Common Name: Subarctic darner ***SPCN***
Scientific Name: *Aeshna subarctica*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

Synopsis:
The subartic darner (*Aeshna subarctica*) is a circumpolar boreal species of northern latitudes. The center of its North American range is near the shore of the Hudson Bay in the southern Hudson Bay Taiga ecoregion (Donnelly 2004). The primary range for this species extends from Canada to north central Europe and across Siberia to Japan (Mead 2003). Areas in Canada where it is found include the Yukon, Northwest Territories, and western provinces eastward to Ontario, Quebec, and the Atlantic provinces. In addition to Alaska, *A. subarctica* has been found in northern states such as Maine, Massachusetts, New Jersey, New York, Minnesota, Wisconsin, Montana, Oregon, and Washington (Needham et al. 2000).

The species is very spottily distributed and exceedingly rare in the northern United States, but more locales are being discovered through increased survey effort. Until the 1900s, *A. subarctica* was only known from three records from in the U.S., including one from New York. Presently, over 20 U.S. records exist (New York Natural Heritage Program 2011, Donnelly 2004). The species was recently located in Massachusetts (Nikula et al. 2001) and the distribution in Maine expanded three-fold during recent atlas efforts (Brunelle and deMaynadier 2005). Records increased in New Hampshire as well, during the dragonfly survey (P. Hunt, personal communication). As a boreal species, *A. subarctica* was probably much more widespread during colder times than in the recent past, so it is likely that the appearance of these glacial relict populations along the southern range margin are the result of increased collecting effort rather than a recent southward range expansion.

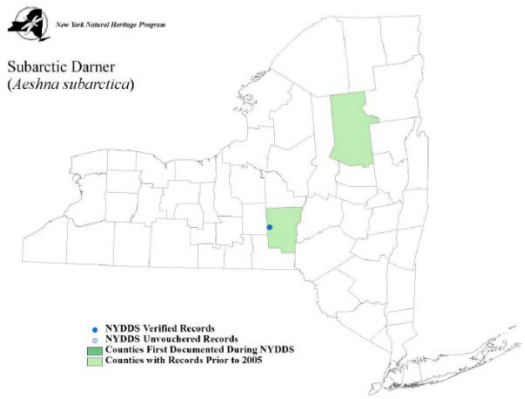
New York is at the very southern range extent and the southernmost known record in the species' entire range is in Sussex County, New Jersey (Bangma and Barlow 2010) in close proximity to the New York border. The species is known in New York from a single, persistent (1973 to 2009) population at Jam Pond in Chenango County, and a 1947 record in nonbreeding habitat from the summit of Blue Mountain, Hamilton County in the Adirondacks (Donnelly 1999). It is unclear whether undocumented populations are present in the Adirondacks since none were documented during the New York State Dragonfly and Damselfly Survey (NYDDS), yet appropriate sphagnum bog habitat is much more common there than in any other part of the state. The Jam Pond locale in southern New York is unexpected and it is presumed that local environmental conditions somehow form a very cold, boreal type habitat with a very short growing season there (Beatty and Beatty 1968).

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
The habitat for this species has been described as muskeg ponds, bogs, and northern swamps (Mead 2003), whereas Nikula et al. (2003) describe the habitat in Massachusetts as sphagnum bogs and deep fens with wet sphagnum. The sole breeding location for this species in New York is a bog complex that includes areas of black spruce-tamarack bog, highbush blueberry bog thicket, and inland poor fen (New York Natural Heritage Program 2011).

Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
Until the mid-1990s, *Aeshna subarctica* was known from only three localities in the United States, including one site in the southern tier of New York State (Donnelly 1992). At present, there is a single known population of the subarctic darner. A record from non-breeding habitat in the Adirondacks indicates the likelihood of additional undiscovered populations in this region and perhaps elsewhere in the state where bogs are found.



