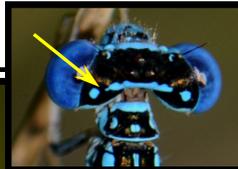
Enallagma basidens



Habitat: Ponds, lakes, streams & slow areas of rivers.

Field Marks: A very tiny blue-type bluet. **Male:** Eyes & face blue. Eyespots are very small & may or may not be connected by a thin irregular occipital bar. Dorsal thorax is black with a blue mid-dorsal carina. Lateral thorax is blue with dark **shoulder stripe that is black & split in two by a thin blue line**, hence the double-striping appearance. Abdomen is black & blue. Segments 3-6 have **black marks, "stalactites"**, coming to a mid-segmental point. Segment 7 is mostly black. Segments 8 & 9 are blue. Segment 10 is blue with a dorsal black patch. Cerci are prominent & noticeably spread wide. **Female:** Tan in color with markings similar to male. Abdomen is black dorsally except **segment 10 & part of segment 9 which are very pale blue**.

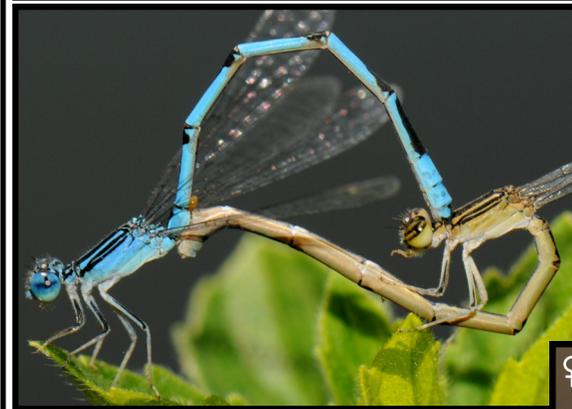
Similar Species: This species is almost impossible to confuse with any other given its small size & its extra thoracic striping. Marsh, Hagen's & Familiar Bluets have the most similar abdominal markings.

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Field Notes: Every time I see this little fellow I think I need to get my eyes checked! When you finally get one in your sites, the multiple thoracic stripes make it appear out of focus, downright fuzzy even. At Silver Springs State Park, Kendall County, I once saw five individuals all perched in a circle around a single emergent stem - they honestly looked like a pinwheel in motion! Making it worse, the males are easily disturbed, fidgeting from stem to stem trying each one on for size, and seemingly never satisfied with their choice.



Size: 21 - 28 mm



Below: Male Dorsal Thorax - The black/blue/black/blue pattern is an arresting sight!



Above: Mating Pair in Wheel; **Right:** An Eye For Fashion! Female eyes & shoulders match perfectly - she's doubly double-striped, so to speak. **Below: (Top)** Female Lateral View; **(Inset)** Terminal Segments & Ovipositor; **(Bottom)** Female Dorsal View.



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S2

RIVER BLUET

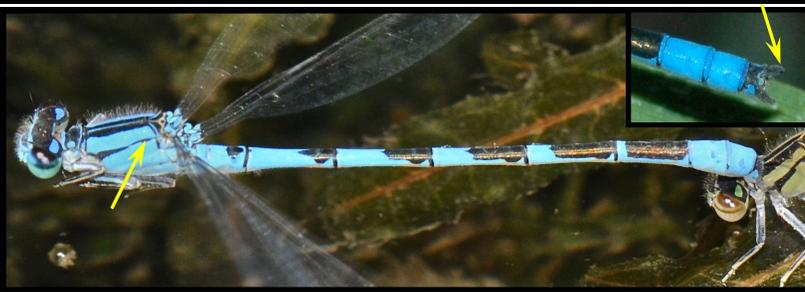
Enallagma anna



Habitat: Slow rivers, streams & creeks.

Field Marks: An intermediate-type bluet. **Male:** Eyespots are medium sized & rounded on the bottom, flattened on top. Occipital bar present. Dorsal thorax is black with thin blue mid-dorsal carina. Pale shoulder stripe is wide & blue. **Dark shoulder stripe is black & often harpoon-shaped.** Abdomen is blue with much black. Segments 3-7 are at least two-thirds black. Segments 8 & 9 are blue. Segment 10 is black dorsally. **Cerci are very long, widely flared & appear to hook inward.** **Female:** May be olive or blue. Eyespots & thoracic markings are similar to male's. Abdominal segments are mostly black dorsally with torpedo-shaped markings. **Lateral aspect of middle segments of the blue-form female may be variably colored tan & olive.**

Similar Species: Tule Bluet male has smaller eyespots, thicker black shoulder stripe & much shorter cerci. Female Northern & Boreal Bluets can be indiscernible on sight from River Bluet females, but their presence in our area has not yet been established.

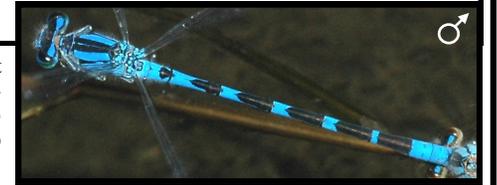
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Field Notes: State specimens exist for Jo Daviess, Boone, McHenry & Cook Counties. Chicagoland seems to be its southern border east of the Mississippi River. I have seen this species along tributaries of the Kishwaukee River, the Nippersink Creek, Boone Creek & Lake In The Hills Fen, McHenry County. At each of these sites the streams were winding & the water was clear & flowing slowly. Seeps & sink holes were present nearby.



Size: 29.5 - 36 mm

Right: Male Dorsal View - Note the flat-top eyespots, harpoon-like black shoulder stripe & black mark on segment two in the shape of a spinning top whose tip extends into segment 3.

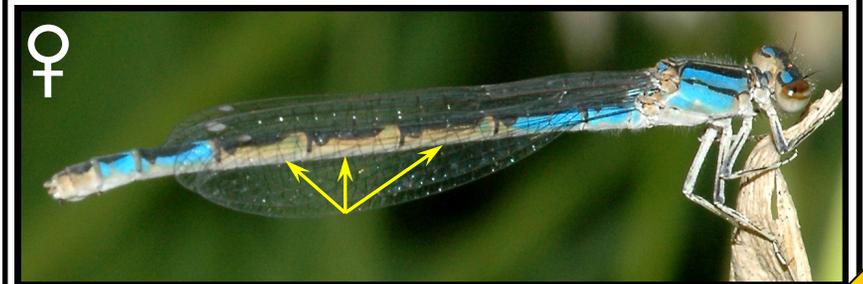


Above: Tandem Pair Ovipositing - Blue-Form Female is laying eggs in floating vegetation at water's surface;



Left: Olive-Form Female Ovipositing - Female is laying eggs into plant material just below water's surface;

Below: Blue-Form Female Lateral View - Note the multivariate coloration of the middle abdominal segments.



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AZURE BLUET

Enallagma aspersum

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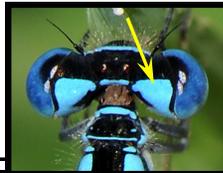
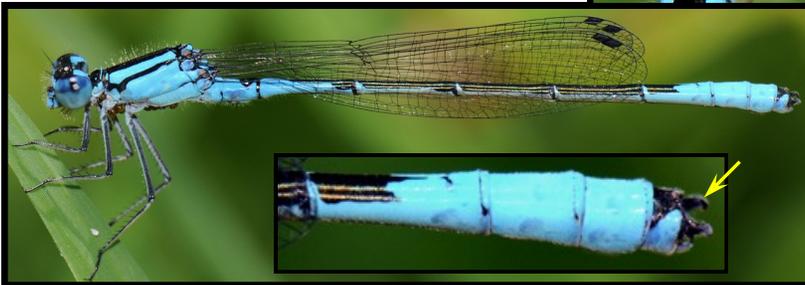
Habitat: Primarily fishless ponds & the boggy margins of lakes, also man-made gravel pits & retention basins.

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Field Marks: A black-type bluet. Living up to its name, this beauty is a striking blue. **Male:** Enormous eyespots with a thin occipital bar. Dorsal thorax is black. Pale shoulder stripe is wide & blue, while dark shoulder stripe is thinner, black & narrows towards the tip. Middle abdominal segments are solid black dorsally. **Segment 7 is partially blue**, unlike any other bluet in our area. The basal portion of segment 7 has a **black mark resembling a flying bat**. Segments 8 & 9 are blue, segment 10 is black dorsally. **Cerci are large, obvious in the field and hooked.** **Female:** Distinctive with a pair of blue “spats” on both segments 7 & 8. Their eyespots are not as large as the males’.

