

THE DRAGONFLIES AND DAMSELFLIES OF NORTH CAROLINA

Twelfth Approximation

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This material — Twelfth Approximation — is an account of the species of dragonflies and damselflies of North Carolina. It is not considered to be a “publication”. It is intended to be a guide or “handbook” for odonate enthusiasts, as there is as yet no published book on this group of insects of North Carolina. The bulk of the information is based on data for each species that was compiled over a several decade period by the late Duncan Cuyler; most of these data are based on specimens. (Cuyler’s entire specimen collection is housed at the Florida State Collection of Arthropods/International Odonata Research Institute in Gainesville, FL.) In 2009, Tom Howard created the Dragonflies and Damselflies of North Carolina website -- <https://auth1.dpr.ncparks.gov/odes/a/accounts.php> -- which has an input function that allows biologists to enter their own observational data. Thus, with each passing year, a greater percentage of records in the database are those entered by odonate enthusiasts, and the database is now less reliant on those older Cuyler records than in the past.

Each of the 188 species accounts in the PDF contains a county distribution map, which represents a mix of specimens, photos, and unconfirmed sight records. In the PDF, counties with records from 2001 and later contain a black dot, whereas counties with their most recent record older than 2001 contain a gray dot. However, on the website each county is color-coded based on both the type of record and the most recent date of occurrence. A set of three flight charts – one for each province (Mountains, Piedmont, and Coastal Plain) – is present on each PDF species account, and starting in 2020 is also present on each website account. Each PDF account also lists the three highest daily counts, the earliest and latest state dates, the number of counties in which recorded, the number of records from the previous year, and the various state and US ranks and statuses. The species account on both the PDF and the website contains information on the Distribution, Abundance, Flight (periods), Habitat, and Behavior of the species, plus additional Comments. Each website account page contains a representative photo of the species, usually a male photographed in N.C.. In addition, each website page contains a relatively new “rollover” feature that overlays key field marks onto the representative photo, along with links to similar species.

The common and scientific names follow those of “A Checklist of North American Odonata” (Paulson and Dunkle 2021), except that the damselflies are moved behind the dragonflies in our document. Thus, the families (ending in “idae”) are arranged in taxonomic order from most primitive to most “recent”; within each family the sequence is simply alphabetical, both by genera and by species within a given genus. Information about the life history of the state’s 135 confirmed species of dragonflies (plus five others reported in the literature) and the 53 species of damselflies (plus one other reported in the literature) is based in part on the field experience of the Species Account author (LeGrand) and the two Reviewer/Editors (Petranka and Shields); this information is given under several headings on each species account. Three excellent and recent publications, by Dunkle (2000), Beaton (2007), and Paulson (2011), have also been helpful in providing the editors with life history information to include on the species accounts. However, the Behavior section of some of the damselflies is not yet written and that field does not show on the PDF for those species.

One purpose of this document is to encourage the reporting of sightings or other records of rare species to the N.C. Natural Heritage Program. This Program keeps computerized records on these rare species, in hopes of arranging protection for them. Rare species are noted by the “NC Status” and “US Status” lines beneath each species’ range; see Page vi of this document for rarity codes.

Much still remains to be learned about the distributions and life histories of the 188 species of odonates in the state. For example, some species with 20 or more county records nevertheless have only a handful of dates available, and a few species with a dozen county records or more have even fewer. Coverage of the state by Cuyler (mostly pre-1990), though somewhat thorough, was probably not uniform. Most of the recent field work by other biologists has centered on four regions: 1) the southern and southeastern Coastal Plain (Carteret and Craven counties southwest to the South Carolina state line); 2) the Sandhills region (Richmond, Moore, Hoke, Cumberland, and Scotland counties); 3) the Triangle area (especially Wake, Durham, and Orange counties); and 4) the mountains (especially from Madison and Buncombe counties to the Virginia state line). Thus, especially needing field work now are the northern two-thirds of the Coastal Plain and most of the Piedmont other than the Triangle region. Currently, much of the southwestern mountains is poorly

surveyed, probably owing to greater travel distances for most biologists to reach this region. It is easy to pick out the counties that have had little field work from the list in Appendix B, or by looking at the maps for certain "statewide" species that still show counties only in blue-green (Collection -- older than 20 years) or in pink (Apparently valid, but no date or record type). The continuing efforts of odonate enthusiasts will be essential in filling in these gaps in our knowledge of North Carolina's odonate fauna.

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• WEBSITES •

- Atlas of Rare Butterflies, Skippers, Moths, Dragonflies & Damselflies of Virginia.** This site provides county range maps for all species considered as rare by the Virginia Department of Conservation and Recreation, Natural Heritage Program. Information on the life history of each of the rare species is also provided.
<http://www.vararespecies.org>
- Dragonflies and Damselflies (Odonata) of Georgia, the southeastern U.S., and beyond.** This site, created by Marion Dobbs, provides photos and county range maps for all species found in Georgia; most of these are also found in North Carolina.
<http://www.mmdragon.net>
- A photographic guide to all the Odonates of the Delmarva Peninsula.** Photos and minimal text of all species found on the Delmarva Peninsula.
<http://tramea.net/dmv/>
- International Odonata Research Institute.** Provides a number of links and checklists.
<http://www.iodonata.net/>
- OdonataCentral.** Provides a number of links to various odonate resources, contains an online data entry feature, and shows county distribution maps (and records) for all North American species. The site also has a link to “The Odonata of North America.”
<http://www.odonatacentral.org>
- Southeastern Odes Public Group on Facebook.** Posts on identification, sightings, ecology, and other aspects of odonates in the southeastern US.
<https://www.facebook.com/groups/119127804903860/>
- Giff Beaton's personal website.** Dragonflies and Damselflies (Odonata) of Georgia and the Southeast. Photos and some text for most species found in North Carolina.
<http://www.giffbeaton.com/php/DragonfliesandDamselfliesNorthAmerica.php>

Allen Bryan's personal website. Damselflies and Dragonflies found and photographed in Virginia, North Carolina, or Montana. Photos and some text for most species found in North Carolina.

<http://www.visitingnature.com/damselfliesanddragonflies.htm>

Will Cook's personal website. Photos of North Carolina and Virginia odonates.

<https://www.carolinanature.com/odonata/>

Steve Krotzer's personal website. Features photos of adult and larval odonates from Alabama and Mississippi, most of which also occur in NC.

<http://www.haysophill.com/odonates-folder/odonates-home.html>

Greg Lasley's personal website. Photos of odonates of North America.

<http://greglasley.com/dragonnoramerix.html>

Troy Hibbitts's personal website. Photos of North American odonates.

<http://thehibbitts.net/troy/photo/odonata.htm>

Jeff Pippen's personal website. Photos of North Carolina odonates.

<http://www.jeffpippen.com/dragonflies.htm>

• ORGANIZATIONS •

Dragonfly Society of the Americas

<https://www.dragonflysocietymamericas.org/>

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Rapids Clubtail -- <i>Phanogomphus quadricolor</i>	51	SR - S1S2	G3G4
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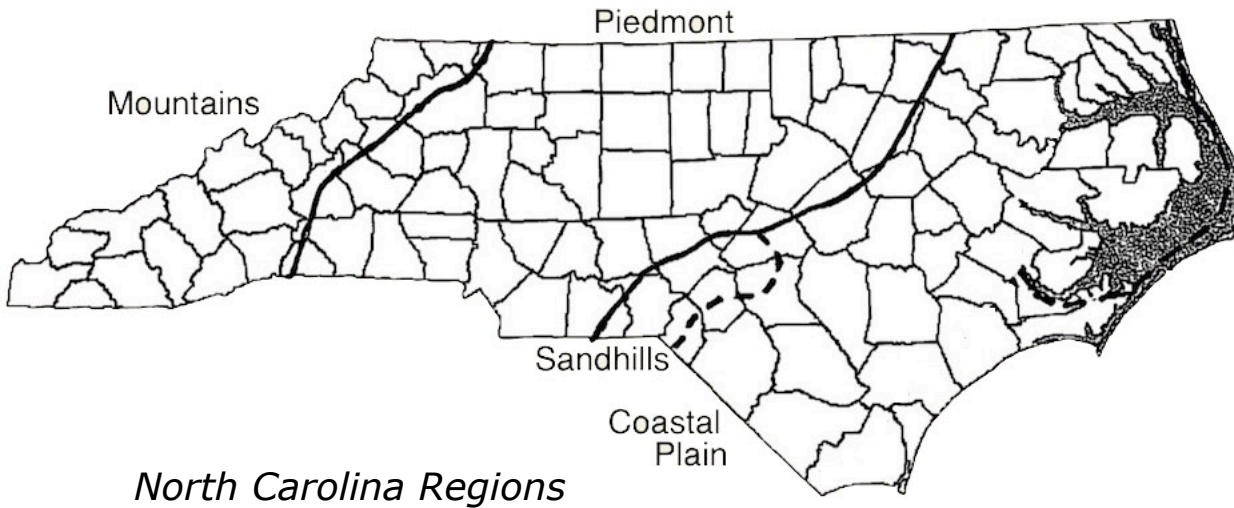
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Great Blue Skimmer -- <i>Libellula vibrans</i> _____	116	S5	G5
Marl Pennant -- <i>Macrodiplax balteata</i> _____	117	W - S2S3 [S3]	G5
Elfin Skimmer -- <i>Nannothemis bella</i> _____	118	W - S3S4	G4G5
Roseate Skimmer -- <i>Orthemis ferruginea</i> _____	119	S3S4	G5
Blue Dasher -- <i>Pachydiplax longipennis</i> _____	120	S5	G5
Wandering Glider -- <i>Pantala flavescens</i> _____	121	S5	G5
Spot-winged Glider -- <i>Pantala hymenaea</i> _____	122	S5	G5
Eastern Amberwing -- <i>Perithemis tenera</i> _____	123	S5	G5
Common Whitetail -- <i>Plathemis lydia</i> _____	124	S5	G5
Blue-faced Meadowhawk -- <i>Sympetrum ambiguum</i> _____	125	S5	G5
Variiegated Meadowhawk -- <i>Sympetrum corruptum</i> _____	126	SZN	G5
Cherry-faced Meadowhawk -- <i>Sympetrum internum</i> _____	127	W - SU	G5
White-faced Meadowhawk -- <i>Sympetrum obtrusum</i> _____	128	SR - S1	G5
Ruby Meadowhawk -- <i>Sympetrum rubicundulum</i> _____	129	S4	G5
Band-winged Meadowhawk -- <i>Sympetrum semicinctum</i> _____	130	S3	G5
Autumn Meadowhawk -- <i>Sympetrum vicinum</i> _____	131	S5	G5
Carolina Saddlebags -- <i>Tamea carolina</i> _____	132	S5	G5
Striped Saddlebags -- <i>Tamea darwini</i> _____	133	SZN	G5
Black Saddlebags -- <i>Tamea lacerata</i> _____	134	S5	G5
Red Saddlebags -- <i>Tamea onusta</i> _____	135	SZN	G5

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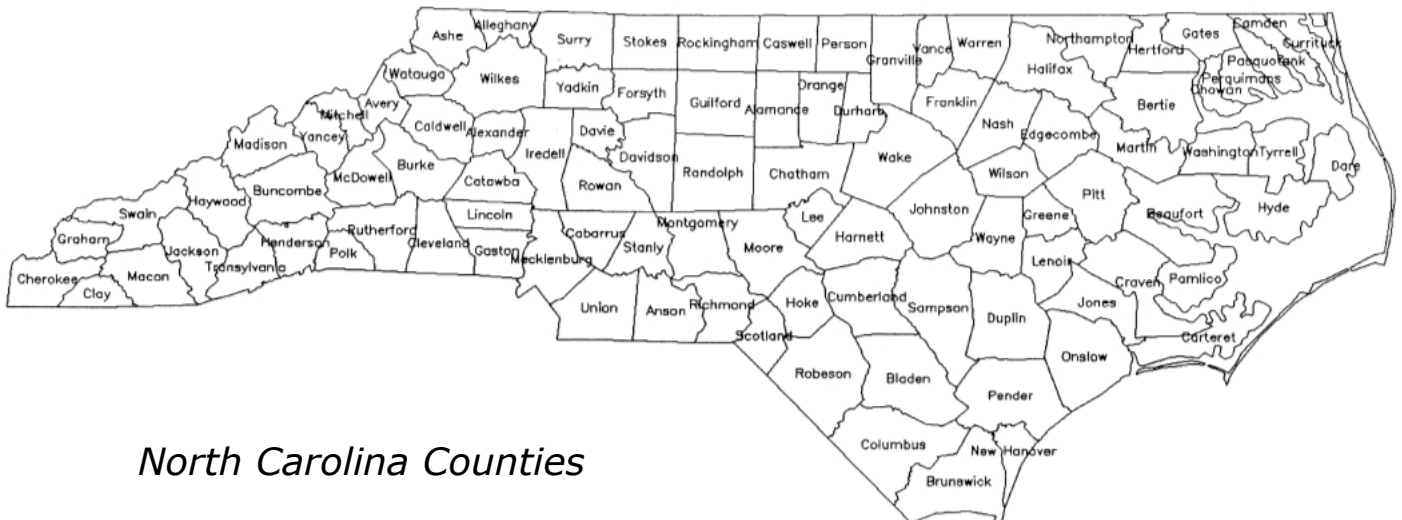
Species	Page	Status *	Global
LESTIDAE [Spreadwings] - 9 species in NC			
Great Spreadwing -- <i>Archilestes grandis</i>	136	S3S4	G5
Southern Spreadwing -- <i>Lestes australis</i>	137	S5	G5
Spotted Spreadwing -- <i>Lestes congener</i>	138	SR - S1	G5
Amber-winged Spreadwing -- <i>Lestes eurinus</i>	139	W - S3	G5
Sweetflag Spreadwing -- <i>Lestes forcipatus</i>	140	SR - S1S2	G5
Elegant Spreadwing -- <i>Lestes inaequalis</i>	141	S4	G5
Slender Spreadwing -- <i>Lestes rectangularis</i>	142	S5	G5
Carolina Spreadwing -- <i>Lestes vidua</i>	143	W - S3	G5
Swamp Spreadwing -- <i>Lestes vigilax</i>	144	S5	G5
CALOPTERYGIDAE [Broad-winged Damselflies] - 6 species in NC			
Superb Jewelwing -- <i>Calopteryx amata</i>	145	SR - S1S2	G5
Appalachian Jewelwing -- <i>Calopteryx angustipennis</i>	146	S3S4	G4
Sparkling Jewelwing -- <i>Calopteryx dimidiata</i>	147	S5	G5
Ebony Jewelwing -- <i>Calopteryx maculata</i>	148	S5	G5
American Rubyspot -- <i>Hetaerina americana</i>	149	S5	G5
Smoky Rubyspot -- <i>Hetaerina titia</i>	150	S5	G5
COENAGRIONIDAE [Pond Damselflies] - 38 species in NC			
Eastern Red Damselfly -- <i>Amphiagrion saucium</i>	151	S3S4	G5
Blue-fronted Dancer -- <i>Argia apicalis</i>	152	S5	G5
Seepage Dancer -- <i>Argia bipunctulata</i>	153	S3S4	G4
Variable Dancer -- <i>Argia fumipennis</i>	154	S5	G5
Powdered Dancer -- <i>Argia moesta</i>	155	S5	G5
Blue-ringed Dancer -- <i>Argia sedula</i>	156	S5	G5
Blue-tipped Dancer -- <i>Argia tibialis</i>	157	S5	G5
Dusky Dancer -- <i>Argia translata</i>	158	S4	G5
Aurora Damselfly -- <i>Chromagrion conditum</i>	159	S3S4	G5
Azure Bluet -- <i>Enallagma aspersum</i>	160	S4	G5
Double-striped Bluet -- <i>Enallagma basidens</i>	161	S5	G5
Familiar Bluet -- <i>Enallagma civile</i>	162	S5	G5
Cherry Bluet -- <i>Enallagma concisum</i>	163	S3S4 [S3]	G4
Attenuated Bluet -- <i>Enallagma daeckii</i>	164	S4	G4
Sandhill Bluet -- <i>Enallagma davisii</i>	165	S3S4 [S3]	G5
Turquoise Bluet -- <i>Enallagma divagans</i>	166	S5	G5
Atlantic Bluet -- <i>Enallagma doubledayi</i>	167	S5	G5
Burgundy Bluet -- <i>Enallagma dubium</i>	168	S4 [S3S4]	G5
Big Bluet -- <i>Enallagma durum</i>	169	S4	G5
Stream Bluet -- <i>Enallagma exsulans</i>	170	S5	G5
Skimming Bluet -- <i>Enallagma geminatum</i>	171	S5	G5
Hagen's Bluet -- <i>Enallagma hageni</i>	172	S3	G5
Little Bluet -- <i>Enallagma minusculum</i>	173	W - SU	G4
Pale Bluet -- <i>Enallagma pallidum</i>	174	S4	G4
Orange Bluet -- <i>Enallagma signatum</i>	175	S5	G5
Golden Bluet -- <i>Enallagma sulcatum</i>	176	W - SU	G4
Slender Bluet -- <i>Enallagma traviatum</i>	177	S5	G5
Vesper Bluet -- <i>Enallagma vesperum</i>	178	S3S4	G5
Blackwater Bluet -- <i>Enallagma weewa</i>	179	S4	G5

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Species	Page	Status *	
COENAGRIONIDAE [Pond Damsels] - 38 species in NC			
		State	Global
Citrine Forktail -- <i>Ischnura hastata</i>	180	S5	G5
Lilypad Forktail -- <i>Ischnura kellicotti</i>	181	S4	G5
Fragile Forktail -- <i>Ischnura posita</i>	182	S5	G5
Furtive Forktail -- <i>Ischnura prognata</i>	183	S3S4	G4
Rambur's Forktail -- <i>Ischnura ramburii</i>	184	S5	G5
Eastern Forktail -- <i>Ischnura verticalis</i>	185	S4	G5
Sphagnum Sprite -- <i>Nehalennia gracilis</i>	186	S2S3 [S3]	G5
Southern Sprite -- <i>Nehalennia integricollis</i>	187	S3S4	G5
Duckweed Firetail -- <i>Telebasis byersi</i>	188	S3S4	G5
Appendix A (Species reported, but undocumented, for North Carolina)	A1		
Appendix B (NC Odonate Species per County)	B1		
Appendix C (NC Odonate Species by Number of Counties)	C1		
Appendix D (NC Odonate Species by Geographical Province)	D1 - D3		
Appendix E (NC Odonate Species by NHP Rank)	E1 - E3		



North Carolina Regions



North Carolina Counties

DEFINITIONS

* Status:

NC: (There is no State protection for odonates in NC and thus no official status. SR and W are NC NHP designations only.)

SR = Significantly Rare; status given by the NC Natural Heritage Program, which tracks the species in its database.

W = Watch List; not tracked by the NC Natural Heritage Program, but species is scarce and NHP wishes to obtain records; may track at a later date.

US: FSC = Federal Species of Concern

Rank: NatureServe gives each plant and animal species a global rank of rarity, and each state Natural Heritage Program gives each species occurring within its borders a state rank of rarity. Thus, each species has a global and state rank. For each species, the S# varies from state to state, depending on rarity (number of records, threats, etc.).

State:

Rank Number of Extant Populations

S1	1-5	Critically imperiled in North Carolina because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from North Carolina.
S2	6-20	Imperiled in North Carolina because of rarity or because of some other factor(s) making it very vulnerable to extirpation from North Carolina.
S3	21-100	Rare or uncommon in North Carolina.
S4	101-1000	Apparently secure in North Carolina, though it may be quite rare in parts of its range, especially at the periphery.
S5	1001+	Demonstrably secure in North Carolina, though it may be quite rare in parts of its range, especially at the periphery.
SA	1?	Accidental or casual; one to several records for North Carolina, but the state is outside the normal range of the species.
SH	0	Of historical occurrence, perhaps not having been verified in the past 20 years, and suspected to be still extant.
SU	1?	Unrankable - Currently unrankable in North Carolina due to lack of information or substantially conflicting information about status or trends. Need more information.
SE	1+	Exotic, not native (or presumed not native) to North Carolina.
SZ_	---	Population is not of conservation concern, generally because the population(s) is transitory, without any regular locales of occurrence whereby the species can be protected. A "B" modifier (i.e., SZB) indicates that the species may produce one or more broods in the state. An "N" modifier (i.e., SZN) indicates that the species does not normally breed/produce broods in the state.

Global: Global ranks are similar to state ranks except "in North Carolina" is replaced by "globally", and "extirpation from North Carolina" is replaced by "extinction", and there is no Global Exotic (GE) rank.

A Status or Rank in brackets is that suggested by the website editors, where it differs from the existing Status or Rank.

Tachopteryx thoreyi Gray Petaltail

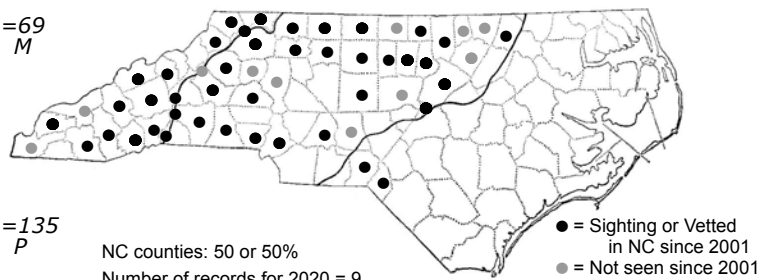
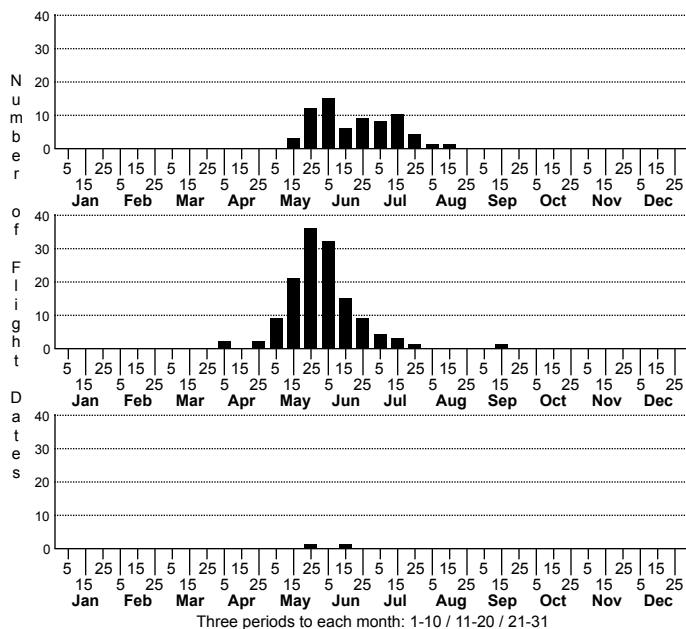


Photo (vetted) in 2020: Forsyth, Henderson

High counts of:
12 - Harnett; P - 2002-05-08
6 - Harnett; P - 2003-05-20
5 - Rockingham - 2008-05-31

Earliest date: Durham 2010-04-06
Latest date: Wake 2009-09-12

Status		Rank	
NC	US	NC	Global
-	-	S4	G4

DISTRIBUTION: Present throughout the mountains and Piedmont; very rare in the Sandhills (only two records), but seemingly absent from nearly all of the remainder of the Coastal Plain.

ABUNDANCE: Generally uncommon, but may be fairly common, at least locally.

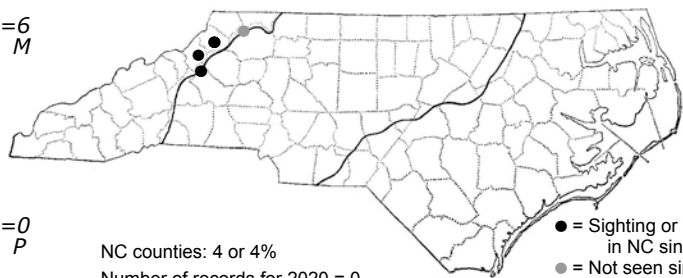
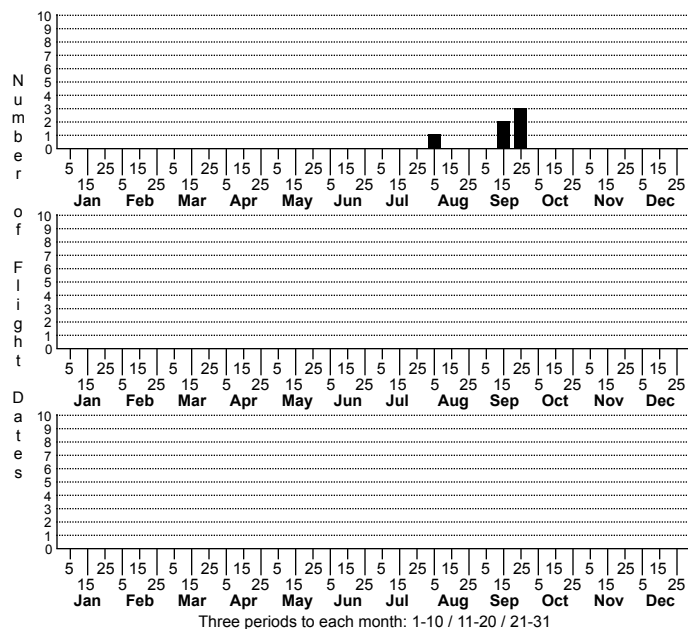
FLIGHT: In the Piedmont, late April to mid-July, and sparingly to late July; a later flight in the mountains by a month, from mid-May to mid-August. A recent report for 12 September in the Piedmont is extremely late and probably requires confirmation.

HABITAT: Breeds in wooded seepages, one of the few dragonflies to breed in seeps. Adults seen in upland forests and edges.

BEHAVIOR: Tame. Typically perches vertically on tree trunks, but also perches on humans!

COMMENTS: This is a "primitive" species. It is easily identified, as it is the only gray-colored species on the abdomen and as it often gives the observer an excellent view while it perches on tree trunks and other conspicuous places. It was formerly (20-30 years ago) thought to be rare (or very poorly known) in the state, but with many more observers afield, the species has been seen frequently, probably not representing a population increase. Though numbers are not overly great for a large dragonfly, its habit of flying to wooded openings in uplands, such as along jeep roads and sunny trails, and perching on tree trunks and humans, makes it readily conspicuous and an "odonate favorite".

Aeshna tuberculifera Black-tipped Darner



NC counties: 4 or 4%
 Number of records for 2020 = 0

High counts of:
 2 - Watauga - 2017-09-22
 1 - Burke; M - 1969-09-29
 1 - Avery - 2016-09-27

Earliest date: Watauga 2018-08-05
 Latest date: Burke; M 1969-09-29

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: Northern mountains/foothills only; records only from Watauga, Avery, Wilkes, and Burke counties.

ABUNDANCE: Undoubtedly rare, and possibly local. Poorly known in the state, though there are a few recent records (2016-18); the last previous record was from 1969.

FLIGHT: Late for a dragonfly, especially in the mountains. The NC dates available occur between 5 August and 29 September, though all but one record is from the last 20 days of September. Likely flies from early August into October, but most odonate field work in the mountains terminates in September and thus few people are likely to be active in the northern mountains when this species is flying.

HABITAT: Mostly at ponds with marshy edges, such as cattails. The ponds are typically at high elevations (mainly over 3500 feet).

BEHAVIOR: Poorly known in NC. All recent records were of individuals seen over or along the edges of ponds, and thus it is not known how far individuals range away from such waters in the state.

COMMENTS: NC lies at the southern edge of the range, as it is not known from Georgia. Jim Petranka photographed an individual -- the first photograph of the species known in NC -- on 27 September 2016. This excellent record has moved the species off of the "historical" list of the N.C. Natural Heritage Program; thus, the State Rank has changed from SH [historical] to S1 [very rare]. Both John and Jim Petranka added additional county records (for Watauga and Burke), documented with photos, in 2017. Obviously, other ponds in the northern mountains need to be checked in the fall season, especially in the latter half of September.

Aeshna umbrosa Shadow Darner

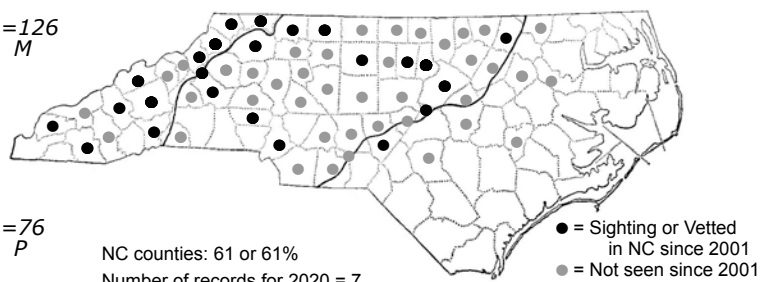
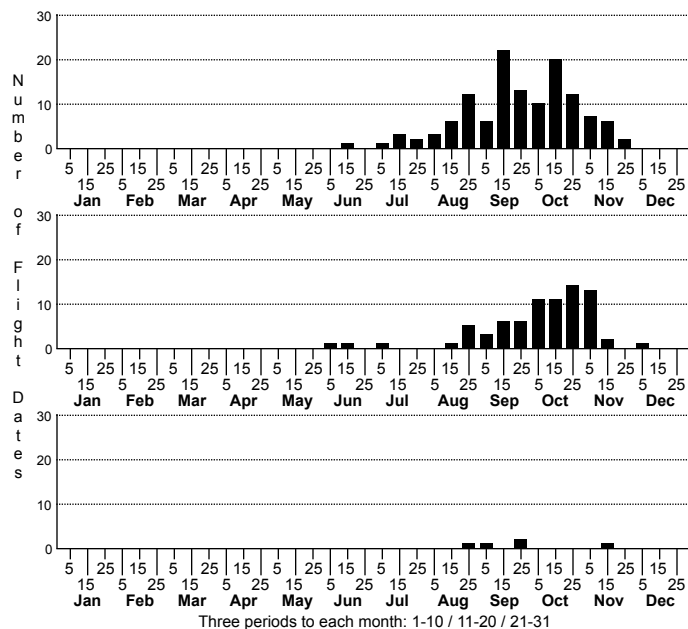


Photo (vetted) in 2020: Moore; C

High counts of:
 12 - Haywood - 2017-09-22
 8 - Burke; M - 1989-10-03
 6 - Watauga - 2019-09-21

Earliest date: Durham 2017-06-04
 Latest date: Mecklenburg 2017-12-01

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Essentially in the mountains and Piedmont, and sparingly in the western third of the Coastal Plain, including the Sandhills region (documented with a 2020 photo).

ABUNDANCE: Fairly common in the mountains, rare to uncommon over most of the Piedmont, and very rare in the western Coastal Plain. However, abundance is somewhat difficult to assess, as the species often flies in late afternoon and near dusk, in shaded parts of forests. Also, it flies late in the season, when much odonate field work has subsided. Found in most counties within the range in the state. It is certainly not nearly as numerous or conspicuous as most darners of the spring and early summer seasons; however, it is one of the few darners that is more numerous in the mountains than it is downstate.

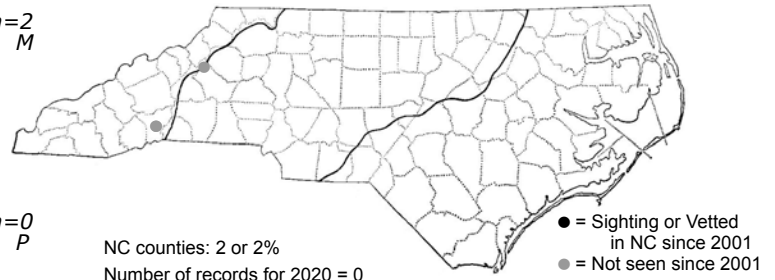
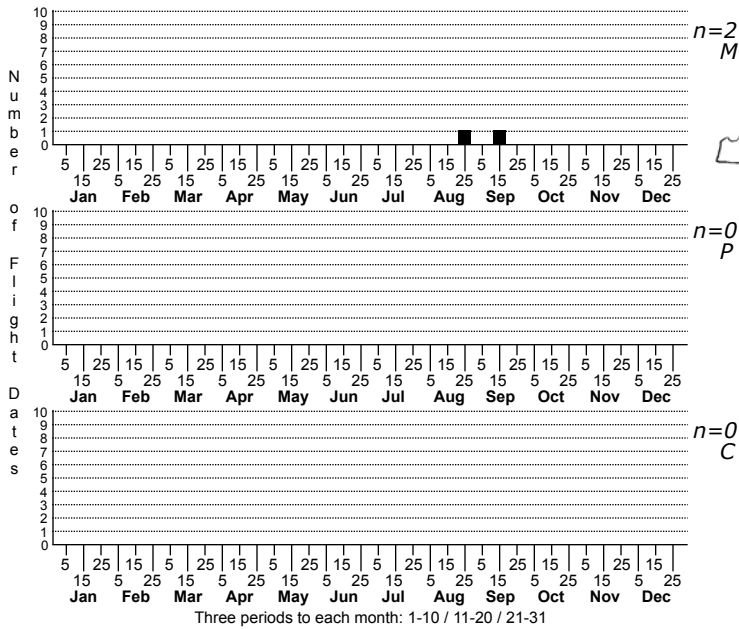
FLIGHT: Because this is a late summer/fall species, the mountain flight occurs somewhat earlier than the flights downstate. In the mountains it occurs mainly from early July to mid-November, peaking in September and October, with a few records even to late November. In the Piedmont the flight is later, mainly from late August to early November, and possibly into late November. However, there are early records in the mountains and Piedmont as early as mid-June. The few flight dates from the Coastal Plain are from late August to late September, and one in mid-November; oddly, there are no October reports from this province, though it is very rare there.

HABITAT: The vicinity of ponds, lake shores, marshes, and small streams, generally near wooded areas, but it can occur in open areas. Seldom seen near fields or areas far from water.

BEHAVIOR: Rather secretive, often staying in shady places. Can fly over small open areas, darting back and forth, but usually only in late afternoon.

COMMENTS: Of the "common" dragonflies in the state (collected/reported in over 60% of the counties), this is not a well known species to many observers, as it is rather scarce or hard to find in the Piedmont. Unlike other darners, it seldom flies around open areas, fields, or ponds during the morning or early afternoon hours; it keeps more to shaded areas and later times of the day for flying.

Aeshna verticalis Green-striped Darner



High counts of:
 4 - Henderson - 1939-08-28
 1 - Burke; M - 1990-09-11

Earliest date: Henderson 1939-08-28
 Latest date: Burke; M 1990-09-11

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5
		[S1?]	

DISTRIBUTION: Mountains only; despite this being a northern species, with NC at the southern edge of the range, the records are from the central and southern escarpment region: Burke and Henderson counties.

ABUNDANCE: Presumably very rare or rare, if still present in the state (with the last record in 1990). As with the Black-tipped Darner, few persons are working the mountain region to determine range and abundance of odonates -- though a few records of this other darner have been made in recent years.

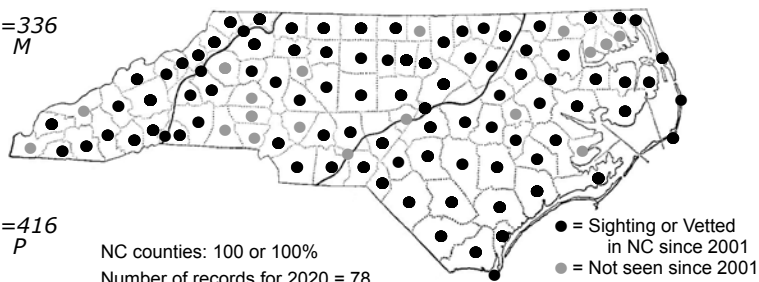
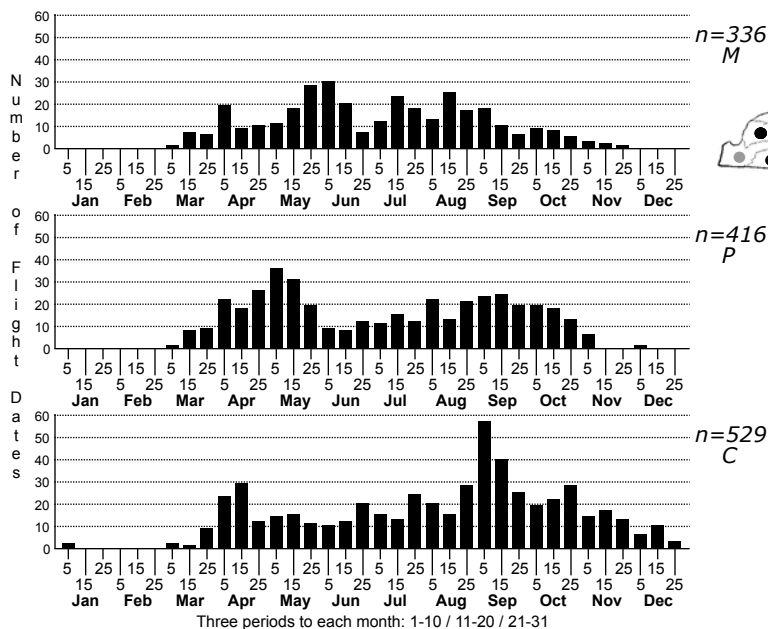
FLIGHT: Late summer -- July into September likely in NC, though the only date available is 11 September.

HABITAT: Small ponds, pools, and seeps, typically where spring-fed, and usually near a forest.

BEHAVIOR: Males spend much time feeding along pond and marshy margins. How much time is spent foraging over land is not known.

COMMENTS: Many odonates with ranges restricted to the mountains in NC are seldom reported in recent years, as little field work is done currently in this region. There are only two county records for this species. As the last recorded year available to us is from 1990, we consider the Green-striped Darner to probably still be present in the state.

Anax junius Common Green Darner



NC counties: 100 or 100%
Number of records for 2020 = 78

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
1000 - Surry - 2019-09-15
233 - Stokes - 2019-09-26
200 - New Hanover - 2015-09-13

Earliest date: Columbus 2020-03-08
Latest date: Gates 2007-01-06

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide. Occurs in all 100 counties.

ABUNDANCE: Common statewide, with abundance levels somewhat equal across all three provinces. One of the more common dragonfly species in the mountains, with well over 300 records with flight data from that region of the state. Two new high counts were made in 2019, including an estimated 1000 in Surry County in September. The species is partially migratory, and these very high counts (200 or more individuals) relate to swarms seen moving southward in fall migration.

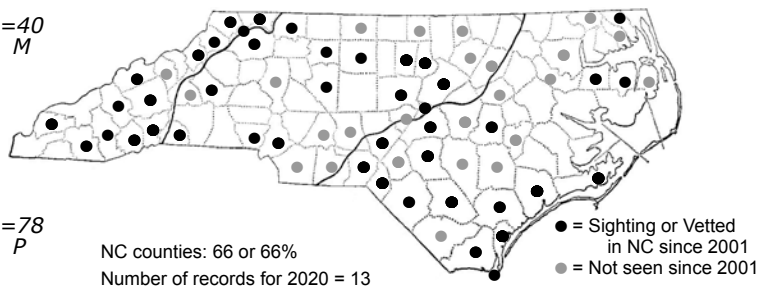
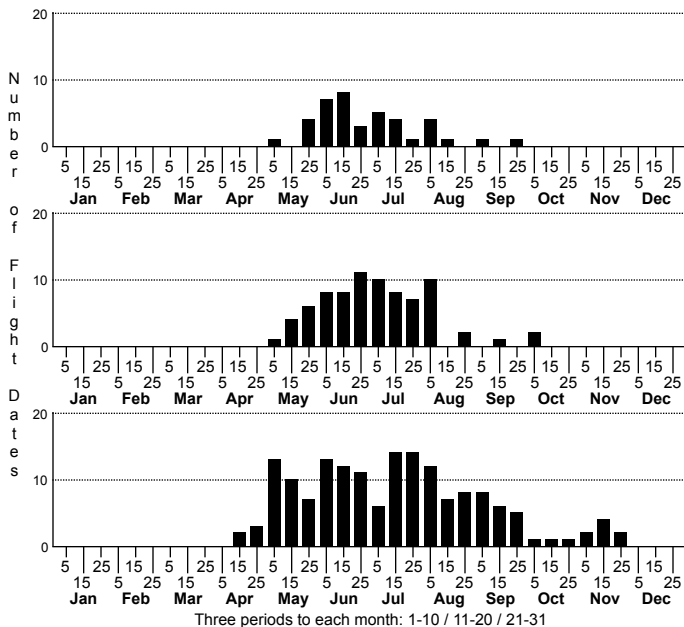
FLIGHT: Generally from mid-March to mid-November, and straggling at least in the Coastal Plain to the end of the year. It has the longest flight period of any dragonfly in the state, as it is the dragonfly species most likely to be seen in early winter -- being absent only for about two months in mid- and late winter.

HABITAT: Wide-ranging; found around lakes, ponds, marshes, and other mostly still waters. Forages over fields, ponds, lakes, and other open habitats, as well as along roads through woods.

BEHAVIOR: Typically seen flying at eye-level or higher, over a wide range of open habitats.

COMMENTS: The species is seldom seen in truly large numbers or swarms, except in the fall season. It can often be the first species of dragonfly one sees in spring, or the last in late fall. The species is usually easily identified in flight, even at a distance of 100 feet or more, through binoculars.

Anax longipes Comet Darner



High counts of:
11 - Moore; C - 2020-07-20
6 - Orange - 2014-05-31
6 - Onslow - 2014-06-29

Status	Rank	
	NC	US
-	-	S4
-	-	G5

Earliest date: New Hanover 2018-04-17
Latest date: New Hanover 2015-11-28

DISTRIBUTION: Statewide, though more widespread in the southern half of the Coastal Plain and southeastern part of the Piedmont. Of spotty occurrence in most of the Piedmont and mountains, and the northern half of the Coastal Plain, though perhaps occurs in all counties. In recent years, there have been many more records for the mountains, and thus relatively few counties in this province lack records now.

ABUNDANCE: Widespread but mostly uncommon across the southern half of the Coastal Plain and most of the Piedmont and mountains. Rare to uncommon in the northern Coastal Plain, where very few recent records -- scarcity of observers there? Even though it is not a rare species, we are aware of only a single daily count of more than six individuals; one observer counted 11 of them in 2020. In general, most numerous in the southern Coastal Plain, including the Sandhills.

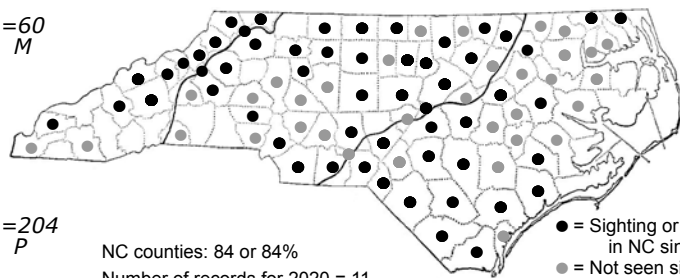
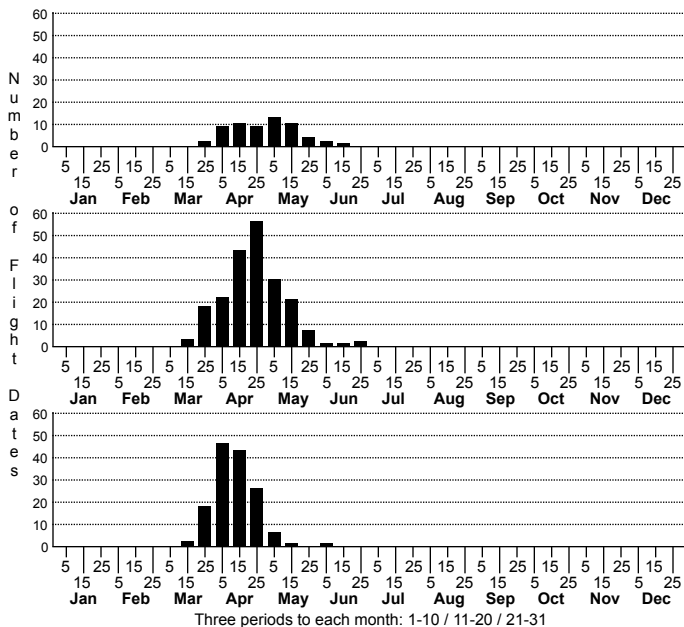
FLIGHT: In the Coastal Plain, generally from mid- or late April to late November. Flies at least from mid-May to mid-August in the Piedmont and in the mountains, sparingly to late September and early October.

HABITAT: Mainly small to medium ponds, including natural ones such as limesink ponds and Carolina bays.

BEHAVIOR: Most often seen patrolling back and forth over a pond, typically about 3-6 feet above the water. At times seen over dry land, but best looked for over a pond/small lake.

COMMENTS: Males, with their bright red abdomen contrasting with the green head and thorax, are among our most beautiful and easily identified dragonflies. Its large size also adds to its striking appearance. Females and immatures can easily be confused with Common Green Darner, and probably cannot be safely identified while in flight. In fact, a green-bodied dragonfly with a rusty-brown abdomen seen flying over a field is more likely a female/immature Common Green Darner than a Comet Darner.

Basiaeschna janata Springtime Darner



NC counties: 84 or 84%
 Number of records for 2020 = 11

● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

High counts of:
 11 - Onslow - 2018-04-01
 10 - Franklin - 2002-04-21
 6 - Robeson - 2018-04-06

Earliest date: Robeson 2020-03-14
 Latest date: Orange 2006-06-26

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide. Might be absent in a few of the extreme eastern counties (not recorded from Currituck southward to Carteret counties). Of spotty occurrence in the mountains, though likely occurs in all counties there.

ABUNDANCE: Widespread, but only uncommon to fairly common in most of the Piedmont and upper half of the Coastal Plain. Uncommon in the eastern Coastal Plain and mountains, and rare to locally absent near the northeastern and eastern coastal areas.

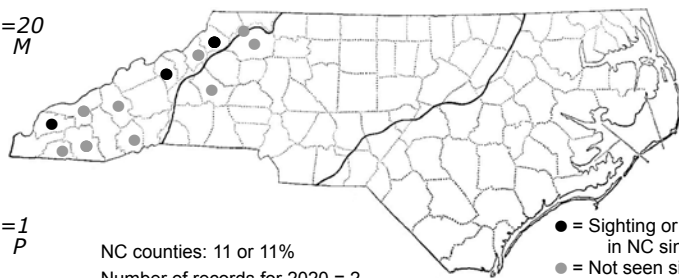
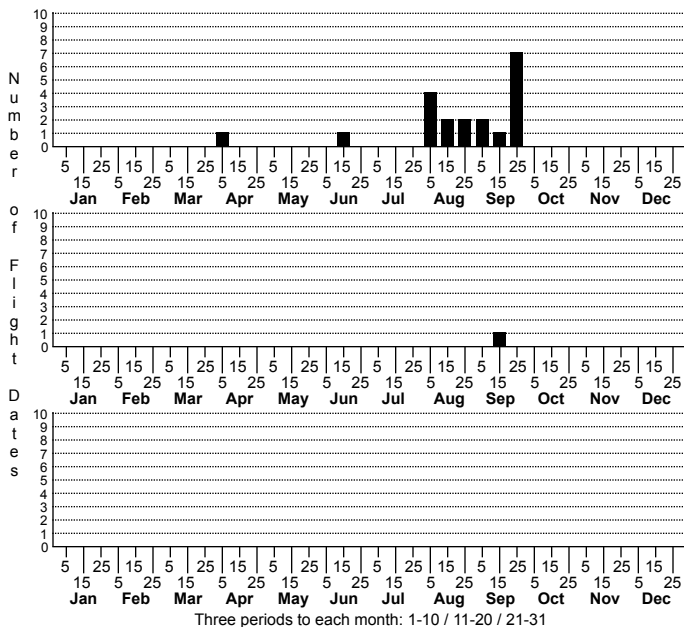
FLIGHT: Primarily mid-late March to late May in the Piedmont and Coastal Plain; several "fluke" records in mid- to late June in the Piedmont. Mainly late March to early June in the mountains. Peak numbers are in mid-April.

HABITAT: Breeds at streams, less often at ponds or lakes. More often seen along woodland borders or wide roads.

BEHAVIOR: Flies low along dirt roads and clearings in upland or mesic woods, perching frequently in an oblique manner on twigs. Relatively easy to identify, as it is not particularly wary when perched.

COMMENTS: The turquoise blue spots on the abdomen are quite stunning, especially in males. The species can often be identified in flight through binoculars, if the blue spots can be seen.

Boyeria grafiana Ocellated Darner



NC counties: 11 or 11%
 Number of records for 2020 = 2

● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

Sight (not vetted) in 2020: Transylvania

High counts of:
 5 - Swain - 1931-09-24
 4 - Macon - 1956-09-23
 4 - Watauga - 2017-09-21

Earliest date: Transylvania 1979-04-08
 Latest date: Avery 1969-09-30

Status		Rank	
NC	US	NC	Global
SR	-	S2?	G5

DISTRIBUTION: Mountains only, though perhaps into the Piedmont foothills; recorded from 11 counties. One documented by a photo from Graham County in 2019 was a new county record and the first recent report for the southern mountains. This is a northern species that ranges south only to the mountains of northern Georgia.

ABUNDANCE: Rare to uncommon (at best). As most of the records with data are older than 20 years ago, it might now be considered rare. Fortunately, there were three records documented by photographs in 2013, but all from a single county (Watauga).

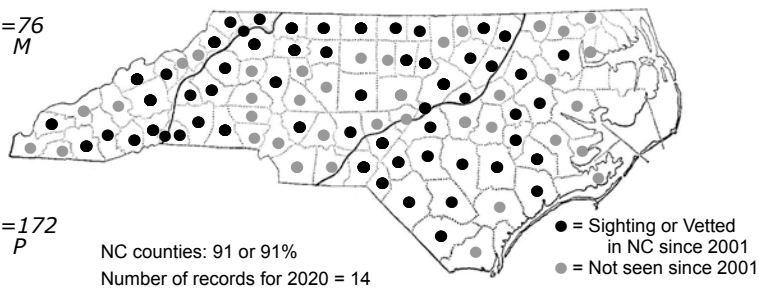
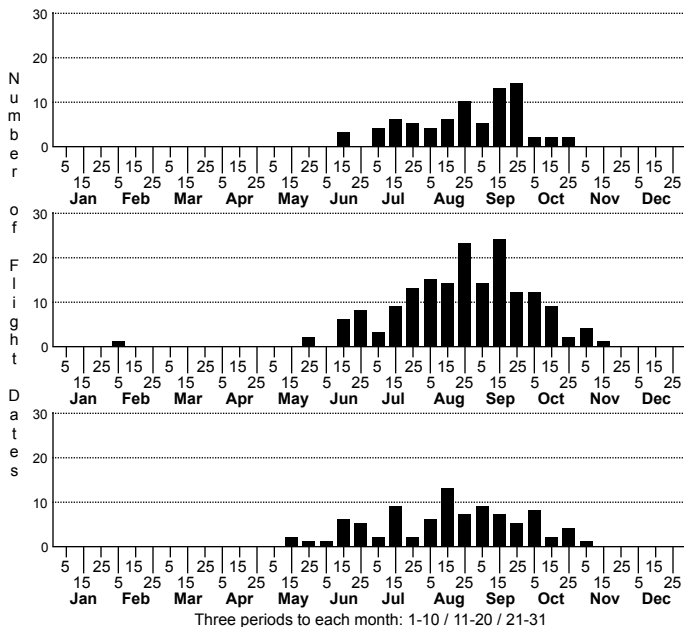
FLIGHT: The flight occurs in late summer and early fall -- from early August to the end of September. In Georgia, it also flies in August and September (Beaton 2007). The April and June records on the flight charts are for nymphs only.

HABITAT: Mainly at fast, rocky streams in wooded habitats; however, recent records in Watauga County have also been at wet meadows and bogs.

BEHAVIOR: As with Fawn Darner, it forages by flying along creek banks, apparently fairly slowly. However, that species occurs mainly along slow moving waters, whereas the Ocellated occurs along rapidly moving waters.

COMMENTS: As there is relatively little odonate field work currently in the mountains, as compared with the other provinces, its range and status are not well known. Thus, the N.C. Natural Heritage Program wishes to keep records on it, and in November 2012 has up-listed it from Watch List to the Rare List, as Significantly Rare. Photos in 2013 documented the first records for Watauga County. More photos were made in Yancey County in 2017, though there is a vague, old report from this county. As mentioned above, there was a welcome new record from Graham County in 2019.

Boyeria vinosa Fawn Darner



High counts of:
17 - Cleveland - 1992-09-19
15 - Madison - 2020-10-20
8 - Madison - 2017-09-21

Earliest date: Durham 2015-02-05
Latest date: Wake 2014-11-11

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, but apparently absent from the immediate eastern Coastal Plain north and south of Albemarle Sound. No records east of Gates, Chowan, Beaufort, and Carteret counties.

ABUNDANCE: Uncommon to fairly common (but easily overlooked) in the mountains, Piedmont, and upper Coastal Plain; less numerous in much of the Coastal Plain, but not rare except near the coast.

FLIGHT: The flight begins in mid-May in the Coastal Plain, late May in the Piedmont, and mid-June in the mountains. It extends into early November in the Piedmont and Coastal Plain, and to late October in the mountains.

HABITAT: Flies low over creeks, typically following the creek banks, poking into nooks and crannies. Favors somewhat slow-moving creeks in hardwood forests.

BEHAVIOR: This species and the Ocellated Darner like dark places. It rests for most of the day inside a forest, hanging on twigs; sometimes disturbed when an observer is walking through a forest near a creek. It normally flies late in the afternoon and at dusk.

COMMENTS: This species must often be intentionally searched for, looking around creeks late in the day. A dragonfly flying slowly back and forth along creek banks, in shady situations, is often a Fawn Darner.

Coryphaeschna ingens Regal Darner

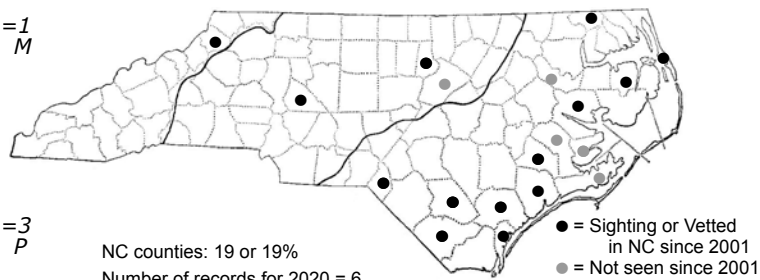
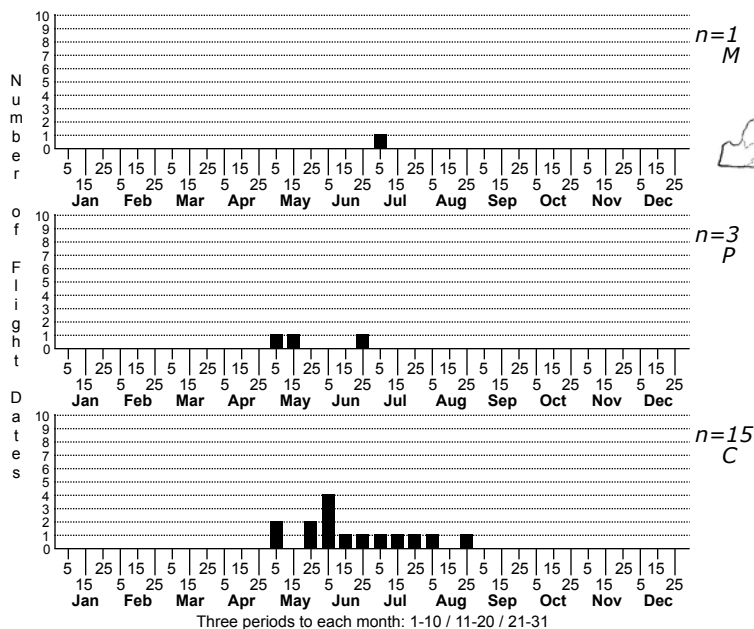


Photo (vetted) in 2020: Beaufort, Dare; OBU, New Hanover, Rowan

High counts of:
2 - Pender - 2007-06-13
2 - Bladen - 2013-06-04
1 - Gates - 2006-05-26

Earliest date: Scotland 2020-05-02
Latest date: New Hanover 2020-08-22

Status		Rank	
NC	US	NC	Global
SR	-	S2?	G5

DISTRIBUTION: Present over much of the lower Coastal Plain, north to Albemarle Sound. Elsewhere, sparingly in the Coastal Plain and lower Piedmont. However, a most surprising record was documented from the northern mountains (Watauga County) in 2015, and a slightly less surprising record came from well inland Rowan County in 2019. Thus, it certainly can be present over much of the state. Not surprisingly, the northern limit of the species' range is extreme southeastern VA, though it is found mainly in the Southern Atlantic and Gulf coastal plains.

ABUNDANCE: Scarce; seemingly rare, but perhaps uncommon in some of the southern coastal counties north to Jones and Craven. Abundance difficult to assess because of its often high-flying behavior, and its similarity to the very common Swamp Darner, making the species difficult to confirm. Most numerous in Florida. For now, however, must be considered as very rare away from the lower Coastal Plain.

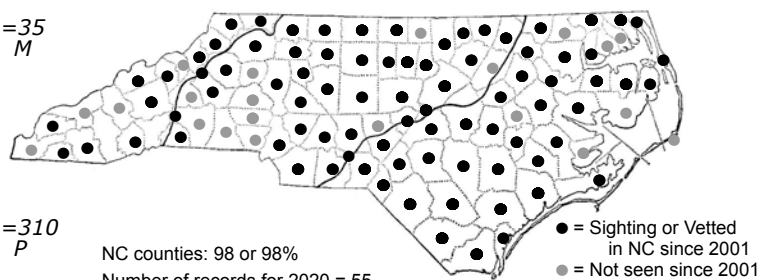
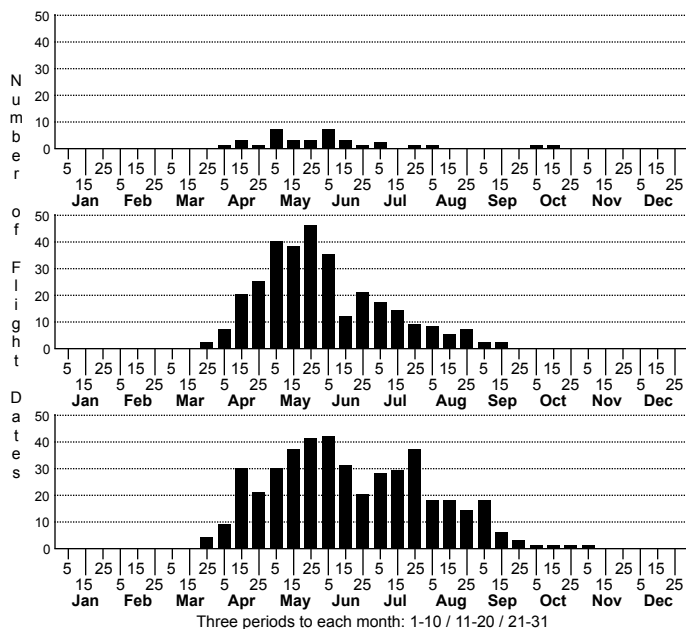
FLIGHT: In Georgia, it flies from early April to mid-September. The relatively few (19) flight date records from NC are from 2 May to 22 August, suggesting a moderately extended flight.

HABITAT: Ponds and lakes in forested areas, but may occur over fields and other open areas.

BEHAVIOR: Typically seen flying rather high, often at treetop level, over a pond nearby. Usually discovered by luck or accident (literally as in the case of a car strike in Durham County) in the state!

COMMENTS: The species is very poorly known in North Carolina, recorded only from 19 counties. Because relatively few reports have been made in recent years, the N.C. Natural Heritage Program moved the species from the Watch List to the Rare List, as Significantly Rare, in fall 2012. Though this is a very large/long species, it could easily be confused in flight (and even perched if not seen closely) with the much more common Swamp Darner. Fortunately, Conrad Wernett was able to net and photograph one (in hand) in 2013, adding a first record for Jones County. Dave Lenat collected a larva along the southern shore of Lake Waccamaw in 2014 to provide a first record for Columbus County. Kristi Baker provided excellent lateral view photos of one in 2015 from Tyrrell County, documenting a first record for that county and providing a first record for the Pamlico Peninsula. John Petranka made a remarkable discovery of one at a high elevation lake near the Blue Ridge Parkway in Watauga County (where a stray?), with photographs taken on 1 July 2015. A first record for Dare County was added (by photo) in 2020.

Epiaeschna heros Swamp Darner



Sight (not vetted) in 2020: Alleghany
Photo (vetted) in 2020: Polk; P

High counts of:
100 - Camden - 2017-06-23
50 - Northampton - 2012-05-17
50 - Robeson - 2019-04-17

Earliest date: Onslow 2020-03-27
Latest date: Carteret 2004-11-08

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, and certainly occurs in all 100 counties of NC, though no records yet for two of them.

ABUNDANCE: Common to often very common in the Coastal Plain, and fairly common to common in the Piedmont; rare to uncommon in the mountains.

FLIGHT: The flight is from the end of March or early April into early November in the Coastal Plain. In the Piedmont the flight also begins around late March or early April, and likely ends around mid-October, but oddly we have no records after September! The mountain flight occurs from early or mid-April to mid-October.

HABITAT: Swamps, bottomlands, rivers, and large streams; not numerous around forested lakes or ponds.

BEHAVIOR: Often seen cruising along forested roads and other clearings near woodlands and swamps, such as along roads through bottomlands and swamps. Flight is often head-height to treetop level. Frequently perches, usually at head-height or above, hanging downward from a twig.

COMMENTS: If a large dragonfly is seen flying over a road through a forested wetland, it is most likely this species. Several can often be seen in the same general area, though it normally doesn't form swarms. It can often be the most commonly seen species on a summer or early fall day, especially in the Coastal Plain.

Gomphaeschna antilope Taper-tailed Darner

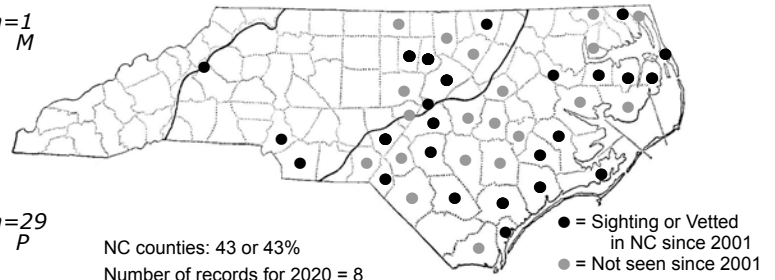
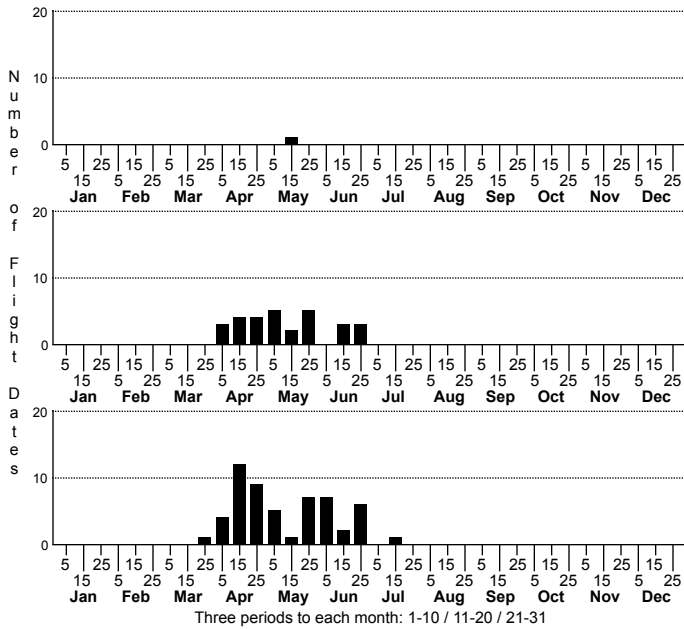


Photo (vetted) in 2020: Mecklenburg, New Hanover, Union

High counts of:
20 - Bladen - 2016-04-26
15 - Scotland - 2018-04-12
8 - Scotland - 1997-04-13

Earliest date: Washington 2008-03-28
Latest date: Dare; OBU 2007-07-20

Status		Rank	
NC	US	NC	Global
-	-	S4	G4

DISTRIBUTION: Eastern half of the state only; throughout the Coastal Plain, and in the eastern third of the Piedmont, west to Caswell, Orange, Chatham, and Mecklenburg counties. A photo record from Burke County was most unusual and well to the west of the expected range. It should not be assumed to occur throughout the Piedmont based on this single "out-of-range" record.

ABUNDANCE: Uncommon in the southern and central Coastal Plain, but rare in the northern third of the province. Rare to locally uncommon in the eastern Piedmont west to Orange County. Essentially absent in the western two-thirds of the Piedmont (despite the single record).

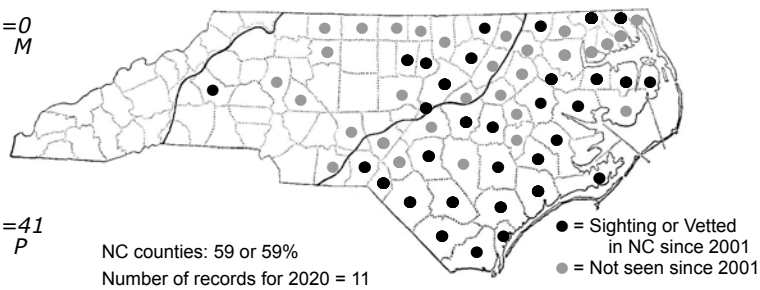
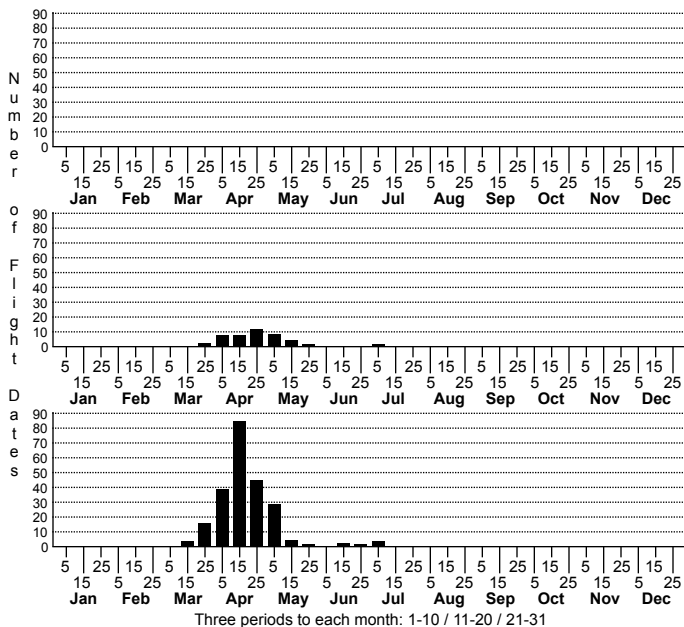
FLIGHT: Spring into early summer only. In the Coastal Plain, the flight is mainly from early April (very rarely in late March) to late June, sparingly into July. In the Piedmont, the flight occurs from early April to late June. The peak is from mid-April to early May.

HABITAT: Typically in and near swamps, but also along nearby rivers and streams.

BEHAVIOR: Forages typically singly along wooded roads and openings near swamps and rivers, not over the water. As with the Harlequin Darner, it often perches vertically on tree trunks, where it can be photographed near human eye-level.

COMMENTS: The species looks similar to Harlequin Darner, though has less green spots on the abdomen. Whereas the latter has a somewhat similar range and flight period to Taper-tailed, it is much more often encountered. There were few recent observations until about 2015, probably owing to better coverage of the Coastal Plain. Several new Piedmont records have been made in the Piedmont, such as in Union and Mecklenburg counties that extend the range westward. Could the species be slowly expanding its range inland, or is this simply a matter of more observers gathering odonate data in the Piedmont?

Gomphaeschna furcillata Harlequin Darner



High counts of:
 500 - Gates - 2007-04-13
 50 - Gates - 2018-04-12
 45 - Washington - 2008-03-28

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

Earliest date: Columbus 2007-03-18
 Latest date: Wake 1903-07-08

DISTRIBUTION: Throughout the Coastal Plain, and the eastern two-thirds of the Piedmont. Ranges as far west as Stokes, Forsyth, and Iredell counties, though there was an unconfirmed (sight) report from Burke County in spring 2014. The occurrence in most of the Piedmont is spotty and consists mostly of older records.

ABUNDANCE: Generally uncommon to infrequent over the Coastal Plain, but can be locally common to very common (in swarms). Uncommon in the extreme lower Piedmont, but rare (and declining?) in the central Piedmont.

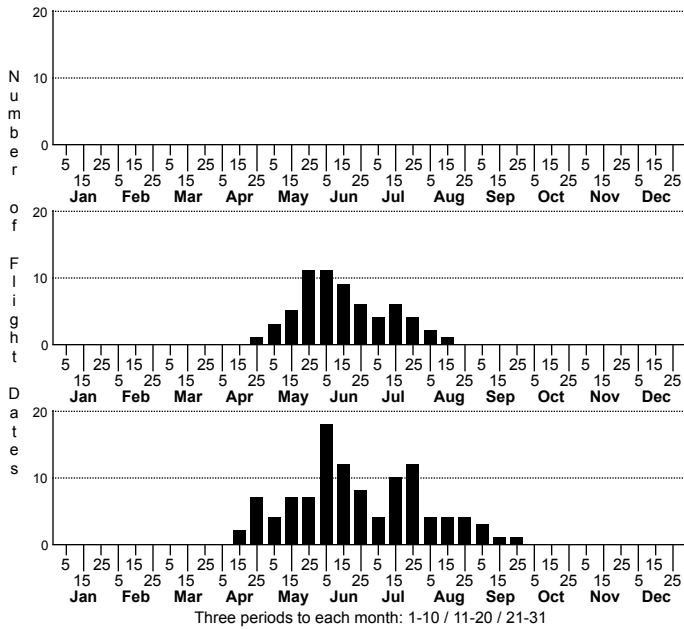
FLIGHT: Spring season, but sparingly into early summer. Its flight in the Coastal Plain is from late March to mid-May, with scattered records to early July; the Piedmont flight period is narrower -- early April to late May. The peak of the flight is in mid-April.

HABITAT: Typically near swamps or wetter bottomlands, but also near wooded creeks.

BEHAVIOR: This species has a fairly unusual behavior. Males patrol over swamps or marshes, but also along roads through wetlands and also in nearby uplands. They fly generally from 3-6 feet off the ground, often back and forth, and sometimes hover in the observer's face! They do not perch often, but when they do, it typically is vertically on tree trunks, but at times on humans.

COMMENTS: Dunkle (2000) calls the species "scarce" over its entire range; Beaton (2007) calls it "Rare to uncommon and local" throughout Georgia. Yet, observers have often seen dozens in some favorable spots in the NC Coastal Plain, and it can be the most commonly seen dragonfly at a few wetland areas, especially acidic wetlands such as pocosins. And, Cuyler has collection records from all but a few of the Coastal Plain counties in the state. There are disturbingly few records in recent years for the Piedmont, and the only confirmed records in the past 20 years have ranged west only to Orange County. Cuyler and maybe others had records for 7-8 counties farther to the west of Orange County, a few decades ago; despite many observers today in this province, there are no recent records there.

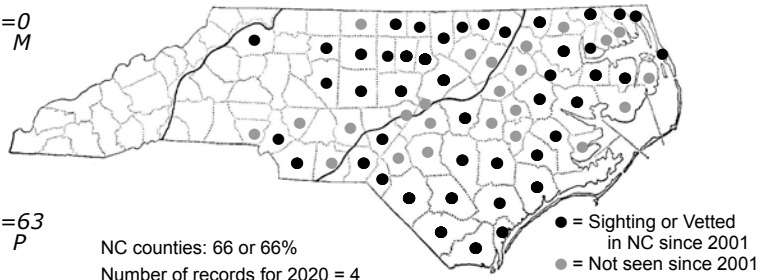
Nasiaeschna pentacantha Cyrano Darner



n=0
M

n=63
P

n=108
C



NC counties: 66 or 66%
Number of records for 2020 = 4

Photo (vetted) in 2020: Alamance

High counts of:
14 - Currituck - 2019-06-24
14 - Camden - 2019-06-24
10 - Bertie - 2008-06-14

Earliest date: Brunswick 2017-04-12
Latest date: Duplin 2017-09-24

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Essentially the eastern two-thirds of the state only. Throughout the Coastal Plain, and the eastern 60% of the Piedmont, west to Rockingham, Forsyth, and Gaston counties; range extended nearly to the base of the Blue Ridge Escarpment with a sight record from Wilkes County in 2019.

ABUNDANCE: Uncommon to fairly common (but never in swarms) in the Coastal Plain, generally uncommon in the eastern Piedmont, but rare in the central/western Piedmont. Can be fairly numerous in the lower Coastal Plain, where there was one-day count of 14 individuals in 2019, made from a kayak along the Camden-Currituck county line.

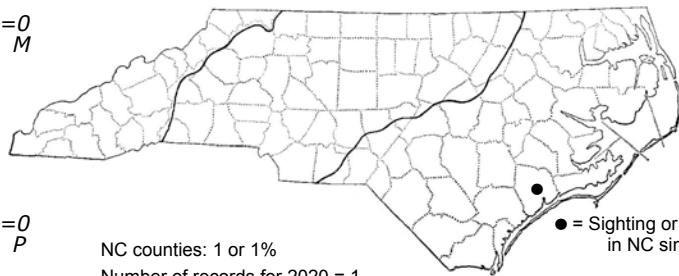
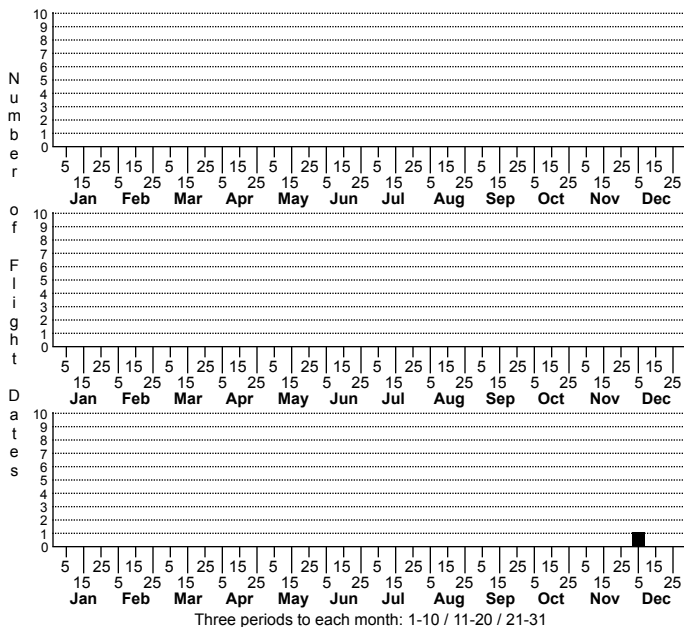
FLIGHT: Mainly in late spring and summer. In the Coastal Plain, the flight occurs from mid-April to late August, and sparingly to mid-September. The Piedmont flight occurs from late April to mid-August. The peak tends to occur in the latter half of June, and into July.

HABITAT: Mostly standing water in forested areas, such as swampy pools or openings in swamps; forested ponds; canals. They favor blackwater, as opposed to brownwater, bodies of water.

BEHAVIOR: Males have a distinctive flight behavior. They fly monotonous routes back and forth, often about 3-4 feet off the water, over canals and pools/ponds. Adults are only infrequently seen away from such pools and ponds; normally, one must look for the species over water.

COMMENTS: It can be frustrating to find one perched. However, the species can be identified in flight, through binoculars, and the "nose" can be seen under such circumstances. As the species is quite territorial, normally an observer will only see a single Cyrano Darner at a given body of water, and thus it is difficult to see more than a few of them in a given day.

Rhionaeschna multicolor Blue-eyed Darner



NC counties: 1 or 1%
Number of records for 2020 = 1

● = Sighting or Vetted in NC since 2001

Photo (vetted) in 2020: Onslow

High counts of:
1 - Onslow - 2020-12-10

Earliest date: Onslow 2020-12-10
Latest date: Onslow 2020-12-10

Status		Rank	
NC	US	NC	Global
-	-	SA	G5

Synonym: *Aeshna multicolor*

DISTRIBUTION: One record of this Western species -- an individual photographed by Brian Bockhahn on 10 December 2020, at Stones Creek Game Land in Onslow County. A stray to the Eastern US; a Western species that ranges east only to southwestern WI, and the eastern parts of KS, OK, and TX. One record from Martha's Vineyard, MA, in 1943 might be the only other Eastern record.

ABUNDANCE: Accidental. Not likely to be seen again in NC for many years, as no records from adjacent states.

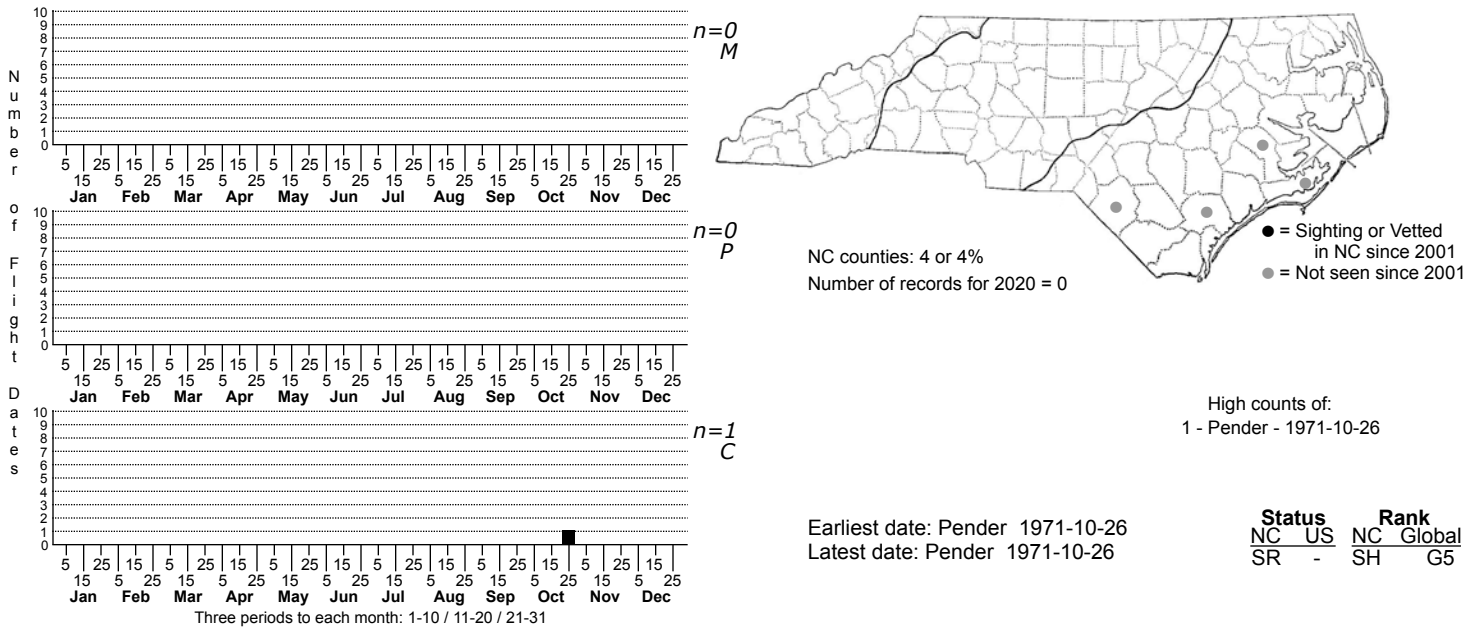
FLIGHT: Normal flight period is June or July into fall, such as into September in IA and in TX. However, the OdonataCentral database has a number of records for October and November, plus one in TX on 10 December (2020), the same day as the NC observation! The presence of a seemingly fresh or intact darner on 10 December -- of most any American species -- is a conundrum. It does range south well into Mexico, where perhaps it has a later flight period. Perhaps the same weather system was responsible for both of these two 10 December 2020 records?

HABITAT: Open, sunny areas around bodies of water, such as lakes, ponds, and streams in open habitats.

BEHAVIOR: Often moves away from water to feed in other open places, such as fields and even into residential areas. It is not known for straying and is not a known migrant.

COMMENTS: Several references mention that in its range, especially in the far Western states, it is a very common, if not the most often seen, darner species, as well as often occurring close to man -- even moving to city streets to forage. Speculation will continue about how the species got to coastal NC; theories include getting caught in (pushed by or carried inside) one of several hurricanes that hit the Gulf of Mexico this fall. The only other similar species (and the other member of the genus) is Spatterdock Darner. It is a Northeastern species that ranges south to the mountains of WV and VA and to western TN, and thus would make a better case of being present in coastal NC from a geography standpoint. However, that species has slightly broader and more irregular blue thoracic stripes than does Blue-eyed, and its flight occurs only from May to July in most areas; VA's latest flight date is 1 July, for example, as reported on the Atlas of Rare Butterflies, Skippers, Moths, Dragonflies & Damselflies of Virginia website.

Triacanthagyna trifida Phantom Darner



DISTRIBUTION: The southeastern corner of the state only; ranging north to Craven County and inland to Robeson County.

ABUNDANCE: Apparently very rare or rare; known from just four counties. However, as it is crepuscular, special effort must be made to see it. Thus, its true abundance would be difficult to determine.

FLIGHT: Perhaps the latest flying odonate in NC -- in terms of flight period, with the flight likely only in October and November; the only NC date available is 26 October. The flight in GA is early October to mid-December.

HABITAT: Small wooded pools, typically near rivers, in heavily forested areas.

BEHAVIOR: The species flies only in fairly dark conditions, typically the last two hours of daylight, or on very dark, cloudy days.

COMMENTS: The species has a very thin abdomen and should be readily distinguished by shape if seen well, a rare circumstance in NC. Its very late flight season, plus crepuscular habits, means that a biologist is unlikely to see the species during casual field work, without a special effort directed just for it. Because there are no recent records, and it has been recorded from just four counties, the N.C. Natural Heritage Program has deemed it worthy of tracking (as of fall 2010) as a Significantly Rare species. The NC Rank was moved from S2? to S1? in November 2012, to highlight the lack of recent records. As there are still no recent records, it is recommended to be re-ranked now as SH (historical). In late 2020, the NC Natural Heritage Program did make this move -- it is now ranked as SH. This does not mean it is extirpated from the state, but no one in the state has seen it and no one knows how or where to find it. Hopefully, this secretive species is still out there somewhere!

Aphylla williamsoni Two-striped Forceptail

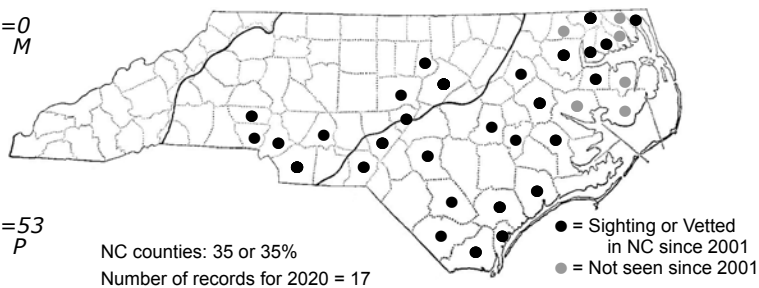
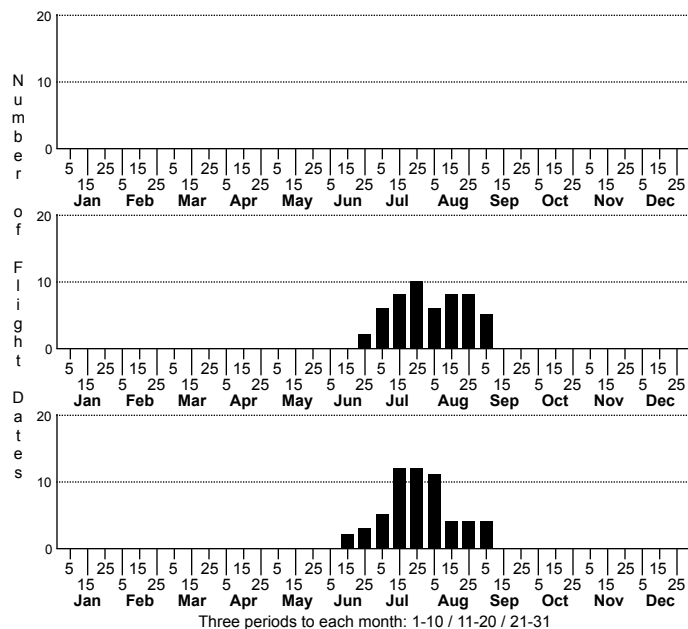


Photo (vetted) in 2020: Bladen, Chatham, Currituck, Durham, Gaston

High counts of:
12 - Onslow - 2017-07-14
6 - Union - 2014-07-16
6 - Union - 2014-08-26

Earliest date: Moore; C 2019-06-15
Latest date: Gaston 2020-09-09

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Formerly (prior to 2005), mainly just the lower half of the Coastal Plain. However, in the past handful of years the range is expanding westward rapidly, west currently to Durham, Chatham, and Lincoln counties. Thus, now it is scattered over nearly all of the Coastal Plain and the southeastern Piedmont. In fact, in 2020, a remarkable five new counties were added to the range map, several in the Coastal Plain filling holes in the range there (Bladen and Currituck), but several in the Piedmont expanding the western edge of the range (Durham, Chatham, and Gaston). Beaton (2007) states that in GA it is "rare above [the Fall Line] but expanding into the middle Piedmont". It is certainly expanding its range inland (westward) in NC, as well; Cuyler never collected the species farther west than Pitt and Pender counties.

ABUNDANCE: Clearly increasing in recent years. Formerly scarce (rare to uncommon) and limited almost solely to the Tidewater counties. Now it occurs essentially throughout the Coastal Plain and southeastern Piedmont, where uncommon and a bit local, but formerly it was nearly absent in these areas. In fact, the species has been recorded now at many lakes and ponds in Wake County alone, and two of our highest three one-day counts have been in Union County.

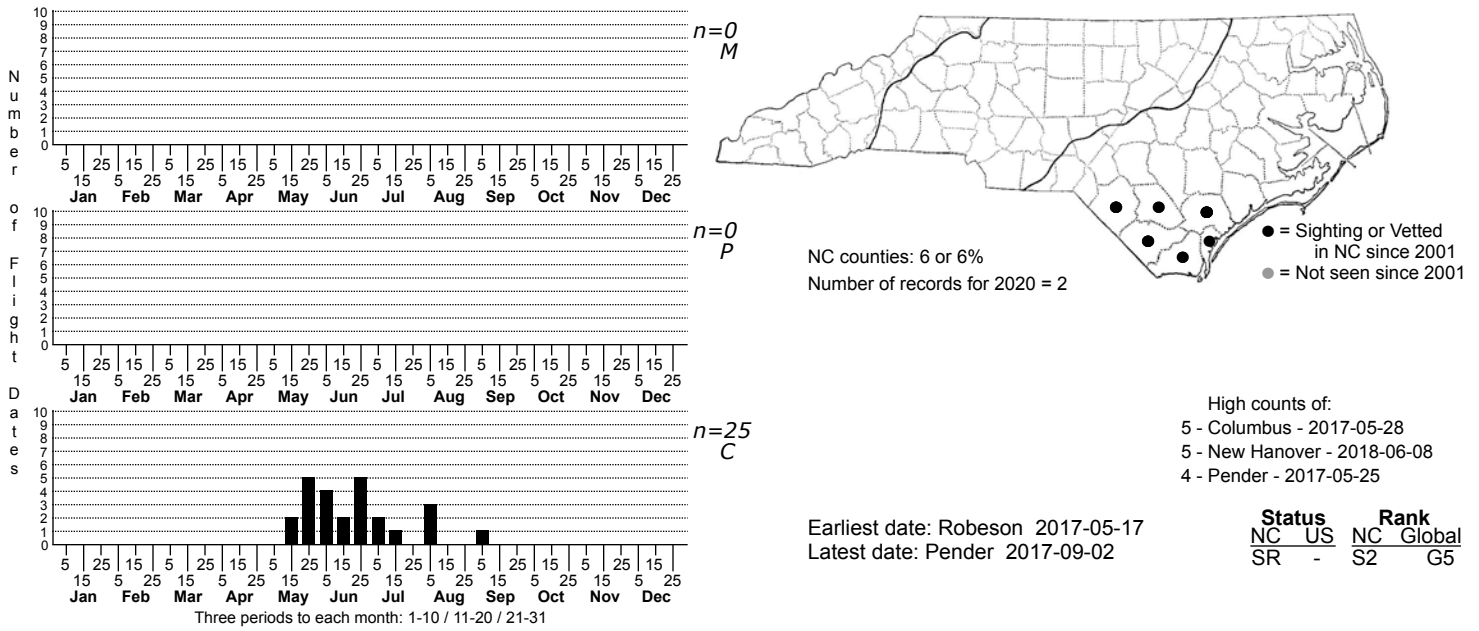
FLIGHT: In the Coastal Plain, present from mid-June to early September. The now many records from the Piedmont fall from late June to early September.

HABITAT: Vicinity of ponds and lakes, as well as canals, especially muck- or peat-bottom ones. These waters can be somewhat disturbed and not "high-quality", and many or most are in full sun.

BEHAVIOR: May perch on the ground near a pond, or on vegetation around a pond. Most often seen at ponds and small lakes.

COMMENTS: Because Cuyler never collected the species in NC farther inland than Hertford, Bertie, and Pitt counties, it is certain that these farther western records represent a recent inland expansion of the range. The range is still spotty, in that there are many Wake County records but very few from the Sandhills or the adjacent counties to the east (e.g., Robeson, Sampson, etc.). There is also a near lack of recent records for the northeastern counties (east of Gates, Bertie, and Craven), though a 2020 record came from coastal Currituck County. A number of records have been made from canoes and kayaks, on large ponds and lakes, less so along rivers.

Arigomphus pallidus Gray-green Clubtail



DISTRIBUTION: Southern portion of the state; recorded from Robeson County on the west to Pender County on the east. As one would surmise, NC lies at the northeastern corner of the species' range.

ABUNDANCE: Though common in much of Florida, it is rare (formerly) to now uncommon (at least locally) in its small range in NC. Thankfully, there have been a number of recent records in the past few years, and thus it is not as scarce as formerly believed.

FLIGHT: Late spring to midsummer; generally from the latter half of May to early August, plus a quite late record (photo) from 2 September.

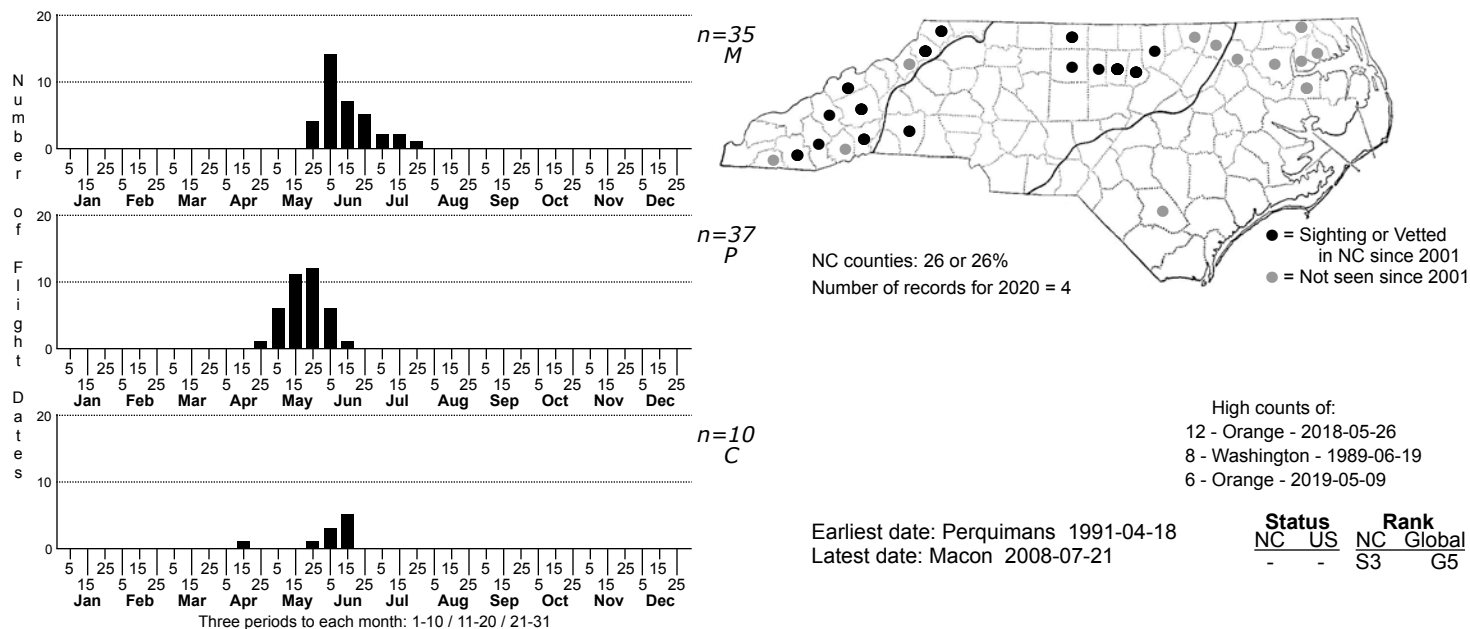
HABITAT: In NC, it has been seen only along blackwater rivers and large blackwater creeks. Over the range as a whole, it favors swampy areas along slow-moving waters, such as habitat suitable for alligators (fide Chris Hill). Thus, it could occur in NC in swampy backwaters or other waters away from rivers.

BEHAVIOR: The species perches readily on the ground such as riverbanks or pond margins, and can be conspicuous where it occurs.

COMMENTS: For a clubtail, this is one of the easiest species to identify. The sides of the thorax are essentially unmarked and very dull, washed-out gray-green or pale green. Most other clubtails have conspicuous diagonal dark or light stripes on the thorax. Chris Hill observed 19 individuals on 13 July 2014 along the Little Pee Dee River in SC, perhaps only 10-20 miles down the Lumber River (same body of water) from the NC/SC state line. In 2016, Mark Shields re-located the species (two individuals) at or near Duncan Cuyler's original location along the Northeast Cape Fear River in Pender County; he also photographed one on the Brunswick County side of the Waccamaw River. James Reber also photographed one near the known Pender County site, in June 2016. As predicted from the results along the Waccamaw River, the species was discovered in May 2017 by Shields by kayaking the Lumber River, and thus adding Robeson and Columbus to the known counties of occurrence in the state. New Hanover County was added for the first time in 2018, as was a new location in Brunswick County, where the breeding site is likely along a creek (Town Creek) and not a rather large river. Shields documented a first record for Bladen County in 2019 with a photo from the Black River -- an expected site for its occurrence.

Owing to a number of recent records, from a handful of different blackwater rivers and creeks, the species has now (2020) been given a State Rank of S2, instead of the previous S1.

Arigomphus villosipes Unicorn Clubtail



DISTRIBUTION: The mountain region, the northern Piedmont, and the adjacent northern Coastal Plain. A record from Bladen County seems odd, and it is not in Cuyler's specimen collection. Additional records in the past few years have extended the range slightly southward, to Guilford, Alamance, Orange, and Durham counties. NC lies at the southeastern edge of the species' range.

ABUNDANCE: Uncommon (and possibly local) in the mountains, but probably very rare to rare in the southwestern counties. Seemingly very rare eastward in the Piedmont near the VA border, to Rockingham County; rare to locally uncommon (but increasing) in the northeastern Piedmont, but currently no Piedmont records for the southern 70% of the province. In the Coastal Plain, apparently rare south to Washington County; however, there are no records since 1998, and thus its current status in that province is not known.

FLIGHT: The mountain flight occurs from late May to late July. The Piedmont flight is earlier -- late April or early May to mid-June (and likely into July). Not surprisingly, the Coastal Plain flight is even earlier -- mid-April to mid-June.

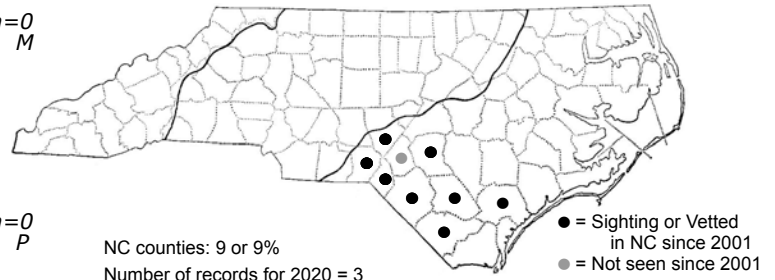
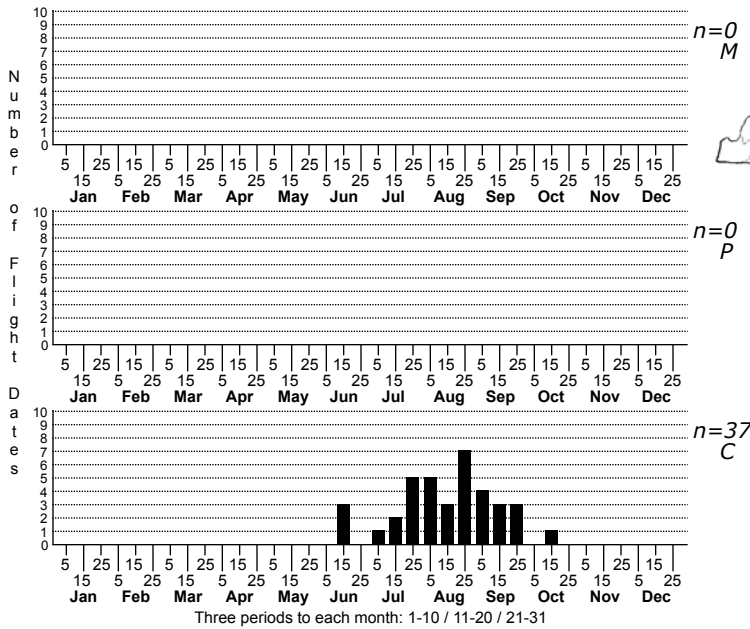
HABITAT: Generally a lake and pond species, or slow streams; muddy bottom waters preferred.

BEHAVIOR: Occurs around ponds and lakes, perching on the ground or on vegetation around the water's edge. It seems to favor small ponds in sunny locations, often in somewhat disturbed situations.

COMMENTS: Until 15-20 years ago, this species had an unusual range in the state, being found mainly in the mountains and the northern Coastal Plain, at least based on Duncan Cuyler's records. However, in the past few years there have been a modest number of records, mainly made by John Petranka, from the northeastern Piedmont, such that the former large gap between the mountains and Coastal Plain has now been mostly filled in. Unless data are uncovered soon for the Bladen County "record", we will likely remove it from the database; this county lies far to the south of any other known records.

There are enough recent records that the species was removed from the state's Watch List, in late 2020.

Dromogomphus armatus Southeastern Spinyleg



High counts of:
2 - Cumberland - 2007-06-20
2 - Scotland - 2003-08-13
2 - Columbus - 1965-09-11

Earliest date: Moore; C 2017-06-11
Latest date: Robeson 1960-10-16

Status		Rank	
NC	US	NC	Global
W	-	S3	G4

DISTRIBUTION: Limited in NC to the Sandhills and the southern Coastal Plain, mostly near the SC border. NC lies at the northern edge of the species' range.

ABUNDANCE: Uncommon in the Sandhills; less numerous -- rare to very uncommon -- in the Coastal Plain farther southeastward to the Black River (western Pender County). Surprisingly, all daily counts are just of one to two individuals. It is remarkable that after 50 or more years of odonate field work in the state, no one has found three or more in a day; the species simply does not occur in groups, much less in swarms; once you've seen one on a walk, that is likely it for the day!

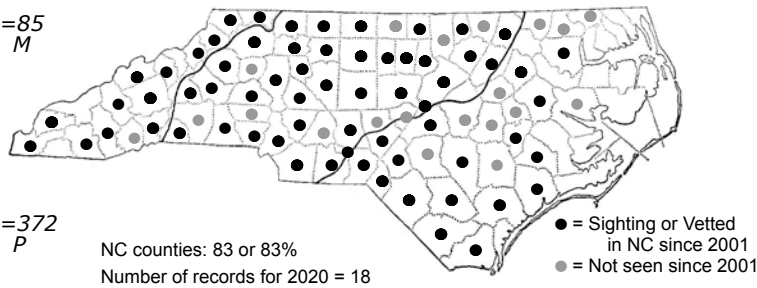
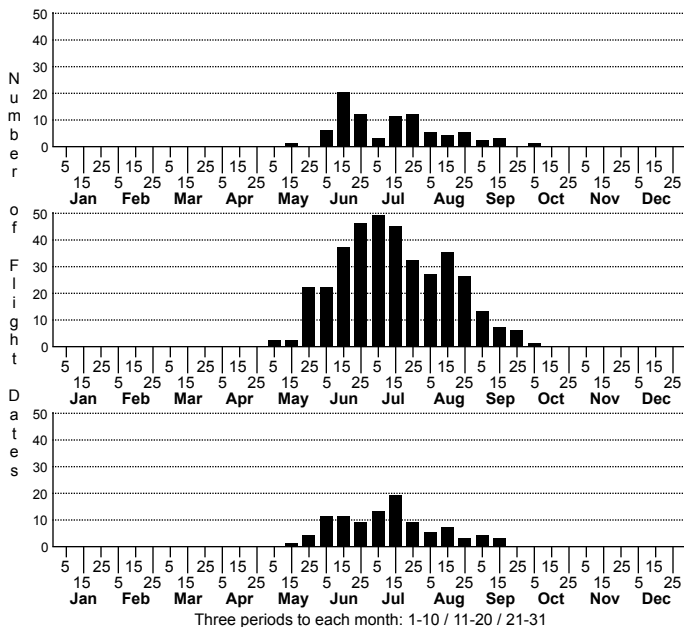
FLIGHT: Summer into early fall. Records occur between mid-June and mid-October; however, most are from late July to late September.