White et al. (2010)

Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alterations	P	L	V

2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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Common Name: Subarctic bluet ***SPCN***
Scientific Name: *Coenagrion interrogatum*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

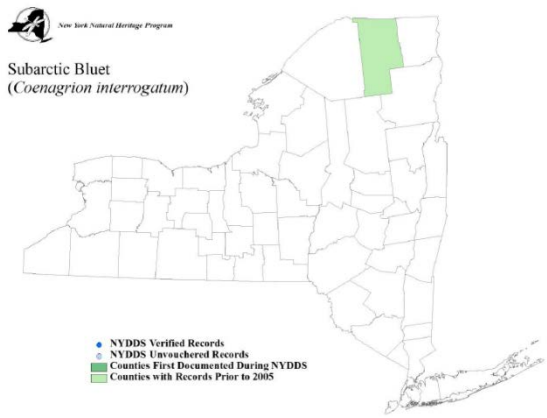
Synopsis:
The subarctic bluet (*Coenagrion interrogatum*) ranges from Alaska and the Yukon Territory eastward across Canada to Newfoundland, Labrador, and Nova Scotia. In the U.S., it has been confirmed in the northern reaches of the following states: Washington, Montana, Wisconsin, New York, Vermont, New Hampshire, and Maine (Abbott 2012) but it is predominantly a Canadian bluet. The species does not appear to occur north of the arctic treeline (Cannings and Cannings 1994, Corbet 2003). New York lies at the absolute southern end of its range, with documentation from two locations in Franklin County in 1993 in the vicinity of Paul Smiths (Donnelly 1999). No records resulted from searches during the New York State Dragonfly and Damselfly Survey (NYDDS) (White et al. 2010).

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

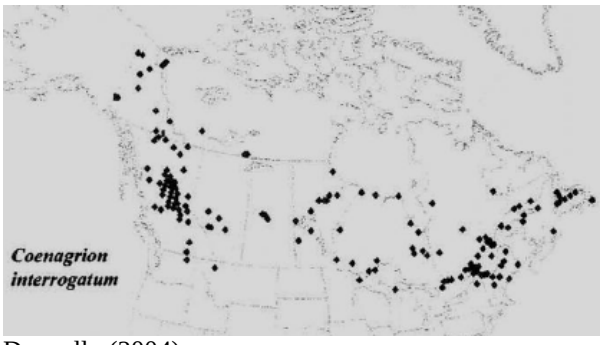
Habitat Discussion:
C. interrogatum is found in open fens, bogs, bog-bordered ponds, and marshes with cool water and most commonly, where abundant floating aquatic moss such as Sphagnum spp. is present (Cannings and Cannings 1997, DuBois et al. 2005, Jones 2005, Fleckenstein 2006).

Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands

Distribution:
Two observations of adults of this northern species occurred in Franklin County in 1993. One record is from the Visitors Interpretive Center, 1 mile north of Paul Smith's College on 12 June 1993. The second record was from Chain Lake, 6 miles north of Paul Smith's on 19 June 1993 (Donnelly 1999). Some unsuccessful search effort was made at one of these sites during the NYDDS (2005–2009), but it is possible the species still occurs at one or both sites, as well as other suitable habitats within the Adirondacks.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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White, E. L., J. D. Corser, and M. D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the Odonates of New York. New York Natural Heritage Program, Albany, New York.

Common Name: Cobra clubtail ***SPCN***
Scientific Name: *Gomphus vastus*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