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Similar Species: Skimming Bluet is a bright but darker blue and lacks large eyespots & the additional blue on segment 7. Skimming females have just a single set of blue “spats”.

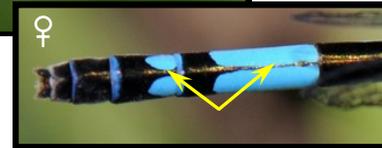
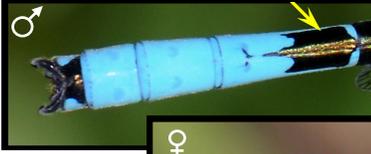
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Field Notes: I have observed many females in early morning perching low along the mowed paths at Waterfall Glen, DuPage County. By late morning they vanish completely, presumably moving closer to the water’s edge. The opposite behavior has apparently been observed by others during afternoon hours. Oh, and just for the record...I consider this to be the prettiest blue in all of nature!



Size: 27 - 34 mm

Left: Compare the strikingly different terminal abdominal segments of the two genders. It is common in damselflies for males and females of the same species to have few similarities. Sexual dimorphism makes discovering each new species twice the fun!



Below: (Top) Female Dorsal View; **(Bottom)** Female Lateral View - Note slight variations between these two individuals including the shoulder stripe & the additional dot of blue on segment 8. Such differences exist in every species due to genetic variation, environmental & age-related influences. Be sure to focus on the main field marks instead.



Left: (Upper) Female Ovipositor; **(Lower)** Female Eyespots Closeup - There is some variability regarding the eyespots of the female as shown here (olive to blue, presumably changing with age). Note the breadknife-like bottom edges on the eyespots (not seen in the male); **Right:** Female Head & Thorax Dorsal View.



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S4 SKIMMING BLUET ♂
Enallagma geminatum



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Habitat: Ponds & lakes with floating vegetation, occasionally slower streams.

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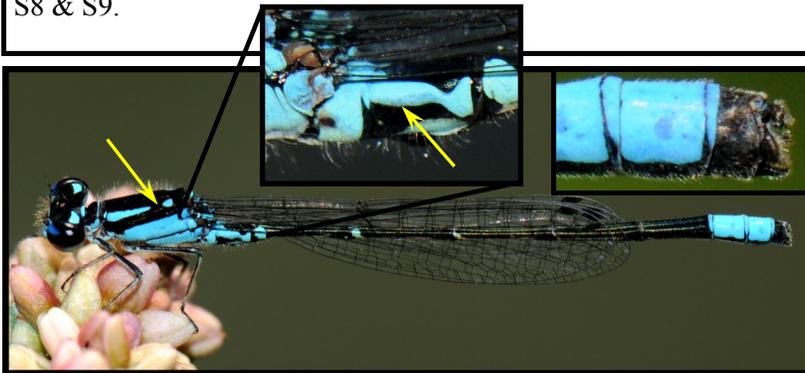
Field Marks: A black-type bluet. **Male:** Face & eyespots deep blue. Eyespots are medium-sized, comma-shaped & lack an occipital bar. Dorsal thorax is black. **Pale shoulder stripe is deep blue & is constricted at the tip.** It is sometimes broken completely. Lateral thorax is blue. **Abdominal segment 2 has a unique blue “squiggle”** laterally in the shape of a man in breeches bending at the knee (buttock, thigh, calf and foot are evident). S3-S7 are black. S8 & S9 are blue, S10 is black. **Female:** Similar head, thorax & segment 2 “squiggle” as male. Abdomen is black dorsally except for **S8 which has a dorsal pair of blue “spats”**.

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Similar Species: The blue feature on S2 is definitive for identification in both genders. Females look most like Azure Bluet females from above, but Azure females have two pair of “spats” on S8 & S9.

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Field Notes: One of our smallest bluets. Its body is black in the middle with bright blue at both ends, making this species an eye-catcher in the field. Look for it out over the water where males like to crouch down on lily pads and other floating material, looking very determined & refusing to budge. Every mating pair that I have ever seen has been either right at the water's edge or actually out on the water.



Size: 18.5 - 29 mm



Left: Male Lateral Thorax - Note the “pinched” tip of the pale shoulder stripe & the typical “hunkering down” posture.

Right: Mating Pair In Wheel; **Below:** (Top) Female In Tandem Lateral View - Notice that she shares the same segment 2 design as the male; **(Inset:** Female Terminal Abdominal Segments - Note the pair of blue “spats” on segment 8); **(Bottom)** Female Dorsal View



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S3 SLENDER BLUET

Enallagma traviatum ssp. westfalli

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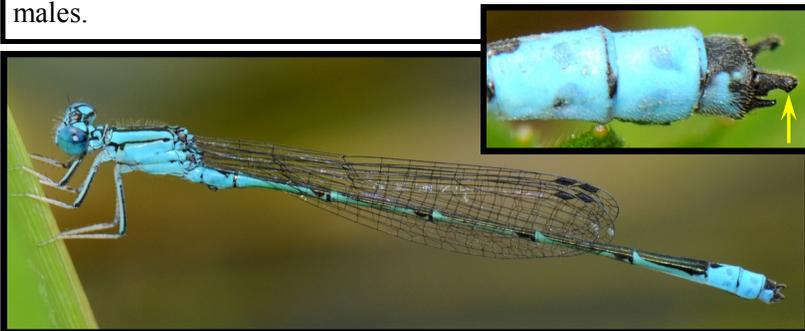
Habitat: Ponds & lakes with shady edges.

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Field Marks: A black-type bluet. **Male:** Face, eyes & eyespots are uniquely baby blue. **Eyespots are enormous** (perhaps the largest of the family) & connected by an occipital bar. Mid-dorsal thorax is black. Pale shoulder stripe is wide & baby blue. Dark shoulder stripe is black, very thin & tipped like a scalpel blade. Dorsal abdomen is black except at tip. **Segment 8 is light blue with a small dorsal black spot.** Segment 9 is solid blue. Segment 10 is black dorsally, blue laterally. **Cerci are widely flared & slightly hooked at the tips.** Paraprocts curve upward. **Female:** An even lighter shade of blue. **Mid-dorsal thorax & dark shoulder stripe are yellowish brown** with only traces of black. Abdominal segment 8 is blue except for an irregularly shaped black spot. Segments 9 & 10 are blue.

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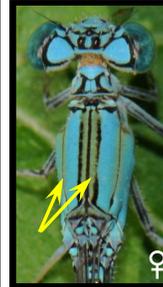
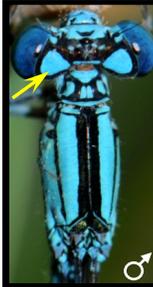
Similar Species: The unique shade of blue & large eyespots make the male easy to identify. Use eyespots & shoulder stripes to differentiate females from Stream & blue-form Orange Bluet females.

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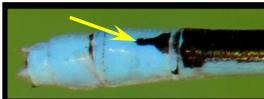
Field Notes: Slender Bluets fly from early to mid-summer. Females & immature males rest on leaves of bushes in shady spots up away from the water's edge. Tandem pairs will gather by the dozens perched on stems above the water or staking claims out over floating vegetation. The many shady ponds of Kickapoo State Park, Vermilion County & Morton Arboretum, DuPage County, are wonderful spots for viewing such a spectacle.



Size: 28.5 - 32 mm



Above: Pair In Tandem - Note the slightly more pale shade of the female; **Far Left:** Male Dorsal Thorax - Showing gigantic eyespots, thin dark shoulder stripes & black mid-dorsal thorax; **Near Left:** Female Dorsal Thorax - Highlighting yellowish-brown in dark shoulder stripe & mid-dorsal thoracic stripe. Also, note the intricate scroll work on head & prothorax; **Below:** (Top) Female Dorsal View (Inset: Female Caudal Segments - Note the nipple-shaped mark on segment 8); (Bottom) Female Lateral View (Inset: Female Face - Note the clown face black outline!).