HABITAT: Breeds in rather acidic waters of seeps, springs, small streams, etc., mainly in or near forested habitats. Presumably uses pocosin streamheads in the Sandhills. A few records of adults are from along blackwater rivers and streams, though breeding sites are most likely at small pools, seeps, and other tiny and shaded wetlands.

BEHAVIOR: Can be seen flying along roads, trails, or brushy areas near wetlands; rarely over water of rivers and larger creeks. Perches frequently, both on the ground and on vegetation.

COMMENTS: This is one of the Sandhills' most spectacular odonates. Adults are large, and the bright rusty-orange club easily draws attention. Though a handful of other clubtails flying at that season have rusty-orange clubs (such as Russet-tipped Clubtail and Two-striped Forceptail), they typically are restricted to water and seldom perch on sand roads and other places well away from water.

Dromogomphus spinosus Black-shouldered Spinyleg



High counts of:
 40 - Durham - 2013-06-20
 30 - Halifax; P - 2009-07-14
 30 - Rockingham - 2012-06-21

Earliest date: Anson 1990-05-07
 Latest date: Madison 2020-10-08

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, though seemingly absent from the easternmost counties (no records east of Gates, Bertie, Beaufort, and Jones counties). Three mountain counties also lack records, though it is certainly present in all counties in that province.

ABUNDANCE: Fairly common to locally common over the Piedmont; fairly common in the southern Coastal Plain, and uncommon in the mountains. Much less numerous in the central and northern Coastal Plain, and seemingly absent in the far eastern counties. This is one of the more numerous of the clubtails in the state, particularly in the Piedmont.

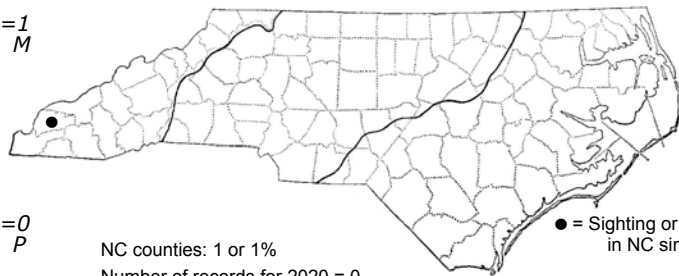
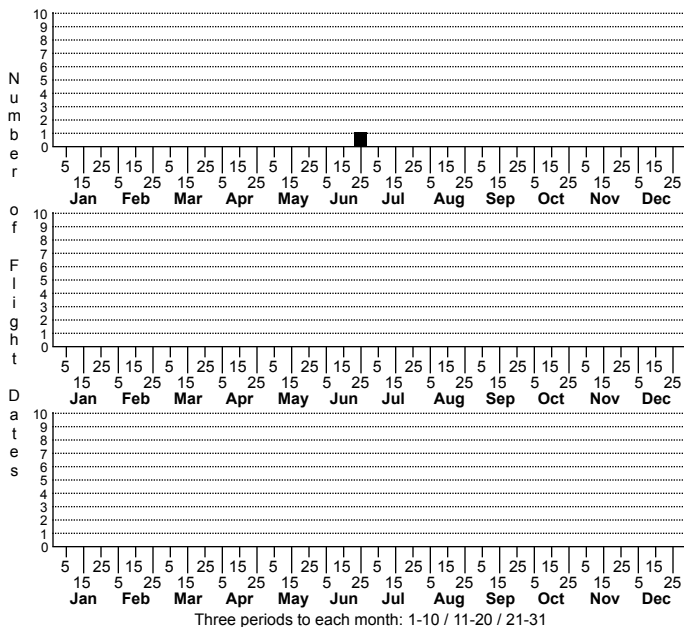
FLIGHT: Fairly wide spread of flight dates for a clubtail -- early May to early October in the Piedmont. Probably the same flight period in the Coastal Plain, though dates only span from mid-May to mid-September. The mountain flight occurs from mid-May to mid-September.

HABITAT: Widespread choice of breeding habitats, from rivers and streams, to less often lakes and ponds. More tolerant of disturbed habitats than most clubtails, but tends to favor shaded or partly shaded bodies of water as opposed to open and sunny wetlands.

BEHAVIOR: One of the more conspicuous or easily seen clubtails in NC (along with Lancet and Ashy clubtails). Adults frequently perch flat on the ground on sunny trails, dirt roads, rocks by water, or vegetation, where they can be easily studied. One does not have to head for a pond, large creek, or river to see this species -- though your chances are better along a creek or small river than in uplands or far from such waters.

COMMENTS: This is a large and striking dragonfly. Immatures and adult females have conspicuous yellow sides to the thorax, whereas the adult males are more lime green on the sides of the thorax. The very thick black "shoulders" at the front of the thorax are clinching marks. Also, as the common name indicates, the spinylegs indeed have spiny projections on the very long pair of hind legs.

Dromogomphus spoliatus Flag-tailed Spinyleg



NC counties: 1 or 1%
Number of records for 2020 = 0

High counts of:
1 - Graham - 2014-06-23

Earliest date: Graham 2014-06-23
Latest date: Graham 2014-06-23

Status		Rank	
NC	US	NC	Global
SR	-	S1	G4G5

DISTRIBUTION: Ranges essentially west of NC, east to eastern TN and the extreme northwestern corner of GA. Finally, in 2014, it was found in NC, in western Graham County, less than 10 miles from the TN line. It is to be looked for in other low elevation sites in the mountains close to the TN border, especially in the southwestern corner of the state.

ABUNDANCE: Very rare in NC, with just a single documented record (photo). Not uncommon in much of its range, but Beaton (2007) calls it "Rare to uncommon and local" in its small range in northwestern GA.

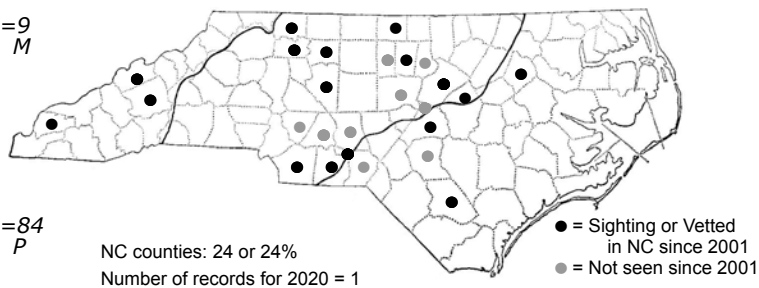
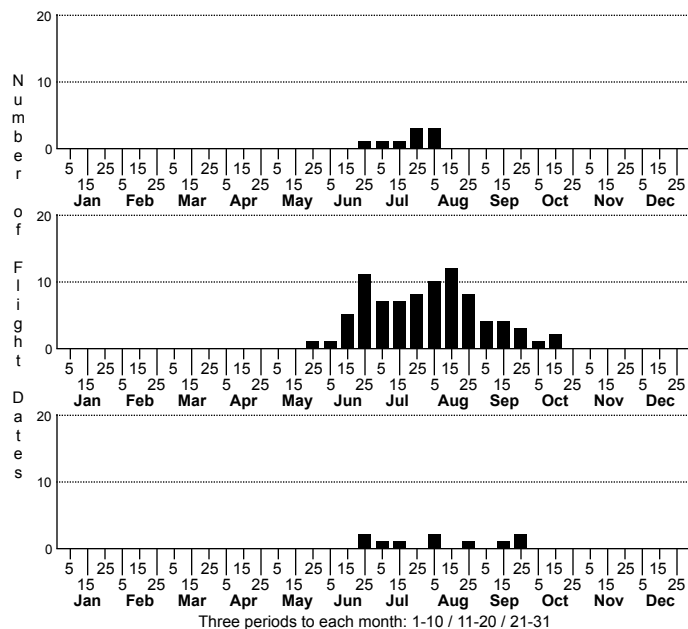
FLIGHT: Late May into September in GA. The only NC record is for 23 June. The NC flight is likely spread out over a 3-4-month period in mid-summer.

HABITAT: Mostly rivers and large streams, and at times around ponds and lakes; generally at areas where the flow of water is low.

BEHAVIOR: Males perch on the ground near water; they may also perch on vegetation or other objects.

COMMENTS: At least one older reference listed the species as occurring in NC, but Cuyler has no records; Bick and Mauffray (1997-2004) also does not list NC for this species, nor do later references, including the Odonata Central range maps. However, Owen McConnell obtained an excellent photograph of an individual perched on the ground in north-central Graham County in 2014; this conclusively documents the species in NC. This was the first new odonate species recorded in NC since the Rusty Snaketail was found in 2006; however, the stray record of Blue-eyed Darner in late 2020 now becomes the most recently added odonate species to the NC list.

Erpetogomphus designatus Eastern Ringtail



High counts of:
12 - Wake - 2009-08-07
9 - Wake - 2009-08-18
9 - Richmond; P - 2018-07-06

Status	Rank	
	NC	US
-	-	S3S4 G5

Earliest date: Harnett; P 1976-05-27
Latest date: Montgomery 1995-10-18

DISTRIBUTION: Mainly found in the Piedmont and the adjacent southwestern Coastal Plain, but finally found in the mountains -- in 2011 in Madison and Buncombe counties (mostly close to the French Broad River), and in Graham County in 2014. (Range maps in references tend to show the western 60-80% of the state within the range, and Paulson [2011] even shows the entire state within the range). Likely occurs in the western Piedmont, where disturbingly lacking of records south and southwest of Yadkin County.

ABUNDANCE: Rare to locally uncommon in the central and eastern portions of the Piedmont. Rare in the Coastal Plain portion of the range, and obviously rare and local in the lower elevations of the mountains and in the western Piedmont.

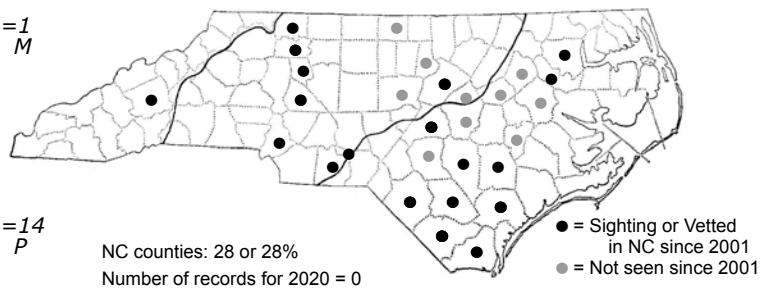
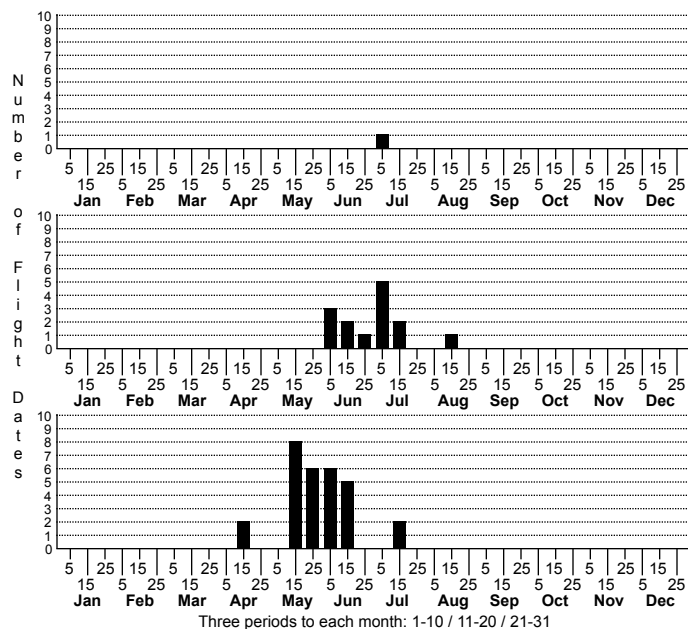
FLIGHT: The flight in the Piedmont occurs between late May and mid-October, with the Coastal Plain flight slightly narrower in time -- about late June to late September. The mountain records fall in a narrow window between late June and early August, though the flight period there is certainly wider, and likely extends into September.

HABITAT: Generally rivers and wide streams, especially with riffles and somewhat fast flow.

BEHAVIOR: Normally stays very close to rivers and streams; occasionally strays to open fields, jeep roads, etc., well away from flowing waters. Perches on low vegetation, banks, or rocks along shores of rivers and streams.

COMMENTS: Until a few years ago, there were very few recent records for this "widespread" species. However, in the past several years there have been numerous records from the Neuse River just below the Falls Lake dam, and a handful of records from Buncombe and Madison counties, mainly not far from the French Broad River. Mike Turner expanded the range eastward to Edgecombe County in summer 2017. This is one of the more "colorful" of the clubtails -- chartreuse and rusty colors, along with the standard black and yellow colors of most clubtails -- and for that reason, it may be the easiest clubtail in the state to identify.

Gomphurus dilatatus Blackwater Clubtail



High counts of:
30 - Bladen - 2016-05-27
30 - Pender - 2016-05-27
17 - Sampson - 2019-05-24

Earliest date: Columbus 2017-04-12
Latest date: Mecklenburg 2005-08-13

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

Synonym: *Gomphus dilatatus*

DISTRIBUTION: Scattered over much of the Coastal Plain, and of very spotty distribution over most of the Piedmont and low mountains (2017 record). Apparently absent over most of the mountains, at least over roughly 2,000 feet elevation. Perhaps occurs in most Piedmont counties, but barely 11-12 counties there are known at present. Also seemingly absent from the northeastern and far eastern portions of the Coastal Plain.

ABUNDANCE: Locally uncommon in the southern portions of the Coastal Plain, but rare northward in that province to the Roanoke River area (with few recent records in this region). Very rare to locally rare over most of the Piedmont, with a remarkable flurry of records from the western and central Piedmont in 2018. Casual in the mountains, where first recorded in 2017. With more canoeing and kayaking efforts, observers have been finding the species in some numbers now, including daily counts of 30 in 2016 and 17 in 2019, indicating that it can be reasonably common in a few places in the southeastern counties.

FLIGHT: Mid-April to at least mid-July in the Coastal Plain, and from early June into mid-July in the Piedmont and mountains. There is a sight report from the Piedmont for mid-August, though the latest specimen or photo record is only to mid-July.

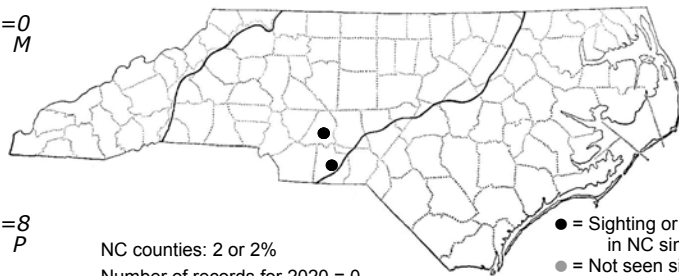
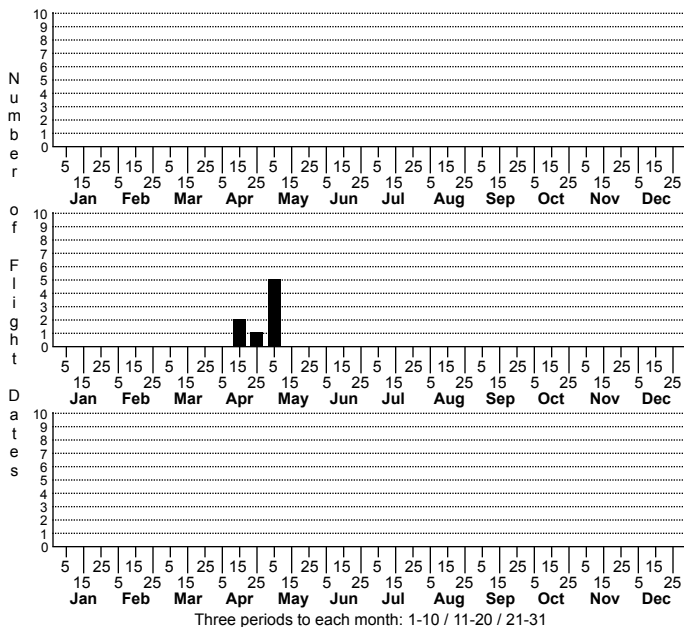
HABITAT: Slow-moving rivers or streams with sandy or silty bottoms. Though the common name suggests it is not normally found along brownwater rivers, such is not the case in NC. Of course, all Piedmont and mountain records are from brownwater areas, and a few in the Coastal Plain are as well, such as along the Cape Fear River. A recent record from Lake Waccamaw (at the spillway/dam) presumably relates to an individual using the headwaters of the Waccamaw River as breeding habitat.

BEHAVIOR: Males perch on leaves or branches close to the water, or over the water.

COMMENTS: This is one of the larger clubtails, and the wide club also adds to its striking appearance. However, it can be confused with the Cobra Clubtail. Mark Shields provided the first notable count of the species, seeing and photographing about 30 individuals as he was canoeing down the Black River along the Bladen - Pender county line on 27 May 2016. Recent review by our website editors have determined that one or two photos previously identified as Blackwater Clubtails are actually Cobra Clubtails. And, that puts into jeopardy any sight reports of this species, due to the great confusion of these two species; the Mecklenburg County and the Martin/Bertie (i.e., Roanoke River) reports should be considered as tenuous, and certainly not definitive. However, Vin Stanton made a remarkable discovery in July 2017, by photographing a female Blackwater Clubtail in Buncombe County near the French Broad River. And, a number of biologists have found the species in 2018 in the central and western Piedmont, documenting the records with photos. The OdonataCentral database has a single record for eastern TN in the Ridge and Valley province, but otherwise the Buncombe record fills in a large gap in the range in the southern Appalachians (between eastern TN and west-central NC).

Considering the great number of recent records of the species from the Coastal Plain and Piedmont, the N.C. Natural Heritage Program has moved the species off its Watch List, in late 2020. The State Rank has been moved down to S3S4, also.

Gomphurus fraternus Midland Clubtail



High counts of:
 6 - Anson - 2017-04-20
 6 - Stanly - 2017-04-20
 3 - Stanly - 1987-05-05

Status	Rank	
	NC	US
SR	-	S1
		G5

Earliest date: Anson 2017-04-20
 Latest date: Stanly 1989-05-08

Synonym: *Gomphus fraternus*

DISTRIBUTION: Known only from one site -- the Rocky River -- in the lower Piedmont. The distribution in the state would suggest that this is a Southern species, but in fact it is a North-central/Northeastern species, ranging south mainly to MD, WV, and western TN.

ABUNDANCE: Undoubtedly very rare in NC, as it is known from just a single body of water.

FLIGHT: All of the records fall between 20 April and 8 May. It is assumed that adults are present for only a few weeks (at this site) -- probably mid-April to mid-May.

HABITAT: Breeds at fast flowing rivers and large streams.

BEHAVIOR: Perch on rocks or banks near rivers. References indicate that this is a very fast and strong flier, able to overtake and feed on other dragonflies.

COMMENTS: This is a very poorly known clubtail in NC. Its known state range -- two counties (Anson and Stanly) that border the Rocky River in the lower Piedmont -- is most unusual, as this is a Northeastern species. Does it not occur along the Flat, Eno, Haw, Cape Fear, and other rivers in the eastern Piedmont, where there has been more odonate field work? On the other hand, this is a difficult-to-identify species, unless a specimen is taken. In fact, photos of a clubtail from the Eno River in Orange County have been re-examined, and it was felt not to be a Midland Clubtail. (They were carried on this website as a "Midland" for several years.) Thankfully, John Petranka decided to travel to the Rocky River in spring 2017 to look for this species and, sure enough, re-found it along the river, but about 5.5 miles upriver from Duncan Cuyler's previous site. He saw and photographed several males on 20 April, which also extended the earliest state date by eight days.

Gomphurus hybridus Cocoa Clubtail

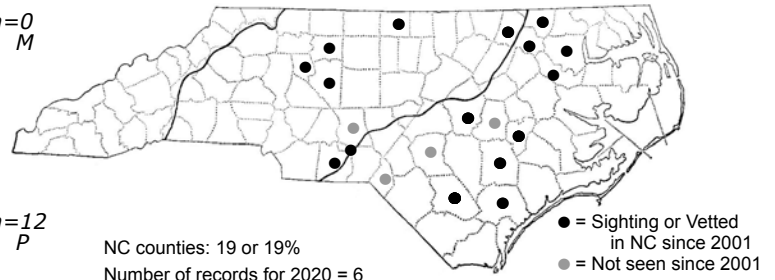
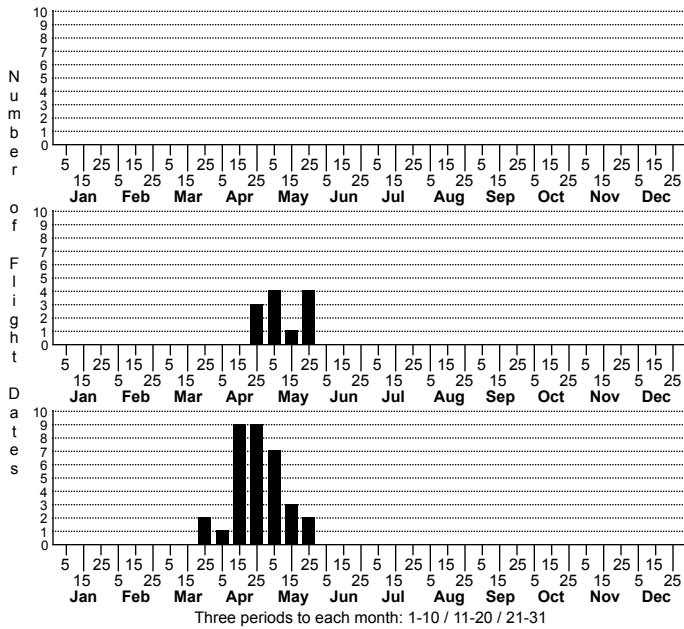


Photo (vetted) in 2020: Anson, Bertie

High counts of:
15 - Halifax; C - 2012-04-25
10 - Halifax; C - 2012-04-12
5 - Northampton - 2012-05-08

Earliest date: Bladen 2020-03-28
Latest date: Caswell 2018-05-31

Status		Rank	
NC	US	NC	Global
W	-	S3	G4

Synonym: *Gomphus hybridus*

DISTRIBUTION: Present over much of the central and western Coastal Plain and eastern/central portion of the Piedmont, but with large gaps in the range (such as the well-studied northeastern Piedmont). The range in the Coastal Plain is expanding northward, as many new records came from the Roanoke River area in 2012; the species was previously known northward only to the Neuse River area. In fact, until 2013, Virginia had no records; however, there are now five records for the southeastern and central parts of that state. A number of new records have also been made in the Piedmont in recent years, including first county records for Richmond and Forsyth in 2019, and Anson in 2020. It seems that the species is expanding the range westward into the Piedmont, as it seems to be doing northward in the Coastal Plain. Still, the lack of records for the northeastern Piedmont is puzzling, as this is a highly worked area of the state, though a few records should be made in the next handful of years there.

ABUNDANCE: Common, at least locally, along the upper part of the Roanoke River (Halifax and Northampton counties). Uncommon and local in the southern half of the Coastal Plain, but rare and local in the Piedmont portion of the range. Dunkle (2000) considers the species to be fairly common, whereas in GA Beaton (2007) say it is uncommon in the Coastal Plain but rare elsewhere.

FLIGHT: Spring season only; the known dates in NC range from 28 March to 31 May. The flight is earlier in the Coastal Plain, starting in late March or the first part of April, whereas the first Piedmont records are not until late April.

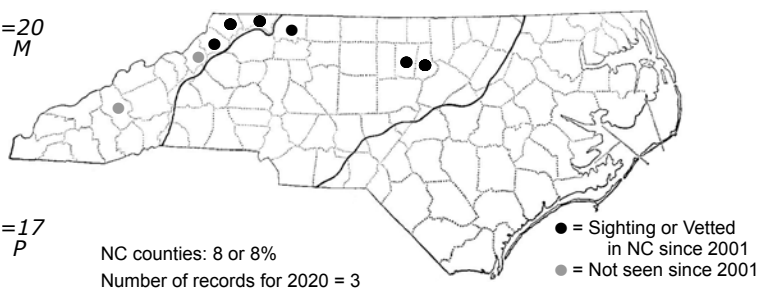
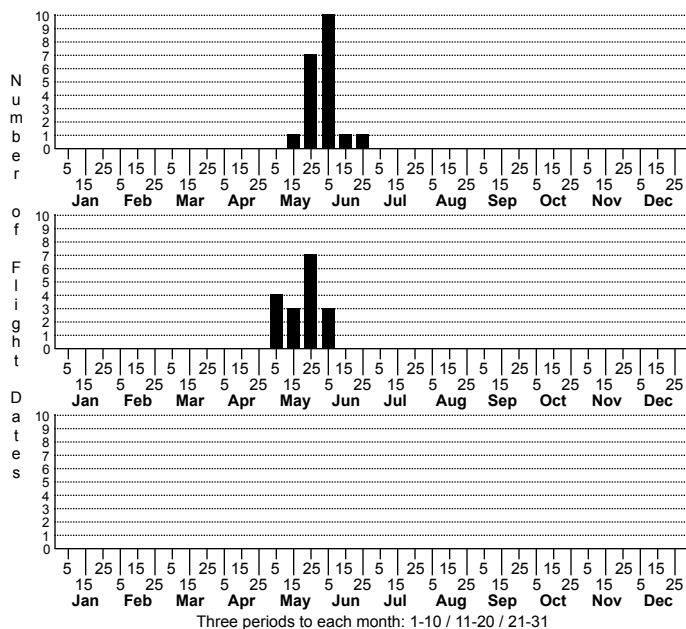
HABITAT: Large or medium rivers with silty or sandy bottoms. Most sites are along brownwater rivers, but a few have been at blackwater sites.

BEHAVIOR: Males spend little time in flight patrols over the water. Teneral individuals, as well as adults, often forage hundreds of yards away from rivers, such as along clearings, dirt tracks, and forest openings. It is an unwary species and can be easily approached on the ground.

COMMENTS: This is one of the relatively few clubtails to be found along slow-moving rivers and large creeks in the Coastal Plain. (The majority of clubtails are found in the mountains and Piedmont, and near faster waters.) Randy Emmitt photographed one, on 3 May, at Kinston in Lenoir County; and Beth Brinson extended the known range to the north with a photograph taken in Davidson County in 2008. Steve Hall and Harry LeGrand found it commonly on several spring dates in 2012 at sites within 1/2-mile of the Roanoke River, for a notable northward range extension. As it has been found in VA in 2013, 2016, and 2017, it is obviously moving northward.

The species is still on the NC Natural Heritage Program Watch List, but as it is clearly moving northward, if not also westward into the central Piedmont, it is uncertain if it will remain on that list. As there are just 45 records (with dates) as of 2020, the species probably should stay on that list for another year.

Gomphurus lineatifrons Splendid Clubtail



High counts of:
10 - Orange - 1991-05-29
3 - Durham - 2002-05-23
3 - Alleghany - 2007-06-13

Earliest date: Orange 2002-05-07
Latest date: Alleghany 2006-06-22

Status		Rank	
NC	US	NC	Global
SR	-	S2	G4

Synonym: *Gomphus lineatifrons*

DISTRIBUTION: Primarily the northern mountains, but there are a few other mountain records (and occurs in the mountains of northern GA). Also a handful of records for the northeastern Piedmont (Orange and Durham counties), plus one in the northwestern Piedmont (Surry County). Thus, it might occur in much of the northern Piedmont.

ABUNDANCE: Not rare in the northern mountains (uncommon to fairly common?), as Ted Wilcox has a number of photographs from Ashe and Alleghany counties on his website. Presumed to be very rare in the remainder of the mountains, and in the northern Piedmont. Certainly very rare if not absent in the intervening northern Piedmont.

FLIGHT: Late spring and early summer. In the mountains from mid-May to late June; in the Piedmont, probably a week or two earlier, beginning in early May, and flying into June.

HABITAT: Breeds at clear rivers and creeks, with gravel bottoms.

BEHAVIOR: Males perch on rocks in the rivers or creeks, or on the ground or low vegetation nearby.

COMMENTS: This is a large and colorful clubtail; males have a large club. Beginners might mistake it for the common Black-shouldered Spinyleg, though that species has a much smaller club. In the northeastern Piedmont, nearly all records are from the Eno River, and a record in 2018 came from the Yadkin River (for a new river basin record). Though the N.C. Natural Heritage Program tracks the species, as there are records for only 8 counties, the fact that Wilcox has a number of records for the northwestern counties suggests that a Watch List status might be more appropriate.

Gomphurus septima Septima's Clubtail

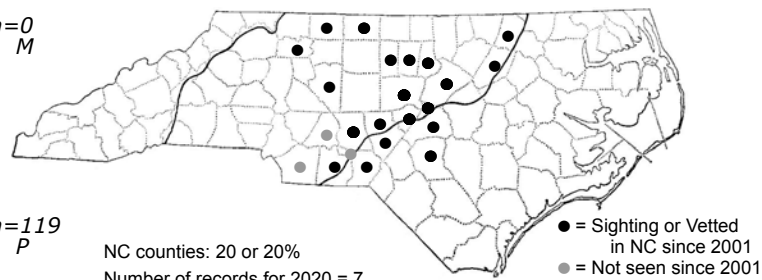
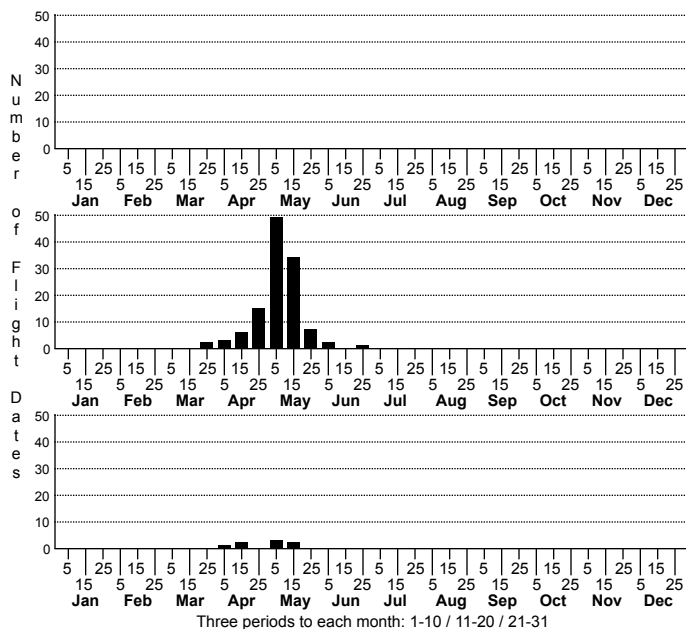


Photo (vetted) in 2020: Anson

High counts of:
 14 - Harnett; C - 2018-05-10
 10 - Chatham - 2018-05-05
 8 - Chatham - 1993-05-11

Earliest date: Chatham 2020-03-29
 Latest date: Wake 2010-06-21

Status	Rank		
NC	US	NC	Global
SR	-	S3	G3

Synonym: *Gomphus septima*

DISTRIBUTION: Range has been expanding westward into the central and northwestern Piedmont in recent years, and thus now is present over essentially all of the eastern and central Piedmont, as well as into the upper edge of the Coastal Plain along the Roanoke and Cape Fear rivers. The species has a peculiar, disjunct, or relict range, and so far has been found only in NY, PA, NJ, VA, NC, SC, and AL (according to the OdonataCentral map). Thus, DE, MD, and GA lack records; and it has been found in just two counties each in VA, SC, and AL (OdonataCentral map).

ABUNDANCE: Uncommon to locally fairly common, but widespread, within its NC range; noticeably increasing in the past few years -- a true increase in numbers as opposed to just an increase in search effort. Mainly in the Cape Fear River system -- Haw, Rocky, Deep, and the Cape Fear itself. Rare to uncommon in the Yadkin/Pee Dee River system. Rare in the Neuse, Tar, and Roanoke, where so far found only along these rivers (includes the Eno River as the upper end of the Neuse) and not their tributaries; only recently reported from the latter two rivers. Discovered in the Dan River system in spring 2017, but likely rare to very uncommon there.

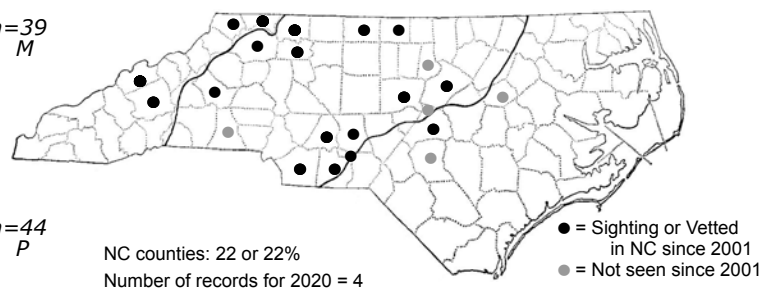
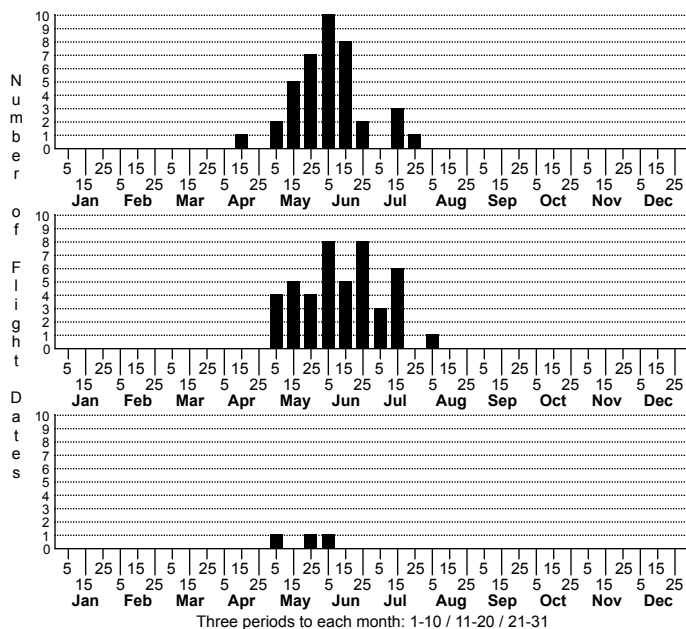
FLIGHT: Very late March or early April to the end of May, and sparingly to mid-June. The peak is during the first half of May. The flight period has moved forward (earlier) by a week to 10 days over the past decade. Formerly quite rare before very late April, but now with a number of records prior to 20 April, and in 2020 there was a record on 29 March.

HABITAT: Breeds in clean, fast rivers and very large streams.

BEHAVIOR: Males perch on the ground near rivers, but they also perch on rocks in the rivers. For a clubtail, this species is rather easily observed and photographed, as individuals often perch on dirt roads, trails, and other spots away from the rivers.

COMMENTS: Until about 20 years ago, the species was known (apparently) only from NC and AL, and presumed to exist only in NC at that time. It has since been found far to the north in NY and NJ. This is, or at least was until about 10 years ago, one of the rarest dragonflies in the eastern United States. It has now been found in 20 counties in NC (new in 2019 in Yadkin and Davidson counties, and new in 2020 in Anson County), with photographic documentation for most of them. As mentioned above, the species is clearly on the increase in the state, and is now one of the more readily found clubtails along the larger rivers in the eastern third of the Piedmont. It has recently been re-ranked by NatureServe from G2 to now as G3, and in late 2018 the N. C. Natural Heritage Program changed the State Rank from S2 to S3. (It is hardly in danger of extirpation from NC or extinction over its range now.) Even so, it is still being tracked by that program as Significantly Rare, owing to a small overall global range.

Gomphurus vastus Cobra Clubtail



High counts of:
20 - Madison - 2011-05-06
15 - Chatham - 1976-06-12
10 - Yadkin - 2008-06-10

Earliest date: Buncombe 2012-04-20
Latest date: Surry 2008-08-08

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

Synonym: *Gomphus vastus*

DISTRIBUTION: Widely scattered over the western two-thirds of the state, east barely into the western Coastal Plain. Interestingly, nearly all of the mountain and western Piedmont records have come in the past few years, suggesting a possible westward range expansion in the state, though most range maps show the species occurring over the majority of the eastern United States. Likely absent at middle and higher elevations in the mountains. A puzzling scarcity of records from the middle of this range in the state -- such as the central Piedmont -- though 2019 records for Caswell and Wilkes counties somewhat reduced this gap.

ABUNDANCE: Uncommon in the eastern Piedmont. Rare to locally uncommon elsewhere in the mountains and Piedmont, though can be numerous along the French Broad River in Madison and Buncombe counties. Very rare in the western part of the Coastal Plain, as well as in the southwestern mountains (where there are as yet no records).

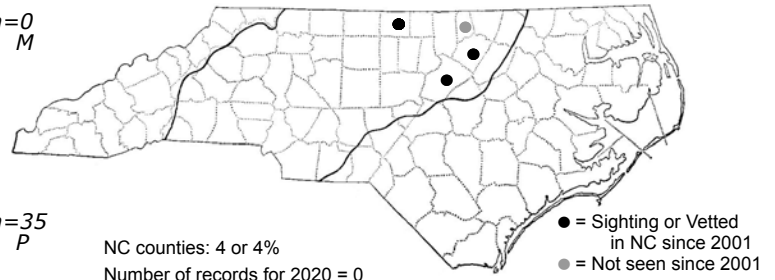
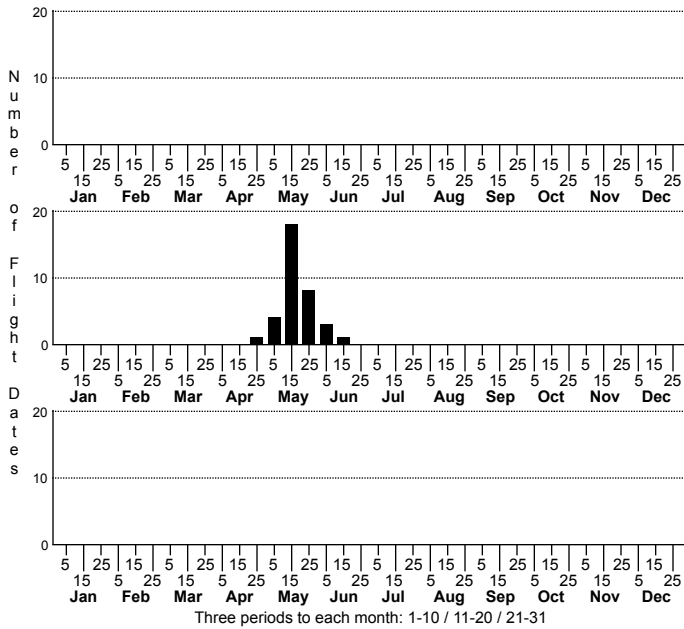
FLIGHT: Mostly early May to mid-July, with an early date of 20 April. A seemingly quite late record on 8 August is open to question, though there are now a number of records for mid-July.

HABITAT: Breeds at rivers and large streams, where rocky or with riffles.

BEHAVIOR: Males perch along the shore on the ground, or on rocks in the rivers. Both sexes are often seen perched on vegetation, as well. They may fly well out over the rivers.

COMMENTS: This is a very striking species, quite black on the abdomen with very contrasting yellow markings. And, the male's club is very wide -- cobra-like, giving rise to the common name. Even so, there are a few other clubtails (such as Skillet, Splendid, and Blackwater) with wide clubs, and thus sight records must be made with care. Indeed, a few photos on this website have been re-evaluated by experts (in late 2016), and several photos reported as other species have been determined to be Cobra Clubtails by website editors/reviewers.

Gomphurus ventricosus Skillet Clubtail



High counts of:
8 - Caswell - 1992-05-13
5 - Caswell - 1996-05-30
4 - Caswell - 1982-05-14

Earliest date: Wake 2010-04-28
Latest date: Caswell 1988-06-20

Status		Rank	
NC	US	NC	Global
SR	-	S1	G3

Synonym: *Gomphus ventricosus*

DISTRIBUTION: A Northern species, ranging south only to the northeastern Piedmont of NC, where it ranges south only to Wake County. Known from just four NC counties.

ABUNDANCE: Very rare to rare in NC. Even throughout its overall range, Dunkle (2000) calls it rare, and NatureServe gives it a global rank of G3 (rare). Though there are a minimum of 35 records with dates, many seem to be from the same general area and it should not be inferred that the species is not rare.

FLIGHT: Late April to mid-June; records fall between 28 April and 20 June.

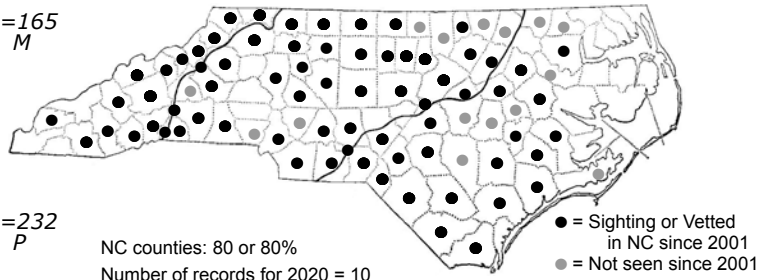
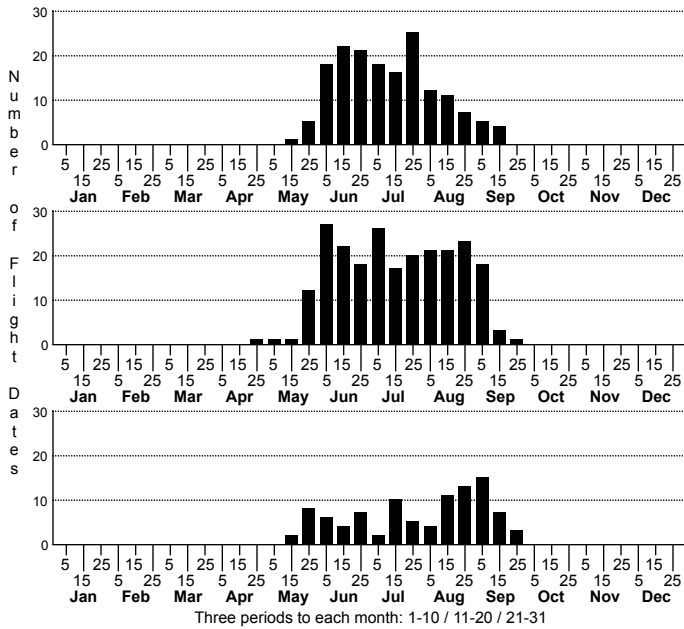
HABITAT: Larger rivers and streams that are fast-flowing, though occasionally at lakes with good water quality.

BEHAVIOR: Males are most easily seen in short flights out over the water, and they then return to shore to perch, often in grass, in the shade, or other inconspicuous places.

COMMENTS: The club is comparatively the widest of any clubtail, it being wider than the thorax width! It is also the smallest *Gomphurus* species of clubtail. Though rare and very poorly known in NC, it probably can be identified in flight within its small state range; the Cobra Clubtail is somewhat similar but that species has a mostly black abdomen (not as yellow on the dorsal portions of the thorax and abdomen as is the Skillet). It is one of the less common of the dragonflies, as NatureServe has its Global Rank at G3.

There are only a few recent records. The former State Rank of S1S2 has been moved to a straight S1 in late 2020, by the N.C. Natural Heritage Program.

Hagenius brevistylus Dragonhunter



High counts of:
 25 - Rockingham - 2012-06-21
 10 - Buncombe - 2015-09-15
 9 - Madison - 2012-05-17

Earliest date: Wake 2014-04-27
 Latest date: Richmond; C 1995-09-28

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, though apparently absent from the northeastern and far eastern parts of the state. No records east of Hertford, Martin, and Craven counties. Of spotty distribution in the southwestern mountains, for no obvious reason, as the species occurs over most of the eastern US.

ABUNDANCE: Generally fairly common in the mountains and foothills, uncommon to fairly common over most of the Piedmont, but uncommon in the Coastal Plain. Despite its very wide range, found in most NC counties, it is seldom really common and not nearly as often seen as the Lancet and Ashy clubtails (though the Dragonhunter flies later in the season than those two).

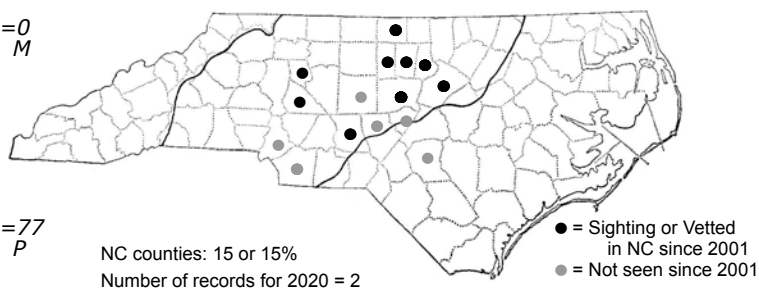
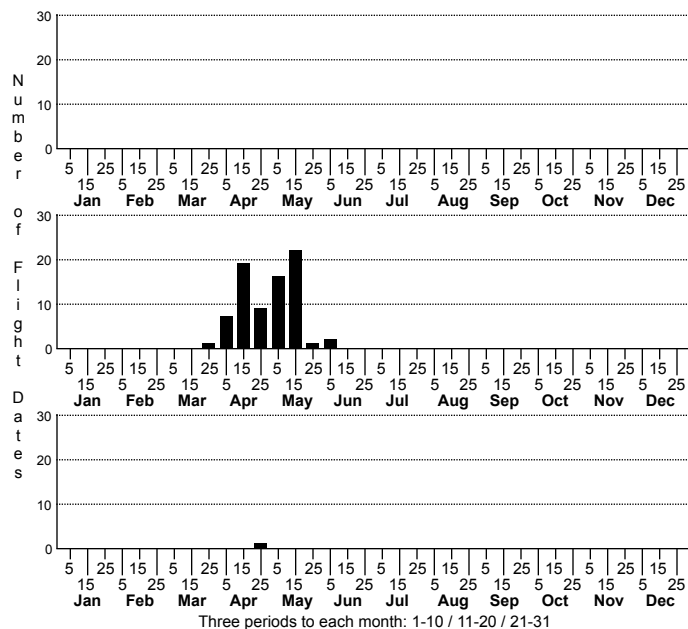
FLIGHT: Mainly from mid-May (rarely as early as late April) to late September; most often seen from early June to early September.

HABITAT: Generally breeds at swift-flowing streams and rivers, rarely at lakes. Prefers forested waters as opposed to very wide, sunny streams.

BEHAVIOR: Males often patrol conspicuously up and down the middle of a river or large stream, easily recognized by its very large size and unusual habit of curling the tip of the abdomen downward into a "J" shape. They also perch on bare ground and vegetation, at times allowing for easy observation.

COMMENTS: This is one of the largest of all dragonflies, and the male's habit of flying with the abdomen tip curled in a "J" shape makes it undoubtedly the easiest of the clubtails to identify on the wing. As the common name implies, it is quite predatory on other species of dragonflies, their main quarry. The species is monotypic -- the only species in its genus.

Hylogomphus abbreviatus Spine-crowned Clubtail



High counts of:
20 - Orange - 2017-04-02
10 - Montgomery - 2016-04-05
10 - Orange - 2019-04-15

Earliest date: Durham 2020-03-28
Latest date: Rowan 2017-06-02

Status		Rank	
NC	US	NC	Global
W	-	S3S4	G4

Synonym: *Gomphus abbreviatus*

DISTRIBUTION: Found only in the central and eastern Piedmont and the extreme southwestern corner of the Coastal Plain (at least in the Sandhills).

ABUNDANCE: Rare to uncommon in the eastern half of the Piedmont, and very rare in the southwestern Coastal Plain. However, it is easily overlooked or confused with other species. It can be common at a very few sites, as there are three recent double-digit counts, and another of 8 individuals, in three counties. Duncan Cuyler made several dozen collections in the lower Piedmont a few decades ago; but until about 2016, however, very little was known about this species in NC. Thankfully, the past few years have seen quite a few new records, many documented by photographs.

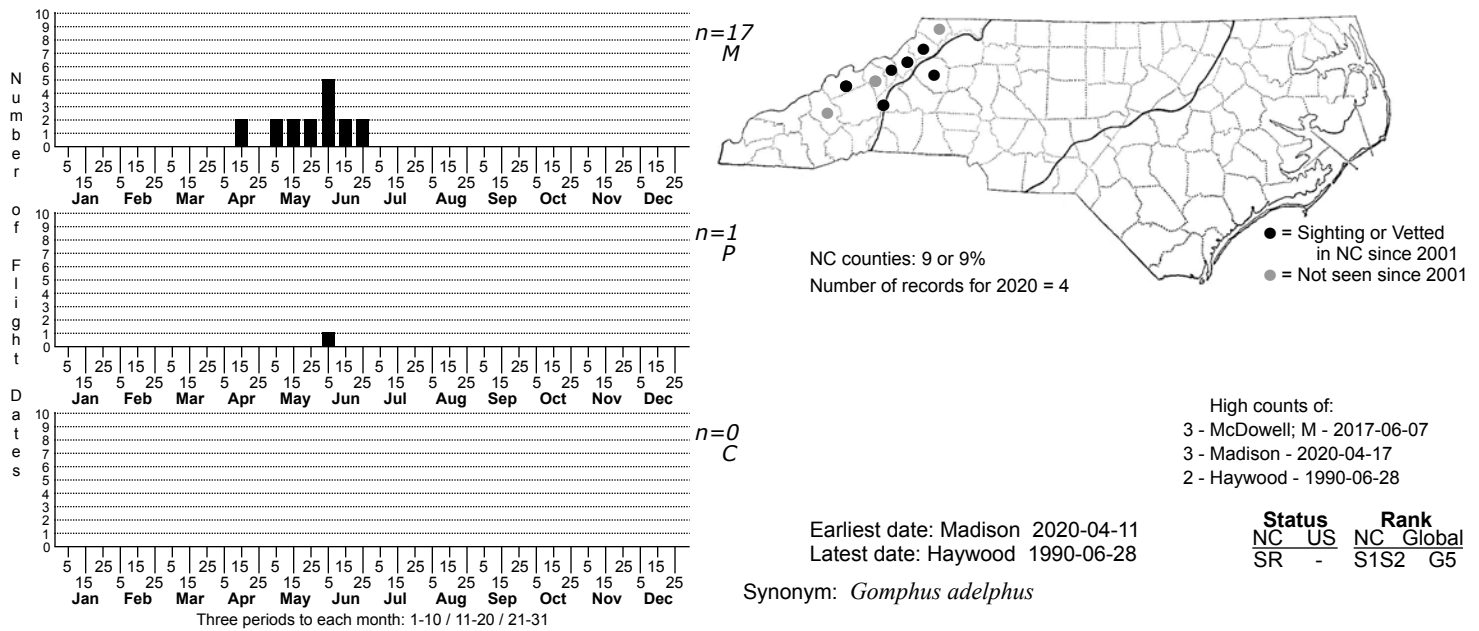
FLIGHT: Spring season only. The flight occurs from very late March to early June, though there was a late March record in 2020. The peak was formerly during the first 20 days of May, but there are many recent April records, and our three highest counts are now in April.

HABITAT: This is another riverine species, favoring fast-flowing rivers and large streams.

BEHAVIOR: Seen mainly at or near streams, on rocks or vegetation. Dunkle (2000) states that males are most active in the late afternoon.

COMMENTS: As with most clubtails, even ones with a range in the eastern Piedmont (where the greatest number of odonate biologists live and conduct field work), this is a somewhat poorly known species, at least by observers and photographers. Most clubtails are difficult to identify unless netted or collected and then studied in the hand. This species looks quite similar to the Piedmont Clubtail, and it can also be confused with Banner Clubtail. Though its range extends from SC northward into Canada, it has a somewhat narrow east-west range, barely ranging west to OH. We have had a number of recent records, thankfully, and thus its range and abundance are becoming better known. Nonetheless, the species remains on the N.C. Natural Heritage Program's Watch List.

Hylogomphus adelphus Mustached Clubtail



DISTRIBUTION: Mountains and adjacent foothills only; known from just nine counties, in the northern and central portions of the province. As expected from the state range map, this is a Northern species, ranging from Canada to northern GA (one record).

ABUNDANCE: Seemingly rare in the northern half of the mountains (and adjacent foothills), with seldom more than one or two individuals seen in a day. Obviously very rare, at best, in the southern half of the mountains. As there is a record for northern GA, it should occur sparingly in GA and SC border counties in NC.

FLIGHT: A spring to early summer flight, with the flight period seemingly moving earlier in recent years (as has been the case for many odonates). Formerly seldom found prior to mid-May, but the flight now is from mid-April to late June, though May and early June are the usual dates for finding it. Some records previously reported earlier in May have been determined by website reviewers to be of Green-faced or Cobra clubtails.

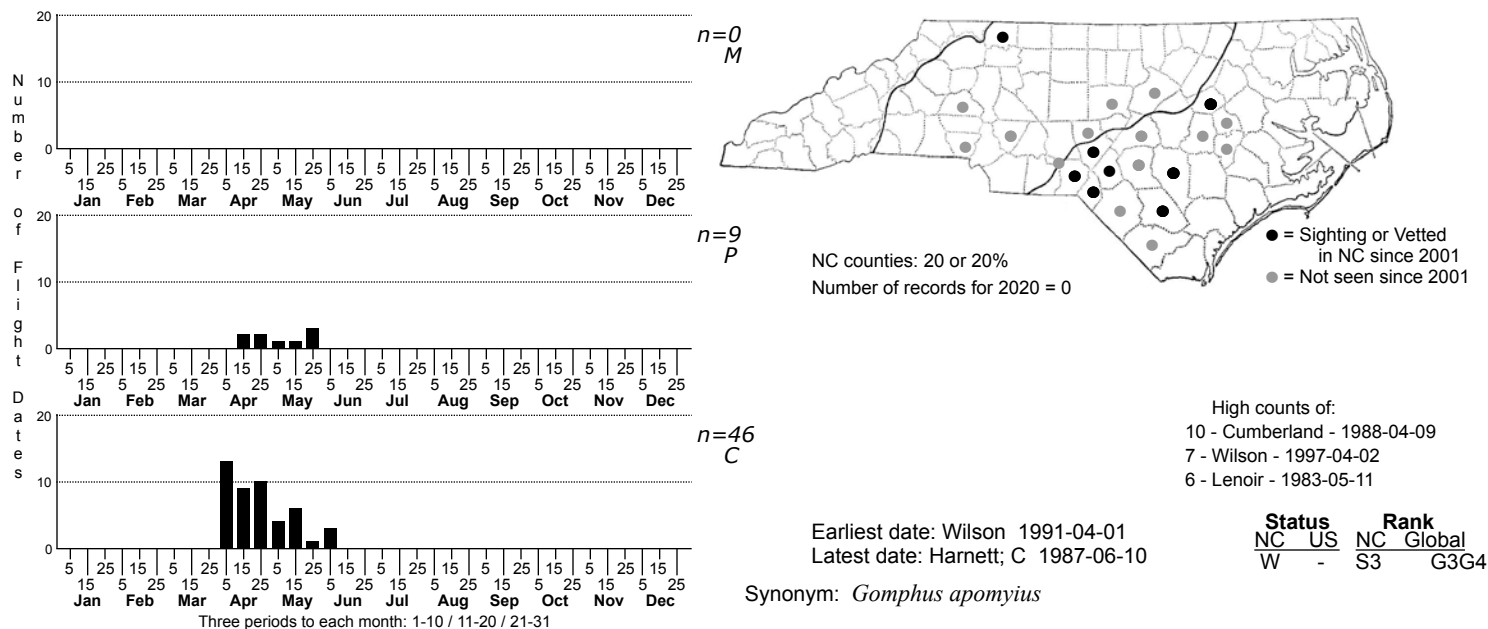
HABITAT: Rivers to small streams, where there are riffles or rapids. Occasionally at lakes.

BEHAVIOR: The species is most active in late afternoon. Adults may perch on rocks, shorelines, and leaves near rivers and creeks.

COMMENTS: This is one of many montane species of dragonflies that is poorly known to most state biologists; the species is likely found mainly with a purposeful search, late in the day. A photographic record made by Curtis Smalling in 2015 added Watauga County to the list of known counties. More importantly, photos from foothill sites in Caldwell (by Mark Shields) and McDowell (by Smalling) counties added two additional counties to the state range, especially indicating that it ranges downward into the transition zone with the Piedmont province. In 2018, John Petranka added photographic documentation for Avery County, though there is a vague previous sighting for that county. Shields, along with Hunter Phillips, documented a first record for Mitchell County, to fill in a small gap in the range.

Records are increasing in recent years owing to more surveys of the northern and central mountains, and the species might better now be given a State Rank of S2 (instead of the current S1S2). As there are only 18 records with dates, perhaps moving the rank to S2 can wait for a few years, to see if more locations are discovered. It remains a Significantly Rare species, tracked by the N. C. Natural Heritage Program.

Hylogomphus apomyius Banner Clubtail



DISTRIBUTION: Primarily found in the southwestern quarter of the Coastal Plain, ranging northeastward to the west-central Coastal Plain, and also into the southeastern Piedmont -- west to Catawba and Gaston counties. A photograph in 2019 established a new record for Surry County in the northwestern Piedmont, quite a surprising extension of the range. It is absent from coastal counties. NC lies at the northeastern end of the range, and thus Wilson, Wake, Chatham, and Surry form the northern border of the range.

ABUNDANCE: Uncommon, at least in former years; might now be better stated "rare to uncommon and somewhat poorly known". Perhaps the species has declined in recent decades. Dunkle (2000) calls the species "scarce", and Beaton (2007) calls it "rare and local" in its range in Georgia.

FLIGHT: Ranges from very early April to early June in the Coastal Plain. In the Piedmont, the flight appears to be slightly narrower -- mid-April to late May.

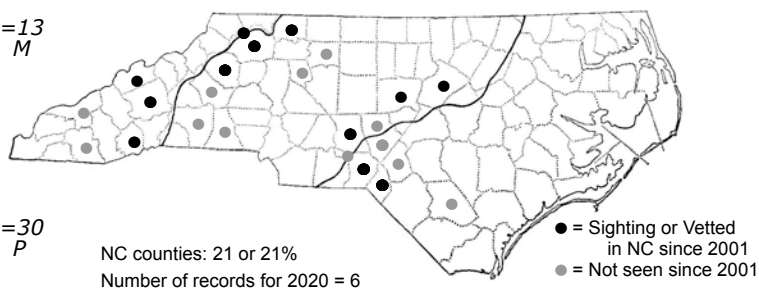
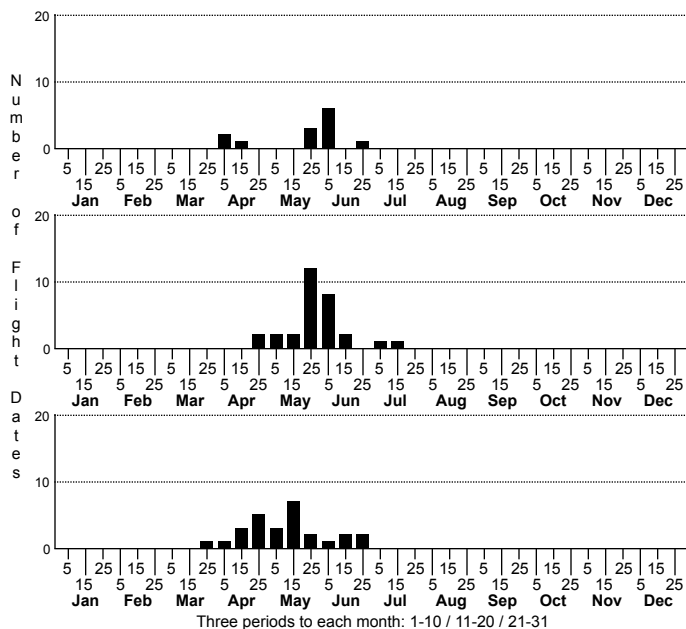
HABITAT: Generally in clean streams and rivers with sandy or gravelly bottoms.

BEHAVIOR: Males perch on rocks or other perches close to rivers and streams. They are most active early in the morning and toward dusk.

COMMENTS: This is one of the smaller clubtails (only up to 1.5 inches in length). Males have a very wide club. Despite its range occurring close to the locations of many biologists, it is poorly known to most persons, and thus the N.C. Natural Heritage Program has the species on its Watch List. The species can be easily confused with the Spine-crowned Clubtail; in fact, several former reports and photos listed as Banner Clubtail have been re-evaluated and determined to be Spine-crowned Clubtail. It is likely that this species has declined in the state since the time of Cuyler's collecting efforts; there are relatively few reports since the 1980s, at least in the northern half of the range in the state. Thankfully, Mark Shields and John Petranka have photographically documented new records of the species in spring 2017, along the South River in Sampson and Bladen counties. New county records for Hoke and Scotland were added in 2018, mostly by Mark Shields and Hunter Phillips, though nearly all records for these two counties have come from the same general area along the Lumber River (which forms the boundary between the counties). Richard Stickney photographed the Banner Clubtail from Surry County in 2019.

It still probably should remain on the Watch List, as there is a lack of records from much of the former range (e.g., the southwestern Piedmont and the central Coastal Plain) as documented by Duncan Cuyler with his older collections. In late 2020, the N.C. Natural Heritage Program moved the rank to straight S3, though it stays on the Watch List.

Hylogomphus parvidens Piedmont Clubtail



High counts of:
8 - Richmond; C - 2019-05-13
7 - Richmond; C - 1966-04-30
5 - Wilkes; P - 2007-06-05

Status	Rank	
	NC	US
W	-	S3
		G4

Earliest date: Richmond; C 2020-03-28
Latest date: Surry 2016-07-12

Synonym: *Gomphus parvidens*
Other Name: Sandhills Clubtail - *Hylogomphus parvidens carolinus*

DISTRIBUTION: Odd range in NC, probably owing to two separate subspecies being present. The nominate subspecies (*Hylogomphus parvidens parvidens*) occurs in the western third of the Piedmont and the southern mountains. The Sandhills subspecies (*H. parvidens carolinus*) occurs in the Sandhills region and in the adjacent Piedmont, with an outlying record from Bladen County. A recent photo from Chatham County and a sight report for Wake County have slightly expanded the range to the northeast. It is not known if the species occurs in the intervening south-central Piedmont, though one would expect that it does.

ABUNDANCE: Rare to uncommon over the range, though there are records for most counties in the Sandhills. Occurs in rather low densities, with a peak daily count of just 8 individuals.

FLIGHT: Very late March or early April to late June, rarely to mid-July. Oddly -- perhaps because of the subspecies differences -- the mountain flight period starts about the same time as those downstate, and seemingly ends earlier; in most species, the flight in the mountains should be staggered later in starting and ending dates than those downstate.

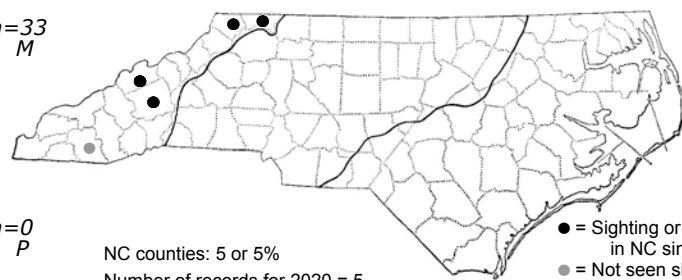
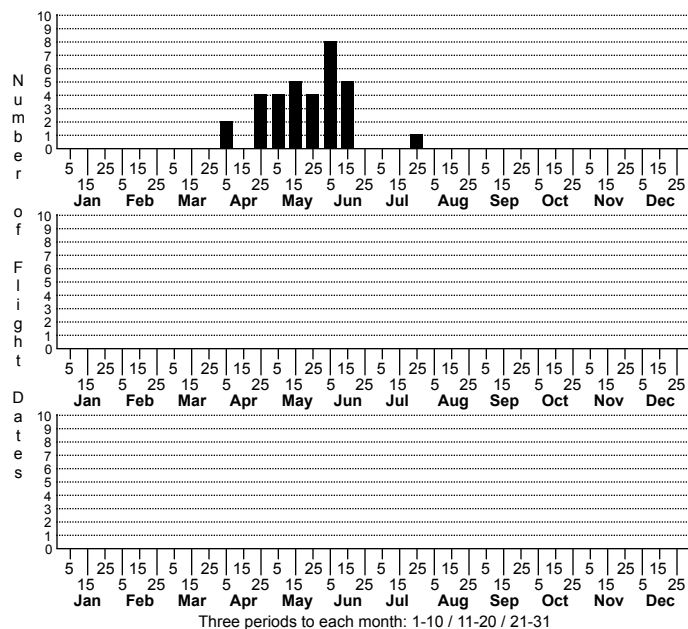
HABITAT: Small or medium creeks, with sandy bottoms and well-vegetated banks.

BEHAVIOR: Adults only infrequently perch on the ground or dirt, but instead typically perch on low vegetation close to the water.

COMMENTS: The species is not overly well known in NC, in part because it is essentially absent from the northeastern Piedmont where more biologists live and study odonates. Nonetheless, based on its range in the state, it does not appear to be rare in at least parts of the range. More field work is needed in the southern Piedmont to determine the boundaries of the ranges of the two subspecies and to determine whether there actually is a small hiatus between their ranges.

The N.C. Natural Heritage Program added the species to its Watch List in 2012.

Hylogomphus viridifrons Green-faced Clubtail



High counts of:
 8 - Madison - 2018-05-14
 6 - Macon - 1983-06-15
 5 - Buncombe - 2012-05-01

Earliest date: Buncombe 2012-04-05
 Latest date: Madison 2019-07-25

Status		Rank	
NC	US	NC	Global
SR	-	S1	G3G4

Synonym: *Gomphus viridifrons*

DISTRIBUTION: A Northern species, with the southeastern edge of the range reaching the mountains of the Carolinas and extreme northeastern GA (Rabun County). So far, NC records are only for Ashe, Alleghany, Buncombe, Madison, and Macon counties; however, it is likely being overlooked because of identification difficulties.

ABUNDANCE: Dunkle (2000) says it is "scarce" within its overall range, and NatureServe gives it a G3G4 (rare to uncommon) global rank. Thus, it is assumed to also be rare in NC, especially considering that we have only 33 state records with dates. However, it is not rare immediately along the French Broad River in Madison and Buncombe counties, at least in recent years.

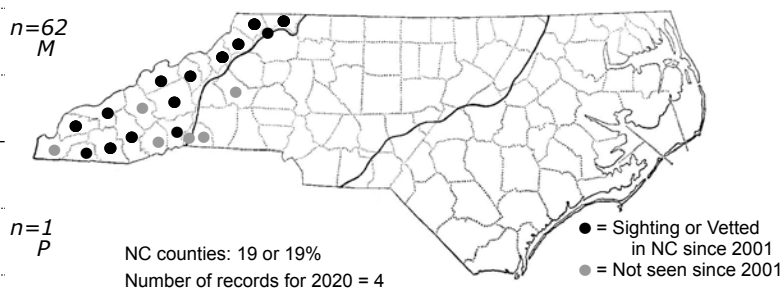
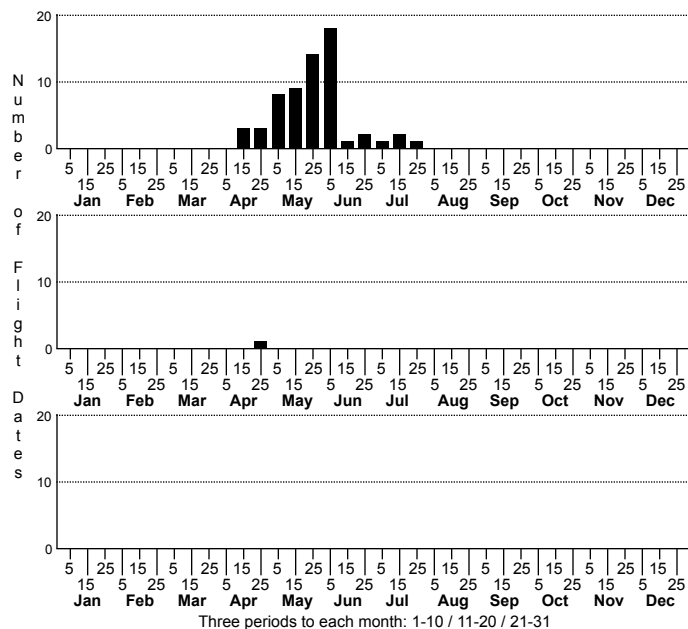
FLIGHT: Mainly late April into mid- or late June, but there are two fairly recent records in early April; the flight period might be moving earlier in the past few years.

HABITAT: Rocky and fast-moving rivers and large streams. Likes a mixed substrate of silt and gravel.

BEHAVIOR: The species is most active late in the afternoon or in cloudy conditions. Males may perch on rocks in the rivers, or on vegetation or the ground near the shore.

COMMENTS: This is one of many clubtails that are poorly known in NC, as well as rather rare/scarce throughout the overall range. Thankfully, the large gap in the NC range between Ashe and Macon counties was "filled" by records from Madison and Buncombe counties in spring 2012. Jeff Phippen photographed one (shown on his website) from many angles, on 9 April, and this set of photos was reviewed by experts and determined to be this seemingly rare species. This is a difficult-to-identify species; in fact, several of this website's reviewers/editors have determined in 2016 and 2017 that quite a few photo records previously identified as Mustached Clubtail appear to be Green-faced Clubtail, and have been moved to this species account. Also, Green-faced Clubtail can easily be confused with Cobra Clubtail. All three species occur, or are believed to occur, along the French Broad River in Madison and Buncombe counties. What is most puzzling is that, despite this flurry of recent photographic records from Buncombe and Madison Counties, Duncan Cuyler never collected any individuals of Green-faced Clubtail from either of these counties!

Lanthus vernalis Southern Pygmy Clubtail



High counts of:
 10 - Madison - 2019-04-16
 8 - Ashe - 2007-06-09
 6 - Avery - 2015-05-12

Status	Rank	
	NC	US
-	-	S4
-	-	G4

Earliest date: Madison 2012-04-12
 Latest date: Ashe 2006-07-22

DISTRIBUTION: Throughout the mountains. Known from nearly all counties in the mountain province, but no records downstate. Despite the common name -- Southern (as opposed to the Northern, for *Lanthus parvulus*) -- this is an Appalachian and somewhat Northern species, ranging south only to the extreme northern mountains of GA.

ABUNDANCE: Fairly common and widespread. It is one of the more numerous of the clubtails in the NC mountains, even in the southernmost mountain counties.

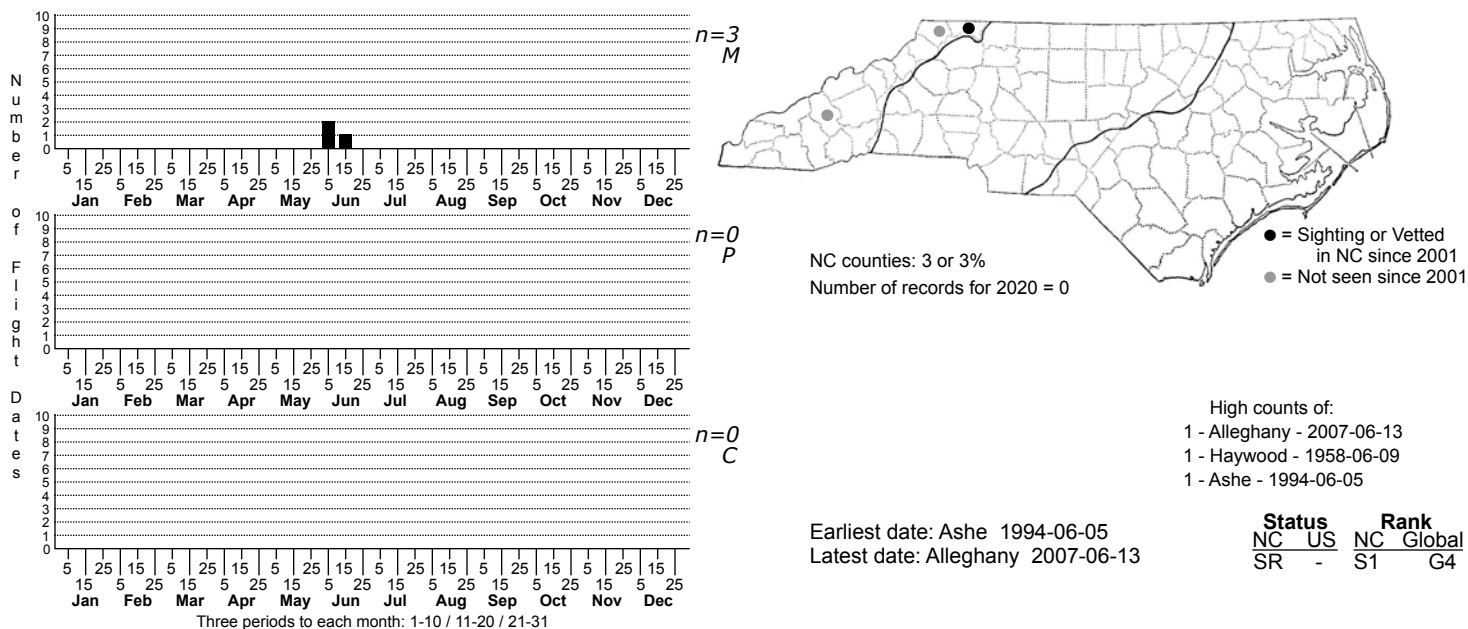
FLIGHT: Though both Dunkle (2000) and Beaton (2007) mention or graphically portray the early date as mid-May, many have been seen in NC earlier in the season. Perhaps global warming is moving the flight in NC earlier, but its flight in the state is now from mid-April to mid- or late July. The peak occurs from mid-May to early June.

HABITAT: Typically breeds at small, rocky streams, often where shaded.

BEHAVIOR: Usually seen perched on vegetation, often well away from streams, but in wooded areas, such as along wide trails and dirt roads. Rather unwary and easily studied.

COMMENTS: By early or mid-May, this can be a somewhat easily found dragonfly near streams and along dirt roads through bottomlands or along streams. It is one of the smaller clubtails, and it is somewhat slender as well. Interestingly, Dunkle (2000) calls the species "uncommon" across its range, and Beaton (2007) calls it "rare to locally uncommon" in its small northern Georgia range. Perhaps it is more common in NC than elsewhere within its range.

Ophiogomphus aspersus Brook Snaketail



DISTRIBUTION: This is a Northern species, apparently with a disjunct population in the southern Appalachians. In NC, it is found primarily in the northern mountains (next to the VA state line), with an outlier record from Haywood County.

ABUNDANCE: Rare (at best) in the vicinity of the New River in Ashe and Alleghany counties, and certainly very rare to absent farther southward in the mountains. This is especially true in that all known daily counts are of just a single individual. This is certainly one of the state's rarest dragonflies for which there is a definite recent record; there are a handful of other dragonflies that are just as rare (or rarer) for which there are no certain records in the past 20 years and thus might actually have been extirpated from the state.

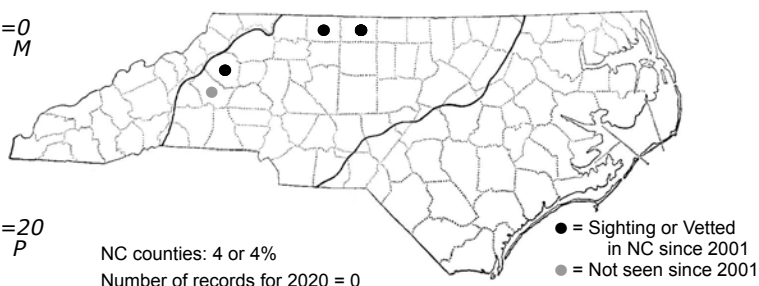
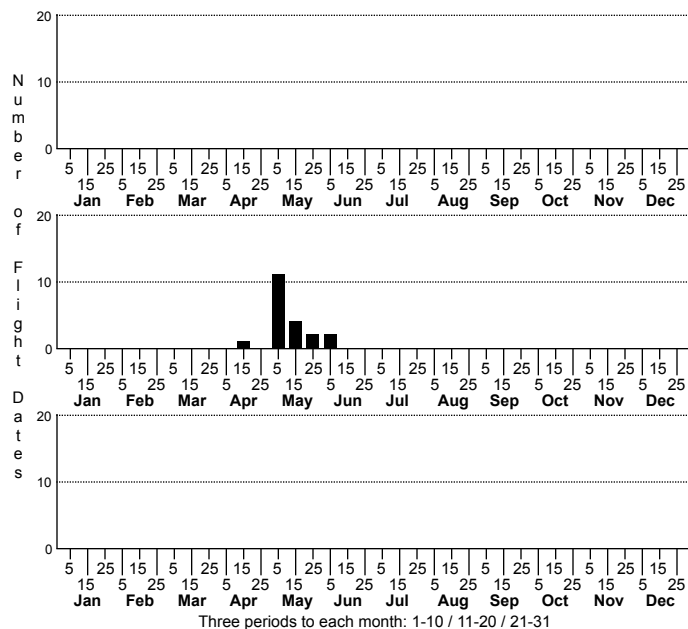
FLIGHT: Probably the latter part of May into most of June. The only NC dates available are for a very narrow period of 5-13 June, though of course the flight period must surely be a month or more.

HABITAT: Not surprisingly, it breeds in clear, rocky rivers or streams, but Dunkle (2000) says these waters are "in the open", with brushy margins.

BEHAVIOR: Adults forage both near water and in fields and woodland roads/trails. Males perch on rocks in the rivers/creeks and elsewhere.

COMMENTS: This is another of the many clubtails that is very poorly known in the state, in part because the southern edge of the range apparently includes only a relatively few counties (in the mountains). Ted Wilcox's record came from the New River, as did a collection record from Duncan Cuyler. (Thus, the habitat as written in most guides is not strictly "brooks" or "streams", but it can be larger rivers such as the New.) Biologists looking for clubtails in the mountains always should check first alongside the largest and rockiest rivers available -- in the case of Ashe and Alleghany counties, it is the New River.

Ophiogomphus edundo Edmund's Snaketail



High counts of:
16 - Rockingham - 2012-05-02
14 - Rockingham - 2019-05-01
12 - Rockingham - 2015-05-07

Earliest date: Rockingham 2016-04-13
Latest date: Burke; P 1994-06-04

Status	Rank	
	NC	US
SR	-	S1
		G2

DISTRIBUTION: According to the OdonataCentral map, this species has now been found in just 10 counties in its range, in western NC, southeastern TN, extreme western SC, and northern GA. The NC range is the escarpment/foothills, in Caldwell and Burke counties, plus a few sites in Stokes and Rockingham counties in the northwestern Piedmont. This clubtail species ought to be present in other NC foothill counties, especially south of Burke County, as well as in the gap between Stokes and Caldwell counties. Biologists have looked for it in adjacent VA, near the NC sites, but have come up empty so far.

ABUNDANCE: Very rare throughout its range, as well as in NC. However, at the very few locations where found, there have been moderate numbers seen in a given day -- especially along the Mayo River in Rockingham County, as opposed to just a single individual.

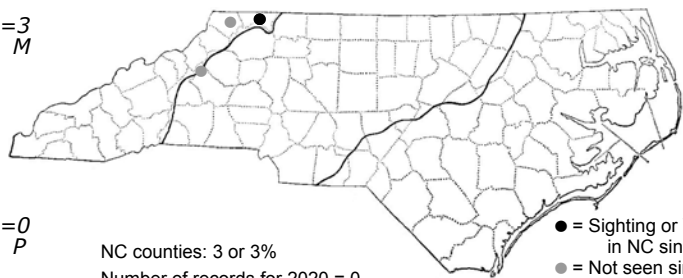
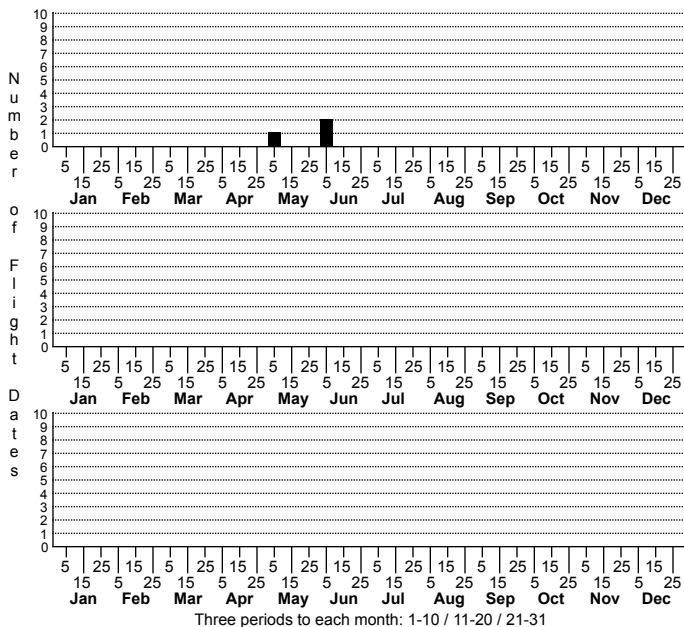
FLIGHT: The flight in NC, based on 20 records, is from mid-April to early June, if not slightly longer. The Georgia records fall between 24 April and 25 May (Giff Beaton's website).

HABITAT: Rivers and larger creeks with fast-flowing, clear water. The three bodies of water (Mayo and Dan rivers and Wilson Creek) where recently seen in NC are fast-flowing large creeks/small rivers.

BEHAVIOR: Males are seldom seen except when perching on rocks in the rivers and streams. Dunkle (2000) says that the adults, at least males, spend most of their time high in trees.

COMMENTS: This species was considered to be of historical global occurrence (GH) until re-discovered in 1994 in the NC foothills. It has been searched for in the state in the Burke/Caldwell vicinity a few times since the discovery, but observers had met with failure until John Petranka found some numbers at two sites along Wilson Creek in Caldwell County, in May 2016. Of greater significance was Ed Corey's remarkable discovery of the species in Rockingham County in 2012, observing 16 individuals, photographing and collecting one to document this major range extension into the middle Piedmont. Other biologists have re-found this species there in recent years. In spring 2017, Brian Bockhahn and Kyle Kittelberger discovered a new location at the Dan River in Stokes County. With a global rank of G2, this may be globally the rarest dragonfly that occurs in NC. In fact, it ought to have been Federally listed as Endangered or Threatened already.

Ophiogomphus howei Pygmy Snaketail



High counts of:
 2 - Alleghany - 2008-05-10
 1 - Alleghany - 2007-06-06
 1 - Ashe - 1994-06-05

Earliest date: Alleghany 2008-05-10
 Latest date: Alleghany 2007-06-06

Status		Rank	
NC	US	NC	Global
SR	-	S1	G3

DISTRIBUTION: This is a Northern/Appalachian species that ranges south to the mountains of NC. Within the state, it is known from only three mountain counties -- Alleghany, Ashe, and Burke.

ABUNDANCE: Undoubtedly very rare. Dunkle (2000) also considers the species to be "scarce" throughout its range.

FLIGHT: The only NC dates available to us are 10 May, 5 June, and 6 June, from Alleghany and Ashe counties. The date(s) for the Burke County record is not known. Thus, the flight is presumed to occur from early May to early to mid-June.

HABITAT: Breeds at large, clear rivers, with sand or gravel bottoms.

BEHAVIOR: Males fly in a bouncy manner low over ripples in the rivers, where they are difficult to observe.

COMMENTS: This is the smallest snaketail and one of the smallest of the clubtails, typically well under 1.5 inches in length. As with so many other clubtails, especially those restricted in NC to the mountains, it is practically unknown to most biologists. The New River in Ashe and Alleghany counties is the best spot to look for this and many other rare or poorly known dragonflies in our mountains. Not only is it very rare in NC (with a State Rank of S1), it is also globally rare (with a Global Rank of just G3).

Ophiogomphus incurvatus Appalachian Snaketail

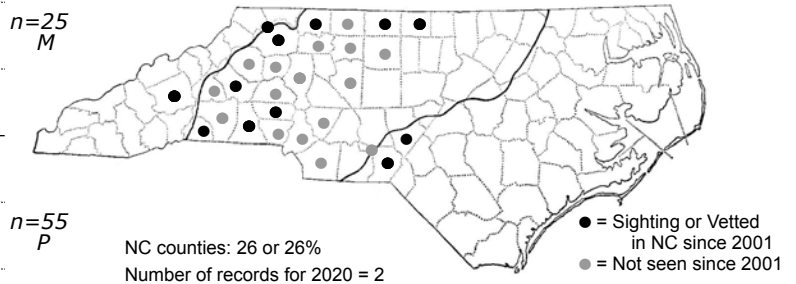
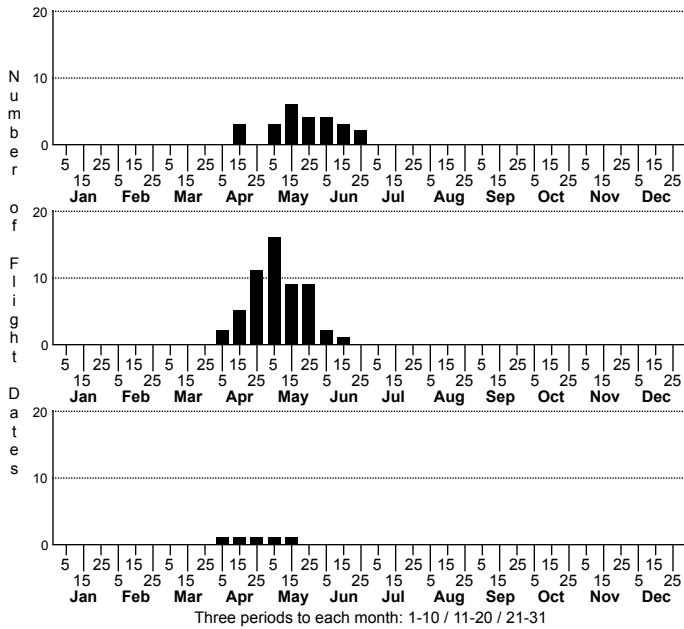


Photo (vetted) in 2020: Polk; P

High counts of:
12 - Richmond; C - 2019-04-15
6 - Caswell - 1982-04-23
5 - Richmond; C - 2019-04-22

Earliest date: Richmond; C 2020-04-04
Latest date: Buncombe 2013-06-30

Status	Rank		
NC	US	NC	Global
W	-	S3	G3

DISTRIBUTION: Throughout the western and central Piedmont; and sparingly in the lower elevations of the mountains, though so far known only from Buncombe County in that province. Apparently absent from the northeastern Piedmont. Recorded east to Caswell, Guilford, Moore, and Richmond counties; in the latter two counties, the records have come from the Sandhills region within the Coastal Plain. For some odd reason, the species has a rather limited range from MD to AL, and even though the common name is "Appalachian", and the general range is the southern Appalachians and Piedmont, for some interesting reason (elevation?) there are few "true" mountain records for NC.

ABUNDANCE: Uncommon to locally fairly common. It is quite widespread for a clubtail in the state, as there are records for most counties in the western 2/3rds of the NC Piedmont. However, this is globally a scarce species, as NatureServe has a G3 (rare) global rank. Thus, NC might have the highest density of the species.

FLIGHT: Early or mid-April to late June, both in the mountains/foothills and in the remainder of the Piedmont and western Sandhills. The records for Richmond County are from early April to mid-May, and thus in the southern Piedmont and Sandhills counties, the flight may start about 7-10 days earlier than in the northern Piedmont/foothills.

HABITAT: Small to medium streams, often in the open, for breeding; usually the streams are clear with some riffles and some gravel.

BEHAVIOR: Males typically perch on twigs or low vegetation near a creek; they make short patrols over the water.

COMMENTS: Though this is a globally scarce species, with Paulson (2011) calling it "rare" and Dunkle (2000) calling it "uncommon", it apparently is most numerous in its range in the western and central NC Piedmont. Snaketails (clubtails in the genus *Ophiogomphus*) are typically a bit more colorful than clubtails in other genera, especially with the bright lime-green or grass-green sides of the thorax. Because of its G3 global rank, though it is not a rare species in NC, the N.C. Natural Heritage Program has added the species to its Watch List in 2012. There have been quite a few recent records, and most significant are the handful from small Sandhills streams in the far western Coastal Plain (Moore and Richmond counties). In fact, this is our only snaketail (*Ophiogomphus*) that occurs in the Coastal Plain, even if just at the western edge. However, despite these recent records from the western Sandhills, there has been nary a single recent record for the large region from Richmond and Moore counties to the Piedmont foothills. Has the species clearly declined across most of the Piedmont, or is there simply not enough field work in the southern Piedmont?

Ophiogomphus mainensis Maine Snaketail

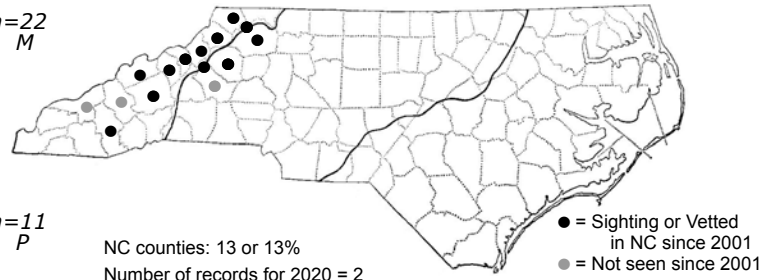
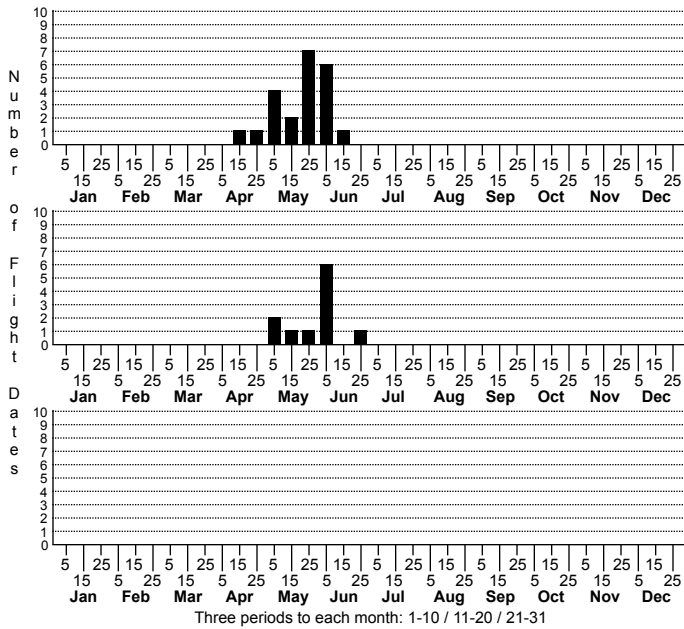


Photo (vetted) in 2020: Madison

High counts of:
22 - Caldwell - 1994-06-07
6 - Caldwell - 1994-06-02
4 - Wilkes; P - 2016-05-25

Earliest date: Madison 2020-04-20
Latest date: Wilkes; P 2016-06-22

Status		Rank	
NC	US	NC	Global
W	-	S3	G4G5

DISTRIBUTION: Essentially the mountains only, including Atlantic drainage streams along the upper Piedmont/Blue Ridge Escarpment. Probably ranges throughout the mountain province, as this is a Northern species but yet ranging south to northern GA (two counties). Records are lacking for the four extreme southwestern counties.

ABUNDANCE: Rare to uncommon, and best called "uncommon in the northern mountains to rare in the southern mountains". Not as rare as several other mountain/foothills-only clubtails, as NC now has records for 13 counties. In fact, there are recent records, including photos, for most of these counties.

FLIGHT: Formerly early or mid-May to mid-June; however, in recent years the flight period seems to be moving earlier, as there is a 2015 record as early as 21 April, and now a 2020 record for 20 April. Thus, the flight is roughly from late April to mid-June.

HABITAT: Clear and rapid mountain streams or small rivers, in forested areas, for breeding.

BEHAVIOR: Males perch on rocks in the streams, but adults tend to feed in fields, according to Dunkle (2000). Several NC records are well away from obvious streams or rivers.

COMMENTS: This species has a fairly extensive range in terms of latitude, from New Brunswick to northern Georgia, but it ranges west only through the Appalachians. As Dunkle (2000) calls it "fairly common", and Beaton (2007) cites three records from northern Georgia, we suspect that it is not rare in NC, but probably uncommon, likely being present in most counties in the mountains with further study. In fact, in October 2018 this species was indeed moved by the N.C. Natural Heritage Program from its Rare List to the Watch List.

Ophiogomphus rupinsulensis Rusty Snaketail

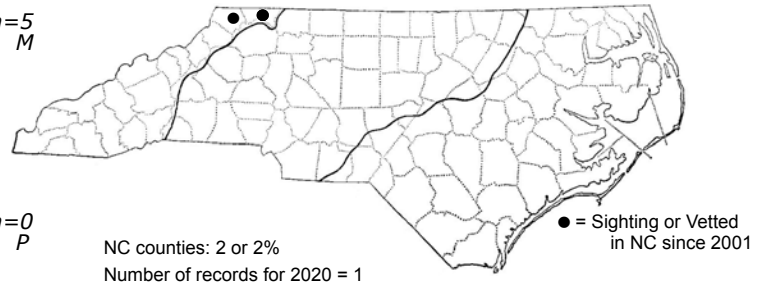
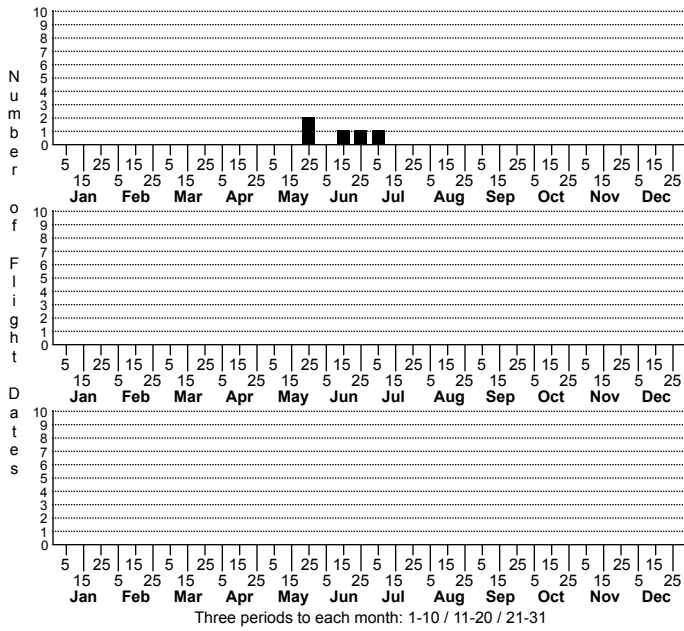


Photo (vetted) in 2020: Ashe

High counts of:
3 - Alleghany - 2007-06-13
3 - Alleghany - 2009-05-31
1 - Alleghany - 2006-06-22

Earliest date: Alleghany 2006-05-28
Latest date: Ashe 2019-07-06

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: Northern, ranging south to extreme northwestern NC and TN. Known in NC only from Alleghany and Ashe counties, where first reported (photos) in 2006. The only records so far are from the New River (which includes the South Fork of this river).

ABUNDANCE: Certainly must be very rare in NC. Within its fairly broad/wide range, however, Dunkle (2000) calls it "fairly common".

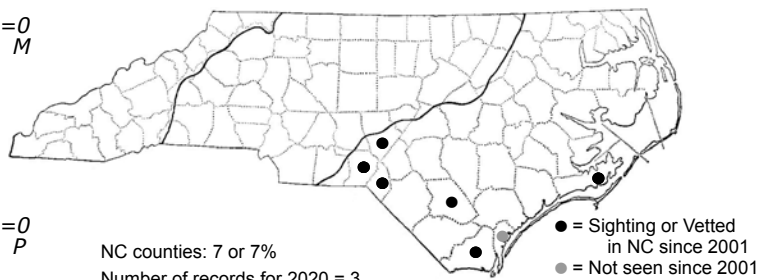
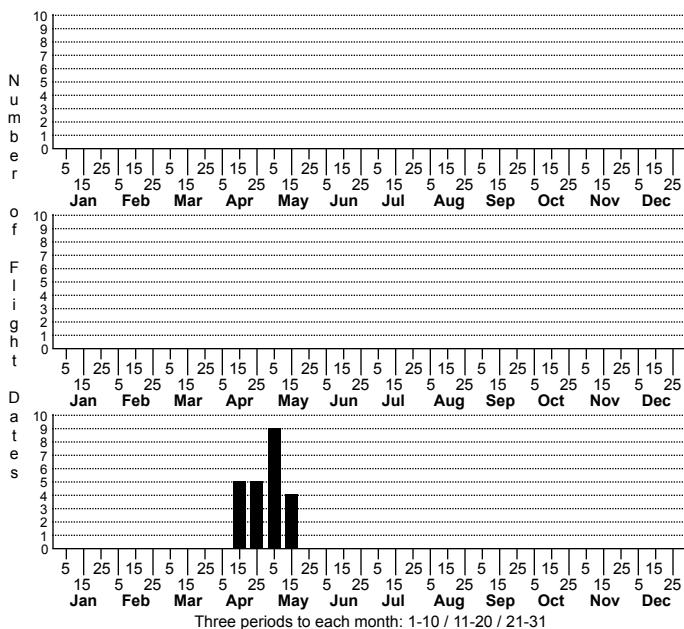
FLIGHT: The NC records fall between 28 May and 6 July. However, Mead (2003) gives a wide range from mid-May to mid-August for the MN area, and Dunkle (2000) gives "Early May to late Sep."; this is a remarkably wide spread of flight dates for any clubtail!

HABITAT: Large streams and rivers, where water is clear, with rapids and riffles.

BEHAVIOR: Adults, where present, are rather easily seen, as they often perch on dirt or other ground or low vegetation. As with most clubtails, males often perch on rocks in the rivers while guarding territories.

COMMENTS: This species had been reported to occur in NC in one or more references prior to 2006, though we were aware of no documentation, and Duncan Cuyler had no specimen data for the species in NC. Fortunately, while photographing dragonflies at the Alleghany County section of New River State Park on 28 May and again on 22 June, 2006, Ted Wilcox documented this species along the margins of the New River with excellent photographs. Sharon Watson photographed one along the South Fork New River in central Ashe County on 6 July 2019.

Phanogomphus australis Clearlake Clubtail



High counts of:
10 - Richmond; C - 2011-05-05
8 - Scotland - 2017-05-08
4 - Richmond; C - 2015-05-08

Earliest date: Brunswick 2017-04-12
Latest date: Bladen 2013-05-20

Status	Rank	
	NC	Global
SR	-	S2 G4

Synonym: *Gomphus australis*

DISTRIBUTION: The southern Coastal Plain, from Carteret County west to Moore and Richmond counties. As would be surmised from the range, NC lies at the northern edge of the species' range. The Richmond County records (photographs first taken in 2011) extend the range slightly northward, and a record from adjacent Moore County in 2017 extends the range even more to the north. A photographic record in 2013 confirms the species from Bladen County, filling a gap in the former range. A photographic record from Carteret County in 2017 greatly extends the range eastward.

ABUNDANCE: Extremely local, known from only a handful of lakes and ponds in the state; however, not scarce at one or two sites in Richmond County. Range and abundance between the lower Coastal Plain and the Sandhills (Richmond County) is unknown, but SC has no records away from the Sandhills/Fall Line counties. Interestingly, as many as 10 individuals have been seen at the Richmond County site.

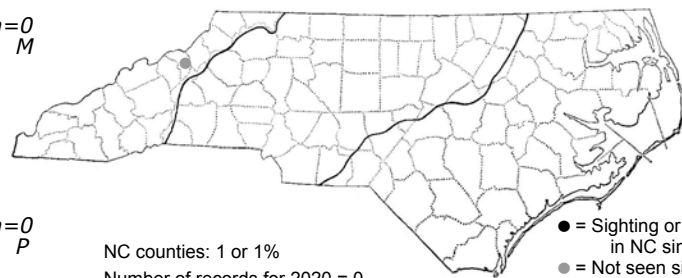
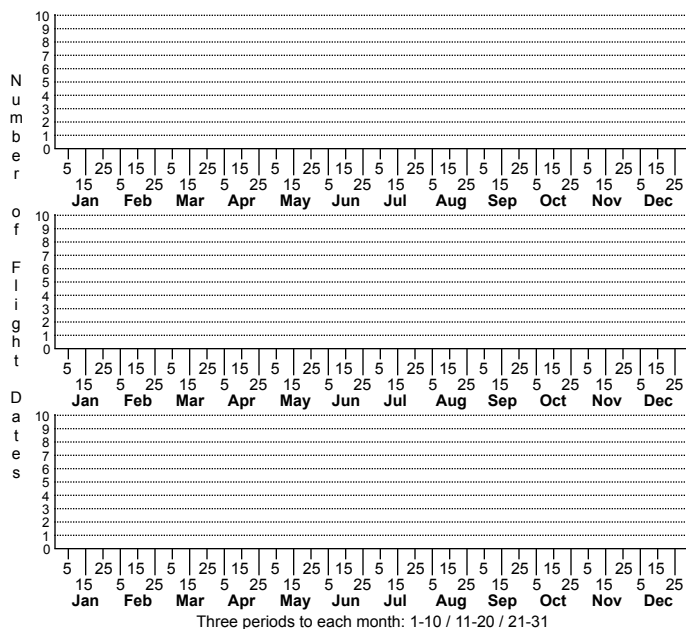
FLIGHT: Fairly early in the season: mid-April to mid-May.