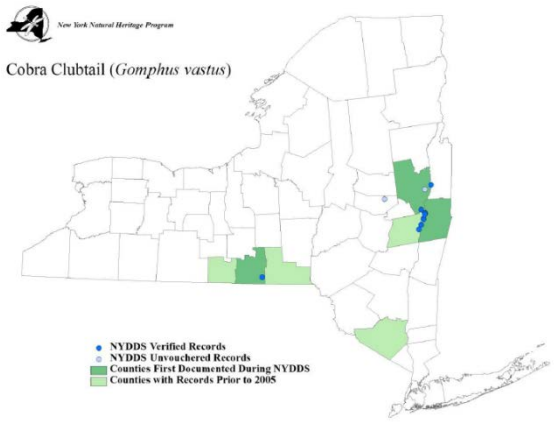
Synopsis:
Gomphus vastus is widely distributed in the eastern half of the US, with a distributional center along the Ohio River in southern Indiana in the southern Great Lakes forest ecoregion. It ranges northwest to Lake Winnipeg in southern Manitoba, east to New Brunswick, and south to Florida and Texas. New York is near the northeastern range extent (Donnelly 2004b) where the species was known historically only from the Hudson and Chemung Rivers. During the NYDDS, a large population was rediscovered along the mid-Hudson River from around Albany north to Schuylerville and a short distance up the Mohawk River. The Susquehanna watershed population, known since 1940, is also apparently extant, as exuviae were found along the Susquehanna River near Appalachian in Tioga County in 2009. This species also may occur in the Delaware River, as exuviae have been collected on the New Jersey side (Bangma and Barlow 2010), as well as farther upriver on the Mohawk where an unverified adult was reported near Lock 12 in Montgomery County. A vague pre-NYDDS record from Orange County (Donnelly 2004a) may have come from the Wallkill River. The species might also be looked for along northern Lake Champlain and/or the St. Lawrence River since there are several records from the Ontario/Quebec border very close to New York. A cluster of records in northwestern Pennsylvania suggests that additional inventory in the Allegany watershed in southwestern New York is warranted. *G. vastus* inhabit large forested sandy-bottomed rivers with alternating stretches of sand and gravel and more rarely large wind-swept lakes.

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common	X		
26% to 50%		Uncommon			
> 50%		Rare			

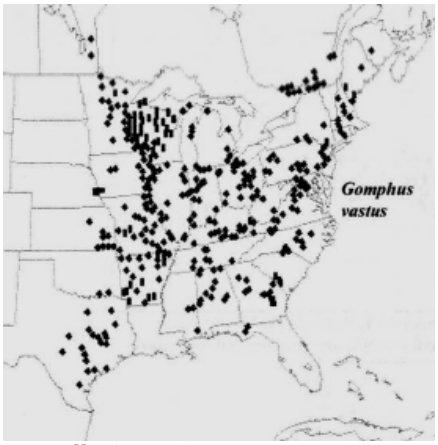
Habitat Discussion:
G. vastus inhabits large forested sandy-bottomed rivers with alternating stretches of sand and gravel and more rarely, large wind-swept lakes. Along the Ottawa River in Quebec, large numbers of larvae emerged from heavily impacted areas with stone walls along the shoreline and some aquatic plants, debris, and sand/mud substrates (Hutchinson and Ménard 1999). Some stretches of the Hudson River in New York where this species occurs have been similarly impacted. Adults are believed to take refuge high up in large trees along the shoreline or in nearby uplands since they are seldom observed after emergence. During breeding mature males can be seen resting on sandy stretches of shoreline, or perched in overhanging vegetation (Massachusetts NHESP 2003).

Primary Habitat Type
Large/Great River; Low Gradient
Large/Great River; Low-Moderate Gradient
Medium River; Low Gradient
Medium River; Low-Moderate Gradient

Distribution:
Recent records obtained during the New York Dragonfly and Damselfly Survey (2005–2009), include a number of locations on the Hudson River, both north and south of the Troy dam from around Albany north to Schuylerville, Saratoga County; the Mohawk River close to its confluence with the Hudson, along with an unverified adult record from the Mohawk in Montgomery County; Susquehanna River near Appalachin, Tioga County, and one vague, uncertain record from Orange County that may have come from the Wallkill River (White et al. 2010). Depending upon whether one considers locations north and south of the Troy dam and areas on the Mohawk River as separate occurrences, there are between four and six documented, extant populations for this species in New York.



White et al. (2010)



Donnelly (2004a)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	W	L	H
2. Pollution	Agricultural & Forestry Effluents (runoff, siltation)	W	L	M
3. Climate Change & Severe Weather	Storms & Flooding	W	L	V

4. Natural System Modifications	Other Ecosystem Modifications (stream channelization in response to severe weather events)	R	M	V
5. Pollution	Household Sewage & Urban Waste Water (poor water quality)	W	M	M

References Cited:

Bangma J. and A. Barlow. 2010. NJODES; The dragonflies and damselflies of New Jersey, Gomphus vastus. <http://www.njodes.com/Speciesaccts/species.asp>. Accessed 19 September 2012.