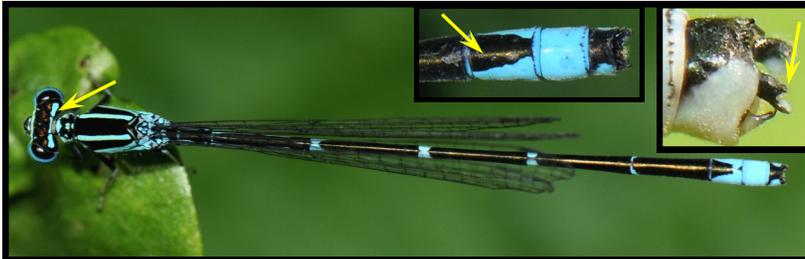


S5 **STREAM BLUET** ♂
Enallagma exsulans



Habitat: Sheltered areas of rivers & streams, lake shores.

Field Marks: A black-type bluet. **Male:** Face blue-green. **Eye-spots** are thin strips of pale blue & may or may not be continuous with the occipital bar. Dorsal thorax is black. Pale shoulder stripe is pale blue & linear. Dark shoulder stripe is wide & black. Abdomen is long, thin & mostly black with thin blue rings at base of middle segments. S8 is wrapped laterally in pale blue leaving a **black triangle** or “V” on the dorsum. S9 is blue, S10 is black dorsally. **Cerci** are scoop-shaped like backward commas (‘). **Female:** Blue-green & yellow-green forms. Thoracic markings differ from male’s. **Brown mid-dorsal carina present. Dark shoulder stripe is diffused with brown**, leaving thin strips of black above & below. Abdomen is mostly black dorsally. **Segment 9 is pale blue with two basal black “vampire fangs”** which may be fused into a single black triangle. Segment 10 is pale blue. **Similar Species:** Male Stream & immature Orange Bluets are similar except for cerci. Female Stream, Orange & Vesper Bluets differ in

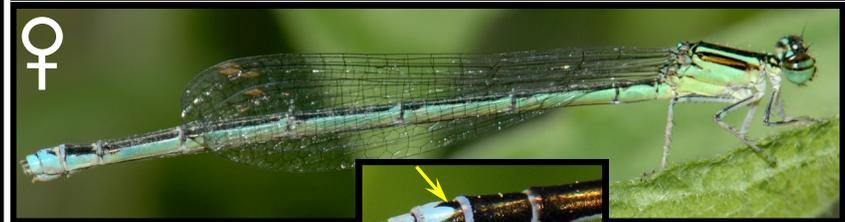


Field Notes: This extremely common species experiences sensational blooms along the DuPage River. It is lighter colored than many of the other bluets & can turn your head for a second when you see a pale green or yellowish tandem pair out over the water. A second glance at that long body & tell-tale “V” shape on segment 9 of the male will soon change your “Oh my” moment to an “Ah yes” realization. This species isn’t afraid to fly on cloudy days. Females & males alike enjoy the shady cover of bushes & trees along the bank where they will perch several feet off of the ground.



Size: 29 - 37.5 mm

Right: (Near) Female Head & Dorsal Thorax - Note the brown interrupting the black stripes; **(Far)** Mating Pair In Wheel - Note yellow-green form female; **Below: (Top)** Immature Female; **(Middle)** Yellow-Green Form Female; **(Bottom)** Blue Form Female; **(Inset)** Female dorsal Abdominal Tip - Note the typical “vampire fangs” on segment 9 which are sometimes blunt & sometimes fused into a triangle.



S5 **ORANGE BLUET** ♂
Enallagma signatum



Habitat: Ponds, lakes and slow stretches of river with floating vegetation.

Field Marks: **Male:** Mature males are unmistakably orange - eyes, face & thorax. **Eyespots are small, narrow, bright orange, & continuous with the occipital bar.** Dorsal thorax is black. Pale shoulder stripe is orange & of even width. **Dark shoulder stripe is black & narrows slightly towards the tip.** The abdomen is mostly black with pale rings at the base of each segment. **Segment 9 is completely orange.** Segment 10 is wrapped partially in orange. **Cerci are straight, prominent & obvious in the field.** Immature males appear blue (see photo below). **Female:** Yellow-orange or blue. Similar to male in markings except for the abdominal tip.

Similar Species: Immature male Orange & Vesper Bluets are similar except Vesper shoulder stripe contains brown. Female Orange, Vesper & Stream Bluets closely resemble each other. Vesper & Stream females, however, have brown present in the dark shoulder stripe.



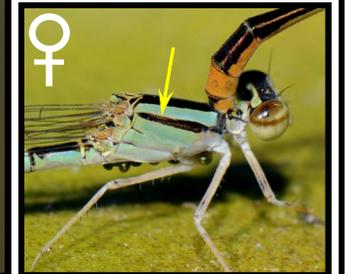
Field Notes: Orange Bluets can be seen flying alongside Vesper Bluets towards evening at Moraine Hills State Park, McHenry County. Although out in the afternoon as well, they become very active towards dusk. Wading the DuPage River I have observed males spending most of their time over the water, quite a distance from the bank, setting up camp on floating mats of vegetation by perching for long periods on this high-priced real estate - prime turf for ovipositing. Only when mating or maturing do they seem to move away from the water & into the surrounding vegetation.



Size: 28 - 37 mm



Above: Mating Pair In Wheel; **Left:** Ovipositing Pair - The female is submerged except for part of her wings. **Below: (Top)** Blue-form Female In Tandem; **(Bottom)** Yellow-form Female Lateral View **(Inset:** Female Ovipositor).



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S3 **VESPER BLUET**
Enallagma vesperum



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Habitat: Marsh-bordered ponds & lakes , slow stretches of river with floating vegetation.

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Field Marks: **Male:** Face & eyes yellow. Narrow eyespots are lime green & continuous with occipital bar. Dorsal thorax is black. Ventrolateral thorax bright lemon-lime with a **thin black arrow-like shoulder stripe diffused with brown**. Dorsal abdomen is black except segments 9 & 10 which are pale blue. **Cerci are long and straight**. Legs are yellow. Stigma are golden. Immature male is blue. **Female:** Aquamarine or yellow-green. Same thoracic pattern as male. S10 is pale blue. **Female's S9 is wrapped in pale blue, leaving a black triangular-shaped dorsal patch.**

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Similar Species: Mature males are unique. Immature male Vesper & Orange Bluets are almost identical except for the amount of black on their dark shoulder stripe. Female Vesper, Orange & Stream Bluets can be differentiated by the width of & the presence of brown in their shoulder stripe.

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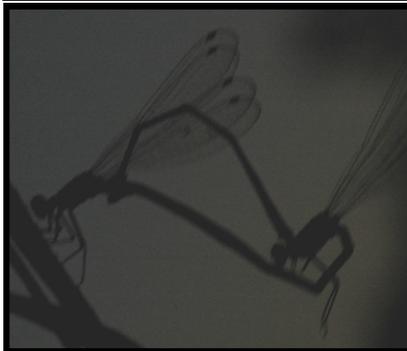
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Field Notes: Look for these elusive, semi-crepuscular beauties when the bells ring out for Evensong. 5:00 p.m. or later is your best bet. Lake Defiance at Moraine Hills State Park is a great place to observe them. Check out the walkway on the back side of the visitor center after closing hours - males gather on the sidewalk slowly waking up for the day. The lily pads down by the boat dock & the thick plant life along the boardwalk & lake margins make this ideal habitat.



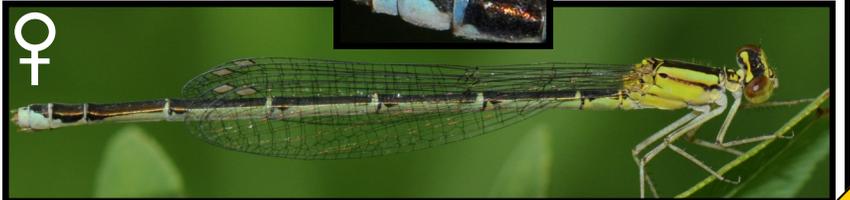
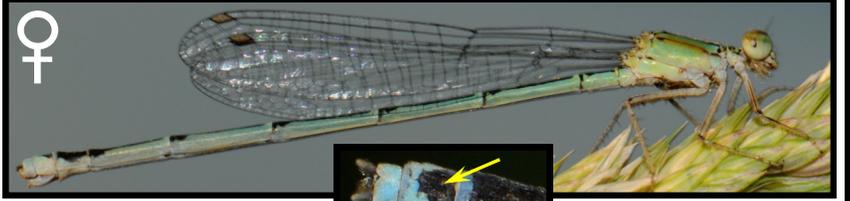
Size: 29 - 37 mm



Above: (Left) The first photo I ever took of Vesper Bluets; **(Right)** The second photo I ever took of Vesper Bluets...after turning on my flash! **Below: (Top Left)** Male Head & Thorax Dorsal View - Note the narrow lime green eyespots connected by occipital bar; **(Top Right)** Female Head & Thorax Dorsal View - Note the gorgeous aquamarine tint, eyespots can vary in



color; **(Middle)** Female Lateral View; **(Bottom)** Male-like Yellow Female; **(Inset: Female Abdominal Terminus - Note dorsal black patch on S9)**



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S3 RAINBOW BLUET ♂
Enallagma antennatum

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Habitat: Gentle streams, ponds & lakes with springy margins, especially near culverts & drainage areas.