HABITAT: Lakes and ponds with sand bottoms and heavy vegetation, often with lily pads. The primary Richmond County site is a lake adjacent to a fish hatchery, with some dense concentrations of lily pads and other aquatic vegetation, particularly near the dam. The Bladen County record is from a large natural Carolina bay lake. The Carteret County site is a fairly large limesink pond, in otherwise sandy pinelands.

BEHAVIOR: Males perch on lily pads and other vegetation close to the lakes and ponds.

COMMENTS: Both Dunkle (2000) and Beaton (2007) mention the association of the species with lily pads. Thus, it suggests that biologists should try to find the species by searching out ponds or lakes with many lily pads. Gratifyingly, in the past few years, biologists have expanded the range and known sites and counties for the species in NC; it is not nearly as rare as thought just a few years ago, and the State Rank has been moved from S1 to now S2 in 2020.

Phanogomphus borealis Beaverpond Clubtail



● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

High counts of:

Earliest date: ?
 Latest date: ?
 Synonym: *Gomphus borealis*

Status		Rank	
NC	US	NC	Global
SR	-	SH	G5
		[SX]	

DISTRIBUTION: Known from just one mountain county -- Mitchell. This is the southern end of the range of this Northern species. In fact, it has been recorded in just one VA county (Highland).

ABUNDANCE: Of long historical occurrence in the state (pre-1938), and likely gone forever. There are a few other odonates in the state that have not been seen in over 20-25 years, with a State Rank of SH, but these could well be re-discovered (such as Phantom Darner and Townes's Clubtail).

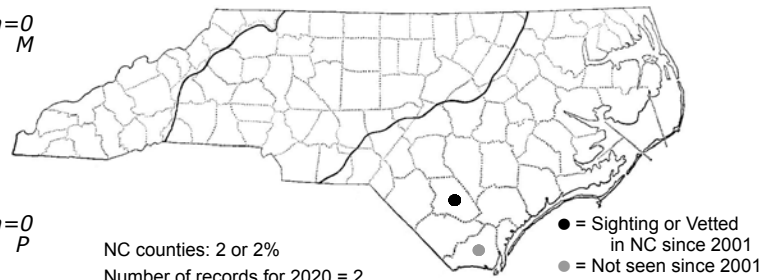
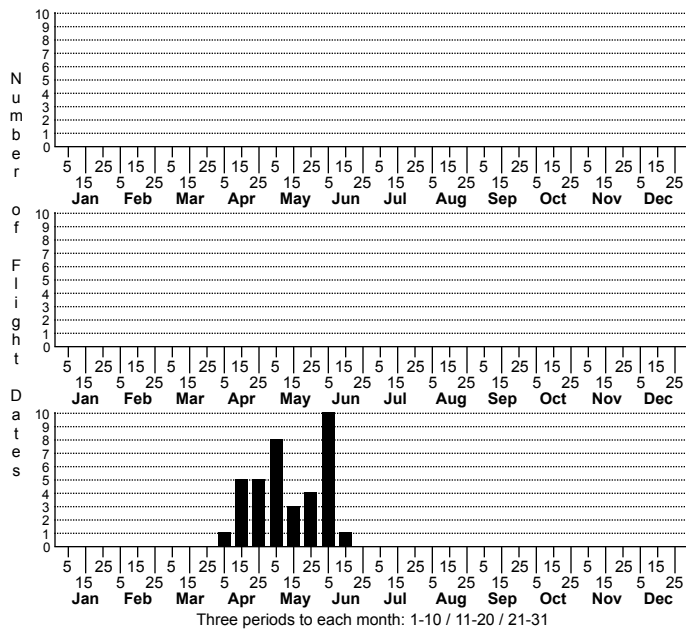
FLIGHT: Probably May into July, inferred from Dunkle (2000). The record, which appeared in Brimley's 1938 "The Insects of North Carolina" publication, was taken in July (year not given).

HABITAT: Lakes, ponds, and large, slow-moving streams. Mainly with mud bottoms. Beaver ponds are only one of many habitats used in its range.

BEHAVIOR: Males perch on the ground or vegetation near ponds.

COMMENTS: Duncan Cuyler (pers. comm. to the N.C. Natural Heritage Program) suggested an historical status for the species, as he had searched for it a few decades ago, and could not find the species. Brimley's publication mentions that it was collected at Magnetic City (now Buladean) in the month of July; obviously, this record is pre-1938 and thus is over 80 years ago. Though ranked currently just as SH (Historical), it could easily be ranked as SX (Extirpated); there appear to be no recent records south of PA.

Phanogomphus cavillaris Sandhill Clubtail



High counts of:
18 - Bladen - 1966-05-08
17 - Bladen - 2019-05-06
15 - Bladen - 1966-05-08

Status	Rank	
	NC	US
SR	-	S1
		G4

Earliest date: Bladen 2020-04-08
Latest date: Brunswick 1987-06-11

Synonym: *Gomphus cavillaris*
Other Name: Brimley's Clubtail - *Phanogomphus cavillaris* brimleyi

DISTRIBUTION: Extreme southeastern corner of the state (Bladen and Brunswick counties only); disjunct from the main part of the range in FL and extreme southern GA. Surprisingly, not yet known from SC.

ABUNDANCE: Very rare and local in NC, but numerous at one or more sites in Bladen County. Dunkle (2000) calls it "common" in FL, but the fact that the species hasn't been found in SC or most of GA suggests that it must be quite scarce (or absent) away from natural lakes or natural limesink ponds.

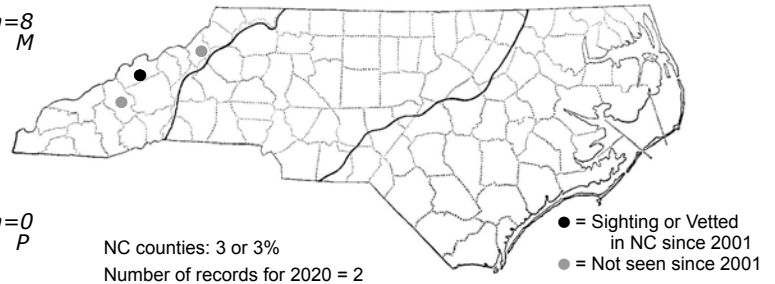
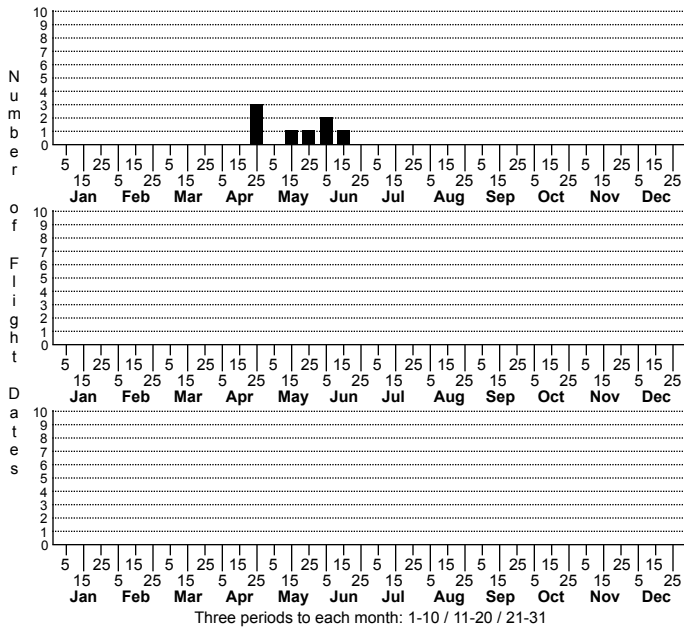
FLIGHT: Spring to very early summer. NC dates fall between mid-April and mid-June.

HABITAT: Sand-bottomed lakes and ponds only; so far only at or near natural Carolina bay lakes and limesink ponds. Individuals are often seen along the shoreline of a natural lake, perching on the sand. One seen in May 2015, however, was over a mile from the nearest lake and perched on the ground along a roadside.

BEHAVIOR: Males perch on the ground or in vegetation near natural lakes and ponds.

COMMENTS: The subspecies in NC is *Phanogomphus cavillaris* brimleyi. This subspecies is also found in the panhandle of Florida; the nominate subspecies (*P. c. cavillaris*) is found throughout the FL peninsula. Ed Corey saw and photographed several individuals on 3-4 June 2008 at bay lakes in Bladen County, to confirm that the species still has a presence in NC. Over 30 additional records were made between 2009 and 2020, at various bay lakes in this county, and thus it is not restricted to just one or two sites. Note, however, that all of the non-Bladen records (i.e., Brunswick County) are from 1992 and earlier; thus, currently it is just known from a single county. In that county, the individuals noted by Cuyler were presumably using the many limesink ponds for their habitat.

Phanogomphus descriptus Harpoon Clubtail



High counts of:
 1 - Haywood - 1958-06-09
 1 - Avery - 1965-05-16
 1 - Avery - 1965-06-06

Earliest date: Madison 2020-04-22
 Latest date: Avery 1934-06-16

Status		Rank	
NC	US	NC	Global
SR	-	S1	G4G5

Synonym: *Gomphus descriptus*

DISTRIBUTION: Mountains only, where recorded only from three counties (Avery, Madison, and Haywood). NC is at the southern end of the range, as the species does not range into the GA mountains. The species ranges north into southeastern Canada.

ABUNDANCE: Very rare, as records only for three mountain counties and only seven records with dates at the present time.

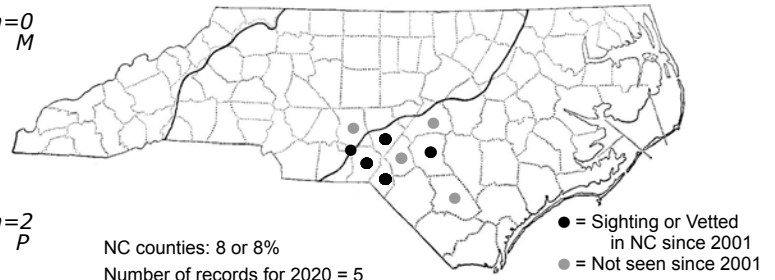
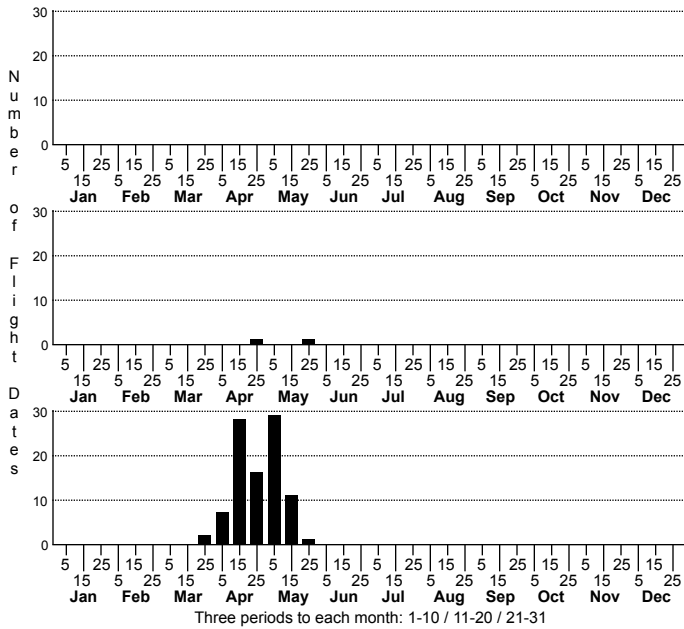
FLIGHT: Late April into mid-June. The dates available for NC fall from 22 April to 16 June.

HABITAT: Breeds at rocky streams and rivers. All NC records are from the vicinity of small to moderate-sized rivers (i.e., French Broad, Linville, and East Fork Pigeon).

BEHAVIOR: Males perch on rocks in rivers and streams, on the ground near the water, or on vegetation close to the water.

COMMENTS: This is another poorly known dragonfly in NC. Until recently, the last known record for NC was from 1965, and it had been considered of historical occurrence. However, a male photographed by Vin Stanton in 2013 from the French Broad River in Madison County reconfirms this species in the state. One was well observed close to the same area in May 2016, and again in April 2020 (with photos by Pete Dixon). Continued field work for clubtails in the mountains is greatly needed, especially by persons seeking out rare species by netting them along creeks and rivers, and could lead to additional records for this species.

Phanogomphus diminutus Diminutive Clubtail



High counts of:
33 - Moore; C - 1965-05-01
20 - Scotland - 2015-05-03
20 - Scotland - 2020-04-17

Earliest date: Scotland 2020-03-27
Latest date: Montgomery 1970-05-27

Status		Rank	
NC	US	NC	Global
W	-	S3S4	G3G4

Synonym: *Gomphus diminutus*

DISTRIBUTION: Essentially only the Sandhills region, plus the adjacent southern Coastal Plain, east to Harnett, Cumberland, and Bladen counties. NC lies at the northeastern edge of the species' range. The species has one of the more limited ranges for a dragonfly -- primarily along the Fall Line sandhills from NC, through central SC, to extreme eastern GA.

ABUNDANCE: Uncommon to locally fairly common in the Sandhills, but very rare to the east. Can occur in some numbers, as there are three daily counts of 20 or more individuals.

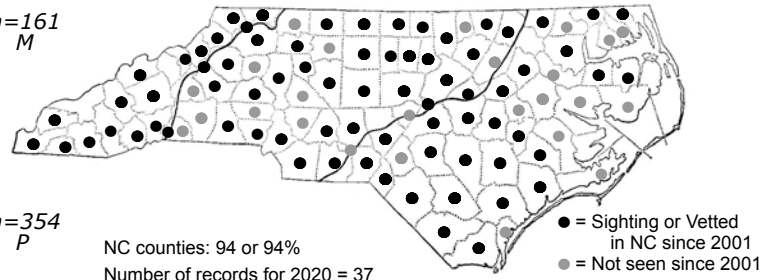
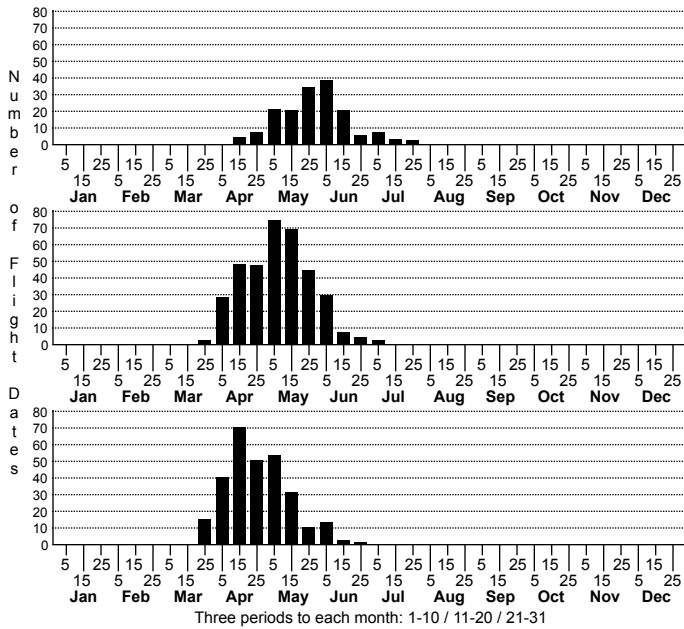
FLIGHT: Spring season only; very late March to late May.

HABITAT: Sunny margins of lakes, ponds, pools, and other slow-moving water, often around sphagnum moss or other "boggy" ground.

BEHAVIOR: Adults perch on the ground in the boggy places or dirt/ground nearby. They probably do not stray too far from such wet areas.

COMMENTS: In the Sandhills, this species is not too difficult to find, if one walks along the boggy, open margins of beaver ponds or man-made ponds, especially looking near sphagnum moss. Wet spots in powerline clearings can also have the species. It is one of the smaller clubtails, appearing similar at a glance to the much more common Lancet Clubtail, but the Diminutive (as the common name implies) is even slimmer and slightly shorter than the Lancet. A previous photo from Brunswick County that was identified as this species has been confirmed by the website editors (in late 2016) as a different species and thus this county has been removed from the range map.

Phanogomphus exilis Lancet Clubtail



High counts of:
20 - Harnett; P - 2010-04-19
20 - Wake - 2010-05-30
20 - Durham - 2016-04-14

Earliest date: Anson 2020-03-21
Latest date: Ashe 2007-07-29

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Synonym: *Gomphus exilis*

DISTRIBUTION: Unlike most of the other clubtails in NC, this species ranges throughout the state, occurring in essentially all counties, though there are no records for a few mountain and eastern Coastal Plain counties.

ABUNDANCE: Common and widespread. Generally the most common and often seen clubtail over most of the state, especially in the Coastal Plain. Presumably not common in the higher mountains.

FLIGHT: Mainly in the spring. Downstate, from the end of March to late June, peaking in April and early May. In the mountains, the dates are from mid-April to late July, with a peak in early June.

HABITAT: Breeds mainly at ponds and small lakes, but also at streams.

BEHAVIOR: Adults frequently perch on dirt roads, sunny trails, and other bare areas, often a long way from water. They also perch on low vegetation near water.

COMMENTS: Over most of the state, this and the similar Ashy Clubtail are the most frequently observed clubtails by the average person, as both frequently perch on dirt roads and are rather unwary. Differentiating between the two can be somewhat tricky, though the Lancet is slightly smaller, slimmer, and brighter-colored, among several other field marks.

Phanogomphus lividus Ashy Clubtail

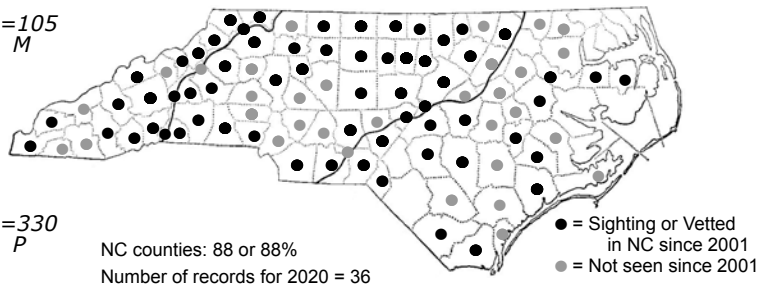
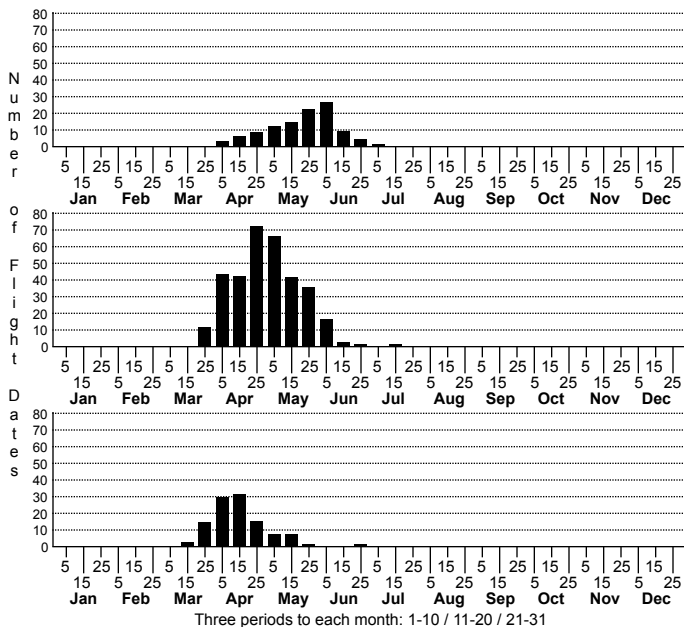


Photo (vetted) in 2020: Jackson

High counts of:
 30 - Rockingham - 2019-04-11
 20 - Orange - 2016-03-29
 20 - Rockingham - 2019-04-10

Earliest date: Moore; C 2020-03-18
 Latest date: Orange 2013-07-11

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Synonym: *Gomphus lividus*

DISTRIBUTION: Nearly statewide; throughout the mountains, Piedmont, and nearly all of the Coastal Plain, but possibly absent in the extreme eastern counties (no records east of Hertford, Tyrrell, and Craven counties).

ABUNDANCE: Common, except infrequent in the central and eastern Coastal Plain, and very rare to absent in the far eastern counties. Abundance equals that of the Lancet Clubtail in the Piedmont, exceeds the Lancet in the mountains, but is less numerous than that species in the Coastal Plain.

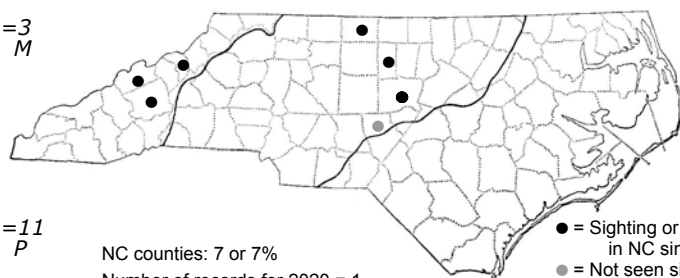
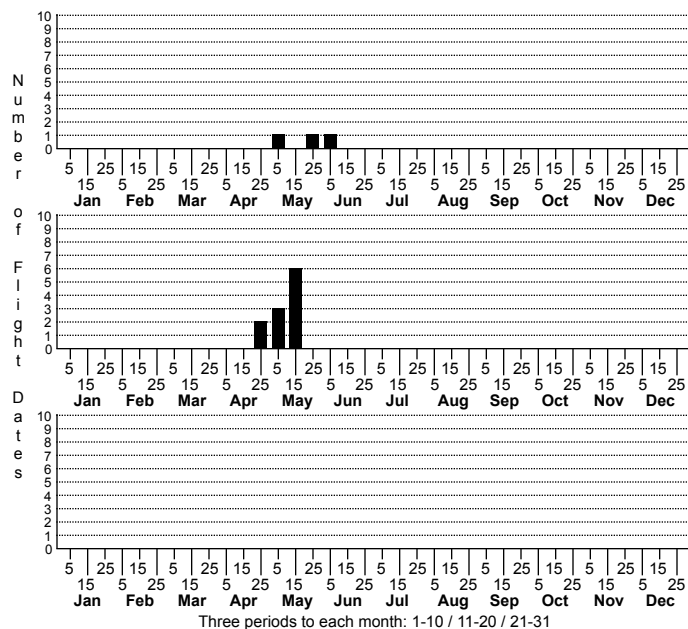
FLIGHT: Spring to very early summer season only, but a fairly wide spread of dates (for a clubtail). Generally from late March to late June, but mostly done downstate by late May (Coastal Plain) or mid-June (Piedmont).

HABITAT: Typically breeds at small creeks or rivers, less so at lakes and ponds.

BEHAVIOR: Behavior seems identical to the nearly equally numerous Lancet Clubtail. Adults commonly perch on dirt roads, trails, and other bare ground or fallen leaves, often far from water. Adults are unwary and easily studied through binoculars.

COMMENTS: Along with the Lancet, these are the most often seen clubtails in NC, typically found on most spring-season field trips to woodlands and fields with appropriate dirt roads or bare ground for perching. Ashy averages slightly longer and huskier in the abdomen than Lancet, and the thorax is slightly duller in Ashy.

Phanogomphus quadricolor Rapids Clubtail



High counts of:
2 - Chatham - 1989-05-03
2 - Alamance - 2017-05-19
2 - Mitchell - 2017-06-03

Earliest date: Chatham 2020-04-26
Latest date: Mitchell 2017-06-03

Status		Rank	
NC	US	NC	Global
SR	-	S1S2	G3G4

Synonym: *Gomphus quadricolor*

DISTRIBUTION: Primarily north and west of NC, ranging south to northern VA, eastern TN, and northern GA and AL. In NC, widely scattered in the mountains and Piedmont, known from just seven counties. A photo record from Rockingham County in 2019 slightly closed the large gap in records between the mountains and the lower Piedmont, but still hardly any records for the central and western Piedmont as yet.

ABUNDANCE: Presumed very rare in the mountains, and also very rare (and local) in the eastern Piedmont. Status in the central and western Piedmont is obviously uncertain, though it may well occur in a few places in this large region in addition to Rockingham County.

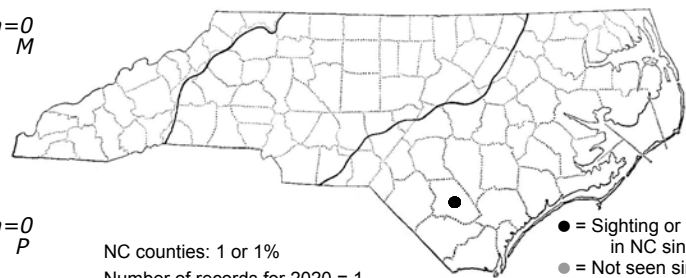
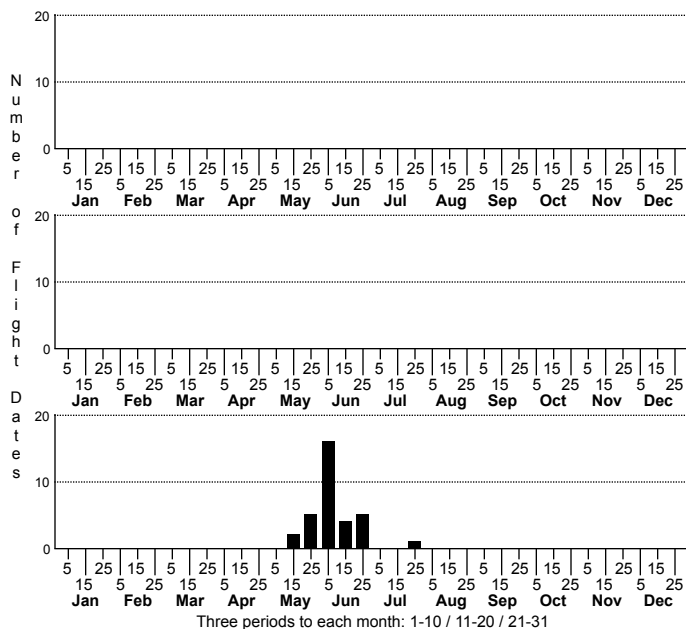
FLIGHT: A relatively short spring season flight. The flight dates from the eastern NC Piedmont are from 27 April to 19 May, and the three NC mountain records are from 6 May to 3 June. The single GA record (in the mountains) is for 16 May. Thus, the flight in NC occurs from at least late April to early June. Dunkle (2000) says "early May to mid-July" throughout the range; and Paulson (2011) lists "May-Jun" for KY.

HABITAT: Mainly at larger rivers with rocks and rapids.

BEHAVIOR: Males perch on rocks or vegetation near the rivers, but also on vegetation away from rivers.

COMMENTS: This is another rare clubtail in the state. Its distribution is oddly disjunct, as the main part of the range is north and west of the state, south to VA and TN; only one record is known from GA. This is one of many clubtails that can be difficult to identify; multiple photos or specimens are almost certainly necessary for proper documentation. Thankfully, Richard Stickney found a new location of the species, in the Haw River near Swepsonville (Alamance County), in May 2017, and documented this finding with several photographs. John Petranka added several additional photos from that site four days later; and Tim Deering and Jerrell Daigle documented the species from the Deep River in Chatham County in 2018. Both the Deep and Haw rivers are in the same (Cape Fear) drainage. However, Mike Turner photographed one in Rockingham County in 2019 near the Dan River, in the Dan/Roanoke drainage.

Progomphus bellei Belle's Sanddragon



High counts of:
30 - Bladen - 2008-06-04
15 - Bladen - 2008-06-03
14 - Bladen - 2009-06-25

Status	NC	US	NC	Global
Rank			S1	G3

Earliest date: Bladen 2018-05-13
Latest date: Bladen 2009-07-26

Other Name: Variegated Clubtail

DISTRIBUTION: Only known in NC from large, natural Carolina bay lakes in Bladen County. Known from Baytree, Jones, Salters, Singletary, Little Singletary, and White lakes. This area is highly disjunct from the main part of the range in the FL panhandle.

ABUNDANCE: Not uncommon at several lakes during at least a portion of the flight period; however, absent to extremely rare away from such lakes.

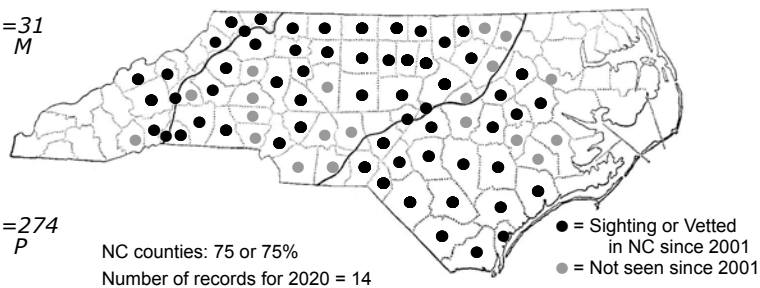
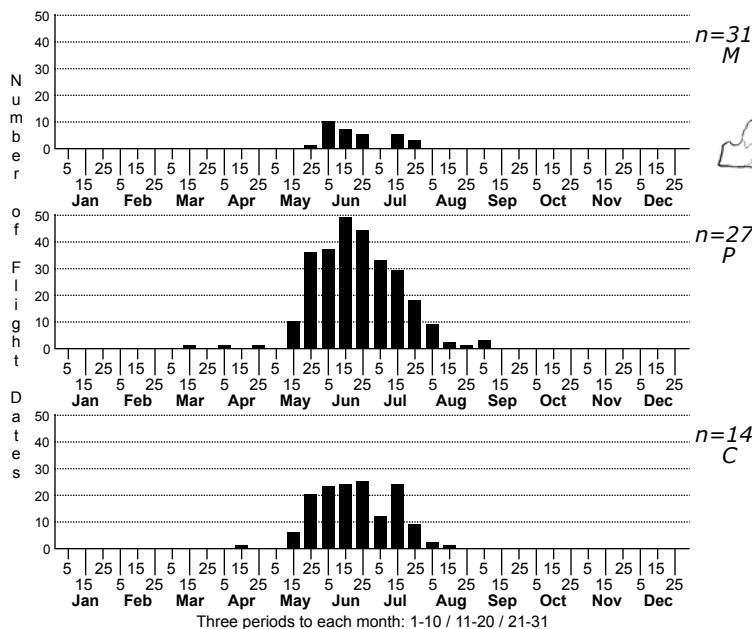
FLIGHT: The flight occurs from mid-May to late July, with the peak in early to mid-June. Dunkle (2000) gives a flight range from "Early May to mid-Aug.", though that likely applies to the FL population.

HABITAT: In NC, only at large Carolina bay lakes, with a sandy bottom and shoreline.

BEHAVIOR: Males perch on sand along the lake shorelines, but they also perch on adjacent twigs and cypress knees along the shoreline and on piers. (Sanddragons [genus *Progomphus*] are named by the habit of males for perching on damp sand.) Males make patrolling flights about a foot above the surface of the lakes, coming back to the shore to perch from time to time. They are quite wary, difficult for a person to approach within 10 feet.

COMMENTS: This is clearly one of the rarer dragonflies in the southeastern part of the country, with a global rank of G3. Of note is that the species is not known at all from intervening SC or GA. One must wonder if Belle's Sanddragon might occur at other similar large, sand-bottomed Carolina bay lakes in NC, such as Lake Waccamaw. Photos and specimens from NC have much smaller (or lack) yellow spots on the side of the abdominal club and probably warrant description as a new subspecies (though presumably not as a new species). Ed Corey found the species to be quite numerous on several dates in June 2008 at four of the State Lakes in Bladen County (photos and specimens for documentation). However, he and other State Park personnel were unable to find the species at Lake Waccamaw in Columbus County in 2008; repeated visits to this lake in recent years still have failed to find the species there.

Progomphus obscurus Common Sanddragon



High counts of:
65 - Duplin - 2017-05-27
33 - Sampson - 2019-05-24
27 - Columbus - 2017-05-17

Earliest date: Surry 2012-03-16
Latest date: Wake 2007-09-09

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, but apparently absent from the extreme northeastern and eastern counties, and of spotty occurrence in the mountains (and perhaps absent in the middle and upper elevations). No records east of Halifax, Martin, and Craven counties in the Coastal Plain; and known from just eight counties in the mountains (and none from the southwestern portion of the mountains).

ABUNDANCE: Fairly common to occasionally common in the Piedmont and much of the Coastal Plain, but seemingly absent in the northeastern and eastern portions of the latter province. Rare in much of the mountains, and presumably scarce to absent over 3000-foot elevation. This species and the Black-shouldered Spinyleg are the most frequently seen clubtails across the state during the late spring and early summer months (whereas Ashy and Lancet clubtails are the most common clubtails in the spring season). There are several one-day counts of over 25 individuals (all from the Coastal Plain), including a remarkable 65 in Duplin County in May 2017.

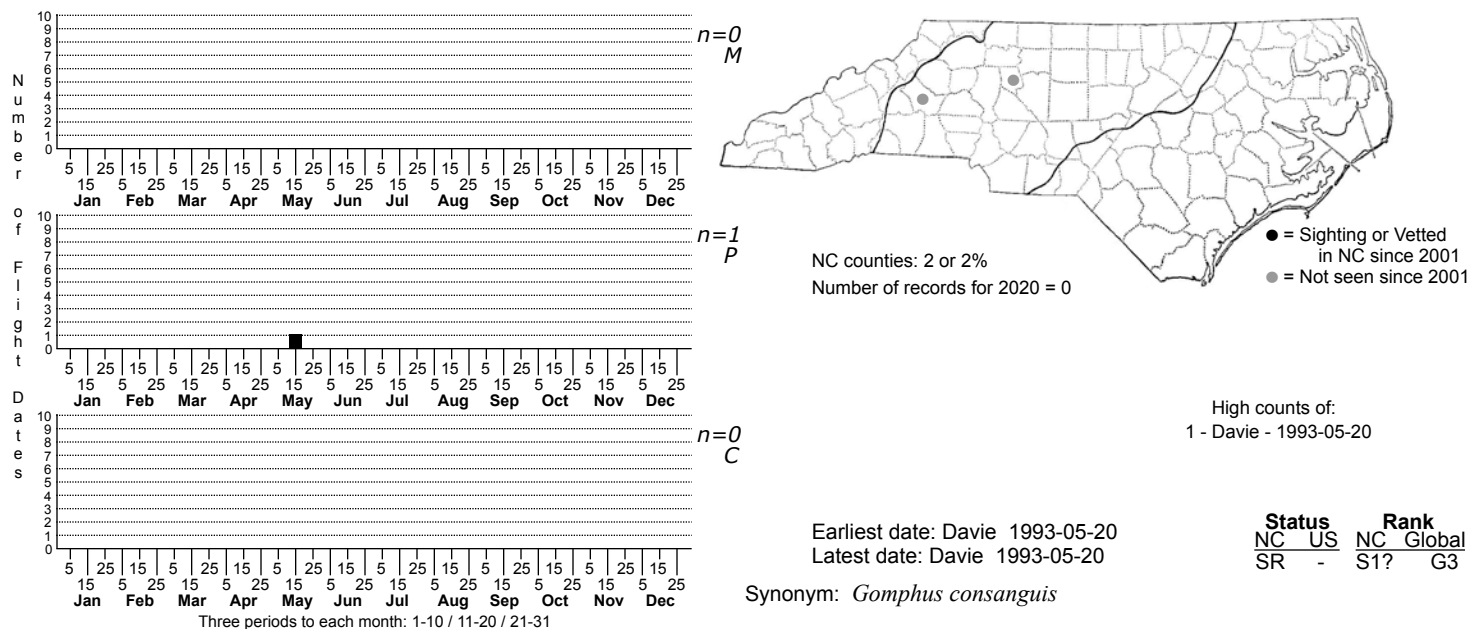
FLIGHT: Generally from mid-May to mid-August. However, there are scattered records as early as 16 March and as late as 9 September. The flight starts slightly later in the mountains than downstate.

HABITAT: Creeks or small rivers with sandy shores, sand bars, and other sandy areas nearby. These are often in rather open habitats, but may be in wooded areas.

BEHAVIOR: As the common name implies, this species is most often seen perching on damp sand or sandbars close to water. In hot weather, the males obelisk with the abdomen held angled up from the surface of the sand. They also perch on twigs near water and fly short distance over water.

COMMENTS: A dragonfly perching -- with the abdomen raised -- on sand next to a small stream will more than likely be a Common Sanddragon. Though seldom seen in large numbers in NC on a given day, it is quite widespread, with records from practically all Piedmont and Coastal Plain counties (except in the far east). The shape of the yellow markings on the dorsal side of the abdominal segments is quite unusual, like a hand bell, with the wide, open end of the bell at the anterior portion of each segment.

Stenogomphurus consanguis Cherokee Clubtail



DISTRIBUTION: Only known from two counties in the western Piedmont/foothills. This species has a small range in the southern Appalachians, from southwestern VA into northern AL. It is odd that there are no records yet from the NC mountain counties, and because it is a southern Appalachian species, it obviously must occur in the mountains only at very low to low elevations (perhaps below 2,000 feet).

ABUNDANCE: Seemingly very rare, but part of the scarcity of records might be due to difficulty of identification (other than through collecting). Beaton (2007) calls it "Rare to locally uncommon" in its small GA range.

FLIGHT: Late May to mid- or late June in GA (Beaton 2007). The only record available in NC with a date is for 20 May, which seems surprisingly early (compared with GA flight dates). The NC flight in the central/western Piedmont of NC thus might start in mid-May, but is expected to extend well into June.

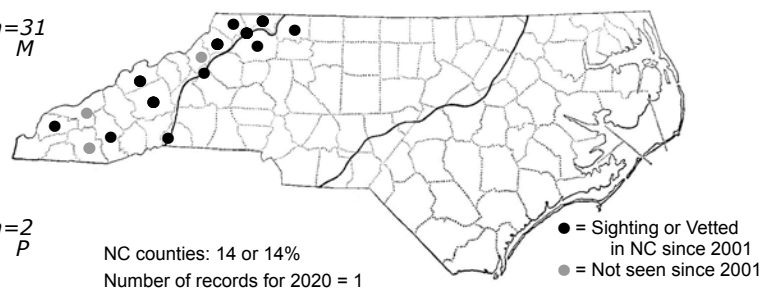
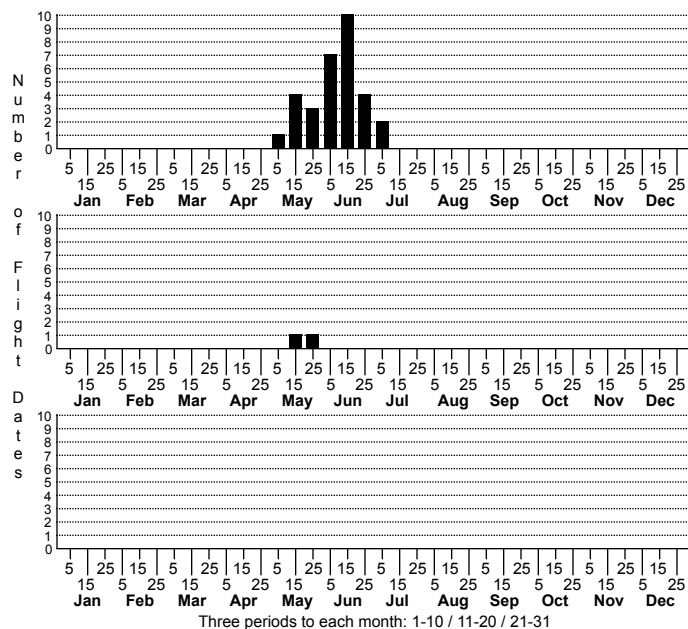
HABITAT: Only near small streams in forests, often near springs, or where spring-fed.

BEHAVIOR: Males perch close to such streams and springs, and have a slow flight close to the water. Both Beaton (2007) and Dunkle (2000) call the species "unwary" near these creeks.

COMMENTS: This is one of most poorly known dragonflies in NC, and no living person has probably seen it in the state. There has been a moderate amount of recent field work in the mountains, but still relatively little in the upper Piedmont and foothills, where this species resides, or resided in the past. Add to this the similarity in appearance to the Sable Clubtail, and it is understandable that there are no certain recent records. However, there have been observations and photos in the past several years in Madison County of individuals that were one of these two species but that couldn't be confirmed. Note that NatureServe's global rank is G3; thus, any and all records (within its range) are of great interest.

The State Rank is still carried as S1?, but sadly this rank will need to go to SH (Historical) in a few years, if no one can turn up any new records. The last known record was in 1993.

Stenogomphurus rogersi Sable Clubtail



High counts of:
5 - Watauga - 2007-06-11
5 - Macon - 1982-07-07
5 - Jackson - 2018-06-26

Earliest date: Madison 2019-05-09
Latest date: Macon 1982-07-07

Status		Rank	
NC	US	NC	Global
W	-	S3	G4

Synonym: *Gomphus rogersi*

DISTRIBUTION: Mountains only (and apparently into the immediate foothills), throughout the province, as it is a Northern species yet does range into northern GA and AL.

ABUNDANCE: Uncommon, but somewhat widespread in the mountains, with records for two-thirds of the counties in the province. Very rare to rare in the Piedmont foothills close to the Blue Ridge Escarpment.

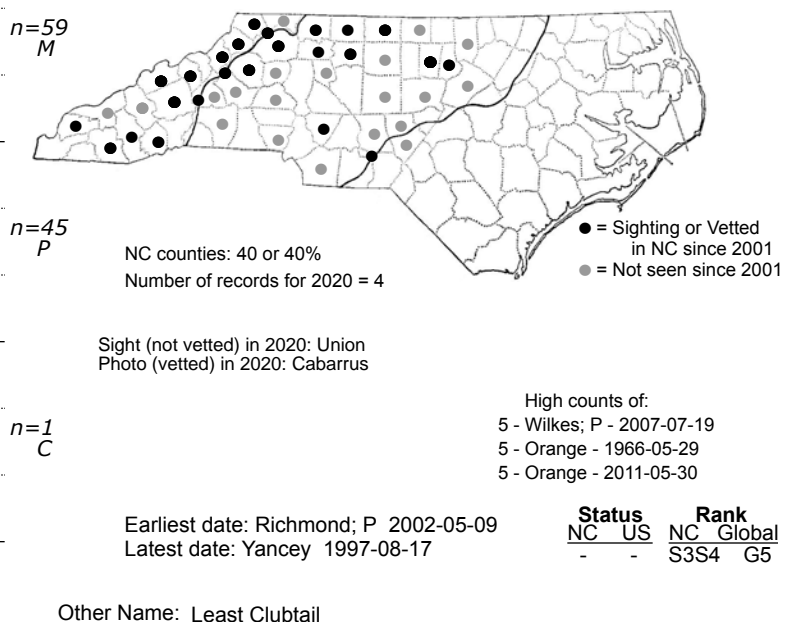
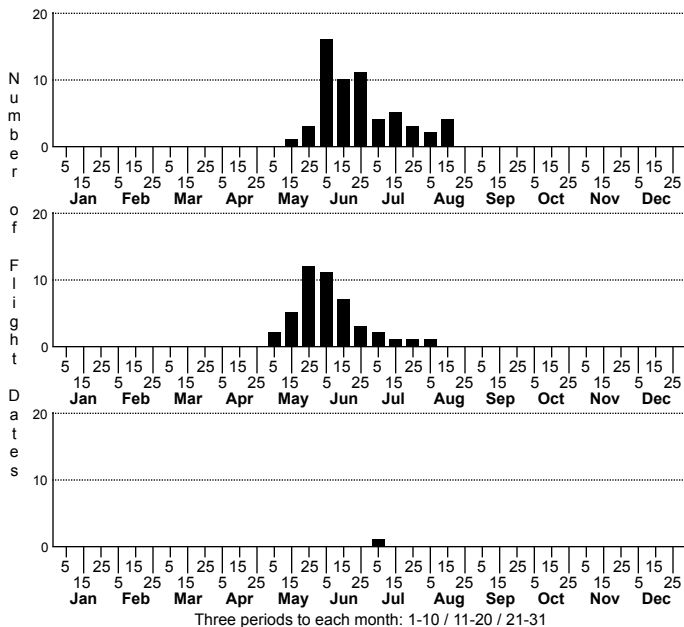
FLIGHT: A mid-spring to early summer flier; recent occurrences from 9 May to the end of June. Interestingly, older collection dates fall from 17 June to 7 July. Thus, perhaps owing to global warming, the species is flying earlier in recent decades. The overall flight in the state is mid-May to early July.

HABITAT: Breeds at small and clear, woodland streams, with sand or gravel bottoms.

BEHAVIOR: Males perch on vegetation or rocks, seldom on the ground, near streams. They often perch in shady places and can be hard to see.

COMMENTS: This species is called "secretive" by Dunkle (2000). Records for this clubtail have, thankfully, been increasing in the past few years, presumably owing to more thorough coverage by biologists in the state. Several new counties (Surry, Burke, and Jackson) were documented in 2018, each with photographs. Even so, the N.C. Natural Heritage Program has placed the species on the Watch List, at least until more surveys of montane areas have been done for all odonates. There seem to be enough county records, and total records, to recommend a move of the State Rank from S2S3 to S3. In fact, the Natural Heritage Program moved it to S3 in late 2020.

Stylogomphus albistylus Eastern Least Clubtail



DISTRIBUTION: Mountains and Piedmont only. Essentially throughout the mountains, but more widely scattered across the Piedmont, eastward to Granville, Wake, and Moore counties.

ABUNDANCE: Uncommon in the mountains, and rare to uncommon in the Piedmont, being least numerous in the central and eastern portions of the latter province. Despite the moderate number of records, the peak one-day count is just of 5 individuals. However, this quite small species is easily overlooked in its shady habitat.

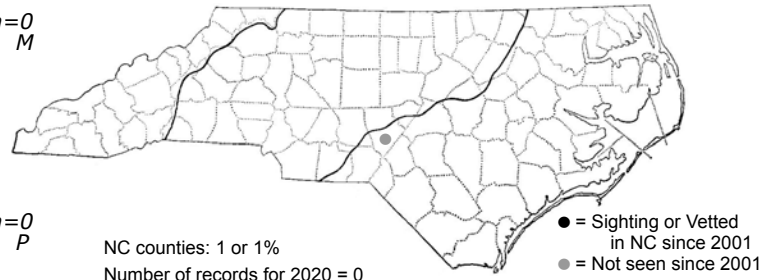
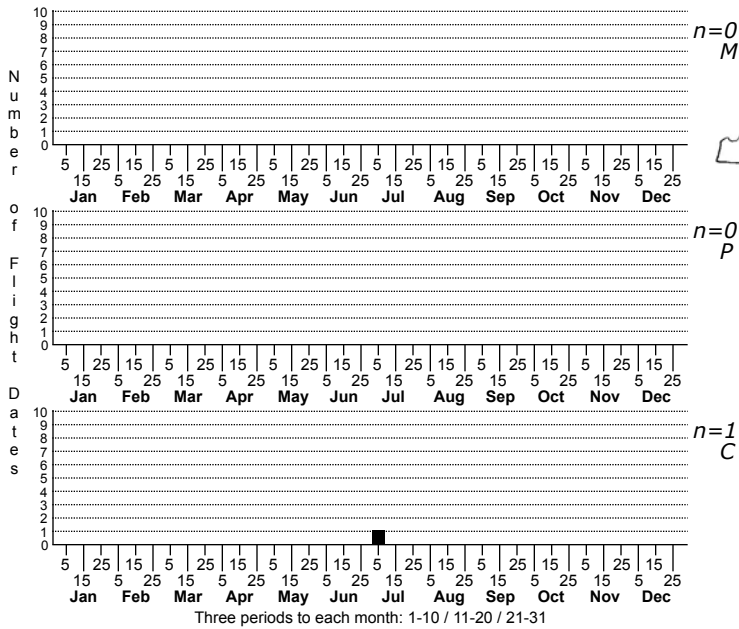
FLIGHT: Early-mid May to early August in the Piedmont, and from mid-May to mid-August in the mountains.

HABITAT: Small, clear, woodland creeks are preferred; sandy or gravel bottoms.

BEHAVIOR: Males often perch on rocks in the streams, where they are difficult to spot because of their small size and dark coloration. They also perch on vegetation near the water and make small, quick flights over water.

COMMENTS: This species might be more overlooked and hard to spot rather than being truly "scarce". Despite its range, including the Triangle and eastern Piedmont where most biologists study odonates, there are essentially no reports from State Park personnel. This is not a species one would casually stumble into while in the field; rather, one should look carefully along small shaded or semi-shaded creeks from the latter part of May into the first half of July. The State Rank is approaching S4 now, with the addition of a few more counties to the range map in 2020.

Stylogomphus sigmastylus Interior Least Clubtail



High counts of:
 1 - Moore; C - 1969-07-02

Earliest date: Moore; C 1969-07-02
 Latest date: Moore; C 1969-07-02

Status		Rank	
NC	US	NC	Global
SR	-	SH	G5

DISTRIBUTION: This is a species of the Ozark Mountains eastward to central TN. There are records reported in Paulson (2011) from southwestern VA and central NC. The single record for the state came from 1969, collected by Duncan Cuyler near Vass, Moore County; Steve Roble provided us with the data for this record (in 2013).

ABUNDANCE: Presumably extremely rare in NC, assuming a correct identification. As the record was around 50 years ago, we must consider it to be of historical occurrence, though it still could certainly be present in the state, either there or elsewhere.

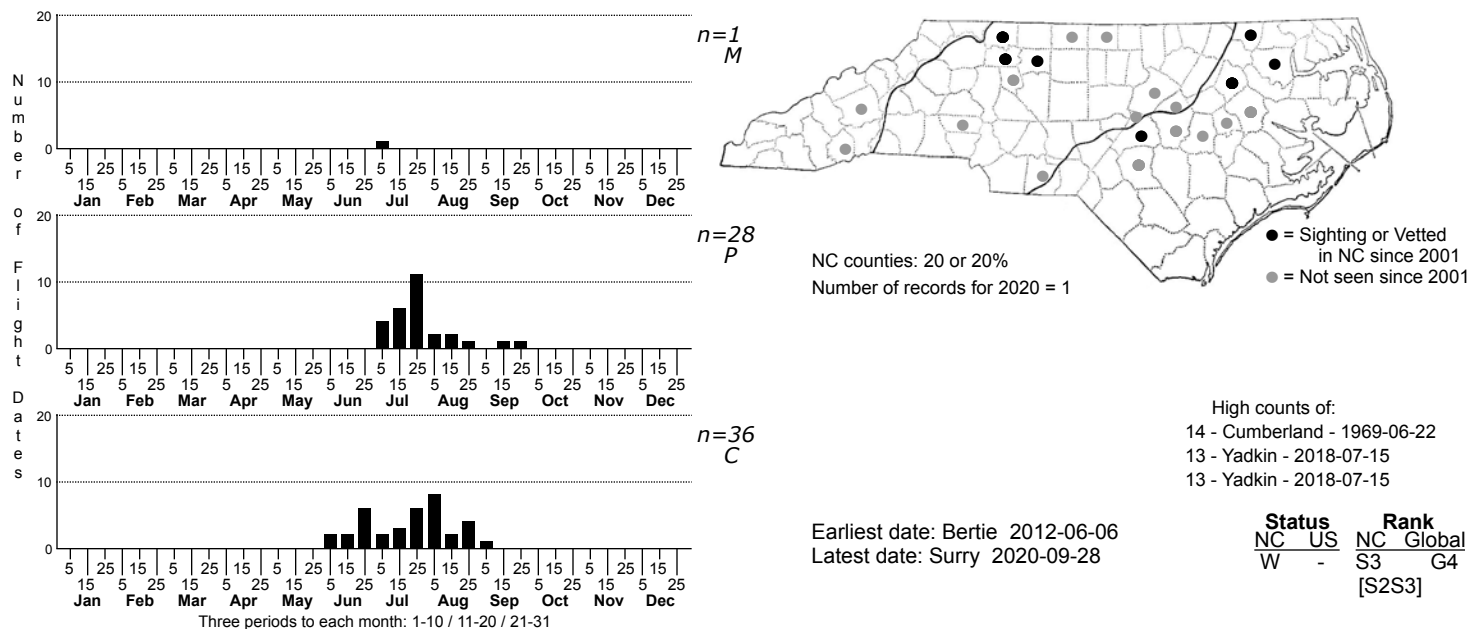
FLIGHT: The only record for the state was on 2 July. As the Eastern Least Clubtail flies in the Piedmont from early May to early August, the flight of the Interior Least Clubtail is likely for several months in spring and summer.

HABITAT: Rivers that are clear and somewhat small, with moderate current. Apparently the same as for Eastern Least Clubtail.

BEHAVIOR: Presumably like that of Eastern Least Clubtail.

COMMENTS: This species looks very similar to the Eastern Least Clubtail, which is uncommon in itself in the state. Thus, it seems that a specimen would be necessary to confirm the Interior Least Clubtail in NC.

Stylurus amnicola Riverine Clubtail



DISTRIBUTION: Mainly in the upper half of the Coastal Plain, and very widely scattered across the entire Piedmont and southern mountains. Absent from the eastern part of the Coastal Plain, and seemingly absent from the northern half of the mountains.

ABUNDANCE: Rare to locally uncommon in the Coastal Plain portion of the range, very rare (now) to rare and quite local in the Piedmont, and very rare in the mountains.

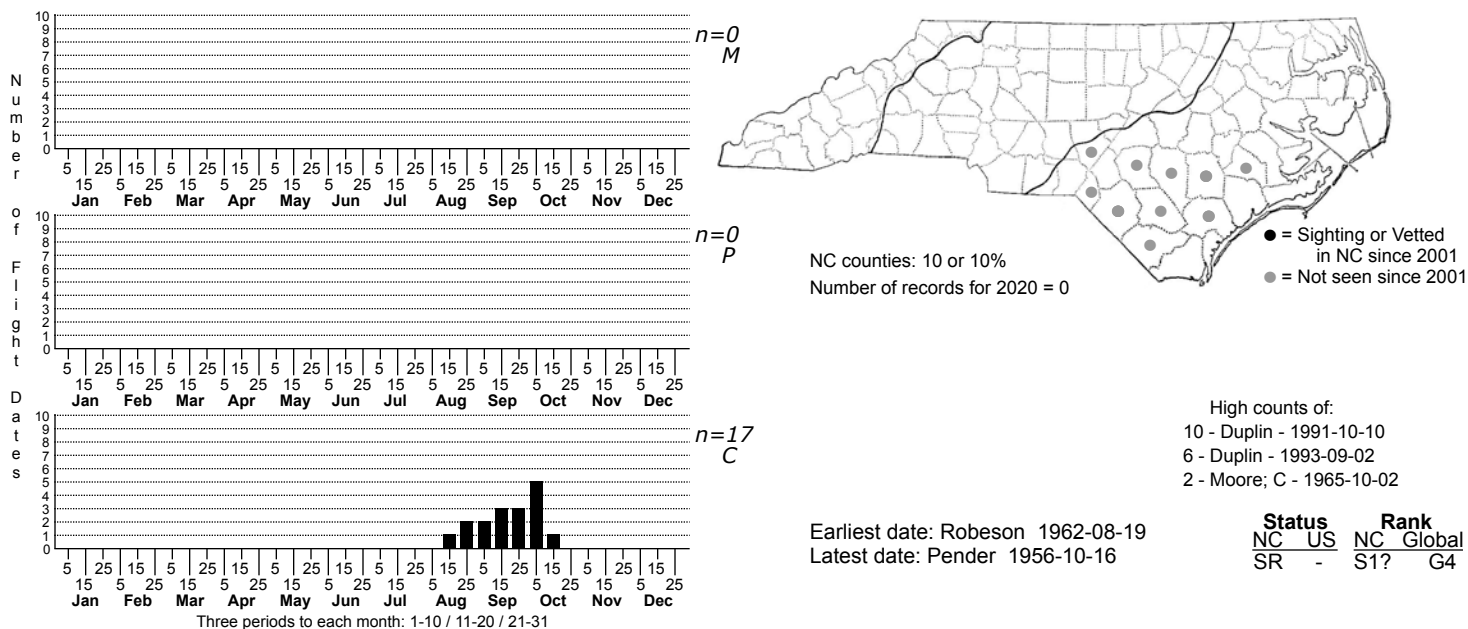
FLIGHT: In the Coastal Plain, early June to early September. Upstate, records fall between early July and mid-September, though it might be expected in June in the Piedmont.

HABITAT: Rivers with a moderate to rapid current and various substrates, for breeding. Recent records have been along fairly slow-moving brownwater rivers (i.e., Yadkin, Roanoke, Tar, and Cape Fear).

BEHAVIOR: Perches on leaves or other vegetation close to the streams and rivers. Males can be seen patrolling up and down rivers. Males, at least, are rather unwary (compared to other *Stylurus* species).

COMMENTS: Though there are records from about 65-70% of the geographic area of NC, there are only 20 county records, implying a scarce species that is poorly known. Steve Hall and Harry LeGrand found the species on several occasions in summer 2012 along the Roanoke River, where photos from Bertie and Northampton counties established new county records and thus first records for the Roanoke River floodplain. Mark Shields saw two males patrolling up and down the Cape Fear River in Harnett County in 2017; and Mike Turner found one along the Tar River in Edgecombe County, also in 2017. A major "colony" was located by Richard Stickney in 2018 along a stretch of the Yadkin River in Surry and Yadkin counties, where he counted a remarkable 13 individuals in a single day. Mike Turner found the species along this same river farther downstream in Forsyth County in 2018. The species seems to be in decline in the Piedmont and mountains, where these Yadkin River sightings and photos are our only recent records. However, the species could be overlooked as a Black-shouldered Spinyleg unless carefully photographed or observed. The species has a State Rank of S3 (and is on the Watch List), though the State Rank might be closer to S2S3 (rare than the current S3), despite some recent records, as most are along the same few rivers.

Stylurus ivae Shining Clubtail



DISTRIBUTION: Strictly the southeastern portion of the state -- the southern 35-40% of the Coastal Plain in particular. It ranges (or ranged) north to Moore, Sampson, and Jones counties. These counties represent (or represented) the northeastern end of the range of this Southeastern species. Sadly, despite much field work in the fall season, no one has re-found the species in the state in recent decades, though it does occur now not far south of the state line in SC.

ABUNDANCE: Formerly (prior to about 1995), it was uncommon; however, there are no more recent records, despite considerable searching (often by canoe and kayak) in the proper season (fall). Thus, as of now, the species is rare at best. Without doubt it has strongly declined, but the reasons are not clear. As a result, the former State Rank of S2S3 was strongly upgraded to S1? in late 2020 by the N.C. Natural Heritage Program. It must still be assumed to occur in the state, as it is found nearby in SC, and as there are records in NC from 10 counties.

FLIGHT: One of the very few "autumn-only" dragonflies in NC, though technically it begins its flight in August. The flight in the state occurs between mid-August and mid-October, peaking in late September and early October.

HABITAT: Sandy creeks or small rivers, where waters are clean.

BEHAVIOR: Males typically forage in fields or clearings, perching conspicuously. They patrol over streams in a slow manner, often with some hovering.

COMMENTS: This is a dragonfly that likely can be identified in flight over water, owing to the glowing bright yellow or golden-yellow club, its overall yellow color, and the fairly late flight period. The more numerous Russet-tipped Clubtail has a more orange/red club. Several observers, especially Mark Shields, have specifically searched for the species from 2016-2018, with no luck. Thus, the absence of any records since the early 1990s, for a readily identified species, is alarming and almost certainly indicates a clear decline in the state. At least, there are several recent records from the SC Coastal Plain, where the species is obviously less rare than in NC. Odonate enthusiasts are now "trekking" to nearby sites in SC to see this species for the first time; at least, that gives them experience with the species and what to look for (habitats, behavior, etc.) in NC.

Stylurus laurae Laura's Clubtail

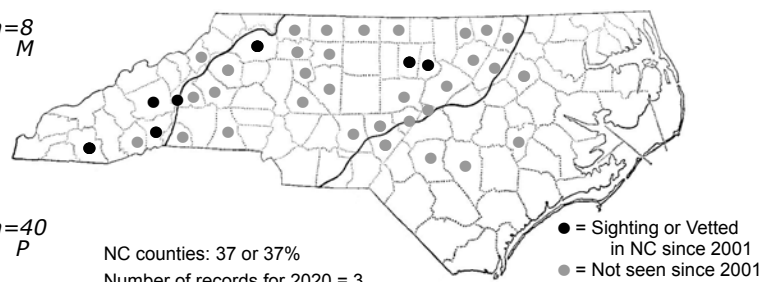
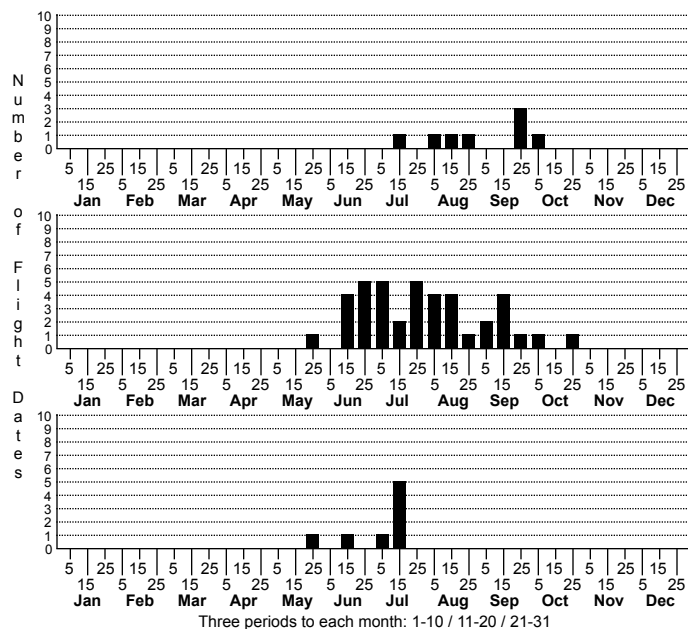


Photo (vetted) in 2020: McDowell; M
Collection (vetted) in 2020: Montgomery

High counts of:
2 - Orange - 2002-06-13
2 - Orange - 2002-07-05
2 - Orange - 2002-07-30

Earliest date: Moore; C 1980-05-22
Latest date: Davidson 1984-10-24

Status		Rank	
NC	US	NC	Global
W	-	S2S3	G4

DISTRIBUTION: Essentially throughout the lower elevations of the mountains, the Piedmont, and the upper Coastal Plain. Ranges east only to Halifax, Edgecombe, and Lenoir counties. Only five county records for the mountain province.

ABUNDANCE: Rare and declining across most of the state, and likely absent from the eastern half of the Coastal Plain; certainly has declined in recent years. Most recent records are for the lower mountains and foothills. Though one of the more widespread of the stream clubtails (*Stylurus* species) in the state, it is quite scarce nowadays and we have a daily peak count of just 2 individuals.

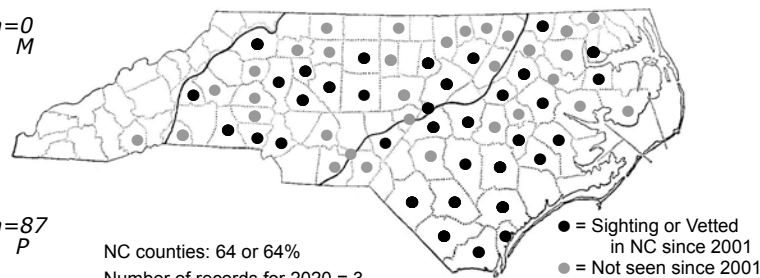
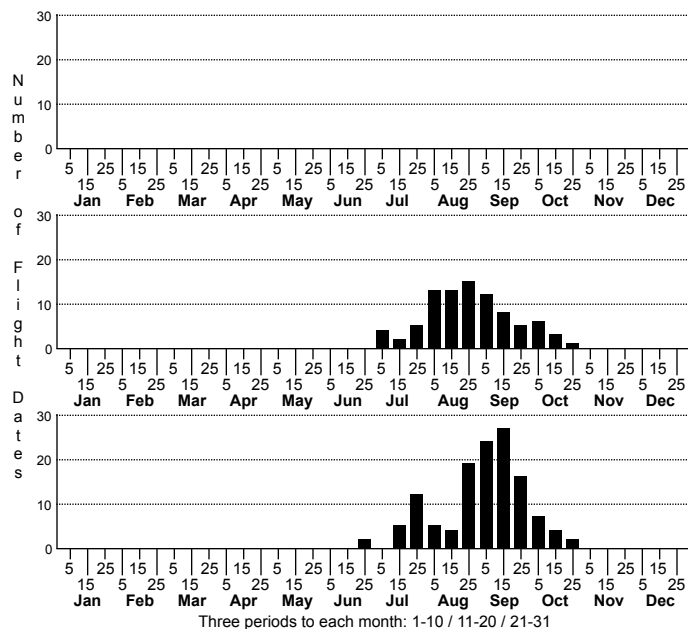
FLIGHT: Mid-June (rarely from late May) into early October in the Piedmont. In the mountains, the flight is narrower, with records only from mid-July to early October, though it should occur in the latter part of June. In the Coastal Plain, the few records fall between late May and mid-July, though it certainly occurs into the fall season there. In GA it flies from early or mid-June into September (Beaton 2007).

HABITAT: Mainly breeds at small to medium-sized creeks, where clean and with a sandy bottom.

BEHAVIOR: Males are most often seen perched on leaves close to the water. Though they forage during the middle of the day, the species is most active late in the day. Thus, this species can often be difficult to observe because of time of day and infrequency of perching on the ground or in the open.

COMMENTS: Considering that Dunkle (2000) calls the species "uncommon" throughout its range, and Beaton (2007) calls it "rare and local" in its GA range, and both indicate its difficulty of observation, it is a pleasant surprise that we have over 50 records with dates in the state, covering 37 counties. Even so, nearly all of these records were supplied by Duncan Cuyler in the 20th Century. It is not often encountered nowadays, and always just one or two individuals at any one site. Especially disturbing is the very few recent records from the Piedmont and Coastal Plain, suggesting a strong decline in numbers in these provinces. Its State Rank is therefore moved from S4 to now S2S3, though it stays on the N.C. Natural Heritage Program's Watch List, for now.

Stylurus plagiatus Russet-tipped Clubtail



NC counties: 64 or 64%
Number of records for 2020 = 3

High counts of:
48 - Pender - 2015-08-09
48 - Bladen - 2015-08-09
18 - Duplin - 2015-08-15

Earliest date: Bladen 2019-06-28
Latest date: Lincoln 1993-10-28

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Throughout the Piedmont and nearly all of the Coastal Plain, though probably absent in the far eastern counties; only one county record for the mountains, where essentially absent. No records east of Gates, Chowan, Washington, and Hyde counties.

ABUNDANCE: Though there are records for close to two-thirds of the counties in the state, it is uncommon in most of the Piedmont and Coastal Plain, but can be fairly common in parts of the Coastal Plain, especially in the southern part of that province. Rare in the foothills, and likely absent in most of the mountains, at least above perhaps 2,500 feet in elevation.

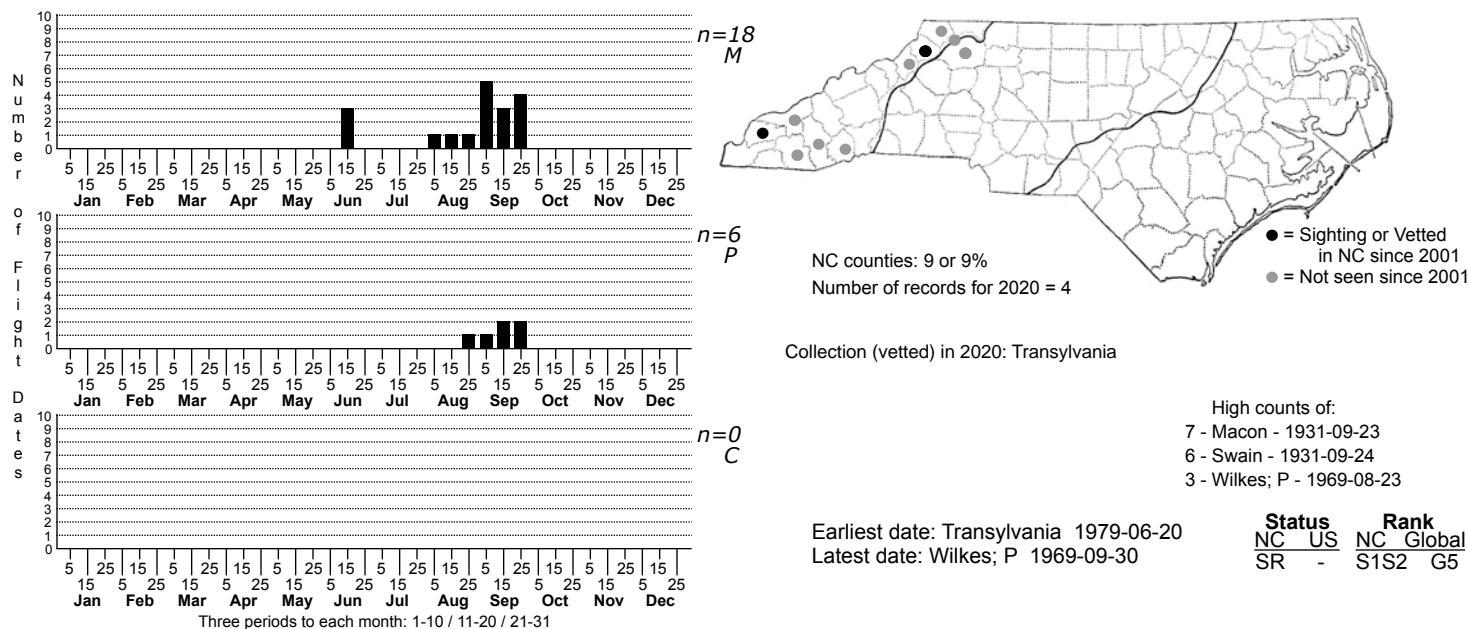
FLIGHT: Mid-summer into mid-fall. The flight occurs from late June or early July to late October.

HABITAT: Mainly at rivers and larger streams, but also at some lakes; silty or sandy bottoms. Occurs along both brownwater and blackwater rivers.

BEHAVIOR: Often perch on leaves near the water's edge, such that the weight of the body bends the leaf downward until the animals are almost in a vertical position. Adults forage in long flights over the rivers and creeks. In fact, the species is most often seen from a canoe or other type of boat along a wide creek or river, typically flying by at eye level.

COMMENTS: This species, along with the Southeastern Spinyleg, has a large and bright rusty-orange club that is easily seen at a distance. This species can thus be fairly easily identified without a net as it cruises along a river or stream. There has been a most gratifying surge in records in recent years, especially from Mark Shields, who has several double-digit counts by paddling along rivers in the southeastern part of the state.

Stylurus scudderi Zebra Clubtail



DISTRIBUTION: Mountain province only; probably occurring throughout the mountains, as there are several county records for northern GA. Though there is a large gap between the two clusters of mountain records, and Buncombe and Madison counties have been fairly well worked for odonates, it is highly unlikely that this species is absent there or any rarer there than near the VA and GA borders. This is a Northern species, and NC lies near the southern edge of the range. A new county record for Graham County in 2019 gives hope that the species is currently present in the southern parts of the mountains.

ABUNDANCE: Very rare or rare; known from just nine of the mountain counties. Dunkle (2000) calls the species as "fairly common" over its range, though clearly in NC it is nowhere this numerous, as there are just 7-8 recent records, all but one from the same area in Watauga County.

FLIGHT: In NC this is a late-flying clubtail; all records with dates are from early August to late September. Note -- the three records for June, all from Transylvania County, are for exuviae -- the shed "skins" of nymphs -- not adults.

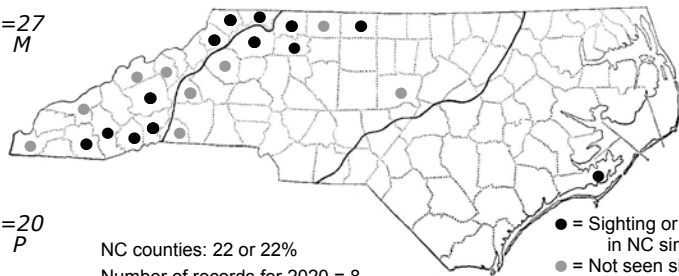
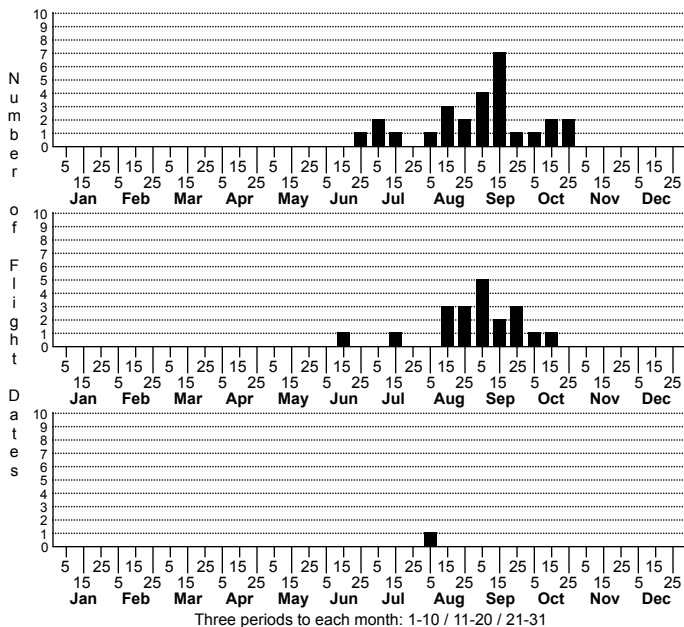
HABITAT: Cool, swiftly flowing creeks and smaller rivers, in forested areas.

BEHAVIOR: Males perch on low sites, such as twigs, leaves, and at times on the ground. They make short patrols over riffles of the creeks.

COMMENTS: This is one of many clubtails that is essentially restricted to the mountains in NC, and therefore is known to very few people. Fortunately, the species (especially a male) is easy to identify by the bold pale rings around abdominal segments and the fairly wide club. Adults are considered to be a bit wary, and thus the species is probably not as scarce in NC as the few records imply. Teddy Wilcox provided our first recent record(s), observing and photographing one individual on five dates in late summer and fall 2016 along the Boone Greenway. He rightly wondered if a single Zebra Clubtail was responsible for each of these sightings, spread out over a span of dates ranging from 31 August to 20 September. No matter the answer, he has provided the first known photos of this species in the state. A year later, John Petranka and Sally Gewalt found a few individuals in the same general area of Watauga County. Owen McConnell photographed one that came to a moth sheet at his cabin in Graham County in 2019, a very rare and fortuitous record!

The previous State Rank of S2? was a bit too liberal, despite the new Graham County record. Though there are only two sites with recent records, it is likely not well surveyed, as the flight in very late summer takes place after most of the odonate field work in the mountains. And with scattered records from nine counties, though most are old, the N.C. Natural Heritage Program has moved the State Rank to S1S2 in late 2020.

Stylurus spiniceps Arrow Clubtail



NC counties: 22 or 22%
 Number of records for 2020 = 8

● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

Photo (vetted) in 2020: Carteret, Yadkin

High counts of:
 6 - Wilkes; P - 1962-08-26
 5 - Ashe - 1970-09-13
 5 - McDowell; P - 1998-09-10

Earliest date: Chatham 1957-06-14
 Latest date: Watauga 2016-10-25

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5
[S3]			

DISTRIBUTION: Essentially throughout the mountains and Piedmont foothills, and sparingly east in the Piedmont to Rockingham County. A record for Chatham County, far to the east and southeast of other records, might be of a stray. A 2020 photo record from the immediate coast in Carteret County was a shock, and certainly was of a stray individual.

ABUNDANCE: Rare to locally uncommon in the mountains and foothills. Rare into the northern Piedmont, at least away from the foothills.

FLIGHT: Mainly in late summer and fall, but many dates starting in early summer. Flight is from mid- or late June to late October; generally from mid-August into early October.

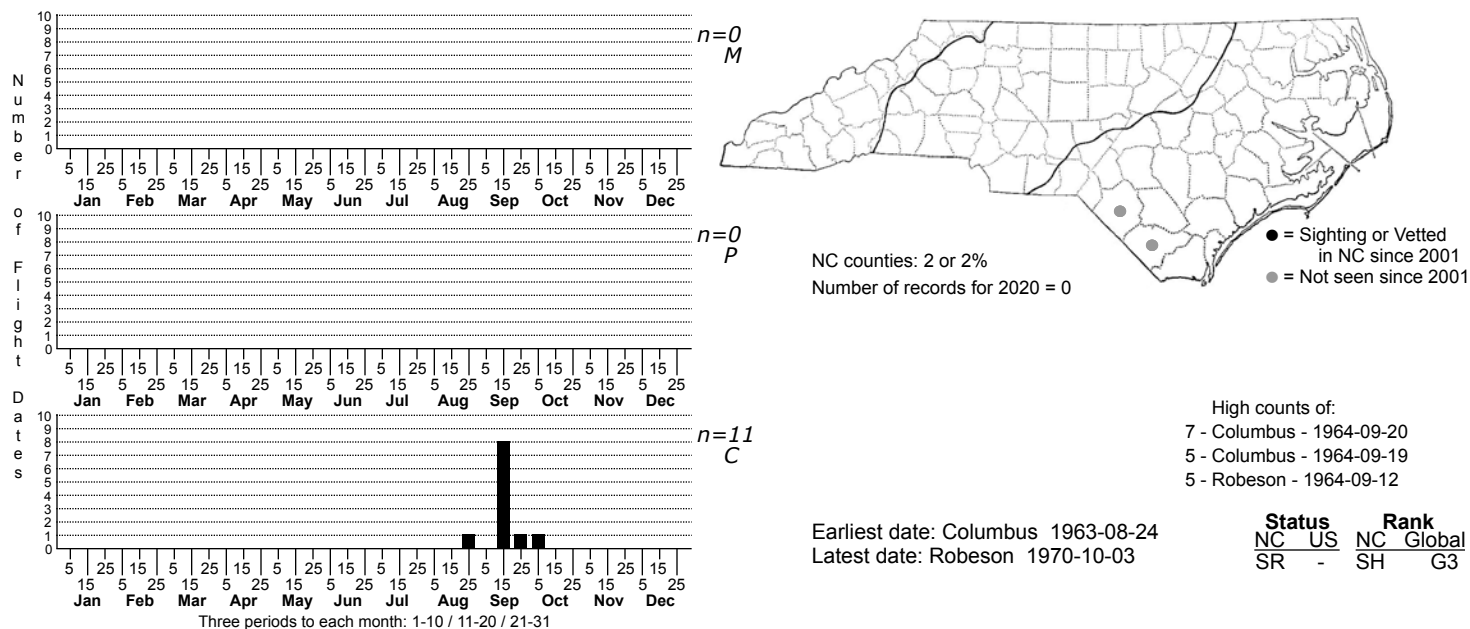
HABITAT: Large rivers, less so at large streams or at lakes. Favors sandy bottoms.

BEHAVIOR: Males are very strong fliers and may forage a long distance from water, in fields and other places. As with other *Stylurus* species, males in particular may perch on a leaf and hang vertically on it as the leaf bends under the weight of the insect. They also forage in large flights over water.

COMMENTS: This large species has an unusually long (and slender) abdomen, giving rise to the common name, as it does resemble an arrow in some respects. It is not one of the rarer clubtails in the mountains and foothills; however, because it flies mostly in very late summer and autumn, after much of the odonate field work is done, records have been somewhat slow to accumulate. There are still less than 30 records for the mountain province, though we do have a number of recent photographs.

A re-evaluation of records of the species, and with the fact that there were no state records at all in 2019, suggest that the State Rank should best be moved up to a less numerous S3, instead of S3S4. However, the State Rank remains at S3S4 for now. At least, there were a gratifying six records for it in 2020.

Stylurus townesi Townes's Clubtail



DISTRIBUTION: Known in NC only from the extreme southeastern corner of the state -- Robeson and Columbus counties (i.e., the Lumber River). This is a poorly known Southeastern species ranging southwest to MS and n.w. FL, but with large gaps in the range. The only SC records are an old one from Greenville County (upper Piedmont) and a 2016 one (photos and specimen) from Calhoun County (in the upper Coastal Plain).

ABUNDANCE: Formerly, not rare along a short section of the Lumber River just north of the SC state line; however, there have been no reports in the state in nearly 50 years. There have been a few recent surveys of this section of the river, but no individuals have been found. Thus, presumably very rare, if it still occurs, in the state. Dunkle (2000) calls it "scarce" throughout its range.

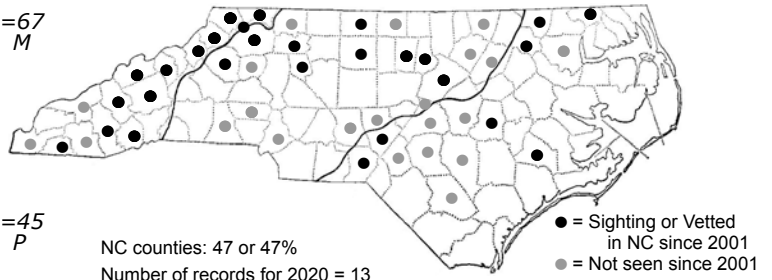
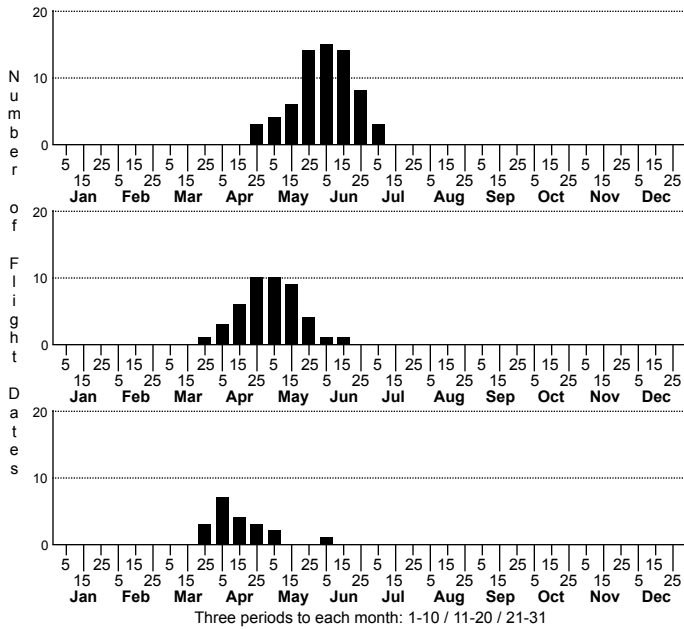
FLIGHT: "Early June to late Sept." (Dunkle 2000). The 11 state records with dates fall between late August and early October. However, the recent SC record is from 4 August, and thus perhaps surveys in NC should be earlier than late August.

HABITAT: Forested creeks and rivers with sandy bottoms and clean water.

BEHAVIOR: Males apparently forage mainly in low light conditions in early morning, cloudy weather, or near dusk. Males seldom make patrols over water, but forage from twigs along the water's edge.

COMMENTS: This species is so poorly known that it has not even been recorded from one state -- GA -- that lies near the center of the range. Even though Belle's Sanddragon may have the most restricted range in the NC Coastal Plain of any dragonfly, the Townes's Clubtail may well be the poorest known in that province, as only Dunkle (2000) and Paulson (2011) contain information about the species. There was a flurry of collections of this species in the Fair Bluff area of Columbus County along the Lumber River in the 1960s; whether it still occurs in NC at present is not known. In 2012, the N.C. Natural Heritage Program moved its NC Rank from S1 (very rare) to SH (Historical); this does not mean that it is thought to be extirpated, but that there is no information to indicate that it currently still exists in the state. However, as the Lumber River is still heavily forested in many areas and is a State Natural and Scenic River, there is a fair chance that Townes's Clubtail still occurs there, if not elsewhere in the state. Ed Corey conducted a brief survey of this part of the Lumber River in fall 2013 and did not find the species. Also, Mark Shields has searched this section of the river many times in late summer and fall 2015-2018 with no luck. With Chris Hill's recent SC record being in early August, it seems that more surveys of the Lumber River (if not other rivers close to SC) should take place starting in early August.

Cordulegaster bilineata Brown Spiketail



Sight (not vetted) in 2020: Richmond; C

High counts of:
8 - Moore; C - 2007-04-08
4 - Halifax; C - 2012-03-30
4 - Caswell - 1997-05-05

Earliest date: Wake 2020-03-27
Latest date: Watauga 2010-07-06

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the mountains, and scattered across the Piedmont and the western portion of the Coastal Plain, including the Sandhills; a few recent photo records for the lower half of the Coastal Plain (Gates and Jones counties). Apparently absent in all coastal counties and most other eastern Coastal Plain counties.

ABUNDANCE: Fairly common in the mountains (at least in the northern counties), but uncommon in the northern Piedmont and rather rare in the southern Piedmont. Rare to uncommon in the Coastal Plain portion of the range. Much more common in the mountains than downstate.

FLIGHT: Late April to early July in the mountains, but slightly advanced (as expected) in the Piedmont, where it flies from late March or early April and extends at least to mid-June (if not later). The relatively few dates for the Coastal Plain fall from late March only to early June, though April is the primary month.

HABITAT: Small streams or seeps, often with little flow; typically in wooded areas.

BEHAVIOR: Typically flies slowly over streams or seeps or in nearby clearings. Perches on low twigs, in an oblique manner typical of spiketails.

COMMENTS: This species can be confused with the somewhat similar, but slightly more widespread and numerous, Twin-spotted Spiketail. Both can occur together along mountain and Piedmont wooded roadsides and clearings along woods and small creeks. Steve Hall and Harry LeGrand saw and photographed the species on several occasions in 2012 near the Roanoke River, adding first records for Halifax and Northampton counties. Surprising were photo records in 2017 by Hunter Phillips for Jones County and by Signa and Floyd Williams for Gates County. A photo record in 2019 added Wayne County, near the eastern edge of the range, to the species map.

Cordulegaster erronea Tiger Spiketail

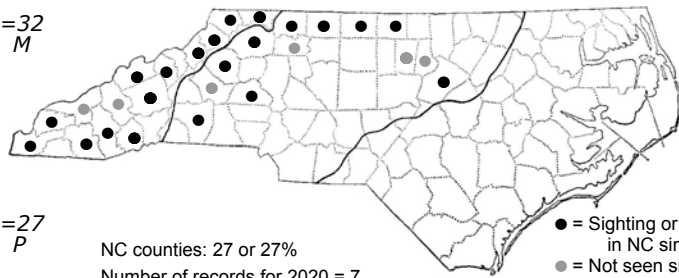
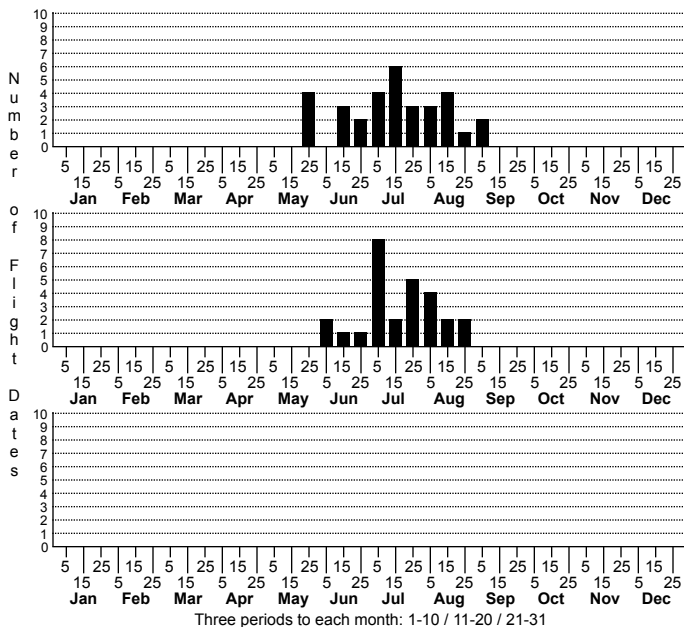


Photo (vetted) in 2020: Catawba

High counts of:
4 - Ashe - 2007-07-10
3 - Orange - 1993-07-02
3 - Yancey - 2017-07-14

Earliest date: Buncombe 2016-05-24
Latest date: Graham 2014-09-02

Status	Rank	
	NC	US
-	-	S3S4 G4

DISTRIBUTION: Present throughout the mountains and foothills, and the northern third of the Piedmont. Presence in the southeastern half of the Piedmont is uncertain, though there are no records between Rutherford/Catawba and Wake counties.

ABUNDANCE: Uncommon in the Piedmont foothills, but rare to uncommon in the true mountains and eastward in the Piedmont to the north-central Piedmont. Very rare now in the northeastern Piedmont. Dunkle (2000) calls it "local" throughout its range, Paulson (2011) calls it "rather rare" over its range, and Beaton (2007) says "Uncommon to rare and local" in GA. The species seems to be slightly increasing in recent decades.

FLIGHT: The flights in the mountains and Piedmont are roughly similar -- late May into early September. However, it is most frequent in July and in the first half of August.

HABITAT: Small streams or seeps, without fish; in partial shade. Streams may be rocky, but may have a sandy substrate.

BEHAVIOR: Males cruise in the vicinity of the seeps, though they can be difficult to find when perched. The males are more active late in the day, and may fly and perch well away from seeps, often on a twig or stem just one to several feet off the ground, for easy viewing.

COMMENTS: For whatever reason, Duncan Cuyler had relatively few numbers of collected specimens and county records, as compared with the gratifyingly large number of recent records, especially those documented with photos. Photos have now been taken in 15 counties, both in the mountains/foothills and in the far northern Piedmont. These data seem to indicate that the Tiger Spiketail is increasing in numbers in recent decades, though it might simply be that the species is not a difficult one to photograph. Because of this increase in recent records, the N.C. Natural Heritage Program removed it from the Watch List in fall 2014.

Cordulegaster maculata Twin-spotted Spiketail

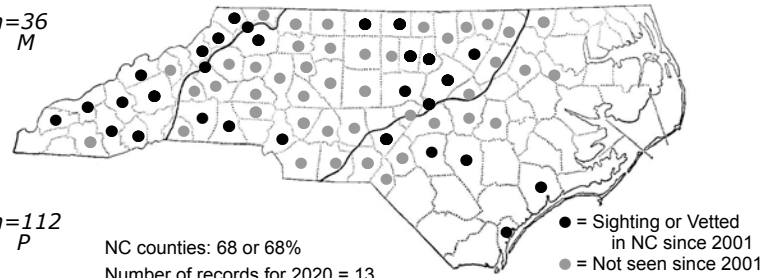
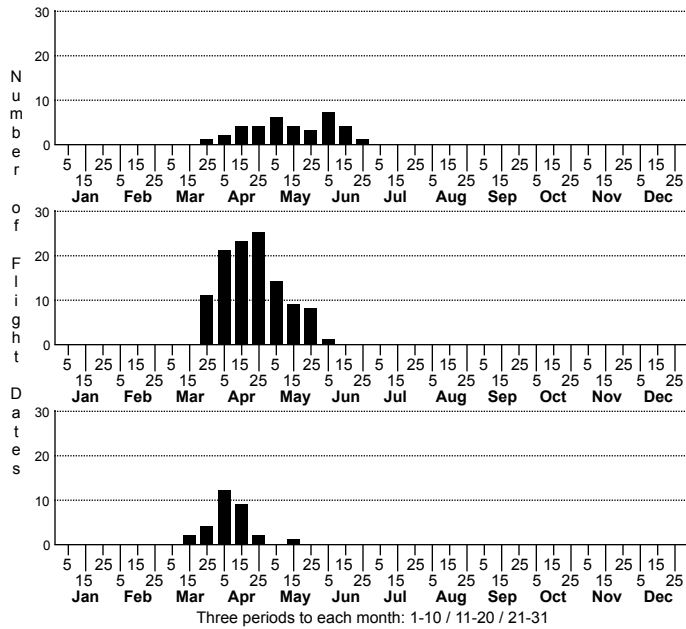


Photo (vetted) in 2020: Cumberland

High counts of:
6 - Caswell - 2007-03-31
5 - Durham - 2020-03-30
4 - Orange - 1966-04-23

Earliest date: Onslow 2020-03-18
Latest date: Jackson 2018-06-26

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Throughout the Piedmont, and essentially throughout the mountains and the western third/half of the Coastal Plain, being nearly absent from most counties east of Martin, Wayne, and Sampson (except for Onslow and New Hanover county records). Of somewhat spotty distribution in the southern half of the mountains. The range is thus somewhat similar to that of the Brown Spiketail in NC, but that species has been found in many fewer counties and its abundance is centered in the mountains and foothills; the Brown also has not yet been found in coastal counties.

ABUNDANCE: Uncommon in the mountains and Piedmont, but quite rare in the central Coastal Plain and near the southern coast. Though not as numerous as many other spring-flying dragonflies, it is the most often seen spiketail in NC (but often outnumbered in the mountains by the Brown Spiketail). Shockingly, if not disturbingly, there were only two reports for the entire state in 2017 and only two more in 2018, though thankfully there were five reports in 2019 and ten in 2020. There are also very few photographs posted from the Piedmont and Coastal Plain in recent years, another disturbing trend; most photos are from the mountains, where originally less numerous than in the Piedmont. Is the species truly declining in the Piedmont and Coastal Plain? Note that this widespread species simply does not occur in groups or swarms; normally, only one or two are seen on a trip, and the state's high daily count is just 6 individuals.

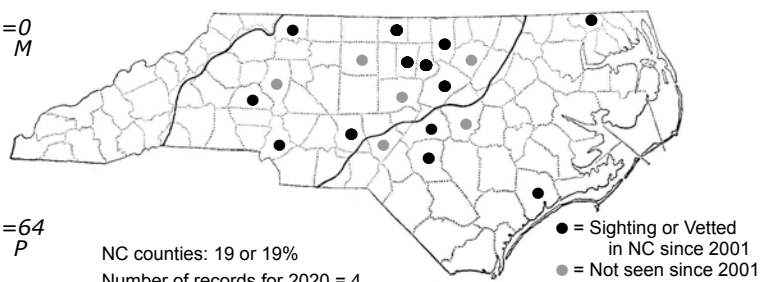
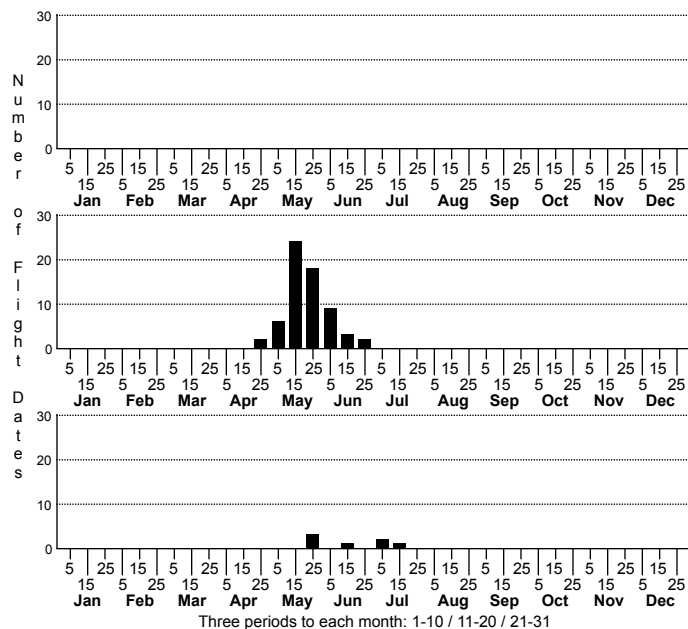
FLIGHT: Downstate, primarily from late March to late May, with the peak in April. The mountain flight occurs from late March to mid-June, though it is scarce before late April.

HABITAT: Creeks or small rivers, of many sizes and substrates, for breeding. These are typically in forested or semi-shaded areas and fairly pristine or clear waters.

BEHAVIOR: Males cruise along streams, but adults are more often seen well away from water along wooded roads or wide trails or wood margins. They perch conspicuously on twigs and other vegetation, in an oblique manner, typically only a foot or two above the ground, where easily studied.

COMMENTS: This is one of the larger and more spectacular of the spring-season (only) dragonflies. It can be confused with the Brown Spiketail, which is less numerous (except in the mountains), is browner on the abdomen, has somewhat more equal-sized yellow spots on the abdomen, and is slightly smaller in length. In 2014, several observers found a colony close to the coast in New Hanover County and documented this noteworthy record with photos.

Cordulegaster obliqua Arrowhead Spiketail



Sight (not vetted) in 2020: Moore; C
Photo (vetted) in 2020: Catawba

High counts of:
8 - Caswell - 1996-05-30
5 - Durham - 2010-05-09
4 - Wake - 2011-05-15

Earliest date: Surry 2010-04-24
Latest date: Onslow 2017-07-20

Status		Rank	
NC	US	NC	Global
-	-	S3	G4

DISTRIBUTION: Though reference books show the range of the species to occur statewide (and across most of the Eastern US), NC records fall only in the Piedmont, and a few widely scattered areas in the Coastal Plain. Ranges west to Surry, Catawba, and Mecklenburg counties in the Piedmont; and it ranges east to Gates and Onslow counties in the northern Coastal Plain, but most records fall in the northeastern portion of the Piedmont (which could be a bias in observer coverage).

ABUNDANCE: Uncommon in the eastern third of the Piedmont, rare in the central Piedmont, and very rare in the narrow Coastal Plain portion of the range. Possibly just a stray to the eastern Coastal Plain; this is an easily identified and quite large species, so it is not being overlooked in the Coastal Plain.

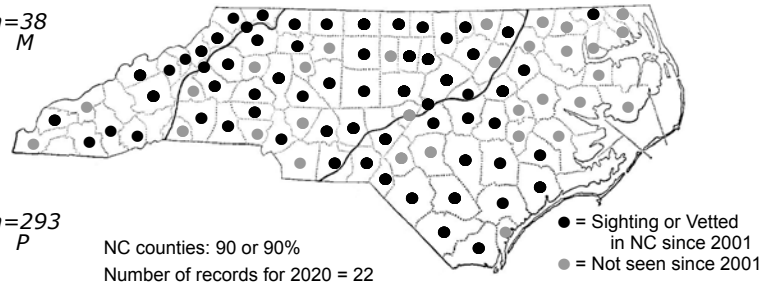
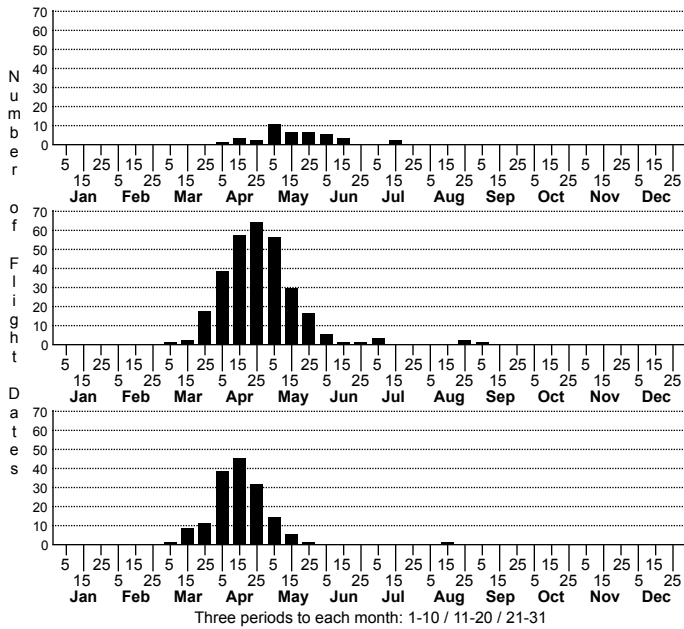
FLIGHT: The flight occurs during the two months from late April to late June (and sparingly to mid-July), with the peak in the latter half of May.

HABITAT: Very small streams and seeps, in wooded/shaded habitats.

BEHAVIOR: As with all spiketails, adults often forage long distances from their forested streams. The species is most often seen along wooded trails or roads, perching low to the ground on a twig. However, unlike other spiketails, it has a habit of flying off high, often over trees, once disturbed.

COMMENTS: This, the largest of our four spiketails in NC, is always a thrill to see. Its dorsal yellow abdominal markings (not paired as in other spiketails) indeed look like arrowheads, rendering it easy to identify. Fortunately, it is not overly scarce in the eastern Piedmont; an active observer there has a reasonable chance to encounter it each year. Conrad Wernett photographed one far to the east of the previously known range in Onslow County, in July 2017. Not only was this far east of the previously known range, but the mid-July date is the latest date known for the species! It is too soon to say if the regular range of this species extends this far to the east, as nearly all records are for the Piedmont and the far western Coastal Plain.