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Field Marks: **Male:** Face is bright orange. Eyes are a sunburst of orange, yellow and green. **Eyespots are thin, blue & connected via an occipital bar.** Dorsal thorax is black. Pale shoulder stripe is yellow. Ventrolateral thorax is pale green. Legs are yellow with lateral black striping. Abdomen is mostly black dorsally. Segment 8 is wrapped laterally with blue, with a mid-dorsal black patch. Segment 9 is solid blue, segment 10 is black. **Stigma are bright red,** thus completing the rainbow effect! **Cerci are large & appear as a pair of half-moons.** **Female:** A pale yellow-green initially, becoming more yellow with age. The dorsal abdomen is black except for a **blue 'spindle' in the middle of segment 9.**

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Similar Species: Male is unique. Female Rainbows are similar in color to Stream, Vesper & Orange females but the spindle-shaped blue mark in the middle of the black dorsum of segment 9 separates the Rainbow female from all other bluets.

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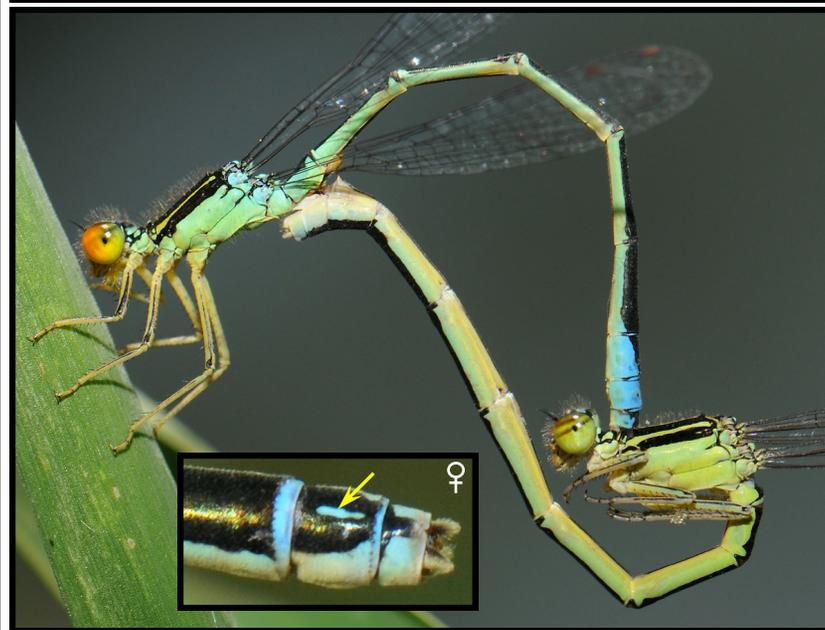
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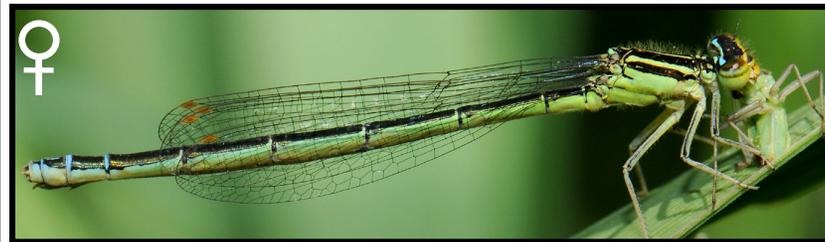
Field Notes: The first time you see one of these creatures, and every time after, your heart will leap for joy! I came upon a bloom at Penny Road Pond, Cook County, one day - literally hundreds were flying at once - perhaps the most colorful field day ever! The males were quite aggressive in defending territories. The fishing pond at Van Patten Woods, Lake County, and areas along the Nippersink, McHenry County, are also good places to spot these in higher numbers.



Size: 27-33 mm



Above: Mating Pair In Wheel (Inset: Female caudal appendages with telltale blue spindle on S9); **Left:** Female Head & Thorax Dorsal View; **Right:** Female Face; **Below:** Female Lateral View



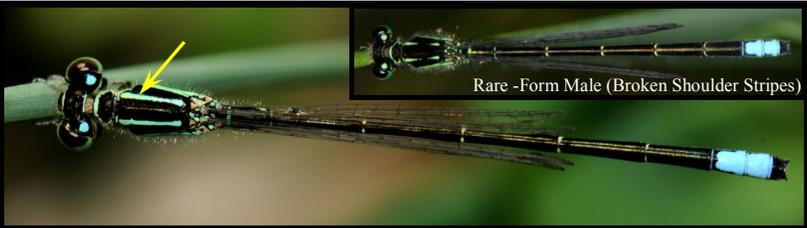
S5 EASTERN FORKTAIL ♂
Ischnura verticalis



Habitat: Virtually any permanent wet area!

Field Marks: **Male:** Face & eyes are green with black. Green eyespots are small, circular & not confluent. Dorsal thorax is black. **Pale shoulder stripes are green & linear & may appear broken in the more rare form.** Abdomen is black except for **segments 8 & 9 which are blue dorsally.** **Female:** Multiple color morphs. Immature females are orange & black. Abdomen is all black except for **orange extending down to base of segment 3.** Mature females are blue-gray pruinose. Male-like females are not uncommon. This form has a thorax & abdomen similar to the male, but the abdomen becomes pruinose with age. Body length in this species can vary greatly from smaller than a Sedge Sprite to as large as a Rainbow Bluet.

Similar Species: Male Fragile & rare-form Eastern Forktails are similar except for the blue at the abdominal tip of the latter. Mature female Fragile & Eastern Forktails may be indistinguishable in the field unless shoulder stripes are still visible. Juvenile Citrine & Eastern Forktail females are almost identical except for the extent of orange along the abdomen.



Field Notes: This is the single most common damsel in our area - it is EVERYWHERE! It is the first one out in the spring & one of the last ones to fly in the fall. (The Green Darner of Zygoptera, so to speak!) When you're looking for other species Eastern Forktails can be frustratingly distracting, especially the pruinose females which seem to always be present in large numbers at the water's edge. Before I let familiarity breed contempt, however, I'll admit that it is actually a colorful pixie that I have come to expect & enjoy floating at my feet.



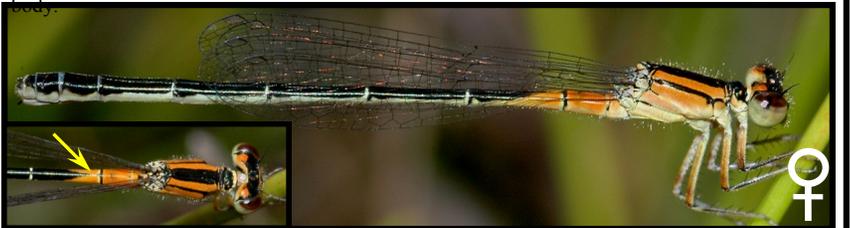
Size: 20 - 33 mm



Left: Female Ovipositing - Note she is alone. There is no tandem mate guarding in this species. **Right:** Female In Tandem Closeup - Note the male's claspers grabbing her prothorax. It is common to see both pruinose and orange females in tandem and in-wheel.



Below: (Top) Juvenile Female Lateral View (Inset: Dorsal View); (Middle) Mature Female Lateral View (Inset: Anterior Face - Note the intense, angry look common on the face of forktails); (Bottom) Male-Like Female - Note the pruinose abdomen, but otherwise male-like body.



S5 FRAGILE FORKTAIL ♂
Ischnura posita



Habitat: Ponds, lakes, slow running waters & sloughs.

Field Marks: **Male:** Black & yellow-green (chartreuse is the closest description). Face, eyes & small circular eyespots are chartreuse. Dorsal thorax is black. Pale shoulder stripe is chartreuse & broken into an exclamation mark! Dorsal abdomen is black with pale basal rings. **Female:** Blue with similar markings, turning pruinose with age.

Similar Species: Like Citrine Forktails, Fragile Forktails are a very narrow-bodied species, delicate even. Citrines, however, lack the exclamatory shoulder stripe & have orange abdomens. Male Eastern & Fragile Forktails are similar but the former lacks the broken shoulder stripe & has a blue-tipped abdomen. The rare-form male Eastern Forktail, although displaying a broken shoulder stripe, still has blue on its abdominal tip. Mature female Fragile Forktails are most easily confused with mature female Eastern Forktails, but look for the exclamation marks which often shows through the pruinosity on the Fragile's thorax.



Field Notes: For the most part this species flies in the same general locations as the Eastern Forktail. Unlike the Eastern, it likes to perch over the water on duckweed, lily pads etc. & one rarely sees it mating. One remarkable September day I observed this species literally by the thousands at LaSalle FWA & Wilson Slough, Indiana & saw nary a tandem pair!



Size: 21 - 29 mm

Lower Strip: Infinite Variety! (Far Left) A teneral in shiny bronze; (Middle Left) The green shoulder stripes & eyespots of a young male; (Middle Right) Young female with bright blue punctuation! (Far Right) Older darker female lightly frosted but still displaying her exclamation marks. Note how the eyes themselves have darkened as well.



Left: (Far) Mating Pair In Wheel - A sight I've only seen once! (Near) An Exception To Every Rule - This female's shoulder stripe remains unbroken! **Below: (Top)** Juvenile Female - Loudly exclaiming as she takes flight. **(Bottom)** Mature Female - An elderly lady covered in a faint dusting of her favorite powder.



S5 CITRINE FORKTAIL ♂
Ischnura hastata



Habitat: Marshy edges of ponds and lakes often in areas with short sedges such as spike rush.

Field Marks: A tiny, delicate-bodied damselfly. **Male:** Face & eyes are yellow-green. **Pale green eyespots are small, circular & lack an occipital bar.** Dorsal thorax is black. **Pale shoulder stripe is light green & linear.** Dark shoulder stripe is much wider & black. Ventrolateral thorax is pale green. Abdomen is lemon-orange with small black spots on all segments except 8, 9 & 10. The stigmas are two different colors. **Forewing stigmas are reddish-orange & inset from the costal edge of the wing.** The hindwing stigmas are black. A **bluntly bifurcated spine extends mid-dorsally off of segment 10.** **Female:** Immature females are orange & black. **Black shoulder stripe is so thin as to be almost imperceptible.** Orange extends down the abdomen almost to the tip of segment 5. Mature females turn olive & pruinose.

Similar Species: Male is unique. Immature Citrine & Eastern females may be differentiated by the great difference in widths of the dark shoulder stripe & amount of orange on dorsal abdomen.



Field Notes: Although relatively common, this diminutive creature is easily overlooked. It flies low at your feet about a foot or so off of the ground. Even when you spot one, keeping your eye on it becomes quite a challenge - a gentle glide or turn and it disappears from view entirely! It is difficult to see the wings actually beat, its flight is that seamless. The thin needle-like body blends into the haystack of yellow-green sedges with perfect cryptic coloration - good luck!



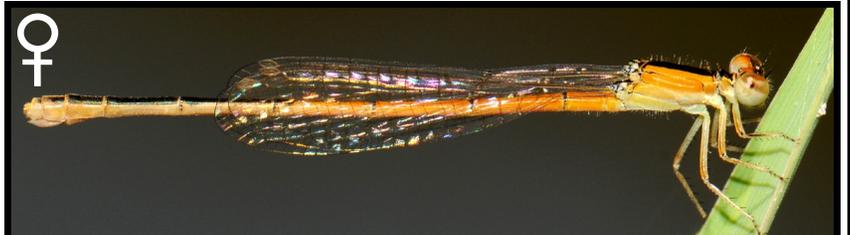
Size: 20.5-27 mm



♂ **Left:** Male Dorsal Head & Thorax - Note the thick black shoulder stripe and small eyespots; **Right:** Juvenile Female Dorsal Head & Thorax - Note the very thin shoulder stripe & large eyespots.



Below: (Top) Immature Female Dorsal View - Note the orange extending through segment 5; (Middle) Immature Female Lateral View - Glistening wings are always a sign of youth. Once a teneral dries its wings become duller; (Bottom) Mature Female Lateral View - Note the hoary abdomen (pruinose) and the olivaceous thorax. The head now appears very similar to the male.



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NA LILYPAD FORKTAIL ♂

Ischnura kellicotti

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Habitat: Ponds & still water habitats with water lilies.

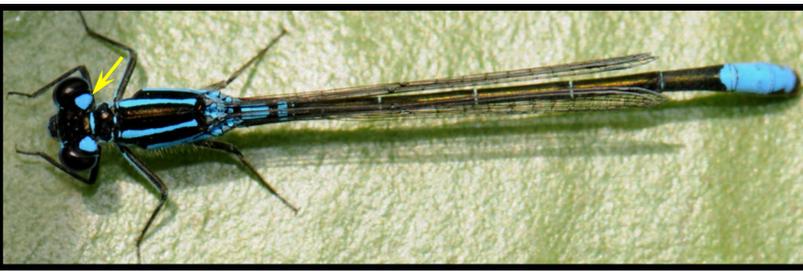
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Field Marks: **Male:** Black & blue. Eyespots are huge & rounded. Forewing & hindwing stigmas are different colors (blue & tan respectively). Thorax is black dorsally with narrow blue pale shoulder stripe & bold, wide, black dark shoulder stripe. Lateral & ventral thorax is blue with a **discontinuous partial thin black line** & **an underlying very thin complete black line**. Abdominal segment 2 has a dorsal blue blotch with an **apical blue ring**. Bulk of the abdomen is black. **Segment 7 has a small amount of blue apically**. S8 & S9 are blue dorsally with irregular edges. S10 is black. **Female:** Immature females are a striking red-orange turning blue-gray with age. Markings are similar to male, but color on segments 8 & 9 is more blotchy & segment 10 is orange not black.

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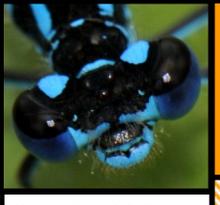
Similar Species: Skimming Bluet male lacks blue on segment 7 & thin lines on the lateral thorax, has smaller eyespots & a different design of blue on segment 2. Immature female Citrine & Eastern Forktails & male Orange Bluet lack the extensive orange on caudal segments.

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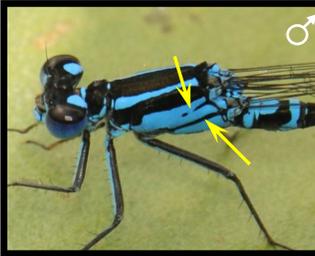


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Field Notes: This species is not yet listed for Illinois. Dubois (2005) lists it as a rare stray to the North Woods. Seasonal information is not yet available. However, in July, 2008, and again in 2009, my husband & I discovered a population on lily pads at Lake Defiance, Moraine Hills State Park, McHenry County. They were abundant & present in the company of Orange & Skimming Bluets. They seemed to disappear at 5:00 p.m. just as the Vesper Bluets emerged. Both sexes have a habit of arching their abdomens when perching so that the tip curls downward just touching the leaf's surface. They fly low and for very short distances, hopping from one lily pad to the next. They remain over the water & are reluctant to move once perched.



Size: 24 - 31.5 mm



Right: Female Caudal Abdominal Segments - Note the blotchy orange markings on S8 & S9; **Left:** Male Thorax Noting Ventral Lines; **Below:** (Top) Red-Orange Juvenile Female; (Middle) Female In Transition - Note pruinosity beginning to obscure field marks; (Bottom) Fully mature female - Note her eyes have turned green!



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S3

SEDGE SPRITE

Nehalennia irene

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Habitat: Marshes, fens, bogs & thickly vegetated ponds amongst cattails & other aquatic plants.