Didymops transversa Stream Cruiser



High counts of:
30 - Iredell - 2017-03-27
19 - Wake - 2014-04-23
14 - Iredell - 2017-03-28

Status	Rank		
NC	US	NC	Global
-	-	S5	G5

Earliest date: Onslow 2020-03-03
Latest date: Wake 2007-09-09

DISTRIBUTION: Essentially statewide, but scarce in the extreme eastern coastal areas (where most dragonfly species are also scarce to absent).

ABUNDANCE: Fairly common to common, and very widespread, across the Piedmont and at least the western half of the Coastal Plain. Uncommon in the lower Coastal Plain and in the mountains (where records are increasing, perhaps simply owing to more surveys).

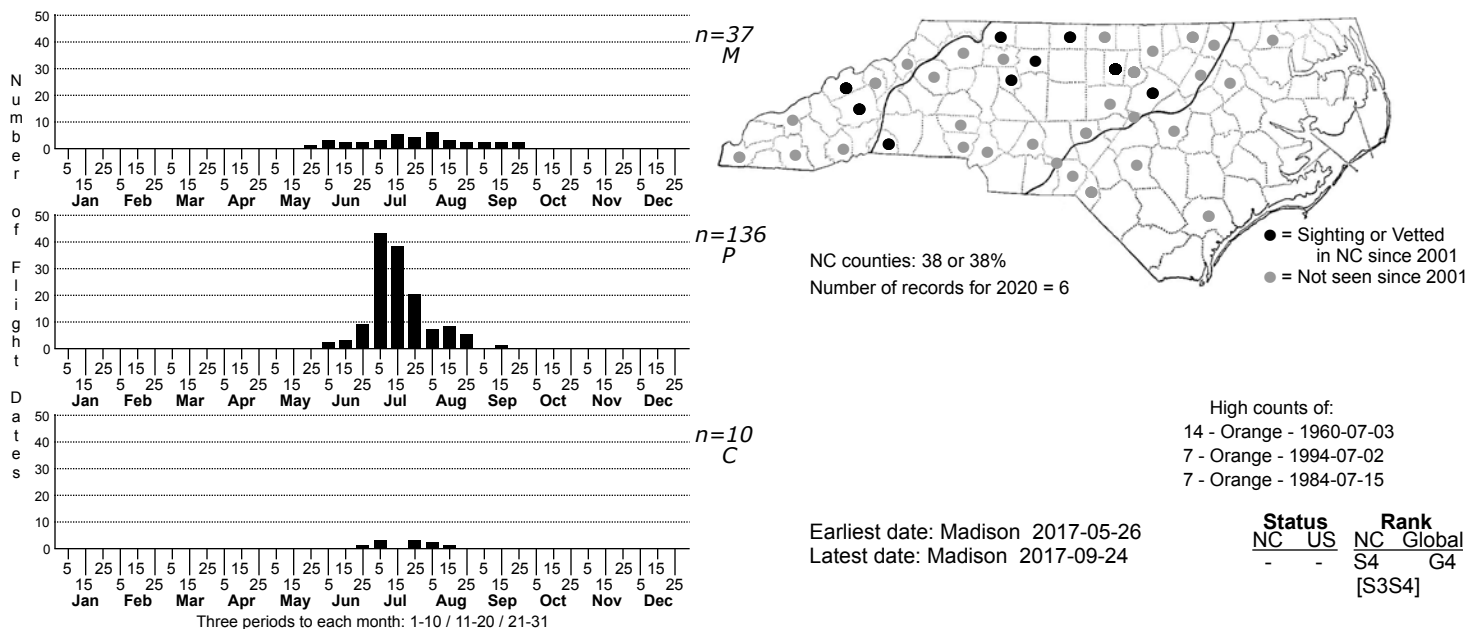
FLIGHT: Mid-March to mid-July, though primarily in the spring (i.e., mainly in April and May). There are a few records well into August and early September, but the flight is generally over in July. The flight in the mountains starts in early April.

HABITAT: A wide variety of creeks and rivers (though typically smaller rivers); rarely at lakes.

BEHAVIOR: Males patrol back and forth across streams. Adults are more often seen flying and perched well away from water, along dirt roads, sunny trails, and edges. They perch obliquely on twigs and other vegetation low to the ground, as do spiketails and darners (with which they often fly).

COMMENTS: Other than another *Didymops* species in Florida, this is the only member of its genus in most of the United States. Though unique from that standpoint, at a casual glance it could be confused with some darners, spiketails, or river cruisers. However, it is easily separated from all but river cruisers by its single yellow band on the side of the thorax, its yellow facial bar, and single pale yellow spots (not paired) on the top of the abdominal segments. The river cruisers have green (or brighter green) eyes and are blacker on the abdomen (not so brown), they fly later in summer, and they seldom perch near the ground. The Stream Cruiser is reasonably unwary, often allowing close study while perched obliquely on a twig.

Macromia alleghaniensis Allegheny River Cruiser



DISTRIBUTION: Scattered across the mountains, Piedmont, and western Coastal Plain, with a disjunct (?) record from Pender County. Though probably occurring in all counties east to Hertford, Edgecombe, Cumberland, and Scotland, the range is spotty, probably owing mainly to the difficulty of identification (without a specimen).

ABUNDANCE: Uncommon in the mountains, Piedmont, and extreme western Coastal Plain -- at least in the past. Very rare to absent over nearly all of the eastern two-thirds of the Coastal Plain. Poorly known by most recent observers because of the difficulty in separation from both the Swift River Cruiser and the Mountain River Cruiser without a specimen.

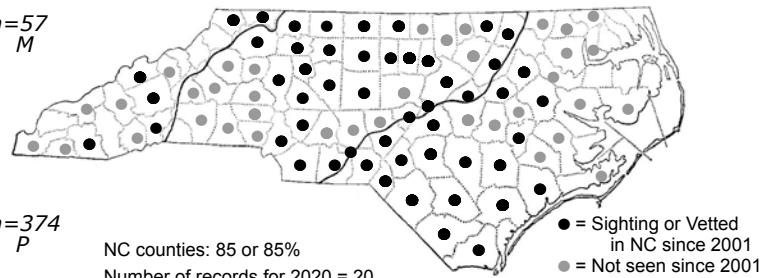
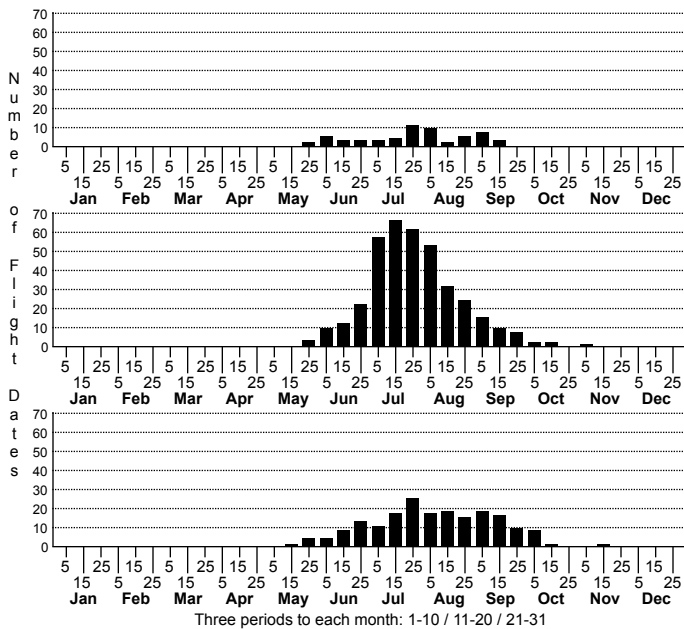
FLIGHT: The flight in the Piedmont and mountains occurs between early June and mid-September. This is likely also the flight period in the Coastal Plain, but known records there fall in a narrower range from late June to mid-August.

HABITAT: Creeks and rivers.

BEHAVIOR: Similar to other river cruisers, in that males cruise back and forth quickly along the length of the stream. Adults often forage in long patrols along wooded roads and wide trails, typically higher later in the day. They can be difficult to see perched.

COMMENTS: Though an observer without a net can frequently identify a "river cruiser" by its bright green eyes, yellow spots or bands on the black abdomen, and rapid back and forth cruising along a creek or a dirt road, identification of most species is tricky, even when seen perched. Often, they must be identified in the hand, or collected to study the genitalia. This species has a nearly complete yellow ring on abdominal segment 2 (a slight break dorsally). Refer to reference books and photos for identification. The scarcity of observational data in NC is understandable, as such data likely would be inconclusive or questionable (without photo or specimen). Thankfully, several people in the mountains have provided excellent recent documentation through photographs. However, there are disturbingly very few photos to document recent records from the Piedmont. Our website editors carefully scrutinized photo reports of all of the river cruisers (in late 2016), and several photos had been misidentified. Thus, the number of counties and records for most species of river cruisers changed due to moving records from one species to another. Though the N.C. Natural Heritage Program has retained a State Rank of S4, a revised (less numerous) rank of S3S4 might be better.

Macromia illinoensis Swift River Cruiser



NC counties: 85 or 85%
Number of records for 2020 = 20

High counts of:
20 - Surry - 2017-08-22
20 - Ashe - 2018-06-10
18 - Macon - 1981-08-07

Earliest date: Bladen 2017-05-20
Latest date: Pender 1994-11-14

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Other Name: Illinois River Cruiser, Georgia River Cruiser

DISTRIBUTION: Essentially statewide, but as with nearly all such species, it is absent (or essentially so) from the extreme northeastern counties. No records east of Gates, Chowan, or Beaufort counties (except for Hyde County).

ABUNDANCE: Fairly common and widespread in most of the Piedmont and upper Coastal Plain, including the Sandhills. Uncommon to locally fairly common in the mountains and foothills, as well as the lower Coastal Plain. Certainly the most numerous river cruiser in the mountains, Piedmont, and upper Coastal Plain (though it can be outnumbered in the Coastal Plain by the Royal River Cruiser).

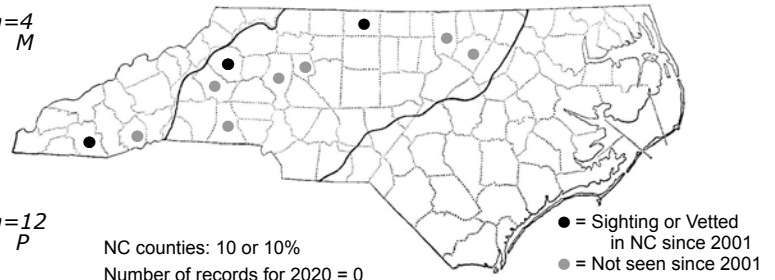
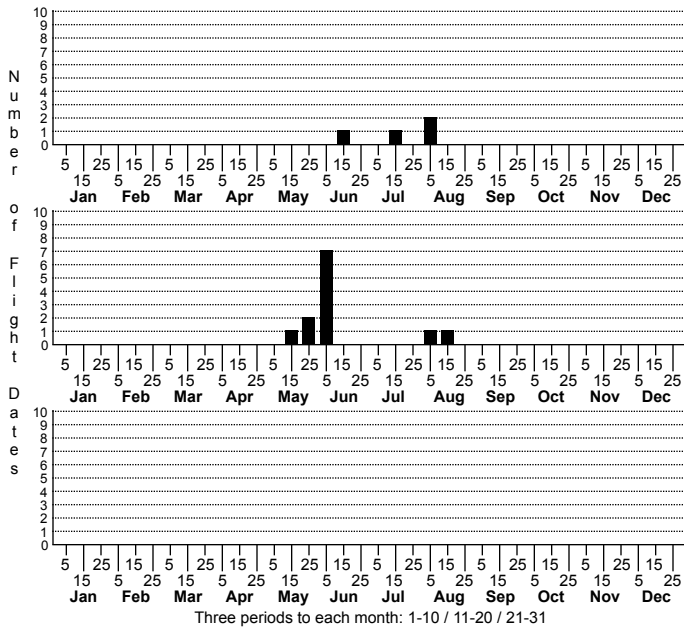
FLIGHT: A fairly wide flight period, from late May to mid-October downstate, and at least from late May to early September in the mountains. One very late record for 14 November.

HABITAT: Rivers and creeks, preferably in smaller rivers as compared with large ones.

BEHAVIOR: Very similar to other river cruisers, it can usually be seen when adults are cruising back and forth on long patrols along dirt roads or wide trails through forests, often well away from water. Males patrol along the length of a creek or small river.

COMMENTS: There are two subspecies found in NC and other Southeastern states. The subspecies *M. i. georgina* ("Georgia River Cruiser") is found across most of the Piedmont and Coastal Plain, whereas the nominate subspecies (often called "Illinois River Cruiser") is more northern and is found in the mountains. Most sightings of river cruisers in NC refer to "Georgia", as this form is not uncommonly seen in mid- and late summer along wide trails and dirt roads through forests in the Piedmont. It has more obvious dorsal yellow spots on most abdominal segments than does the nominate subspecies and the Allegheny River Cruiser (which have a large dorsal spot on abdominal segment 7 but fewer spots otherwise on the abdomen).

Macromia margarita Mountain River Cruiser



High counts of:
2 - Macon - 2008-07-20
2 - Caldwell - 1987-08-18
2 - Cleveland - 1999-06-06

Earliest date: Davie 1993-05-20
Latest date: Caldwell 1987-08-18

Status		Rank	
NC	US	NC	Global
SR	-	S2?	G3

DISTRIBUTION: This is a very poorly known species that is globally limited to the southern Appalachians and adjacent Piedmont. In NC, there are records for 10 counties in the mountains and Piedmont. The easternmost record is from Franklin County. Much more data are needed to determine the range in NC and in the US, though it seems to be absent from mid- and high elevations in the mountains.

ABUNDANCE: Rare or at least very difficult to identify, in the lower mountains and Piedmont foothills. Presumed very rare eastward over most of the rest of the Piedmont, but seemingly absent from the southeastern portion of the Piedmont.

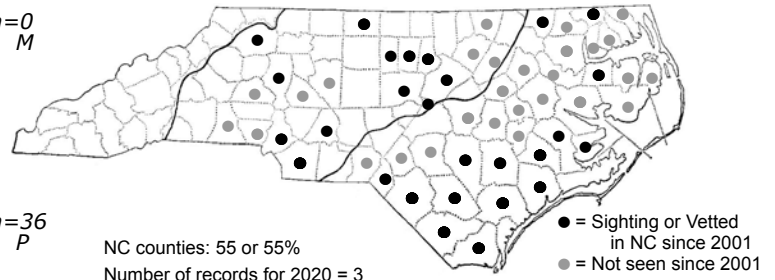
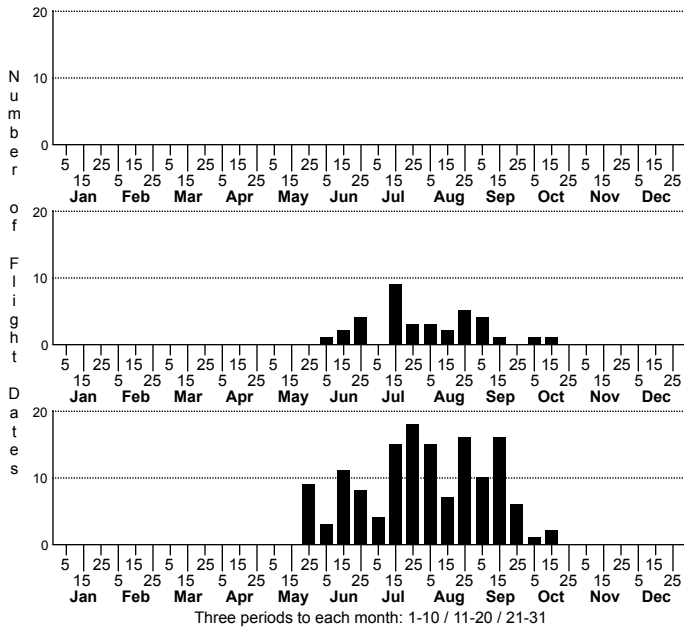
FLIGHT: "Early June to late Aug." in the overall range (Dunkle 2000). The 18 records (two are for 20 and 21 July 2008, but with no county given) in the state with dates available fall between mid-May and mid-August. However, of the 12 records with dates for the Piedmont, nary a one is from July, making the species look like it has two flight periods! The few mountain records fall between mid-June and early August, but the flight there probably starts by late May or early June.

HABITAT: Creeks and rivers that are clean and fast-flowing.

BEHAVIOR: Very little reported. Males patrol lengthwise along creeks and rivers. How often it flies and perches away from the breeding sites has not been reported. Thankfully, one was first found perched on a branch in Rockingham County in 2013 to be documented by photos, before it was netted for better confirmation.

COMMENTS: This might be the most difficult dragonfly to identify in the state, even more so than some clubtails and baskettails. It very closely resembles both Allegheny and Swift river cruisers; thus, a specimen (or possibly a photograph or two) would be needed to confirm the species. There is a report of one found dead at Hanging Rock State Park in Stokes County; however, the animal was not photographed nor saved, and thus we have removed this "record" from the database. Fortunately, in neighboring Rockingham County, one was netted and photographed in 2013 to confirm its occurrence in the north-central part of the Piedmont and to "close-up" a gap in the state range map. Its global rank (by NatureServe) is just G3, implying that it is one of the less numerous dragonflies in the eastern US. Considering that little collecting of odonates takes place in the 21st Century, the range and abundance of this species will likely be unclear for years to come. Nonetheless, people are strongly encouraged to photograph -- from several angles -- any perched river cruiser they see, so that experts can later examine the photos and compare them with those of all *Macromia* species in the state; maybe the photos can document the species without the need to collect it.

Macromia taeniolata Royal River Cruiser



High counts of:
38 - Sampson - 2015-08-23
30 - Columbus - 2018-07-15
30 - Robeson - 2018-07-15

Earliest date: Sampson 2019-05-24
Latest date: Robeson 1960-10-16

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Essentially throughout the Coastal Plain, and widely scattered over most of the Piedmont. A photo record in 2016 extended the state range into the northwestern Piedmont (to Wilkes County). Apparently absent from the mountains.

ABUNDANCE: Difficult to determine because of similarity of appearance to the Swift River Cruiser and the fact that river cruisers perch infrequently or too high in trees for easy observation/photography. Based on the number of records (mostly collections and recent photos), fairly common to common in the southern half of the Coastal Plain, and uncommon in the northern half, though this difference is possibly due to the comparative scarcity of field work in the northern counties. It is clearly rare to quite uncommon in the Piedmont, though it possibly might be increasing there.

FLIGHT: Late May to mid-October in the Coastal Plain. Not surprisingly, as there are many fewer records, the known flight in the Piedmont is from early June to mid-September, and very sparingly to mid-October.

HABITAT: Mostly around larger creeks and rivers, rarely at lakes.

BEHAVIOR: Males cruise long distances over rivers and larger creeks, mostly about 3 feet above the water, and the flight is slower than in other river cruisers. Away from water, they behave like most other river cruisers, flying long beats over roads and sunny trails in forested areas. However, they tend to fly higher than the others in the genus, often 15 or more feet off the ground.

COMMENTS: This is one of the longest of the state's dragonflies. However, its abdomen is quite slender, and thus when seen overhead in flight over a road, one can separate it from the similar-sized Swamp Darner (which has a robust and tapered abdomen). Though reportedly it perches often, most will be seen in flight, where it often occurs with Swamp Darners. Because it can be easily confused with other river cruisers, and as the Swift River Cruiser is numerous within the range of this species, observers must be cautious when submitting sight records for the Royal River Cruiser. Mark Shields found the species to be fairly common to common along some of the rivers he cruised from 2015 to 2018, and we now have several daily counts of at least 30 individuals.

Cordulia shurtleffii American Emerald

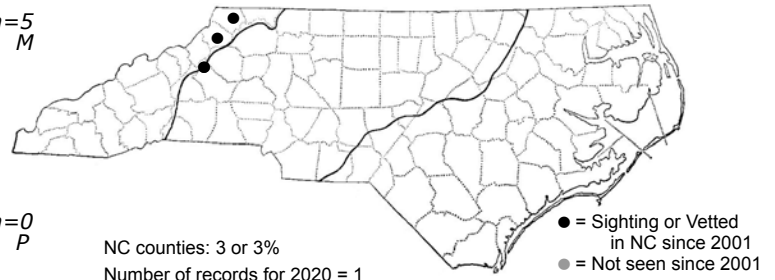
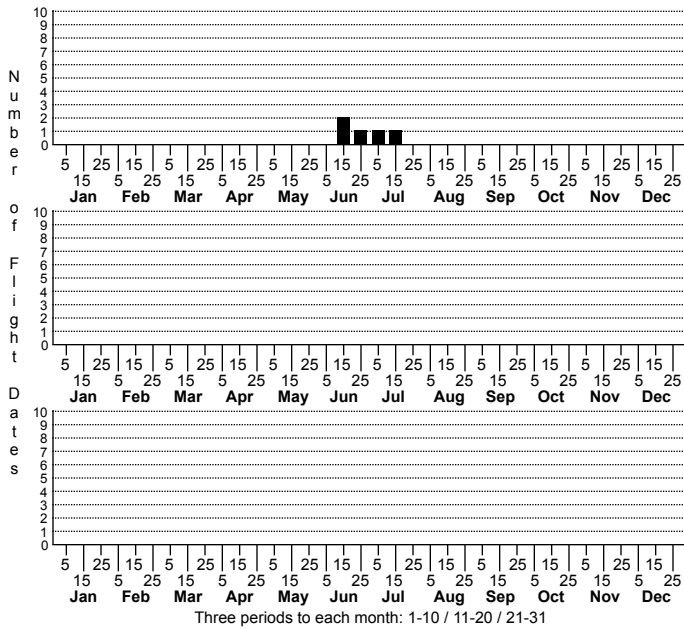


Photo (vetted) in 2020: Ashe

High counts of:
4 - Burke; M - 1993-07-06
3 - Burke; M - 2017-06-20
3 - Burke; M - 2017-06-21

Earliest date: Watauga 2018-06-15
Latest date: Ashe 2020-07-14

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: This is a widespread Northern species, ranging from Alaska to Newfoundland, and south to California and Virginia. There are just a few NC records, most apparently from a single site in Burke County; but found in 2018 from a site in Watauga County and in 2020 from a site in Ashe County. These latter two records fill the large gap in range (formerly) from VA to Burke County.

ABUNDANCE: Undoubtedly very rare in NC. However, it is a common species within the majority of its range.

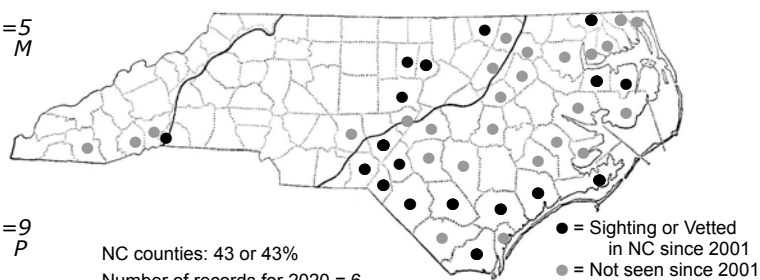
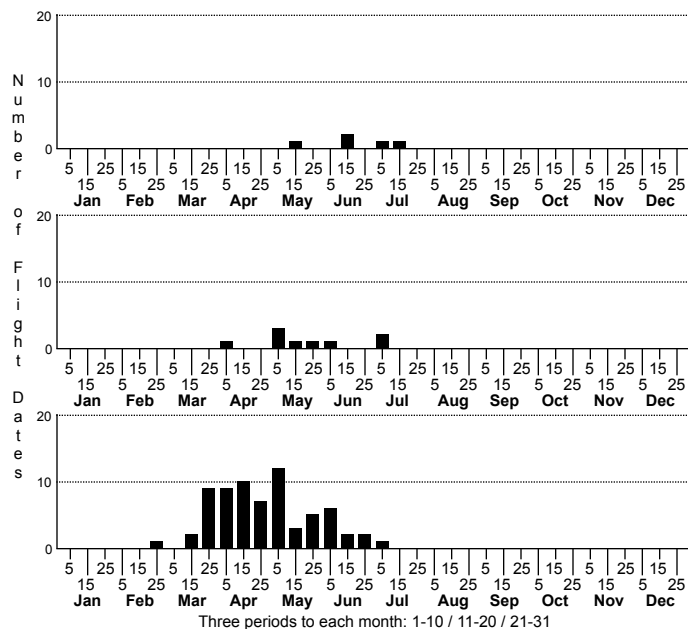
FLIGHT: The only NC records are from 15 June to 14 July. This seems quite late, as Paulson (2011) gives a flight season of May to July for New Jersey, and May to June for Ohio. Thus, one would expect the species to occur from May at least into mid-July in NC.

HABITAT: Still waters of lakes, ponds, or boggy areas, with marshy or damp areas surrounding the water. Favored ponds are shaded or partly shaded with much vegetation along the shoreline. All NC records appear to be from small ponds, at high elevations (mainly over 3,500 feet).

BEHAVIOR: Males "dart and hover" along shores of its ponds and boggy areas. Adults forage away from ponds along wooded margins.

COMMENTS: Four individuals were collected by Duncan Cuyler in the Jonas Ridge (mountain) portion of Burke County, in 1993. Perhaps others were seen at the same time; thus, the "4" for the high count is a minimum total present that day. Perhaps surprisingly, Jim Petranka re-discovered the species in 2017, apparently at the same pond near Jonas Ridge. John Petranka visited the pond on the following day and was able to get additional photos, including a few in the hand, finding at least three individuals. In 2018, John Petranka and Sally Gewalt found and photographed the species at a small pond at Elk Knob State Park in northern Watauga County. In 2020, John Petranka along with Jim Petranka photographed two at a small pond in northwestern Ashe County. Observers should search out small ponds at high elevations, especially over 4,000 feet in elevation (though this combination does limit the number of places where it could occur in the state).

Epitheca costalis Slender Baskettail



High counts of:
 9 - Carteret - 2019-04-03
 8 - Gates - 1970-06-01
 5 - Bladen - 1969-05-17

Earliest date: Carteret 2018-02-27
 Latest date: Transylvania 1940-07-12

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

Other Name: Stripe-winged Baskettail

DISTRIBUTION: Primarily the Coastal Plain, though it does occur in the eastern and southeastern Piedmont and in the southern mountains. Likely present over other portions of the southern Piedmont between Montgomery and Polk counties. In fact, range maps in Dunkle (2000) and Beaton (2007) show that the species ought to occur over the entire state, except perhaps for the northern mountains! Thankfully, the range map in Paulson (2011) matches that of the range map for NC on this website.

ABUNDANCE: Generally uncommon in the Coastal Plain; much less numerous than the Common and Mantled baskettails within its Coastal Plain range. Very rare in the eastern Piedmont and southern mountains (and apparently absent elsewhere in these provinces). However, as the species is difficult to positively identify without hand examination, its true abundance is only speculation.

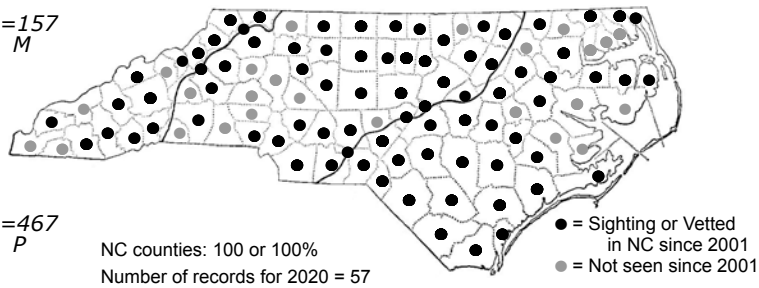
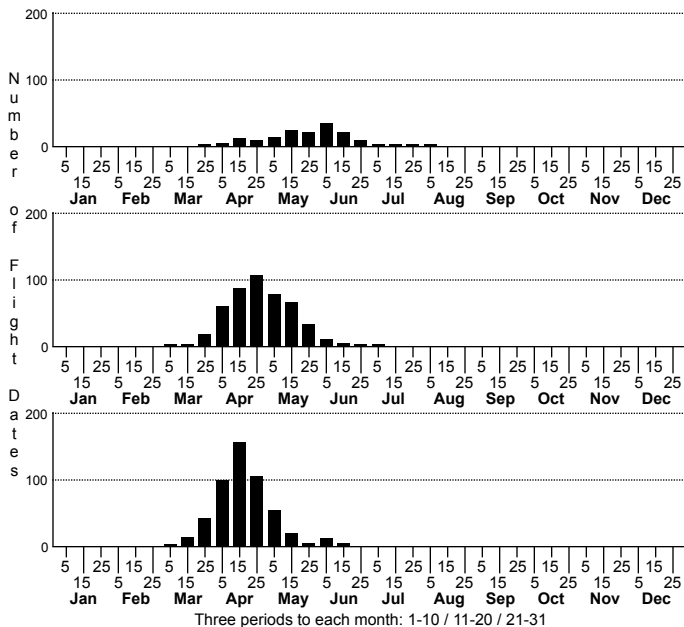
FLIGHT: Spring season for the most part, but sparingly into early summer. In the Coastal Plain, the flight is from mid- or late March to early July, but it is most numerous in April and May. Interestingly, Duncan Cuyler's records for the Great Dismal Swamp area are only in June, from Camden County; but his records elsewhere in NC fall between April and July (Roble and Cuyler 1998). The meager data for the Piedmont fall between early April and early July, whereas those in the mountains fall between mid-May and mid-July. A 2018 record from 27 February was nearly a month earlier than the previous earliest date.

HABITAT: Mainly at ponds or small lakes, rarely at slow-moving rivers.

BEHAVIOR: Males patrol small territories around the pond margins. As with all baskettails, adults are more easily seen and studied when they are foraging or perching in an oblique manner on twigs a foot or two above ground along dirt roads and wide trails.

COMMENTS: This species was formerly called the Stripe-winged Baskettail, but only a few females show the characteristic "named" dark bar on the leading edge of the wings. The species averages slightly longer than Common Baskettail, but it is best separated by the thinner abdomen that is narrowed near the thorax, giving a more spindle-shape to the abdomen. The species can easily be confused in the field with Common Baskettail, and thus observers are likely either overlooking this less common species or are reluctant to submit sight reports for it. In fact, the website editors determined (in late 2016) that one to several previous photos on this website are actually of Common Baskettails and not Slender Baskettails.

Epitheca cynosura Common Baskettail



High counts of:
400 - Camden - 2017-04-13
150 - Onslow - 2010-04-24
130 - Wake - 2013-05-03

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Earliest date: Columbus 2020-03-08
Latest date: Macon 1981-08-05

DISTRIBUTION: Statewide; occurs in every NC county, including those along the immediate coast.

ABUNDANCE: Common to occasionally abundant across the state. Often the most numerous species seen on an outing in the spring season. Dozens can sometimes be seen in a day.

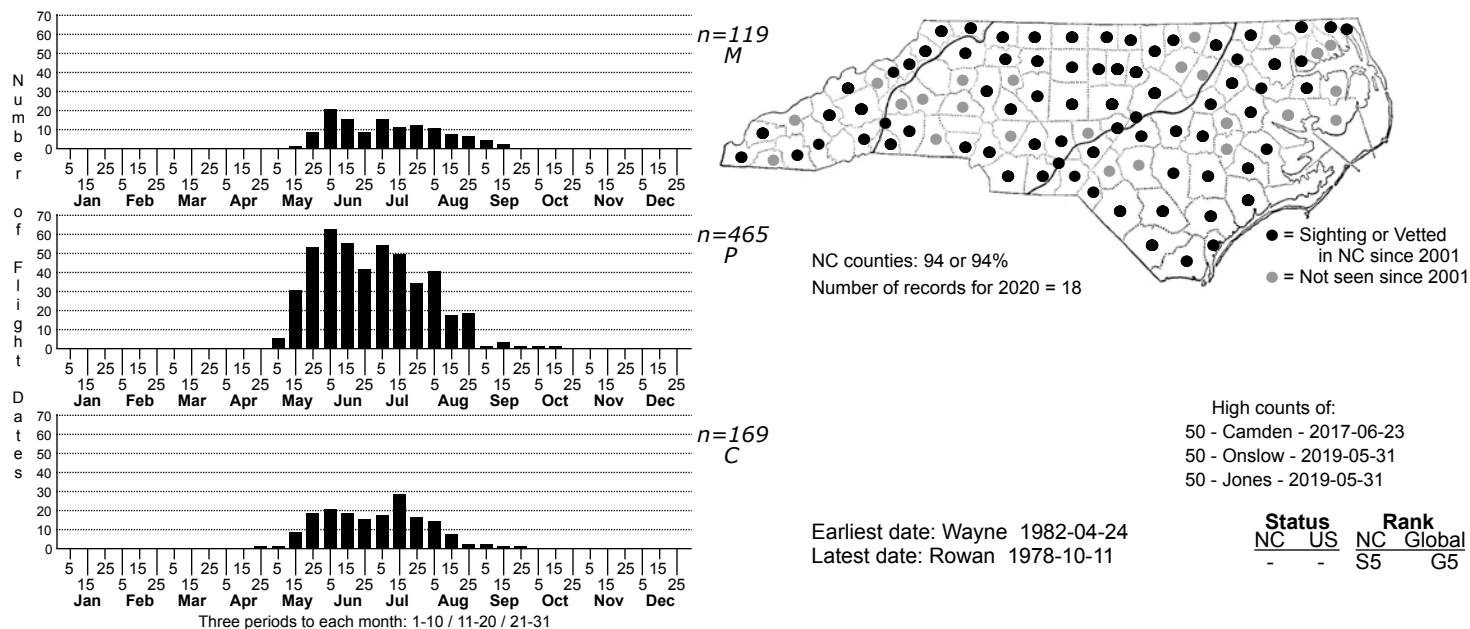
FLIGHT: Spring/early summer season only; mid-March to late June or early July downstate, and to early August in the mountains (where the flight begins in late March). It is infrequent downstate after the end of May.

HABITAT: Mainly at still or slow-moving water of ponds, lakes, and pools; less so at slow creeks and rivers.

BEHAVIOR: Males are often seen flying low over pools and ponds, and at times over smaller creeks, perching quite frequently along the margins. Away from water, adults range widely to woodland margins, sunny roads and trails, and so forth, where they perch unwarily on twigs or other low vegetation and thus can be studied closely.

COMMENTS: Identification of most baskettails (except Prince) can be tricky, as some Mantleds, most Slender, and especially Robust baskettails closely resemble the Common Baskettail. In fact, there is probably no single field mark that might identify a dragonfly as a Common; a suite of marks, such as abdomen shape, abdomen width, and wing coloration must be used. Nonetheless, observers will quickly tire of seeing this species in spring, in hopes of finding less numerous baskettails, darners, and skimmers.

Epitheca princeps Prince Baskettail



DISTRIBUTION: Statewide; presumably occurs in all 100 counties. A few coastal counties lack a record, and probably absent on the Outer Banks.

ABUNDANCE: Fairly common to common essentially statewide. Rare toward the coast, and likely absent on the Outer Banks. Does not occur in swarms like a few other baskettails (Common and Mantled), though there are several counts of 50 individuals in a day near the coast.

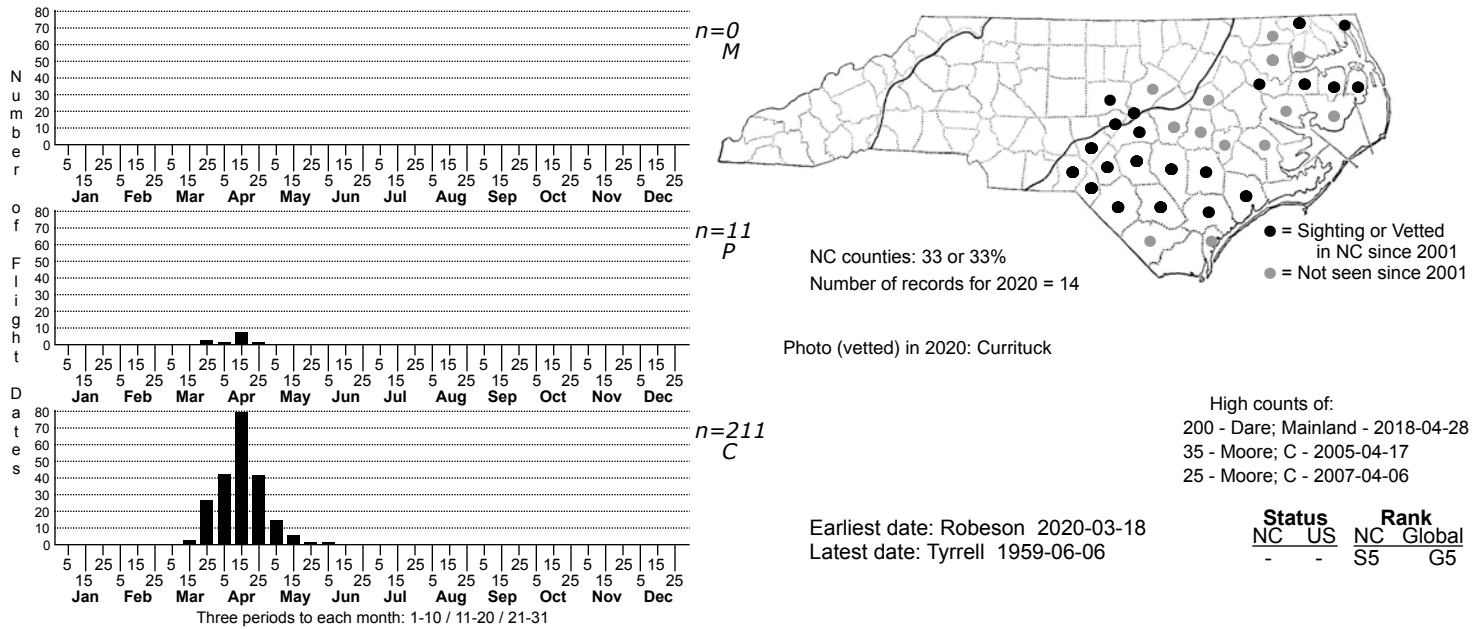
FLIGHT: A long flight period compared with other baskettails, and the only baskettail species that extends through the summer into early autumn. In the Coastal Plain, the flight occurs from late April to late September; in the Piedmont, from early May to mid-October (though scarce after August); and in the mountains, from late May to mid-September.

HABITAT: Slow-moving waters of lakes and ponds, or still rivers. Usually in open, sunny places.

BEHAVIOR: Males are often seen making long back-and-forth flights along canals, pond and lake shores, etc., in sunny areas well away from forests. The flight is often higher than for most other dragonflies, as an observer often sees them at or above head height. Unlike the other baskettails, this species only infrequently perches.

COMMENTS: It is surprising that this species is included with the other four NC baskettails in the same genus (*Epitheca*), as the Prince Baskettail looks and behaves more like a species of damselfly or skimmer than a typical baskettail. The wings are boldly blotched in black, and the adults glide and fly in a choppy manner, with wings often held above the horizontal, for long periods of time. As they only infrequently perch, one normally makes the identification (easily) in flight.

Epitheca semiaquea Mantled Baskettail



DISTRIBUTION: Essentially only the Coastal Plain in NC, though it barely extends above the Fall Line from Wake and Chatham counties southward. Ranges inland only to Wake, Chatham, Moore, and Richmond counties.

ABUNDANCE: Fairly common to locally common in the Sandhills and the adjacent southern Coastal Plain; less common farther eastward and northeastward (e.g., no record yet for Brunswick County), but still at least fairly common locally, though probably rare in the extreme northeastern Coastal Plain. Rare in the narrow Piedmont part of the range. Can occur in swarms, with over 20 individuals seen in a day in some sites; a remarkable estimate of 200 individuals was made on the mainland portion of Dare County in 2018.

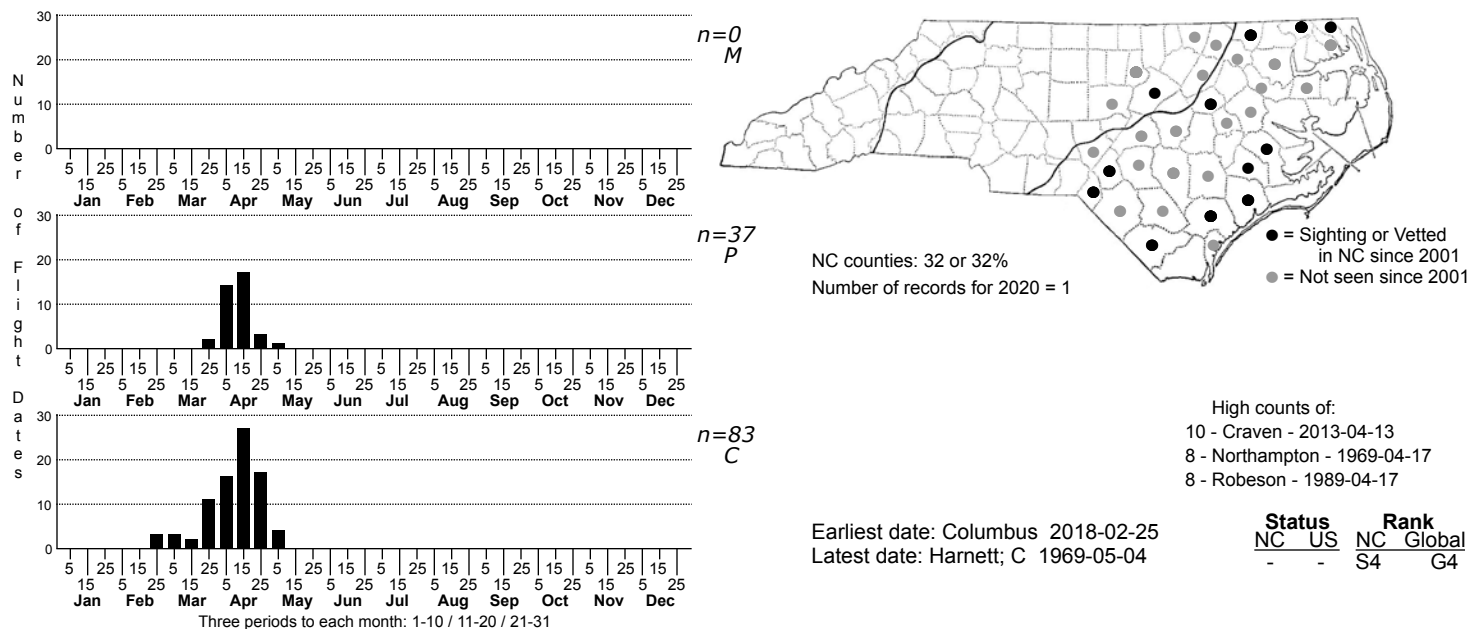
FLIGHT: Spring season only; late March to mid-May, rarely to early June. The few Piedmont records end in mid-April, though it certainly flies there for a few more weeks. By far most numerous in April than at other times.

HABITAT: Lakes, ponds, and pools. Seems to be more numerous where these waters are acidic, such as in pocosin habitats to include Carolina bay lakes and ponds.

BEHAVIOR: Males are less often seen in patrols over water than are Common Baskettails. Adults are typically seen, along with many Common Baskettails, flying along dirt roads and other clearings, frequently stopping to perch obliquely on twigs and other vegetation close to the ground.

COMMENTS: The amount of dark brown or black on the hindwings is somewhat variable, and many Common Baskettails also show some dark pigment on the hindwings. However, Mantleds are the smallest baskettails and can often be identified by their small size while seen on the wing.

Epitheca spinosa Robust Baskettail



DISTRIBUTION: Occurs over most of the Coastal Plain and adjacent Piedmont, ranging inland only to Warren, Durham, Chatham, and Moore counties. Seemingly absent in the extreme eastern Coastal Plain, at least in most tidewater counties around the Albemarle and Pamlico sounds. Ranges north to New Jersey, but very rare and sporadic west of the Atlantic Coastal Plain, though there are a few records west to Oklahoma and Texas.

ABUNDANCE: Probably uncommon, to locally fairly common, over its range in the Coastal Plain and eastern Piedmont. Duncan Cuyler collected large numbers of this species, in several dozen counties, and thus it is not (or was not during his time) a rare species. However, most observers today are either unfamiliar with it or are reluctant to report it, due to difficulty of identification from Common Baskettail. Of note, Cuyler found it "fairly common" in the Dismal Swamp area.

FLIGHT: Spring season only, with the flight finishing about as early as any dragonfly species in the state. This flight period in the Coastal Plain is from very late February or early March to early May, and in the Piedmont from late March to early May. The latest state collection record is 4 May (likely the earliest "latest" date for any odonate in NC). Not surprisingly, Dunkle (2000) says "the earliest dragonfly within its range". According to Roble and Cuyler (1998) -- "Cuyler's surveys in North Carolina indicated that this species is fairly common at ponds, swamps and streams of all sizes; adults were found from 17 April to 7 May in western Gates County ... and the Dismal Swamp region ..."

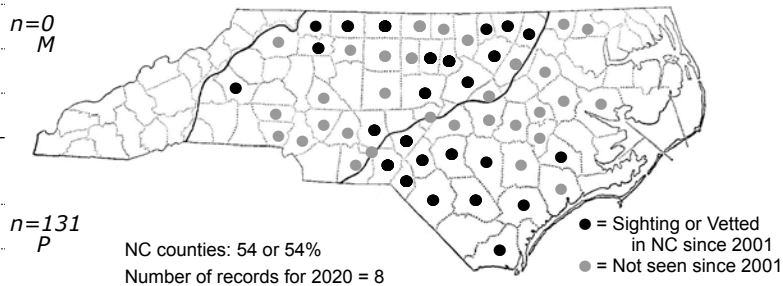
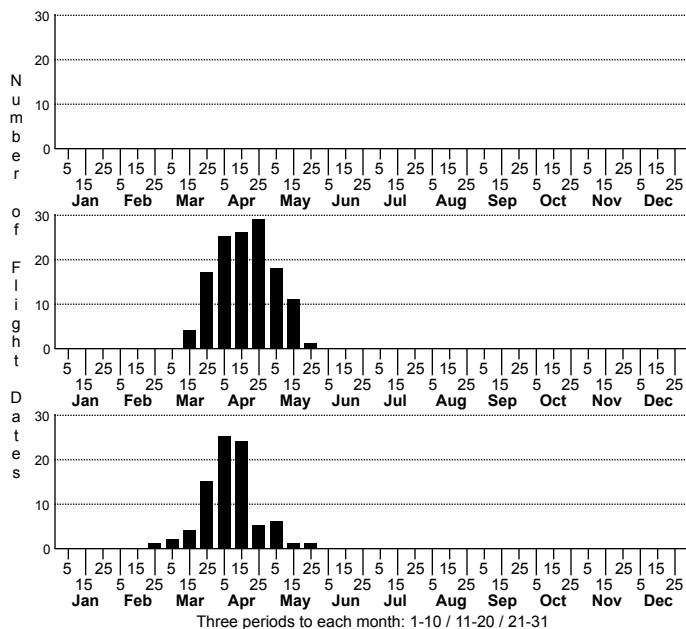
HABITAT: Still waters of swamps and ponds/pools in or near forests; probably scarce in open water of lakes and ponds.

BEHAVIOR: Males patrol along swampy edges near and over water. The now numerous photos of the species have essentially all been from blackwater ponds, creeks, and rivers; thus, it apparently does not occur along wide, slow-moving brownwater rivers and its associated swamps.

COMMENTS: Though the species averages slightly longer, huskier (especially in the abdomen), and more hairy in the thorax than Common Baskettail, identification of Robust Baskettail must be made with care, as there are many photos of Common Baskettails (presumably) from the mountains and Piedmont with wide abdomens and very hairy thoraxes. Note the downward and outward "bent" cerci of the males, which can be seen in good photos.

The N.C. Natural Heritage Program now ranks the species as S4, instead of the former S3? rank, as until a few years ago very little was known about the species in the state since Duncan Cuyler's days (1960s to 1990s). But, it is still given a Global Rank of G4; Paulson (2011) says "The sparseness of records south and west of North Carolina is puzzling" and "seemingly rare in most parts of range". This suggests that most of the records rangewide are from NC, and the species is likely much more numerous here than to the north and south. Despite roughly 120 records with dates for NC (most data from the University of Florida museum), the Natural Heritage Program retained the species on its Watch List until 2018, when it was removed owing to an increase in records in 2017-18. Thankfully, Conrad Wernett has netted and photographed several individuals in the hand, in Craven County. Mark Shields, John Petranka, Brian Bockhahn, and Kyle Kittelberger have also added a handful of new recent records, with photos.

Helocordulia selysii Selys's Sundragon



High counts of:
29 - Sampson - 2017-03-25
29 - Bladen - 2017-03-25
13 - Cumberland - 2020-03-19

Status		Rank	
NC	US	NC	Global
-	-	S4	G4

Earliest date: Scotland 2020-02-23
Latest date: Cumberland 1987-05-28

DISTRIBUTION: Nearly throughout the Piedmont and the Coastal Plain, though apparently absent from the eastern part of the latter region (no records east of Hertford and Beaufort counties). Of sporadic occurrence in the western Piedmont, possibly absent from a few of these counties. No mountain records.

ABUNDANCE: Uncommon to occasionally or locally fairly common in the eastern half of the Piedmont and the southern Coastal Plain. Slightly less numerous (uncommon) in the central and northwestern Coastal Plain; rare to uncommon in the western Piedmont.

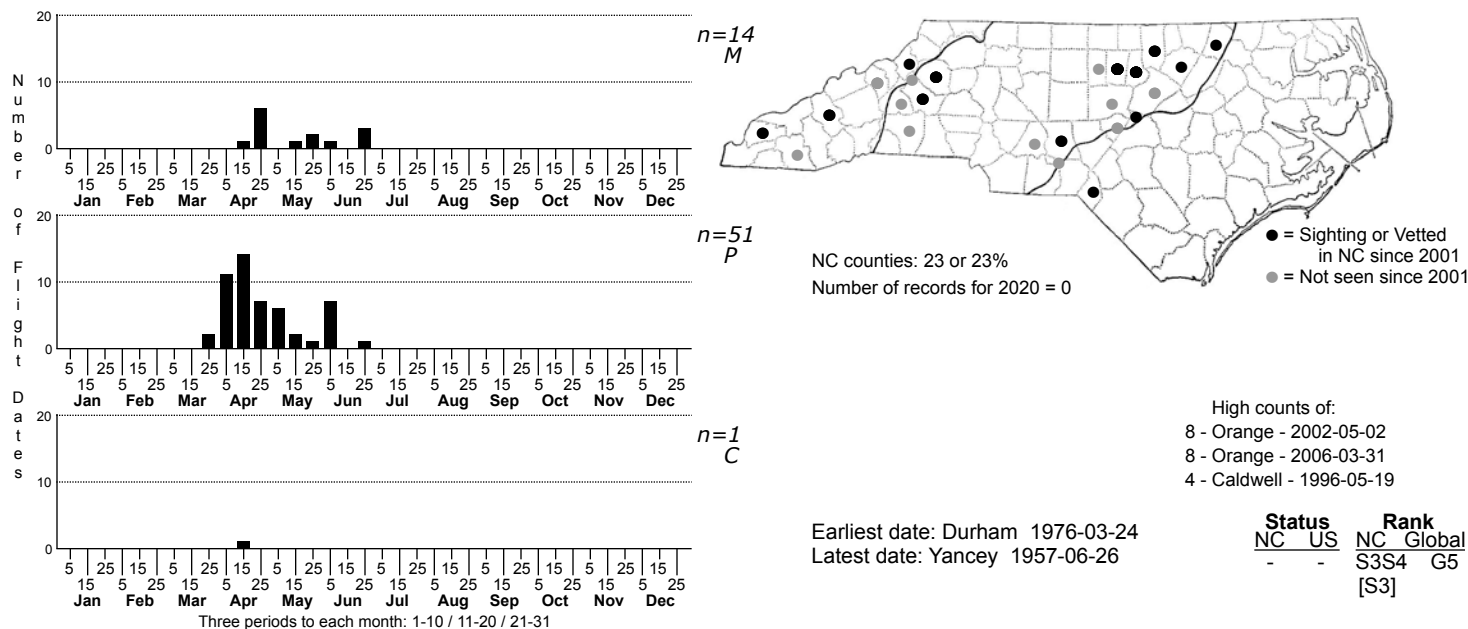
FLIGHT: First two-thirds of the spring season only; mid-March to late May, though scarce after early May.

HABITAT: Small creeks and trickles, where sandy, and typically in shaded or semi-shaded places.

BEHAVIOR: Its behavior is similar to that of baskettails, with males patrolling small areas along creeks. However, as with baskettails, adults frequently move well away from water, feeding along dirt roads and wide, sunny trails, perching like those species in an oblique manner on twigs close to the ground. They can be somewhat unwary and studied/photographed at close range.

COMMENTS: As Dunkle (2000) calls the species "uncommon" over its range, and Beaton (2007) calls it "Uncommon to rare" in its GA range, the species must be more numerous in NC than in most other states in its range. Active field biologists will often find one or two each spring, though it seldom occurs in numbers. At first glance the two sundragons (genus *Helocordulia*) resemble baskettails (genus *Epitheca*), but their spindle-shaped abdomen (narrowed at the anterior end) and ochre-orange band/ring on abdominal segment 3 separates the two genera.

Helocordulia uhleri Uhler's Sundragon



DISTRIBUTION: Scattered over the mountains and Piedmont, with an apparently real gap (or certainly "scarcity") in the west-central portions of the Piedmont. Might well occur in all counties in the two provinces, as it ranges east to Halifax, Wake, Harnett, and Scotland counties. Probably occurs on very rare occasions in the Sandhills portion of the Coastal Plain. There are fewer observers in the western and central Piedmont than in the eastern Piedmont, but one cannot escape the fact that the species seems to have a bimodal range in the state.

ABUNDANCE: Declining in recent years, with shockingly no records in 2018, 2019, or 2020. Less numerous in NC than Selys's Sundragon in most counties where both occur (i.e., the eastern Piedmont). Rare to very uncommon in the eastern third of the Piedmont, but seemingly quite rare westward, with most records in the western part of the state lying close to the Blue Ridge escarpment. The gap of records in the west-central Piedmont is bizarre and suggests that the species must be very rare there, but as there are many records from the foothills and from the eastern Piedmont, it certainly ought to be present in all Piedmont counties.

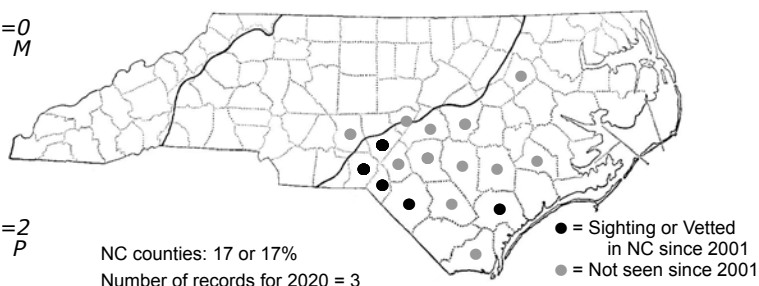
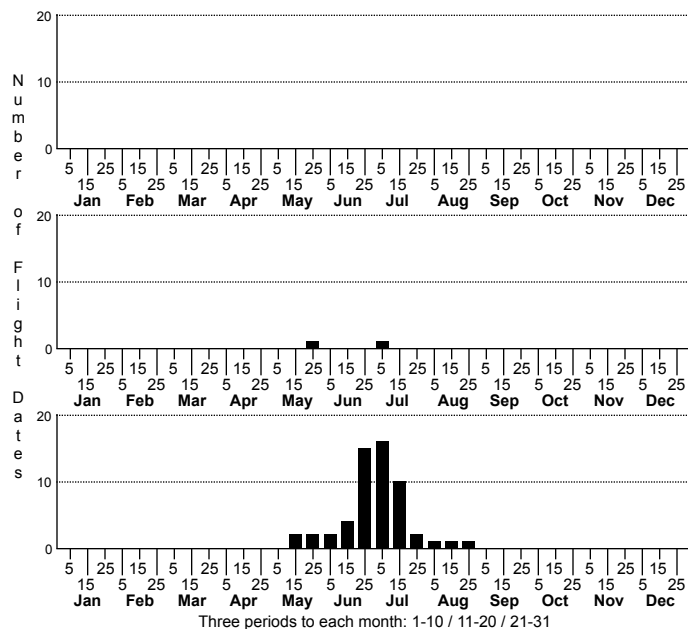
FLIGHT: Somewhat similar to Selys's Sundragon, though occurring later into early summer. In the Piedmont, from very late March or early April to late June, but scarce after early May. Dates in the mountains fall between mid-April and late June, and the single Coastal Plain record is for mid-April.

HABITAT: Creeks and slower-flowing rivers, in shaded or semi-shaded forested areas. Apparently in slightly larger bodies of water than for Selys's, but habitat certainly overlaps.

BEHAVIOR: Males patrol territories over creeks and rivers, but fly longer and faster patrols than does Selys's. Adults are like most baskettails and Selys's Sundragon in foraging well away from water along trails and roads, usually perching low on twigs for easy observation and photographs.

COMMENTS: Though this species has a wider, more Northern, range than does Selys's, it is the less common of the two in NC, though active observers in the eastern Piedmont might see one or two Uhler's each spring. The two sundragons are quite similar in appearance, with Uhler's having a small amber spot (lacking in Selys's) at the base of each wing; these spots can be difficult to see in the field, but good, close photographs show the mark well. As a result of very few recent records, the editors suggest a revised State Rank from S3S4 up to now S3 -- though not quite worthy of being added to the Watch List.

Neurocordulia alabamensis Alabama Shadowdragon



High counts of:
6 - Moore; C - 1973-07-02
5 - Richmond; C - 1996-07-14
5 - Moore; C - 1966-06-25

Earliest date: Moore; C 1963-05-18
Latest date: Richmond; C 1997-08-22

Status	Rank		
NC	US	NC	Global
W	-	S3?	G5

DISTRIBUTION: Ranges across the southwestern 40-50% of the Coastal Plain, including the Sandhills region; seemingly absent from the Piedmont. As NC lies at the northeastern end of the range, the northern limits at present are Montgomery, Moore, Lee, Johnston, and Edgecombe counties. There have been one or two reports from the lower Piedmont, but there are seemingly no specimens or photographs to document its presence in that province as yet.

ABUNDANCE: Very difficult to assess for all five shadowdragons in NC because of their crepuscular habits. As it has been found in practically all potential counties in NC within its range, it must not be truly scarce, and the nearly 60 records (for a crepuscular species) with available dates attest to it not being rare. Dunkle (2000) calls the species "common but seldom seen" across its full range, which might apply as well to NC. Likely, it is uncommon to fairly common in the Sandhills region, and rare to uncommon elsewhere in the southern Coastal Plain, but especially scarce in the central Coastal Plain.

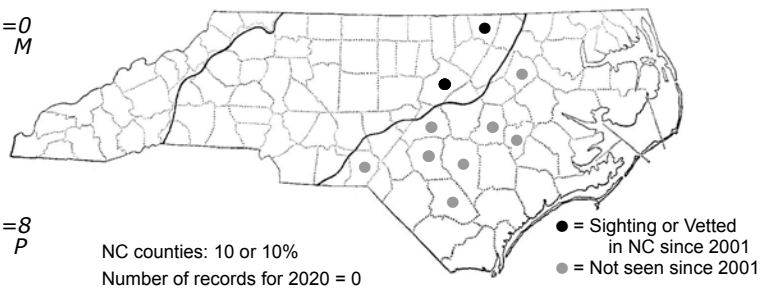
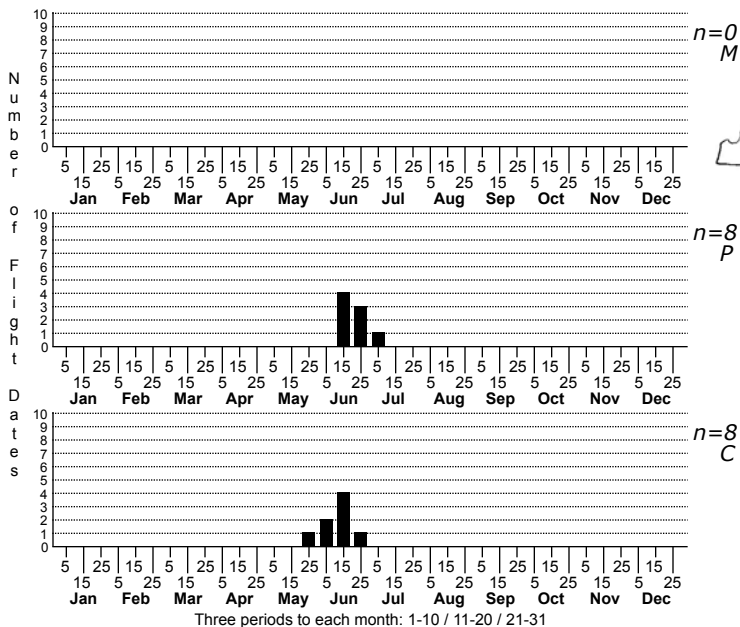
FLIGHT: The flight is from mid-May to late August, though most do not appear until mid-June, and the peak is from late June to mid-July.

HABITAT: Small creeks in forested regions, often where sandy and with low flow.

BEHAVIOR: Strictly crepuscular, with most flying taking place about 30 minutes before dusk. It spends the remainder of the day hanging on twigs in shade in forests, where very seldom seen. When it does fly, it can be seen over ponds as well as creeks.

COMMENTS: To see shadowdragons, observers must visit creeks and other bodies of water in shaded places during the last hour of daylight, with a net handy to catch whatever may be seen flying over the water. In fact, Dunkle (2000) calls this species "One of the world's most elusive dragonflies" because of its very narrow flight time during the day, often for just 10-20 minutes near dusk. Though it is not rare in the state, it is poorly known by today's biologists/observers, and the N.C. Natural Heritage Program retains the species on its Watch List.

Neurocordulia molesta Smoky Shadowdragon



NC counties: 10 or 10%
Number of records for 2020 = 0

High counts of:
4 - Cumberland - 1968-06-18
2 - Wake - 2010-06-22
2 - Wake - 2010-06-17

Earliest date: Wayne 1970-05-21
Latest date: Warren 2016-07-06

Status		Rank	
NC	US	NC	Global
W	-	S3?	G4
		[S2?]	

DISTRIBUTION: Scattered in the western half of the Coastal Plain, north to Edgecombe County; range barely extends into the adjacent Piedmont (Wake and Warren counties). Range extends eastward only to Edgecombe, Lenoir, and Bladen counties; but it also occurs in the Sandhills region. Though the bulk of the range lies west of the state in the Mississippi drainage, the species appears to be practically absent from the mountains and Piedmont of NC.

ABUNDANCE: Secretive and difficult to survey (as are all shadowdragons) because of their crepuscular habits, but seemingly less numerous than two shadowdragons (Alabama and Umber) within its NC range. Probably rare to locally uncommon.

FLIGHT: Probably May into July. The NC dates available fall between 21 May and 6 July. A number of records were made in Wake County in the last 20 days of June 2010.

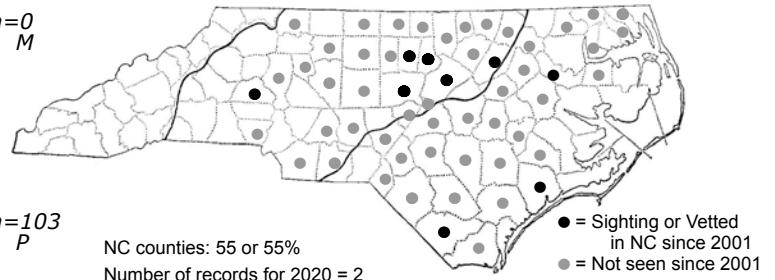
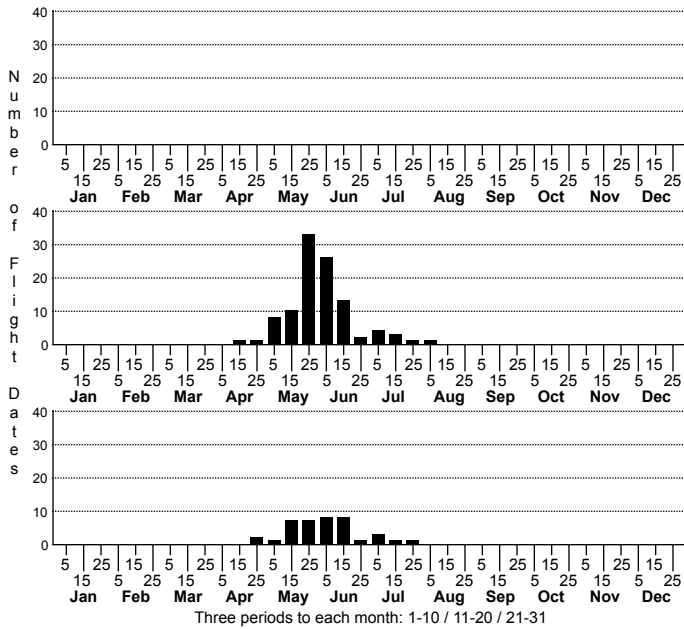
HABITAT: Occurs at larger bodies of water than does Alabama Shadowdragon -- rivers and larger creeks.

BEHAVIOR: As with all shadowdragons, Smoky Shadowdragons remain motionless, hanging from twigs and leaves in the forest shade during the day, and fly over water for only the last hour of daylight, with most activity right at dusk.

COMMENTS: The slightly smoky color of the wings, along with olive-green eyes, separates this species from the other shadowdragons. As with the other shadowdragons in NC, one must make a concerted effort in the last hour of daylight to see this species, and a net would be essential for identification in the poor light conditions when they are flying. On the other hand, Paul Scharf serendipitously found one on his lighted moth sheet in Warren County in 2016; his photos are uploaded on the OdonataCentral website as well as this website.

Though the species might not be truly rare in NC, there are records for just 10 counties and only a very few new records, and thus the N.C. Natural Heritage Program has placed the species on its Watch List, in 2012. (One of the previous county records has been determined by our website editors to not be a Smoky Shadowdragon.) As there are so few recent records, the State Rank should be re-adjusted upward to S2?, and some consideration for placing the species on the Significantly Rare list must be given. However, sadly, it was retained at an S3? State Rank at the end of 2020.

Neurocordulia obsoleta UMBER Shadowdragon



High counts of:
10 - Onslow - 2017-05-26
9 - Chatham - 1987-05-29
6 - Harnett; P - 1965-05-16

Status	Rank	
	NC	US
-	-	S4
-	-	G5

Earliest date: Nash 2020-04-15
Latest date: Wake 2010-08-06

DISTRIBUTION: Occurs over nearly all of the Piedmont and Coastal Plain, though the range is spotty near the Blue Ridge Escarpment counties and in the extreme eastern Coastal Plain, where possibly absent in a few coastal counties along the Outer Banks. No records for the mountains. The full range of the species is more northerly than most other shadowdragons, extending to Maine.

ABUNDANCE: Because of its crepuscular habits, abundance is poorly known, but based on the fact that it has been recorded from the majority of Piedmont and Coastal Plain counties within its range -- thanks mainly to older efforts by Duncan Cuyler -- and we about 140 records with dates available, it is certainly not scarce. Likely uncommon to fairly common in much of its range in NC, though Dunkle (2000) calls it "uncommon" over its range, and Beaton (2007) calls it "probably uncommon to rare" in GA.

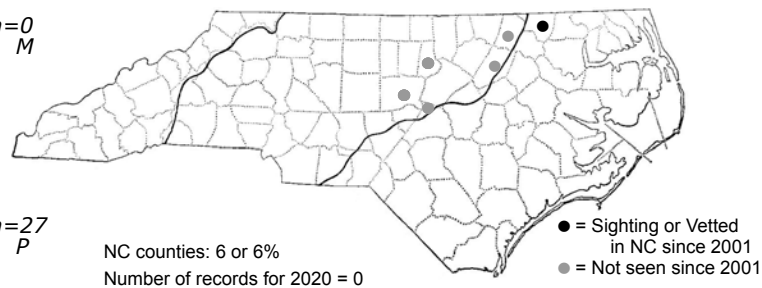
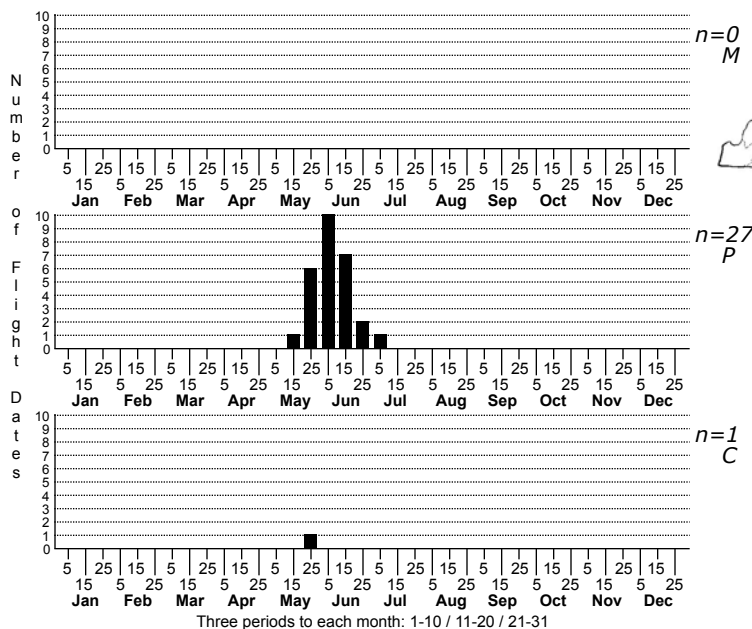
FLIGHT: The flight periods in both the Coastal Plain and the Piedmont are similar -- late April to late July or early August.

HABITAT: Rivers, typically large and clean; less often at creeks.

BEHAVIOR: As with all shadowdragons, adults hang from twigs and vegetation in the forest shade during the day, and emerge to fly only in the last hour of daylight. Males prefer to fly patrols over riffles in the rivers.

COMMENTS: It is surprising that such a secretive dragonfly could be recorded in NC from so many counties -- 55 in total. This is especially striking in comparison with the relatively few county records from neighboring states -- 2 in GA, 4 in SC, and 10 in VA (as of 2016 on the OdonataCentral website map). This must represent intense collecting effort on the part of Duncan Cuyler or others, as it would seem unlikely to be much more numerous in NC than in VA, for example, as the range of the species is centered on these two states.

Neurocordulia virginiensis Cinnamon Shadowdragon



High counts of:
14 - Chatham - 1976-06-02
6 - Chatham - 2000-06-08
6 - Chatham - 1994-06-13

Earliest date: Harnett; P 1965-05-16
Latest date: Durham 1963-07-04

Status		Rank	
NC	US	NC	Global
W	-	S2?	G4
[SR]		[S1?]	

DISTRIBUTION: A puzzling range in NC, so far as known, based on its "wide" overall global range. Known at present only from a handful of counties in the northeastern Piedmont -- west only to Durham and Chatham counties, and east to the Fall Line separating the Piedmont from the Coastal Plain. As this is a mostly Southern species, ranging north to southern Virginia, the near complete lack of Coastal Plain records is striking or puzzling (though its preferred habitat is mostly absent from the NC Coastal Plain). A new county record (in 2013), for Northampton County, lies along the Fall Line, at Weldon. This record was added to the Coastal Plain flight chart on the PDF page; however, this record could just as easily have been included in the Piedmont flight chart.

ABUNDANCE: Perhaps declining. Seemingly rare to uncommon (and perhaps fairly common at one or two sites, at least formerly) in NC, but as this and other species of shadowdragons are crepuscular, determining the range and abundance is very difficult. Oddly, Dunkle (2000) calls the species "common" in its range, but Beaton (2007) calls it "probably uncommon" in GA. The fact that at least 14 individuals were collected in a single day at a Chatham County site suggests that it might be -- or might have been in the past -- numerous in a few places within its narrow NC range.

FLIGHT: The flight in NC occurs from mid-May to early July.

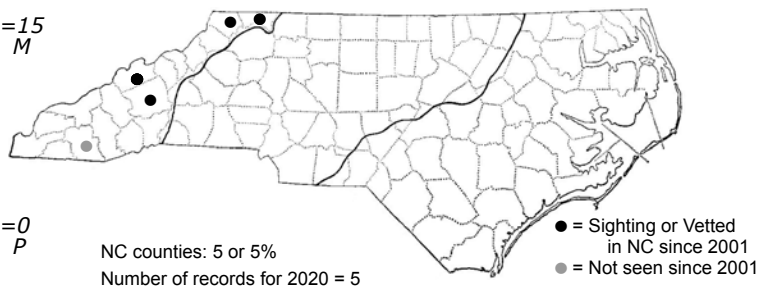
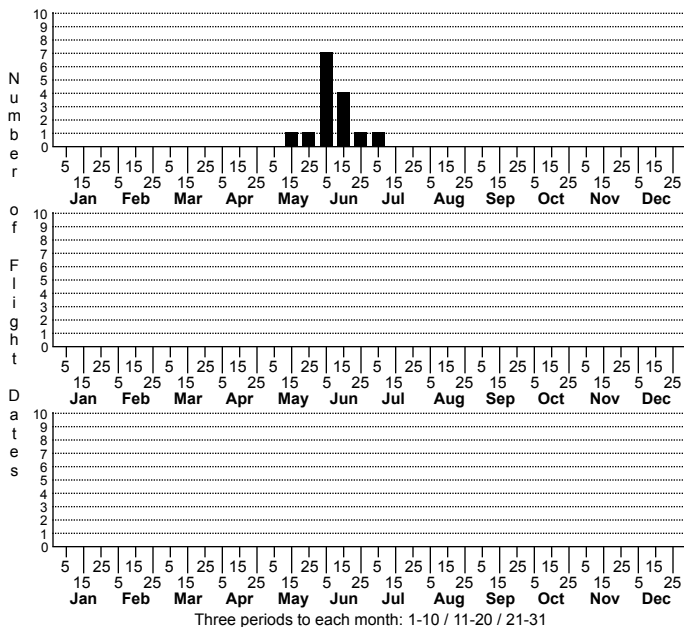
HABITAT: This is a riverine species, occurring at larger, clean ones with riffles. This preferred habitat precludes occurrence in most of the Coastal Plain, with its slow-moving rivers generally devoid of rocks and riffles, but this habitat is widespread across the Piedmont, and so far all known records are near the Fall Line of the eastern Piedmont/extreme western Coastal Plain.

BEHAVIOR: As with other shadowdragons, adults perch inconspicuously on twigs in the shade of forests during the day, emerging during the last hour of light to forage near rivers. Beaton (2007) mentions that the species is more likely than other shadowdragons to forage away from its breeding habitat (i.e., away from water).

COMMENTS: Based on records from throughout its range on the OdonataCentral website, it seems that there is a FL bias in Dunkle's (2000) considering the species to be "common". A "common" status seems to be true in FL and probably AL, but there are just two counties of occurrence shown on the website for each of GA, SC, TN, and VA. Thus, the six counties known for NC is not out of line, and the Cinnamon Shadowdragon clearly is a rare to very uncommon dragonfly north of FL, and is much less numerous than the Umber Shadowdragon (which occurs with it in the NC Piedmont) north of FL. Despite there being fewer than 30 records with dates available, the N.C. Natural Heritage Program moved the species from the Rare List to the Watch List in 2012, as it wants more data on twilight survey efforts for shadowdragons before it considers any to be truly rare.

Sadly, with hardly any new records in recent years, it seems best for this species to be moved back to the Rare List as Significantly Rare. And the State Rank should be moved up to to a rarer S1?, or possibly S1S2. Certainly, the extremely few recent records is related to very few crepuscular surveys with long nets, but a species this seemingly scarce should be monitored in a database now. In late 2020, The N.C. Natural Heritage Program remained conservative, and kept the species on its Watch List for now, but did move the State Rank to a rarer S2?.

Neurocordulia yamaskanensis Stygian Shadowdragon



High counts of:
50 - Madison - 2020-06-07
30 - Madison - 2019-06-02
15 - Madison - 2020-05-30

Earliest date: Madison 2019-05-16
Latest date: Madison 1998-07-09

Status		Rank	
NC	US	NC	Global
SR	-	S1?	G5

DISTRIBUTION: A Northern species, ranging south to the mountains of NC and TN. So far, in NC known from just five counties, but thankfully ranging from the VA state line to the GA state line; however, it has not yet been recorded from the latter state.

ABUNDANCE: Rare to locally quite numerous, but as it is crepuscular, true relative abundance across the mountains is only speculative at the present time. Thankfully, Pete Dixon has been finding large numbers in the past two years (2019-2020) along the French Broad River in Madison County, with an estimate of 30 individuals at dusk -- likely all or nearly all this species -- on one evening in 2019 and a remarkable estimate of 50 of them on one evening in 2020. He has documented the species there with excellent photos, including in the hand. Also notable were four were seen at a site in Ashe County in 2017.

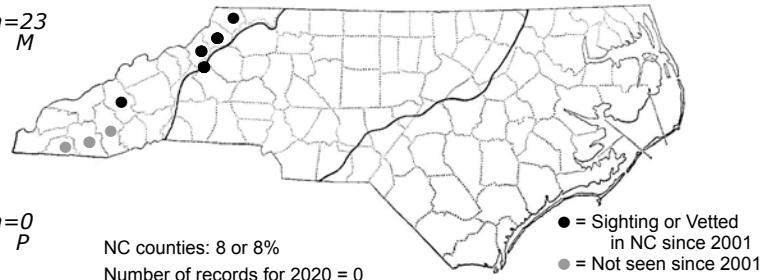
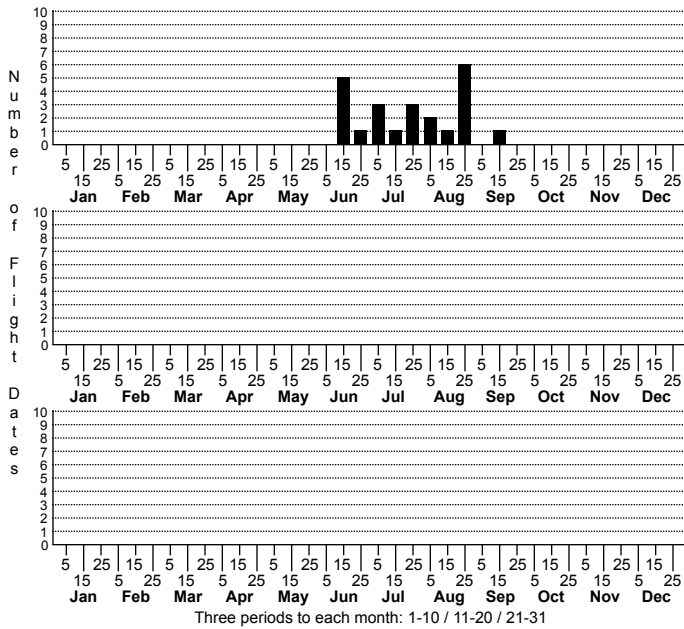
FLIGHT: Mid-May to at least early July, but this is based on just 15 records with dates.

HABITAT: Larger rivers and lakes, but only where there is much wave action.

BEHAVIOR: This shadowdragon flies even later in the day than the others, typically not flying until sunset, and continuing for another 30 minutes, often flying later on moonlit nights. During the day, all shadowdragons perch in the shade of forests on twigs and leaves, where nearly impossible to find.

COMMENTS: Not surprisingly, this Northern species has been recorded at just a handful of sites in NC, and it is the only one of the five shadowdragons in NC that occurs in the mountains. The Madison records are from the French Broad River and the Macon record is from the Little Tennessee River. We suspect that the Alleghany record is from the New River, especially as a 2017 record for neighboring Ashe County is from the South Fork New River. Another 2017 record, for Buncombe County, surprisingly turned up in Vin Stanton's yard, though located only 1/4-mile from the French Broad River, its suspected habitat. Pete Dixon provided much new information on its habits with his many 2019-2020 observations in Madison County.

Somatochlora elongata Ski-tipped Emerald



High counts of:
4 - Macon - 1953-06-15
4 - Watauga - 2018-08-07
3 - Burke; M - 1991-08-23

Earliest date: Macon 1953-06-13
Latest date: Burke; M 1990-09-11

Status		Rank	
NC	US	NC	Global
SR	-	S2	G5

Other Name: Ski-tailed Emerald

DISTRIBUTION: Strictly the mountains (and perhaps along the Blue Ridge Escarpment in Piedmont counties). Known from just eight counties in NC. The great majority of emeralds (genus *Somatochlora*) are Northern species, ranging south only to the mid-Atlantic states, and the Ski-tipped's range extends farther south than many of these, to northern GA.

ABUNDANCE: Rare to possibly uncommon in the northern mountains, but rare south of Avery and Burke counties. Considered to be "common" over its range by Dunkle (2000), but clearly it is a scarce species near the southern end of its range.

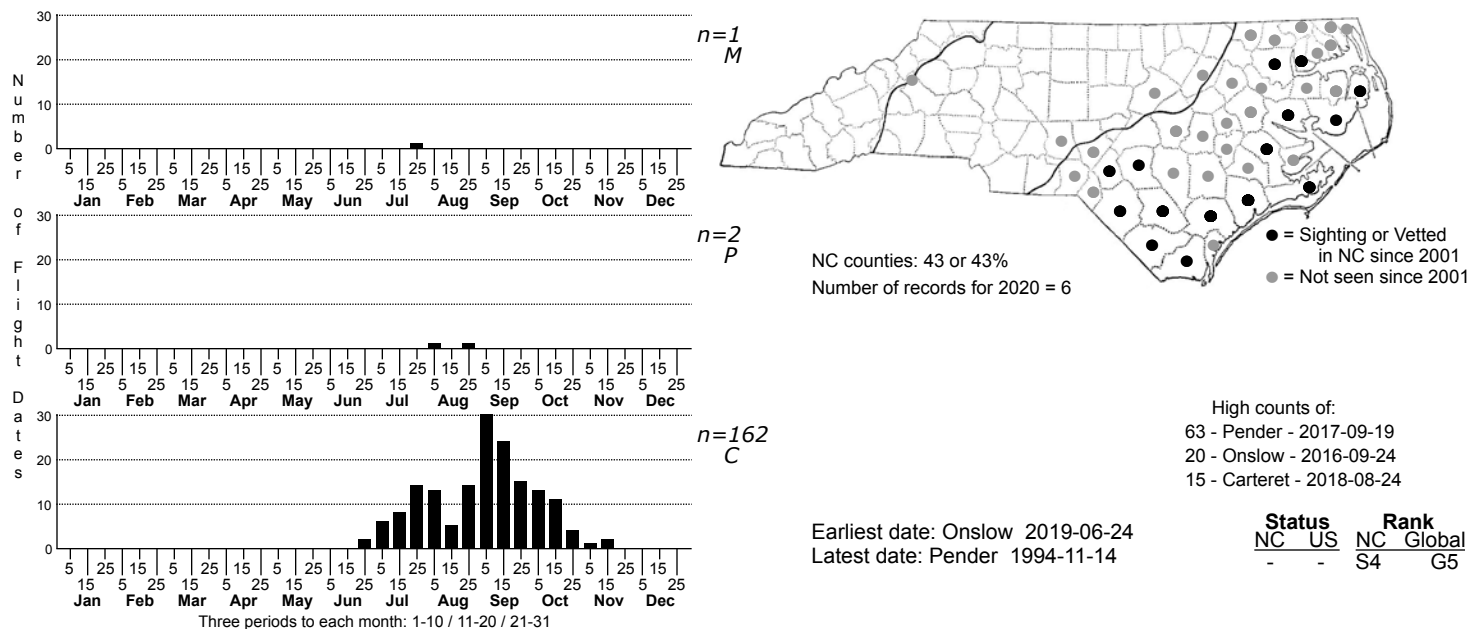
FLIGHT: Mid-June to the end of August; one record in mid-September.

HABITAT: Slow-flowing streams, outlets of lakes and ponds, beaver ponds, bogs, etc., typically in open or partly open sites. In NC, favors open wetland sites at fairly high elevations (mainly over 3,500 feet). Most records are from high-quality sites/natural areas.

BEHAVIOR: Males patrol territories over water about 1-2 feet high. However, in normal feeding, the adults often forage high, sometimes in shade.

COMMENTS: This is not an overly rare species in the northern mountain counties of NC. A handful of recent records have been made in the state, many documented with photos. As with many emeralds, the various species in the state can look very similar in flight, and observers and photographers must wait until they perch to be sure of the identification. Thankfully, most of the other emeralds in the state occur at lower elevations and often in somewhat more wooded settings than is this northern species.

Somatochlora filosa Fine-lined Emerald



DISTRIBUTION: Throughout the Coastal Plain, with records for nearly every county in the province, even along the coast. Occurs along the Fall Line in the extreme eastern Piedmont, and there is a collection record from far inland Burke County (mis-identified?).

ABUNDANCE: Fairly common and widespread in much of the Coastal Plain; probably uncommon in some areas closer to the Piedmont. It is one of the few dragonflies that is more numerous in the lower Coastal Plain than in the upper part of this province. It is very rare in the eastern Piedmont. According to Roble and Cuyler (1998), "Cuyler found that this species is common and widespread in the Coastal Plain of North Carolina, including the Dismal Swamp area."

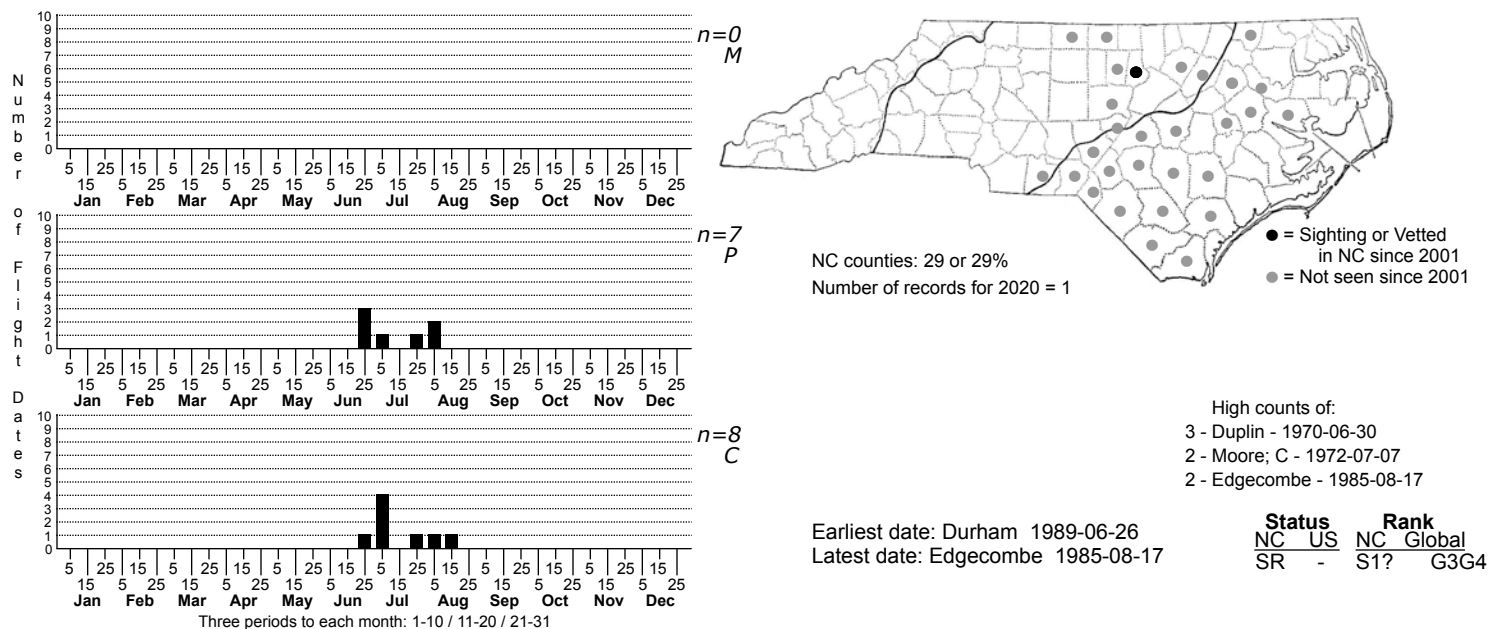
FLIGHT: Late June to mid-November, being one of the few dragonflies whose main flight is the fall season, where it often peaks in September or even into October. Interestingly, the three records from the Piedmont/foothills are from late July to late August, and not in the fall season at all.

HABITAT: Both Dunkle (2000) and Beaton (2007) indicate that the breeding habitat is unknown, but suggest swamps, seeps, and other slow-moving waters in forested areas. This seems correct for NC, as it is often found near forested, swampy habitats, as opposed to flowing waters of riverine/creekside habitats or wide open waters of lakes and ponds.

BEHAVIOR: As with most emeralds, adults forage widely away from water, such as along forest edges and along roads and wide trails. They often fly quite high (over 10-20 feet), but occasionally they can be observed as they perch on a twig, at times within a few feet of the ground.

COMMENTS: This species can be numerous in the fall season near swampy woodlands and forested margins near wetlands, though finding one perched within easy viewing or photographing can be a challenge. Often the best way to see one is to net the dragonfly as it flies by, frequently over one's head. The "fine lines" on the side of the thorax, which give the species its common name, are not easily seen. Most other emeralds have more distinct thorax stripes/lines, whereas the numerous Mocha Emerald is solid-colored on the sides of the thorax.

Somatochlora georgiana Coppery Emerald



DISTRIBUTION: Present over the eastern Piedmont and western 2/3rds of the Coastal Plain. Ranges west to Rockingham and Anson counties; and east to Northampton, Beaufort, and Pender counties. It seems to be absent in the far eastern counties, as well as in the western half of the Piedmont and the mountains.

ABUNDANCE: Puzzling. Most references consider this to be a rare species, yet the great number of counties recorded in NC suggest otherwise. Hardly any biologist alive in NC seems to be familiar with the species, as there are no NC photos on websites and no recent observations. It has been recorded in 29 NC counties, but just one in VA, three in SC, and two in GA (OdonataCentral range map, 2018). And, specimens from Duncan Cuyler and others at the University of Florida yield only 14 date records. Where are all of the other records? Undoubtedly the species has also declined in recent decades, as a species this "widespread" and not overly difficult to identify should certainly have been found in the last 20 years. Finally, in 2020, one was found caught in a spider web in Durham County in late July 2020! Note that this 2020 individual had some odd markings not typical of most Coppery Emeralds; most experts agreed on the identification as this species, with such "caveats", but one was unsure as to which *Somatochlora* species it truly is (see photo caption below). Despite what the map shows, this is clearly a rare species in NC today.

FLIGHT: The NC flight occurs between late June and mid-August.

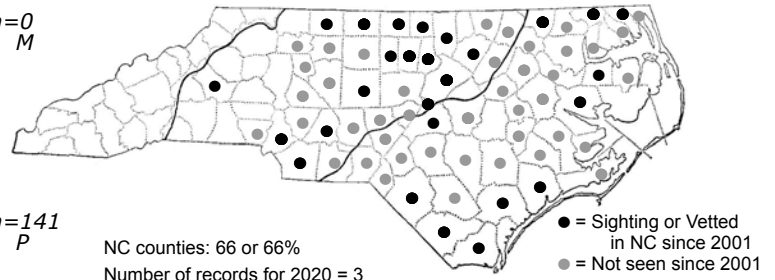
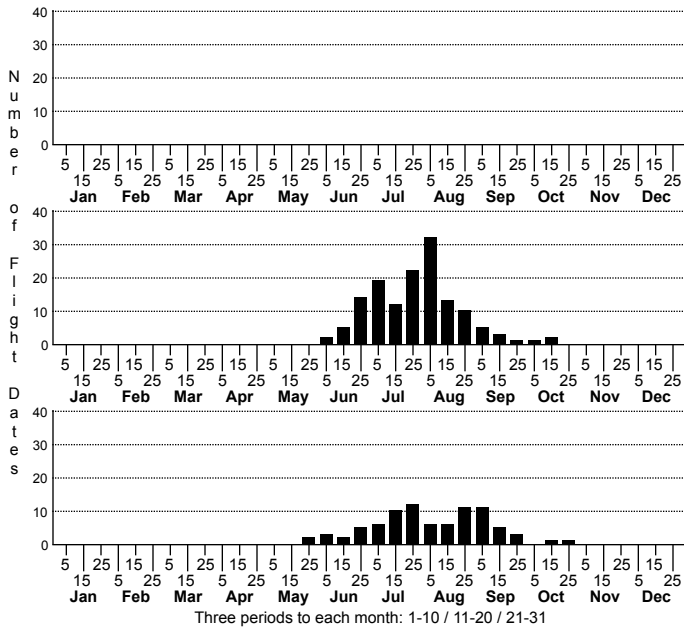
HABITAT: Creeks and other slow-moving acidic streams, in forested areas.

BEHAVIOR: Adults are somewhat secretive. They are most frequently seen flying 30 or more feet above ground, in late afternoon. They perch on twigs, but often well above ground. Males can sometimes be seen patrolling over streams.

COMMENTS: Exactly why there are so many more records for NC than in practically any other state -- just about half of all county records known are from NC (!) -- is not known. Despite it being colored like no other dragonfly, and should be obvious when seen, it is clearly not often encountered except with a purposeful search (such as near dusk), or with long nets to catch high-flying dragonflies. Because there has been just one recent record, the NC Natural Heritage Program has moved the species from its Watch List to the Rare List in 2012. We agree with Paulson (2011): "This is one of our rarest dragonflies, very seldom encountered in most of its range." Some enlightenment on this mysterious species was made by Chris Hill, who netted and collected one in Horry County, SC, on 25 June 2015 (OdonataCentral photo and data). He indicated that the species is very hard to capture, and this strongly suggests that most of Cuyler's apparent non-specimen records were sight records.

The State Rank has been moved now (2020) to S1? -- still just one record in nearly 30 years, but ought to be present farther south. Maybe the solution to finding this species is to "erect" more spider webs?!

Somatochlora linearis Mocha Emerald



High counts of:
18 - Durham - 2010-08-08
12 - Orange - 2016-07-21
10 - Orange - 2018-07-04

Earliest date: Columbus 2017-05-28
Latest date: Camden 2009-10-22

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the Coastal Plain (even near the coast), and the eastern and central Piedmont. Ranges west to Yadkin and Gaston counties, for certain, and with a sight report west to Burke County. Not known yet from the mountains, despite range maps in reference books that shade in the entire eastern US.

ABUNDANCE: Uncommon to fairly common over much of the Coastal Plain and eastern third of the Piedmont, but uncommon in the central Piedmont. Perhaps uncommon also in the southeastern part of the Coastal Plain. This is generally the most numerous emerald in the Piedmont, and is the most numerous emerald in the Coastal Plain during the summer.

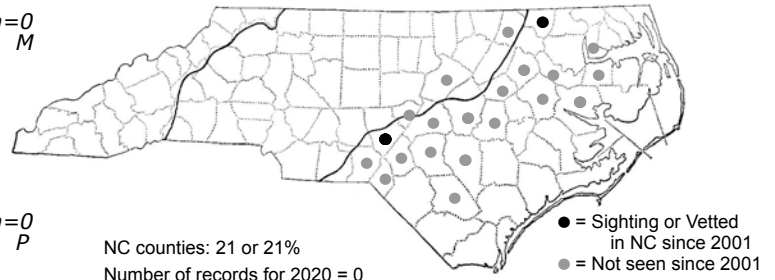
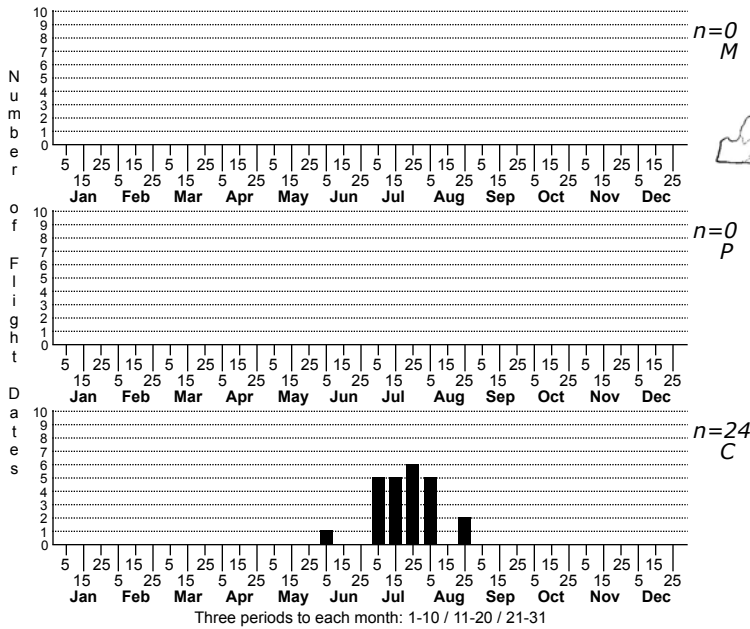
FLIGHT: Summer and early fall seasons, from early June (and very late May in the Coastal Plain) into late September, and sparingly to mid-October. Not numerous after August.

HABITAT: Small forested streams; Dunkle (2000) says streams about 1-3 yards wide are preferred.

BEHAVIOR: The species is most easily seen near small streams that are drying up. Away from streams, this emerald is often seen flying along wooded roads and wide trails, often at head height, back and forth, pausing to hover close to an observer. They spend most of the day perched in shady places, often hidden from an observer.

COMMENTS: Emeralds are usually seen in flight along and over forested roads, often at treetop height, and sometimes perching on telephone wires. They seem curious and may hover close to an observer, when the adult's bright green eyes and black thorax and abdomen are noticed. However, identification can be tricky in flight, and normally identification must be made of perched or netted individuals.

Somatochlora provocans Treetop Emerald



High counts of:
3 - Johnston; C - 1990-07-26
2 - Beaufort - 1996-08-21
2 - Beaufort - 1992-08-02

Earliest date: Moore; C 2017-06-07
Latest date: Scotland 1989-08-28

Status		Rank	
NC	US	NC	Global
W	-	S3?	G4
		[S2?]	

DISTRIBUTION: Strictly in the western and central Coastal Plain, though possibly in the extreme eastern Piedmont (along the Fall Line). Ranges east only to Chowan, Washington, Beaufort, and Bladen counties; and west to Wake, Lee, Moore, and Richmond counties.

ABUNDANCE: Difficult to assess because of its high-flying habits. All references consider it to be a scarce, though not necessarily rare, species. Based on the fact that it has been recorded in NC from 21 counties, it certainly isn't overly rare. Best considered as uncommon and very easily overlooked, within its narrow range in the state.

FLIGHT: The flight apparently occurs between early June and late August, though we only have one record before July, and this June record came in 2017.

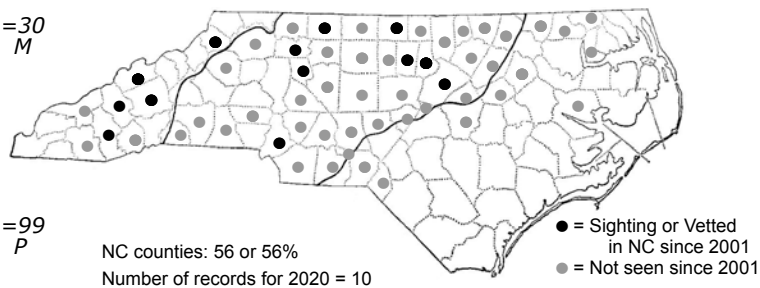
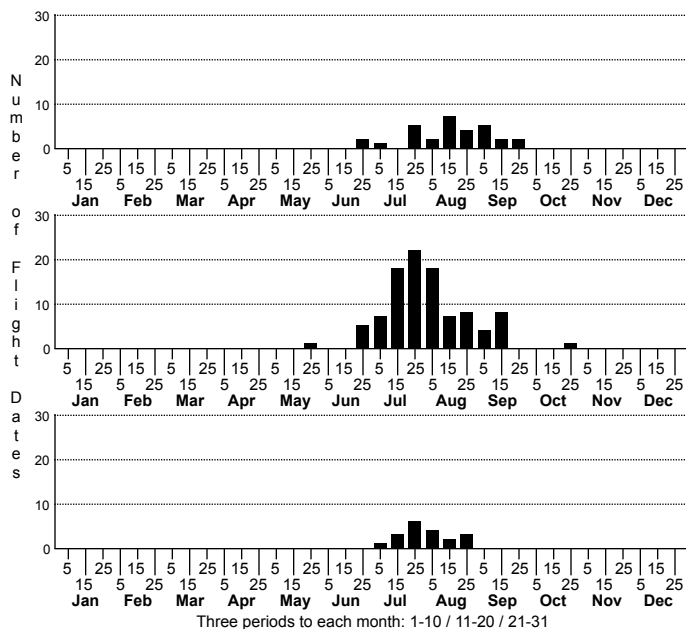
HABITAT: Small forested seeps and pools, perhaps very small streams.

BEHAVIOR: As the common name implies, this emerald is normally seen in flight, typically over head-height to treetop height, along and over forested roads and clearings. Adults normally perch high on twigs of canopy trees.

COMMENTS: This species is most likely one in which a net is required to verify records. An observer may often see high-flying dragonflies during the summer months along forested roads, especially near swamps and other wetlands. Perhaps a moderate number of these (at least in the Coastal Plain) are Treetop Emeralds, but this is only speculation. Getting a good photograph of a Treetop Emerald in a natural pose requires either much luck, much patience, or a strong telephoto lens! Interestingly, our only two records documented with photos are from the same site -- Weymouth Woods Sandhills Nature Preserve, 12 years apart!