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Field Marks: **Male:** Face, head, dorsal thorax & dorsal abdomen are metallic green. Ventral surface is pale blue (yellowish in young males - see photo, facing page). Eyes are blue. Eyespots are absent but a **cream-pale blue bar is present at the back of the head.** Abdomen is very slender. Segments 8, 9 & 10 are pale blue with some green markings. **Segment 9 has two wedge-shaped dorsal green marks.** Cerci are small & indistinct in the field. **Female:** Slightly darker (a bronze copper color) but still iridescent. **Ventral surface is creamy-yellow.** Abdominal **segment 10 is pale dorsally.** Male-like females occur.

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Similar Species: Eastern Forktail male has similar abdominal tip but lacks metallic green body. Male Sphagnum Sprites (a North Woods species possibly present in our area) & female Sedge Sprites are almost identical, so one must look at the caudal appendage for confirmation.

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Field Notes: This minute little fellow flies low in dense vegetation & is easily overlooked. Although one of the smallest (shortest & skinniest) damselflies, Sedge Sprites can be just as big as Eastern Forktails at times and, in general, Citrine Forktails are consistently smaller. The pond at Volo Bog, Lake County, & the marshes at Moraine Hills State Park, McHenry County are great locations for this species.



Size: 24 - 29.5 mm



♂ Teneral

Above: Teneral Male - The shimmering wet wings of a newly emerged damselfly are just splendid! Also note the yellow ventral thorax, pale eyes and abdominal tip (so similar to the female) which will eventually become pale blue with age.



Left: Immature Female Face - Her yellow mask will eventually take on a bronze patina; **Right:** Male Dorsal Head - Note the creamy middle bar at the rear of the head; **Below: (Top)** Female In Tandem Lateral View - Note the pale yellow ventral thorax; **(Inset:)** Ovipositor - Segment 10 is pale blue); **(Bottom)** Female Dorsal View.



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S3 EASTERN RED DAMSEL ♂

Amphiagrion saucium



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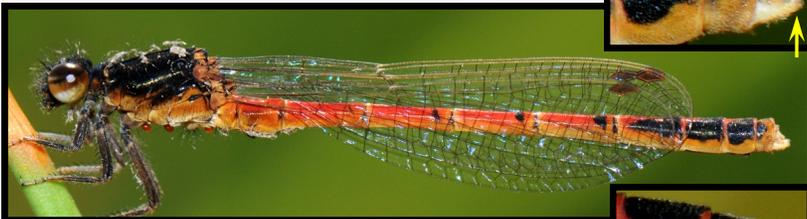
Habitat: Short sedge areas around seeps & springs.

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Field Marks: A tiny damsel. **Male:** Our only truly red damsel. Head, face & thorax are tan & black, turning solid black with age. Abdomen is bright red with **lateral black spots** becoming more pronounced towards the tip. **Cerci project downward** while the **longer paraprocts curve upward** and are visible in the field. **Female:** Much less colorful. Young females are tan with a blush of rose on their abdomen &, to varying extents, **paired dorsolateral black spots on the final segments**. Eventually the entire body turns auburn then gray-mahogany, becoming quite nondescript & obscuring the black markings.

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Similar Species: Sometimes confused with female forktails which are bright orange not red.



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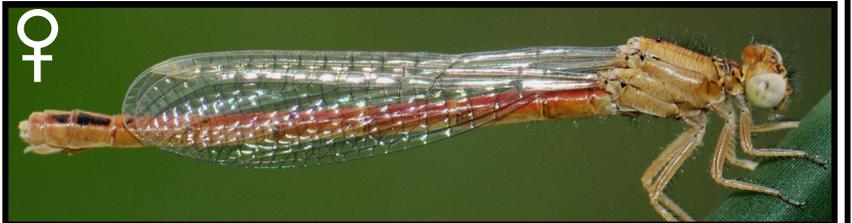
Field Notes: This is an early flyer, out in May. It can easily be overlooked given its size and propensity to stay low amongst vegetation. Bottom line - you've got to squat down to see this guy! Oh, and you're going to get your feet wet...they love the soggy short sedgy areas. Locally, I have encountered this species in good quality habitats such as Bluff Spring Fen, Cook County, along the banks of Boone Creek, McHenry County & the edges of Lockport Prairie, Will County.



Size: 21.5-27 mm



Above: Female Dorsal View; **Right:** Young Male Sporting An Impressive Mustache! **Below:** As with many odonates, individuals darken with age often obscuring earlier field markings. The images of females below are arranged in order of increasing maturity from youngest (a teneral at the top) to oldest (at the bottom). **(Inset:** Ovipositor)



Checklist of Damselflies of Chicagoland		
Species	Date	Location
BROADWINGS - Family <i>Calopterygidae</i>		
<i>Calopteryx maculata</i> Ebony Jewelwing		
<i>Calopteryx aequabilis</i> River Jewelwing		
<i>Hetaerina Americana</i> American Rubyspot		
SPREADWINGS - Family <i>Lestidae</i>		
<i>Archilestes grandis</i> Great Spreadwing		
<i>Lestes eurinus</i> Amber-Winged Spreadwing		
<i>Lestes inaequalis</i> Elegant Spreadwing		
<i>Lestes vigilax</i> Swamp Spreadwing		
<i>Lestes dryas</i> Emerald Spreadwing		
<i>Lestes rectangularis</i> Slender Spreadwing		
<i>Lestes unguiculatus</i> Lyre-Tipped Spreadwing		
<i>Lestes forcipatus</i> Sweetflag Spreadwing		
<i>Lestes australis</i> Southern Spreadwing		
<i>Lestes disjunctus</i> Northern Spreadwing		
<i>Lestes congener</i> Spotted Spreadwing		

POND DAMSELS - Family <i>Coenagrionidae</i>		
<i>Argia fumipennis violacea</i> Violet Dancer		
<i>Argia apicalis</i> Blue-Fronted Dancer		
<i>Argia moesta</i> Powdered Dancer		
<i>Argia tibialis</i> Blue-Tipped Dancer		
<i>Argia sedula</i> Blue-Ringed Dancer		
<i>Argia plana</i> Springwater Dancer		
<i>Amphiagrion saucium</i> Eastern Red Damsel		
<i>Enallagma signatum</i> Orange Bluet		
<i>Enallagma vesperum</i> Vesper Bluet		
<i>Enallagma exsulans</i> Stream Bluet		
<i>Enallagma antennatum</i> Rainbow Bluet		
<i>Enallagma traviatum</i> Slender Bluet		
<i>Enallagma geminatum</i> Skimming Bluet		
<i>Enallagma aspersum</i> Azure Bluet		
<i>Enallagma anna</i> River Bluet		
<i>Enallagma carunculatum</i> Tule Bluet		
<i>Enallagma basidens</i> Double-Striped Bluet		
<i>Enallagma civile</i> Familiar Bluet		

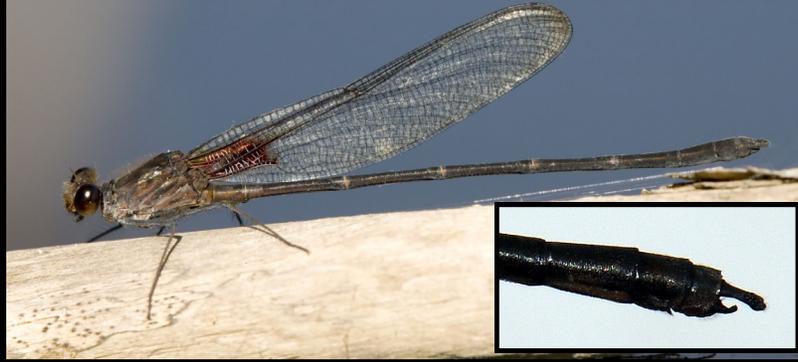
Species	Date	Location
Family Coenagrionidae - Pond Damselflies (continued)		
<i>Enallagma ebrium</i> Marsh Bluet		
<i>Enallagma hageni</i> Hagen's Bluet		
<i>Ischnura verticalis</i> Eastern Forktail		
<i>Ischnura posita</i> Fragile Forktail		
<i>Ischnura hastata</i> Citrine Forktail		
<i>Ischnura kellicotti</i> Lilypad Forktail		
<i>Nehalennia irene</i> Sedge Sprite		

Potential Species For Chicagoland		
<p>There are nine (9) potential species to keep a look out for in Chicagoland. The checklist below provides a listing of them. They are present in surrounding states or other parts of Illinois and are strong possibilities for this area. Species plates with descriptions follow this checklist.</p>		
Species	Date	Location
<i>Hetaerina titia</i> Smoky Rubyspot		
<i>Chromagrion conditum</i> Aurora Damselfly		
<i>Argia translata</i> Dusky Dancer		
<i>Enallagma divagans</i> Turquoise Bluet		
<i>Enallagma boreale</i> Boreal Bluet		
<i>Enallagma annexum</i> Northern Bluet		
<i>Enallagma vernale</i> Vernal Bluet		
<i>Coenagrion resolutum</i> Taiga Bluet		
<i>Nehalennia gracilis</i> Sphagnum Sprite		

SMOKY RUBYSPOOT

Hetaerina titia

Photo by Ken Tennessen



Habitat: Rivers & streams with moderate currents & overhanging vegetation, perhaps in less disturbed, quieter areas.