After just these two records over the last 20 years, it may be time to consider tracking records as Significantly Rare, and moving the State Rank upward to S2?. At a minimum, it is recommended to move the State Rank upwards, with S2? being suggested at the present time. Clearly, the species is very difficult to survey for owing to its high-flying habits, but it seems time to begin monitoring it and looking for ways to survey for this quite striking species. However, the N.C. Natural Heritage Program kept the species at S3? in its 2020 Rare Animal list.

Somatochlora tenebrosa Clamp-tipped Emerald



High counts of:
8 - Richmond; C - 1991-08-10
6 - Madison - 2019-07-31
5 - Caswell - 1994-09-19

Earliest date: Durham 2011-05-28
Latest date: Davidson 1985-10-25

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Present over most of the mountains, throughout the Piedmont, and in the northern Coastal Plain. Seemingly absent from the southern Coastal Plain counties, except in the Sandhills region; no records east of Gates, Beaufort, Harnett, and Scotland counties. Probably occurs in all mountain counties, but recorded so far only in roughly half of the counties in that province.

ABUNDANCE: Generally uncommon but widespread in the Piedmont, somewhat less numerous than the Mocha Emerald. Rare to uncommon in the northern Coastal Plain and the Sandhills, as well as in the mountains. Alarmingly, we have no recent records at all from the Coastal Plain; has it declined there in recent decades?

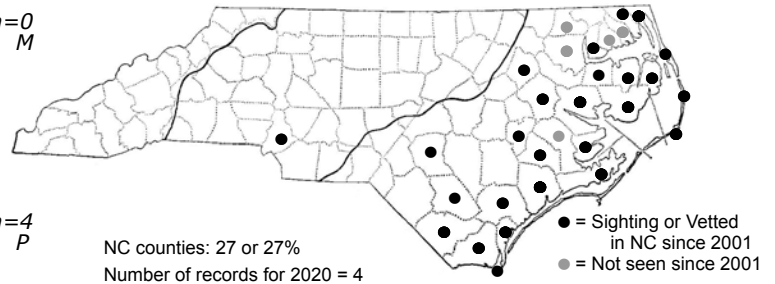
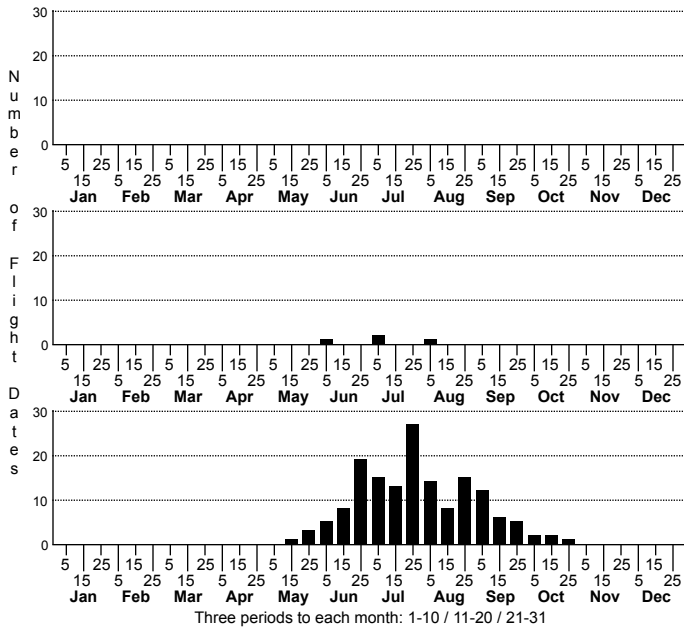
FLIGHT: Primarily the summer season, to early fall; generally from late June or early July to mid-September.

HABITAT: As with other emeralds, it breeds in small forested wetlands, such as small streams and seeps.

BEHAVIOR: Males may be seen flying patrols over the small streams, more easily noticed when the streams are becoming dry. Adults typically forage away from water along wooded roads, edges, and small clearings. They perch on twigs in the shade, often higher than does the Mocha Emerald.

COMMENTS: The male cerci are indeed "clamp-like" when seen from the side, rendering identification somewhat easy when seen well. Also, this species has stripes on the sides of the thorax, whereas Mocha is nearly devoid of such markings. Clamp-tipped and Mocha are the only emeralds normally seen in the Piedmont; even so, because emeralds perch in the shade, often not in conspicuous places, many persons have trouble becoming familiar with this group of dragonflies (even though members of the genus are collectively numerous in much of NC).

Brachymesia gravida Four-spotted Pennant



NC counties: 27 or 27%
Number of records for 2020 = 4

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
1000 - New Hanover - 2014-05-24
67 - Onslow - 2015-08-29
60 - Onslow - 2017-07-14

Earliest date: New Hanover 2008-05-18
Latest date: Brunswick 2020-10-22

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially the lower half of the Coastal Plain only, inland to Hertford, Edgecombe, Cumberland, and Columbus counties. A presumed storm-based stray to the Piedmont (Mecklenburg County), where several were seen and documented with photos on multiple dates in 2018. This is one of just roughly five "primarily coastal" dragonflies in NC (along with Seaside Dragonlet, Needham's Skimmer, Roseate Skimmer, and Marl Pennant). A photograph of one in Cumberland County in 2013 extended the range inward by 15-20 miles in the southern part of the Coastal Plain.

ABUNDANCE: Common close to tidal/brackish waters; much less common -- rare to uncommon -- in areas well away (several dozen miles) from tidal waters. Accidental or casual stray into the southern Piedmont.

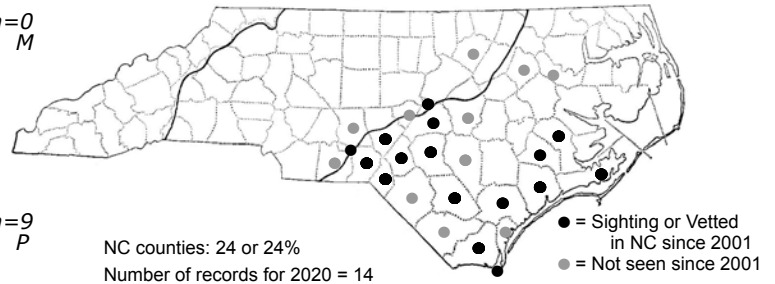
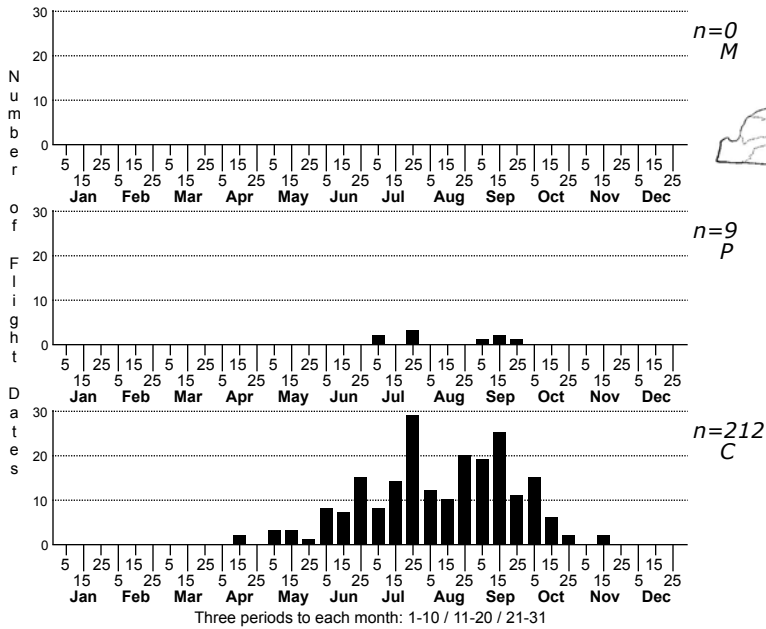
FLIGHT: A wide flight period during the warmer months, ranging from mid-May to mid-October.

HABITAT: This is one of the few dragonflies in the East that favors brackish water for breeding; habitats include brackish lakes, ponds, and ditches, but also still fresh water habitats also. The handful of 2018 records from Mecklenburg County are from small ponds.

BEHAVIOR: Adults are often seen in some numbers flying along ponds and ditches, frequently perching on twigs and vegetation in easy view of the observer.

COMMENTS: The white stigmas are very conspicuous and identify these dragonflies, even if the single large dark patch near the node on each wing isn't seen at first glance. Adults often obelisk. Thus, its behavior, unique markings, and occurrence in open habitats render it easy to identify and one of the favorites among odonate watchers. The photo record from Mecklenburg County in early June 2018 is likely attributable to the passage of Tropical Storm Alberto a few days earlier. To follow up on that record, other biologists there recorded the species on three later dates, including an excellent four seen on July 8 and another five on August 4; surprisingly these records came from several locations in the county! As of now, these Mecklenburg records likely do not represent a range extension, especially as none were reported from the county in 2019 or 2020.

Celithemis amanda Amanda's Pennant



High counts of:
100 - Craven - 2013-09-01
50 - Carteret - 2013-09-01
50 - Scotland - 2018-09-03

Earliest date: Richmond; C 2019-04-15
Latest date: Carteret 2015-11-11

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: The southern 2/3rds of the Coastal Plain and extreme eastern Piedmont, ranging sporadically north to Franklin (Piedmont), Edgecombe, and Martin counties. Of widespread occurrence in the Sandhills and southern 35-40% of the Coastal Plain. NC lies at the northern end of the species' range.

ABUNDANCE: Common in the Sandhills and southern/southeastern Coastal Plain counties, especially where pocosins, savannas, limesink ponds, and other non-riverine waters are present. Rare to uncommon north of Johnston and Craven counties, and rare in the narrow portion of the range into the Piedmont.

FLIGHT: Mainly in summer and early fall; formerly early June into early October, rarely to mid-November. However, the flights seem to be starting earlier in recent years, with many May records, plus a record in 2019 from 15 April! Thus, as of now, the flight begins around early or mid-May.

HABITAT: Breeds in pools, ponds, and lakes, where well vegetated.

BEHAVIOR: This species, as do most other pennants, perches on twigs and vegetation fairly low to the ground. Adults often forage well away from ponds, such as in savannas and flatwoods.

COMMENTS: This is one of the most often encountered dragonflies in late summer when one is walking in savannas, flatwoods, pocosin margins, and the vicinity of limesink ponds, in high quality natural areas such as found in Croatan National Forest, Holly Shelter Game Land, and the Sandhills Game Land. It, along with the Halloween Pennant, seems to forage farther away from water than do the other *Celithemis* pennants in NC.

Celithemis bertha Red-veined Pennant

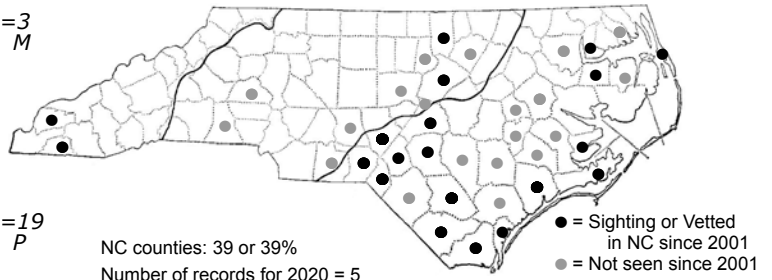
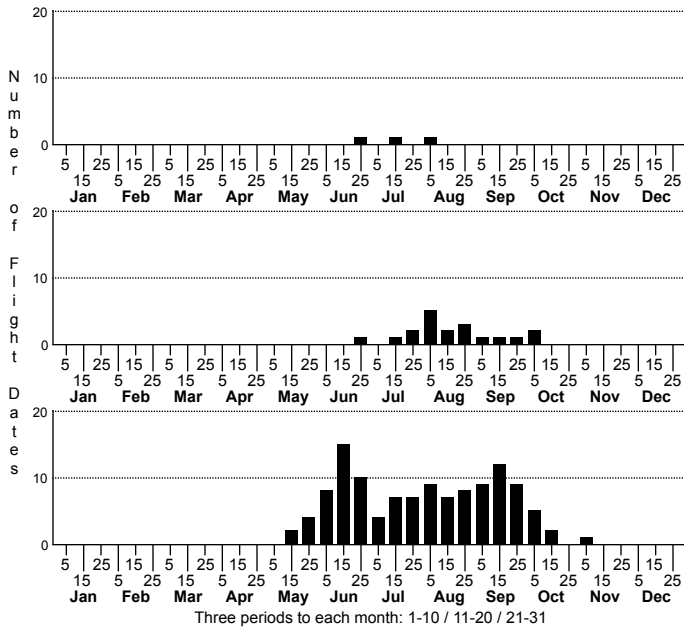


Photo (vetted) in 2020: Graham

High counts of:
22 - Bladen - 2015-08-23
15 - Bladen - 2009-06-25
15 - Cumberland - 2012-09-05

Earliest date: Onslow 2016-05-14
Latest date: Bladen 2017-11-01

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Scattered over nearly all of the Coastal Plain and eastern Piedmont; a few records for the southwestern Piedmont (Catawba and Cleveland counties), plus outliers in the southwestern mountains (Clay and Graham counties). Found primarily in the southern half of the Coastal Plain (sporadic north of Harnett and Pitt counties). NC lies at the northern edge of the species' range, but it has been recorded once in VA, in 2014 (as a stray?).

ABUNDANCE: Uncommon to locally fairly common in the southern half of the Coastal Plain; rare in the northern half of the Coastal Plain and the extreme eastern Piedmont; very rare farther west.

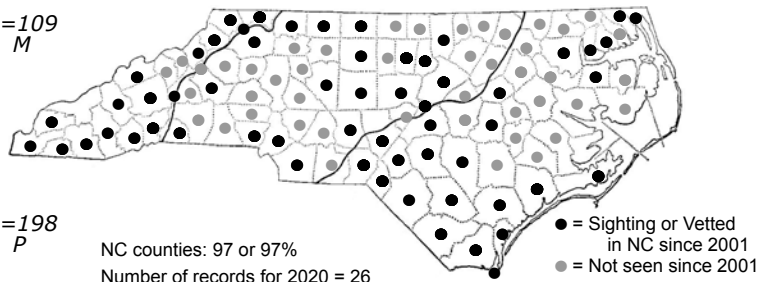
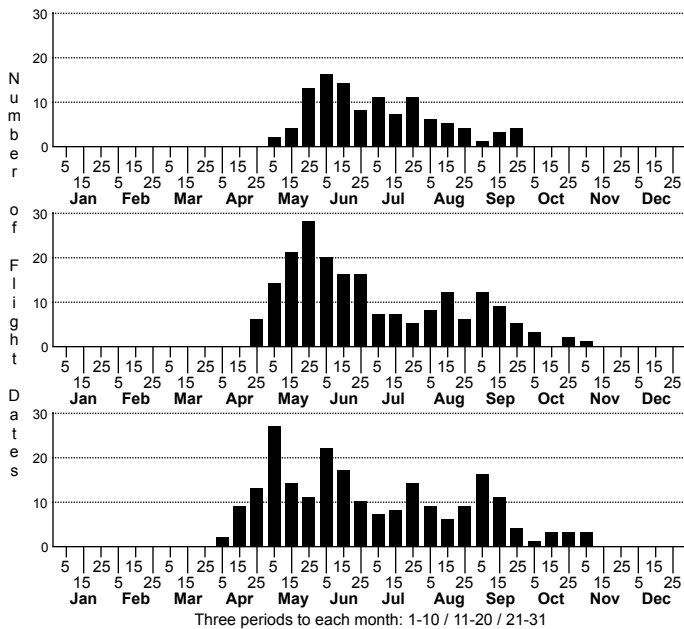
FLIGHT: In the Coastal Plain, the flight occurs from mid- or late May to early October; however, the earliest record for the Piedmont isn't until late June. The three mountain records with dates are from late June to early August.

HABITAT: Primarily at ponds and lakes with much emergent vegetation along the shore.

BEHAVIOR: Unlike most other *Celithemis* pennants, adults seldom stray far from ponds or small lakes, and may forage well out in the water and perch on logs and other material emerging from the water.

COMMENTS: Though a common species, apparently, in FL (Dunkle 2000), it is not common northward. Beaton (2007) calls it "Uncommon below the Fall Line" in GA, and as NC lies at the northern edge of the species' range, it is no more numerous here (unlike the Amanda's Pennant, which is more common in NC than in GA). Despite it having been found in more than one-third of the counties in NC, including all in the southern Coastal Plain, it and the Double-ringed Pennant are the only ones (of seven species) in the genus that are not common (at least locally) in the state. It is most likely to be seen by working the margins of beaver ponds and man-made ponds in the Sandhills region. A surprising count of 15, documented by several photos, was made in the northeastern Piedmont in Granville County, in 2013.

Celithemis elisa Calico Pennant



High counts of:
75 - Onslow - 2016-06-12
40 - Orange - 2010-06-01
40 - Orange - 2019-05-09

Status	Rank		
NC	US	NC	Global
-	-	S5	G5

Earliest date: Onslow 2020-04-09
Latest date: Orange 2020-11-09

DISTRIBUTION: Statewide, but of spotty distribution in parts of the mountains (though likely occurring in all counties).

ABUNDANCE: Fairly common to occasionally common, and widespread, essentially throughout, but less numerous in the middle and higher elevations in the mountains.

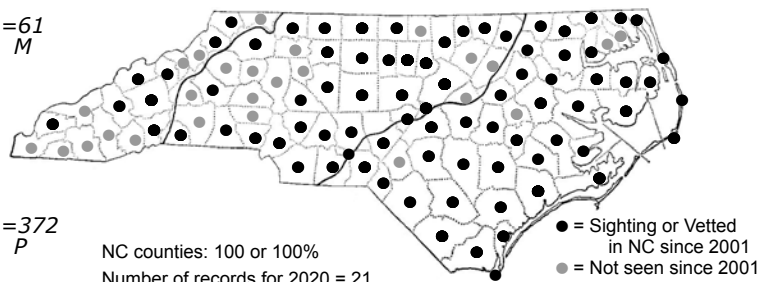
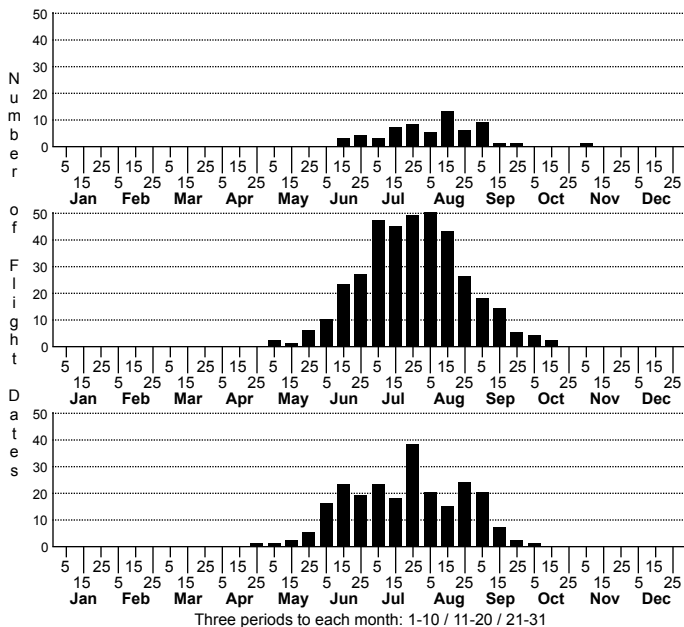
FLIGHT: Most of the flight season for dragonflies (except for early spring); downstate, generally from mid-April to early October, sparingly into early November. The flight in the mountains begins in early May and extends to late September.

HABITAT: As with other *Celithemis*, it breeds at ponds and smaller lakes, typically with much vegetation along the shoreline. It occasionally breeds at slow creeks and rivers.

BEHAVIOR: Adults fly at ponds and perch on twigs and vegetation around pond margins. They also forage well away from water, preferring open habitats such as fields (rather than open woods and wooded margins). They are unwary when perching, as are most other pennants.

COMMENTS: This is one of the more colorful of the dragonflies, and adult males are quite stunning with their red and black abdomens and numerous burgundy/blood-red wing patches. Females and immatures, though highly patterned, could be confused with Halloween Pennants. Thankfully, because it occurs statewide and in open habitats, and it flies for many months of the year, it is one of the dragonflies that beginners should be able to observe and learn.

Celithemis eponina Halloween Pennant



High counts of:
100 - Orange - 2009-08-16
75 - Orange - 2012-07-09
65 - Wake - 2014-07-19

Earliest date: Gates 2005-04-23
Latest date: Madison 2019-11-01

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide. This is one of the very few species with records for all 100 counties.

ABUNDANCE: Common over the Piedmont and Coastal Plain, but only uncommon to fairly common in the mountains. Though it is not normally seen in swarms, we have several one-day counts of 50 or more individuals. The abundance across the state is relatively low until July or August, and it is often missed on late spring and early summer field trips.

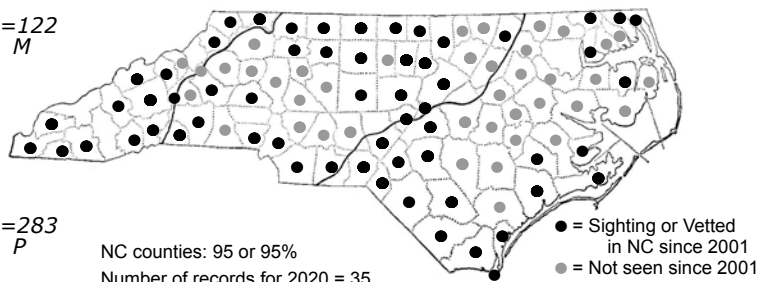
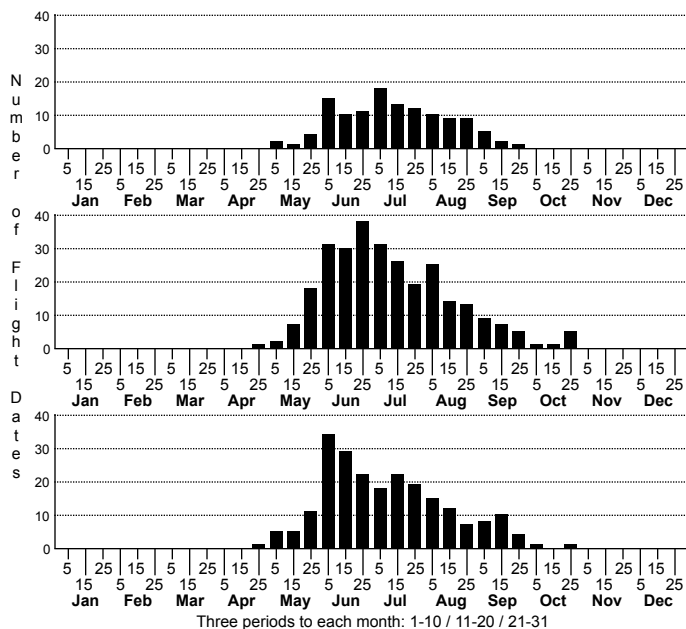
FLIGHT: An extended flight season, covering most of the warmer months -- very late April or early May to mid-October downstate, and from mid-June (if not earlier) to late September in the mountains.

HABITAT: Breeds at ponds and lakes, and sometimes at marshes.

BEHAVIOR: This *Celithemis* pennant forages farther away from water than all others, and is actually not often seen at breeding waters. They are characteristically seen perching on the tips of blades of grasses or tall herbs in a field or powerline clearing, usually well removed from forested areas.

COMMENTS: In many respects, this is the most atypical of the *Celithemis* pennants. It often resembles a butterfly or moth in flight because the wings are heavily suffused with amber or ochre coloration so as to appear almost opaque. The many dark bands on the wings also might fool an observer into thinking the odonate is a butterfly or moth. It seems to "enjoy" flying in windy weather, with choppy wing beats. As with the Calico Pennant, this species should be easily seen and learned by beginners.

Celithemis fasciata Banded Pennant



High counts of:
50 - Caswell - 2007-07-21
50 - Orange - 2012-07-09
50 - Bladen - 2015-07-18

Earliest date: Orange 2006-04-27
Latest date: Orange 2019-10-31

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, though of spotty occurrence in the mountains. Likely occurs in all 100 counties, though not yet recorded from five counties (three in the mountains).

ABUNDANCE: Fairly common to often common in the Coastal Plain and Piedmont; fairly common in most of the mountains, but certainly rare or absent at higher elevations.

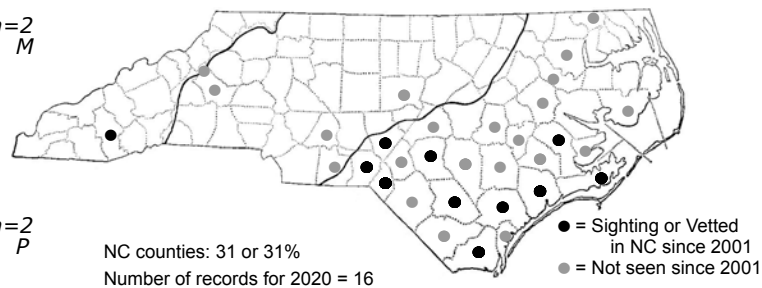
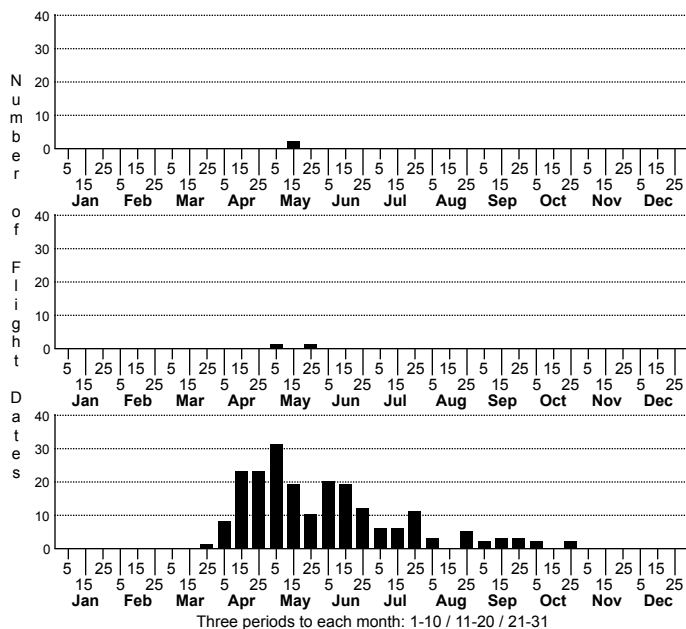
FLIGHT: Most of the flight season -- late April to late September, rarely into October. The mountain flight is barely shorter.

HABITAT: As with other pennants, it breeds at ponds and lakes, typically ones that are fairly open, frequently at man-made ponds.

BEHAVIOR: Males are most often seen along the margins of ponds, making short patrols out over the water. This species usually doesn't stray too far from the margins of ponds and lakes.

COMMENTS: This is another of our numerous pennants, perhaps slightly less numerous than Calico and Halloween pennants, but nonetheless quite widespread in the state and not hard to find by walking around the margins of open ponds and lakes with some marshy or emergent vegetation along the shores. Oddly, Dunkle (2000) gives its abundance rangewide simply as "local", which implies some scarcity or difficulty in finding, which does not fit the case in NC.

Celithemis ornata Ornate Pennant



High counts of:
80 - Carteret - 2019-05-07
75 - Scotland - 2020-06-08
73 - Carteret - 2020-04-28

Earliest date: Onslow 2020-03-27
Latest date: Bladen 1981-10-28

Status	Rank		
NC	US	NC	Global
-	-	S5	G5

Other Name: Faded Pennant

DISTRIBUTION: Essentially limited to the Coastal Plain, barely ranging into the extreme southeastern Piedmont, with odd outliers in the mountains in northwestern Burke County and in Jackson County (with a 2019 photo). However, it is primarily found in the southern half of the Coastal Plain (including Sandhills), being of spotty occurrence north of Harnett, Wayne, and Hyde counties. Apparently absent in the extreme northeastern Coastal Plain.

ABUNDANCE: Fairly common to common in the Sandhills; fairly common (to perhaps common) farther east in the southern half of the Coastal Plain. Rare in the northern half of the Coastal Plain, and very rare in the Piedmont and the mountains. Apparently absent from most of the northwestern half of the state.

FLIGHT: A very long flight period, though less common after June. Occurs from early April to late October. Its flight is earlier in spring than most of the other *Celithemis* pennants. The two mountain records are both in mid-May, where the flight probably lasts for several months.

HABITAT: Ponds and smaller lakes, as with other pennants. These waters should contain marshy or emergent vegetation along the margins.

BEHAVIOR: Males are often seen around the margins of ponds, perching on twigs and making short patrols. Adults forage short distances from water, usually in sunny areas, such as fields, but not nearly as much as do Halloween Pennants.

COMMENTS: This species can be confused with Amanda's Pennant, and both may occur at the same ponds. However, Amanda's has a broader amber or reddish patch on the hind wing and typically forages much farther from water than does the Ornate Pennant; its flight averages later in the season. As with so many other pennants, the best strategy to see an Ornate Pennant is to walk around a margin of a pond, such as in the Sandhills or lower Coastal Plain. Beaton (2007) calls the species "Uncommon" in GA, but it is quite numerous in NC, mirroring Dunkle (2000), who says "common" across the range of the species -- TX to NJ.

Celithemis verna Double-ringed Pennant

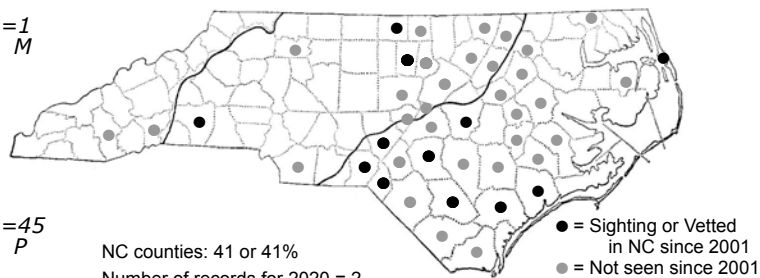
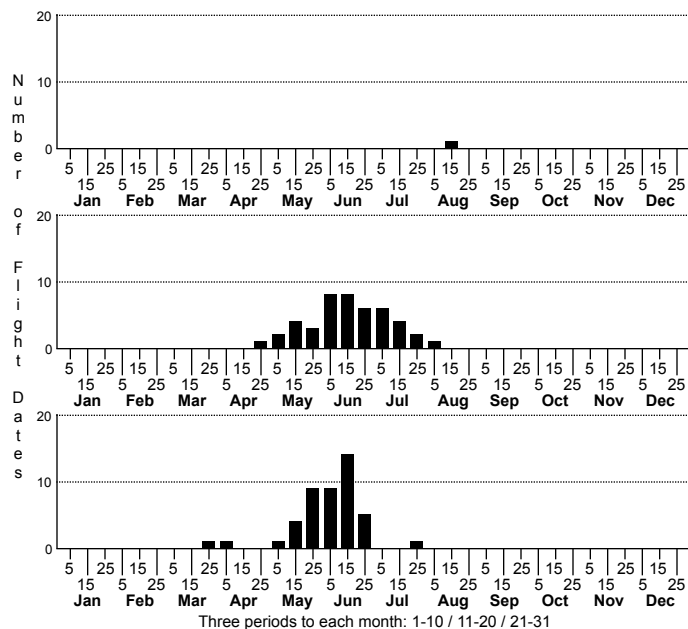


Photo (vetted) in 2020: Johnston; C

High counts of:
75 - Orange - 2018-05-14
50 - Orange - 2018-05-22
28 - Orange - 2014-05-31

Earliest date: Scotland 2020-03-27
Latest date: Henderson 1939-08-15

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

[S3S4]

DISTRIBUTION: Primarily Coastal Plain and eastern Piedmont. A few records for the southern mountains and western Piedmont, but primary from Caswell, Chatham, and Union counties eastward. However, in the Coastal Plain it is of spotty occurrence in the eastern counties and is possibly absent in a few counties near the coast.

ABUNDANCE: Generally uncommon (and often local) in the inner half of the Coastal Plain and lower Piedmont, being most numerous in the Sandhills. Rare in the southeastern Coastal Plain, but very rare in most of the northern parts of the Coastal Plain, especially scarce in the northeastern counties. Very rare in the central and western Piedmont and southern mountains. Apparently absent in most of the mountain region and western part of the Piedmont.

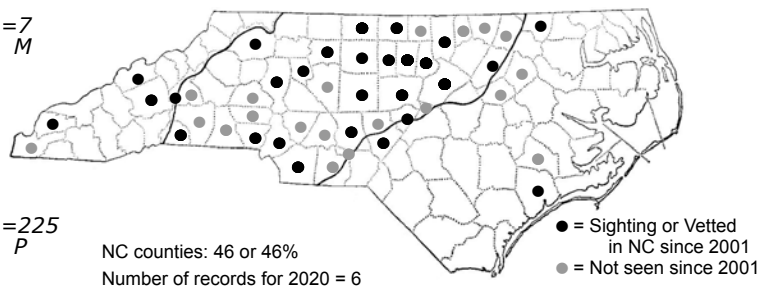
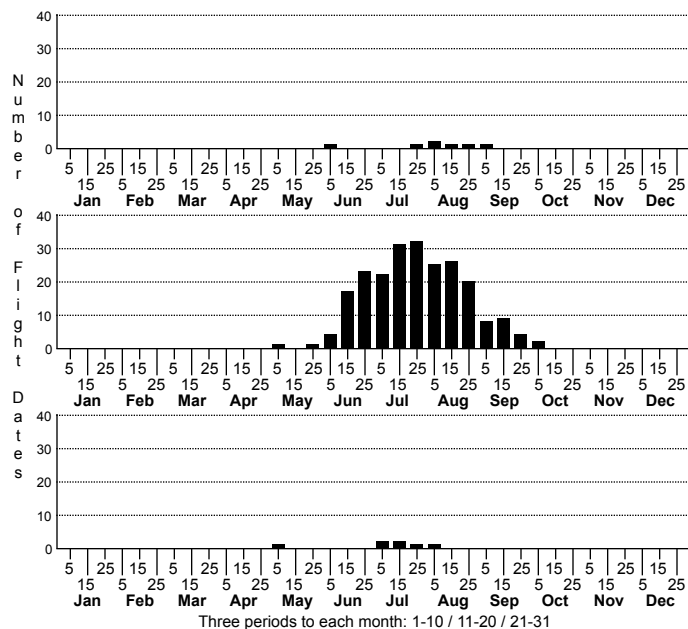
FLIGHT: Flight period is shorter and earlier than for other pennants (except Ornate) -- mainly from late April or early May to late July, rarely to early August. There are a few records as early as 27 March, but not normally seen until around the first of May.

HABITAT: As with other pennants, it breeds at ponds and small lakes with much vegetation along the shore.

BEHAVIOR: Males are usually seen along the shore of a pond, making short patrols over the water or perching on twigs. Adults may forage short distances from water.

COMMENTS: This and the Red-veined are our only two "scarce" *Celithemis* pennants, and one may have to walk around several ponds or much lake shore (in the heart of the range) to find this species. Not helping is the fact that immatures and females are not overly easy to identify, and adult males look like small versions of Slaty Skimmers. By far our largest single-day counts have been at small ponds at Oconeechee Mountain State Natural Area in the eastern Piedmont; these ponds, however, are in sunny fields and not within the natural area. Oddly, this site in Orange County is not far from the western (inner) edge of the range in the state, and the species is seldom seen elsewhere in the Triangle area (Wake, Durham, and Orange counties) despite dozens of similar-looking ponds in this region.

Dythemis velox Swift Setwing



High counts of:
60 - Orange - 2002-08-06
25 - Durham - 2013-06-20
15 - Chatham - 2010-07-11

Earliest date: Moore; C 2004-05-04
Latest date: Iredell 2008-10-05

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Primarily the Piedmont, but also scattered over the central and southern mountains (at low elevations) and in the western Coastal Plain, with quite disjunct records for Jones and Onslow counties in the lower Coastal Plain. Present in the western portion of the Sandhills region.

ABUNDANCE: Fairly common (and apparently increasing) in the Piedmont, except scarce to locally absent in the northwestern portion of the province. Very rare in the central and southern (low) mountains and Coastal Plain portion of the range. The species has slowly been expanding its range northeastward in recent decades.

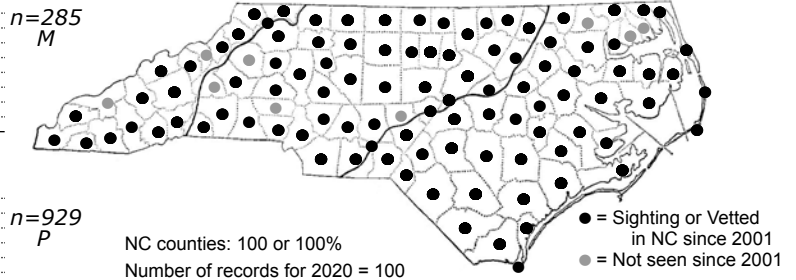
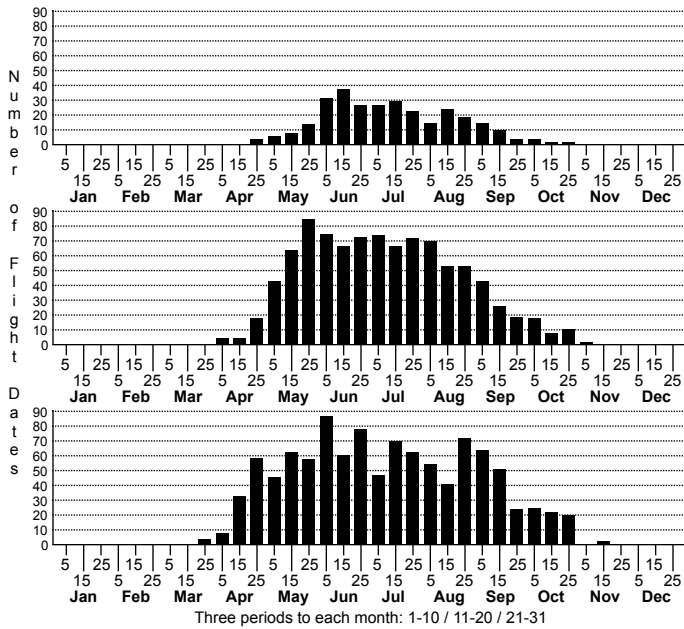
FLIGHT: Much of the warmer months, from early May to early October; however, most records fall between mid-June and mid-September. There are not enough data to define the flight periods in the mountains or Coastal Plain, as the above refers to the Piedmont province flight data.

HABITAT: Ponds and small lakes, but might breed also at slow rivers or wide creeks. These waters are typically in open or partly open situations.

BEHAVIOR: Males are almost always seen close to the margin of a pond or lake, perching usually several to many feet above water on twigs of small trees along the margin. Females may forage farther from water but are much less often seen.

COMMENTS: This is our only *Dythemis* (setwing), and thus it looks and acts like no other dragonfly in NC. The narrow black abdomen has a conspicuous white dorsal spot on segment 7. Most notable is that adults typically perch in a "sprinter's stance", with abdomen raised, seemingly ready to bolt at any moment. Sometimes they perch with wings drooped and held forward, as do Blue Dashers, but they can just as often perch with wings held above horizontal, angled over their thorax. They are somewhat wary and people typically need binoculars (or a net) to see them well. A recent (2017) photographic record for Onslow County may suggest that the species is expanding its range into the eastern Coastal Plain.

Erythemis simplicicollis Eastern Pondhawk



High counts of:
500 - Durham - 2007-07-07
500 - Currituck - 2019-06-24
500 - Camden - 2019-06-24

Earliest date: Pender 2017-03-24
Latest date: Hyde 1994-11-20

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide; occurs in all 100 counties.

ABUNDANCE: Abundant in every county, more so in the Coastal Plain than farther west. Excessively abundant in many Coastal Plain locales. This is the most omnipresent odonate in North Carolina, seen on more field trips than any other species.

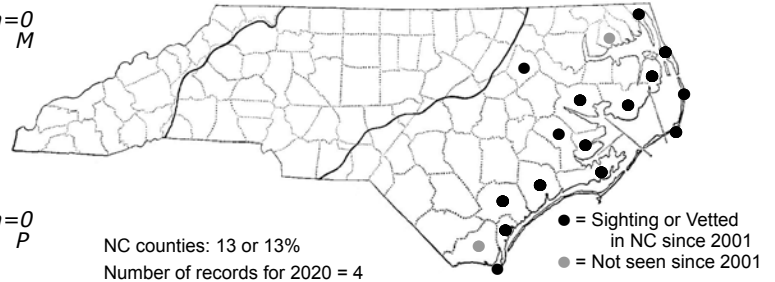
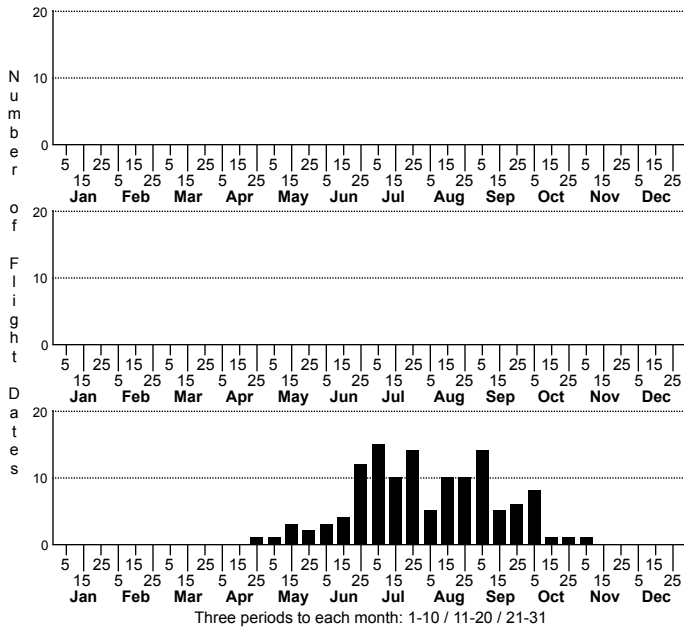
FLIGHT: Nearly throughout the dragonfly flight period, except absent in very early spring. The Coastal Plain flight extends from very late March or early April to late October, with one or two records for November. The Piedmont flight is slightly more narrow -- mid-April to late October, and the mountain flight is from late April to mid-October.

HABITAT: Ponds, lakes, swamps, and slower portions of river or creeks. Still waters.

BEHAVIOR: Adult males are found closer to water than are females and immatures, but they often are seen feeding well away from water. Females and immatures commonly forage far from water, along wooded roads and trails, in fields, and other open sites, though favoring areas close to woods. They often perch flat on the ground (as do many skimmers and some clubtails), but they also perch on twigs and other vegetation.

COMMENTS: This and the Blue Dasher are our most abundant dragonflies in NC, probably numbering in the tens of millions. In fact, Pondhawks are so excessively abundant in some areas in the Coastal Plain and they devour so many other insects that they nearly deplete sites of smaller butterflies, for example. This is our most predatory species, even consuming other Pondhawks! It takes practically no time to become familiar with the species, and they are adept at following you as you walk a jeep road or powerline clearing, ready to pounce on anything -- butterfly, moth, bee, etc. -- flushed by your footsteps.

Erythrodiplax berenice Seaside Dragonlet



High counts of:
 540 - New Hanover - 2020-08-22
 400 - Onslow - 2019-06-25
 300 - Carteret - 2011-06-09

Earliest date: Carteret 2017-04-30
 Latest date: Brunswick 1982-11-09

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Strictly coastal, though found around the inner margins of Albemarle and Pamlico sounds and along other estuarine rivers.

ABUNDANCE: Common, to locally abundant, at least along the southern and central coastal areas, and around the mainland side of Pamlico Sound. Certainly less numerous around the margin of Albemarle Sound, as there are numerous counties along that "bay" without confirmed records. There are several counts of 150 or more individuals in a day, indicating that it can be abundant in certain places.

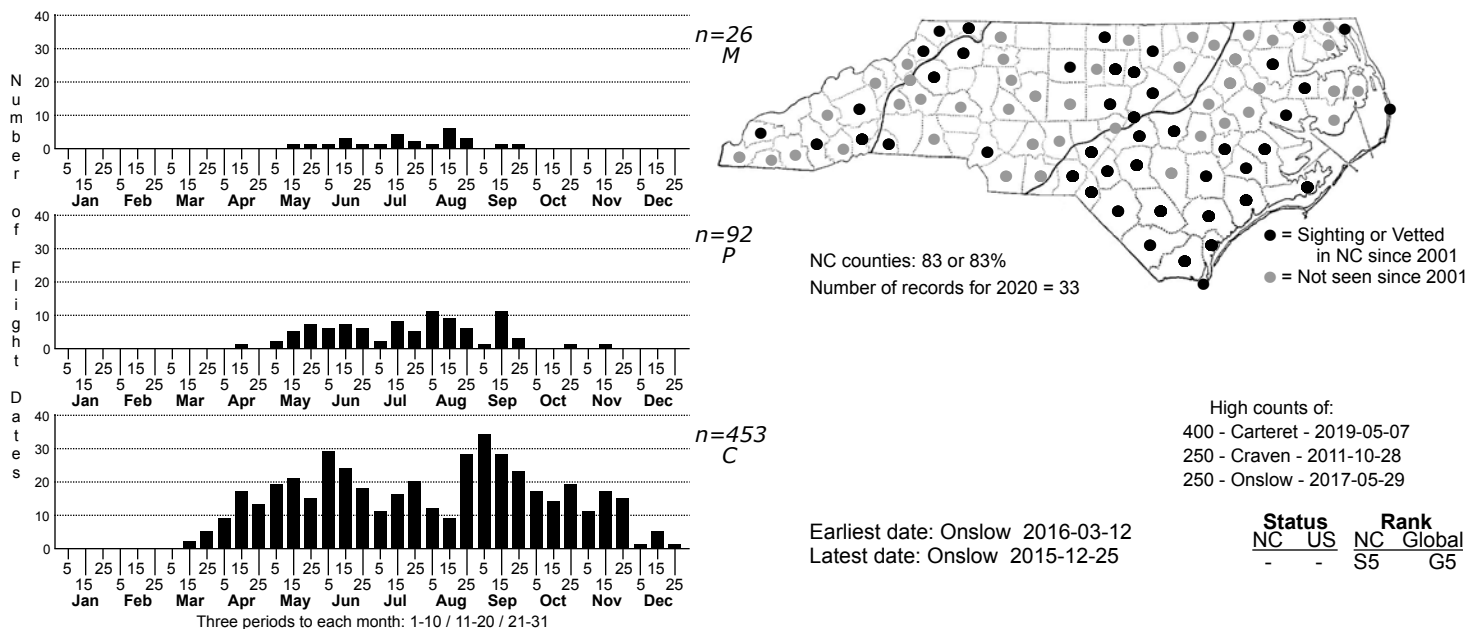
FLIGHT: A very long flight period, from the end of April to early November. Mainly beginning in mid-May, and often not becoming numerous until June.

HABITAT: Brackish to salt marshes and other wet grasslands close to the coast.

BEHAVIOR: Both sexes perch conspicuously on twigs or other low vegetation, usually near a marsh but at times hundreds of yards from marshes.

COMMENTS: This is one of only several "estuarine" dragonflies in NC, along with Four-spotted Pennant, Needham's Skimmer, and Marl Pennant. If it weren't for its habitat, males would be easily confused with Double-ringed Pennant; however, in reality only Slaty Skimmer is of possible confusion, though the skimmer is much larger. Females and immatures look vaguely like Blue Dashers and various pennants. This species is usually easily found in its restricted habitat, though it can be overlooked because of its small size.

Erythrodiplax minuscula Little Blue Dragonlet



DISTRIBUTION: Statewide, and probably occurring in all 100 counties. However, distribution is somewhat spotty in the western half of the Piedmont and mountains, probably owing to its inconspicuous behavior and tiny size, making it hard to encounter where not numerous.

ABUNDANCE: Easily overlooked because of its tiny size and inconspicuous behavior, and thus is much more numerous in reality than observations may suggest. Numerous (common) in the southern half of the Coastal Plain (Sandhills east to Croatan National Forest in Craven/Carteret counties); only fairly common in the northern Coastal Plain. Uncommon in the eastern half of the Piedmont, but rare to uncommon in the western Piedmont and mountains.

FLIGHT: A very long flight season. In the Coastal Plain from mid-March to late December, though not numerous until mid-May and after the end of November. The Piedmont flight is somewhat shortened -- from early May (rarely in April) to mid-November. In the mountains, it is mainly from mid-May to late September.

HABITAT: Ponds, lakes, marshes, and slower portions of rivers, typically places in full or partial sun.

BEHAVIOR: Next to the Elfin Skimmer, which is even smaller, this species is the most inconspicuous dragonfly that frequents open fields, powerline clearings, savannas, and other sunny places. Adults perch low in vegetation, often down in grasses and forbs, and make short flights, often barely above one's ankles.

COMMENTS: Males can be confused with the larger Eastern Pondhawk or slightly larger Blue Dasher, or with the slightly smaller Elfin Skimmer, and females can also be confusing to beginners. People who spend much time looking at wildflowers in savannas and powerline clearings become familiar with this species, as its favored foraging areas tend to be such diverse, moist herbaceous areas.

Ladona deplanata Blue Corporal

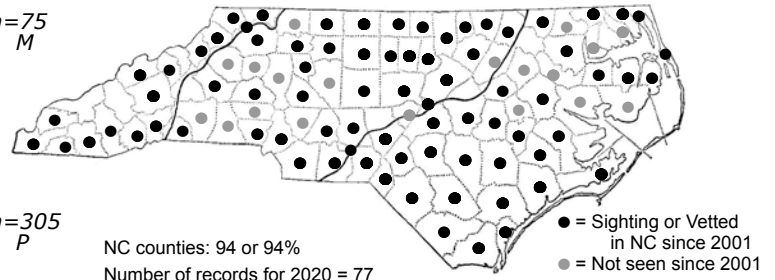
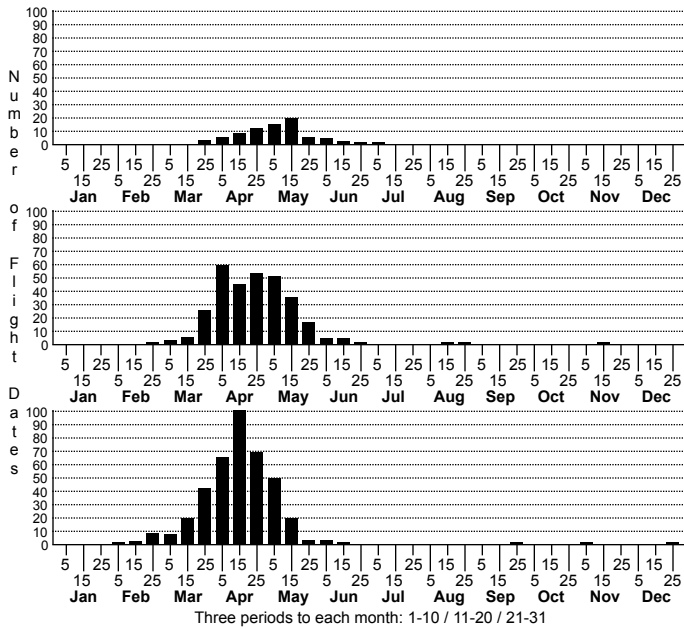


Photo (vetted) in 2020: Polk; P

High counts of:
1200 - Onslow - 2019-04-14
400 - Onslow - 2020-04-09
220 - Carteret - 2018-04-18

Earliest date: New Hanover 2018-02-06
Latest date: Moore; C 2020-12-22

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, but of somewhat spotty occurrence in the mountains, where found mainly at the lower elevations.

ABUNDANCE: Common to locally abundant in the southern Coastal Plain, and common to very common in the rest of the Coastal Plain and in the eastern and central Piedmont. Fairly common in the western Piedmont, but rare to mostly now uncommon in the mountains, where it seems to be increasing (eight "new" county records were added in the past few years).

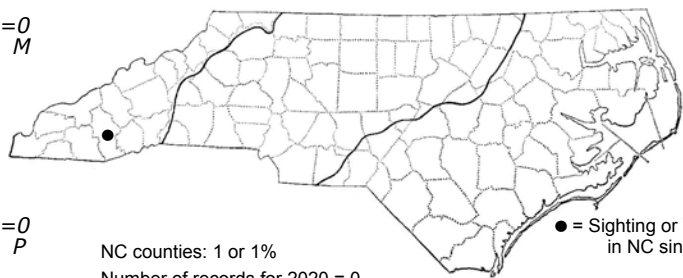
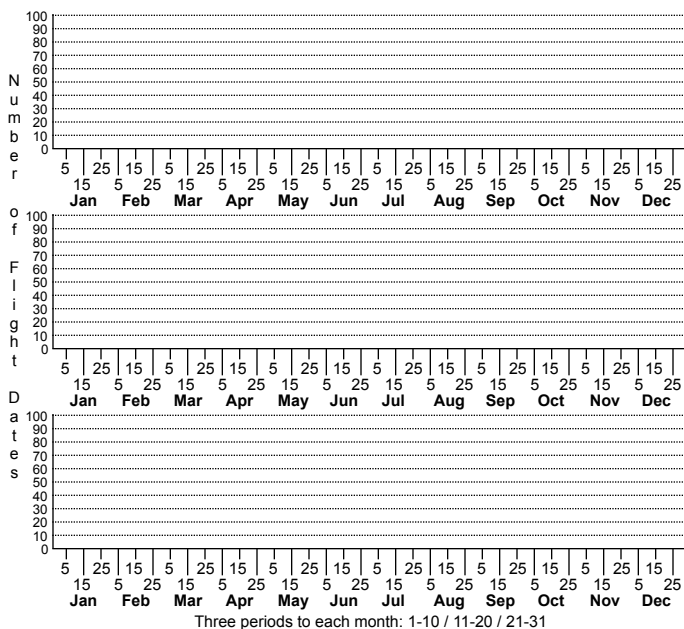
FLIGHT: Essentially the spring season only. In the Coastal Plain and Piedmont, the flight occurs from late February (rarely earlier) to mid-May, but sparingly to mid-June. There are several odd records for late summer and fall; two (August and November) are specimens (correctly labeled?) and one (September) is a sight report (correctly identified?). However, Richard Stickney photographed an adult on 3 November (2020), posted to this website, and saw another at the same site on the amazing date of 22 December (2020)! The mountain flight occurs from late March to early June, very rarely to early July.

HABITAT: Ponds, lakes, and other slow-moving waters. Most numerous at somewhat infertile waters such as Carolina bay pools and lakes.

BEHAVIOR: Only the Common Whitetail, among numerous species in NC, behaves like a Blue Corporal. Both sexes forage primarily by perching on the ground, and by making flights in open woods, powerline clearings, and other semi-open areas (typically somewhat close to woods).

COMMENTS: This skimmer can be the most often seen dragonfly, along with the Common Baskettail, on a spring-season outing. Dozens can be seen in a day, mostly immatures and females, which can be easily identified by the white or cream "corporal" stripe on each shoulder. These shoulder stripes become blue and less conspicuous in the adult male. Because Blue Corporals usually perch on the ground on dirt roads, wide trails, and in powerline clearings, an observer quickly learns this species, often flushing them while looking for less common odonates or for butterflies.

Ladona julia Chalk-fronted Corporal



NC counties: 1 or 1%
 Number of records for 2020 = 0

High counts of:
 1 - Jackson - 2003-00-00

Earliest date: Jackson 2003-00-00
 Latest date: Jackson 2003-00-00

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: This is a Northern species normally found south only to VA and WV. Quite a range extension occurred when ten larvae were collected in Jackson County in 2003. One should not assume that it occurs in most counties northward.

ABUNDANCE: Obviously extremely rare in the mountains.

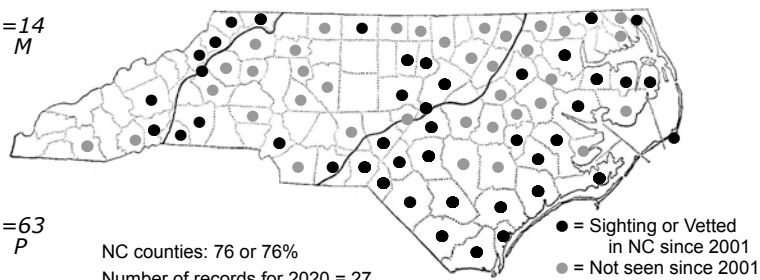
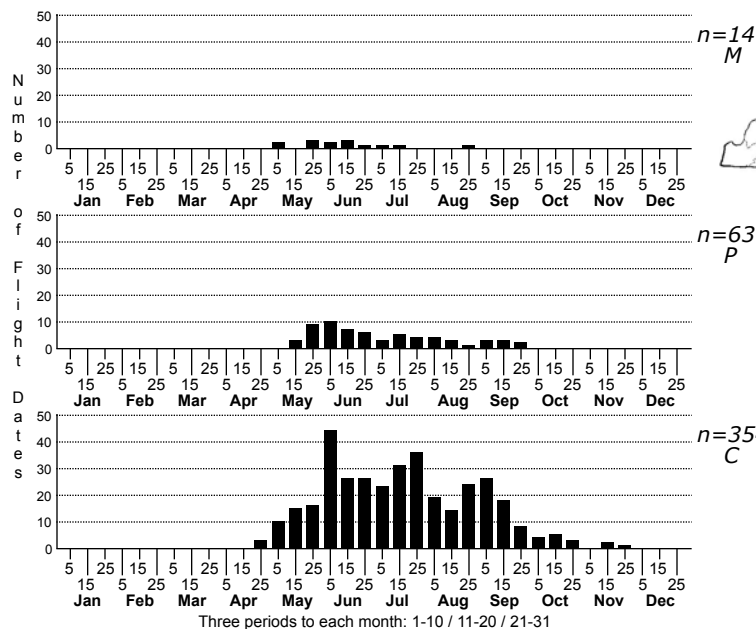
FLIGHT: Mainly in early and mid-summer. No flight date information for NC, as the record applies only to larvae and not to adults. However, records in VA fall between 4 June and 8 August, based on the Atlas of Rare Butterflies, Skippers, Moths, Dragonflies & Damselflies of Virginia website.

HABITAT: Breeds at bogs, boggy pond or lake margins, and slow portions of streams -- usually in quite acidic waters.

BEHAVIOR: The species often forages well away from water, by perching on the ground or other conspicuous places. In this regard, it is quite similar in behavior to the Blue Corporal and Common Whitetail.

COMMENTS: This is a very common dragonfly in Northern states, and being quite bold in perching and striking in appearance (at least males), it is a familiar species. If it were widely occurring in the NC mountains, there would certainly have been more records by now, as it is hard to overlook. The NC record came from Panthertown Bog. Here is the text submitted by Erika Yates on 17 July 2003: "... added to the dragonfly species composition which included sampling in the [Panthertown Valley] bog. I found a new state record, *Ladona* (*Libellula*) *julia*, verified by Dr. Mike May." However, her thesis indicates that she saw no adults, but did collect ten larvae, verified by Dr. May. [He is a co-author of several major reference works on odonates, and thus the NC Natural Heritage Program considers the record as valid.] However, this record does not appear on the OdonataCentral map, likely because there is no specimen or photo of an adult available for NC.

Libellula auripennis Golden-winged Skimmer



High counts of:
325 - Onslow - 2019-05-27
300 - Beaufort - 2020-06-29
75 - Scotland - 2003-07-29

Earliest date: Onslow 2019-04-23
Latest date: New Hanover 2017-11-25

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, though seemingly absent in the higher elevations in the mountains, and of spotty occurrence in the mountains and the western two-thirds of the Piedmont.

ABUNDANCE: Common in the Coastal Plain; uncommon to fairly common along the eastern edge of the Piedmont, but mostly uncommon in the Piedmont. Rare in the lower mountains.

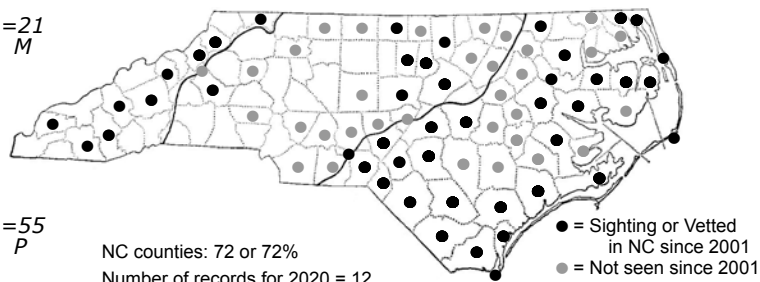
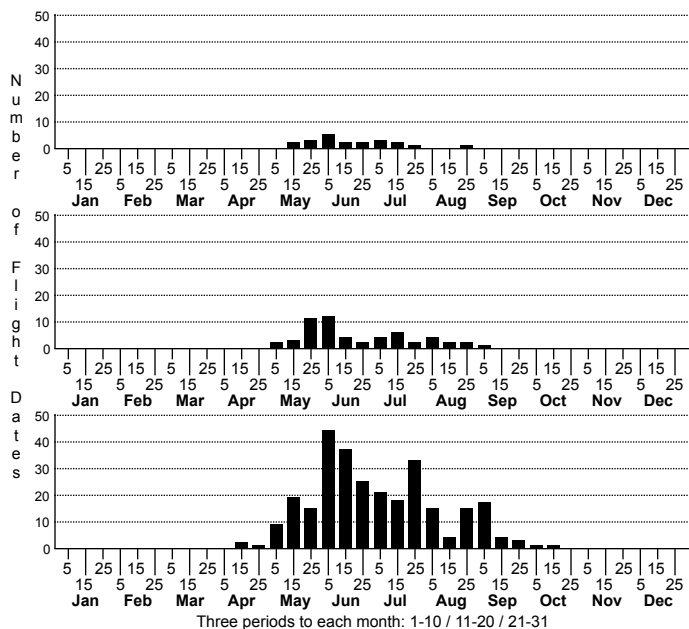
FLIGHT: The flight is from late April into November in the Coastal Plain, and from mid-May to late September (and certainly into October) in the Piedmont. The mountain records are too few to be certain of a flight period, though records extend from early May to late August.

HABITAT: Ponds, lakes, marshes, ditches -- typically in open/sunny places.

BEHAVIOR: Males perch conspicuously on perches such as twigs around a pond or lake shore and make patrols over the water. They are quite wary at the water. Adults frequently forage in fields, powerline clearings, savannas, and other open or semi-open areas well away from water.

COMMENTS: Males are one of more beautiful dragonflies, with their scarlet-orange abdomen and wing veins. However, in the eastern parts of the Coastal Plain, care must be taken to differentiate adult males, and especially females and immatures, from the closely related Needham's Skimmer, which is limited to brackish waters, though both species can occur in the same areas (up to a few miles from tidal water).

Libellula axilena Bar-winged Skimmer



Sight (not vetted) in 2020: Richmond; P

High counts of:
40 - Brunswick; BHI - 2010-08-28
25 - Craven - 2007-07-22
15 - Columbus - 2015-06-17

Earliest date: Onslow 2020-04-17
Latest date: Jones 1975-10-15

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the Coastal Plain and the eastern half of the Piedmont; spotty distribution in the western half of the Piedmont, though possibly could occur in all counties in the province. Present over most of the mountains, particularly the southern half of the province.

ABUNDANCE: Fairly common in the Coastal Plain, more so in the southern half of the province, where it can be common locally. Uncommon in the eastern half of the Piedmont, but rare west of Stokes, Cabarrus, and Union counties, including the mountains. For some odd reason, we have a number of new mountain records, but essentially none from the western Piedmont, suggesting that the species is more "numerous" in the mountains than in the western Piedmont. Even so, it is generally a rare species west of the eastern Piedmont.

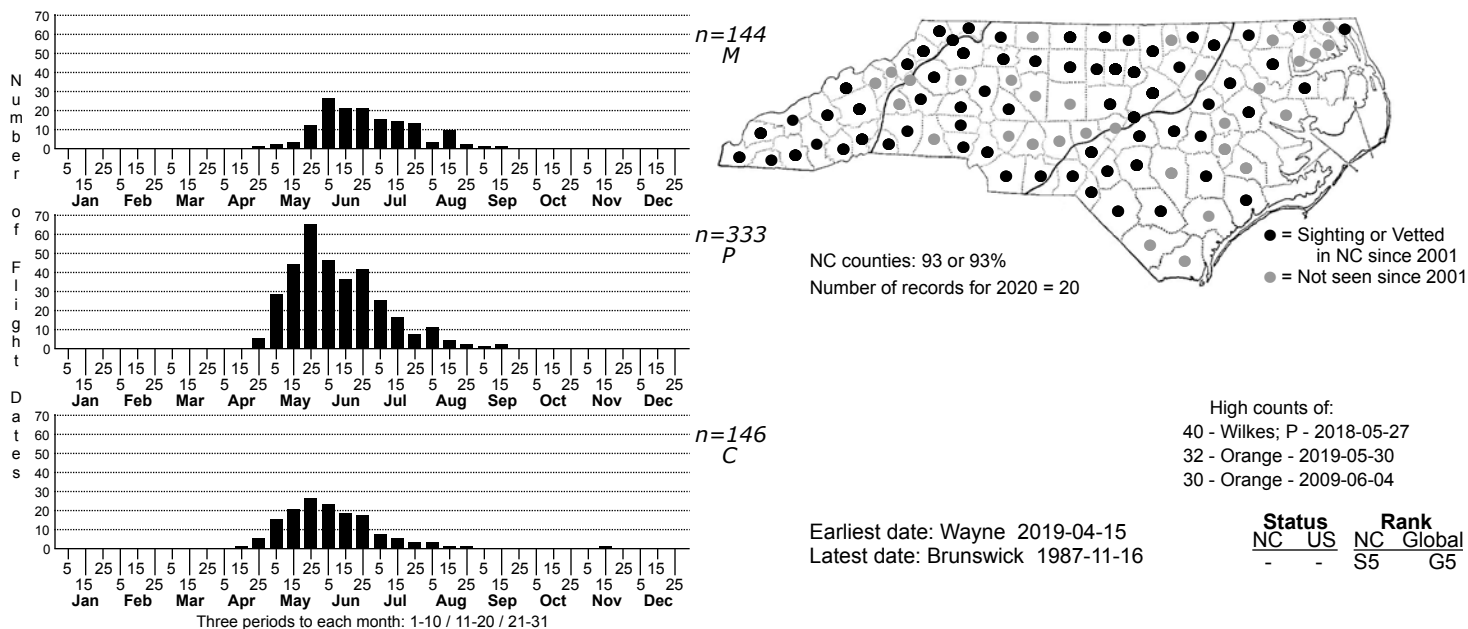
FLIGHT: Early May (and recently as early as mid-April) to early October in the Coastal Plain, and at least to early September in the Piedmont. The mountain flight extends at least from mid-May to late August.

HABITAT: Ponds, pools in swamps and powerline clearings, and other still waters close to forests.

BEHAVIOR: Males perch on twigs, often at least 6 feet off the ground, along a forested edge next to water, such as a swampy pool or temporary pond in a powerline, and make patrols back and forth over the water. Adults typically forage close to forests and edges, such as along jeep trails and powerlines through bottomlands and swamps.

COMMENTS: Though not one of our truly common skimmers, the Bar-winged is still a numerous dragonfly and not hard to find in some Coastal Plain locales. As indicated above, it usually does not forage far from forests, and one is not likely to see it in open fields.

Libellula cyanea Spangled Skimmer



DISTRIBUTION: Statewide, but of spotty distribution in the extreme eastern Coastal Plain, at least on the Outer Banks and around the mainland portions of Pamlico Sound. Even so, it might be found in all NC counties.

ABUNDANCE: Common in the mountains; fairly common to common in the Piedmont and most of the Coastal Plain. Seemingly scarce (if not locally absent) on the Outer Banks and the eastern Pamlico Peninsula. For some odd reason, the species was not nearly as numerous in 2020 as in previous years, though this might have been related to a reduced amount of field work in that COVID-19 year in its habitats.

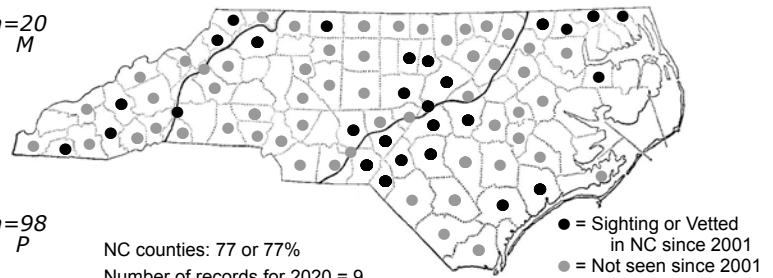
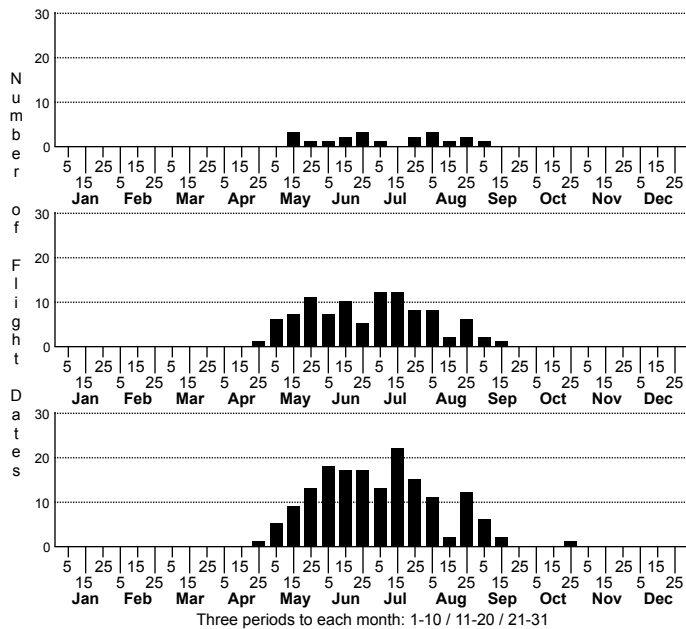
FLIGHT: A slightly shorter flight period than for many other skimmers -- late April to mid-September. In the Coastal Plain, the latest records are only to late August, except for an odd mid-November record.

HABITAT: Ponds, small lakes, marshes, and other open waters with abundant floating or emergent vegetation.

BEHAVIOR: Males perch close to water and make short patrols. However, adults are typically seen well away from water, such as in powerline clearings, wide jeep roads, fields, and woodland edges. They perch on twigs, often fairly low and can be conspicuous or unwary when perching.

COMMENTS: This is our only dragonfly with black-and-white stigmas, rendering both males and females easy to identify, even though their body colorations can cause some confusion with other skimmers. The species seldom occurs in large numbers or swarms, as do some skimmers (such as Great Blue Skimmer, Common Whitetail, or Blue Corporal), but a handful are typically seen in the appropriate habitat and time of year.

Libellula flavida Yellow-sided Skimmer



NC counties: 77 or 77%
 Number of records for 2020 = 9
 Sight (not vetted) in 2020: Rutherford; M, Washington

High counts of:
 11 - Jackson - 2018-06-26
 10 - Moore; C - 2004-06-05
 10 - Moore; C - 2007-06-09

Earliest date: Wake 2008-04-26
 Latest date: Bladen 1983-10-28

Status		Rank	
NC	US	NC	Global
-	-	S4S5	G5

DISTRIBUTION: Nearly statewide, but nearly absent from the extreme eastern and northeastern Coastal Plain, where there are but two records (Camden and Washington counties) east of Gates, Bertie, and Carteret counties. Of spotty occurrence in the mountains and western half of the Piedmont, though likely present in all counties in those provinces.

ABUNDANCE: Uncommon to locally fairly common in the Sandhills; generally uncommon and local elsewhere over the Coastal Plain, Piedmont, and lower mountains. Rare in the eastern portions of the Coastal Plain and presumably the middle elevations of the mountains.

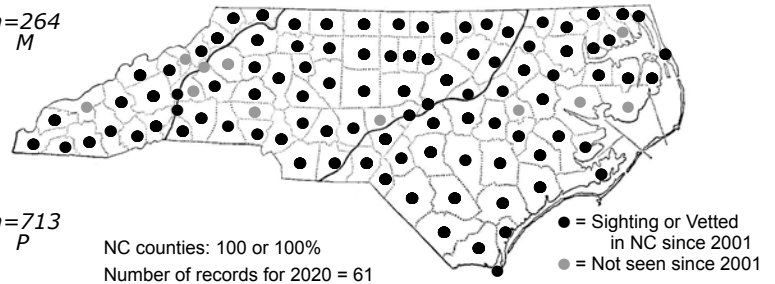
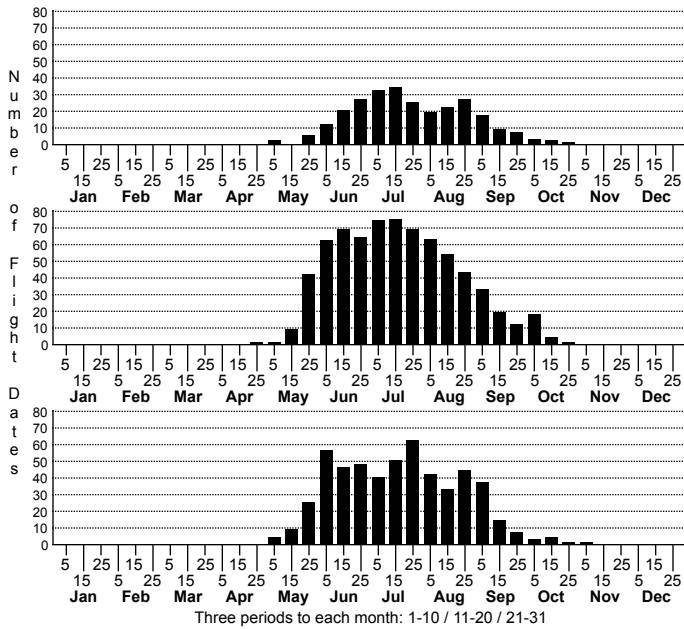
FLIGHT: Downstate, from late April to mid-September. Flies at least from mid-May to early September in the mountains.

HABITAT: More specialized than with other skimmers, being restricted more to seepages, small streams, and boggy spots, often with sphagnum, such as pools in powerline clearings.

BEHAVIOR: Males perch fairly low on vegetation and make short patrols over their pools and other small patches of water, typically in partly sunny areas.

COMMENTS: This is one of our least numerous skimmers, though it is a dragonfly that most active observers see a few times within the year, assuming they look in the right places. Adult males have some similarity of appearance to Eastern Pondhawk and Great Blue Skimmer, though the Yellow-sided has amber leading edges to the wings. They do not stray too far from boggy places with sphagnum or other partly-open mucky soils. It is somewhat local in occurrence, as such boggy wetlands are not widespread across a given county.

Libellula incesta Slaty Skimmer



High counts of:
850 - Wake - 2013-07-06
465 - Wake - 2014-07-19
355 - Wake - 2013-09-06

Earliest date: Wake 2017-04-28
Latest date: Bladen 2017-11-01

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, occurring in all 100 counties.

ABUNDANCE: Very common to abundant, though usually not in large swarms (such as with Eastern Pondhawk, Blue Dasher, or Common Baskettail). Abundance seems similar all across the state, though it might be slightly less numerous in the mountains.

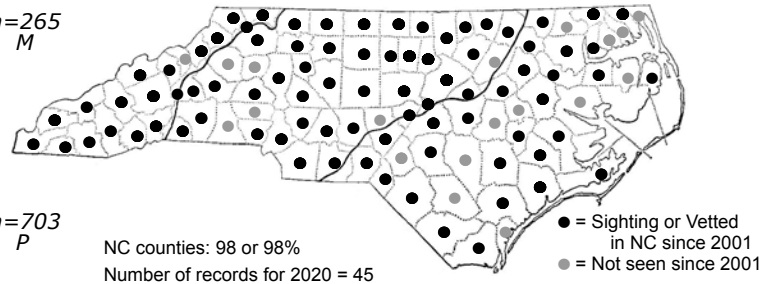
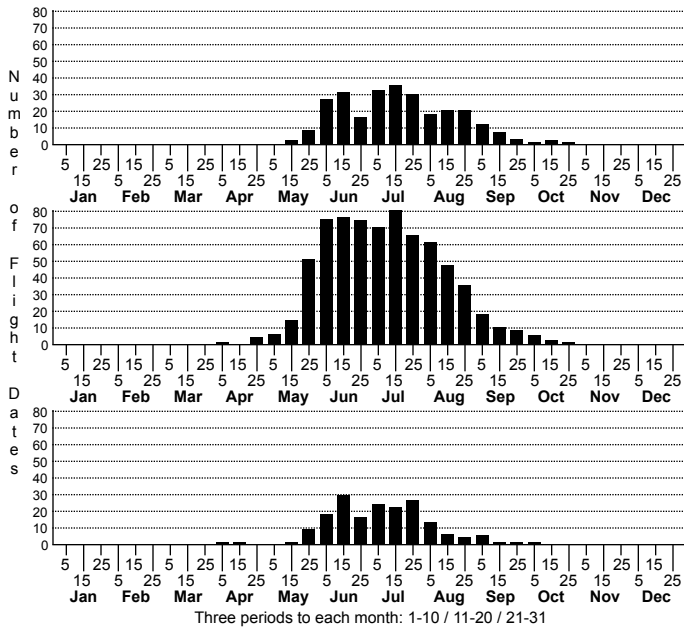
FLIGHT: Flies from early May to late October downstate, and to mid-October in the mountains.

HABITAT: Widespread around still waters of ponds, lakes, marshes, pools and puddles, and slow portions of rivers or creeks -- typically in wooded or partly wooded situations.

BEHAVIOR: Males are very conspicuous for a dragonfly, as they perch on bare twigs or other vegetation around a pond or lake margin and make constant forays, often chasing anything that flies nearby. Adults forage some distance from water, but not in large numbers in fields or other treeless areas.

COMMENTS: It is difficult to visit a pond or lake margin in the summer without seeing a Slaty Skimmer. Usually a walk around the shoreline will produce a number of them, even though Blue Dashers typically will be the most abundant dragonfly at such a pond or lake. Because Slaty Skimmers are very pugnacious and active fliers, if the species is around, you should quickly know it! It is definitely one of the state's most abundant dragonfly species.

Libellula luctuosa Widow Skimmer



NC counties: 98 or 98%
Number of records for 2020 = 45

High counts of:
200 - Caswell - 2007-07-21
150 - Orange - 2019-06-21
120 - Orange - 2019-06-04

Earliest date: Gates 2012-04-01
Latest date: Madison 2019-10-25

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide; only two extreme eastern Coastal Plain counties lack records. Presumably present in all counties.

ABUNDANCE: Generally very common in the Piedmont and lower mountains; fairly common in the western Coastal Plain, though numbers decrease toward the coast, such that it is scarce in the eastern counties. Common in the middle elevations of the mountains. One of the more numerous dragonflies in the mountain province.

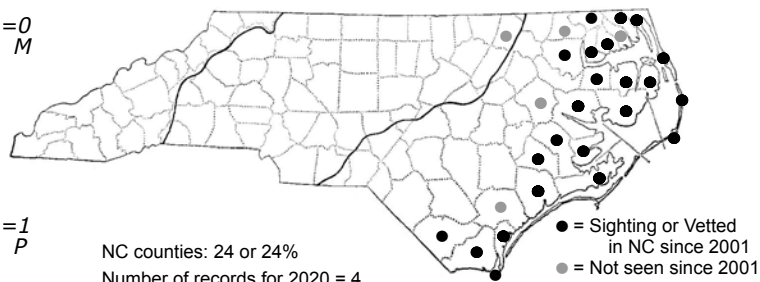
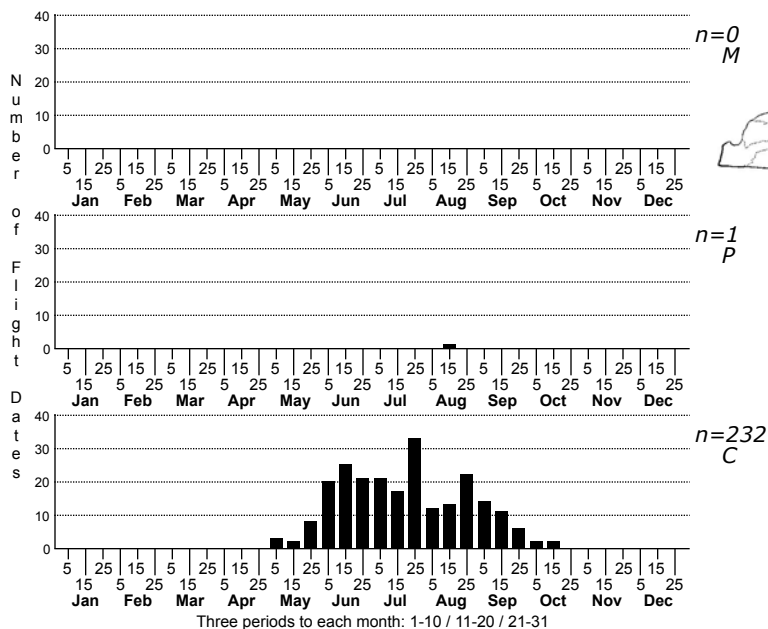
FLIGHT: Downstate, early or mid-April to mid-October, but not numerous until late May. In the mountains, the flight is from mid-May to late September, sparingly to mid-October.

HABITAT: Typical breeding sites as for other skimmers -- ponds, small lakes, marshes, and pools.

BEHAVIOR: Unlike most other skimmers, this species typically moves away from water to spend most of its time foraging in fields, powerline clearings, woodland borders, and other sunny to partly sunny places. Adults often perch on twigs of woody plants or on herbaceous vegetation, in such open areas.

COMMENTS: This might be the "flashiest" of our skimmers, as they are quite common, perch in open places within easy view, and have bold wing patterns. The wide black and frosted white bands of the male are impossible to miss when on the wing. Numbers of the species are seldom large at any given locale, as they seem territorial, and swarms are not generally noted. Nonetheless, it can occasionally be the most often seen dragonfly on a Piedmont walk, especially away from pond margins.

Libellula needhami Needham's Skimmer



High counts of:
500 - Onslow - 2017-07-14
400 - Hyde - 2015-07-08
250 - Onslow - 2017-07-20

Earliest date: Tyrrell 1994-05-07
Latest date: New Hanover 2005-10-18

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially coastal, though it does occur on the mainland side of Pamlico Sound and up estuarine rivers as far as tidal waters are present. A collection record for Halifax County is perhaps open to question, as this seems much too far inland.

ABUNDANCE: Common and widespread; present all around Albemarle Sound (unlike the Seaside Dragonlet), as well as around Pamlico Sound.

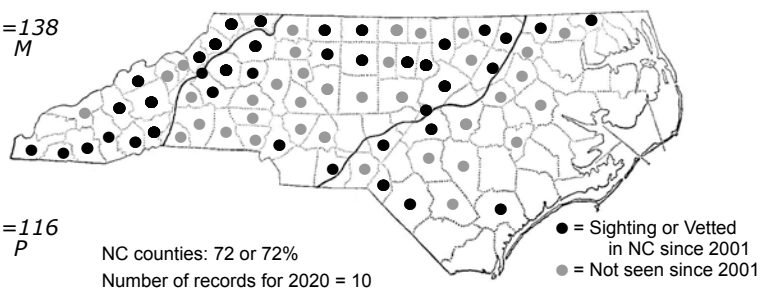
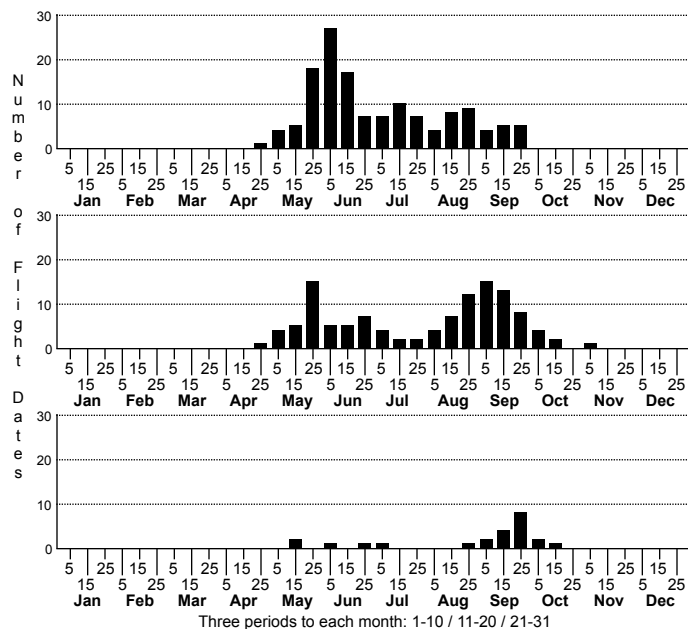
FLIGHT: Early May to mid-October; however, most records fall from late May to late September.

HABITAT: Brackish waters of marshes, tidal ponds, and other bodies of water in coastal areas (including some freshwater pools and ponds).

BEHAVIOR: Males patrol over tidal waters, including salt marshes. Adults do move away from tidal marshes and pools to forage in fields and other uplands, where they might come into competition with the closely related Golden-winged Skimmer.

COMMENTS: Males of this species are quite striking, even slightly more intense orange or scarlet than in the Golden-winged Skimmer, but identification needs to be made by study of the thorax, not by coloration. Also, Golden-winged is not typically found in tidal regions. An observer usually does not have to work hard to find this species, as it is much more conspicuous around tidal water than either the Four-spotted Pennant or the Seaside Dragonlet.

Libellula pulchella Twelve-spotted Skimmer



High counts of:
14 - Henderson - 2011-09-04
10 - Durham - 2020-09-04
9 - Buncombe - 2012-05-27

Earliest date: Rockingham 2019-04-27
Latest date: Durham 1980-11-09

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: A partly migratory species. Mountains, Piedmont, and western half of the Coastal Plain; seemingly absent in the eastern 40-50% of the Coastal Plain, as there are no records east of Gates, Pitt, Lenoir, and Pender counties. Resident only in the mountains and parts of the western Piedmont; rather seasonal (mostly spring and fall only) in the eastern half of the state.

ABUNDANCE: Uncommon to locally fairly common in the mountains. Uncommon in the Piedmont as a whole, though a migrant through much of the province, and in the eastern portions can be rather rare and is not resident there. A rare migrant in the western half of the Coastal Plain, where seen mainly in fall migration.

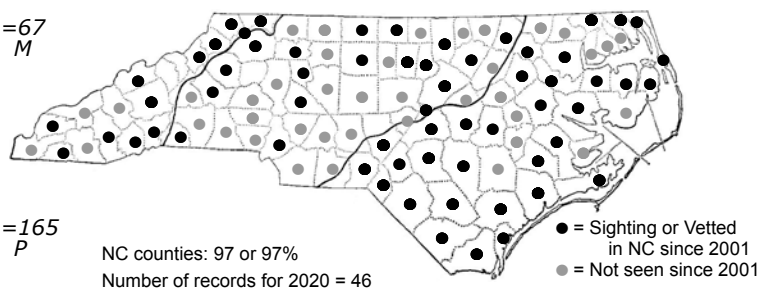
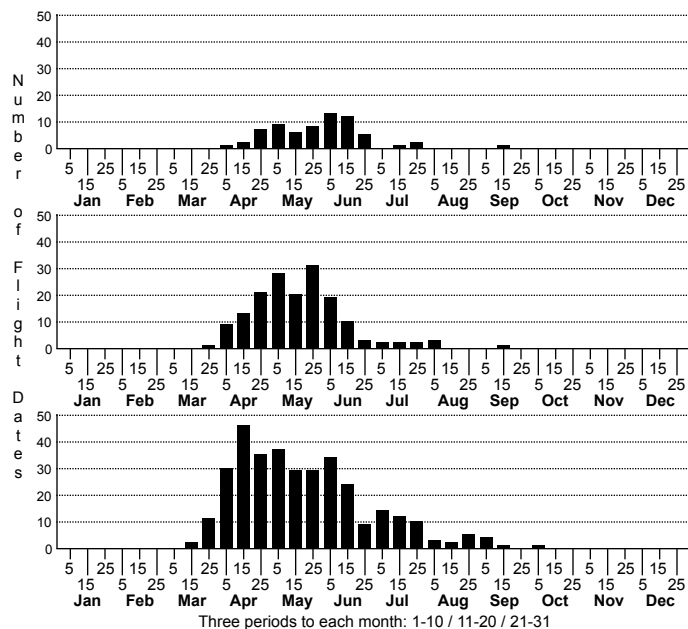
FLIGHT: In the mountains, where it is a resident (though some records might refer to migrants), the flight is from late April to late September. The Piedmont set of flight dates is from very late April to mid-October, with a stray record for early November. The fact that there is a clear dip in records in midsummer in the Piedmont flight chart is a strong indication that the species is mainly a migrant, seen mostly in spring/early summer and late summer/fall. In the Coastal Plain, where migratory, the dates range from mid-May to mid-October, with most being from late August into October.

HABITAT: Ponds, lakes, and marshes, typically in open situations; may oviposit in small, temporary pools.

BEHAVIOR: Males are very conspicuous as they patrol, often hovering, over their pools and ponds. Adults are similar to other skimmers in that they often forage well away from water in fields and wooded borders.

COMMENTS: Much is still to be learned about its biology in NC. This species is one of the few dragonflies that is partly migratory in the state. Individuals appear in the Coastal Plain and in much of the Piedmont at sites away from breeding waters, often where observers are quite familiar with the general area. Plus, they are seen mainly in spring or late summer/fall. The female looks quite similar to the female Common Whitetail and thus could be overlooked. However, adult males are very conspicuous and elicit much excitement when seen, because of their "snazzy" appearance and relative scarcity in NC.

Libellula semifasciata Painted Skimmer



NC counties: 97 or 97%
Number of records for 2020 = 46

High counts of:
65 - Onslow - 2019-04-21
60 - Camden - 2019-05-14
35 - Cumberland - 2015-06-06

Earliest date: Onslow 2019-03-17
Latest date: Jones 1997-10-01

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, though likely scarce at middle elevations and perhaps absent at higher elevations in the mountains. Occurs throughout the Piedmont and Coastal Plain, including counties along the coast.

ABUNDANCE: Fairly common to occasionally common in the southern half of the Coastal Plain; uncommon to locally fairly common in the northern Coastal Plain and in the lower Piedmont; uncommon in the remainder of the Piedmont and lower mountains; scarce at higher elevations. Abundance is quite at odds with Dunkle (2000) for its entire range, and Beaton (2007) for GA, both which indicate "uncommon". Perhaps the species is more numerous in NC than in most other states. Seldom occurs in large numbers on a given day, but quite widespread, at least in much of the Coastal Plain.

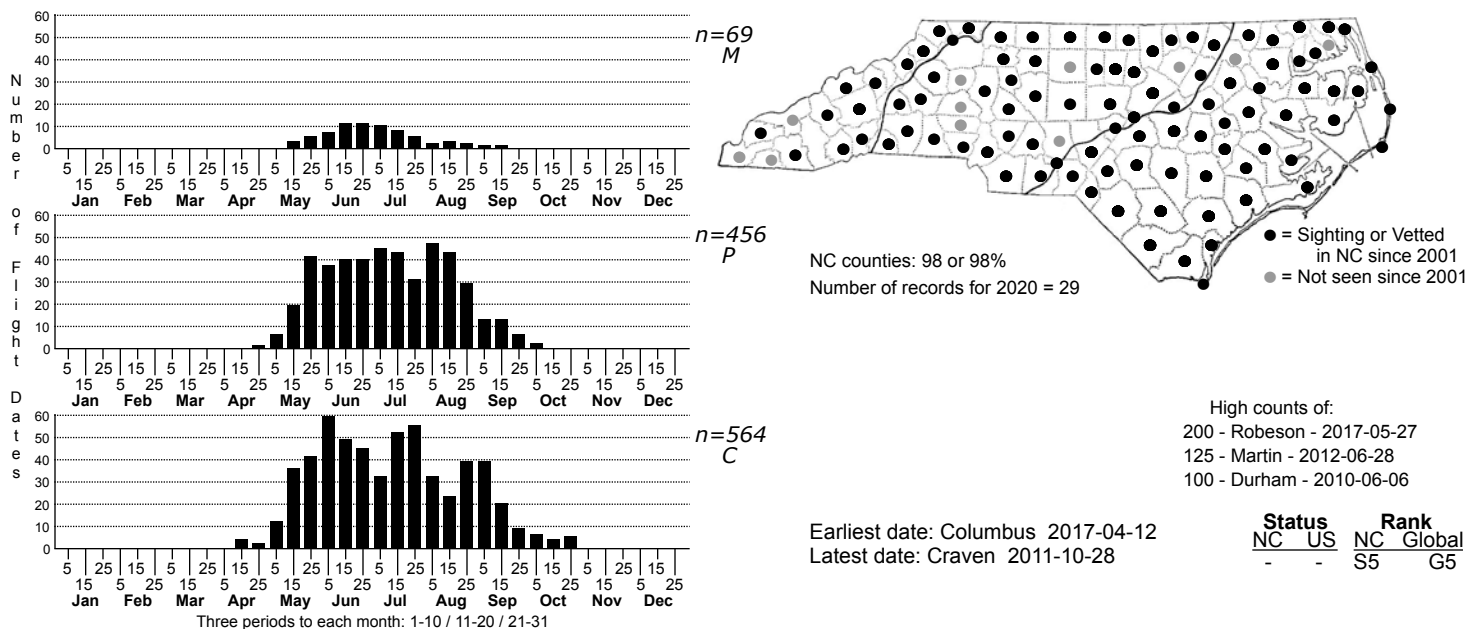
FLIGHT: Late March to mid-September, and rarely to early October, in the Coastal Plain and Piedmont; however, not numerous after late July. In the mountains, the flight occurs from mid-April to mid-September, but is scarce after mid-summer. As with many species, the flights across the state are moving earlier every few years -- a sure sign of global warming.

HABITAT: Marshes, bogs or boggy areas, grassy ponds, and other pools; favors semi-wooded areas.

BEHAVIOR: Less likely to spend much time around ponds, pools, and marshes than most other skimmers. Instead, adults are typically seen foraging well away from water (thus not making it clear what might be the breeding habitat), often in fields, savannas, powerline clearings, and woodland borders. They often perch conspicuously on tips of twigs or grass stems.

COMMENTS: This skimmer seldom occurs in swarms, but is often seen daily, at least in the southern Coastal Plain in the first part of the flight season. Because of their flashy wing pattern -- males and females look almost alike -- individuals are easily noticed, even by beginners or casual observers. Be careful not to confuse it with the smaller Halloween Pennant, a more common species that also perches conspicuously on the tips of grass stems and twigs.

Libellula vibrans Great Blue Skimmer



DISTRIBUTION: Essentially statewide, lacking records now for just two mountain counties. Certainly is present in all 100 counties.

ABUNDANCE: Common, to locally abundant, in the Coastal Plain; common in the eastern and central Piedmont; somewhat less numerous (fairly common, at least locally) in the western Piedmont and lower mountains. This is one of the most numerous dragonflies in swamps and bottomlands.

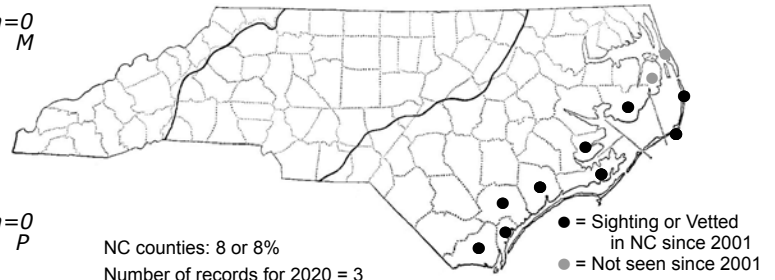
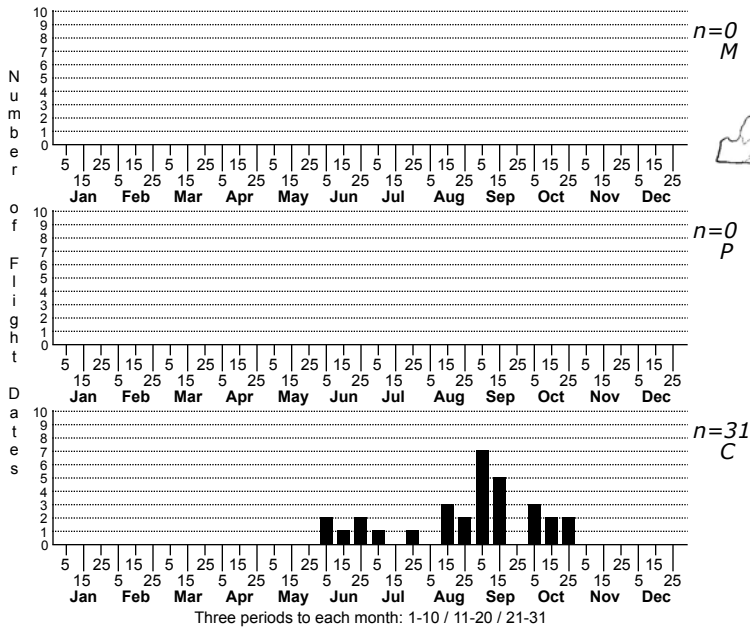
FLIGHT: Late April into early October in the Piedmont and into late October in the Coastal Plain. The mountain flight, quite a bit narrower, is from mid-May to mid-September.

HABITAT: Still or slow-moving waters in mostly shaded areas, such as swamps and swampy pools, wooded beaver ponds, and very slow-moving streams.

BEHAVIOR: Males commonly perch around the margins of swampy pools and other wet areas in swamps and bottomlands. Adults typically stay close to forested areas, such as along roads through bottomlands and swamps. They usually perch on twigs of trees along the wooded edges, often 5-10 feet high. They can be quite pugnacious, with much chasing of other Great Blue Skimmers in their small territories.

COMMENTS: This is the largest of the *Libellula* skimmers, and though colored in pruinose pale blue like adult male Eastern Pondhawks and several other male skimmers, the male Great Blue Skimmer is separated by its very pale blue thorax (contrasting with the slightly darker abdomen) and greenish-blue eyes. They can occur in swarms of a dozen or more in a very small area. This species is one of the most common dragonflies (next to Eastern Pondhawk) that one sees along roads through swamps and bottomlands, especially as seen from bridges over swampy rivers and creeks.

Macrodiplax balteata Marl Pennant



High counts of:
 20 - Hyde - 2015-07-08
 16 - Onslow - 2018-08-28
 15 - Carteret - 2014-10-04

Earliest date: Onslow 2020-06-02
 Latest date: Carteret 2016-10-29

Status	Rank	
	NC	US
W	-	S2S3 G5
		[S3]

DISTRIBUTION: Strictly coastal, ranging north in its overall range only to southeastern VA (three recent records only). Interestingly, the first record for GA came in 2006, and there are a number of recent county records for coastal SC. It is not clear if the species is a permanent resident or is at least partly migratory in NC.

ABUNDANCE: In recent years, generally uncommon to (and very locally) fairly common along the NC coast, essentially only from Pea Island southward. Dunkle (2000) calls it "common coastally", though that may apply mainly to FL. For whatever reason, until a decade ago there were very few records of the species north of FL, but owing to global warming or some other factors, the species is increasing in numbers or at least increasingly straying northward, in NC, SC, and GA.

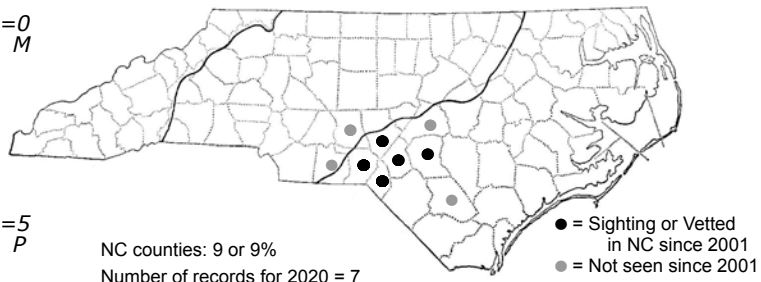
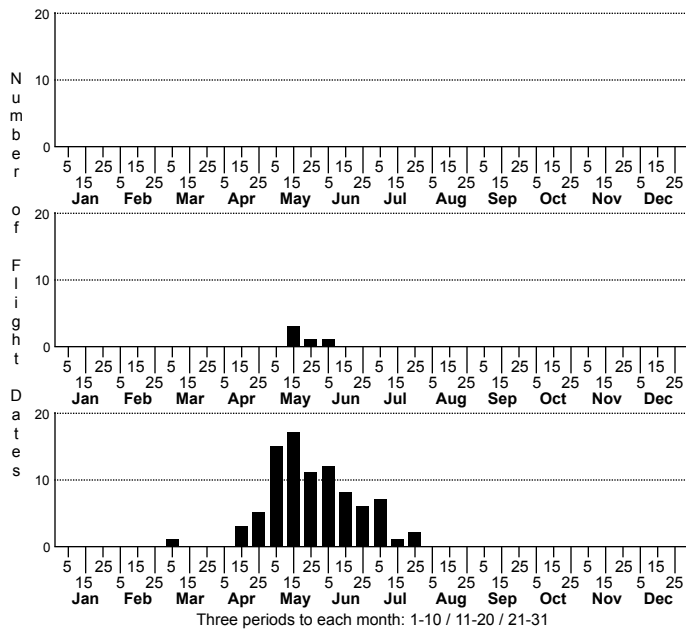
FLIGHT: The flight occurs from early June to the end of October; however, most records are from mid-August into October. This pattern of flight dates may suggest that the species is primarily a post-breeding migrant/stray from farther south. A resident pennant species should have a flight season starting at least by early summer, and have peak numbers in summer or before September. However, more data are needed to clarify the situation, and there is certainly the possibility that this species is a scarce resident (though maybe with immigrants moving into the state in fall).