Teneral ♂



Comments: This species is suspected in the Chicagoland area. It is present in southern & northwestern Illinois & has been found in southern Wisconsin (Bob DuBois & Ken Tennessen, personal communications). I found male & female teneral on the Pecatonica River, Boone County, in August 2010. The Smoky Rubyspot can easily be mistaken for the ever-abundant American Rubyspot. Perhaps this similarity is preventing it from being identified in Chicagoland. In general it has a longer, darker, duller body with less well-defined lines on the thorax than the American Rubyspot. A red blotch is present on the basal forewing, but the hindwing base has a brown pigmented patch instead. Degree of wing pigment is highly variable in this species. Wings may be tipped with crescents of brown & may appear tinted or smoky throughout, but this is an unreliable field marking. Unlike American Rubyspot females, female Smokies have dark ovipositors. Bottom line - carefully examine every darkly colored rubyspot & check the cerci against drawings by Lam (2004)!

Right: Female Ovipositor - Note that it is dark throughout; **Below:** Female Lateral View



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SH **AURORA DAMSEL** ♀
WL *Chromagrion conditum*

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Habitat: Spring-fed streams, shady vernal ponds & bogs.

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Field Marks: **Male:** Face & eyes are blue. **Dorsal thorax has a unique black mark in the shape of a cello.** Fresh individuals may reflect reddish tones. Lateral thorax of male is blue. **Ventral thorax is yellow.** Back of head is dark and lacks eyespots. Abdomen is black with blue rings along base of middle segments. Segments 8 & 9 are blue, segment 10 is black. **Cerci & paraprocts are long & noticeable.** Perches with wings at 45 degree angle. **Female:** Brown & blue forms. Thorax has same dorsal black mark with yellow sides. Abdomen is similar to male except tip is dark.

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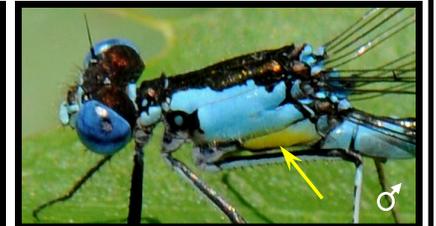
Similar Species: Although colored like a bluet, the unique dorsal “cello” design & lack of shoulder stripes is definitive for both sexes. The Aurora’s habit of perching with its wings partially spread gives the impression of a spreadwing. Spreadwings seldom perch horizontally, tending instead to hang vertically from stems.

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Field Notes: This is primarily a northern & eastern species. It can be found in our neighboring states of Wisconsin, Michigan, Indiana & Missouri. There is just a single historic account from Illinois (Tim Vogt, personal communication). It is the only member of its genus in North America. I have found it in Michigan at the three habitats mentioned. It perches on top of broad leaves such as bracken fern with its wings splayed & its abdominal tip curled slightly upward.



Size: 31 - 39 mm



Above: (Left) Brown-Form Female Lateral Thorax - Note the extensive yellow & tan on the lateral & ventral thorax; **(Right)** Male Lateral Thorax - Highlighting a lesser degree of, but still bright & obvious, ventral thoracic yellow;



Left: Mating Pair In Wheel - This blue-form female almost perfectly mimics her male consort’s thorax in pattern & color.

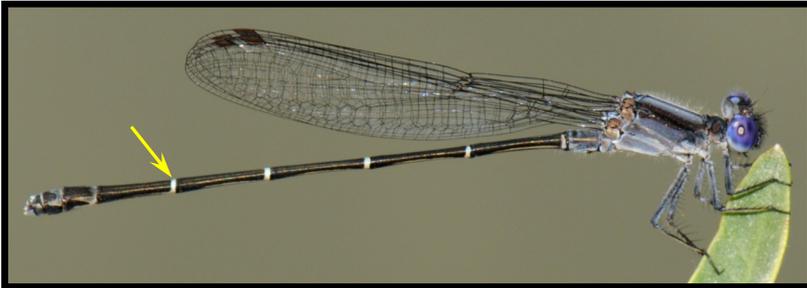
Below: Brown-Form Female Dorsolateral View In Tandem. Every time I have seen the Aurora damsel I have found individuals or tandem pairs perching flat on the surface of fern leaves in partial shade just like this couple!



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S1 DUSKY DANCER

WL *Argia translata*

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Habitat: Exposed, sunny areas of rivers & streams, lakes with surface turbulence.

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Field Marks: **Male:** Eyes & face are purple. Eyespots are small & blue. Mature male (shown above) has a dark blue-gray thorax & black abdomen with **white rings at base of middle segments**. Young male is dramatically marked on the thorax with dusky blue, cream & black striping (shown below). **Abdominal segments 8, 9 & 10 have creamy-blue fang-like marks** that may eventually become obscured. **Female:** Thoracic pattern is that of an immature male. Both the thorax & **abdominal tip appear zebra-striped** with black & cream. The **black shoulder stripe is split down the middle by a cream band & looks like a tuning fork**. As in the male the abdomen is ringed but is also mottled with pale blue dorsally, black laterally & cream ventrally.

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Similar Species: Blue-tipped Dancer males can also appear dark gray but are much more common & have obvious blue on their abdominal tips. Female Dusky Dancers are unmistakable given their striped thoraxes and abdominal tips.

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Field Notes: Cashatt & Vogt list this as a potential Chicagoland species. It is known from southern Illinois. John & Cindy McKee have photographed Dusky Dancers at the fish hatchery in LaSalle County. However, these may have been hitchhikers & not an actual breeding population. It has a wide range across the U.S. in a southwesterly sweep from New England to New Mexico. These pictures are from the Llano River in Texas. Tandem couples perched upon exposed rocks while females oviposited at or just below the water into the clinging algae. Walker (1953) gives the flight season in Canada as similar to that of other *Argia*.



Size: 32 - 38.5 mm



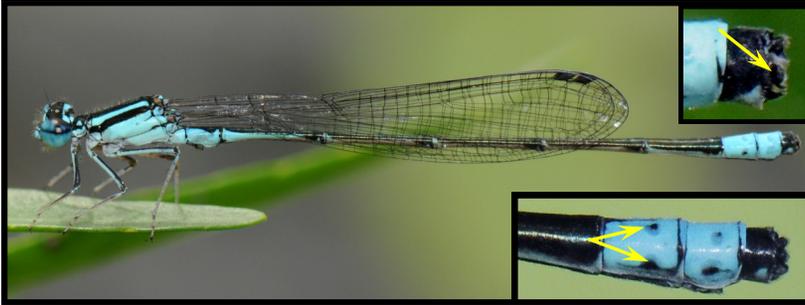
Left: Female Thorax Clasped By Male - Noting female "tuning fork" & male "fangs"; **Below:** Ovipositing Pair (Inset: Unique Zebra Striping Of Female Abdominal Tip)



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S1 TURQUOISE BLUET

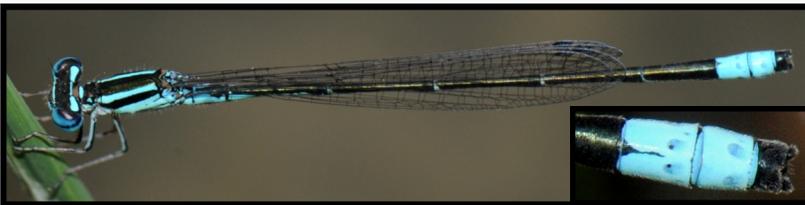
WL *Enallagma divagans*



Habitat: Shaded sloughs, backwaters & sluggish creeks or lakes.