HABITAT: Unusual for most dragonfly species in NC; breeds in brackish ponds or other pools with high pH waters, such as possibly man-made marl ponds near the coast or other man-made lakes and ponds in coastal areas. The highest state counts have been at a natural lake (Lake Mattamuskeet) and from tidal marshes. Thus, it has a fairly wide array of sunny coastal habitats, from salt water (tidal marshes) to fresh water (lakes and ponds).

BEHAVIOR: Males perch at the pools or marsh edges, often on twigs or stems in the water; they make forays over the water. However, they may occur in fields or other open areas somewhat far away from coastal water. Apparently females also stay close to water when foraging.

COMMENTS: Some important records of Marl Pennant were made in fall 2014 at Fort Macon State Park in Carteret County, with a former state record one-day count of 15 individuals, documented by several photos. A number of other recent records have been made, with photos now available for all coastal counties from Dare to Brunswick. Of the five primarily coastal dragonflies in NC -- along with Needham's Skimmer, Roseate Skimmer, Four-spotted Pennant, and Seaside Dragonlet -- the Marl Pennant is the only scarce species. Hopefully, it is a resident species in NC! Even if not, it can be somewhat reliably seen from the latter half of August into October at tidal marshes and other coastal waters.

Nannothemis bella Elfin Skimmer



High counts of:
 300 - Scotland - 2017-05-08
 275 - Scotland - 2018-05-11
 150 - Scotland - 2017-05-07

Earliest date: Scotland 2018-03-10
 Latest date: Richmond; C 2019-07-28

Status	Rank	
	NC	US
W	-	S3S4 G4G5

DISTRIBUTION: In NC, it is restricted to the Sandhills region, plus the adjacent western Coastal Plain (Bladen County) and the southeastern edge of the Piedmont. Although one might assume the northern edge of the range lies in NC, the whole range covers the Atlantic seaboard from southeastern Canada south to FL and LA, and west to MN. Clearly, the species has a highly disjunct overall range; it almost certainly is not found in most or nearly all other Coastal Plain counties to the VA line.

ABUNDANCE: Uncommon to locally fairly common in the Sandhills, but as it is one of the world's smallest dragonflies, it is very easily overlooked. Very rare to rare east of the Sandhills and in the adjacent southeastern edge of the Piedmont.

FLIGHT: A rather narrow flight period; mid-April to late July. A 2018 record from March 10 is extremely early. The few records for the adjacent Piedmont fall between mid-May and early June, certainly too narrow to represent the flight period there.

HABITAT: Highly restricted to boggy spots, with much sphagnum; often at seepages. These can be around the margins of beaver ponds or man-made ponds, damp places in powerline clearings, and natural fire-maintained seepage slopes.

BEHAVIOR: Adults perch and fly very close to the ground/water, often no more than 4-5 inches off the ground, amid grasses, sedges, and rushes. They seldom arise above the height of the herbaceous vegetation.

COMMENTS: To see the species, one must go to boggy places around a pond margin or a wet powerline clearing in the Sandhills, and expect to get one's feet damp. They can be confused with Little Blue Dragonlet, which shares its habitat but is slightly larger and has a less obvious club. Be careful where you step, as you might have them underfoot!

Orthemis ferruginea Roseate Skimmer

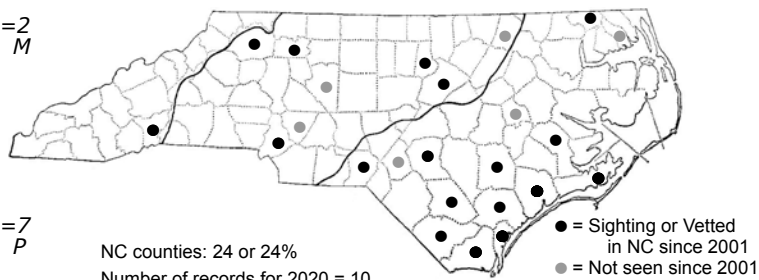
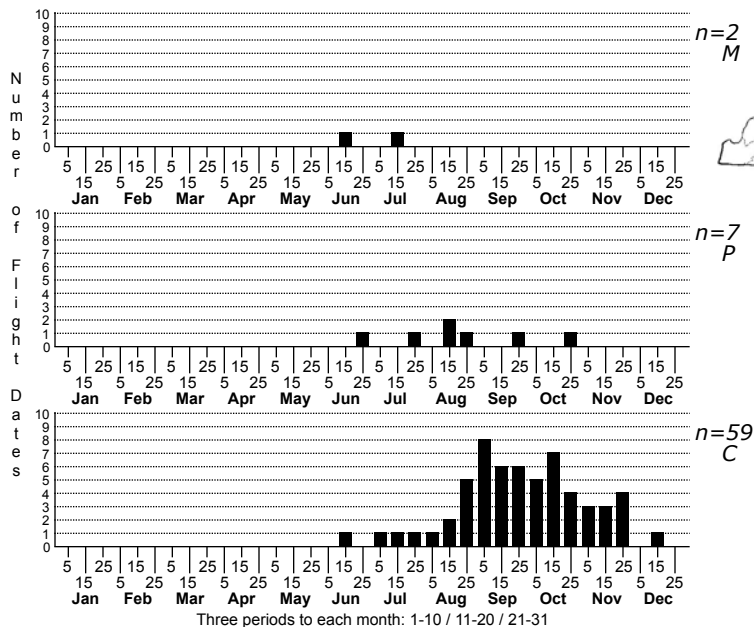


Photo (vetted) in 2020: Craven

High counts of:
9 - Onslow - 2017-10-05
7 - Onslow - 2017-11-03
6 - Cumberland - 2013-09-05

Earliest date: Henderson 2013-06-16
Latest date: New Hanover 2017-12-19

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: A northbound stray or migrant in most areas of the state, but almost certainly now a resident in the extreme southeastern counties, north to Carteret County. Widely scattered over the Coastal Plain and now the Piedmont, and with two recent sightings from Henderson County in the mountains. Greatly expanding its range northward; thus, the county map will likely become out-of-date very quickly. Primarily found along the southern coast, north somewhat regularly to Carteret County, but one must assume it is not a resident (yet) away from coastal counties, based on its very spotty range inland, and numerous "one-time-only" records.

ABUNDANCE: Increasing in recent years; probably rare 10 or 20 years ago. Now, it is generally uncommon in coastal counties northward to Carteret County. Very rare visitor or stray farther inland and northward. Our peak single-day count is just nine individuals, though this number should be surpassed in the next few years.

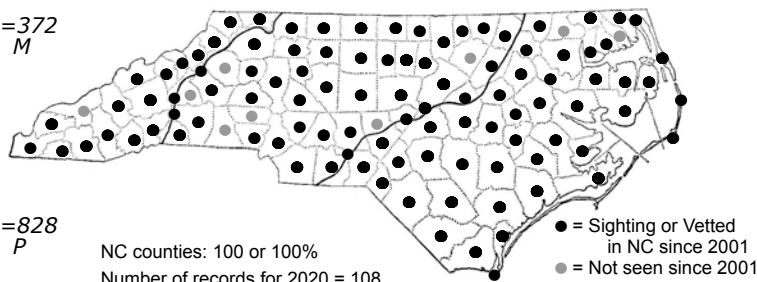
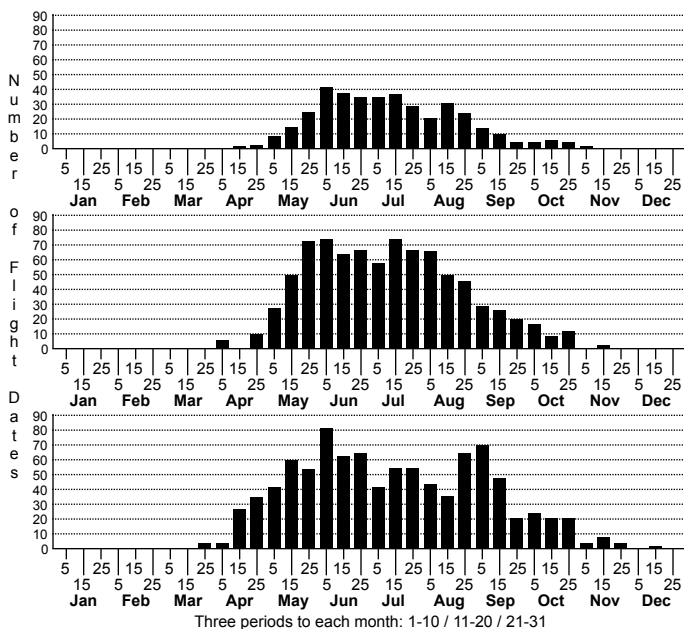
FLIGHT: Mid-June to late November, with one mid-December record; mostly from mid-August to mid-October. These dates suggest a fall migrant species, moving north after breeding farther to our south. However, there are likely a few sites along and near the coast where it is a resident.

HABITAT: Generally at ponds, marshes, and lakes. Despite it being seen mainly near the coast, most breeding waters are probably fresh, though it does use brackish waters.

BEHAVIOR: Males are very conspicuous as they perch on twigs at their pools or ponds; they are quite active and do much chasing and patrolling. Adults will often feed well away from pools, as do most other skimmers.

COMMENTS: The deep rose-pink color of the male's abdomen is not often seen in the animal kingdom, even in birds or butterflies, and is more reminiscent of the rosy color of the petals of many wildflowers! This species is currently undergoing a rapid northward expansion in the range and in numbers. It is not hard to find at various places around Wilmington, such as near gardens and other suburban places. But questions remain, especially regarding residency status in NC away from the southern coast. It was dropped as a Watch List species by the N.C. Natural Heritage Program in fall 2010.

Pachydiplax longipennis Blue Dasher



Sight (not vetted) in 2020: Burke; M

High counts of:
1225 - Wake - 2013-07-06
965 - Wake - 2013-06-12
885 - Wake - 2014-07-19

Earliest date: Moore; C 2012-03-27
Latest date: Onslow 2020-12-11

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, occurring in all 100 counties.

ABUNDANCE: Abundant throughout. This is arguably the most numerous dragonfly in NC (and the eastern United States), possibly even outnumbering the ubiquitous Eastern Pondhawk.

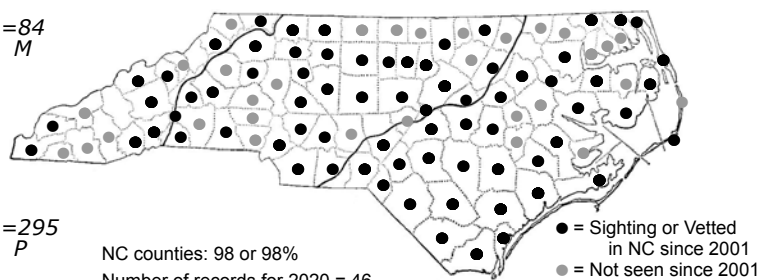
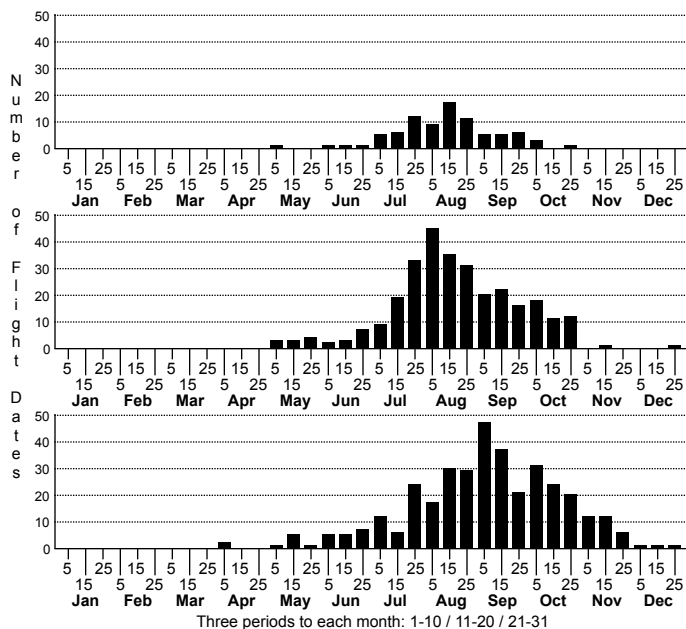
FLIGHT: Throughout most of the odonate flight season. Downstate, from late March or early April to late October, rarely to late November. In the mountains, from late April to late October.

HABITAT: A wide range of still water, from ponds, lakes, ditches, canals, pools, and marshes; occasionally in slow-moving portions of rivers or creeks.

BEHAVIOR: Males are frequently seen perching on twigs or herbaceous vegetation along the margin of a pond, making short forays over the water for patrolling purposes. Both sexes feed well away from water, especially females. They perch conspicuously, typically within 3-4 feet of the ground, in fields, powerline clearings, savannas, and many other places, both in full sun or partial shade.

COMMENTS: For many species of skimmers, pennants, and other members of the Family Libellulidae, an observer hopes to find a given species by walking along the shoreline of a still body of water. This is seldom a problem with finding Blue Dashers, as every pond seems to have a dozen or more individuals, often equaling or exceeding the number of all other dragonflies of other species! Total numbers of Blue Dashers in NC must total in the tens of millions.

Pantala flavescens Wandering Glider



High counts of:
200 - Onslow - 2017-09-27
50 - New Hanover - 2015-09-13
50 - New Hanover - 2020-08-22

Earliest date: Onslow 2017-04-08
Latest date: Wake 2015-12-29

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, but not as widespread in the mountains as downstate. Presumed to occur in all 100 counties.

ABUNDANCE: A widespread species, seen often during the year, especially during the fall season. Abundance is difficult to assess or describe, as it is migratory and does not establish permanent colonies, though generally fairly common to at times common across the state, being somewhat more numerous in the Coastal Plain than farther westward. Observers frequently see individuals in cities and towns, attempting to lay eggs on shiny car hoods; however, large numbers are seldom seen in a given day, and it is often missed in field work in "the country". Seems to be most often seen along or near the coast in the fall, migrating southward (presumably).

FLIGHT: Downstate, from early May to early December, most frequently reported in mid-summer and fall, though the highest numbers of individuals are seen from late August to late September. There is even a record for late December. In the mountains, the flight is mainly from early June to early October.

HABITAT: Unlike all other dragonflies except the related Spot-winged Glider, it uses small, temporary puddles and pools for depositing eggs. These can be rainwater pools on city streets, as well as puddles in powerline clearings and other ephemeral ponds.

BEHAVIOR: Only the two gliders (*Pantala*) share the "wandering" habit of foraging. Males may patrol temporary pools where eggs have been laid, and females (of course) can be seen ovipositing in such temporary pools. However, they spend most of their time in wide-ranging flights, often 5-10 feet or higher, over all types of open country, from fields, marshes, towns, dunes, and even offshore! Like swallows and swifts, these dragonflies seldom seem to perch, but when found hanging from a twig, they can be somewhat unwary.

COMMENTS: Wandering Gliders can literally be seen anywhere, from downtown streets to over the Gulf Stream. Because they are constantly on the wing, identification can be difficult, and often one must assume that an amber-colored dragonfly, with no obvious wing markings (to rule out saddlebags, for example), is a Wandering Glider -- especially if seen close to the coast in the fall. A range map for this species is a bit misleading, as it is a hit-and-run type of breeder, with no site fidelity.

Pantala hymenaea Spot-winged Glider

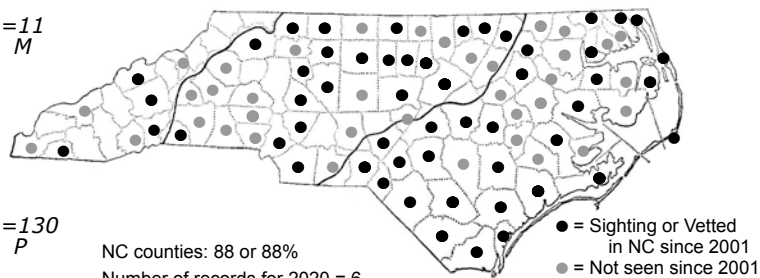
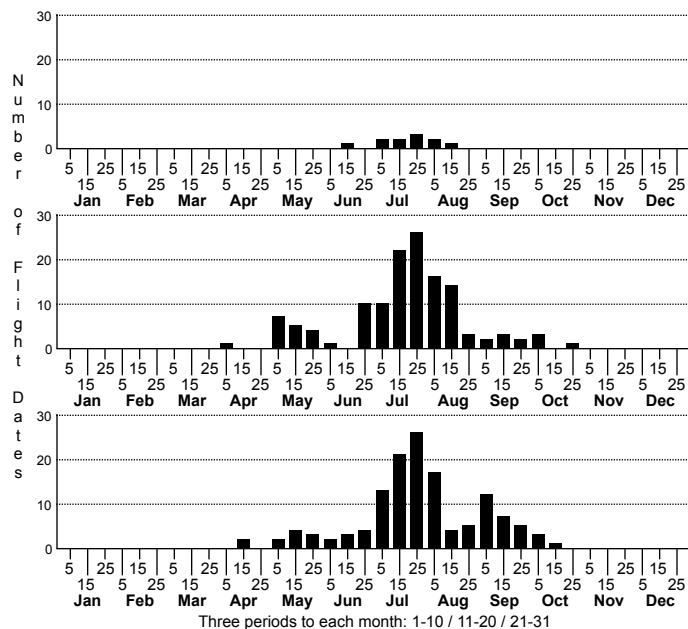


Photo (vetted) in 2020: Madison

High counts of:
75 - Durham - 2010-07-25
50 - Wake - 2008-05-25
50 - Madison - 2020-07-11

Earliest date: Caswell 1998-04-04
Latest date: Alamance 1971-10-24

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Occurs over all of the Coastal Plain and Piedmont (though lacking records for a few counties in the Piedmont). It is of sporadic occurrence in the mountains, where it has been found in just 45% of the counties.

ABUNDANCE: As with the Wandering Glider, this is a migratory species, constantly on the move, with abundance difficult to assess. Usually less numerous than Wandering Glider, though it can occur in swarms, more so than does the Wandering. Generally uncommon in the Coastal Plain and Piedmont, though it may be fairly common at times, especially in the Coastal Plain, even though our three highest one-day counts are in the lower Piedmont. Very rare to rare in the mountains.

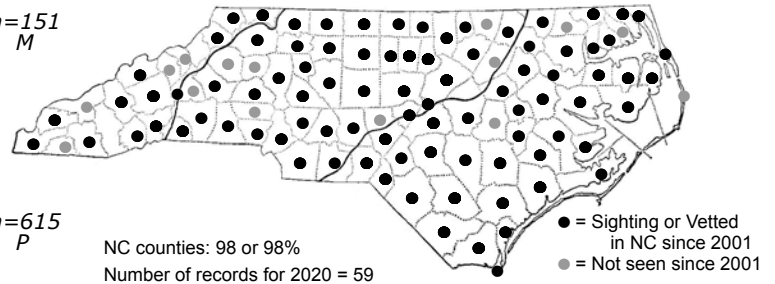
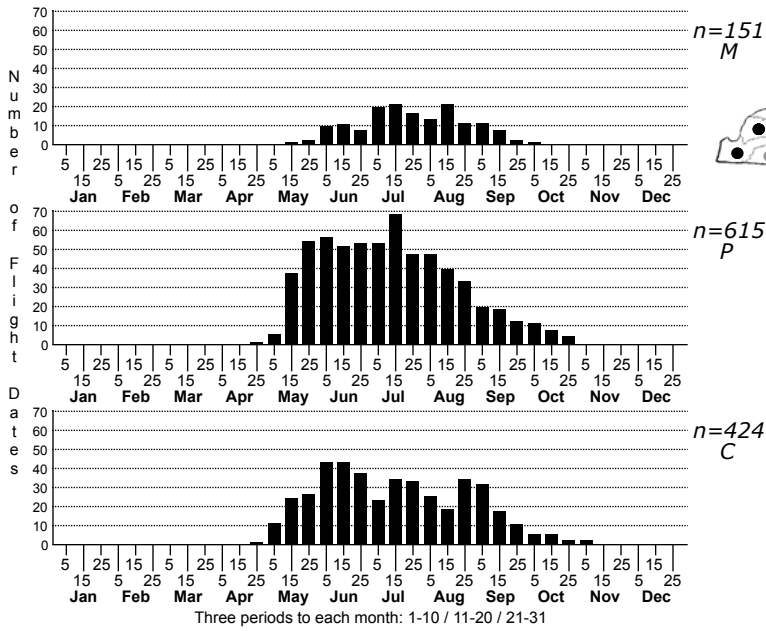
FLIGHT: Early or mid-April to late October downstate, though the bulk of the records are from late June to mid-September. The few mountain records are from mid-June to mid-August, but the flight there is certainly longer than just two months.

HABITAT: Similar to Wandering Glider, it uses small, temporary puddles, pools, and shallow ponds for breeding.

BEHAVIOR: Males may be seen patrolling near puddles, and females may be seen ovipositing at such wet places, though Spot-winged Gliders seldom seem to enter cities to attempt ovipositing on shiny car hoods and rainwater pools in streets. Adults forage widely over all types of habitats, especially open areas along and near the coast.

COMMENTS: This species is not familiar to casual observers, despite records from 88 of the 100 counties, because adults infrequently perch, and identification must often be made in flight. Having a net handy to catch such non-perching dragonflies helps! Adults do have a small dark patch at the base of the hind wing, as the common name indicates; sometimes an observer can see this spot in the field, though the overall color of the adult Spot-winged is a bit buffier/browner than the amber-colored Wandering Glider.

Perithemis tenera Eastern Amberwing



High counts of:
325 - Wake - 2013-07-04
315 - Wake - 2014-06-13
250 - New Hanover - 2018-06-08

Earliest date: Bladen 2016-04-27
Latest date: Onslow 2020-11-05

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, but as with so many other "statewide" species, it has not been recorded from all mountain counties, though presumably occurring in all 100 of them.

ABUNDANCE: Common to locally abundant essentially statewide, but slightly less numerous (but still common) in the mountains. There are several one-day counts of 200 or more individuals.

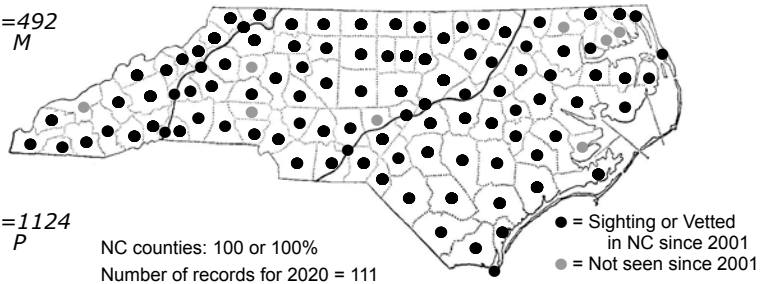
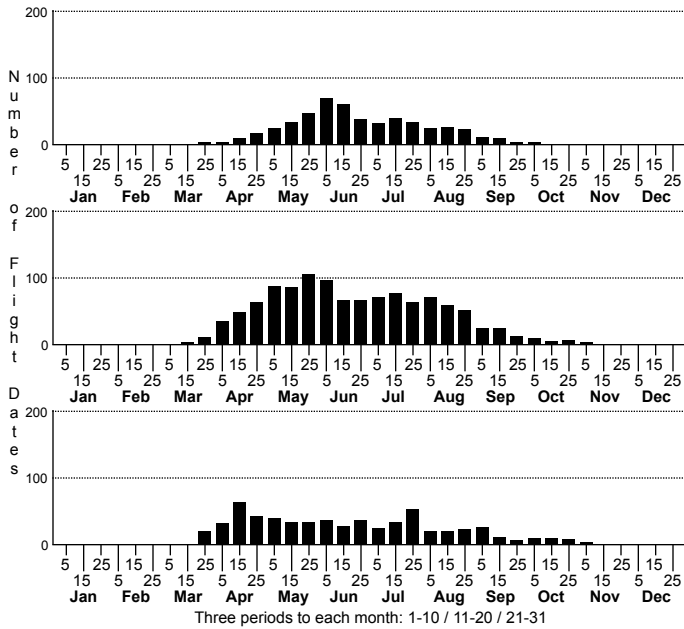
FLIGHT: Downstate, the flight occurs from early May to late October; in the mountains, from mid- or late May to early October.

HABITAT: Ponds, small lakes, marshes, and pools are used for breeding. Slow-moving portions of rivers or creeks may be used on occasions.

BEHAVIOR: This is an active and conspicuous dragonfly, despite being one of the smallest species. Adults often perch conspicuously on the tips of twigs and grasses, close to water. Adults will forage long distances from water, and they are among the most "urban" of dragonflies, often found in gardens, arboretums, and other places in cities where suitable prey items might occur.

COMMENTS: This species is a wasp mimic, with its highly colored wing patches and veins. Adults often obelisk. Females are somewhat similar in coloration to the Halloween Pennant, but the latter species is much larger in size. One would think that a dragonfly whose average length is less than 1 inch would be difficult to observe and easy to overlook (such as with the Elfin Skimmer), but the Eastern Amberwing is a "unique" species in NC -- there are other amberwings elsewhere -- that seems to want to draw attention to itself, often looking like a butterfly or wasp rather than a dragonfly (at a quick glance).

Plathemis lydia Common Whitetail



NC counties: 100 or 100%
Number of records for 2020 = 111

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
80 - Wake - 2020-08-06
55 - Wake - 2013-04-27
55 - Durham - 2015-05-30

Earliest date: Durham 1990-03-19
Latest date: Gates 2014-11-10

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Synonym: *Libellula lydia*

DISTRIBUTION: Statewide, occurring in all 100 counties.

ABUNDANCE: Very common to abundant across the state, not seeming to vary considerably in numbers from one province to another. Though seldom occurring large swarms -- the highest one-day count is "just" 80 individuals -- it is among the most widespread species in terms of habitats from wet to dry, wooded to open.

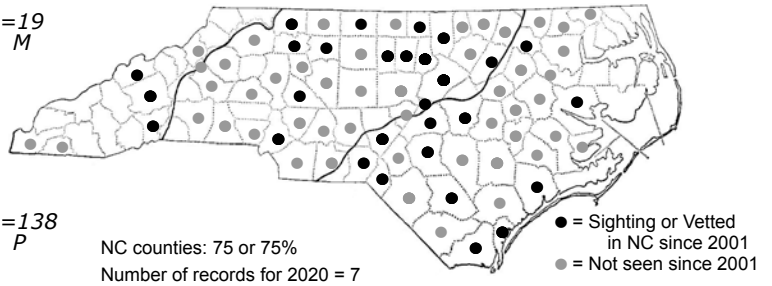
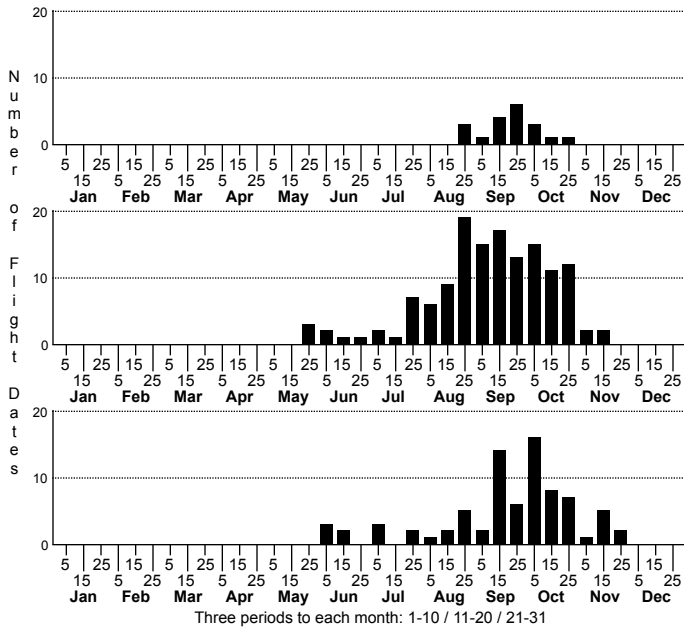
FLIGHT: Nearly the entire odonate flight season, from late March to late October, sparingly into November.

HABITAT: Ponds, lakes, swamps, seeps, pools, and other open water. Probably uses smaller, temporary pools and ditches more than most other dragonflies.

BEHAVIOR: Adults commonly perch flat on the ground, especially on mud or other damp ground, such as pond shores, muddy spots in powerline clearings, and so forth. They also perch more often on concrete, wood, and other man-made structures than do most other dragonflies. They do perch on twigs and vegetation, but not as frequently as do most other skimmers. They forage well away from water, in fields, woodland borders, powerline clearings, as well as at pond margins, etc.; they often come into urban habitats such as gardens and yards.

COMMENTS: This may be the most conspicuous or obvious dragonfly in NC, especially to the layman; they are impossible to miss or overlook when present, as they perch on the ground where observers frequently walk. In fact, one quickly tires of them, despite their attractiveness. Though females could be confused with the scarce Twelve-spotted Skimmer, in general this a very easily identified dragonfly.

Sympetrum ambiguum Blue-faced Meadowhawk



NC counties: 75 or 75%
Number of records for 2020 = 7

High counts of:
50 - Wake - 2008-09-21
28 - Wake - 2014-10-09
21 - Wake - 2014-10-01

Earliest date: Wake 2013-05-25
Latest date: New Hanover 2015-11-27

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the Piedmont and the western 3/4th of the Coastal Plain. Apparently absent in far eastern counties (no records east of Gates, Beaufort, and Pamlico counties). Scattered in the mountains, but presumably rare to absent at middle and higher elevations.

ABUNDANCE: Uncommon to locally fairly common, but easily overlooked, in the Piedmont and Coastal Plain. Rare in the mountains, as well as in the eastern Coastal Plain.

FLIGHT: Downstate, occurs from very late May to late November, though mainly is present from late July to late October. In the mountains, the meager dates fall between late August and late October. One of the relatively few dragonflies whose peak numbers are in the fall season (e.g., September and early October).

HABITAT: Small, semi-shaded or shaded pools in floodplains, swamps, or marshes.

BEHAVIOR: Although they may perch on or near the ground, adults often perch on twigs or leaves fairly high off the ground, typically 5 feet or higher, and thus are not as readily seen as most other pennants/gliders/skimmers. They can easily be overlooked because of this perching behavior, and their feeding bouts also do not take them often to the margins of pools and ponds.

COMMENTS: Males are rather colorful, with their reddish abdomen (with black spots) and blue to green forehead. But, their habit of perching somewhat high, often in shade or partial shade in moist woods and borders, combined with a fairly small size (under 1.5 inches), makes them hard to become familiar with (despite records for 75% of the NC counties).

Sympetrum corruptum Variegated Meadowhawk

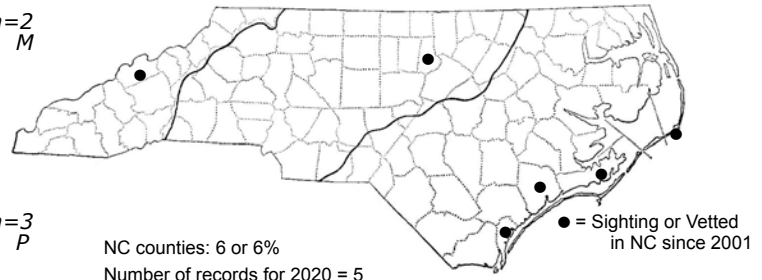
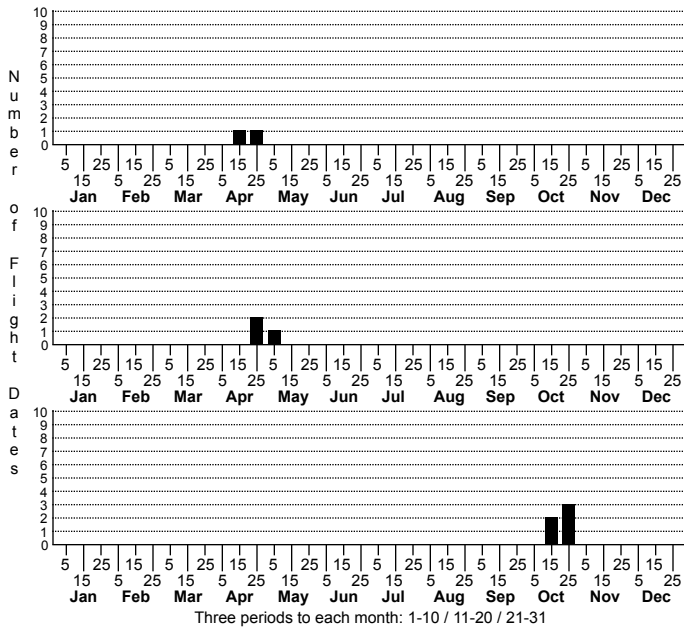


Photo (vetted) in 2020: Durham, Madison

High counts of:
2 - New Hanover - 2019-10-23
1 - Carteret - 2007-10-30
1 - Onslow - 2019-10-17

Earliest date: Madison 2020-04-11
Latest date: Carteret 2007-10-30

Status		Rank	
NC	US	NC	Global
-	-	SZN	G5

DISTRIBUTION: Resident in the western and central parts of the continent, but just a migrant or stray in the southern Atlantic Coast states. Perhaps resident east to western TN and the panhandle of FL. Casual to now very rare stray to NC, where all but two records known to us are from coastal counties, in 2007 and in 2019 (four records), in the fall season. The first spring records, from the mountains (Madison County) and the eastern Piedmont (Durham County), came in 2020. It makes as much sense, if not more sense, that these spring adults in 2020 were offspring of migrants that came into the state last fall; observers saw indications of breeding by adults at Carolina Beach State Park in fall 2019.

ABUNDANCE: Casual to now a very rare stray. GA has a few records, and NC, SC, and VA have at least one each.

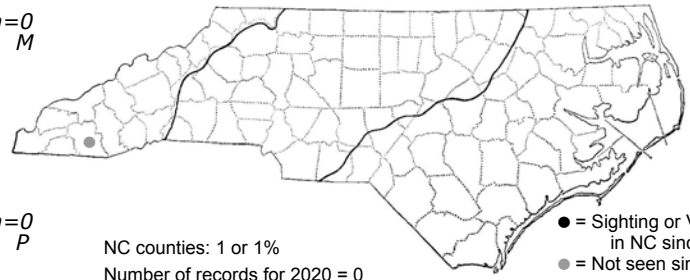
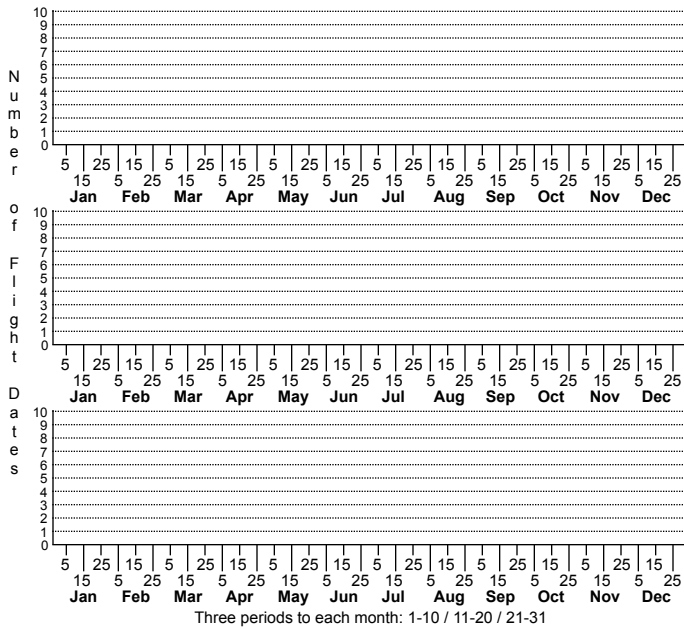
FLIGHT: As a "migrant" or stray, to be expected mainly just in the fall season. The only NC dates available are 11 April, 22 April, 24 April, 26 April, 7 May, 17 October (twice), 22 October, 23 October, and 30 October. Note that all five of the spring records are from inland (Madison and Durham counties), whereas all five of the fall dates are from the coast.

HABITAT: Breeds at ponds and slow portions of streams. A stray to the East Coast, such as this species, could be seen practically anywhere, especially in coastal habitats. The one found in 2007 in NC was in dune habitat along a barrier island. The 2019 records were all from sandy coastal habitats, such as a sandy lawn, in sand dunes, at limesink ponds in coastal sandhills, and at a coastal landing near tidal water. The 2020 spring records came from a dry wooded area, but close to the French Broad River; and from an upland powerline clearing.

BEHAVIOR: As the species is a migrant to NC from farther west, it could theoretically be seen anywhere in the state. The adults perch fairly low to the ground, and sometimes even on the ground.

COMMENTS: This species was reported for NC in the IORI website checklist prepared by Bick and Mauffray (1999-2004). However, Cuyler's unpublished data contained no records for the species for NC. Fortunately, Randy Newman photographed one at Fort Macon State Park in fall 2007 for the first definitive record, though we assume there must be an older record/report prior to 2004. On 17 October 2019, Jeff Phippen photographed one near the Cape Hatteras lighthouse (Dare County) and Hunter Phillips photographed another at Morris Landing (Onslow County). Brian Bockhahn also photographed one on 22 October 2019 at Fort Fisher State Recreation Area. In addition, several people -- Bockhahn, John Petranka, Mark Shields, and others at a workshop -- netted and photographed a female and observed a second (a patrolling male) at Carolina Beach State Park (New Hanover County) on 23 October 2019. In fact, the female (after being released) flew low into vegetation as if to be egg-laying. Her behavior, coupled with the male that was clearly patrolling, suggests a first possible breeding in the state. Most exciting was one photographed by Pete Dixon in the Hot Springs area of Madison County on 11 April 2020, our first record away from the coast and our first spring record. Another was photographed in the same general Hot Springs area on 22 April 2020. Following closely on those records was one photographed by Jeff Phippen in the eastern Piedmont, on 24 April 2020; John Petranka re-found this male two days later, and he also found a female nearby on 7 May 2020. Thus, the species is apparently no longer a complete surprise in NC in the spring season, as a stray or very rare northbound or northwestbound migrant.

Sympetrum internum Cherry-faced Meadowhawk



● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

High counts of:

Earliest date: ?
 Latest date: ?

Status		Rank	
NC	US	NC	Global
W	-	SU	G5

DISTRIBUTION: This is a Northern and Midwestern species, ranging generally south to VA and KY. There is a report/record from Macon County listed in OdonataCentral. No data, other than coordinates, are provided. The range map as shown in Paulson (2011) does extend down into NC to include this area.

ABUNDANCE: Presumed very rare, if it truly occurs in NC.

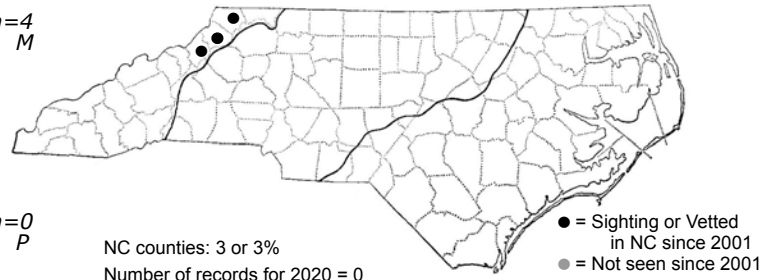
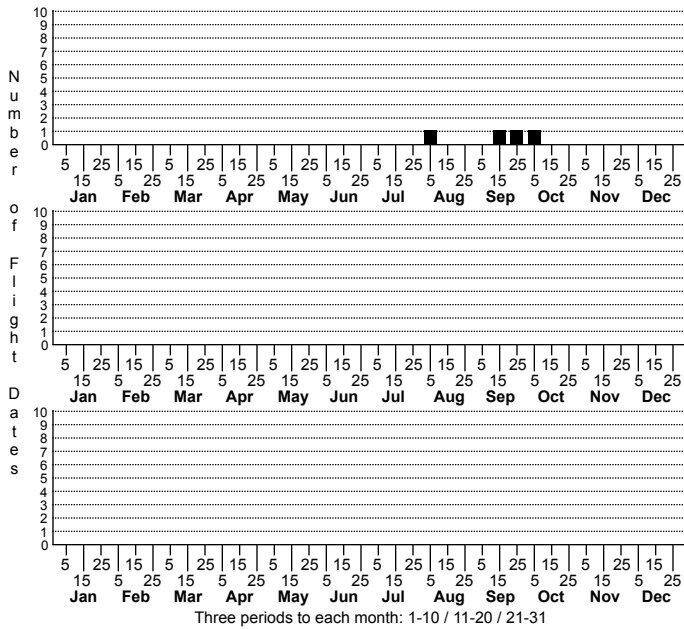
FLIGHT: Probably June into September or October.

HABITAT: Marshy edges of lakes, ponds, and other open wet areas.

BEHAVIOR: Probably like other meadowhawks.

COMMENTS: It is very unfortunate that the report in OdonataCentral has no observer/photographer/collector name, no date, and no other information, to let readers know if the report is legitimate. However, the website does say that the record has been "vetted", thus approved by an expert. Nonetheless, all previous checklists for NC did not include this species; thus, it might be assumed that the report is recent (2005 or later). The N.C. Natural Heritage Program has added the species to its Watch List in 2012. If the data become available, as this species is not considered to be a migrant, it might be moved over to the Rare List. **NOTE:** White-faced, Cherry-faced, and Ruby meadowhawks are very difficult to identify reliably from a single typical aspect photo. Whenever possible, clear closeup photographs of the male hamules or female subgenital plate should be provided.

Sympetrum obtrusum White-faced Meadowhawk



High counts of:
 2 - Watauga - 2011-08-08
 1 - Ashe - 2005-09-18
 1 - Ashe - 2005-10-02

Earliest date: Watauga 2011-08-08
 Latest date: Ashe 2005-10-02

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: One of many far Northern meadowhawks, this species' southern end of the range barely reaches NC, where limited to the extreme northern mountains. Records only for Ashe, Watauga, and Avery counties.

ABUNDANCE: Presumed very rare to rare in the very limited portion of the range, though it has been found in recent years in each of the three counties within the known range.

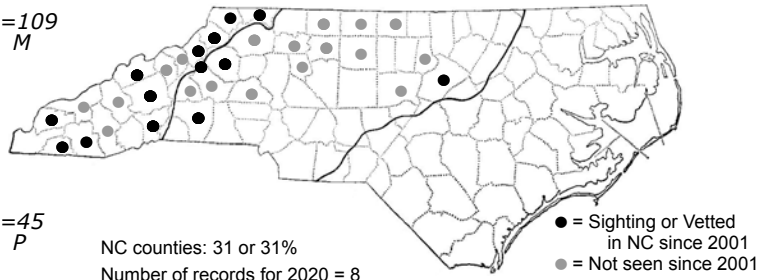
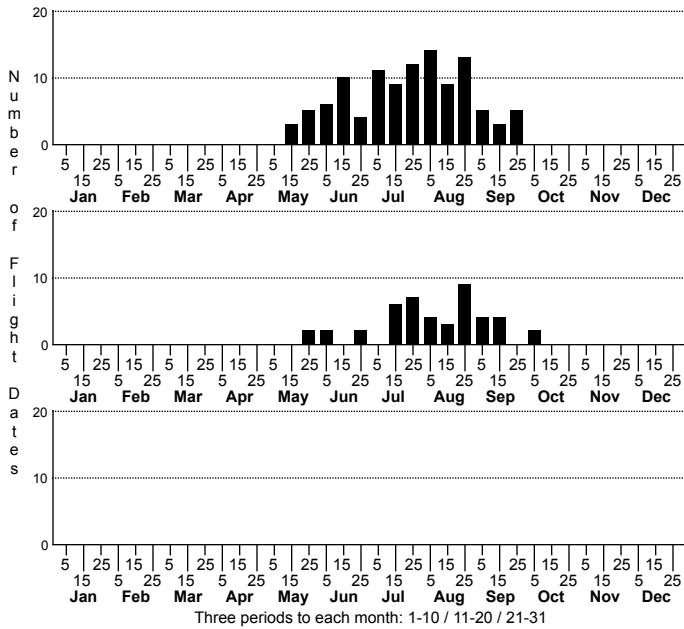
FLIGHT: Mid-summer to fall only, with the NC records from 8 August to 2 October.

HABITAT: Still or slow-moving water of lakes, ponds, slow sections of streams, marshes, and bogs.

BEHAVIOR: Adults forage in nearby fields or clearings near water, perching on the tips of grasses and forbs.

COMMENTS: Males have intense red abdomens and a white face, rendering them very striking. However, Ruby Meadowhawk males are also bright red, though their face is not white. Ted Wilcox has provided several excellent photos from Ashe County, which provided a new county record; Curtis Smalling photographed one in 2011 from Watauga County; and Ed Corey added an Avery County record in 2008. Duncan Cuyler's database has a record just for Watauga County. NOTE: White-faced, Cherry-faced, and Ruby meadowhawks are very difficult to identify reliably from a single typical aspect photo. Whenever possible, clear closeup photographs of the male hamules or female subgenital plate should be provided.

Sympetrum rubicundulum Ruby Meadowhawk



High counts of:
50 - Madison - 2019-05-19
33 - Buncombe - 2012-06-08
30 - Avery - 2009-07-23

Earliest date: Buncombe 2012-05-11
Latest date: Wake 2006-10-05

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the mountains and foothills of the Piedmont, and also present in the northern half of the Piedmont; records south to Wake, Chatham, Davie, and Rutherford counties. Apparently absent from the southeastern portion of the Piedmont and all of the Coastal Plain.

ABUNDANCE: Fairly common, to locally common, in the mountains; uncommon in the foothills, but rare in the northern Piedmont east to Caswell and Guilford counties, and apparently very rare east to Wake County. Surprisingly there seems to be only one recent record for the Piedmont east of the foothills, suggesting a population decline there.

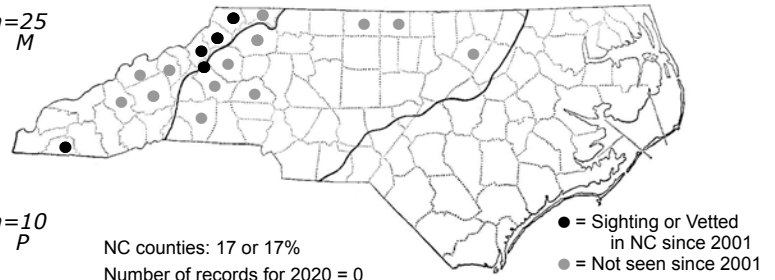
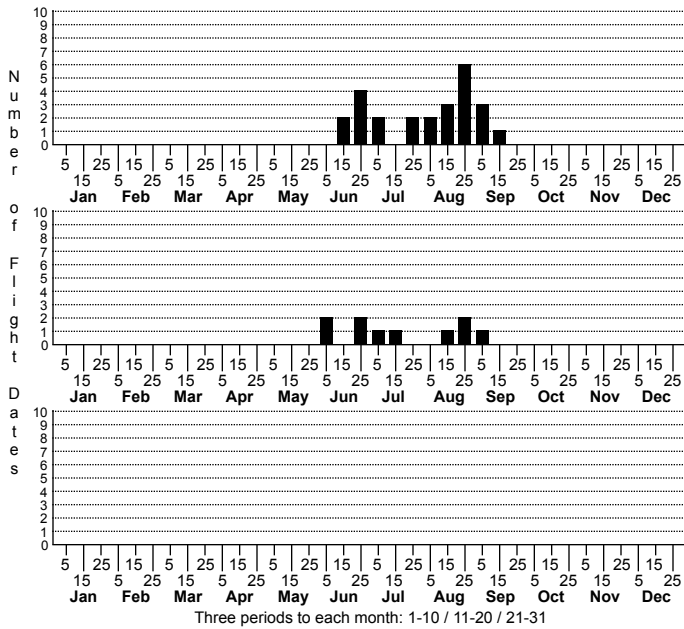
FLIGHT: Unlike most other meadowhawks, this species flies mainly in summer. The mountain flight occurs from mid-May to late September. The Piedmont flight is similar -- late May to early October.

HABITAT: Mainly breeds at temporary pools and ponds, marshes, and other small bodies of water.

BEHAVIOR: Adults forage away from these small pools, perching on twigs and other vegetation, often fairly low.

COMMENTS: Considering the bright red color of the males, its habit of perching in somewhat conspicuous places, and its flight in the middle of the season when many people are out looking for odonates, the species is only infrequently reported away from the mountains, thus "corroborating" that it is definitely not a numerous dragonfly in most of the Piedmont. In fact, the great increase in the number of odonate watchers in the Piedmont strongly indicates that the species has declined east of the mountains, as Cuyler's many collections from the Piedmont have not been backed up by recent photos and observations. In this latter region, it is clearly outnumbered by Autumn and Blue-faced meadowhawks. Fortunately, it can be quite numerous in the mountains, and there are a few daily counts there of at least 30 individuals. NOTE: White-faced, Cherry-faced, and Ruby meadowhawks are very difficult to identify reliably from a single typical aspect photo. Whenever possible, clear closeup photographs of the male hamules or female subgenital plate should be provided.

Sympetrum semicinctorum Band-winged Meadowhawk



High counts of:
8 - Ashe - 2007-08-09
6 - Watauga - 2017-09-04
4 - Watauga - 2009-09-14

Earliest date: Franklin 1974-06-06
Latest date: Watauga 2009-09-14

Status		Rank	
NC	US	NC	Global
-	-	S3	G5

DISTRIBUTION: This is another Northern meadowhawk, but its range extends southward in the mountains to northern GA. In NC, it is found mainly in the mountains and foothills of the Piedmont, but there are a few (older) records in the northern Piedmont away from the mountains (Rockingham, Caswell, and Franklin counties).

ABUNDANCE: Uncommon in the northern mountains, but rare in the central and southern mountain counties; rare in the Piedmont foothills. Very rare east of the foothill ranges in the northern Piedmont. We have no recent reports from east of the mountains/foothills, which clearly indicates that the species has declined in recent decades in the Piedmont, as any bright red dragonfly is bound to attract attention!

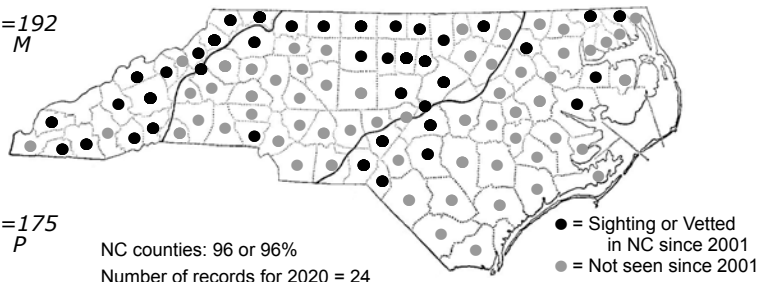
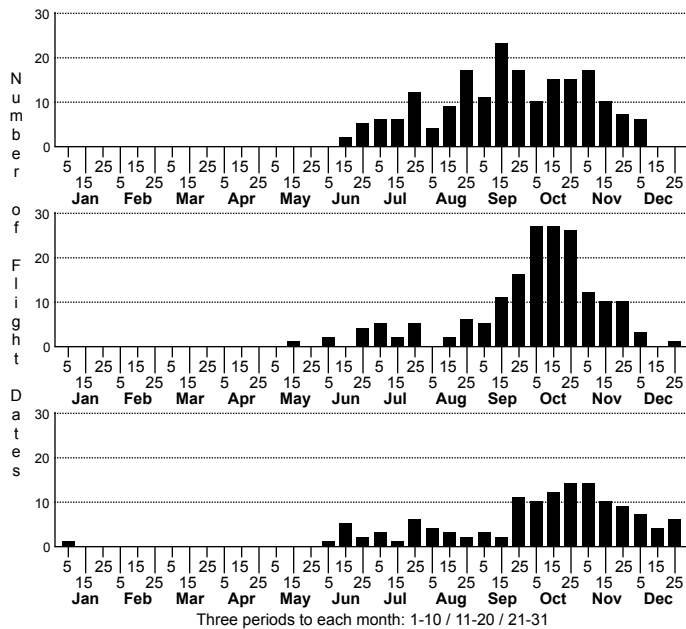
FLIGHT: Mid-June to mid-September in the mountains; early June to early September in the Piedmont.

HABITAT: Unusual for most dragonflies, it favors marshes, bogs, and wet meadows for breeding -- as opposed to open ponds, lakes, rivers, or wide streams.

BEHAVIOR: Adults forage from tips of grasses and sedges in or very close to marshes and bogs.

COMMENTS: Because this species seems to be tied to a fairly limited and specific habitat -- marshes, wet meadows, and bogs -- it can be specifically searched for. As the basal half of each wing is amber in color, coupled with the dull reddish abdomen, the male is quite unmistakable. It is more widespread in the mountains than is the White-faced Meadowhawk, which also can occur in cool/cold bogs, marshes, and other open wetlands.

Sympetrum vicinum Autumn Meadowhawk



NC counties: 96 or 96%
Number of records for 2020 = 24

High counts of:
30 - Watauga - 2015-09-18
30 - Alleghany - 2017-09-27
25 - Alleghany - 2017-09-27

Earliest date: Caldwell 1999-05-17
Latest date: Harnett; C 2020-01-01

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Other Name: Yellow-legged Meadowhawk

DISTRIBUTION: Statewide, with records for all but four counties. Probably scarce on the Outer Banks and the eastern "Pamlico" Peninsula -- no records yet for Hyde and Dare counties.

ABUNDANCE: Fairly common and widespread in the mountains and Piedmont; uncommon to (at least formerly) fairly common in the Coastal Plain, but oddly there are few recent records for most of the Coastal Plain. Most numerous in the mountains, where our three largest daily counts have been made. Clearly the most numerous of the meadowhawks in NC. Even so, it does not occur in large numbers, though we now have several daily counts of 25 or more.

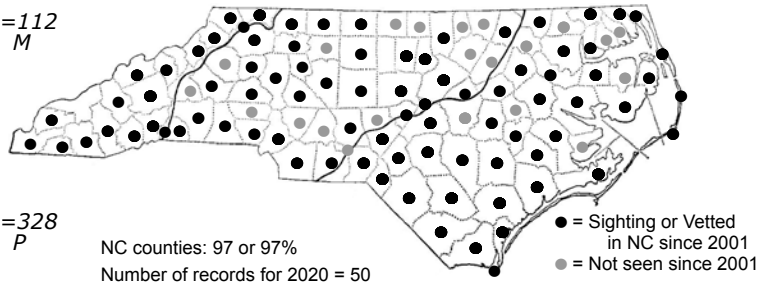
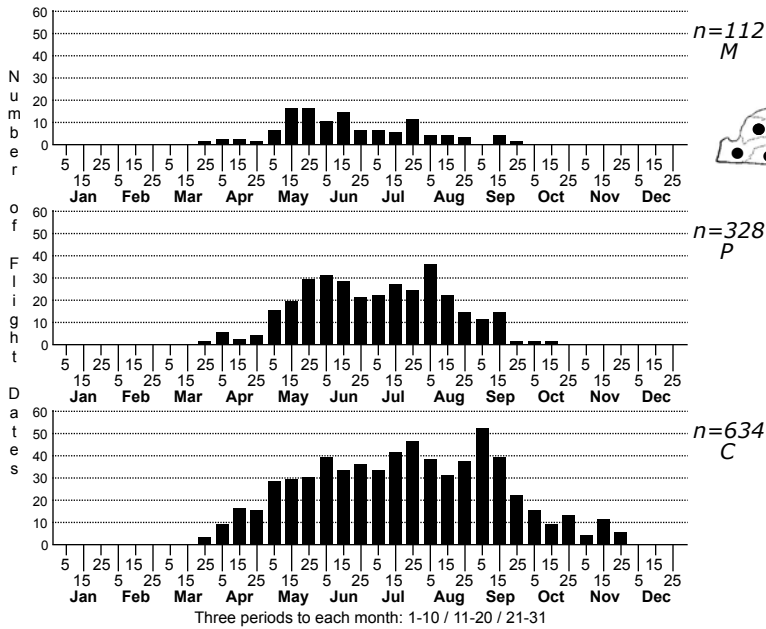
FLIGHT: Flies from early or mid-June into December, and there are even records for 25-26 December and in early January! The mountain flight starts somewhat later, in mid- to late June. It is the most frequently seen dragonfly species in November and December, and the bulk of its flight takes place in fall -- September into November.

HABITAT: Still waters of ponds, marshes, and slow creeks, typically in wooded or semi-shaded places.

BEHAVIOR: Adults are frequently seen in fields, powerline clearings, and woodland borders in the fall, often perching on the tips of grasses or forbs or twigs. However, it is a fairly small species and can easily be overlooked.

COMMENTS: This species was formerly called the Yellow-legged Meadowhawk, until the common name was changed several years ago. Both common names -- Yellow-legged and Autumn -- are suitable, though other meadowhawks fly in the autumn. Of all of the numerous dragonflies in NC, this is probably the one that observers don't see their first individual until September or even October. Females and immatures are a dull amber/yellow, matching the color of dead grasses, rendering them hard to spot, particularly as they average only 1.0 - 1.4 inches in length.

Tramea carolina Carolina Saddlebags



NC counties: 97 or 97%
Number of records for 2020 = 50

High counts of:
100 - New Hanover - 2018-06-01
75 - Onslow - 2016-06-12
50 - Scotland - 2008-04-19

Earliest date: Pender 2008-03-26
Latest date: Onslow 2015-11-29

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, with only three counties (two in the mountains) lacking records. Obviously occurs in all 100 counties.

ABUNDANCE: Common and widespread in the Coastal Plain and Piedmont, and can be very common at times in the Coastal Plain, especially close to the coast. Fairly common in the mountains.

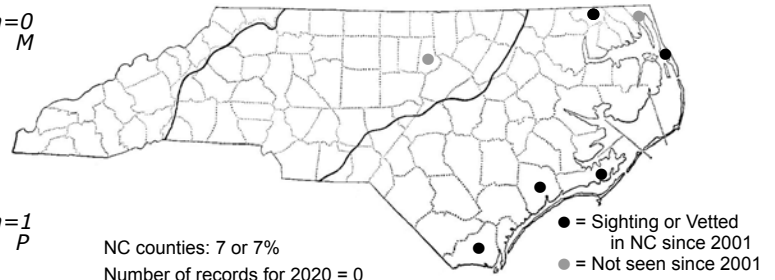
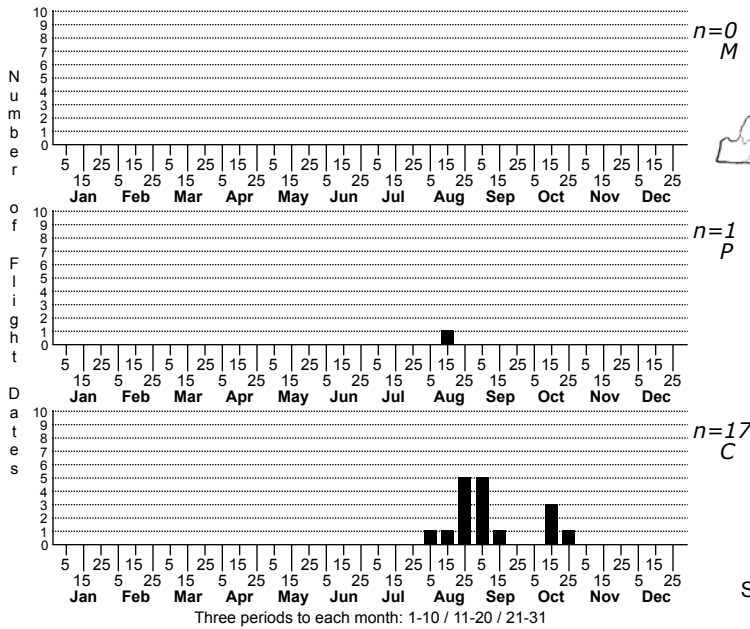
FLIGHT: In the Coastal Plain, it flies almost throughout the odonate flight season -- very late March to late November; however, not numerous in the spring. In the Piedmont, it also begins in late March, but the latest date is just mid-October. In the mountains, it has also been seen as early as late March, but the last date is in late September.

HABITAT: Breeds at ponds, lakes, marshes, and other open, still waters.

BEHAVIOR: Males are often seen flying over ponds and lake margins, usually higher above water than other species, and perching on twigs farther from shore than most species. Adults are most frequently seen in gliding flight well above head height, typically 8-15 feet off the ground, usually over open country. They seemingly can stay airborne for an hour or longer, and observers often get impatient waiting for such an individual to come to a perch.

COMMENTS: This and the Black Saddlebags are frequently seen gliding over one's head when an observer is walking near the beach, or in a field, or in an open garden, or near a large pond. The two can be difficult to distinguish until they appear in front of a dark background and the observer can see the abdomen color (or the large pale abdomen spot of the Black Saddlebags). This species is partially migratory, as large numbers can at times be seen along the coast in fall.

Tamea darwini Striped Saddlebags



High counts of:
3 - Gates - 2014-09-10
2 - Brunswick - 2006-10-29
2 - Currituck - 1969-08-09

Earliest date: Currituck 1969-08-09
Latest date: Brunswick 2006-10-29

Status		Rank	
NC	US	NC	Global
-	-	SZN	G5

Synonym: *Tamea calverti*

DISTRIBUTION: Breeds north only to the southern half of TX. However, it strays somewhat regularly to the East Coast of the United States. There are now records for seven NC counties -- Durham, Gates, Currituck, Dare, Carteret, Onslow, and Brunswick.

ABUNDANCE: Formerly a very rare stray to the coast and lower Coastal Plain of NC, but increasing in records in the past few years (due to more observers?); now a rare coastal stray/visitor. Accidental inland (Durham County).

FLIGHT: Only in late summer and fall. The NC records occur between 9 August and 29 October. Many of the flight dates are from Merchants Millpond State Park in Gates County in 2014.

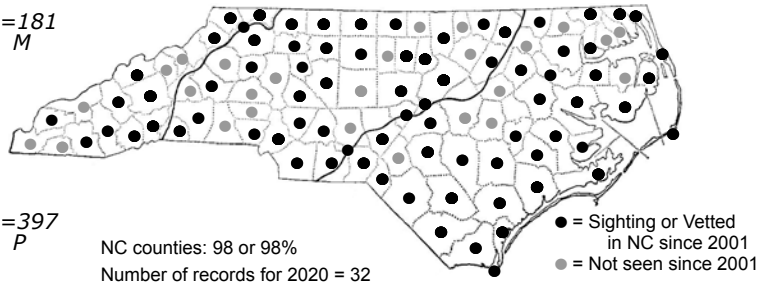
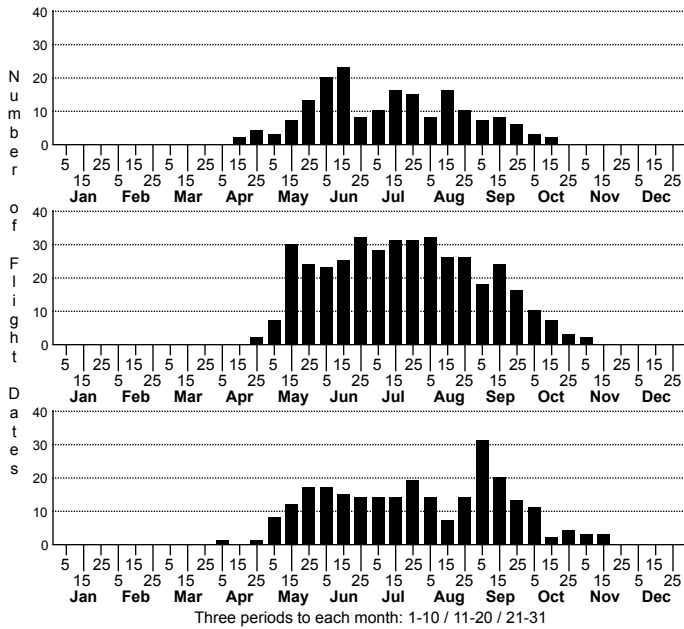
HABITAT: In NC, the species can occur anywhere, primarily near the coast, as it is a stray.

BEHAVIOR: As with other saddlebags, adults spend most of the time in flight, perching infrequently. They often hover or glide, with seemingly little effort. Owing to the dark patch on the wings near the body, and its habit of flying at eye level or above, it could easily be overlooked as another saddlebags species or a Spot-winged Glider.

COMMENTS: This is a rare migrant/stray. Harry LeGrand, Jeff Pippen, and Ricky Davis saw one on 29 October 2006 at a golf course just north of Calabash (Brunswick County). Fortunately, it perched briefly, and Pippen and Davis got recognizable photos to document the record. Floyd and Signa Williams saw and netted two individuals (at least) over a two-day period in late August 2014 at Merchants Millpond State Park, obtaining several photos for confirmation. However, the observations did not stop there; they noted up to three at that site well into October! Conrad and Alyssa Wernett netted and photographed one, an adult male, at a man-made pond in Onslow County in 2018. John Petranka and Sally Gewalt photographed another adult male in nearby Carteret County, also in 2018. Brian Bockhahn photographed another in 2018, at Jockeys Ridge State Park on the Outer Banks of Dare County. Duncan Cuyler is responsible for the other records, collecting one in Durham County and two in Currituck County.

NOTE: The scientific name was changed in early 2021 from *Tamea calverti* to *Tamea darwini*.

Tramea lacerata Black Saddlebags



NC counties: 98 or 98%
Number of records for 2020 = 32

High counts of:
45 - Durham - 2009-10-04
45 - Wake - 2014-07-19
25 - Wake - 2014-07-26

Earliest date: Onslow 2012-04-04
Latest date: Camden 2010-11-20

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, with only two widely scattered counties lacking records. Certainly present in all 100 counties.

ABUNDANCE: Common across the state, with abundance seemingly quite similar in each province. Statewide abundance is slightly less than that of the Carolina Saddlebags, but there are many more records of the Black Saddlebags for the mountains than there are for the Carolina Saddlebags. (The Carolina outnumbers the Black in the Coastal Plain.)

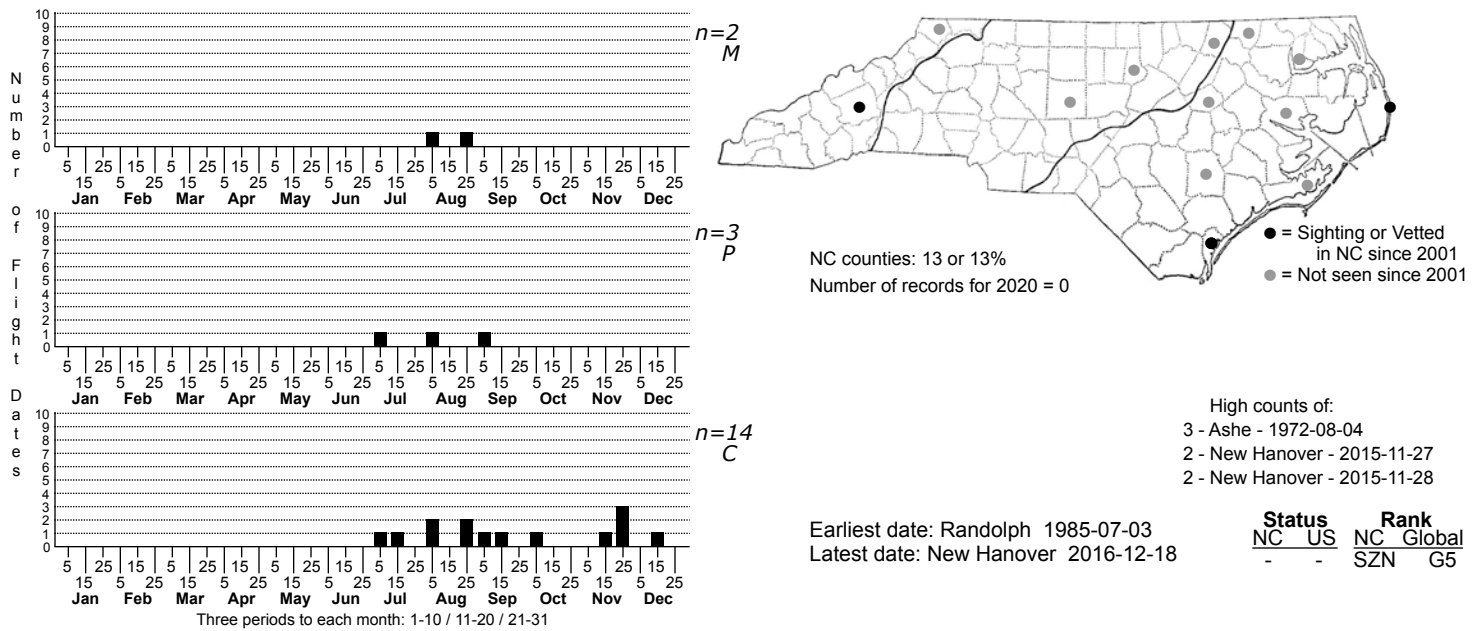
FLIGHT: In the Coastal Plain, it ranges from early April (scarce before mid-May) to mid-November. The Piedmont flight is from late April to early November; the mountain flight is from mid-April to mid-October, but it is scarce in the spring.

HABITAT: Ponds, lakes, marshes, and other still water in open places.

BEHAVIOR: Essentially the same as for Carolina Saddlebags. Usually seen in flight -- gliding or slowly flapping -- about 8-15 feet above ground, seldom coming to a perch.

COMMENTS: If one were not aware that Black Saddlebags and Carolina Saddlebags were different species, an observer might think that Blacks are females of Carolinas, as the two species tend to be the same size, often fly together, and are similar in abundance. Exactly what micro-habitat, food items, etc., differentiate these two is not obvious. As with the Carolina, some individuals along the coast are probably migrants, but it is not nearly as numerous a fall migrant along the coast as is the Carolina.

Tramea onusta Red Saddlebags



DISTRIBUTION: This is a species primarily of the western and central parts of the United States, and is a migrant or stray to most Atlantic Coast states. The status in NC is very confusing. A few references indicate that NC lack records; Paulson (2011) states that there are "no North Carolina records". The OdonataCentral database gives only three NC records -- a photograph from Dare County in 2003 from Pea Island NWR, two photos from New Hanover County in 2015, and another from the latter county in 2016. (These records from 2003, 2015, and 2016 are also documented by photos on this website -- see below). Several other unconfirmed reports have appeared in the literature. The University of Florida database, containing thousands of specimens from Duncan Cuyler, actually gives a stunning ten county records for Red Saddlebags! Are all of these specimens correctly identified (i.e., are not the very similar Carolina Saddlebags)?

ABUNDANCE: Presumed very rare migrant, and perhaps mainly near the coast, as the only records confirmed by photos are from coastal counties. However, as it looks very similar to Carolina Saddlebags, most people would easily overlook the species.

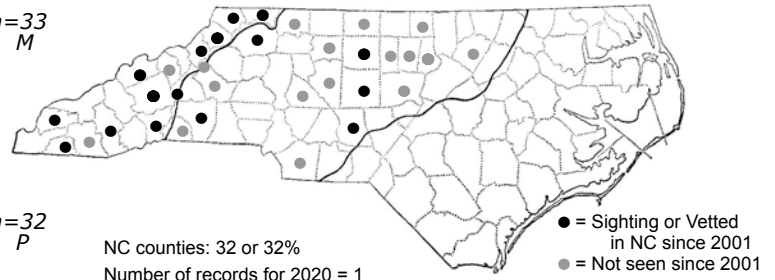
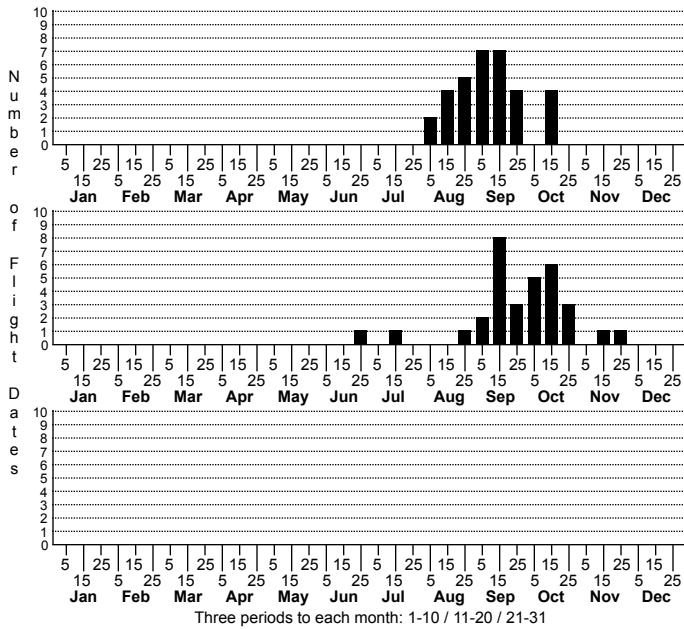
FLIGHT: Presumably only in summer and fall. The photo records are for 22 August; 19, 25, 27, and 28 November; and 18 December. The collection records, if correct, fall between 3 July and 2 October.

HABITAT: The NC photo records are presumably from the vicinity of coastal ponds -- Pea Island refuge (perhaps around an impoundment) and Carolina Beach State Park (limesink ponds). Paulson (2011) indicates that lakes and ponds are primary habitats, as well as canals and other slow-moving waters.

BEHAVIOR: Probably similar to other saddlebags, which typically fly above or at head height over mainly open areas -- ponds, fields, etc. They perch somewhat infrequently, and when they do perch, not surprisingly it is often over a person's eye level.

COMMENTS: No species in the state has more confusing data and status than the Red Saddlebags. Is it a not-so-rare migrant/stray, easily overlooked amid the common Carolina Saddlebags, or is it casual to very rare as a stray? This is a difficult species to separate from the common Carolina Saddlebags through binoculars or the naked eye. However, the Red Saddlebags has a somewhat smaller hind wing patch, a somewhat duller red abdomen (despite the common name) with smaller areas of black on the terminal segments, and several other characters. Unraveling this mystery might take a few years, if ever! Thankfully, Mark Shields observed and photographed two individuals on both 27 and 28 November 2015 at Carolina Beach State Park, to further confirm its presence in the state. He also photographed two individuals at that park in November 2016, and another there in December 2016, suggesting that the species may be a regular fall visitor to southeastern NC and not just a casual stray far out of its normal range.

Archilestes grandis Great Spreadwing



High counts of:
12 - Madison - 2016-10-14
4 - Forsyth - 1977-09-18
3 - Watauga - 2017-09-22

Earliest date: Montgomery 2011-06-23
Latest date: Durham 1979-11-24

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Apparently throughout the mountains and Piedmont; and seemingly absent from the Coastal Plain. The range appears to stop at the Fall Line.

ABUNDANCE: Uncommon in the mountains; generally rare in the western and central Piedmont (with few recent records), and very rare along the eastern edge of the range (Fall Line vicinity).

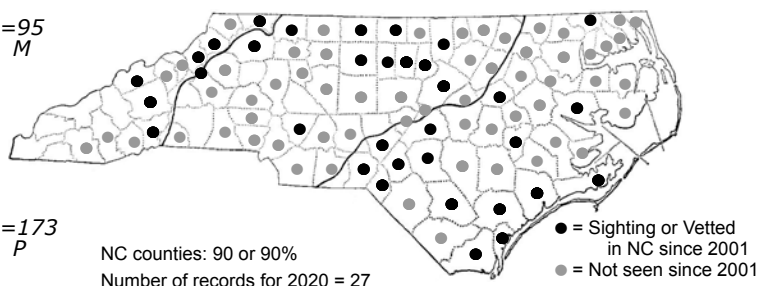
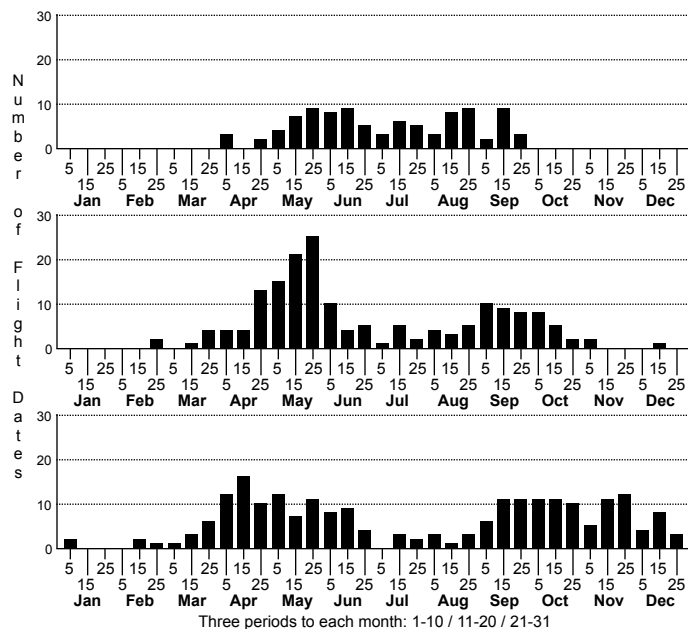
FLIGHT: A late-flying damselfly during the year. In the mountains, generally from early August to mid-October, and in the Piedmont mainly from late June to late November, but most records are not until late August. A Piedmont report from mid-May is perhaps in error. Our highest counts are in September and October.

HABITAT: Along slow streams, but sometimes in rather degraded places.

BEHAVIOR: It can often be seen well away from streams, such as around ponds or in fields/forest edges.

COMMENTS: This is a very large damselfly, larger than other spreadwings. The range seems a bit spotty in the mountains and Piedmont, though the species is assumed to occur throughout these regions, and there are a number of recent records. Only in the past few years have records been made for the central and eastern Piedmont counties; however, the well-worked Triangle area (Orange, Durham, and Wake counties) has not had records in several decades and thus it seems to have declined in much or most of the Piedmont.

Lestes australis Southern Spreadwing



NC counties: 90 or 90%
Number of records for 2020 = 27

High counts of:
31 - New Hanover - 2016-12-18
25 - Buncombe - 2012-05-16
23 - New Hanover - 2016-11-19

Earliest date: Onslow 2017-01-03
Latest date: Onslow 2019-12-26

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Other Name: Common Spreadwing, Northern Spreadwing

DISTRIBUTION: Essentially statewide, even to the coast (where many odonates are rare or absent). No records yet from several counties at the southwestern tip of the state, but probably present in all 100 counties.

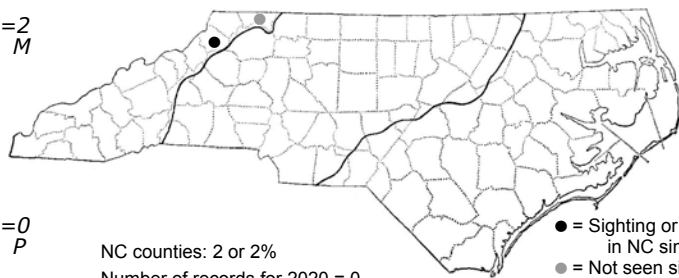
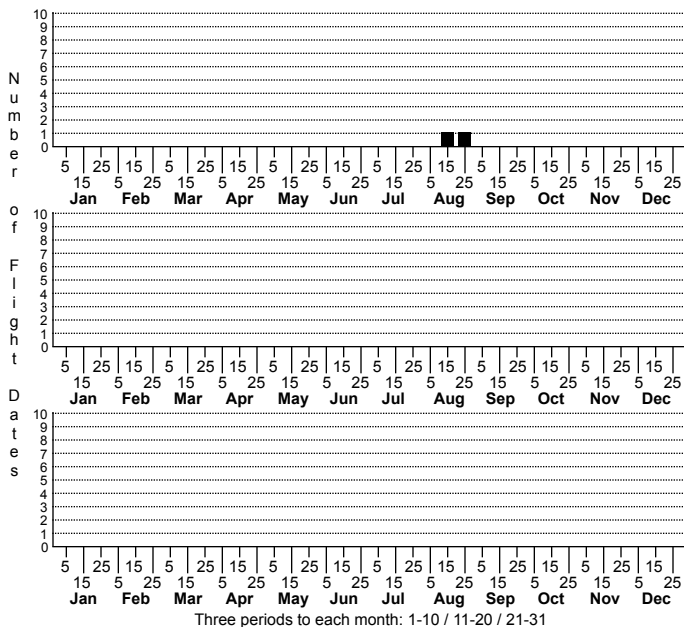
ABUNDANCE: Fairly common statewide, except for obviously very rare to rare in the southwestern mountains. Does not occur in swarms or in otherwise large numbers, as the peak one-day count is 31 individuals. Can be locally common in some places in the southeastern Coastal Plain.

FLIGHT: A remarkably wide flight period, even into early winter. In the Coastal Plain and Piedmont, flies from as early as mid-February to mid-December (rarely near the coast into January). In the mountains, the flight occurs between early April and late September. Interestingly, the flight charts for all three provinces show a dip in records in the heat of summer. The species is not reported to be migratory, but is there some aestivation of individuals in summer, or is this pattern simply a result of different broods?

HABITAT: Generally around ponds or small lakes, with much vegetation around their margins, including marshes.

COMMENTS: Until recently, this was considered as a subspecies of the Common Spreadwing; however, that species was split into two species -- Southern Spreadwing and Northern Spreadwing (not in North Carolina). Mark Shields has provided a number of early winter records for the species at a few coastal ponds.

Lestes congener Spotted Spreadwing



High counts of:
 2 - Watauga - 2007-08-18
 2 - Alleghany - 1987-08-25

Earliest date: Watauga 2007-08-18
 Latest date: Alleghany 1987-08-25

Status		Rank	
NC	US	NC	Global
SR	-	S1	G5

DISTRIBUTION: Currently the northwestern mountains only. NC is near the southeastern edge of the range of this widespread species.

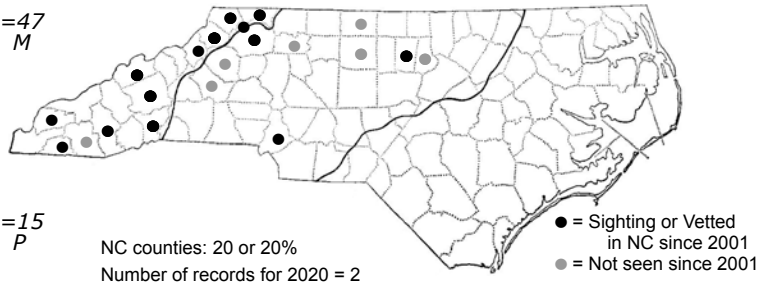
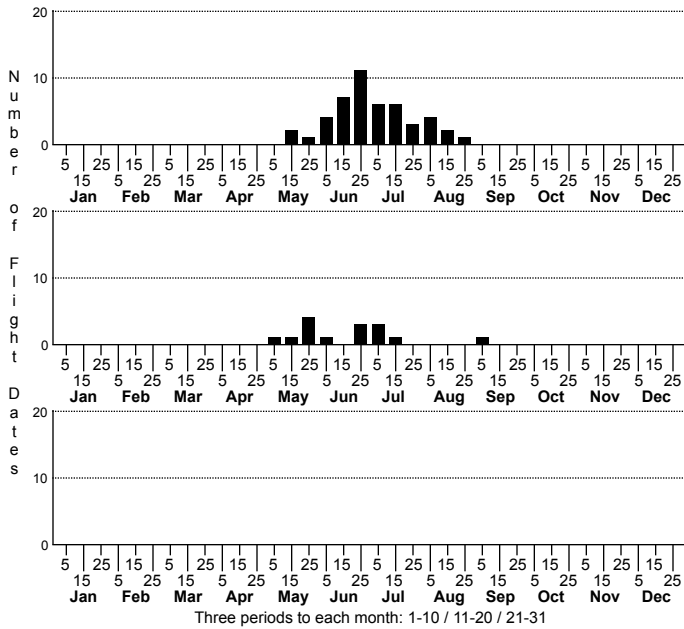
ABUNDANCE: Males can be abundant in good habitat within at least part of the range. It is possible that the species is not actually rare in the northwestern corner of the state, just poorly surveyed for. However, as we are aware of just two records, it must be considered to be very rare in the state, south only to Watauga County.

FLIGHT: Paulson (2011) lists flight dates from May to October over the range. Ted Wilcox reported two individuals on 18 August from Watauga County, and there is a collection record of two individuals on 25 August from Alleghany County.

HABITAT: Lakes and ponds, with some emergent vegetation around the margins. Roosts in woody vegetation, to a height of 10 feet.

COMMENTS: The species is obviously poorly known in the state. Additional surveys should be conducted in Ashe and Avery counties, particularly around alder thickets.

Lestes eurinus Amber-winged Spreadwing



High counts of:
30 - Jackson - 2018-06-25
12 - Alleghany - 1988-08-01
12 - Wilkes; M - 2015-06-16

Status	Rank		
NC	US	NC	Global
W	-	S3	G5

Earliest date: Guilford 1966-05-01
Latest date: Guilford 1987-09-09

DISTRIBUTION: Scattered throughout the mountains and the northern Piedmont. The only record for the southern half of the Piedmont is for Mecklenburg County. This is a northern species nearing the southeastern extent of its range in the state; there are records from South Carolina and western Georgia.

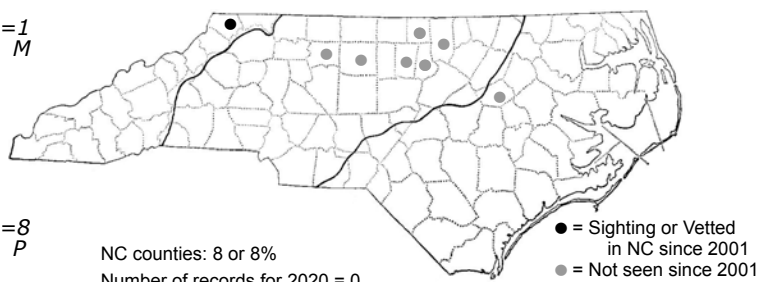
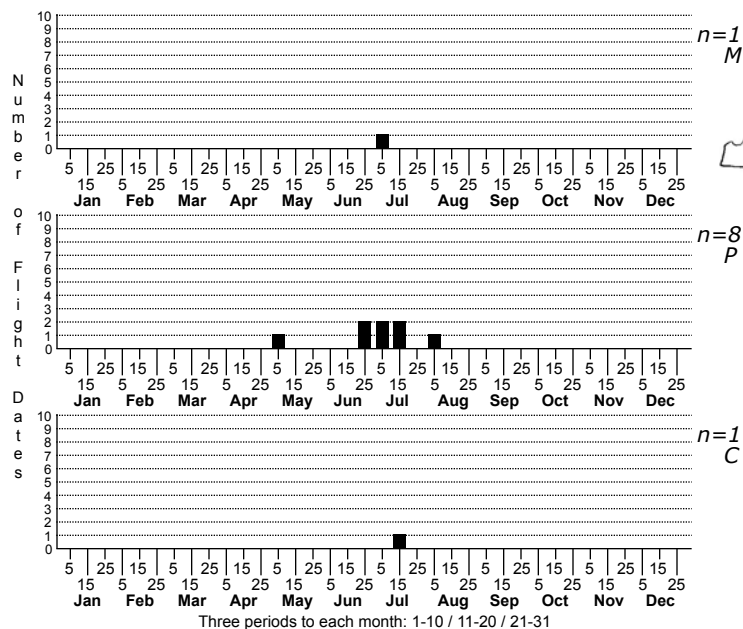
ABUNDANCE: Uncommon and local in the mountains, but can be numerous at a few ponds; seemingly quite rare in some areas of the mountains. Rare in the Piedmont portion of the range. There are only a few daily counts of more than 8 individuals, and the "outlandish" total of 783 in Guilford County refers just to larvae, though "numerous" adults were observed. Thus, the highest known daily count of adults is 30 individuals, at a pond in Jackson County.

FLIGHT: In the mountains, from mid-May to late August. The relatively few Piedmont records fall between early May and early September.

HABITAT: Mainly in ponds and lakes, even small wetlands, but with some emergent vegetation along the shores.

COMMENTS: Considering the potential to occur in most Piedmont counties, we have only a few recent records from the province, possibly suggesting a decline in this region. Thankfully, there have been a moderate number of recent records, many documented with photos, for the mountains. The N.C. Natural Heritage Program put the species on its Watch List in late 2012.

Lestes forcipatus Sweetflag Spreadwing



High counts of:
3 - Person - 1980-07-15
2 - Person - 1979-07-16
2 - Guilford - 1990-05-04

Earliest date: Guilford 1990-05-04
Latest date: Durham 1975-08-02

Status		Rank	
NC	US	NC	Global
SR	-	S1S2	G5

DISTRIBUTION: This is a northern species whose range extends south only to NC, TN, and northern GA. In the state, it is limited to the northern third of the state, thus far recorded only in the northern mountains and northern Piedmont, with an odd disjunct record for Wilson County.

ABUNDANCE: Rare or overlooked. Very rare or rare in the Piedmont and extreme northern mountains, and presumed extremely rare in the northwestern Coastal Plain. However, the species is quite similar to other spreadwings, and thus is presumably overlooked, as well. Sadly, there have been no photographs of the species known for the state, and the last observation came in 2004 -- clearly indicating a decline in the state.

FLIGHT: Probably June into September; this is the spread of dates for GA. The Piedmont flight in NC is from early May to early August. The single record (a sight report) for the mountains is for early July, whereas the single one for the Coastal Plain is for mid-July.

HABITAT: Ponds and lakes with emergent vegetation, even in small pools.

COMMENTS: Though there are seven old county records for the Piedmont and Coastal Plain, we have no recent records for these provinces, despite a moderate number of biologists. Maybe the similarity to other spreadwings is the main reason for this lack of recent records.

For a number of years, the NC Natural Heritage Program has kept the species on its Watch List instead of moving it to the Rare List, but in 2020 that program has moved the species to its Significantly Rare list. It is always disappointing to have to make this move, but with essentially no recent reports, there seemed to be no choice.

Lestes inaequalis Elegant Spreadingwing

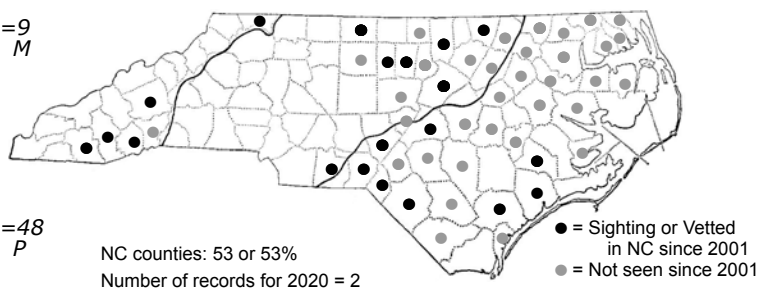
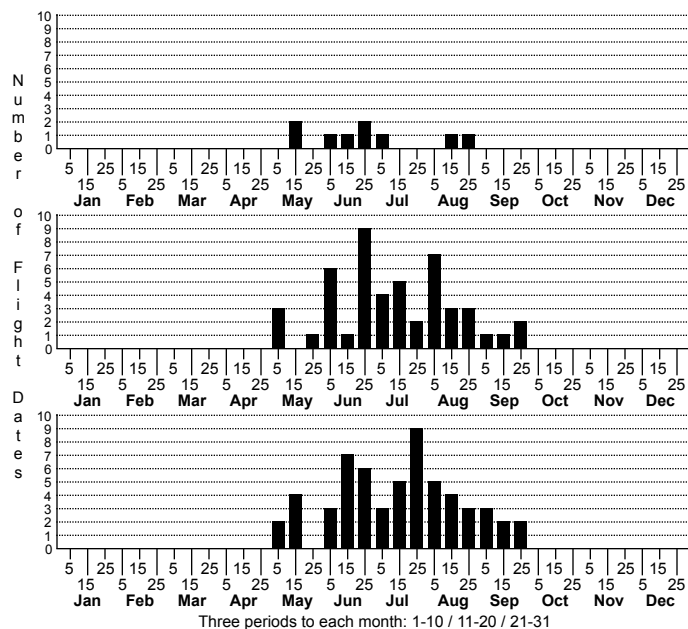


Photo (vetted) in 2020: Jackson

High counts of:
6 - Tyrrell - 1989-07-25
6 - Lenoir - 1995-05-03
5 - Orange - 2001-09-01

Earliest date: Wake 2010-05-01
Latest date: Durham 1998-09-28

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the Coastal Plain -- except perhaps absent along parts of the immediate coast -- westward to the central Piedmont; thus, the eastern half of the state, plus scattered in the mountains (six county records). Interestingly, Paulson's (2011) range map shows the entire state within the range, as the species is present throughout the eastern half of the country. With the recent mountain records, it must be assumed to occur in the intervening western half of the Piedmont, as well. A recent (2018) sight record, of five individuals, from Alleghany County is the only record for the northwestern quarter of the state.

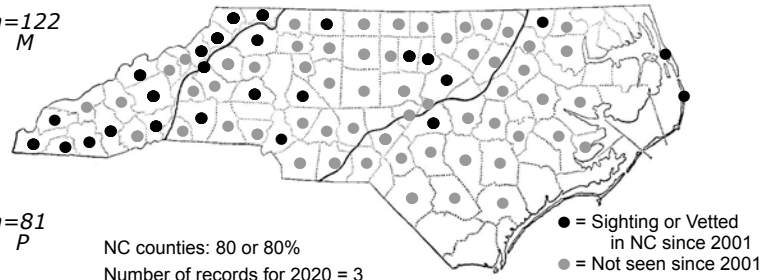
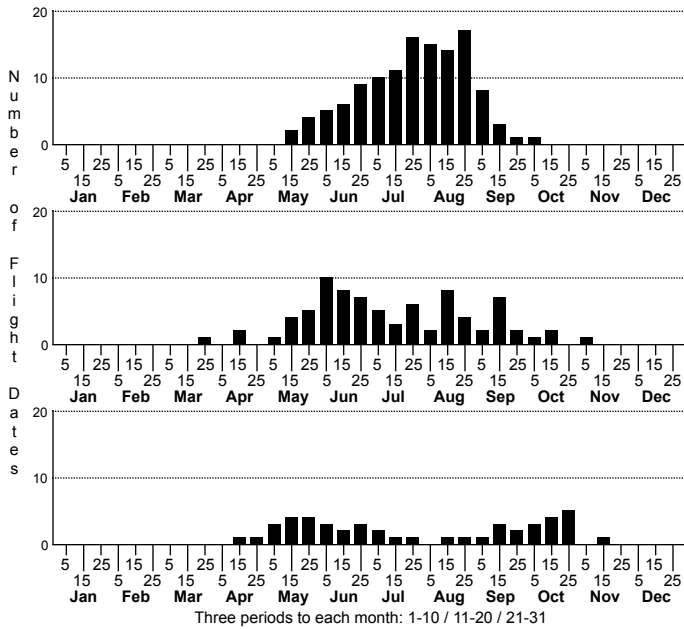
ABUNDANCE: Despite records for most of the counties within the eastern part of the range, we have barely 25 recent records. Thus, it seems to be uncommon over the eastern Piedmont and most of the Coastal Plain, and likely is rare in many areas close to the coast (where there are no records for most counties that border the coast). Rare in the southern mountains, but absent to very rare over the northern mountains and the western Piedmont.

FLIGHT: The flight period in both the Coastal Plain and the Piedmont is from early May to late September. The relatively few mountain records fall between mid-May and late August.

HABITAT: Ponds and lakes with emergent vegetation, including marshes. It also occurs along slow-moving streams, as long as marshy vegetation is present.

COMMENTS: The relative scarcity of recent records, especially in the Coastal Plain, is puzzling. Perhaps it is being overlooked, but there are also few biologists currently working in the Coastal Plain, especially on damselflies, and particularly in the northern half of the province.

Lestes rectangularis Slender Spreadwing



NC counties: 80 or 80%
Number of records for 2020 = 3

High counts of:
20 - Watauga - 2018-09-03
15 - Buncombe - 2013-05-21
15 - Watauga - 2018-08-05

Earliest date: Davie 1975-03-28
Latest date: Pender 1992-11-18

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, but practically absent close to the coast. This species ranges over most of the eastern United States.

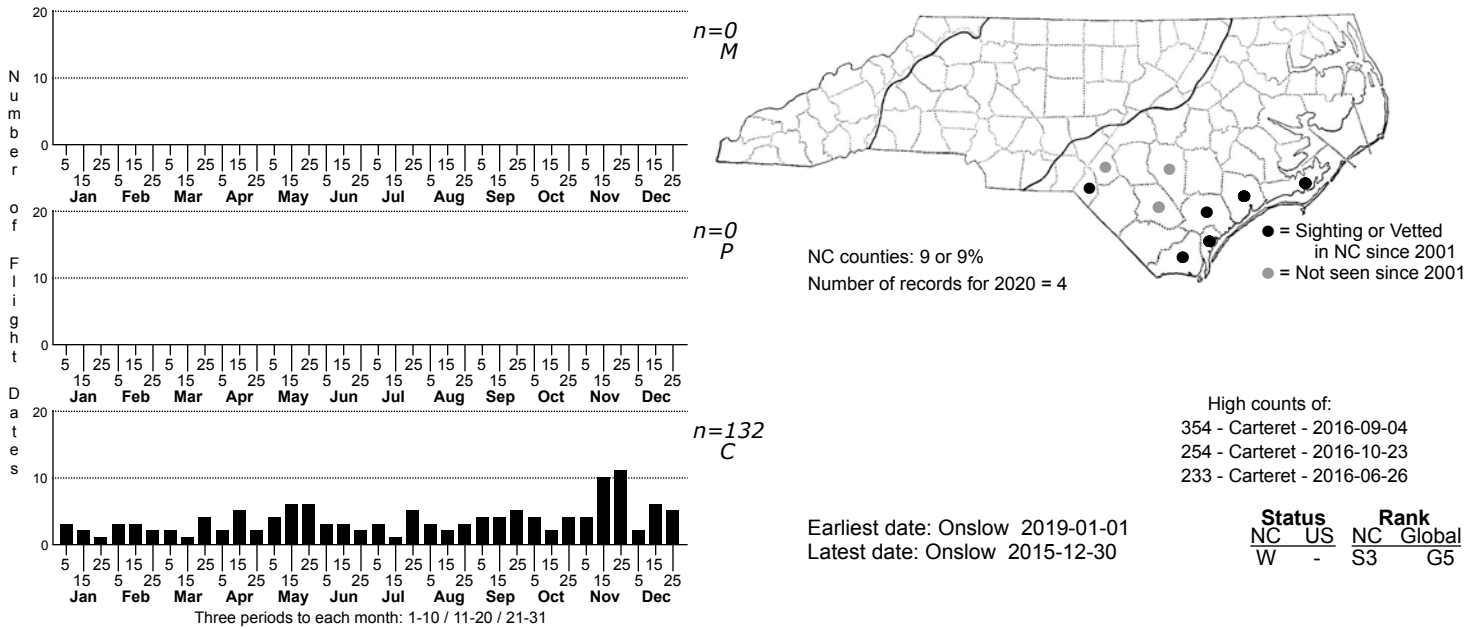
ABUNDANCE: Fairly common to common, and widespread, in the mountains; generally uncommon to fairly common in the Piedmont; uncommon in the western and central Coastal Plain. Only two records for the counties north or south of Albemarle Sound (both in Dare County), and no records in most southern coastal counties. Clearly more numerous in the mountains than downstate, with our three highest single-day counts from this province.

FLIGHT: A long flight period, covering most of the odonate season. From late March to early November in the Piedmont, and mid-April to mid-November in the Coastal Plain. Surprisingly, the earliest record in the mountains isn't until mid-May, and it occurs to at least early October.

HABITAT: Marshy areas, typically around ponds or lakes, but also sometimes slow streams with emergent vegetation.

COMMENTS: This is one of the more numerous damselflies in the mountains, but it is widespread downstate. Its range in the lower Coastal Plain needs more elucidation, though it is certainly scarce close to tidal water.

Lestes vidua Carolina Spreadwing



DISTRIBUTION: Restricted to the southern Coastal Plain, north to Scotland, Hoke, Sampson, Onslow, and Carteret counties. However, as Paulson (2011) shows the range of this Southeastern species extending north to the Great Dismal Swamp, VA, area, it might occur elsewhere in the NC Coastal Plain north of the known range.

ABUNDANCE: Generally rare (or at least quite local) over the range in the state, but can be very locally abundant close to the coast. Found to be quite abundant at sites in New Hanover, Onslow, and Carteret counties in 2015 and 2016. Beaton (2007) also calls it "Rare to uncommon and local" in GA.