Field Marks: A black-type bluet. **Male:** Face, eyespots & thorax are a turquoise blue. Eyespots are medium-sized with an occipital bar between. Dorsal thorax is black. **Dark shoulder stripe is black and slightly wider than pale blue shoulder stripe.** Abdomen is almost completely black dorsally, except S8 & S9 which are blue. There are a couple of pair of **darkly shaded "eyelets" on the dorsal & lateral surfaces of S8 & S9.** S10 is black. **Cerci look like tadpoles with curved tails.** Paraprocts come to a point & curve upward. **Female:** A duller, dirtier shade of blue or brown. Dark black shoulder stripe is split with brown. S8 is mostly black with variable amounts of blue. S9 is wrapped laterally in blue leaving a variable black patch dorsally. S10 is blue.

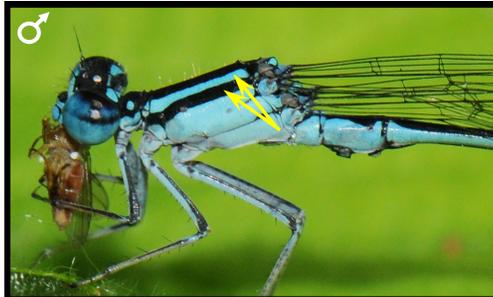
Similar Species: Male closely resembles male Skimming Bluet but is usually larger and lacks the distinctive 'squiggle' mark on S2. Male Slender Bluets have much larger eyespots. Female Turquoise, Stream, Slender & Vesper Bluets are very similar. Differentiate by size of eyespots, thickness of the dark shoulder stripe & amount of black on S8 & S9.

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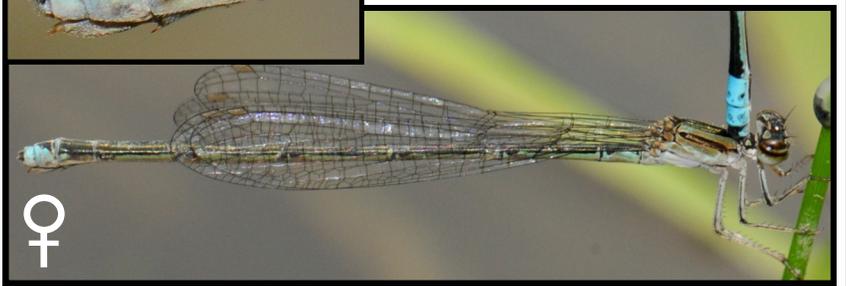
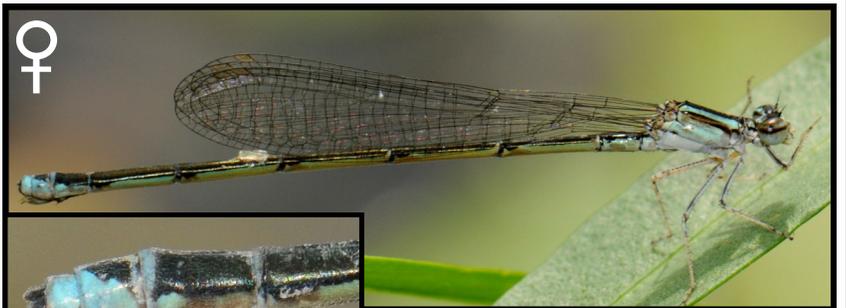
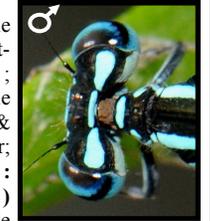
Field Notes: In the spring of 2010 I came upon a population of Turquoise Bluets at Kickapoo State Park in Vermilion County. This is the farthest north it has been spotted in Illinois. Earlier specimens are from extreme southern Illinois. It is well worth keeping an eye out for this species in Chicagoland. It flies early and is done. These photos were all shot at Kickapoo where I was able to observe a tandem pair ovipositing above, at & below the water's surface. The female inched down a submerged stem until the male was up to his eyes in water, at which point he disengaged & perched above the spot where she was laying her eggs, keeping an eye out for any interlopers. She remained under for 10 minutes or so. Most of the single males hung out in the bushes up away from the water, preferring to be partially in the shadows.



Size: 26 - 36 mm



Left: Male Head & Lateral Thorax ;
Right: Male Eyespots & Occipital Bar;
B e l o w :
(B o t t o m)
Brown Female
Lateral View; **(T o p)** Blue Female
Lateral View **(I n s e t)** Ovipositor



**BOREAL BLUET, NORTHERN
BLUET & VERNAL BLUET**
*Enallagma boreale, Enallagma
annexum & Enallagma vernale*



Habitat: Variety of well-vegetated still water habitats - ponds, lakes, marshes, fens, bogs.

Comments: These three blue-type bluets are more northerly species but Boreal & Northern come down into southern Wisconsin. They closely resemble each other & must be differentiated in hand by careful examination of the cerci for the males. Females are so similar to each other, as well as some other bluet females, that they can only be separated under a microscope. The Northern & Vernal Bluets were considered close subspecies until recently, & can be a challenge to tell apart even for experts. DuBois (2005) gives the flight season in the North Woods from mid May to mid July for *E. boreale* & late May to mid August for *E. annexum*. Keep an eye out for bluets that look like Familiar/Marsh/Hagens Bluets but have **enormous eyespots** and **narrowing black shoulder stripes**.



TAIGA BLUET
Coenagrion resolutum



Habitat: Variety of still water habitats - marshes, ponds, fens, bogs, & slow-running streams.

Comments: This Eurasian intermediate-type bluet is known from southern Wisconsin & northward. The almost **solid black on abdominal segments 6 & 7** makes the male of this species stand out & be noticed in the field. **Laterally along segment 2 there is a dark line** continuous with the dorsal apical black spot of that segment. **Eyespots are large & tear-shaped**. The dark shoulder stripe is thick. This would be a really neat find for Chicagoland!



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SPHAGNUM SPRITE



Nehalennia gracilis



M
A
Y

Habitat: Sphagnum bogs & boggy pond edges with sphagnum.

J
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N

Field Marks: **Male:** Face metallic green & blue. Head, dorsal thorax & dorsal abdomen are metallic green. Ventral surface is pale blue. Eyes are blue. Eyespots are absent but an **irregular blue bar is present at the back of the head**. Very skinny abdomen. **S8 is mostly blue with a small basal black mark. S9 & S10 are completely blue.** Cerci are small & indistinct in the field. **Female:** Duller body, more bronze less green. Pale yellow or blue ventral thorax & abdomen. S8 may have some pale blue. **S9 apically blue with basal dark triangles.** S10 pale blue. **Ovipositor pale blue.**

J
U
L

Similar Species: Male Sedge Sprite has much less blue on S8, has black on S9 & S10 & its eye bar is less pronounced. Male Sedge Sprites are almost identical to female Sphagnum Sprites in abdominal tip pattern, but caudal appendage easily distinguish them. Male-like female Sedge Sprites & female Sphagnum sprites must be separated by the number of lobes on their prothorax.

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Field Notes: This is a species that is strongly indicated for a few specific habitats in northern Illinois...for example, Volo Bog, Lake County - a quaking sphagnum bog. Keep an eye out for it flying low in short sedges along sphagnum-matted fringes. It appears more narrow-bodied than the Sedge Sprite (our common sprite species that flies at Volo Bog, as well as many other wetlands in our area, but is much less particular about its habitat). The solid blue abdominal tip gives the male *N. gracilis* away. These pictures were taken in the Upper Peninsula of Michigan & central Maine at sphagnum bogs.



Size: 22 - 31 mm



Above: Teneral Male - Species identification is easy in this picture given the appearance of solid blue on the final three abdominal segments.

Right: Male Dorsal Head & Thorax - Note the irregular, yet fairly significantly sized, blue bar between the eyes at the back of the head. This feature is present to some extent in the similar Sedge Sprite, but seems to be much less obvious, and much less stylized.

Below: Female Lateral View - Note the pale blue ovipositor below and the patch of pale blue in between dark fang-like marks on segment 9 - reminiscent of a male Sedge Sprite but distinguishing it from the female Sedge Sprite who completely lacks blue on this segment. Females have pale yellow or blue on their ventral thorax and abdomen and are generally a duller color than the males.



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