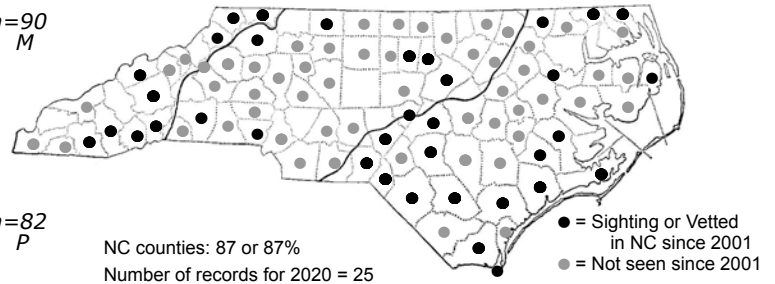
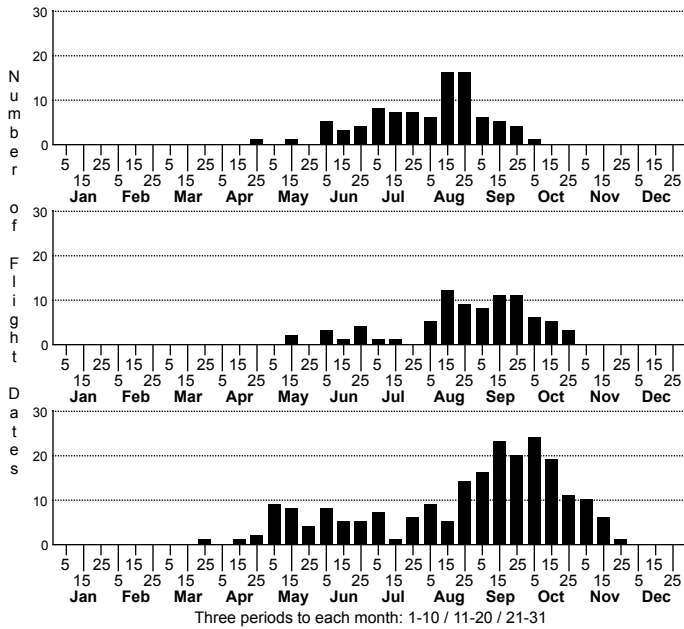
FLIGHT: Beaton (2007) shows flight dates from mid-March to mid-November for GA, but adds: "Flight season is not fully understood, more readily found during April-May and September-October (especially fall) and largely absent during the middle of the season." Mark Shields has found the species to occur in all months of the year at single pond sites in Carteret and Onslow counties, even in the winter months. Very few other odonates can be seen throughout the year. In fact, the flight chart shows at least one record in each of the 36 time periods (each generally about 10 days) throughout the year!

HABITAT: Edges of lakes and ponds, including temporary ponds. May also occur at freshwater marshes. Typically in fish-free waters.

BEHAVIOR: According to Beaton (2007), males are usually found over water, perching on plants, while females can be found along the shoreline away from open water.

COMMENTS: This species clearly deserves some search efforts in North Carolina. Until 2015, it was one of the most poorly-known damselflies in the state, as evidenced by only 12 known records from just six counties prior to that year. As a result, the N. C. Natural Heritage Program elevated the species from its Watch List to its Rare List in Fall 2012. Thankfully, Mark Shields has found the species to be much less rare than previously thought, and in 2018 the species was moved back to the Watch List. He found the species at clusters of pond sites in Onslow and Carteret counties throughout the year from late 2015 to late 2016, with several triple digit counts! In addition, he found it common in fall 2016 to late 2017 at several ponds in New Hanover County. Andrew Rapp photographed one in Brunswick County in 2016, as well. In 2017, Mark Shields and Hunter Phillips slightly extended the range west to Scotland County; this is our first record from the Sandhills region. The population in Onslow County has declined greatly since 2018 when the primary site (a borrow pit) was allowed to fill with water, completely inundating the marshy habitat formerly used by this species.

Lestes vigilax Swamp Spreadwing



High counts of:
120 - Carteret - 2016-05-25
50 - Buncombe - 2011-08-21
45 - Scotland - 2017-10-07

Earliest date: Carteret 2016-03-29
Latest date: Carteret 1990-11-21

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, being recorded from over 85 counties, with "absences" in scattered counties across the state. Presumed to occur in all 100 counties, unless absent along the immediate northeastern coast.

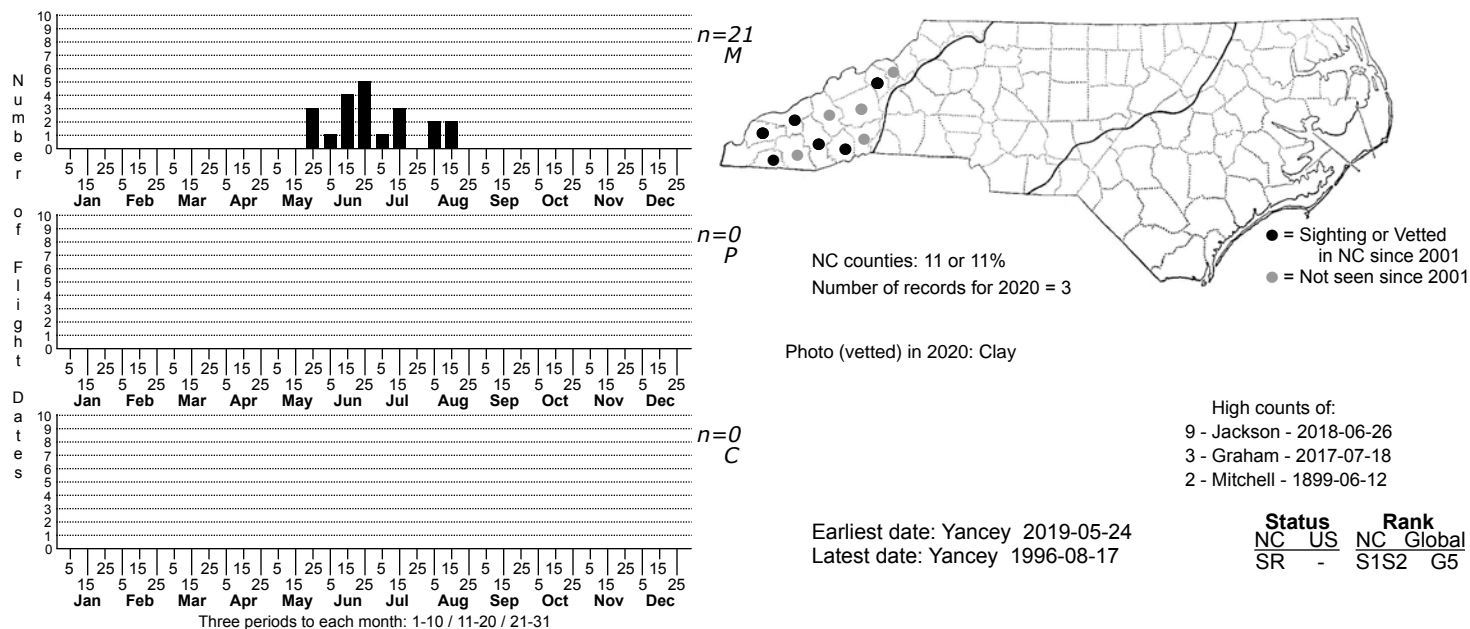
ABUNDANCE: Fairly common to common in the mountains, and locally very common in parts of the Coastal Plain. Oddly, appears to be less numerous (i.e., uncommon) in the intervening Piedmont, as there are slightly fewer records there than in the mountains, which has a much smaller geographic range and many fewer observers than in the Piedmont. There are single-party counts of at least 20 individuals in each of the three provinces; one count surpasses 100 individuals in the lower Coastal Plain.

FLIGHT: A wide flight period, extending to late autumn. In the Coastal Plain, it occurs from mid-April to late November. Piedmont records fall between mid-May (and should occur by late April) and late October; mountain records fall between late April and early October. There is a very early state date of 29 March for the lower Coastal Plain.

HABITAT: Ponds and lakes in somewhat wooded country, especially where shrubs grow in the water; or where marshy vegetation grows along the margins of such waters.

COMMENTS: This is another reasonably common spreadwing across the state, with large numbers of records in all three provinces. Mark Shields has added many dozens of records in the past several years from the southern coastal area.

Calopteryx amata Superb Jewelwing



DISTRIBUTION: The southern two-thirds of the mountains, if not the entire mountain region. The range map in Paulson (2011) shows that this region is a southerly disjunct area from central WV, with apparently no records for western VA. Thus, this Northeastern species might truly be missing from the northern counties of the NC mountains.

ABUNDANCE: Rare, to perhaps locally uncommon. Probably overlooked, as well, as many of the records are over 25 years old. Even though there are records for 11 of the roughly 17 true mountain counties (with only four counties documented by collections), we have only 21 records with flight dates. Except for a 2018 count of nine individuals, the peak one-day count appears to be only three individuals. Because its habitat is quite widespread, there is no reason to suspect a decline in the population in the state.

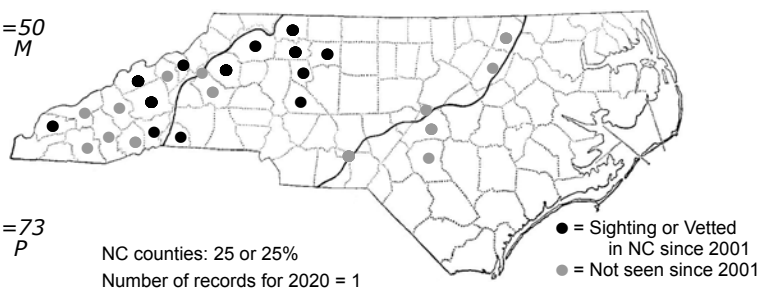
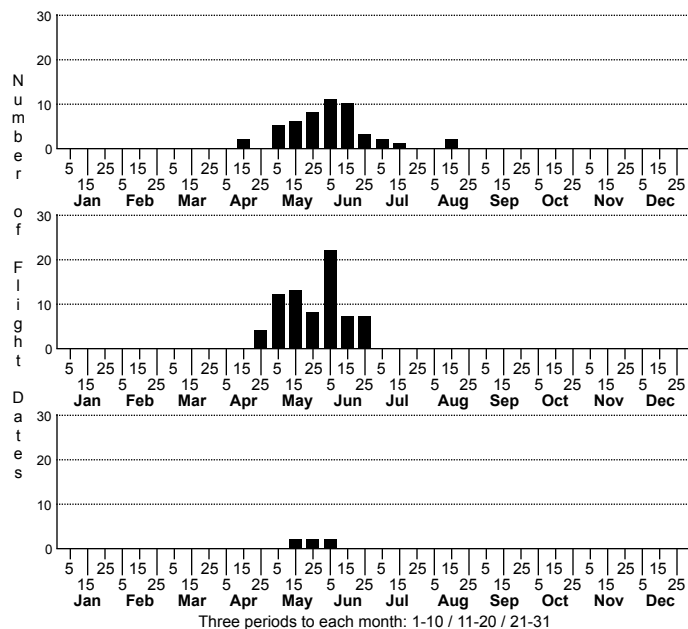
FLIGHT: Flies from late May to mid-August.

HABITAT: Rocky streams or rivers in wooded areas.

BEHAVIOR: Seems to always stay very close to rivers and large streams, often perching on rocks along such waters.

COMMENTS: The N.C. Natural Heritage Program considered this as a Watch List species in 2010. However, as there are so few recent data, and relatively few records overall, that Program elevated the species to the Rare List in fall 2012. Thankfully, the website received its first photo record, made by Owen McConnell in 2015 in Graham County, which was a new county record as well. In June 2018, several observers -- Mark Shields, John Petranka, and Sally Gewalt -- counted an excellent nine individuals and obtained photographs to document the record. And, as of 2020, there is now photographic documentation for five counties; perhaps there are now more observers/photographers in recent years, and more visits to the southern mountains (where few odonate enthusiasts live).

Calopteryx angustipennis Appalachian Jewelwing



High counts of:
 25 - Yadkin - 2017-05-17
 15 - Madison - 2012-05-17
 15 - Caldwell - 2016-05-09

Earliest date: Madison 2012-04-12
 Latest date: Transylvania 1939-08-20

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G4

DISTRIBUTION: Nearly throughout the mountains and Piedmont foothills. Scattered records near the Fall Line of the eastern Piedmont and upper Coastal Plain, but of uncertain presence now in most of the central and eastern Piedmont. This central and eastern portion of the Piedmont has been rather well worked -- especially the Triangle area (Wake, Durham, and Orange counties), and thus the species may be truly absent in much of the middle of the state. There is also an odd gap in the northern mountains, where there are no known records between Mitchell County and the VA state line.

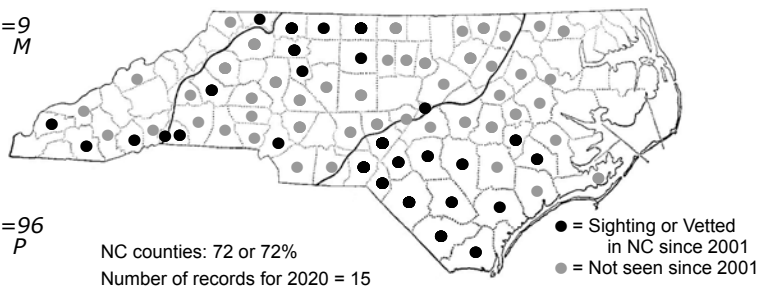
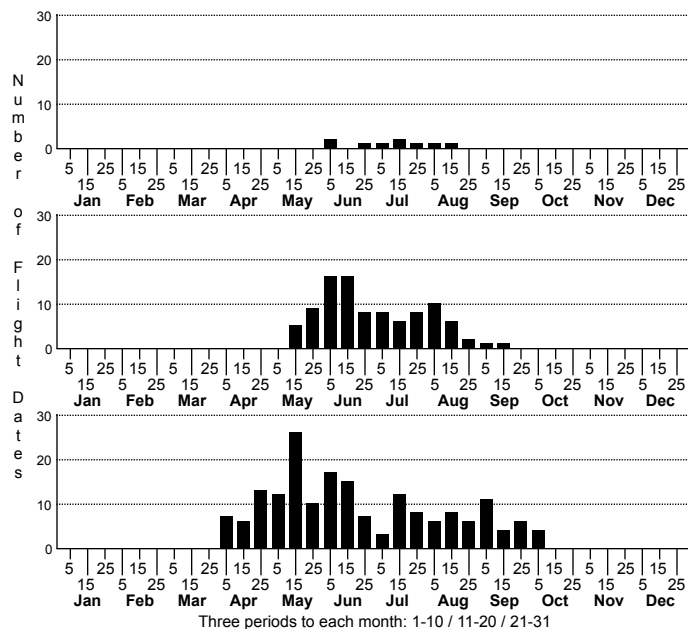
ABUNDANCE: Uncommon to locally fairly common in the mountains, but seemingly rare (but likely not absent) in the northern mountains. Uncommon (at least locally) in the northwestern Piedmont, but very rare eastward, with no recent records between Surry, Forsyth, Davie, and Rowan counties on the west and Halifax, Harnett, and Richmond counties on the east. Very rare to locally absent (?) in the central and eastern Piedmont and western edge of the Coastal Plain. In fact, there are no records since 1998 for these Fall Line counties.

FLIGHT: Mainly mid-April to mid-August, at least in the mountains, and probably also in the Piedmont. However, records downstate are only from late April to late June.

HABITAT: Rivers and large streams, usually where rocky and with moderate current.

COMMENTS: The gap in the range in the Piedmont is most unusual, and might actually be real, as there has been much odonate field work conducted in the eastern half of the Piedmont. Any records east of the western Piedmont are greatly needed to clarify this range. Perhaps the northern mountain counties are too high in elevation for this species; records are needed in this region, as well, to fill an odd gap. The fact that there are no records east of Forsyth County since 1998 is clearly a sign of recent declines in the population near the Fall Line, as this should be an easily identified species.

Calopteryx dimidiata Sparkling Jewelwing



High counts of:
450 - Columbus - 2017-05-17
450 - Robeson - 2017-05-17
350 - Bladen - 2016-05-27

Earliest date: Sampson 1990-04-01
Latest date: Moore; C 1982-10-05

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Nearly statewide, but seemingly absent from the northeastern third of the Coastal Plain -- the "Pamlico Peninsula" and the counties north of Albemarle Sound. Of spotty occurrence in the mountains, but likely present in all counties there except perhaps ones lacking low elevations (e.g., Yancey, Mitchell, Avery, Watauga).

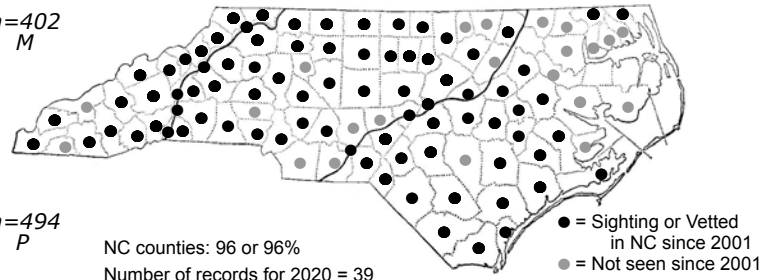
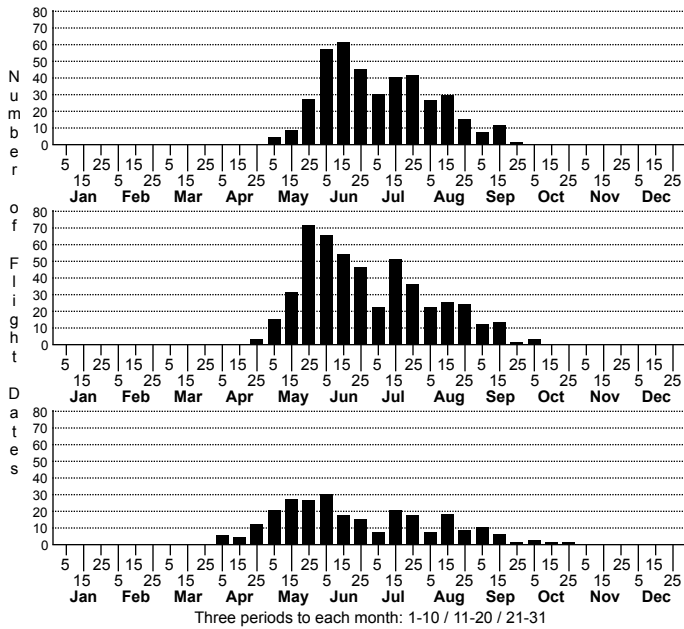
ABUNDANCE: Locally common (to occasionally abundant) in the southern Coastal Plain, including the Sandhills. Uncommon (with relatively few records) throughout the Piedmont and central/northern Coastal Plain, except for the northeastern third of the latter province, where rare to absent. Very rare in the mountains. Seems to be declining in numbers in the Piedmont and mountains, and probably also in most of the central and northern Coastal Plain.

FLIGHT: Early April to early October in the Coastal Plain, but so far just from mid-May to mid-September in the Piedmont. Though there are at least nine counties with records for the mountains, we have flight data only from early June to mid-August.

HABITAT: Small streams, generally where fast-flowing and acidic, and not necessarily in forested areas.

COMMENTS: Range maps in Paulson (2011) and Beaton (2007) show all of NC within the range of the species. This may be generous and "broad-brush", as it appears to be truly absent in northeastern NC and maybe absent in some of the northern mountain counties. The species is surprisingly rare in the mountains, considering its relative numbers in the Piedmont. Also, despite the heavy amount of odonate field work in the northeastern Piedmont, where many biologists live, there are no recent records there!

Calopteryx maculata Ebony Jewelwing



High counts of:
118 - Onslow - 2016-06-04
118 - Jones - 2016-06-04
98 - Buncombe - 2012-05-16

Earliest date: Brunswick 2018-04-01
Latest date: Brunswick 1971-10-27

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, lacking records only in four far eastern counties, though likely present in all 100 counties.

ABUNDANCE: Very common (to locally abundant) across the state, except less numerous in the eastern Coastal Plain. Seemingly rare in counties surrounding Albemarle Sound, and perhaps absent on the Outer Banks. One of the most abundant odonates in the mountain province.

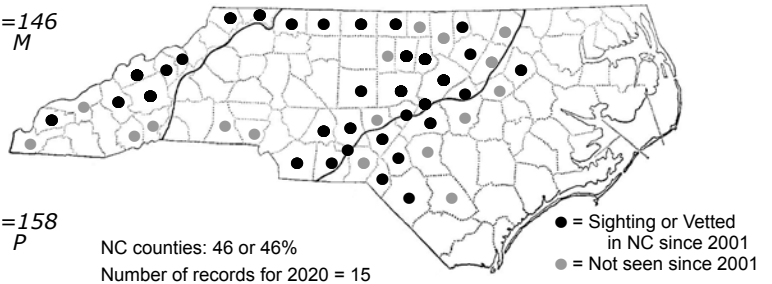
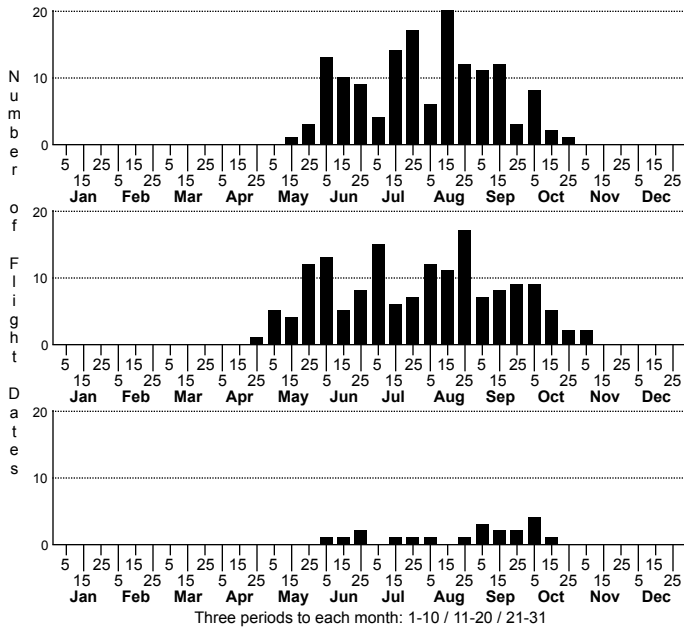
FLIGHT: Early April to late October in the Coastal Plain; late April or early May to early October in the Piedmont, and to late September in the mountains.

HABITAT: A wide variety of stream habitats, but most common along small forested streams.

BEHAVIOR: Where present, easily seen flitting slowly amid vegetation close to a stream, usually in shade or in small openings inside a forest.

COMMENTS: This is, by far, our most commonly seen member of the Family Calopterygidae (Broad-winged Damselflies), and it is also one of the most obvious and easily identified of all of our damselflies.

Hetaerina americana American Rubyspot



High counts of:
 1155 - Wake - 2012-09-27
 600 - Wake - 2012-07-20
 505 - Wake - 2013-07-27

Earliest date: Chatham 2017-04-22
 Latest date: Harnett; P 2008-11-07

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the mountains, presumably throughout the Piedmont, and the western third of the Coastal Plain, including the Sandhills. Absent from the eastern 60-65% of the Coastal Plain; absence of records from much of the western Piedmont is perhaps partly due to poor survey coverage but certainly must represent a general scarcity there.

ABUNDANCE: Common to locally abundant in the mountains, and also in the eastern Piedmont, near the Fall Line. Seemingly quite rare in the western half of the Piedmont, for unknown reasons. Also, rare (or very uncommon) in the western Coastal Plain/Sandhills.

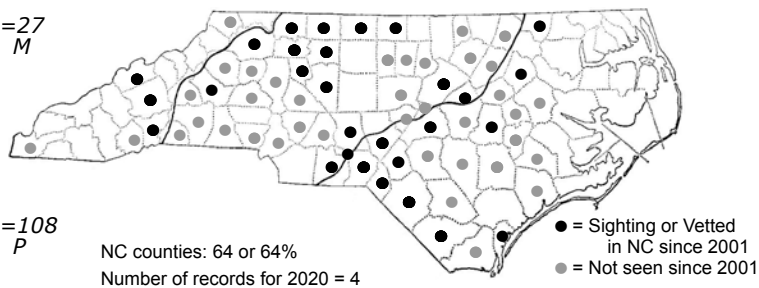
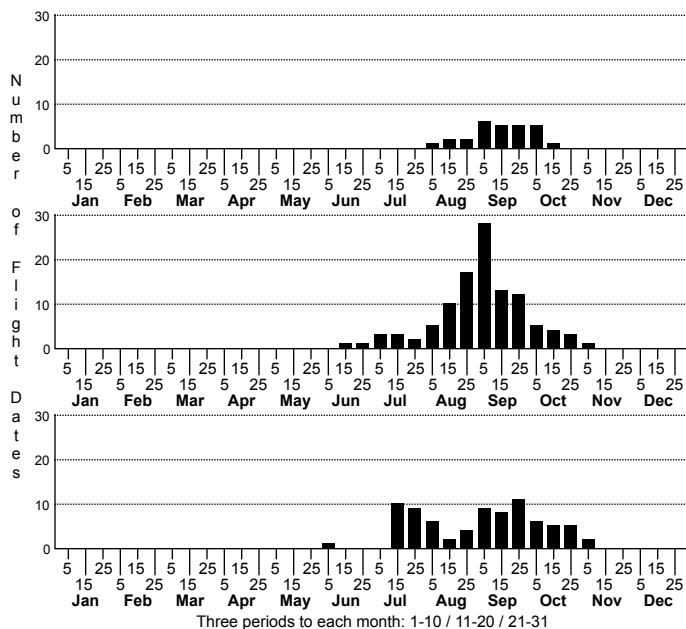
FLIGHT: Late April to early November in the Piedmont; apparently slightly shorter flight period in the mountains -- mid-May to late October. Coastal Plain flight period probably is similar to that of the Piedmont, though currently we have flight dates only from early June to mid-October.

HABITAT: Rocky streams and rivers, generally where clear and with moderate current.

BEHAVIOR: Typically seen perched on rocks or stems/twigs very close to the river or large stream, often in somewhat open/sunny conditions.

COMMENTS: There are a number of daily counts over 75 individuals, and a few over 500 individuals; yet the range is rather puzzling. Some of these high counts are close to the Fall Line, and others are in the mountains. Yet, how can there be no records at all, much less counts of over 10 individuals, from essentially any foothills county or other counties nearby in the Piedmont? It would seem that there are plenty of suitable rocky streams and rivers in this area. This species is one of the larger and more beautiful of the damselflies, with the deep red/crimson color of the thorax and wing bases of the adult males being quite spectacular in sunlight.

Hetaerina titia Smoky Rubyspot



High counts of:
 123 - Wilkes; P - 2018-09-22
 100 - Robeson - 2016-08-27
 100 - Columbus - 2016-08-27

Status	Rank	
	NC	Global
US	-	S5
NC	-	G5

Earliest date: New Hanover 2015-06-04
 Latest date: Moore; C 1965-11-06

DISTRIBUTION: Present essentially throughout the Piedmont and the southern and western Coastal Plain; apparently absent from the eastern third of the Coastal Plain. Scattered across the length of the mountains, but with several large gaps in the range. No records yet east of Northampton, Pitt, and Onslow counties. Records only for 1/3rd of the mountain counties, but likely present in all 17 counties there, as the distribution covers counties from the VA state line to the GA state line.

ABUNDANCE: Uncommon over its range in the state. Locally fairly common to common at a few sites in the western Coastal Plain/Sandhills and eastern and northwestern Piedmont. Absent in the eastern Coastal Plain.

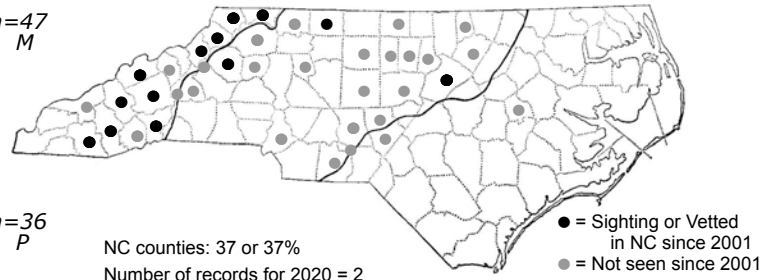
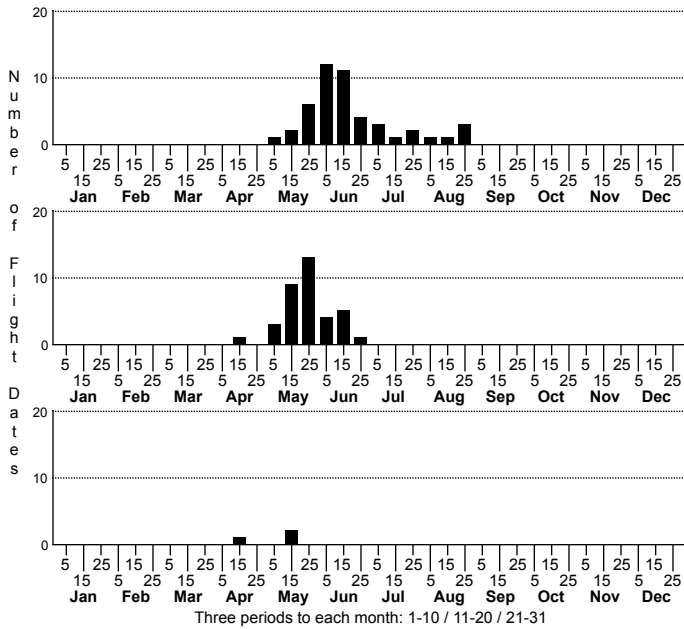
FLIGHT: Mid-June to early November in the Piedmont and Coastal Plain. The mountain records are fairly late in the season -- early August to mid-October.

HABITAT: Rivers and larger streams, typically where the current is slow to moderate flowing. Apparently at larger rivers and slower-flowing waters than is the American Rubyspot, though the habitats overlap, and both can occur along the same stream or river.

BEHAVIOR: This species is more wary than is the American Rubyspot, making photography or close observation of one more challenging.

COMMENTS: This species is somewhat similar to the American Rubyspot in appearance and habitats, often perching on rocks next to the creeks or rivers -- usually a few feet or more away from an observer; you may need binoculars or a telephoto lens to tell the species apart. The locations of the highest counts are oddly scattered in the state -- one in the northwestern Piedmont and two others in the southern Coastal Plain. The absence of recent records for the southwestern and central Piedmont is odd and somewhat disturbing.

Amphiagrion saucium Eastern Red Damsel



High counts of:
50 - Wake - 2010-06-21
20 - Wake - 2010-05-30
20 - Madison - 2018-05-09

Earliest date: Wake 2017-04-14
Latest date: Madison 2020-08-25

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Throughout the mountains, and presumably throughout the Piedmont. Perhaps present in the western Sandhills, and an isolated record for the central Coastal Plain. The species is a somewhat Northern species, ranging south to central GA.

ABUNDANCE: Fairly common, to locally common, in the mountains. Seemingly rare in the western half of the Piedmont, and rare to uncommon in the eastern half, though it can be locally numerous there. Very rare in the western Coastal Plain.

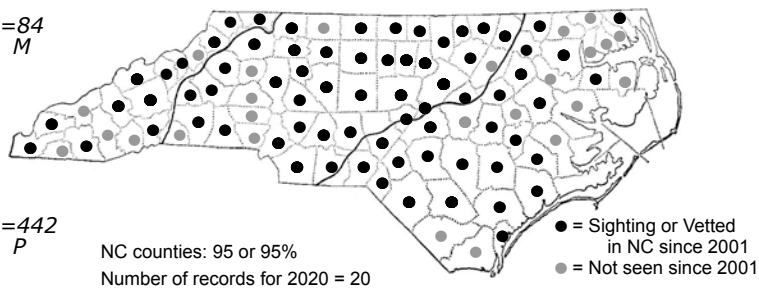
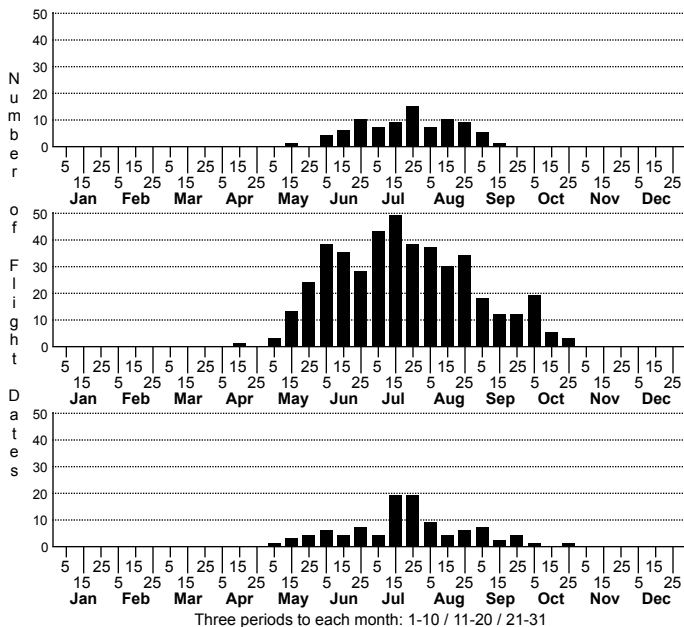
FLIGHT: A flight that ends rather early in the season, by mid-summer. The mountain flight occurs between early May and late August. The Piedmont flight is from early May to late June, but it should occur into August; this is a record or two from mid-April. The very few Coastal Plain records are in a narrow window from mid-April to mid-May, but records should occur into July or August.

HABITAT: Small streams, seeps, bogs, or marshes, with thick vegetation.

BEHAVIOR: Perches on grasses and sedges, seldom on broad, flat leaves.

COMMENTS: The absence of county records for much of the central and southwestern Piedmont is odd, considering that there are daily counts in Wake County, at the eastern edge of the Piedmont, of 20 and 50 individuals. It is not a species that is difficult to identify; thus, this odd abundance pattern might be real.

Argia apicalis Blue-fronted Dancer



High counts of:
100 - Chatham - 2010-07-11
50 - Durham - 2007-06-24
50 - Person - 2011-06-24

Status	Rank	
	NC	Global
-	-	S5
-	-	G5

Earliest date: Union 2015-04-14
Latest date: Edgecombe 2017-10-28

DISTRIBUTION: Essentially statewide, though possibly absent in the eastern Tidewater Region. Presumably absent on the Outer Banks.

ABUNDANCE: Common to locally very common in the Piedmont and western Coastal Plain, particularly around flowing water in the Piedmont. Fairly common to locally common in the mountains and the central and southern Coastal Plain. Rare in the northeastern and far eastern Coastal Plain, and probably absent near the coast there.

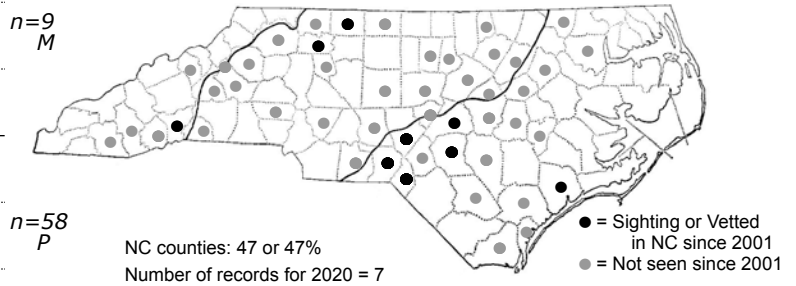
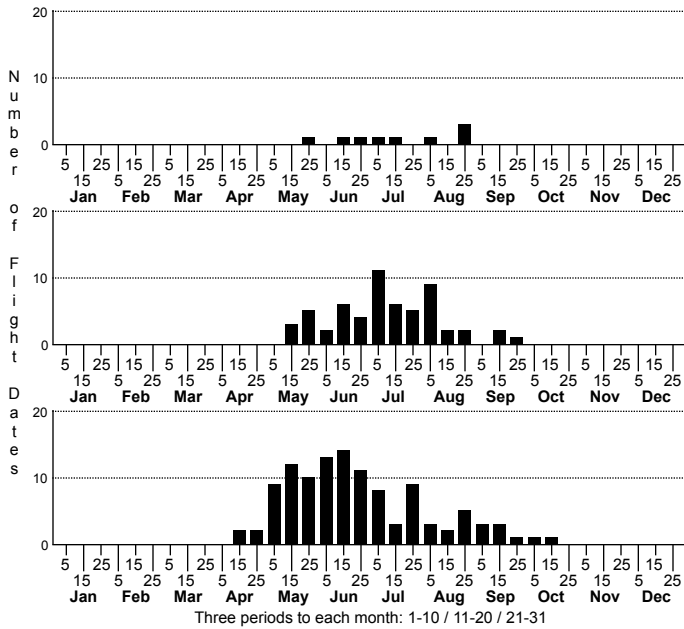
FLIGHT: Early May through late October in the Piedmont and the Coastal Plain. The flight in the mountains is from mid-May at least to mid-September (and likely later).

HABITAT: Favors rivers and large streams, but can be found away from water. Also occurs around lake and pond margins.

BEHAVIOR: Prefers open areas with sunlight, using rocks, ground, or available vegetation for perching.

COMMENTS: This is one of our most common and widespread damselflies, except near the northeastern and eastern coastal areas. There are several one-day counts of at least 50 individuals, all from the lower Piedmont.

Argia bipunctulata Seepage Dancer



High counts of:
105 - Scotland - 2020-06-08
100 - Scotland - 2007-06-16
40 - Moore; C - 2014-06-04

Status	Rank	
	NC	US
-	-	S3S4 G4

Earliest date: Scotland 2020-04-17
Latest date: Scotland 1996-10-16

DISTRIBUTION: Scattered throughout the Piedmont and western two-thirds of the Coastal Plain; of spotty occurrence in the mountains and eastern Coastal Plain, and apparently absent in the Tidewater zone.

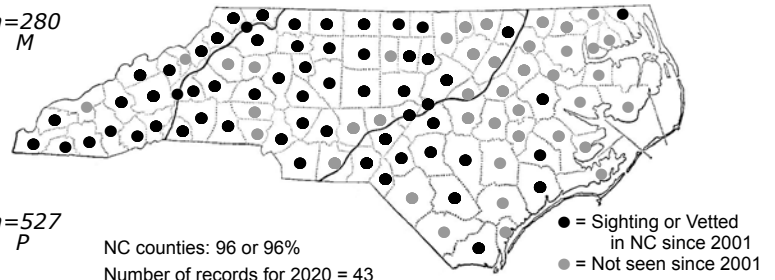
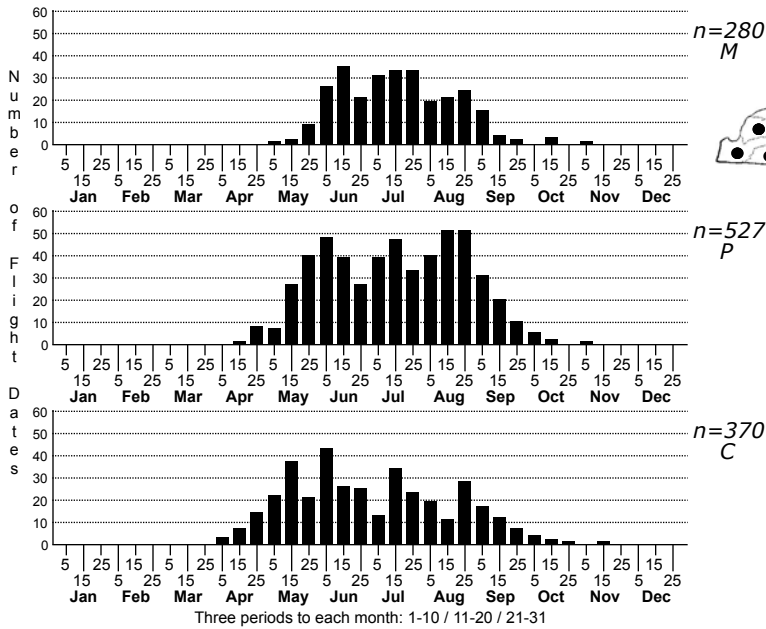
ABUNDANCE: Fairly common to locally common in the Sandhills region. Elsewhere, rare to uncommon (and perhaps local) across the Piedmont and the western 50-60% of the Coastal Plain (excluding the Sandhills). Rare in the mountains and central Coastal Plain, and apparently absent in nearly all counties that border the Albemarle and Pamlico sounds.

FLIGHT: Mid-April to mid-October in the Coastal Plain, and mid-May (if not earlier) to late September in the Piedmont. The few mountain records fall between late May and late August.

HABITAT: As the name implies, found around seeps or boggy places, where there are abundant sedges.

COMMENTS: This dancer can be easily overlooked because it often perches low in dense herbaceous vegetation around pond margins and seepage areas. Two one-day tallies of 100 in Scotland County are by far the most seen in a single day; the next highest tally is 40 individuals. Paulson (2011) indicates that, because its seepage habitat is somewhat limited, populations tend to be localized and not widespread over a large region. Despite it having been reported from over 45 counties in the state, one must travel to the Sandhills to have a reasonable chance of finding this species. It has disturbingly not been re-found in the Piedmont in recent decades, probably signaling a decline in that province.

Argia fumipennis Variable Dancer



High counts of:
100 - Scotland - 2007-06-16
75 - Scotland - 2017-05-15
70 - Bladen - 2009-06-25

Earliest date: Scotland 2018-04-05
Latest date: Richmond; C 1988-11-15

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, with the exception being the northeastern Coastal Plain, where it may be legitimately absent from several counties. Two subspecies are represented in North Carolina: *Argia fumipennis fumipennis* in the Coastal Plain and far eastern Piedmont, and *A. f. violacea* in the mountains and most of the Piedmont.

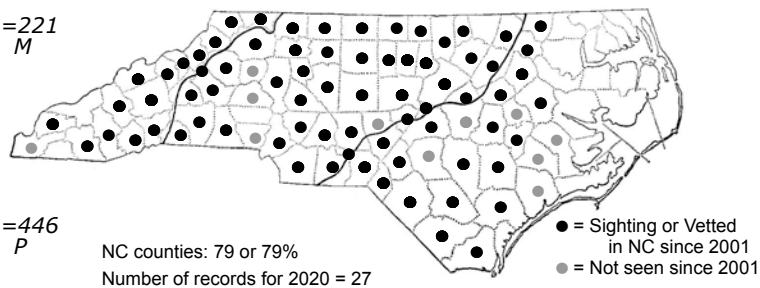
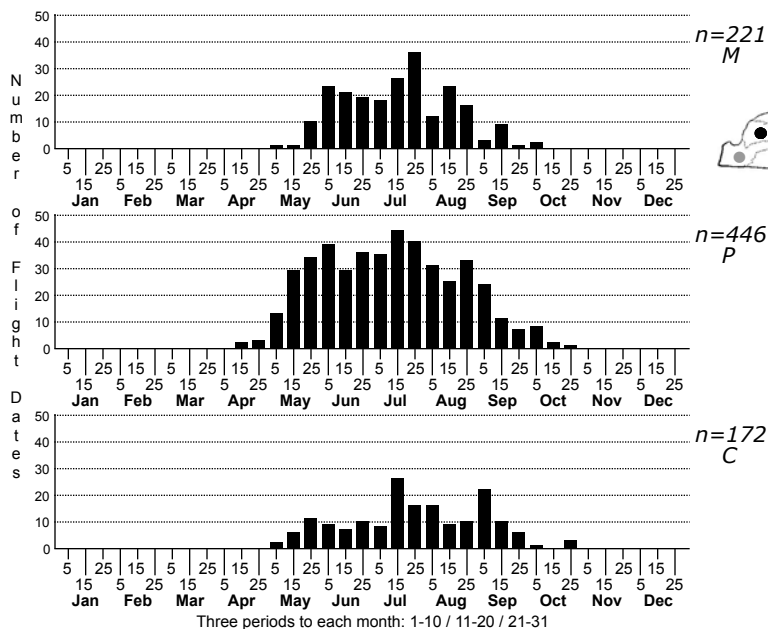
ABUNDANCE: Common to locally abundant across the state (except rare to absent in the extreme northeast); can often be the most numerous damselfly at a site. Most numerous in the Sandhills, where our largest one-day totals have been made.

FLIGHT: The flight occurs nearly throughout the odonate flight season, as the Coastal Plain records fall from early April to mid-November. The Piedmont flight occurs between late April and early November, while the mountain flight starts slightly later -- early May to early November.

HABITAT: Extremely widespread in habitats. Around small streams, ditches, pond margins, and other slow waters; usually where there are grasses and sedges. May often feed well away from water.

COMMENTS: As the name implies, this species has highly variable color patterns, though there is generally some lavender coloration on the thorax. It is another of our more familiar damselflies in the state, being common to very common in each of the three provinces and recorded from every county except for four in the northeastern corner of the state. There are two subspecies in the state -- the dark-winged nominate one (*Argia fumipennis fumipennis*) is found over most of the Coastal Plain, whereas the clear-winged one (*A. fumipennis violacea*) occurs over the remainder of the state.

Argia moesta Powdered Dancer



High counts of:
815 - Wake - 2014-06-25
575 - Wake - 2013-07-27
220 - Columbus - 2018-08-10

Earliest date: Orange 2017-04-12
Latest date: Bladen 1981-10-28

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the mountains, Piedmont, and the western two-thirds of the Coastal Plain. Absent from most of the northeastern third of the Coastal Plain (i.e., nearly all counties around Albemarle and Pamlico sounds).

ABUNDANCE: Common to very common/abundant in the eastern Piedmont; common elsewhere across the mountains, Piedmont, and western 60-65% of the Coastal Plain, though less numerous in the southwestern part of the mountains. May be legitimately absent from nearly all counties in the Tidewater zone (around Albemarle and Pamlico sounds).

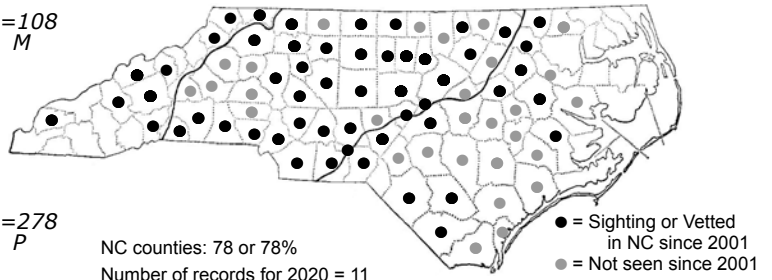
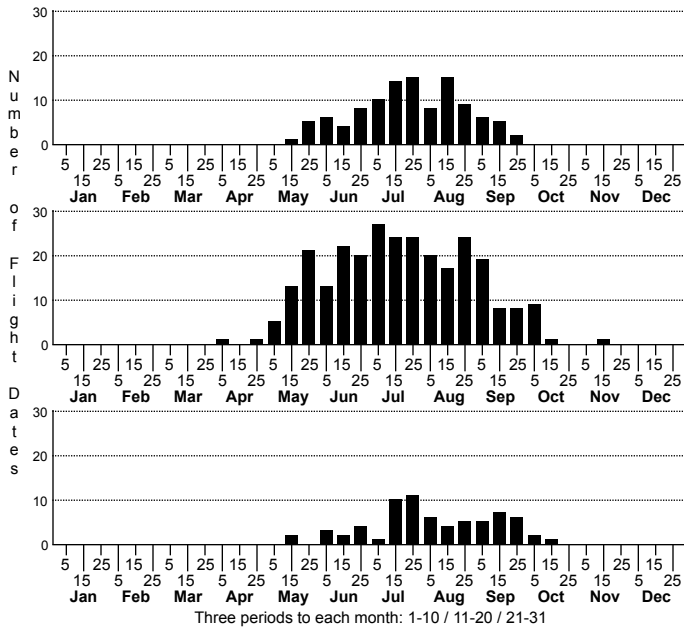
FLIGHT: The Piedmont flight occurs from mid-April to late October, and the Coastal Plain flight is at least from early May (if not earlier) to late October. The mountain flight occurs from early May to early October.

HABITAT: Found along rivers and streams, more so along rockier ones and larger ones than all other dancers. Can also be found along roads and other places away from water, when foraging.

BEHAVIOR: This is the most frequently seen dancer along rockier streams and rivers, often perching on exposed rocks. As with the Blue-tipped Dancer, this species can be frequently seen away from water at sunny patches along trails and dirt roads.

COMMENTS: The two highest counts in the state are from the eastern Piedmont, though this might be an artifact of observer coverage rather than a true abundance pattern. Adult males are easily identified by their very glaucous (whitish) "bloom", particularly on the thorax.

Argia sedula Blue-ringed Dancer



High counts of:
1220 - Wake - 2012-09-27
769 - Wake - 2012-10-06
331 - Wake - 2013-08-31

Status	Rank	
	NC	Global
-	-	S5
-	-	G5

Earliest date: Orange 2017-04-02
Latest date: Wake 2014-11-11

DISTRIBUTION: Occurs over most of the state, but apparently absent in the eastern third or quarter of the Coastal Plain (i.e., the Tidewater areas near Albemarle and Pamlico sounds). Probably present over all of the mountains, but just one record for the southwestern counties.

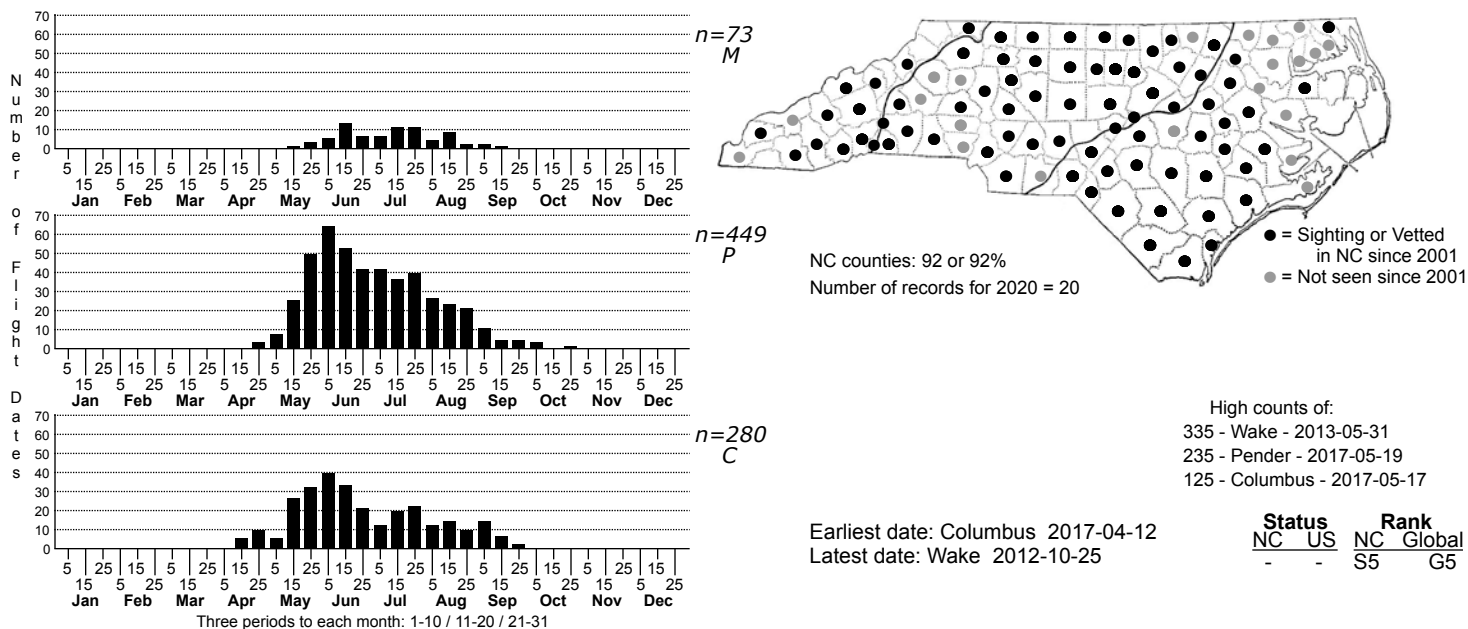
ABUNDANCE: Common to locally abundant (at least near the Fall Line) in the Piedmont; fairly common in the western Coastal Plain, but likely uncommon to locally fairly common in the remainder of the Coastal Plain part of the range. Uncommon to locally fairly common in the mountains, but apparently rare (though likely not absent) in the southwestern counties. Presumed absent in the Tidewater zone, from Pamlico Sound to the VA border.

FLIGHT: The Piedmont flight occurs from late April to mid-October, sparingly to mid-November. The mountain flight is from mid-May to late September, whereas the Coastal Plain flight occurs from mid-May to mid-October.

HABITAT: Streams and rivers, typically where somewhat rocky, and usually where there is some herbaceous vegetation along the water. Sometimes around shores of lakes and ponds, and can be found along roads and other corridors away from water.

COMMENTS: There have been a few remarkably high counts for the species along the Neuse River below the Falls Lake dam. This is another of the common species of dancers, normally easily found in most parts of the state. The absence of records for the extreme southwestern mountains seems puzzling, considering that range maps include most of the Southeastern states.

Argia tibialis Blue-tipped Dancer



DISTRIBUTION: Statewide, though possibly absent along the extreme northeastern coastal areas. Likely found in all mountain counties, though a few in the northern mountains lack records.

ABUNDANCE: Common to locally very common in the Piedmont and most of the Coastal Plain; fairly common to locally common in much of the mountains. Not common in the eastern part of the Coastal Plain, but at least uncommon to fairly common, except rare to absent in the extreme northeastern counties.

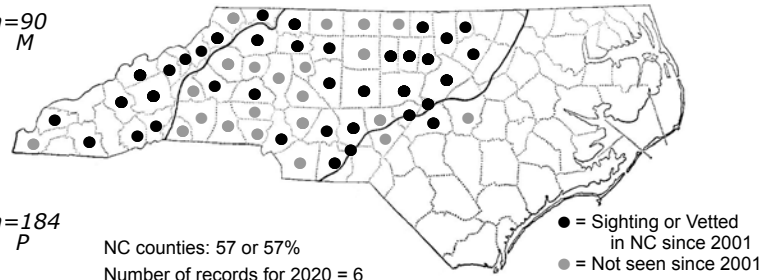
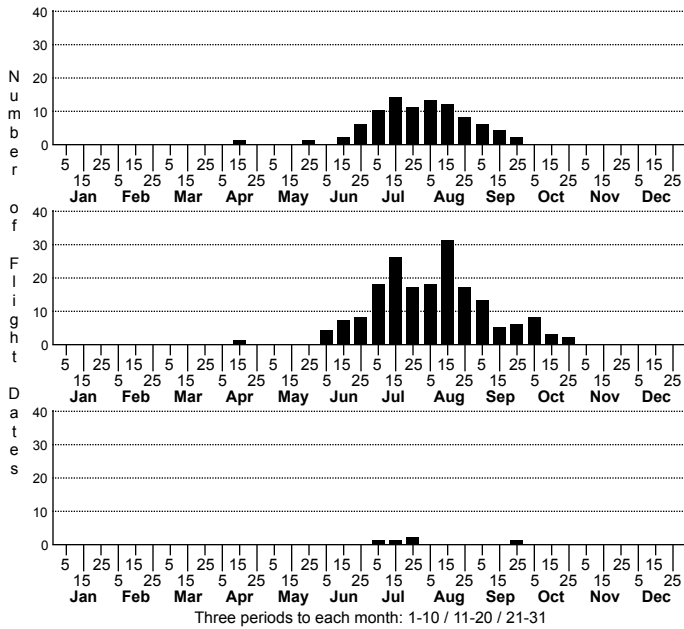
FLIGHT: Downstate, occurs from mid- or late April to late September (and probably later) in the Coastal Plain and to late October in the Piedmont. The mountain flight occurs between mid-May and mid-September.

HABITAT: Small and mainly wooded creeks/streams, typically with a few riffles. Less often along rivers or larger streams without riffles. Typically closer to forested creeks than other dancers.

BEHAVIOR: The species is seen frequently away from water at sunny patches along trails and dirt roads.

COMMENTS: This is still another dancer species that is common across most of the state and occurs in nearly all counties, but as with many, it is scarce or absent in the extreme northeastern part of the Coastal Plain. In GA, Beaton (2007) says it is "Often the most numerous dancer at any given site"; however, in NC, it shares abundance with a number of other dancer (*Argia*) species and does not seem quite as numerous as the Variable, Powdered, and Blue-ringed dancers, except in the southeastern Coastal Plain.

Argia translata Dusky Dancer



High counts of:
15 - Wake - 2009-08-07
15 - Wake - 2009-08-13
15 - Yadkin - 2018-08-26

Earliest date: Buncombe 1989-04-14
Latest date: Wilkes; P 2016-10-24

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the mountains and Piedmont (though no records yet for the extreme northeastern corner of the Piedmont). Essentially absent from the Coastal Plain, though present along the Fall Line in a few such counties. Two previous reports from the Sandhills/Coastal Plain have now been deleted, as they are sight reports only and are believed to be in error. Oddly, the range map in Paulson (2011) shows it nearly "absent" in the Piedmont of both VA and SC.

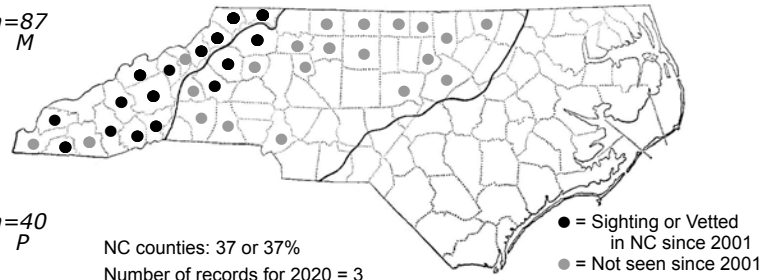
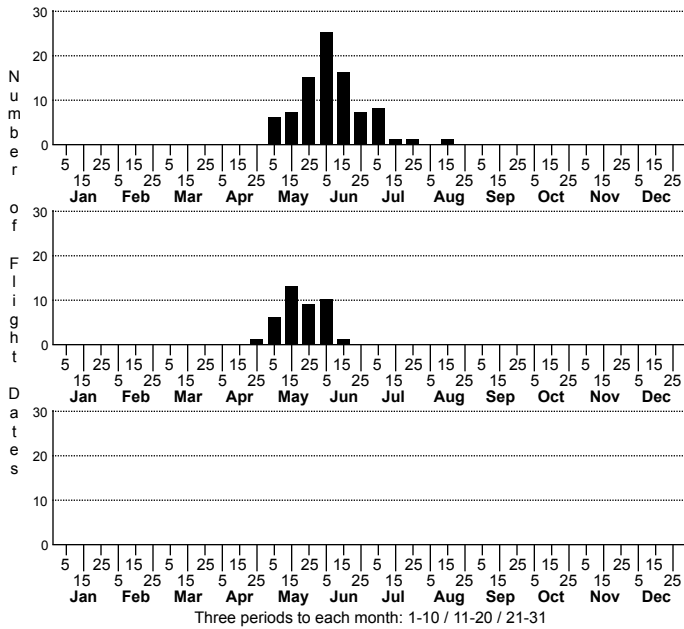
ABUNDANCE: Fairly common in the Piedmont and mountains (at least locally); nowhere truly common, as the peak one-day counts are just 15 individuals. Absent, or nearly absent, from the Coastal Plain (including the Sandhills), except near the Fall Line.

FLIGHT: In the mountains and Piedmont, mainly late May or early June to late October (Piedmont) and to late September (mountains). Each province has a very early record for mid-April. The few Coastal Plain records are from early July to late September only, meaningless for establishing a flight period at the upper edge of that province.

HABITAT: A variety of rivers and creeks; scarce at ponds or lakes. Often on rocks in the creek or river.

COMMENTS: The seeming near-absence of records from the VA and SC Piedmont is puzzling, considering that it not only has been found in nearly all such counties in NC (except lacking in the extreme northeastern corner of the Piedmont), but that there are some single-day counts in double-digits. One must presume that it is being overlooked, especially in VA.

Chromagrion conditum Aurora Damsel



High counts of:
20 - Buncombe - 2016-06-06
20 - Alleghany - 2017-06-01
15 - Watauga - 2018-06-15

Earliest date: Cleveland 1970-04-29
Latest date: Haywood 2007-08-18

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Throughout the mountains; scattered over most of the Piedmont, though possibly absent in the extreme southeastern counties. Absent from the Coastal Plain.

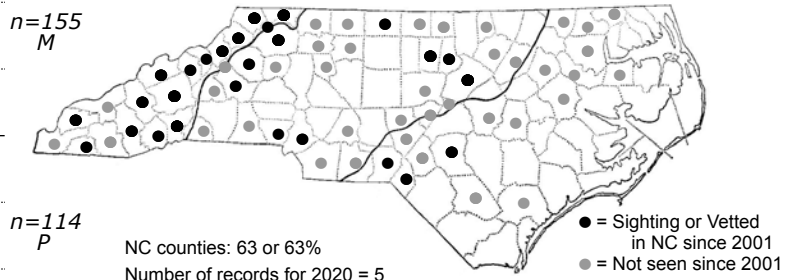
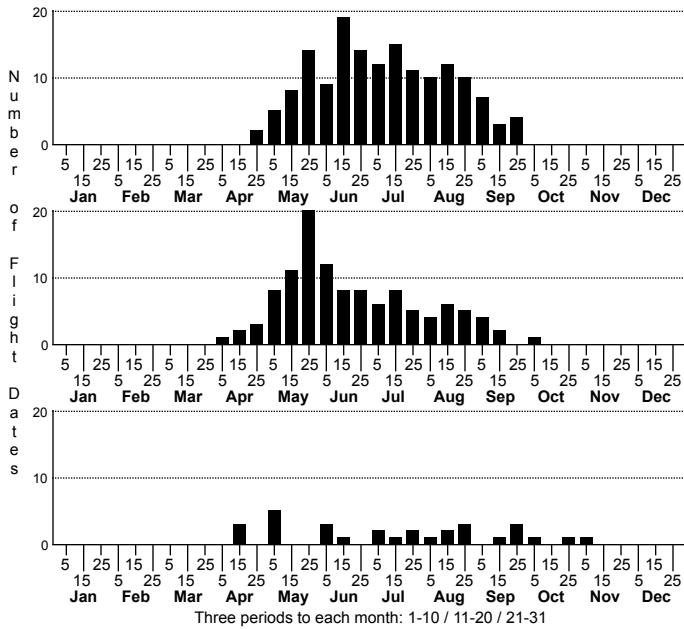
ABUNDANCE: Fairly common in the mountains, at least locally. Rare over most of the Piedmont, but apparently uncommon in the foothills; clearly declining in the state away from the mountains, with hardly any recent records. Possibly absent in a few counties in the southeastern Piedmont. The highest counts are from the mountains and foothills.

FLIGHT: The mountain flight is from early May to mid-August, whereas the Piedmont flight is from late April to mid-June. However, there is no reason the flight in the Piedmont should be narrower than that in the mountains, and it likely flies throughout July and into August.

HABITAT: Still waters of pools/ponds -- such as beaver ponds, bogs, seeps, and slow streams. Not often found far from water.

COMMENTS: There are relatively few recent records from the Piedmont, especially the southern half of the Piedmont. Does this indicate a recent decline, and if so, owing to global warming? The species should be easily identified, at least with photographs.

Enallagma aspersum Azure Bluet



NC counties: 63 or 63%
 Number of records for 2020 = 5

Photo (vetted) in 2020: Gaston

High counts of:
 180 - Wake - 2016-07-09
 175 - Wake - 2017-05-19
 105 - Wake - 2016-05-14

Earliest date: Wake 2017-04-09
 Latest date: Bladen 1968-11-02

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the mountains, and essentially throughout the Piedmont; nearly throughout the Coastal Plain, but essentially absent in the eastern quarter, especially in the Tidewater zone.

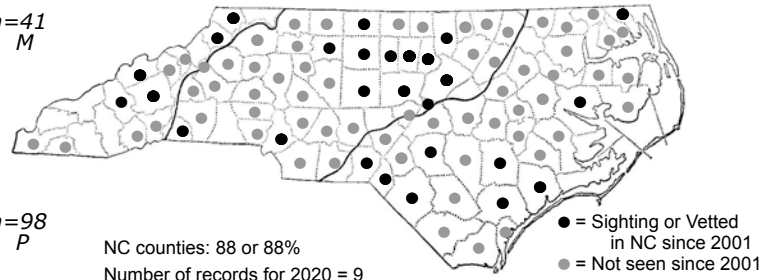
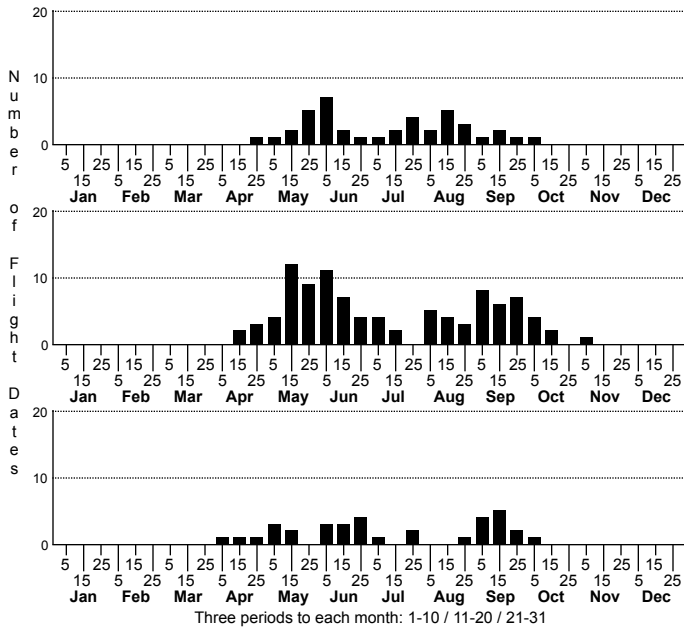
ABUNDANCE: Common in the mountains, at least locally. Uncommon in the Piedmont, though may be locally fairly common to common. Rare in the Coastal Plain, and possibly absent close to the coast, especially in the far eastern counties.

FLIGHT: The mountain flight occurs from late April to late September. The Piedmont flight is slightly longer -- mid-April to early October, and the Coastal Plain flight even slightly longer -- mid-April to early November.

HABITAT: Ponds and small lakes, usually with emergent vegetation. Often, but not exclusively, in fishless waters.

COMMENTS: The species is more easily found in the NC mountains than downstate. Yet, the three highest counts are from the eastern Piedmont -- from Wake County, and thus it is disturbing or at least odd there are no records for 35-40% of the Piedmont counties, and recent records from just several of the counties in this province. Is the species really that scarce in central NC, considering its local abundance in the mountains and Wake County? Of note is that the species is very rare in the SC Piedmont, found just in a few foothill counties.

Enallagma basidens Double-striped Bluet



High counts of:
35 - Orange - 2009-06-13
25 - Chatham - 2018-05-12
15 - Madison - 2012-06-08

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

Earliest date: Onslow 2017-04-05
Latest date: Alamance 2016-11-06

DISTRIBUTION: Essentially statewide. Though absent from a handful of mountain and far eastern Coastal Plain counties, it likely occurs in essentially all 100 counties.

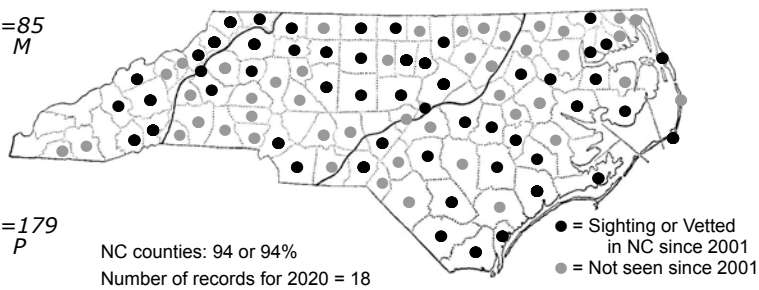
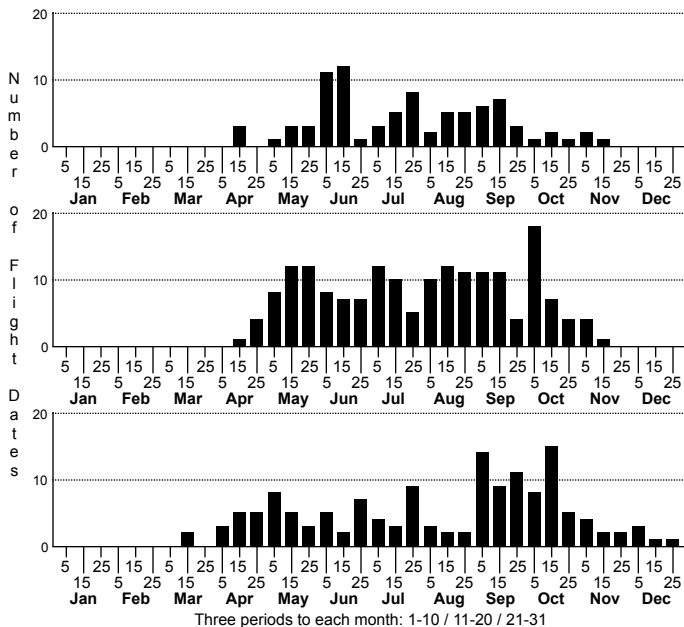
ABUNDANCE: Fairly common in the mountains and Piedmont, but mostly uncommon in the Coastal Plain, and rare near the coast.

FLIGHT: The flight starts in April in all provinces, being a bit earlier in the Coastal Plain and Piedmont (early or mid-April) than in the mountains (late April). The long flight continues to mid-October (rarely to early November) in the Piedmont, at least to early October in the Coastal Plain, and to in the mountains.

HABITAT: Ponds and small lakes, as well as slow-moving streams, usually where there is emergent vegetation.

COMMENTS: As with so many of our damselflies, the number of recent records with flight dates is far fewer than what would be expected from the large number of county records historically -- implying little effort at studying damselflies by more recent biologists. Though the species occurs perhaps in all 100 counties, it is not overly common anywhere, with just two single-day tallies of over 15 individuals.

Enallagma civile Familiar Bluet



High counts of:
450 - Wilkes; P - 2018-05-27
375 - Wilkes; P - 2018-05-20
210 - Wilkes; P - 2018-07-21

Earliest date: Onslow 2017-03-11
Latest date: Onslow 2016-12-23

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide. Though no records for four counties in the southwestern tip of the state, it is assumed to occur in all 100 counties.

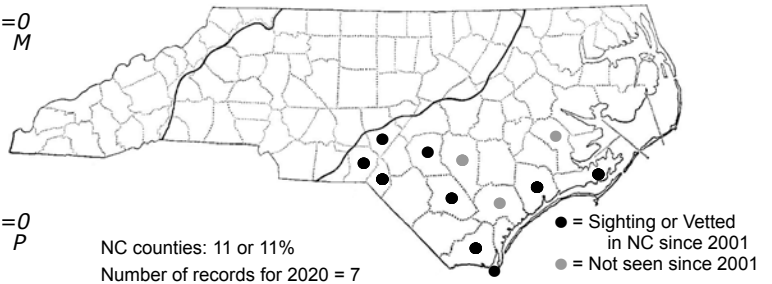
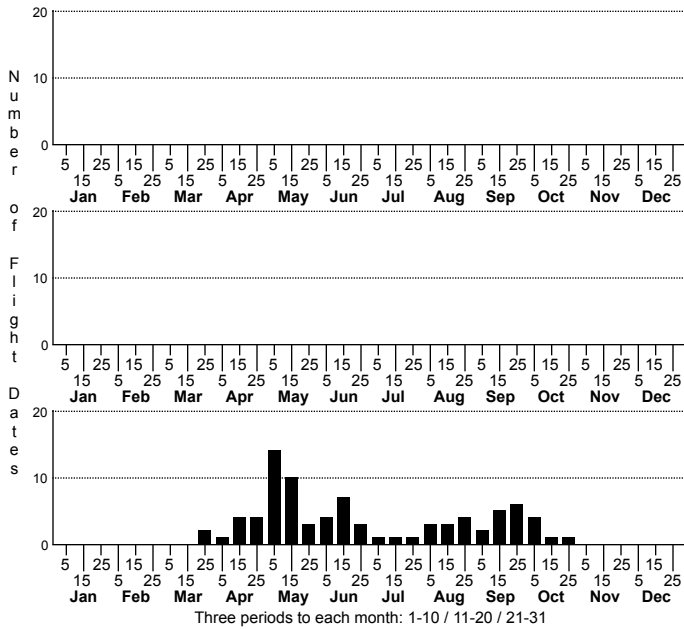
ABUNDANCE: Common and widespread across the Coastal Plain and Piedmont; common in the northern and central mountains, but less numerous in the southwestern mountains.

FLIGHT: A very long flight period for a damselfly -- in the Coastal Plain from mid-March to late December, though scarce after mid-November. In the Piedmont and mountains, the flight starts around mid-April and extends to mid-November in both provinces.

HABITAT: A wide array of ponds and other still water habitats, even slow-moving rivers -- especially where emergent vegetation is present.

COMMENTS: This is one of the state's most common damselflies, and one of the few that is numerous in truly coastal counties. It is quite similar in appearance to Atlantic Bluet, and thus sight reports of these two in the Coastal Plain must be made with care and might be suspect.

Enallagma concisum Cherry Bluet



NC counties: 11 or 11%
Number of records for 2020 = 7

High counts of:
91 - Scotland - 2020-06-08
44 - Brunswick - 2017-05-02
34 - Bladen - 2017-05-07

Earliest date: Carteret 2016-03-29
Latest date: Carteret 2016-10-23

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G4
[S3]			

DISTRIBUTION: The southern third/half of the Coastal Plain only, north to Craven Sampson, Cumberland, and Moore counties. NC lies at the northeastern end of the species' range.

ABUNDANCE: Generally uncommon, but locally fairly common at a few sites, where several single-day counts of 25 or more individuals were made in 2017.

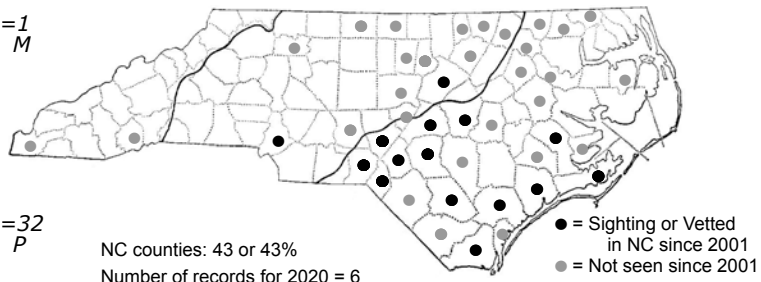
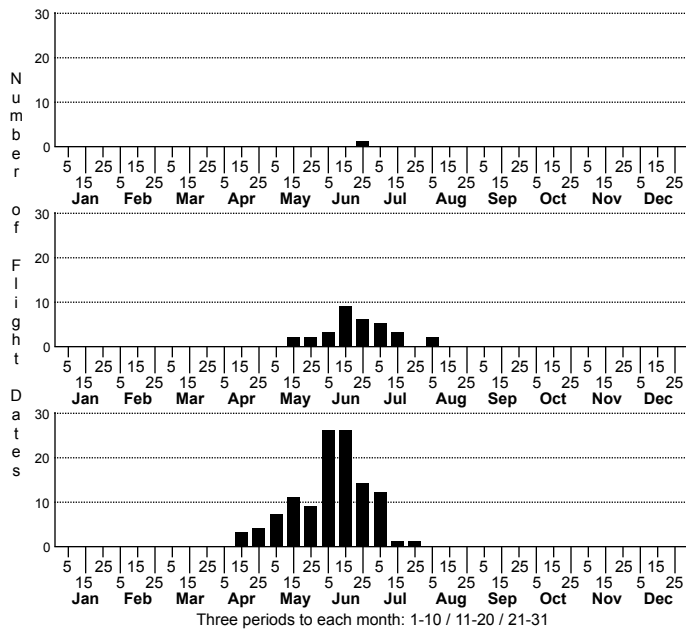
FLIGHT: The flight is moderately extended, from very late March to late October.

HABITAT: Ponds or lakes with sandy bottoms, particularly where there is much emergent vegetation.

BEHAVIOR: Perches on lily pads and other floating or emergent vegetation.

COMMENTS: There are quite a few "holes" in the county range map, suggesting that the species is a bit local in occurrence. Though it is given an S3S4 State Rank by the N.C. Natural Heritage Program, it might not quite warrant a Watch List status. There have been quite a few records for the species from 2017-2020, including several sizable counts, including an amazing tally of 91 adults in 2020 in Scotland County. However, with just 11 counties known in the state, a rank of straight S3 might be more appropriate.

Enallagma daeckii Attenuated Bluet



High counts of:
85 - Carteret - 2016-05-25
67 - Carteret - 2016-05-08
60 - Moore; C - 2013-06-12

Status		Rank	
NC	US	NC	Global
-	-	S4	G4

Earliest date: Moore; C 2008-04-16
Latest date: Rockingham 1971-08-07

DISTRIBUTION: Roughly the eastern half of the state, and highly scattered elsewhere to the west. Specifically, nearly throughout the Coastal Plain (though perhaps absent in some Tidewater counties), the eastern third of the Piedmont, and very sparingly westward to include the extreme southern mountains. Presumed absent from the central and northern mountains; however, presumed to occur as a rarity in the western Piedmont counties.

ABUNDANCE: Common in the Sandhills, but mostly uncommon elsewhere in the southern half of the Coastal Plain (though locally common in Carteret County). Rare to uncommon in the northern Coastal Plain, and perhaps absent close to the northern coast. Rare in the eastern Piedmont, and very rare at best elsewhere in the Piedmont and southern mountains.

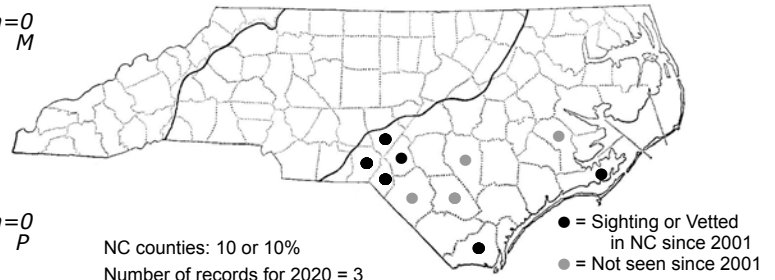
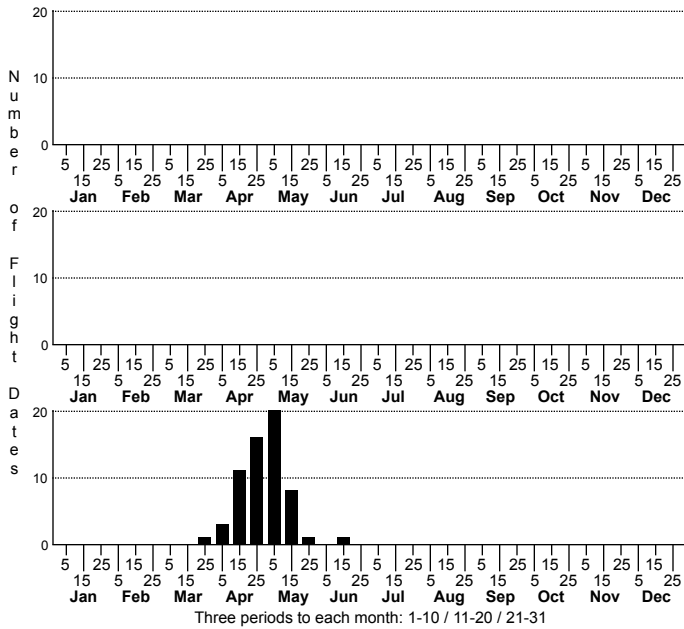
FLIGHT: A shortened flight for a bluet, seemingly not occurring after mid-summer. In the Coastal Plain, it occurs from mid-April only to late July, and in the Piedmont from mid-May to early August. The only date record available for the mountains is for late June.

HABITAT: Sand-bottomed ponds and lakes, almost always in wooded areas and with shrubby margins.

BEHAVIOR: Typically perches within clumps of grass or shrubs, where difficult to observe.

COMMENTS: Our two highest counts are now from the southeastern coastal area. There are also several sizable single-day counts from the Sandhills. Despite there being at least 15 county records west of the Fall Line, there are just two recent reports from this large area, from Mecklenburg and Wake counties. The species is fairly distinctive in its "skinny" look, and thus it has possibly declined in the Piedmont. New records for the Piedmont, and the northern half of the Coastal Plain, are greatly needed.

Enallagma davisii Sandhill Bluet



High counts of:
 40 - Scotland - 2020-04-17
 25 - Scotland - 2008-04-19
 20 - Moore; C - 2019-04-22

Earliest date: Scotland 2020-03-27
 Latest date: Richmond; C 1969-06-13

Status	Rank	
	NC	US
-	-	S3S4 G5
		[S3]

DISTRIBUTION: Primarily the Sandhills region, but sparingly east to the southeastern corner of the state. As NC lies at the northern end of the range, the current northern limits are Craven, Sampson, and Moore counties.

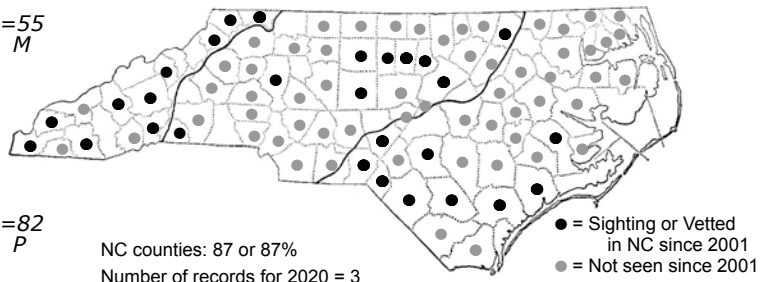
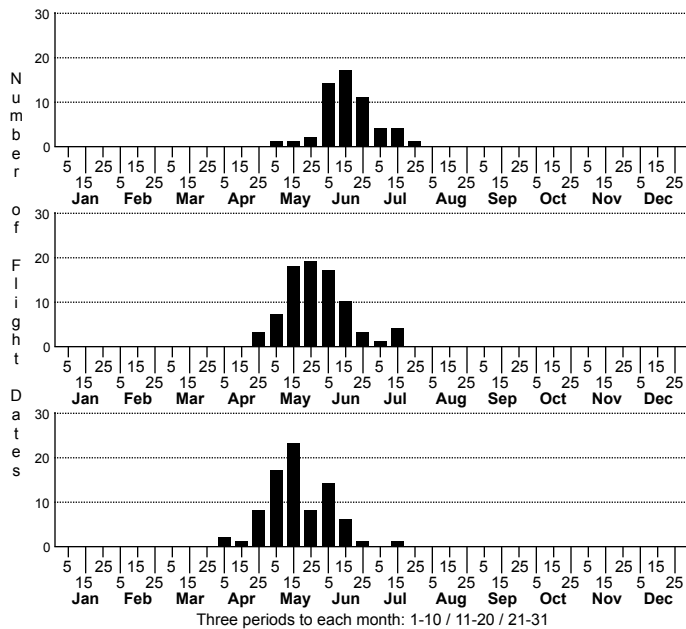
ABUNDANCE: Generally uncommon and local, eastward to Sampson and Bladen counties, and very rare east to Carteret County. Fairly common at a few favored locales in the Sandhills.

FLIGHT: A spring-season flight only, unusual for a bluet. The flight occurs from very late March to mid-June, but is mostly over by mid-May.

HABITAT: Sandy-bottomed lakes or large ponds, with emergent vegetation along the shore.

COMMENTS: Though there are many dragonflies with a flight period in the spring season only, there are few such "spring only" damselflies. As with the Cherry Bluet, the species does not seem quite scarce enough to be considered as a Watch List species by the N.C. Natural Heritage Program. Nonetheless, the State Rank is probably better at S3 than a less scarce S3S4 where it currently is ranked. Thankfully, we now have a few recent records away from the Sandhills, documented by photos, from as far east as Carteret County and southeast to Brunswick County. Surprisingly there are no records yet for Cumberland County, much of which lies in the Sandhills region.

Enallagma divagans Turquoise Bluet



High counts of:
150 - Onslow - 2018-05-18
120 - Wake - 2014-05-19
50 - Pender - 2016-05-01

Earliest date: Sampson 1990-04-01
Latest date: Ashe 2007-07-29

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide. Possibly absent in one to several high-elevation mountain counties, and possibly a county or two along the Outer Banks. Nonetheless, the assumption should be made that it occurs in all counties.

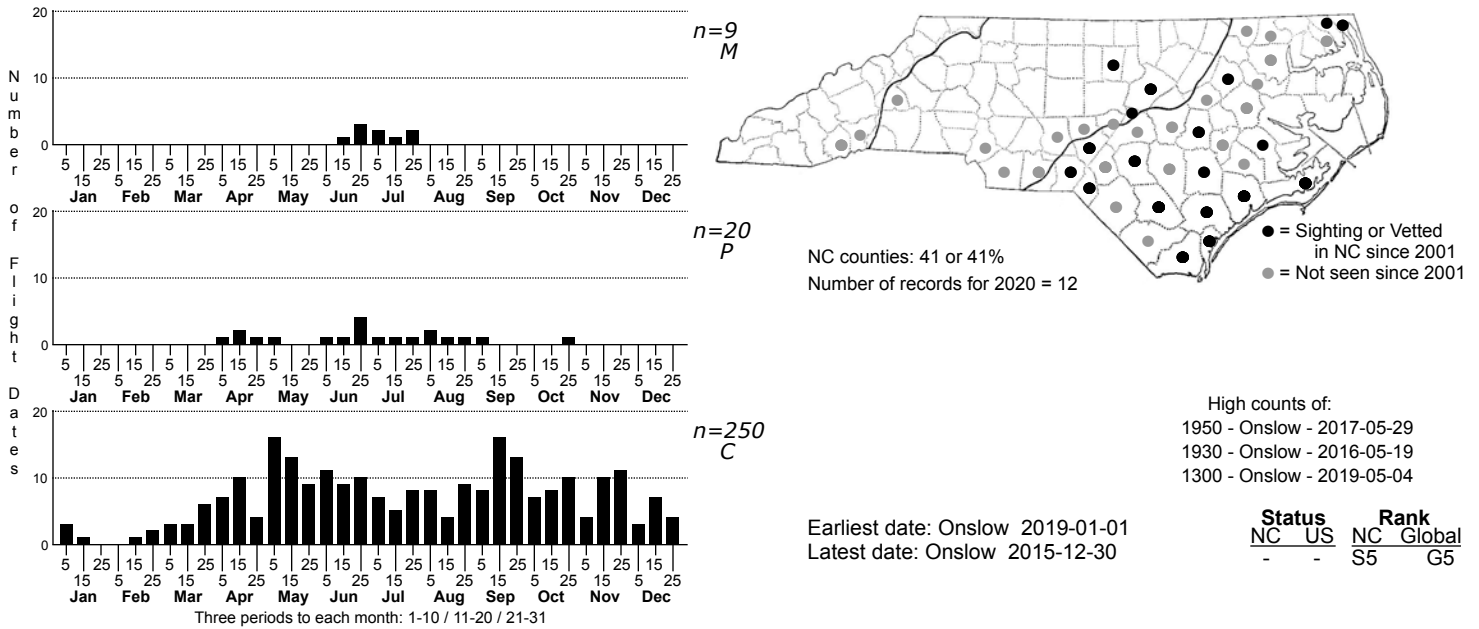
ABUNDANCE: Generally fairly common (to locally common) across the state, though certainly rare in the extreme eastern counties and in the higher elevations. A one-day count of 120 was made in the eastern Piedmont in 2014, tripling the previous single one-day count of 40; a count of 150 was made in a southern coastal county in 2018.

FLIGHT: This is another bluet that ends its flight by mid-summer, as opposed to flying well into the fall season. In the Coastal Plain, it occurs from early April only to mid-July. The Piedmont flight is from late April to mid-July, and the mountain flight is slightly later -- early May to late July. There are no August records as yet for the entire state.

HABITAT: Varied. More often at slow-moving streams, but it also is found along pond and lake margins.

COMMENTS: It seems odd that the known counties for it in the mountains are spottily distributed, considering that there are a few notably high counts for the species there. This suggests that the species can be numerous at the lower elevations (below 3,000 feet), but that at middle and high elevations can be quite scarce. There are relatively few recent records from the Piedmont, and essentially no photos; has it declined in this province? Looking at most of the damselfly maps, however, it seems that there just are not many people searching for and photographing damselflies in this large province, except in far eastern (Fall Line) counties and some at the far western end next to the mountains.

Enallagma doubledayi Atlantic Bluet



DISTRIBUTION: Generally throughout the Coastal Plain, and the southeastern third of the Piedmont; also sparingly in the southern mountains. Seemingly absent over most of the northwestern half of the state, including most of the Piedmont and most of the central and northern mountains. This is basically an Atlantic slope species, not found west of the Appalachians and rarely within them.

ABUNDANCE: Often overlooked because of identification difficulties, especially with Familiar and Big bluets. Uncommon to locally abundant in the southern half of the Coastal Plain, and rare to uncommon in the northwestern part of the Coastal Plain. Rare in the extreme eastern Coastal Plain and the southeastern Piedmont, and very rare west to McDowell, Henderson, and Transylvania counties. However, a 2019 count of 22, made from a kayak along the border of Camden and Currituck counties, suggests that it might be locally numerous in parts of the northern Coastal Plain.

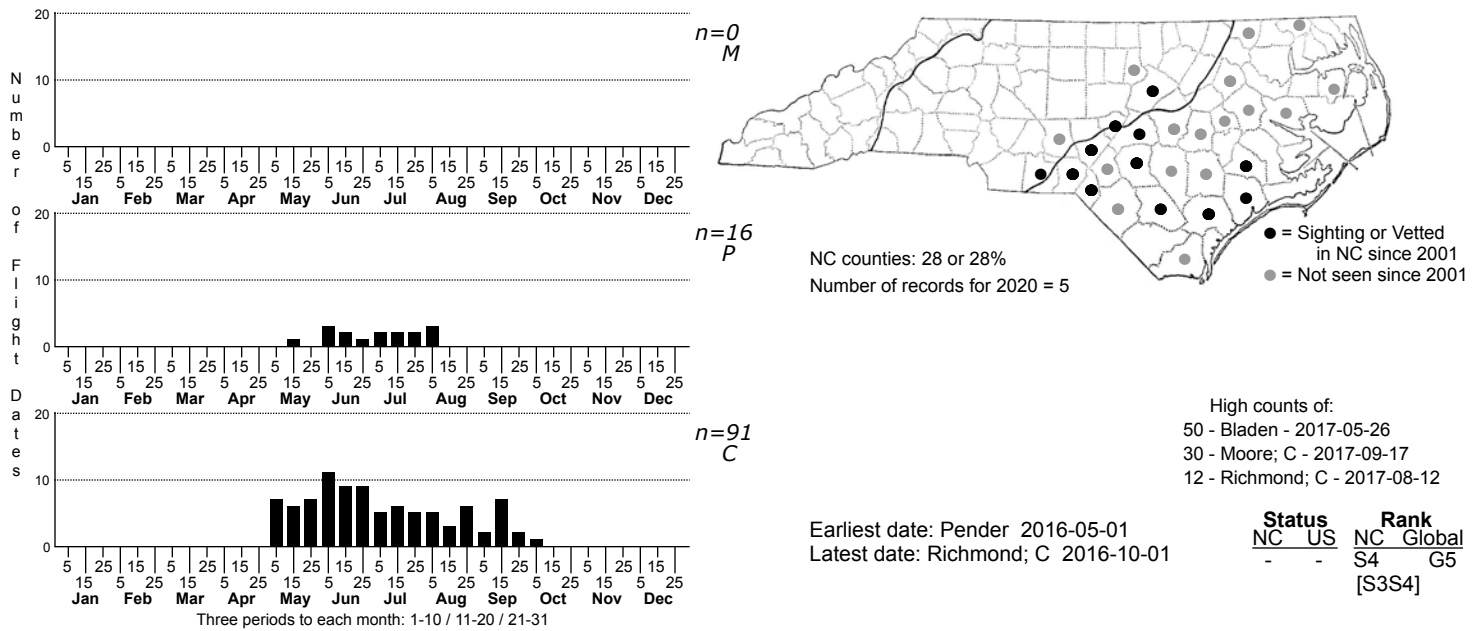
FLIGHT: A very wide flight period, extending to early winter. In the Coastal Plain, records occur from mid-February to mid-January. The relatively few Piedmont records fall between early April and late October, whereas mountain records occur only from mid-June to late July (so far).

HABITAT: A variety of ponds and lakes, rarely slow-moving creeks/rivers, at least where emergent vegetation is present. Mainly a pond species.

BEHAVIOR: Males perch low on vegetation over water; females more often found in shoreline vegetation or on the ground on nearby roads or trails.

COMMENTS: Beaton (2007) notes that the species in GA is likely under-reported, and certainly the same can be said for NC. Though there are specimen records for about 35-38% of the counties, until a few years ago there were no posted photos on the website, suggesting that recent biologists had trouble distinguishing the species from other bluets by sight or even by photographs. Thankfully, we now have well over a dozen photos on the website. Much more data are desired to flesh out the range in the state, such as in the southern Piedmont and in the far-eastern Coastal Plain. Interestingly, Paulson (2011) calls it common, and the now 250 records with dates for the Coastal Plain suggest that it is locally abundant, at least in the southeastern portion of the province. Most of these recent records have come from field work done by Mark Shields, especially at several limesink ponds.

Enallagma dubium Burgundy Bluet



DISTRIBUTION: Scattered over nearly all of the Coastal Plain, and sparingly into the extreme eastern Piedmont. Absent from the western half of the state, and possibly absent in northern coastal areas.

ABUNDANCE: Generally uncommon (to locally fairly common) in the southern half of the Coastal Plain, and very rare and of spotty occurrence in the northern half. Rare in the narrow Piedmont portion of the range. Through 2016, the highest single-day count was only six individuals, but there have been several counts of double-digit individuals, including an excellent one-day tally of 50, in 2017.

FLIGHT: The Coastal Plain flight occurs from early May to very early October, whereas that in the adjacent Piedmont is from mid-May to early August.

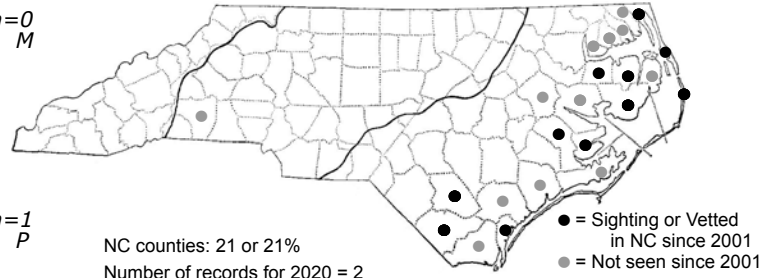
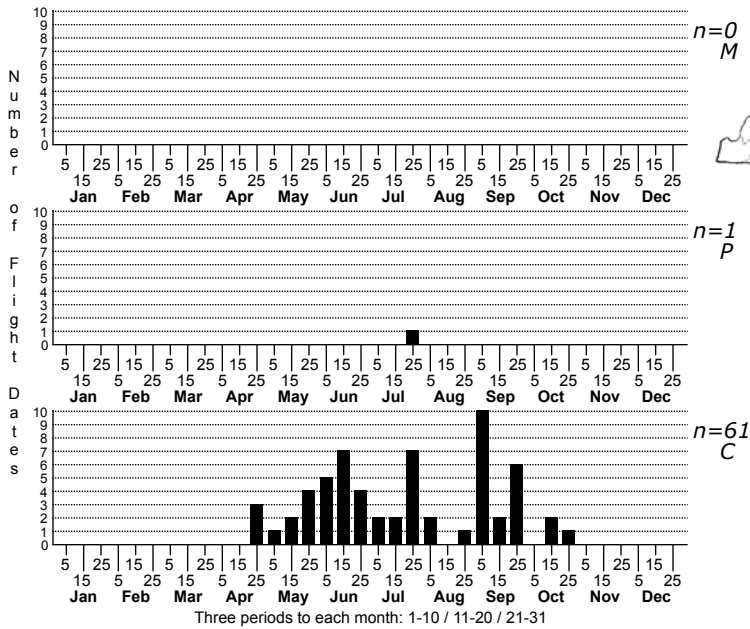
HABITAT: Generally in highly vegetated ponds or small lakes, especially with floating vegetation such as lily pads.

BEHAVIOR: Often perches on lily pads.

COMMENTS: The male has a red and black thorax, fairly similar to that of the Cherry Bluet. Through 2016 we had very few recent records, but a stronger interest in studying odonates, especially damselflies, has taken place in at least the southern Coastal Plain starting in 2017. However, few people are searching for damselflies currently in the northern Coastal Plain, though it seems likely that the species has always been relatively rare in this part of the range.

The current State Rank of S4 might be somewhat liberal for this uncommon species. The fact that zero records were made during the entire 2019 year suggests a rarer SRANK, probably at S3S4. Thankfully, there were 5 records in 2020.

Enallagma durum Big Bluet



High counts of:
 217 - Hyde - 2016-06-19
 70 - Dare; OBM - 2018-09-08
 30 - Bladen - 2017-05-11

Earliest date: Columbus 1967-04-23
 Latest date: Columbus 2012-10-23

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Essentially just the eastern half of the Coastal Plain; absent from the western half of the Coastal Plain counties, including the Sandhills. Absent in the mountains and Piedmont, except for a record from Rutherford County. As would be expected from the NC range, this species' US range is mainly limited to tidal and estuarine areas, north to ME, though it does occur over most of peninsular FL. In addition, the Odonata Central range map shows scattered records for TN, northeastern AL, and north-central GA; thus the collection record for Rutherford County may well be legitimate.

ABUNDANCE: Locally fairly common in coastal counties and those in the Tidewater zone, as there are several one-day counts of at least 30 individuals (plus an excellent count of 217 individuals from Hyde County). Rare to uncommon farther inland (such as in Bladen County).

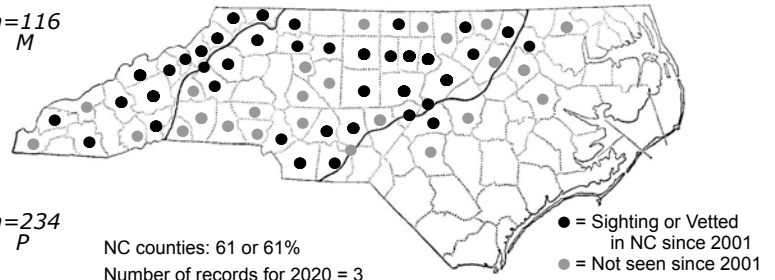
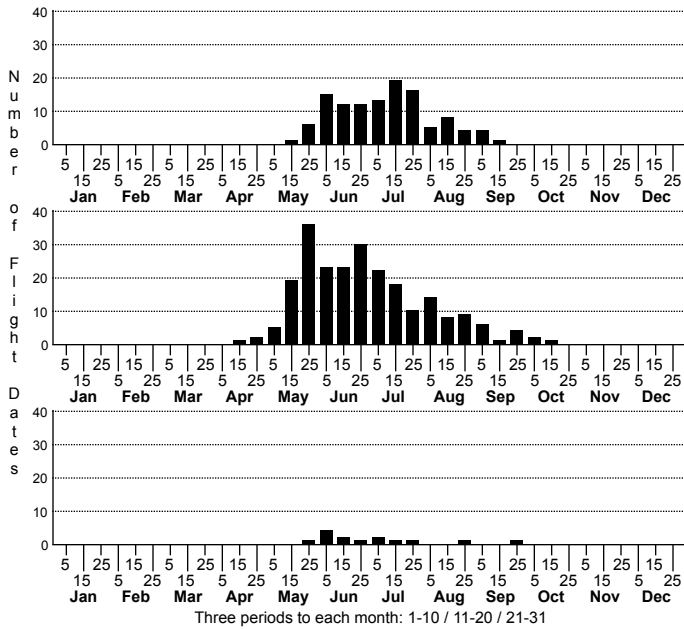
FLIGHT: The flight occurs from late April to late October. The Rutherford County record is for late July.

HABITAT: Unusual for most damselflies -- mainly along the lower portions of large rivers near or at estuaries, including the vicinity of brackish marshes. Also at large lakes with sandy bottoms, such as Lake Waccamaw.

BEHAVIOR: Often perches low on emergent vegetation.

COMMENTS: This species has a range in NC like no other damselfly, but quite a bit like several dragonflies, particularly Needham's Skimmer, Four-spotted Pennant, and Seaside Dragonlet. It is certainly one of the very few damselflies that can be locally numerous in coastal marshes and other wetlands along the coast. The species had been given a State Rank of S4S5 for a number of years, but the N.C. Natural Heritage Program moved it to a more reasonable S4 rank in late 2020.

Enallagma exsulans Stream Bluet



High counts of:
235 - Durham - 2013-08-24
170 - Durham - 2014-06-05
115 - Wake - 2014-06-25

Earliest date: Anson 2017-04-20
Latest date: Montgomery 1995-10-18

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the mountains and Piedmont; also in the upper Coastal Plain, east to Hertford, Pitt, and Cumberland counties.

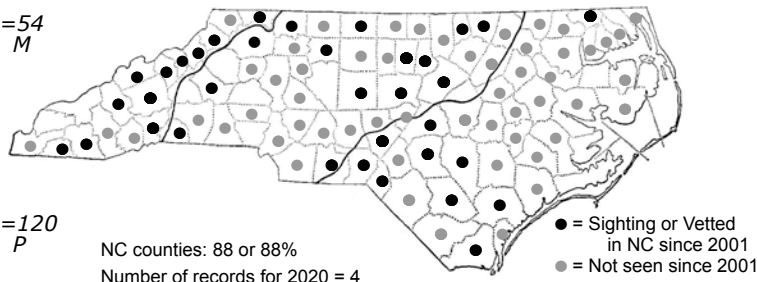
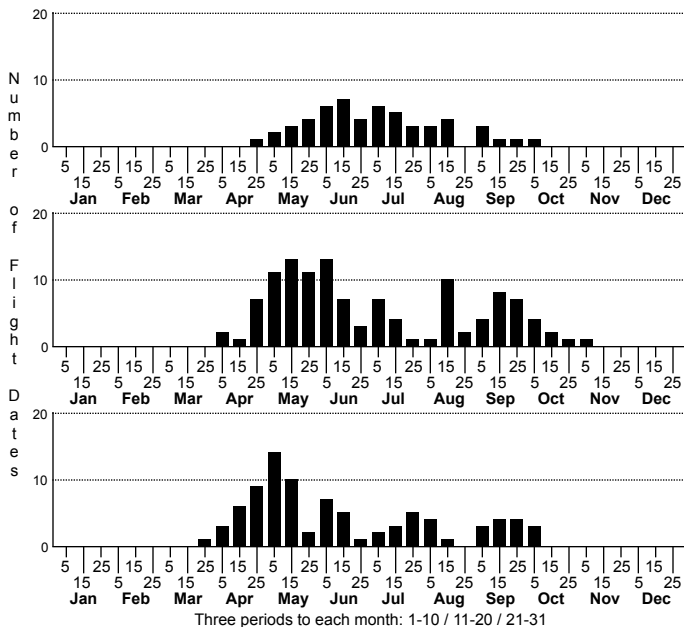
ABUNDANCE: Common, at least locally, in the mountains and Piedmont; rare in the Coastal Plain portion of the range. Several counts of at least 100 individuals in a day have been made in the eastern Piedmont.

FLIGHT: Late April to mid-October in the Piedmont, and mid-May to at least mid-September in the mountains. The relatively few dates from the Coastal Plain fall between late May and late September, though the flight ought to be similar to that in the Piedmont.

HABITAT: A wide variety of creeks and rivers, with slow to moderate current.

COMMENTS: This species generally avoids lakes, ponds, and other still waters -- unlike nearly all other bluets. It seems to be one of the few bluets that observers in the Piedmont seem to bother to photograph in recent years, perhaps as most people there are looking at creeks and rivers for clubtails and other dragonflies, and not looking around pond and lake margins for those many damselfly species that favor lentic conditions (versus lotic conditions of flowing waters).

Enallagma geminatum Skimming Bluet



High counts of:
345 - Wake - 2014-05-13
175 - Wake - 2013-05-12
80 - Wake - 2010-05-30

Earliest date: Gates 2012-03-27
Latest date: Orange 2016-11-02

Status	Rank		
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Essentially statewide, though of spotty distribution in the mountains and upper Piedmont, and close to the coast. However, it likely occurs in all 100 counties.

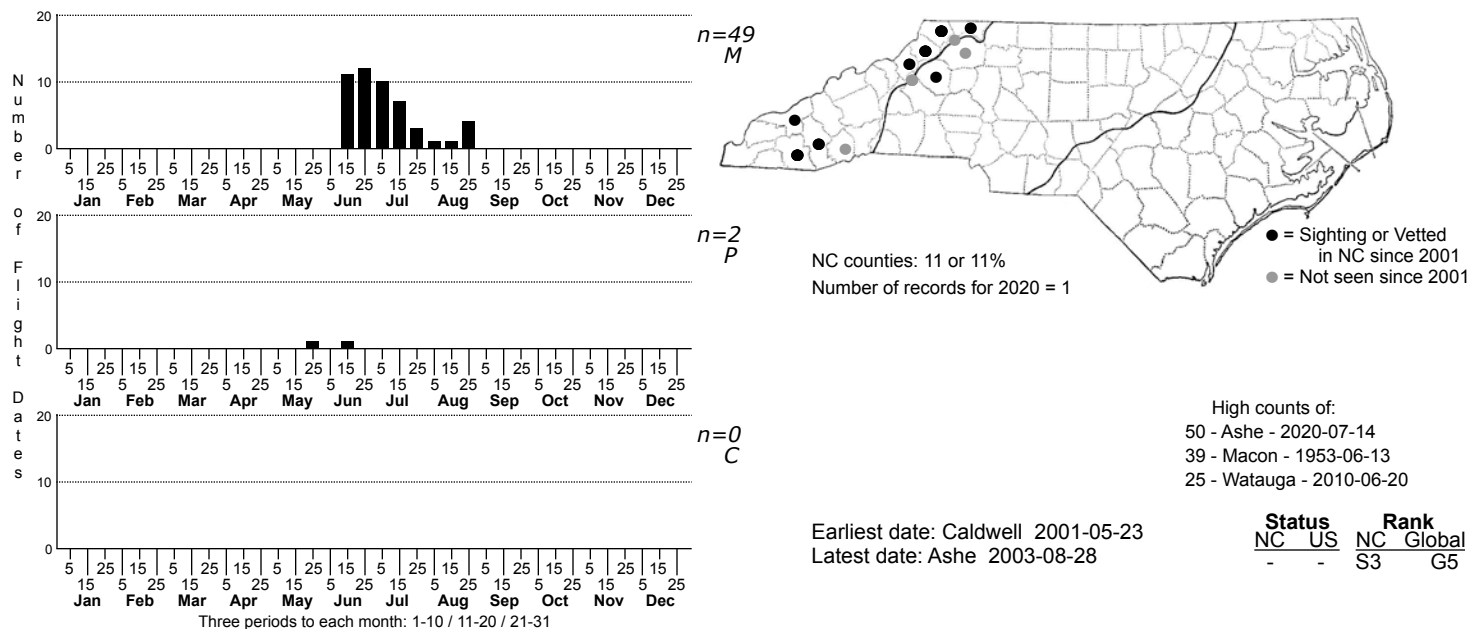
ABUNDANCE: Fairly common statewide, and locally common (several daily counts over 75 individuals). Not obviously more numerous in one province than another, though the highest counts have all come from Wake County in the eastern Piedmont.

FLIGHT: A long flight season, downstate from late March or early April to mid-October (and sparingly to early November). In the mountains, it flies from late April to early October.

HABITAT: A variety of still, open waters, typically lakes and ponds, especially where there are lily pads or other floating vegetation.

COMMENTS: Additional field work in the western third of the state ought to provide new county records. However, there are fewer lakes and ponds in that part of the state that contain water lilies and other floating vegetation, not that this is a requirement to find this bluet.

Enallagma hageni Hagen's Bluet



DISTRIBUTION: Essentially throughout the mountains, and likely the extreme upper Piedmont foothills. Not surprisingly, NC lies at the southern end of the species' range, it not having yet been recorded from SC, and just at one site in extreme northeastern GA. There is a surprisingly wide gap in records in the central mountains, and fairly heavily worked Buncombe and Madison counties lack a record.

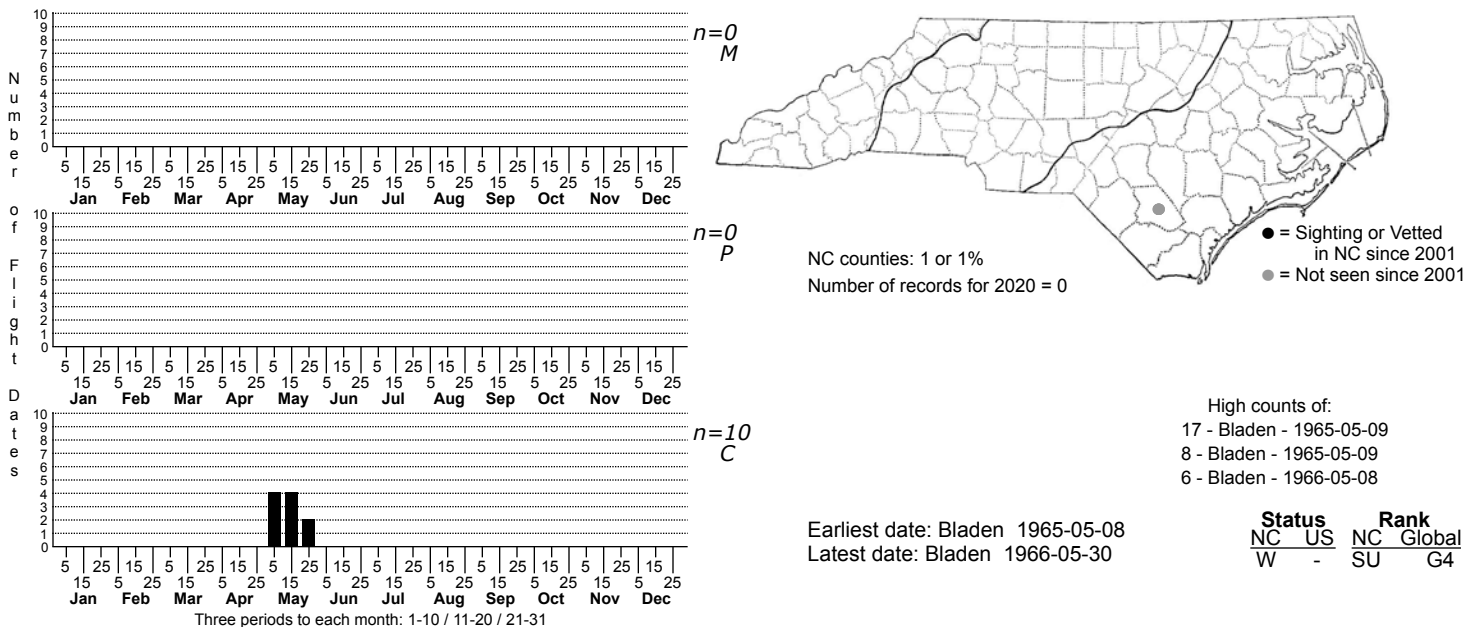
ABUNDANCE: Uncommon to locally fairly common in the mountains, but very rare in the upper parts of Piedmont foothill counties. Interestingly, there is a count of 39 individuals from Macon County; thus, it isn't overly rare in parts of the southern mountains. Paulson (2011) says "Often most common species at large northern lakes." Of course, such is not the case in NC, at the southern edge of the range.

FLIGHT: The NC records in the mountains fall between mid-June and late August, though the flight there likely starts in May. The few Piedmont records are only for late May and mid-June.

HABITAT: Ponds, small lakes, and other open water with much emergent vegetation; often at bogs and marshes.

COMMENTS: Though there are numerous dragonflies that occur in NC only in the mountains, there are very few such damselflies with this type of range. The lack of records in the central mountain counties is puzzling, though this may represent poor coverage in its pond-like habitats; much of the coverage in these counties centers on the French Broad River and its tributaries (i.e., riverine habitats).

Enallagma minusculum Little Bluet



DISTRIBUTION: Largely disjunct population, known only from White Lake in Bladen County; the major portion of the range is Northeastern, south only to southern NJ (Odonata Central range map). Believed (as of 2014) to be an introduced population.

ABUNDANCE: Can be common along lakeshores with emergent vegetation, within its main range. If it still occurs in NC, it likely must be quite local and rare, especially as nearly all records were over 25 years ago, and most of the shoreline of White Lake is now heavily developed.

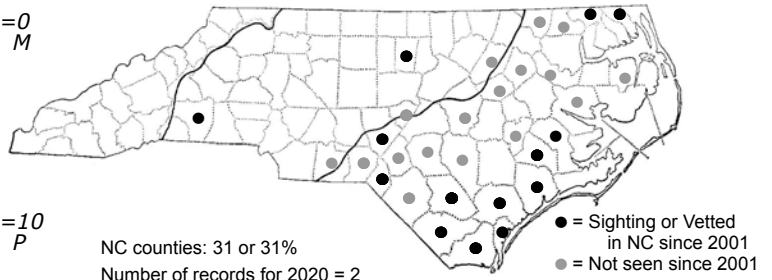
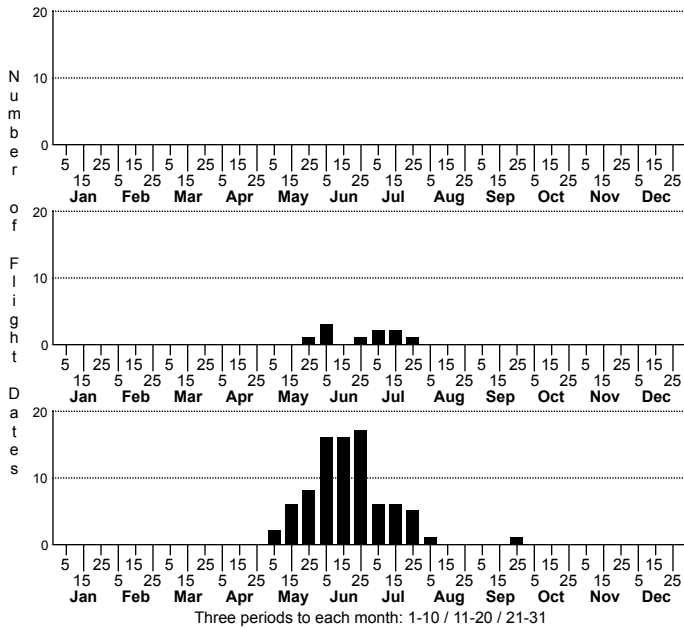
FLIGHT: The 10 dates for NC fall within a narrow time window -- early May to late May. However, in a 1968 publication by Duncan Cuyler -- who was responsible for essentially all records and other information on the species in the state, he states "From May to July this species is abundant at White Lake". Thus, the flight period extends for two to three months and covers that May to July span, if not a wider span of dates (when it might not be abundant).

HABITAT: Floating or emergent vegetation along lakeshores.

COMMENTS: This is likely the rarest damselfly in NC, if it still exists. The last observation was May 1997, thus giving hope that it still occurs around White Lake. Mark Shields kayaked completely around White Lake on 11 May 2017 specifically searching for this species, but he found none. Several others have also searched the shore of this now-heavily developed lake and have not found it, though it is not certain if these surveys were done into June or July.

Other bay lakes in Bladen County have been well-worked over the past few decades -- Jones, Baytree, Singletary, etc.; yet, there are no records of Little Bluet for them, the reason a few biologists wonder why a northern species would be disjunct far to the south at only White Lake, and not at other similar lakes. Therefore, in Fall 2014 the NC Natural Heritage Program created a new Watch List category: Watch Category 6, which includes species known to occur in North Carolina which current data suggest are likely not native to North Carolina but whose native occurrence is plausible. The current State Rank is now SU (Status Undetermined) -- more of a rank that says it is not clear if any remain in the state, and the Watch List Category 6 status indicates its uncertainty of being native to NC. A small population was recently (2011) found in southern NJ, though the gap in the range to Bladen County, NC, is still nearly 400 miles.

Enallagma pallidum Pale Bluet



High counts of:
75 - Onslow - 2016-06-04
75 - Jones - 2016-06-04
23 - Craven - 2018-06-16

Earliest date: Brunswick 2017-05-02
Latest date: Jones 1968-09-28

Status		Rank	
NC	US	NC	Global
-	-	S4	G4

DISTRIBUTION: Essentially limited to the Coastal Plain, where it likely occurs in all counties (though there are records for only 55-60% of them). Also occurs sparingly in the extreme southeastern Piedmont, near the Sandhills region; and a photo from Orange County (from 2003) extends the range westward into the northeastern Piedmont. A sight report for Rutherford County, in the far-western Piedmont, is open to question; there are no known Piedmont, much less upper Piedmont, records for SC or GA (on the OdonataCentral map).

ABUNDANCE: Uncommon to locally fairly common in the southern Coastal Plain -- Sandhills area east to Craven and Onslow counties, but generally rare elsewhere in the Coastal Plain. Very rare in the narrow portion of the range in the Piedmont.

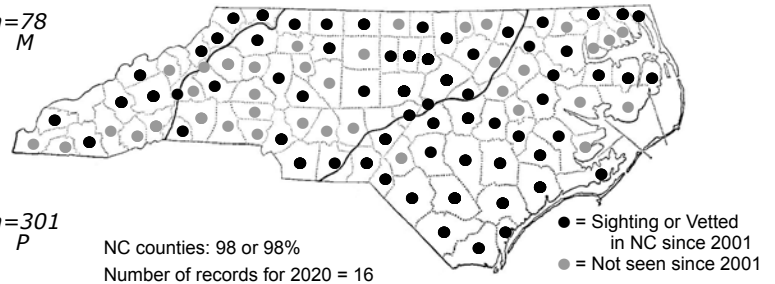
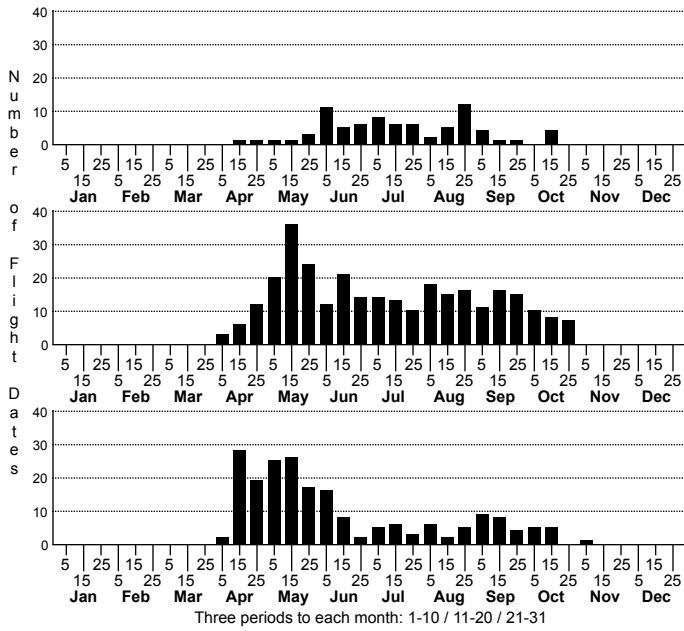
FLIGHT: In the Coastal Plain, the flight occurs between early May and early August, with a collection record from late September being quite late. The few flight dates for the Piedmont occur from late May to late July.

HABITAT: Lakes and ponds, especially where there are shrubby or swampy areas around the waters. Also swampy edges of blackwater creeks and rivers.

BEHAVIOR: Males perch low on stems close to shore, often in the shade.

COMMENTS: In the past several years, there have been quite a few photographs to document the species, especially in the southern Coastal Plain. However, recent observations/photos from the northern two-thirds of this province have been lacking, due perhaps mainly to poor surveys of damselflies in this part of the state. Some form of documentation for the Rutherford County report is needed, as it seems that the species is absent from the Piedmont throughout its range, except very close to the Fall Line.

Enallagma signatum Orange Bluet



High counts of:
325 - Wake - 2013-09-14
265 - Wake - 2012-08-16
260 - Wake - 2015-09-19

Earliest date: Wake 2016-04-02
Latest date: Bladen 2017-11-01

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, lacking records from just two mountain counties. Certainly present in all 100 counties. Unlike many damselflies with a "statewide" range, this species has been recorded from all coastal counties.

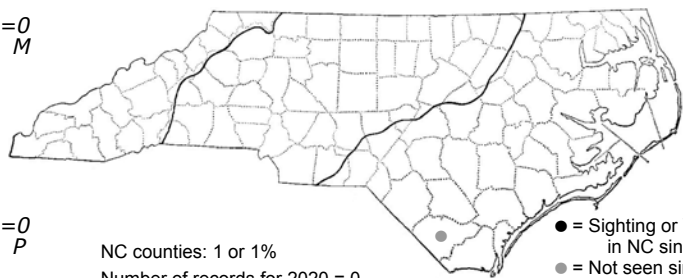
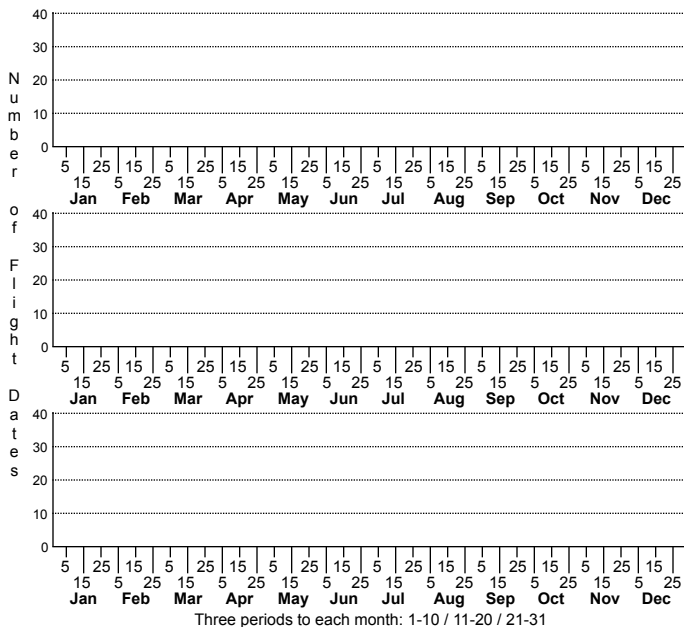
ABUNDANCE: Common and widespread in the Coastal Plain and Piedmont; locally abundant in a few areas. Fairly common to perhaps locally common in the mountains.

FLIGHT: A long flight period -- early or mid-April to late October, in all three provinces.

HABITAT: A broad range of lakes, ponds, and slow-moving streams.

COMMENTS: This is as widespread in the state as any damselfly, and is reasonably common as well. The orange color on the male is quite noticeable.

Enallagma sulcatum Golden Bluet



● = Sighting or Vetted in NC since 2001
 ● = Not seen since 2001

High counts of:

Earliest date: ?
 Latest date: ?

Status		Rank	
NC	US	NC	Global
W	-	SU	G4

DISTRIBUTION: Specimen known from Columbus County (generally presumed to be Lake Waccamaw), though this record does not show up in the list of specimens housed at the University of Florida, where all of Duncan Cuyler’s specimens are housed. Paulson (2011), however, show a dot for southeastern NC in the range map in his book. This species is limited to the Gulf Coast region, from southern AL to central FL; the nearest population is northern FL.

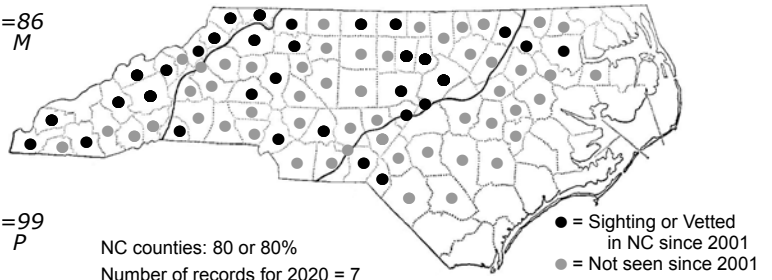
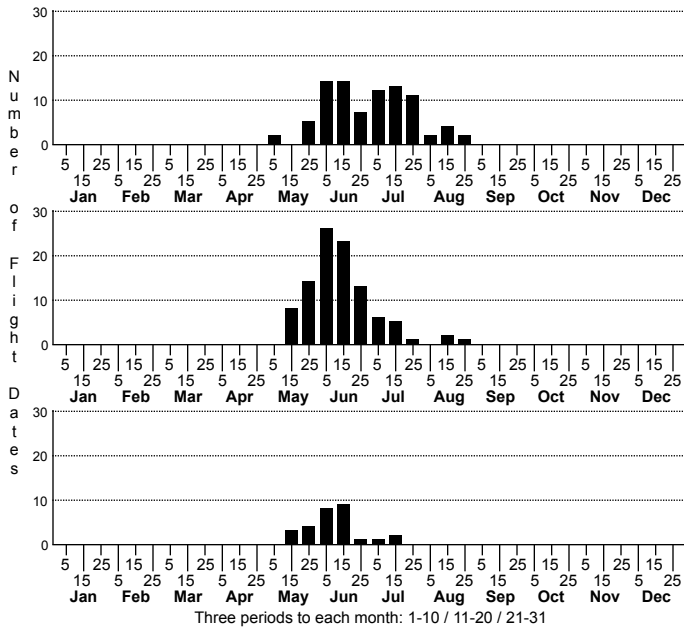
ABUNDANCE: Unknown in the state; can be very abundant in FL. It is possibly extirpated from the state, if it ever were positively documented from the state. Recent surveys for Golden Bluet along the shore of Lake Waccamaw have been negative for this species, though it is not 100% certain that the purported record came from this lake.

FLIGHT: In FL, flies from February to November. The flight in NC is unknown.

HABITAT: Sand-bottomed lakes with lots of shore vegetation (including grasses and lily pads).

COMMENTS: This, along with the Little Bluet, may be the most poorly known damselfly in NC. However, unlike the northern Little Bluet, it is more likely that a southern species of large natural sand-bottomed lakes (Florida) would be disjunct to NC, which does have such lakes in Bladen and Columbus counties. [Note that the Belle’s Sanddragon and the Sandhill Clubtail also share this highly disjunct range from FL to sand-bottomed bay lakes in southeastern NC.] GA and SC have very few such sand-bottomed natural lakes. Because the whereabouts of the specimen(s) is not known, and thus there is no information about how recent the record is (assuming that it is a Golden Bluet), the N.C. Natural Heritage Program has moved its rank to SU (Status Undetermined).

Enallagma traviatum Slender Bluet



NC counties: 80 or 80%
Number of records for 2020 = 7

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
105 - Wilkes; P - 2018-06-07
100 - Orange - 2009-06-11
75 - Orange - 2010-06-05

Earliest date: Graham 2016-05-02
Latest date: Wake 2017-08-26

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Throughout the mountains and Piedmont, and over the western half of the Coastal Plain, barely reaching the counties along the western part of Albemarle Sound.

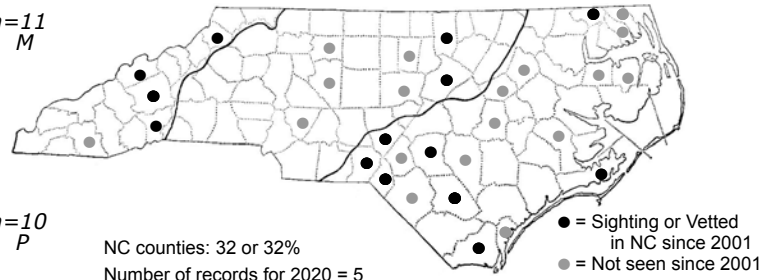
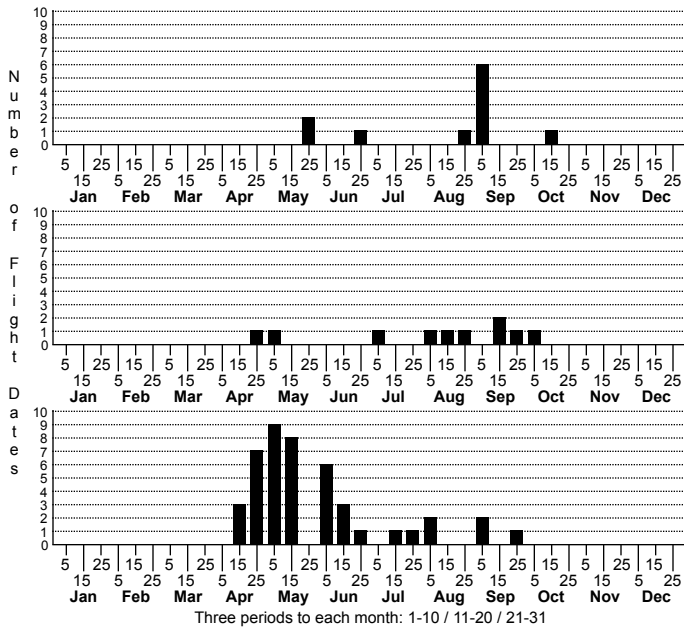
ABUNDANCE: Fairly common, to locally common, over the mountains and Piedmont; uncommon in the Coastal Plain, with but one recent report. More numerous in the mountains than downstate.

FLIGHT: Early or mid-May to late August in the mountains and Piedmont, but the Coastal Plain records extend only to mid-July (though should occur to the end of August).

HABITAT: A variety of lakes and ponds, typically with emergent vegetation.

COMMENTS: As with so many of our damselflies, there are few people looking for them in recent years in the upper half of the Coastal Plain; thus, it is no surprise that there is but a single recent flight date record from this large region. (Most odonate field work in the Coastal Plain occurs in the Sandhills and eastward to the southern half of the coast.)

Enallagma vesperum Vesper Bluet



High counts of:
25 - Gates - 2020-05-03
20 - Scotland - 2019-04-22
9 - Carteret - 2018-04-18

Earliest date: Brunswick 2018-04-17
Latest date: Buncombe 2012-10-12

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Widely scattered over the entire state, though no records yet for the upper third of the Piedmont. In theory, could occur in all 100 counties, but so far recorded only from 32 of them.

ABUNDANCE: Uncommon but rather widespread in the Sandhills region, and not local there. However, outside of this region it is rare to locally uncommon over the rest of the state, being quite rare in most of the Piedmont (with just 10 records there). The peak one-day count is 25 individuals, but all other counts except one are under ten individuals. The many counties in the Coastal Plain and Piedmont where it has yet to be recorded attests to the difficulty of finding the species in the state.

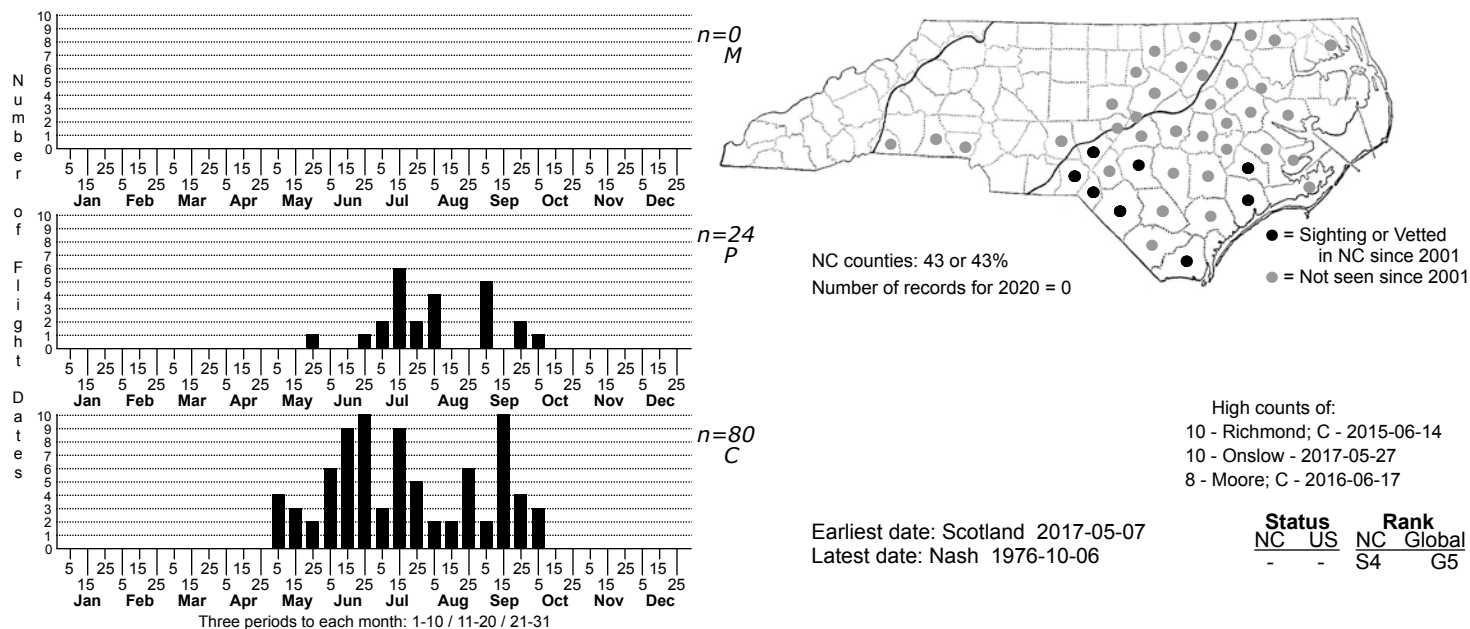
FLIGHT: In the Coastal Plain and Piedmont, it occurs from late April to early October. In the mountains, the relatively few records fall from late May to mid-October. More data are needed to fill in gaps in the flight charts, though it appears that the starting and ending dates of the flight periods are rather well established.

HABITAT: Lakes or ponds, typically where forests are nearby, for perching (typically in shade). Waters with lily pads are often used.

BEHAVIOR: As the name implies, the species flies mainly in late afternoon into twilight.

COMMENTS: The unusual daily flight timing is perhaps responsible for the scarcity of records for this otherwise geographically widespread species, which ranges from the Gulf Coast north to southern Canada. Males have a bright yellow thorax and are not likely to be overlooked, especially in combination with the highly contrasting light blue end of the abdomen.

Enallagma weewa Blackwater Bluet



DISTRIBUTION: Nearly throughout the Coastal Plain, and the extreme eastern and southern Piedmont. Absent from the mountains and the northwestern half of the Piedmont. Perhaps absent in a few counties in the northeastern Coastal Plain, such as those around Albemarle Sound.

ABUNDANCE: Though recorded from most Coastal Plain and lower Piedmont counties, suggesting that it isn't rare, there are few recent reports, and just a handful of photographs. Thus, presumed to be uncommon and overlooked within the range -- at least in the southern portion of the Coastal Plain -- if not in decline in numbers. Certainly rare in the Piedmont portion of the range, as (despite many observers in the Triangle region) there are no recent records from this province.

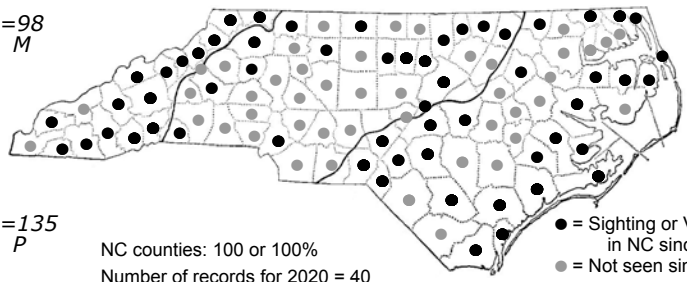
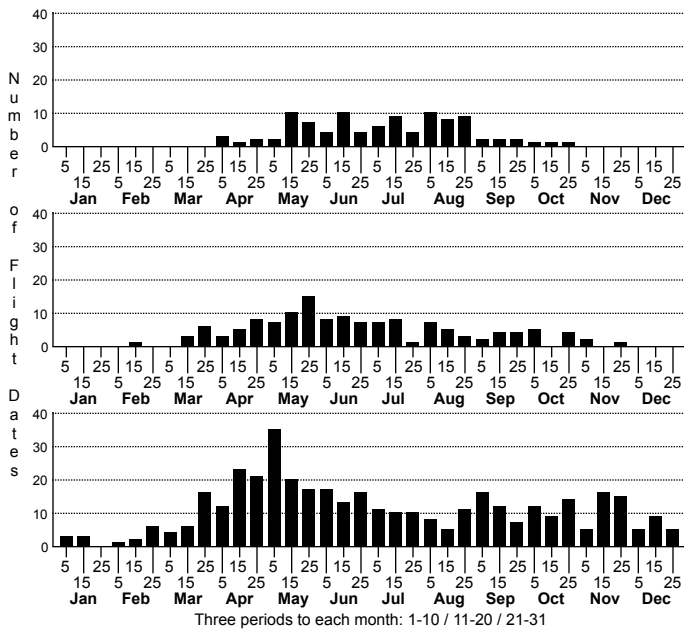
FLIGHT: In the Coastal Plain, the flight occurs from early May to early October, and the Piedmont flight is similar, though the earliest record is from late May.

HABITAT: Unusual for a damselfly: as the name suggests, it is found around blackwater (acidic) streams, rarely around larger rivers and lakes, but again with tannic (acidic) waters. However, several recent records have been at margins of lakes and ponds (in the Sandhills, where waters are acidic).

COMMENTS: It seems remarkable that Cuyler, and possibly others, have collected the species from 40 or more counties, yet there are relatively few recent observations. This scarcity of recent records is likely due to the fact that few observers look for odonates along blackwater streams; most field work is done around ponds, lakes, and larger creeks and rivers. Certainly a species that has been recorded (collected) in ecologically "impoverished" counties such as Edgecombe, Wilson, Greene, Lenoir, and Duplin cannot be that scarce. There are just a handful of known photographs available (so far) for the species in NC, and none as yet from the northern half of the Coastal Plain or eastern Piedmont.

As there were no reports at all statewide in 2019 and 2020, the State Rank has been adjusted upward to a less common S4, instead of S5. Perhaps the species is indeed declining, and not just being overlooked or difficult to survey; however, blackwater creeks and rivers have not been impacted much by development or agriculture in recent decades.

Ischnura hastata Citrine Forktail



NC counties: 100 or 100%
Number of records for 2020 = 40

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
1000 - Scotland - 2007-06-16
1000 - Scotland - 2007-06-24
329 - Carteret - 2016-03-29

Earliest date: Pender 2019-01-01
Latest date: Onslow 2015-12-30

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, found in all 100 counties.

ABUNDANCE: Very common to locally abundant in the Coastal Plain, and common westward. There are several counts of 1,000 individuals in a day, and others with over 100 individuals; most of these are in the Sandhills region of the Coastal Plain, but there are now several triple-digit counts for a coastal county (Carteret).

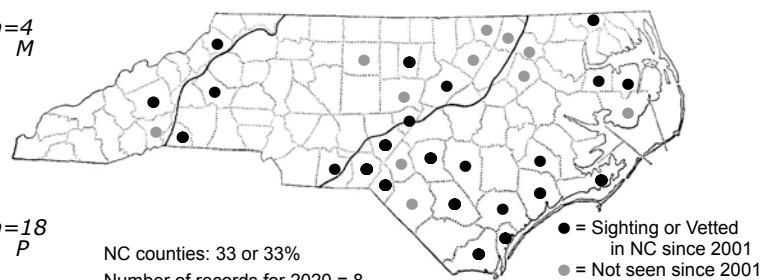
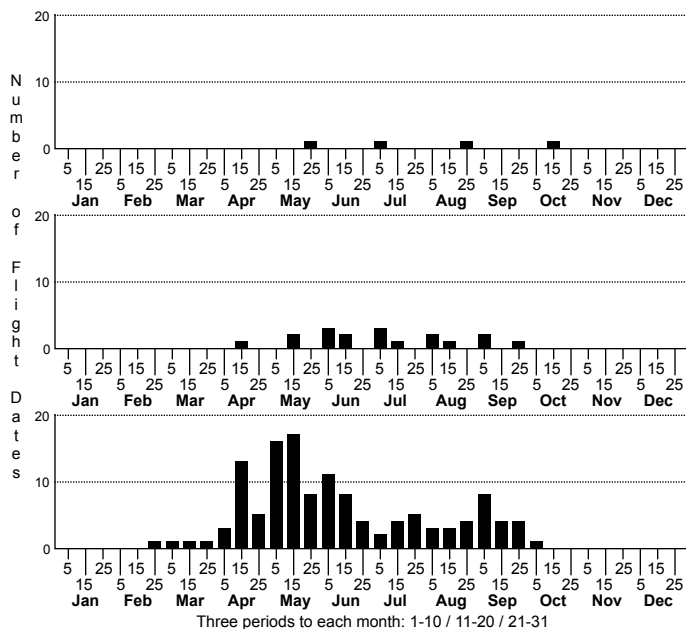
FLIGHT: A very long flight period. Primarily early March to mid-January in the Coastal Plain, but has been recorded in all months in the province. The Piedmont flight is from mid-March to late November, whereas in the mountains the flight is from early April to late October. There is also a record for mid-February in the Piedmont.

HABITAT: Lakes or ponds with much grassy vegetation around the margins; bogs, marshes. May also be found along slow-moving rivers.

BEHAVIOR: Perching low within vegetation, this tiny damselfly can be difficult to spot, though the bright colors of mature males and immature females are helpful. Typically flies in a slow, hovering manner keeping within vegetation. Both sexes and all ages often occur together.

COMMENTS: This is certainly one of the most abundant odonates (not just damselflies) in NC, from the coast to the mountains.

Ischnura kellicotti Lilypad Forktail



High counts of:
540 - Bladen - 2017-05-07
100 - Cumberland - 2018-04-22
75 - Bladen - 2017-05-26

Earliest date: Carteret 2018-02-27
Latest date: Buncombe 2011-10-17

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Spottily distributed over most of the Coastal Plain and the eastern third of the Piedmont; also sparingly in the mountains and foothills. Many gaps in the range (records for less than half of the counties within the Coastal Plain and Piedmont portion of the range). Might be truly absent in some counties in the western Piedmont and parts of the mountains.

ABUNDANCE: Uncommon to locally common in the Sandhills and at Suggs Millpond (= Horseshoe Lake) in Bladen County. Rare to locally uncommon elsewhere in the Coastal Plain and eastern Piedmont. Rare in the foothills/mountain part of the range. Ought to be present in the western parts of the Piedmont and at least the lower mountain counties.

FLIGHT: In the Coastal Plain, it occurs from early March to early October. The Piedmont flight occurs from mid-May (and likely earlier) to late September. The few mountain dates fall from late May to mid-October, suprisingly late.

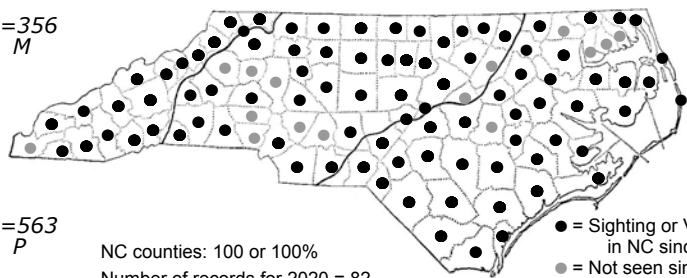
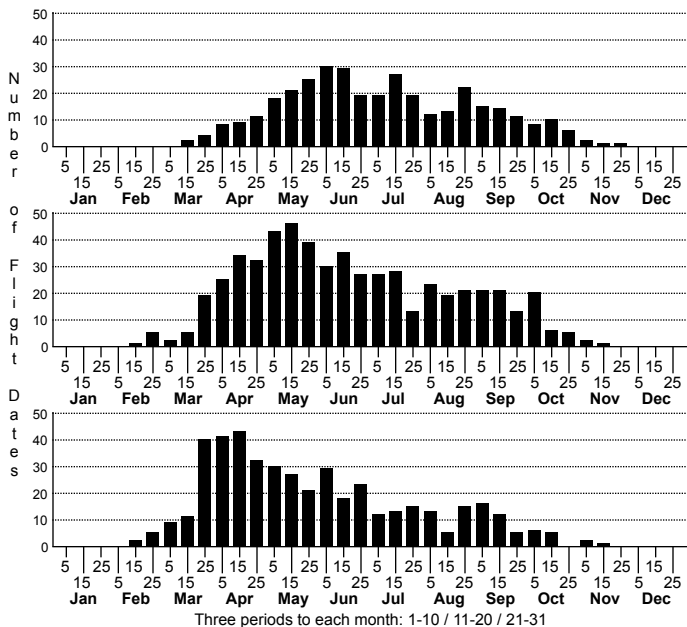
HABITAT: As the common name implies, it is essentially found only at lakes or ponds with lilypads.

BEHAVIOR: Adults can be identified by their habit of curving the abdomen such that the club typically touches the lilypad.

COMMENTS: There is much opportunity for biologists to "fill in the holes" in the range map with new county records. In fact, several new county records were added in 2016 and 2017. The species is considered to be "Common below the Fall Line" in GA (Beaton 2007), and in NC it can be at least locally quite common at a few lakes and ponds in the southern Coastal Plain/Sandhills.

The number of recent records, as compared with those older collection records by Cuyler, suggests that the species is likely increasing in numbers and range in the state. Thus, the State Rank is suggested to be moved from the relatively scarce S3S4 to S4.

Ischnura posita Fragile Forktail



NC counties: 100 or 100%
Number of records for 2020 = 82

● = Sighting or Vetted in NC since 2001
● = Not seen since 2001

High counts of:
475 - Wake - 2013-04-27
375 - Wake - 2014-04-23
245 - Wake - 2013-05-03

Earliest date: New Hanover 2017-02-12
Latest date: Buncombe 2011-11-25

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Statewide, recorded from all 100 counties.

ABUNDANCE: Abundant nearly everywhere; arguably the most widespread and frequently seen damselfly in the state, though not occurring in the abundance that the Citrine Forktail can be found in the Sandhills region.

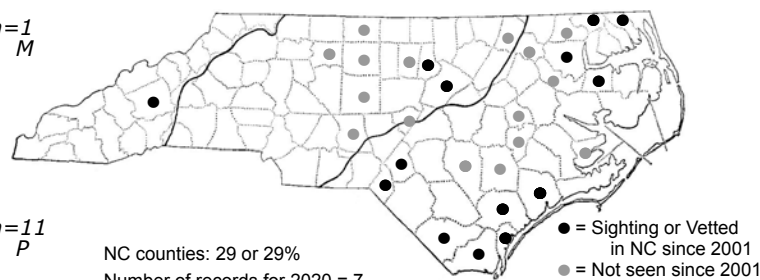
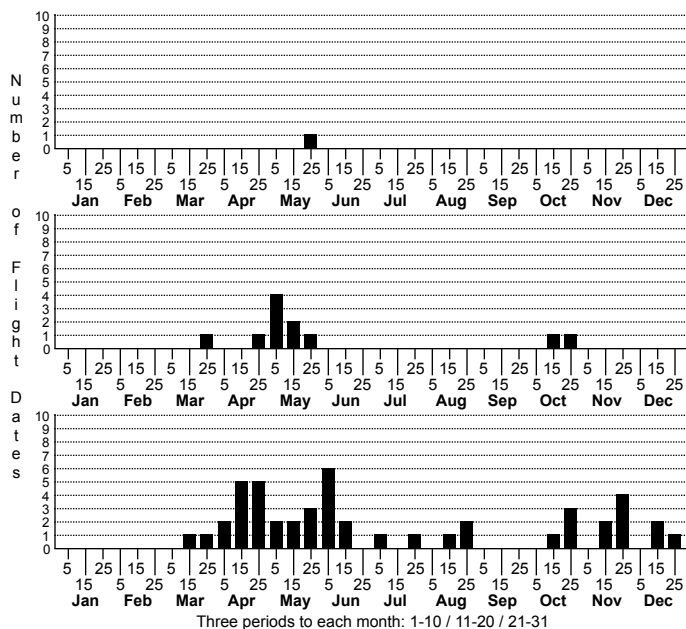
FLIGHT: As with many forktails, the flight is very long -- mid-February to mid-November.

HABITAT: A wide variety of wet grassy areas, typically around pond or lake margins, slow-moving streams, etc.

BEHAVIOR: This tiny species (as are other forktails) is easily overlooked by the casual observer, often hidden amid the grasses and other vegetation along a pond margin or the edge of a creek or river.

COMMENTS: As with the Citrine Forktail, this is an easily found species, all across the state for most of the warmer months. Because it is a tiny species, its numbers in the state may equal or exceed the numbers of individuals of abundant dragonfly species such as Blue Dasher and Eastern Pondhawk.

Ischnura prognata Furtive Forktail



Sight (not vetted) in 2020: Hoke
Photo (vetted) in 2020: Brunswick

High counts of:
12 - Bertie - 2018-04-29
9 - Onslow - 2019-03-31
8 - Sampson - 1996-05-01

Earliest date: Onslow 2020-03-18
Latest date: Onslow 2018-12-21

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G4

DISTRIBUTION: Scattered over most of the Coastal Plain and the eastern half of the Piedmont. A 2019 photograph from Buncombe County, in the mountains, was a remarkable record and a first for that province. Nonetheless, it has been recorded from slightly fewer than half of the counties within this eastern NC range.

ABUNDANCE: Rare to uncommon in the lower half of the Coastal Plain, and certainly rare in the upper Coastal Plain and into the eastern half of the Piedmont; extremely rare farther westward, with just the single 2019 mountain record. It is certainly overlooked in its shady habitat. The peak count of just 12 individuals is indicative of its relative scarcity, as is its spotty range in the state.

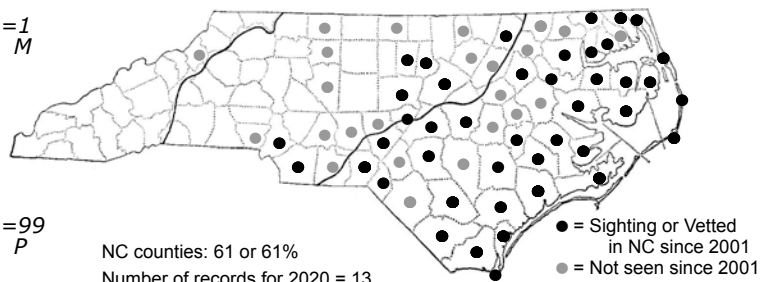
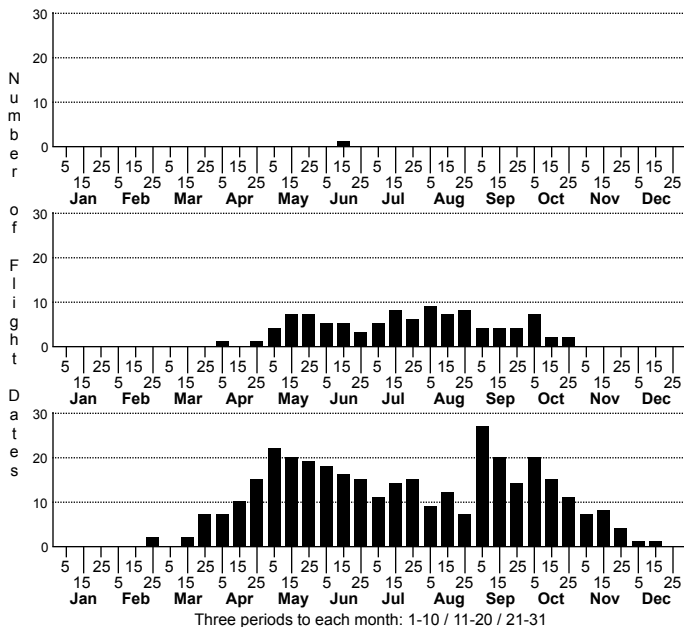
FLIGHT: The flight patterns are oddly "bimodal", almost as if a migratory species or one that aestivates in the warmer months. Most of the combined Coastal Plain and Piedmont records fall between late March and mid-June, and again between mid-October and late December. There are only five records within this four-month gap!

HABITAT: Streams, swamp edges, and other pools under heavy shade, essentially always under a forest canopy.

BEHAVIOR: Quite shy, this species comes by its common name honestly. Individuals perch low, often hidden in vegetation.

COMMENTS: This species' odd habitat selection -- shaded waters in forests -- makes it somewhat more difficult to survey for, and observe/photograph -- than other damselflies. This behavior is at least partly responsible for its spotty range in the state. Mark Shields has provided several recent (2016-20) photos from the southeastern corner of the state, and several others added photos from the northern Coastal Plain in 2018. Jason Love and others captured and photographed one in the mountains in 2019, for a most surprising record and a major range extension. Interestingly and oddly, our first record from fairly well-worked Brunswick County did not come until 2020, with a photo posted on the iNaturalist website.

Ischnura ramburii Rambur's Forktail



High counts of:
245 - Richmond; C - 2017-05-27
131 - Wake - 2013-09-14
100 - Carteret - 2020-08-11

Earliest date: Carteret 2017-02-24
Latest date: New Hanover 2016-12-18

Status		Rank	
NC	US	NC	Global
-	-	S5	G5

DISTRIBUTION: Occupies the eastern half of the state, with scattered records in the western Piedmont; only one county record (Avery) for the mountains. Thus, it is unclear if it occurs statewide, though it certainly is very scarce in the western third of the state.

ABUNDANCE: Common to very common in the lower Coastal Plain, particularly around brackish pools along the coast. Generally common elsewhere in the Coastal Plain. Uncommon to locally common in the eastern and southeastern Piedmont, rare in the central Piedmont, and very rare farther westward.

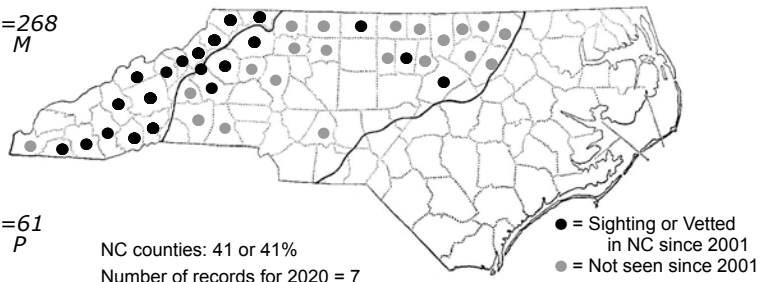
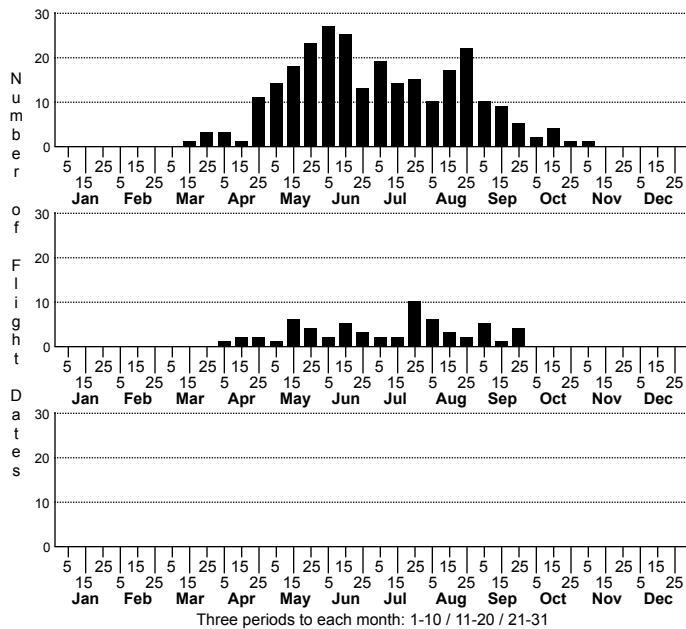
FLIGHT: The flight is from mid-March into late November, at least in the Coastal Plain, sparingly from late February and to mid-December. In the Piedmont, the flight begins in early April, and ends by late October. The sole mountain flight date is in mid-June.

HABITAT: Bay lakes, haline pools and shores, and heavily vegetated ponds.

BEHAVIOR: Tends to perch on low vegetation in the open, where easily seen.

COMMENTS: This is one of the few damselflies that is quite common along and near the immediate coast. The range in the western half of the state still needs much elucidation, especially as there are no recent records west of Orange and Mecklenburg counties.

Ischnura verticalis Eastern Forktail



NC counties: 41 or 41%
Number of records for 2020 = 7

High counts of:
100 - Mitchell - 2019-05-16
33 - Wake - 2009-08-13
27 - Henderson - 1941-08-11

Earliest date: Buncombe 2012-03-19
Latest date: Buncombe 2011-11-01

Status		Rank	
NC	US	NC	Global
-	-	S4	G5

DISTRIBUTION: Throughout the mountains and the northern half of the Piedmont, including most of the foothills counties. Ranges southeast to Halifax, Nash, and Wake counties. The only record for the southeastern Piedmont is for Stanly County. Interestingly, it is reported in many Coastal Plain counties in SC, though Paulson (2011) states "occurrence in coastal South Carolina is in question", as there are no Coastal Plain records for NC or for GA.

ABUNDANCE: Common to very common over most or all of the mountains. Uncommon to fairly common in the extreme upper Piedmont (foothills), but rare to locally uncommon eastward in the Piedmont portion of the range, with disturbingly few recent records. Whether it is truly absent in the southeastern Piedmont is uncertain.

FLIGHT: In the mountains, it occurs from mid-March to early November. The Piedmont flight is from early April to late September, but it likely occurs in late March and well into October or early November (as it does so in the cooler mountains).

HABITAT: Lakes, ponds, and slower streams, where there is vegetation along the margins.

COMMENTS: This is one of the relatively few damselflies that is clearly more common in the mountains than downstate. In fact, we lack records for just two of the 17 counties wholly within the mountain province. The scarcity of recent records from the Piedmont suggests a decline there, but it is too early to be truly concerned, as there five recent records from Wake County (though all at a single site), at the eastern edge of the range. There seem to be few people looking for damselflies, especially around lake and pond margins, in the Piedmont; most biologists in this province look for odonates along rivers and creeks.

Nehalennia gracilis Sphagnum Sprite

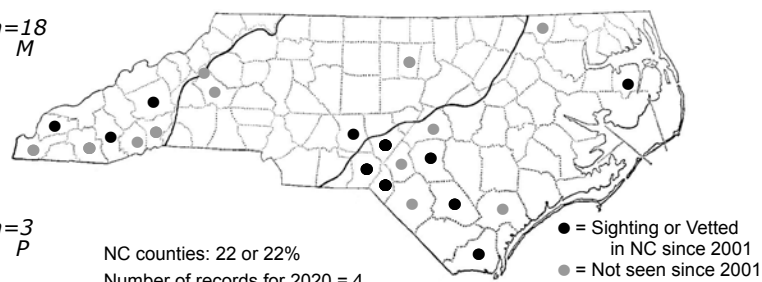
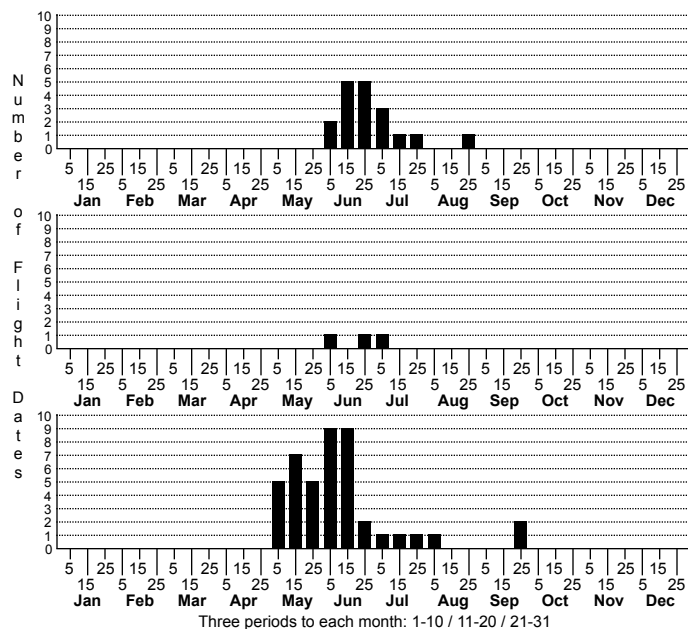


Photo (vetted) in 2020: Buncombe

High counts of:
 41 - Henderson - 1941-06-17
 30 - Moore; C - 2013-06-12
 20 - Moore; C - 2014-06-04

Earliest date: Scotland 2017-05-07
 Latest date: Pender 1976-09-24

Status		Rank	
NC	US	NC	Global
-	-	S2S3	G5
[S3]			

DISTRIBUTION: Primarily the southern Coastal Plain, including the Sandhills region, as well as the southern mountains. Otherwise, widely scattered over the state, though mainly in the southern part of the state. There are no records yet for the northern half of the mountains, nearly all of the Piedmont, and nearly all of the northern Coastal Plain. A photo from Tyrrell County in 2014 filled in a large gap in the range in the eastern part of the state; and a photo from Buncombe County -- taken in 2011 but not posted on iNaturalist until 2020 -- "moved" the mountain range slightly northward.

ABUNDANCE: Oddly geographically bimodal, being more numerous in the Coastal Plain and the southern mountains than in the Piedmont. Uncommon to fairly common (at least locally) in the Sandhills and in the southern mountains. Very rare to rare elsewhere, mainly in the southern Coastal Plain east of the Sandhills.

FLIGHT: The Coastal Plain records fall from early May to late September, whereas those from the mountains are from early June to late August. The very few (three) records from the Piedmont are confined from early June to early July, though certainly the flight is much wider than this. Most of the flight is finished by the end of July.

HABITAT: Typically where sphagnum moss is present around seeps and other boggy spots, such as some pond margins.

COMMENTS: Because of the sparse array of county records across much of the state, range maps in reference books tend to incorrectly show all of NC within the range of the species, which is more common in states to our north than to our south. Though not one of our rarest damselflies, it is one of our rarest away from its Sandhills stronghold. As it is not on the N.C. Natural Heritage Program's Watch List, that fact and its locally numerous status suggest that the State Rank should be moved from the current S2S3 to a less scarce S3.

Nehalennia integricollis Southern Sprite

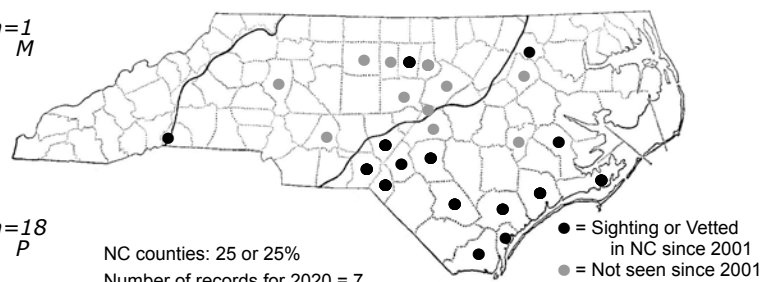
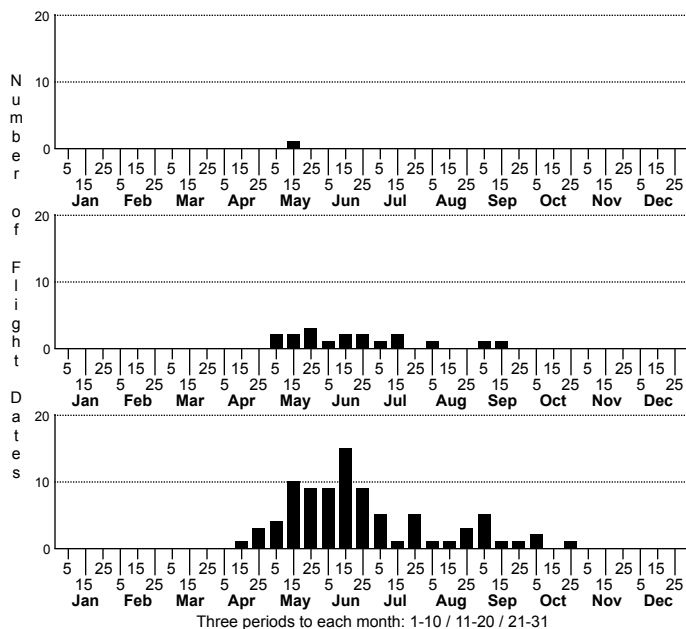


Photo (vetted) in 2020: Halifax; C

High counts of:
30 - Bladen - 2017-05-26
20 - Bladen - 2017-05-07
15 - Carteret - 2017-05-19

Earliest date: Bladen 2017-04-17
Latest date: Onslow 2020-10-26

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Most of the central and southern portions of the Coastal Plain and the Piedmont; absent from the mountains. Seemingly absent from the northeastern Coastal Plain, and likely absent from most of the Piedmont foothills (though there was a 2019 photo record for Polk County). However, as it ranges far up the Coastal Plain of the eastern US, the species is likely absent in the state's northern Tidewater area.

ABUNDANCE: Uncommon (to locally fairly common) or easily overlooked in the southern half of the Coastal Plain, north to Craven and Moore counties. Rare to locally uncommon in the Piedmont portion of the range, and very rare to absent in the northern half of the Coastal Plain, where recorded only from Edgecombe and Halifax counties. Seemingly very rare to absent in the Tidewater region (north of Pamlico Sound).

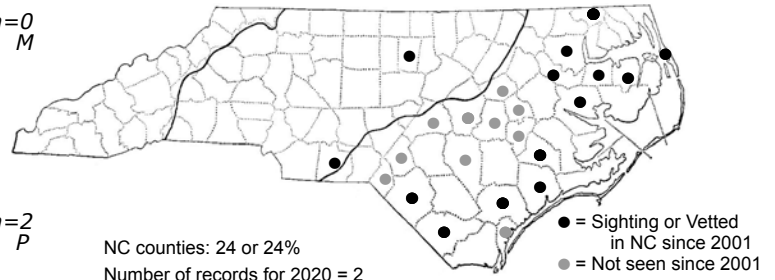
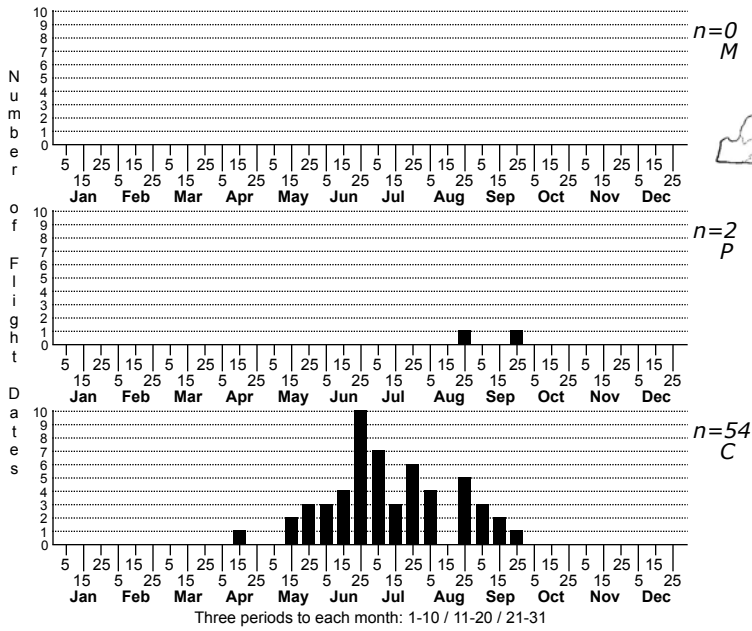
FLIGHT: In the Coastal Plain, it flies from mid-April to late October. The Piedmont flight appears to be from early May to mid-September.

HABITAT: Ponds or lakes, but where there is dense grassy vegetation along the margins, where it can easily hide.

BEHAVIOR: Perches low in dense vegetation. Difficult to see until flushed.

COMMENTS: This species is so small that it is easily overlooked amid its dense grassy habitats. In fact, Paulson (2011) says that it "Can be very common in dense vegetation". "Very common" is certainly not appropriate for its abundance in NC, except perhaps very locally, as our highest single-day count is just 30 individuals.

Telebasis byersi Duckweed Firetail



High counts of:
45 - Martin - 2007-06-23
40 - Dare; OBU - 2020-07-23
25 - Gates - 2020-06-08

Earliest date: Gates 2019-04-18
Latest date: Orange 2019-09-30

Status		Rank	
NC	US	NC	Global
-	-	S3S4	G5

DISTRIBUTION: Throughout the Coastal Plain, but essentially absent from the adjacent Piedmont, though there are recent records for the eastern portion (Orange and Anson counties). Absent from the mountains. Possibly absent in some coastal counties in the northeastern Coastal Plain.

ABUNDANCE: Seemingly local. Uncommon and local over much of the Coastal Plain, but can be fairly common in a few places, as witnessed by a one-day count of 45; there are a few other counts of 20 or more. Very rare in the Piedmont portion of the range.

FLIGHT: The records fall between mid-May to late September, though there is a recent (2019) sight record for mid-April at a location (Merchants Millpond State Park) with numerous records.

HABITAT: As the name implies, found mostly at ponds or swampy pools where there are dense stands of duckweeds.

BEHAVIOR: Commonly perches on duckweed or other floating vegetation.

COMMENTS: The male is so bright red that, where present, it should be obvious. The scarcity of recent records from the inner half of the Coastal Plain, including the Sandhills, is surprising if not disturbing. There has been much effort in sampling Sandhills lakes and ponds in recent years, and this striking species is not being reported there -- yet has been found at a few sites farther west in the eastern Piedmont.

Northern Pygmy Clubtail - *Lanthus parvulus*

Though this species appeared on some earlier lists of odonates for the state, we were unable to locate specimen records or other documentation for it. In 2012 we received a file of all 17,900 NC specimen records housed at the University of Florida, most of which were contributed by Duncan Cuyler. There were four or five records (from Avery County) for this species listed on this file. However, Bill Mauffray at the Museum photographed these specimens, at our request, sending the photos to others for review. His conclusion, supported by the other reviewers, was that most or all appeared to be Southern Pygmy Clubtails, which also occurs in the general area, though one specimen could possibly be a Northern. The specimens are over 40 years old, and fungus on them has made it difficult to see the crucial lateral stripe pattern on the thorax that might separate the two species. Thus, the species needs to remain on the "reported but lacking confirmation" list (Appendix A), though, of course, at least one specimen might have been correctly identified. Observers should look for the species in the northern mountains in May and June. The nearest record in the OdonataCentral database is from the Roanoke, VA, area, about 50 miles north of the NC border.

Elusive Clubtail - *Stylurus notatus*

This northern/midwestern species has been attributed to NC by one or more references (including Bick and Mauffray [1997-2004]), and supposedly there is a sight record for Wake County. Cuyler has no record for NC, however. The range certainly approaches NC to the northwest (extreme southeastern KY) and west (central TN and northwestern GA), so it is possible that the species could occur in the state. The species is very difficult to study; adults are notoriously difficult to net, as they perch high in treetops and make wide foraging bouts over water, usually far from shore.

Frosted Whiteface - *Leucorrhinia frigida*

A nymph of this species was reported from a Sandhills site (creek), but the normal range is from northern VA northward. The NC Natural Heritage Program thinks this is a misidentification. The species is not listed for NC in any references, nor does Cuyler have any records.

Four-spotted Skimmer - *Libellula quadrimaculata*

This is a northern species, occurring in the East southward only to NJ, PA, and OH. It is considered to be abundant, and one reference calls it the most common dragonfly in Canada. It is reported from NC in one or more references -- including Bick and Mauffray (1997-2004), but no data are available, and there are no specimen records from Cuyler. Older reports of this species could possibly be related to confusion of common names -- i.e., reports of Four-spotted Pennant might be transcribed as Four-spotted Skimmer instead.

Vermilion Saddlebags - *Tramea abdominalis*

This species' range is the West Indies and southern Florida. It strays rarely to eastern states north of FL. At least one reference lists a record for NC, but Cuyler's database contains no NC records. Bick and Mauffray (1997-2004) does not list NC for this species.

Sedge Sprite - *Nehalennia irene*

This is a northern species, ranging south in the eastern states to VA, WV, and KY. Cuyler has no records, nor are any others known for NC. However, the species is listed for NC in Westfall and May (1996) and Mauffray (2005). The OdonataCentral map showed literature records in SC for Greenville and Pickens counties until early 2019 when their status was reviewed by SC-based records vetter Chris Hill. Hill traced the origins of the records, determined that there was insufficient certainty that they were correctly identified, and changed them to declined record status. The nearest documented records to NC thus now lie in central VA and southeastern WV.

**Listing of NC Odonates
by number of species (out of 188) per county**

Sorted Alpha		Sorted Numeric	
Alamance - 77	Mitchell - 53	Richmond - 118	Randolph - 73
Alexander - 59	Montgomery - 97	Moore - 116	Vance - 73
Alleghany - 83	Moore; C - 111	Durham - 115	Beaufort - 73
Anson - 92	Moore; P - 45	Cumberland - 115	Greene - 73
Ashe - 90	Nash - 87	Wake - 115	Rutherford - 72
Avery - 75	New Hanover - 80	Bladen - 115	Jackson - 72
Beaufort - 73	Northampton - 84	Harnett - 110	Gaston - 72
Bertie - 75	Onslow - 97	Chatham - 108	Carteret - 71
Bladen - 115	Orange - 105	Scotland - 106	Cleveland - 71
Brunswick - 97	Pamlico - 48	Orange - 105	Rowan - 70
Brunswick; BHI - 22	Pasquotank - 57	Pender - 104	Graham - 69
Buncombe - 99	Pender - 104	Burke - 101	McDowell - 69
Burke; M - 57	Perquimans - 48	Buncombe - 99	Washington - 68
Burke; P - 91	Person - 75	Hoke - 99	Cabarrus - 67
Cabarrus - 67	Pitt - 84	Sampson - 98	Catawba - 67
Caldwell - 82	Polk; M - 16	Montgomery - 97	Iredell - 65
Camden - 61	Polk; P - 72	Edgecombe - 97	Cherokee - 63
Carteret - 71	Randolph - 73	Onslow - 97	Lincoln - 62
Caswell - 95	Richmond; C - 107	Brunswick - 97	Tyrrell - 61
Catawba - 67	Richmond; P - 48	Rockingham - 96	Camden - 61
Chatham - 108	Robeson - 94	Johnston - 96	Alexander - 59
Cherokee - 63	Rockingham - 96	Caswell - 95	Chowan - 58
Chowan - 58	Rowan - 70	Wilkes - 94	Pasquotank - 57
Clay - 57	Rutherford; M - 10	Robeson - 94	Clay - 57
Cleveland - 71	Rutherford; P - 71	Franklin - 93	Swain - 56
Columbus - 90	Sampson - 98	Halifax - 93	Mitchell - 53
Craven - 81	Scotland - 106	Anson - 92	Hyde - 52
Cumberland - 115	Stanly - 78	Lee - 91	Pamlico - 48
Currituck - 46	Stokes - 79	Columbus - 90	Perquimans - 48
Dare; Mainland - 38	Surry - 83	Macon - 90	Dare - 47
Dare; OBL - 19	Swain - 56	Ashe - 90	Currituck - 46
Dare; OBM - 19	Transylvania - 85	Madison - 89	
Dare; OBU - 33	Tyrrell - 61	Nash - 87	
Davidson - 75	Union - 79	Lenoir - 87	County splits ignored.
Davie - 80	Vance - 73	Yadkin - 86	
Duplin - 82	Wake - 115	Watauga - 86	Number of Counties = 100
Durham - 115	Warren - 82	Transylvania - 85	
Edgecombe - 97	Washington - 68	Wayne - 85	
Forsyth - 84	Watauga - 86	Mecklenburg - 85	
Franklin - 93	Wayne - 85	Jones - 84	
Gaston - 72	Wilkes; M - 37	Wilson - 84	
Gates - 80	Wilkes; P - 91	Northampton - 84	
Graham - 69	Wilson - 84	Pitt - 84	
Granville - 82	Yadkin - 86	Forsyth - 84	
Greene - 73	Yancey - 75	Alleghany - 83	
Guilford - 81		Surry - 83	
Halifax; C - 58		Warren - 82	
Halifax; P - 91	County splits respected.	Caldwell - 82	
Harnett; C - 98		Duplin - 82	
Harnett; P - 86	Legend:	Granville - 82	
Haywood - 74	M = Mountain	Guilford - 81	
Henderson - 81	P = Piedmont	Craven - 81	
Hertford - 75	C = Coastal Plain	Henderson - 81	
Hoke - 99	BHI = Bald Head Island	New Hanover - 80	
Hyde - 52	OBU = Outer Banks Upper	Gates - 80	
Iredell - 65	(includes Roanoke Island)	Davie - 80	
Jackson - 72	OBM = Outer Banks Middle	Union - 79	
Johnston; C - 95	OBL = Outer Banks Lower	Stokes - 79	
Johnston; P - 41		Stanly - 78	
Jones - 84		Martin - 78	
Lee - 91		Alamance - 77	
Lenoir - 87		Polk - 76	
Lincoln - 62		Person - 75	
Macon - 90		Bertie - 75	
Madison - 89		Yancey - 75	
Martin - 78		Davidson - 75	
McDowell; M - 19		Avery - 75	
McDowell; P - 66		Hertford - 75	
Mecklenburg - 85		Haywood - 74	

**Listing of NC Odonates
by number of counties (out of 100) in which found**

100 - Common Green Darner	61 - Rambur's Forktail	19 - Southern Pygmy Clubtail
100 - Common Baskettail	59 - Harlequin Darner	19 - Arrowhead Spiketail
100 - Halloween Pennant	57 - Dusky Dancer	17 - Alabama Shadowdragon
100 - Eastern Pondhawk	56 - Clamp-tipped Emerald	17 - Band-winged Meadowhawk
100 - Slaty Skimmer	55 - Royal River Cruiser	15 - Spine-crowned Clubtail
100 - Blue Dasher	55 - Umber Shadowdragon	14 - Sable Clubtail
100 - Common Whitetail	54 - Selys's Sundragon	13 - Maine Snaketail
100 - Citrine Forktail	53 - Elegant Spreadwing	13 - Seaside Dragonlet
100 - Fragile Forktail	50 - Gray Petaltail	13 - Red Saddlebags
98 - Swamp Darner	47 - Brown Spiketail	11 - Ocellated Darner
98 - Widow Skimmer	47 - Seepage Dancer	11 - Superb Jewelwing
98 - Great Blue Skimmer	46 - Swift Setwing	11 - Cherry Bluet
98 - Wandering Glider	46 - American Rubyspot	11 - Hagen's Bluet
98 - Eastern Amberwing	43 - Taper-tailed Darner	10 - Shining Clubtail
98 - Black Saddlebags	43 - Slender Baskettail	10 - Mountain River Cruiser
98 - Orange Bluet	43 - Fine-lined Emerald	10 - Smoky Shadowdragon
97 - Calico Pennant	43 - Attenuated Bluet	10 - Sandhill Bluet
97 - Painted Skimmer	43 - Blackwater Bluet	9 - Southeastern Spinyleg
97 - Carolina Saddlebags	41 - Double-ringed Pennant	9 - Mustached Clubtail
96 - Autumn Meadowhawk	41 - Atlantic Bluet	9 - Zebra Clubtail
96 - Ebony Jewelwing	41 - Eastern Forktail	9 - Elfin Skimmer
96 - Variable Dancer	40 - Eastern Least Clubtail	9 - Carolina Spreadwing
95 - Banded Pennant	39 - Red-veined Pennant	8 - Splendid Clubtail
95 - Blue-fronted Dancer	38 - Allegheny River Cruiser	8 - Diminutive Clubtail
94 - Lancet Clubtail	37 - Laura's Clubtail	8 - Ski-tipped Emerald
94 - Prince Baskettail	37 - Eastern Red Damsel	8 - Marl Pennant
94 - Blue Corporal	37 - Aurora Damsel	8 - Sweetflag Spreadwing
94 - Familiar Bluet	35 - Two-striped Forceptail	7 - Clearlake Clubtail
93 - Spangled Skimmer	33 - Mantled Baskettail	7 - Rapids Clubtail
92 - Blue-tipped Dancer	33 - Lilypad Forktail	7 - Striped Saddlebags
91 - Fawn Darner	32 - Robust Baskettail	6 - Gray-green Clubtail
90 - Stream Cruiser	32 - Great Spreadwing	6 - Cinnamon Shadowdragon
90 - Southern Spreadwing	32 - Vesper Bluet	6 - Variegated Meadowhawk
88 - Ashy Clubtail	31 - Ornate Pennant	5 - Green-faced Clubtail
88 - Spot-winged Glider	31 - Ruby Meadowhawk	5 - Stygian Shadowdragon
88 - Double-striped Bluet	31 - Pale Bluet	4 - Black-tipped Darner
88 - Skimming Bluet	29 - Coppery Emerald	4 - Phantom Darner
87 - Swamp Spreadwing	29 - Furtive Forktail	4 - Skillet Clubtail
87 - Turquoise Bluet	28 - Blackwater Clubtail	4 - Edmund's Snaketail
85 - Swift River Cruiser	28 - Burgundy Bluet	3 - Brook Snaketail
84 - Springtime Darner	27 - Tiger Spiketail	3 - Pygmy Snaketail
83 - Black-shouldered Spinyleg	27 - Four-spotted Pennant	3 - Harpoon Clubtail
83 - Little Blue Dragonlet	26 - Unicorn Clubtail	3 - American Emerald
80 - Dragonhunter	26 - Appalachian Snaketail	3 - White-faced Meadowhawk
80 - Slender Spreadwing	25 - Appalachian Jewelwing	2 - Green-striped Darner
80 - Slender Bluet	25 - Southern Sprite	2 - Midland Clubtail
79 - Powdered Dancer	24 - Eastern Ringtail	2 - Rusty Snaketail
78 - Blue-ringed Dancer	24 - Amanda's Pennant	2 - Sandhill Clubtail
77 - Yellow-sided Skimmer	24 - Needham's Skimmer	2 - Cherokee Clubtail
76 - Golden-winged Skimmer	24 - Roseate Skimmer	2 - Townes's Clubtail
75 - Common Sanddragon	24 - Duckweed Firetail	2 - Spotted Spreadwing
75 - Blue-faced Meadowhawk	23 - Uhler's Sundragon	1 - Blue-eyed Darner
72 - Bar-winged Skimmer	22 - Cobra Clubtail	1 - Flag-tailed Spinyleg
72 - Twelve-spotted Skimmer	22 - Arrow Clubtail	1 - Beaverpond Clubtail
72 - Sparkling Jewelwing	22 - Sphagnum Sprite	1 - Belle's Sanddragon
68 - Twin-spotted Spiketail	21 - Piedmont Clubtail	1 - Interior Least Clubtail
66 - Comet Darner	21 - Treetop Emerald	1 - Chalk-fronted Corporal
66 - Cyrano Darner	21 - Big Bluet	1 - Cherry-faced Meadowhawk
66 - Mocha Emerald	20 - Septima's Clubtail	1 - Little Bluet
64 - Russet-tipped Clubtail	20 - Banner Clubtail	1 - Golden Bluet
64 - Smoky Rubyspot	20 - Riverine Clubtail	
63 - Azure Bluet	20 - Amber-winged Spreadwing	
61 - Shadow Darner	19 - Regal Darner	
61 - Stream Bluet	19 - Cocoa Clubtail	

Mountain	Piedmont	Coastal Plain
132 species	151 species	146 species
DRAGONFLIES - 88	DRAGONFLIES - 104	DRAGONFLIES - 99
Gray Petaltail	Gray Petaltail	Gray Petaltail
Black-tipped Darner	Shadow Darner	Shadow Darner
Shadow Darner	Common Green Darner	Common Green Darner
Green-striped Darner	Comet Darner	Comet Darner
Common Green Darner	Springtime Darner	Springtime Darner
Comet Darner	Ocellated Darner	Fawn Darner
Springtime Darner	Fawn Darner	Regal Darner
Ocellated Darner	Regal Darner	Swamp Darner
Fawn Darner	Swamp Darner	Taper-tailed Darner
Swamp Darner	Taper-tailed Darner	Harlequin Darner
Unicorn Clubtail	Harlequin Darner	Cyrano Darner
Black-shouldered Spinyleg	Cyrano Darner	Blue-eyed Darner
Eastern Ringtail	Two-striped Forceptail	Phantom Darner
Splendid Clubtail	Unicorn Clubtail	Two-striped Forceptail
Cobra Clubtail	Black-shouldered Spinyleg	Gray-green Clubtail
Dragonhunter	Eastern Ringtail	Unicorn Clubtail
Mustached Clubtail	Blackwater Clubtail	Southeastern Spinyleg
Piedmont Clubtail	Midland Clubtail	Black-shouldered Spinyleg
Green-faced Clubtail	Cocoa Clubtail	Eastern Ringtail
Southern Pygmy Clubtail	Splendid Clubtail	Blackwater Clubtail
Brook Snaketail	Septima's Clubtail	Cocoa Clubtail
Pygmy Snaketail	Cobra Clubtail	Septima's Clubtail
Appalachian Snaketail	Skillet Clubtail	Cobra Clubtail
Maine Snaketail	Dragonhunter	Dragonhunter
Rusty Snaketail	Spine-crowned Clubtail	Spine-crowned Clubtail
Beaverpond Clubtail	Banner Clubtail	Banner Clubtail
Harpoon Clubtail	Piedmont Clubtail	Piedmont Clubtail
Lancet Clubtail	Southern Pygmy Clubtail	Clearlake Clubtail
Ashy Clubtail	Edmund's Snaketail	Sandhill Clubtail
Rapids Clubtail	Appalachian Snaketail	Diminutive Clubtail
Common Sanddragon	Maine Snaketail	Lancet Clubtail
Sable Clubtail	Diminutive Clubtail	Ashy Clubtail
Eastern Least Clubtail	Lancet Clubtail	Belle's Sanddragon
Riverine Clubtail	Ashy Clubtail	Common Sanddragon
Laura's Clubtail	Rapids Clubtail	Eastern Least Clubtail
Russet-tipped Clubtail	Common Sanddragon	Riverine Clubtail
Zebra Clubtail	Cherokee Clubtail	Shining Clubtail
Arrow Clubtail	Sable Clubtail	Laura's Clubtail
Brown Spiketail	Eastern Least Clubtail	Russet-tipped Clubtail
Tiger Spiketail	Riverine Clubtail	Townes's Clubtail
Twin-spotted Spiketail	Laura's Clubtail	Brown Spiketail
Stream Cruiser	Russet-tipped Clubtail	Twin-spotted Spiketail
Allegheny River Cruiser	Zebra Clubtail	Arrowhead Spiketail
Swift River Cruiser	Arrow Clubtail	Stream Cruiser
Mountain River Cruiser	Brown Spiketail	Allegheny River Cruiser
American Emerald	Tiger Spiketail	Swift River Cruiser
Slender Baskettail	Twin-spotted Spiketail	Royal River Cruiser
Common Baskettail	Arrowhead Spiketail	Slender Baskettail
Prince Baskettail	Stream Cruiser	Common Baskettail
Uhler's Sundragon	Allegheny River Cruiser	Prince Baskettail
Stygian Shadowdragon	Swift River Cruiser	Mantled Baskettail
Ski-tipped Emerald	Mountain River Cruiser	Robust Baskettail
Fine-lined Emerald	Royal River Cruiser	Selys's Sundragon
Clamp-tipped Emerald	Slender Baskettail	Uhler's Sundragon
Red-veined Pennant	Common Baskettail	Alabama Shadowdragon

Mountain	Piedmont	Coastal Plain
Calico Pennant	Prince Baskettail	Smoky Shadowdragon
Halloween Pennant	Mantled Baskettail	Umber Shadowdragon
Banded Pennant	Robust Baskettail	Fine-lined Emerald
Ornate Pennant	Selys's Sundragon	Coppery Emerald
Double-ringed Pennant	Uhler's Sundragon	Mocha Emerald
Swift Setwing	Alabama Shadowdragon	Treetop Emerald
Eastern Pondhawk	Smoky Shadowdragon	Clamp-tipped Emerald
Little Blue Dragonlet	Umber Shadowdragon	Four-spotted Pennant
Blue Corporal	Cinnamon Shadowdragon	Amanda's Pennant
Chalk-fronted Corporal	Fine-lined Emerald	Red-veined Pennant
Golden-winged Skimmer	Coppery Emerald	Calico Pennant
Bar-winged Skimmer	Mocha Emerald	Halloween Pennant
Spangled Skimmer	Treetop Emerald	Banded Pennant
Yellow-sided Skimmer	Clamp-tipped Emerald	Ornate Pennant
Slaty Skimmer	Amanda's Pennant	Double-ringed Pennant
Widow Skimmer	Red-veined Pennant	Swift Setwing
Twelve-spotted Skimmer	Calico Pennant	Eastern Pondhawk
Painted Skimmer	Halloween Pennant	Seaside Dragonlet
Great Blue Skimmer	Banded Pennant	Little Blue Dragonlet
Roseate Skimmer	Ornate Pennant	Blue Corporal
Blue Dasher	Double-ringed Pennant	Golden-winged Skimmer
Wandering Glider	Swift Setwing	Bar-winged Skimmer
Spot-winged Glider	Eastern Pondhawk	Spangled Skimmer
Eastern Amberwing	Little Blue Dragonlet	Yellow-sided Skimmer
Common Whitetail	Blue Corporal	Slaty Skimmer
Blue-faced Meadowhawk	Golden-winged Skimmer	Widow Skimmer
Cherry-faced Meadowhawk	Bar-winged Skimmer	Needham's Skimmer
White-faced Meadowhawk	Spangled Skimmer	Twelve-spotted Skimmer
Ruby Meadowhawk	Yellow-sided Skimmer	Painted Skimmer
Band-winged Meadowhawk	Slaty Skimmer	Great Blue Skimmer
Autumn Meadowhawk	Widow Skimmer	Marl Pennant
Carolina Saddlebags	Needham's Skimmer	Elfin Skimmer
Black Saddlebags	Twelve-spotted Skimmer	Roseate Skimmer
Red Saddlebags	Painted Skimmer	Blue Dasher
DAMSELFLIES - 44 species	Great Blue Skimmer	Wandering Glider
Great Spreadwing	Elfin Skimmer	Spot-winged Glider
Southern Spreadwing	Roseate Skimmer	Eastern Amberwing
Spotted Spreadwing	Blue Dasher	Common Whitetail
Amber-winged Spreadwing	Wandering Glider	Blue-faced Meadowhawk
Sweetflag Spreadwing	Spot-winged Glider	Variiegated Meadowhawk
Elegant Spreadwing	Eastern Amberwing	Autumn Meadowhawk
Slender Spreadwing	Common Whitetail	Carolina Saddlebags
Swamp Spreadwing	Blue-faced Meadowhawk	Striped Saddlebags
Superb Jewelwing	Ruby Meadowhawk	Black Saddlebags
Appalachian Jewelwing	Band-winged Meadowhawk	Red Saddlebags
Sparkling Jewelwing	Autumn Meadowhawk	DAMSELFLIES - 47 species
Ebony Jewelwing	Carolina Saddlebags	Southern Spreadwing
American Rubyspot	Striped Saddlebags	Sweetflag Spreadwing
Smoky Rubyspot	Black Saddlebags	Elegant Spreadwing
Eastern Red Damsel	Red Saddlebags	Slender Spreadwing
Blue-fronted Dancer	DAMSELFLIES - 47 species	Carolina Spreadwing
Seepage Dancer	Great Spreadwing	Swamp Spreadwing
Variable Dancer	Southern Spreadwing	Appalachian Jewelwing
Powdered Dancer	Amber-winged Spreadwing	Sparkling Jewelwing
Blue-ringed Dancer	Sweetflag Spreadwing	Ebony Jewelwing
Blue-tipped Dancer	Elegant Spreadwing	American Rubyspot
Dusky Dancer	Slender Spreadwing	Smoky Rubyspot

NORTH CAROLINA ODONATES BY PROVINCE

Mountain	Piedmont	Coastal Plain
Aurora Damselfly	Swamp Spreadwing	Eastern Red Damselfly
Azure Bluet	Appalachian Jewelwing	Blue-fronted Dancer
Double-striped Bluet	Sparkling Jewelwing	Seepage Dancer
Familiar Bluet	Ebony Jewelwing	Variable Dancer
Attenuated Bluet	American Rubyspot	Powdered Dancer
Turquoise Bluet	Smoky Rubyspot	Blue-ringed Dancer
Atlantic Bluet	Eastern Red Damselfly	Blue-tipped Dancer
Stream Bluet	Blue-fronted Dancer	Dusky Dancer
Skimming Bluet	Seepage Dancer	Azure Bluet
Hagen's Bluet	Variable Dancer	Double-striped Bluet
Orange Bluet	Powdered Dancer	Familiar Bluet
Slender Bluet	Blue-ringed Dancer	Cherry Bluet
Vesper Bluet	Blue-tipped Dancer	Attenuated Bluet
Citrine Forktail	Dusky Dancer	Sandhill Bluet
Lilypad Forktail	Aurora Damselfly	Turquoise Bluet
Fragile Forktail	Azure Bluet	Atlantic Bluet
Furtive Forktail	Double-striped Bluet	Burgundy Bluet
Rambur's Forktail	Familiar Bluet	Big Bluet
Eastern Forktail	Attenuated Bluet	Stream Bluet
Sphagnum Sprite	Turquoise Bluet	Skimming Bluet
Southern Sprite	Atlantic Bluet	Little Bluet
	Burgundy Bluet	Pale Bluet
	Big Bluet	Orange Bluet
	Stream Bluet	Golden Bluet
	Skimming Bluet	Slender Bluet
	Hagen's Bluet	Vesper Bluet
	Pale Bluet	Blackwater Bluet
	Orange Bluet	Citrine Forktail
	Slender Bluet	Lilypad Forktail
	Vesper Bluet	Fragile Forktail
	Blackwater Bluet	Furtive Forktail
	Citrine Forktail	Rambur's Forktail
	Lilypad Forktail	Sphagnum Sprite
	Fragile Forktail	Southern Sprite
	Furtive Forktail	Duckweed Firetail
	Rambur's Forktail	
	Eastern Forktail	
	Sphagnum Sprite	
	Southern Sprite	
	Duckweed Firetail	

Checklist of North Carolina Odonates sorted by State Rank

Species with NC Rank = S1		Species with NC Rank = S2	
AESHNIDAE		COENAGRIONIDAE	
___ Black-tipped Darner	S1	___ Sphagnum Sprite	S2S3 [S3]
___ Green-striped Darner	S1 [S1?]		
GOMPHIDAE		Species with NC Rank = S3	
___ Flag-tailed Spinyleg	S1	GOMPHIDAE	
___ Midland Clubtail	S1	___ Two-striped Forceptail	S3S4
___ Skillet Clubtail	S1	___ Unicorn Clubtail	S3
___ Mustached Clubtail	S1S2	___ Southeastern Spinyleg	S3
___ Green-faced Clubtail	S1	___ Eastern Ringtail	S3S4
___ Brook Snaketail	S1	___ Blackwater Clubtail	S3S4
___ Edmund's Snaketail	S1	___ Cocoa Clubtail	S3
___ Pygmy Snaketail	S1	___ Septima's Clubtail	S3
___ Rusty Snaketail	S1	___ Cobra Clubtail	S3S4
___ Sandhill Clubtail	S1	___ Spine-crowned Clubtail	S3S4
___ Harpoon Clubtail	S1	___ Banner Clubtail	S3
___ Rapids Clubtail	S1S2	___ Piedmont Clubtail	S3
___ Belle's Sanddragon	S1	___ Appalachian Snaketail	S3
___ Cherokee Clubtail	S1?	___ Maine Snaketail	S3
___ Shining Clubtail	S1?	___ Diminutive Clubtail	S3S4
___ Zebra Clubtail	S1S2	___ Sable Clubtail	S3
CORDULIIDAE		___ Eastern Least Clubtail	S3S4
___ American Emerald	S1	___ Riverine Clubtail	S3 [S2S3]
___ Stygian Shadowdragon	S1?	___ Arrow Clubtail	S3S4 [S3]
___ Coppery Emerald	S1?	CORDULEGASTRIDAE	
LIBELLULIDAE		___ Tiger Spiketail	S3S4
___ Chalk-fronted Corporal	S1	___ Arrowhead Spiketail	S3
___ White-faced Meadowhawk	S1	CORDULIIDAE	
LESTIDAE		___ Uhler's Sundragon	S3S4 [S3]
___ Spotted Spreadwing	S1	___ Alabama Shadowdragon	S3?
___ Sweetflag Spreadwing	S1S2	___ Smoky Shadowdragon	S3? [S2?]
CALOPTERYGIDAE		___ Treetop Emerald	S3? [S2?]
___ Superb Jewelwing	S1S2	LIBELLULIDAE	
Species with NC Rank = S2		___ Elfin Skimmer	S3S4
AESHNIDAE		___ Roseate Skimmer	S3S4
___ Ocellated Darner	S2?	___ Band-winged Meadowhawk	S3
___ Regal Darner	S2?	LESTIDAE	
GOMPHIDAE		___ Great Spreadwing	S3S4
___ Gray-green Clubtail	S2	___ Amber-winged Spreadwing	S3
___ Splendid Clubtail	S2	___ Carolina Spreadwing	S3
___ Clearlake Clubtail	S2	CALOPTERYGIDAE	
___ Laura's Clubtail	S2S3	___ Appalachian Jewelwing	S3S4
MACROMIIDAE		COENAGRIONIDAE	
___ Mountain River Cruiser	S2?	___ Eastern Red Damsel	S3S4
CORDULIIDAE		___ Seepage Dancer	S3S4
___ Cinnamon Shadowdragon	S2? [S1?]	___ Aurora Damsel	S3S4
___ Ski-tipped Emerald	S2	___ Cherry Bluet	S3S4 [S3]
LIBELLULIDAE		___ Sandhill Bluet	S3S4 [S3]
___ Marl Pennant	S2S3 [S3]	___ Hagen's Bluet	S3
		___ Vesper Bluet	S3S4
		___ Furtive Forktail	S3S4
		___ Southern Sprite	S3S4

Checklist of North Carolina Odonates sorted by State Rank

Species with NC Rank = S3		Species with NC Rank = S5	
COENAGRIONIDAE		AESHNIDAE	
___ Duckweed Firetail	S3S4	___ Common Green Darner	S5
Species with NC Rank = S4		___ Springtime Darner	S5
PETALURIDAE		___ Fawn Darner	S5
___ Gray Petaltail	S4	___ Swamp Darner	S5
AESHNIDAE		GOMPHIDAE	
___ Shadow Darner	S4	___ Black-shouldered Spinyleg	S5
___ Comet Darner	S4	___ Dragonhunter	S5
___ Taper-tailed Darner	S4	___ Lancet Clubtail	S5
___ Harlequin Darner	S4S5	___ Ashy Clubtail	S5
___ Cyrano Darner	S4S5	___ Common Sanddragon	S5
GOMPHIDAE		MACROMIIDAE	
___ Southern Pygmy Clubtail	S4	___ Stream Cruiser	S5
___ Russet-tipped Clubtail	S4S5	___ Swift River Cruiser	S5
CORDULEGASTRIDAE		CORDULIIDAE	
___ Brown Spiketail	S4	___ Common Baskettail	S5
___ Twin-spotted Spiketail	S4S5	___ Prince Baskettail	S5
MACROMIIDAE		___ Mantled Baskettail	S5
___ Allegheny River Cruiser	S4 [S3S4]	___ Mocha Emerald	S5
___ Royal River Cruiser	S4S5	LIBELLULIDAE	
CORDULIIDAE		___ Four-spotted Pennant	S5
___ Slender Baskettail	S4	___ Amanda's Pennant	S5
___ Robust Baskettail	S4	___ Calico Pennant	S5
___ Selys's Sundragon	S4	___ Halloween Pennant	S5
___ Umber Shadowdragon	S4	___ Banded Pennant	S5
___ Fine-lined Emerald	S4	___ Ornate Pennant	S5
___ Clamp-tipped Emerald	S4	___ Eastern Pondhawk	S5
LIBELLULIDAE		___ Seaside Dragonlet	S5
___ Red-veined Pennant	S4	___ Little Blue Dragonlet	S5
___ Double-ringed Pennant	S4 [S3S4]	___ Blue Corporal	S5
___ Swift Setwing	S4S5	___ Golden-winged Skimmer	S5
___ Yellow-sided Skimmer	S4S5	___ Bar-winged Skimmer	S5
___ Twelve-spotted Skimmer	S4	___ Spangled Skimmer	S5
___ Ruby Meadowhawk	S4	___ Slaty Skimmer	S5
LESTIDAE		___ Widow Skimmer	S5
___ Elegant Spreadwing	S4	___ Needham's Skimmer	S5
COENAGRIONIDAE		___ Painted Skimmer	S5
___ Dusky Dancer	S4	___ Great Blue Skimmer	S5
___ Azure Bluet	S4	___ Blue Dasher	S5
___ Attenuated Bluet	S4	___ Wandering Glider	S5
___ Burgundy Bluet	S4 [S3S4]	___ Spot-winged Glider	S5
___ Big Bluet	S4	___ Eastern Amberwing	S5
___ Pale Bluet	S4	___ Common Whitetail	S5
___ Blackwater Bluet	S4	___ Blue-faced Meadowhawk	S5
___ Lilypad Forktail	S4	___ Autumn Meadowhawk	S5
___ Eastern Forktail	S4	___ Carolina Saddlebags	S5
		___ Black Saddlebags	S5
		LESTIDAE	
		___ Southern Spreadwing	S5
		___ Slender Spreadwing	S5
		___ Swamp Spreadwing	S5
		CALOPTERYGIDAE	
		___ Sparkling Jewelwing	S5

Checklist of North Carolina Odonates sorted by State Rank

Species with NC Rank = S5	Species with NC Rank = SU
CALOPTERYGIDAE ___ Ebony Jewelwing S5 ___ American Rubyspot S5 ___ Smoky Rubyspot S5 COENAGRIONIDAE ___ Blue-fronted Dancer S5 ___ Variable Dancer S5 ___ Powdered Dancer S5 ___ Blue-ringed Dancer S5 ___ Blue-tipped Dancer S5 ___ Double-striped Bluet S5 ___ Familiar Bluet S5 ___ Turquoise Bluet S5 ___ Atlantic Bluet S5 ___ Stream Bluet S5 ___ Skimming Bluet S5 ___ Orange Bluet S5 ___ Slender Bluet S5 ___ Citrine Forktail S5 ___ Fragile Forktail S5 ___ Rambur's Forktail S5	LIBELLULIDAE ___ Cherry-faced Meadowhawk SU COENAGRIONIDAE ___ Little Bluet SU ___ Golden Bluet SU
	Species with NC Rank = SE
	<p>See Page vi of the Table of Contents for explanation of codes.</p> <p>A State Rank in brackets is that suggested by the website editors, where it differs from the existing State Rank.</p>
Species with NC Rank = SA	
AESHNIDAE ___ Blue-eyed Darner SA	
Species with NC Rank = SH	
___ Phantom Darner SH GOMPHIDAE ___ Beaverpond Clubtail SH [SX] ___ Interior Least Clubtail SH ___ Townes's Clubtail SH	
LIBELLULIDAE	
___ Variegated Meadowhawk SZN ___ Striped Saddlebags SZN ___ Red Saddlebags SZN	