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Common Name: Southern pygmy clubtail ***SPCN***
Scientific Name: *Lanthus vernalis*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S1
Tracked: Yes

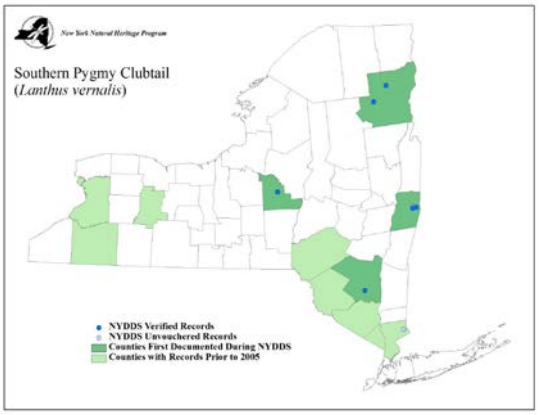
Synopsis:
Lanthus is a very old genus with just two members in North America. This relatively newly described species that for a long time was confused with *L. parvalus* (Carle 1980) is a secretive inhabitant of forests adjacent to pristine, usually spring-fed brooks, seepages and small rivers. Its larva is intolerant of excessive sedimentation and therefore makes an excellent indicator of high quality waters. Its distribution appears to have recently shifted northeastward and shrank in New York (White et al. 2010).

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%		Abundant		Moderate Decline	Unknown
6% to 10%	X	Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

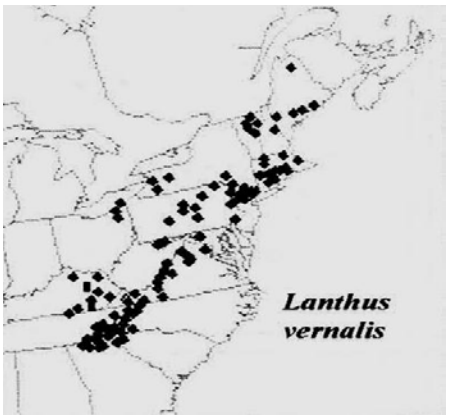
Habitat Discussion:
Larvae can be common in spring-fed rills, but the secretive adults are rarely observed. The preferred habitat is small spring brooks and seepage areas, but can occasionally occur in small rivers of high water quality and therefore is an indicator of waters capable of sustaining native brook trout strains (Carle 1980).

Primary Habitat Type
Headwater/Creek; Low-Moderate Gradient; Low Buffered, Acidic; Cold
Medium River; Low-Moderate Gradient
Small River; Low-Moderate Gradient; Low Buffered, Acidic; Cold

Distribution:
None of the southern and western counties occupied prior to the New York Dragonfly and Damselfly Survey (NYDDS) were found to be occupied in 2005–2009. Instead, the species distribution now encompasses primarily a few northeastern counties.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural System Modifications	Dams & Water Management/Use (change in natural hydrology)	N	L	H
2. Biological Resource Use	Logging & Wood Harvesting (siltation of streams)	R	H	L
3. Climate Change & Severe Weather	Droughts	N	M	H
4. Climate Change & Severe Weather	Storms & Flooding	N	L	H
5. Energy Production & Mining	Oil & Gas Drilling (hydraulic fracturing issues)	N	M	H

References Cited:

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Common Name: Southern spreadwing ***SPCN***
Scientific Name: *Lestes australis*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2S3
Tracked: Yes

Synopsis:
There is some taxonomic confusion within the *Lestes disjunctus* complex. Two subspecies were previously recognized, *Lestes disjunctus disjunctus* and *Lestes disjunctus australis*, but were separated by Donnelly (2003). Early records were often confused with *L. forcipatus* (Westfall and May 1996). It resides primarily in flowing waters, but also turns up infrequently on lakes/reservoirs. It is on its extreme northeastern range margin in New York, and hence is confined to the southern portion of the state.

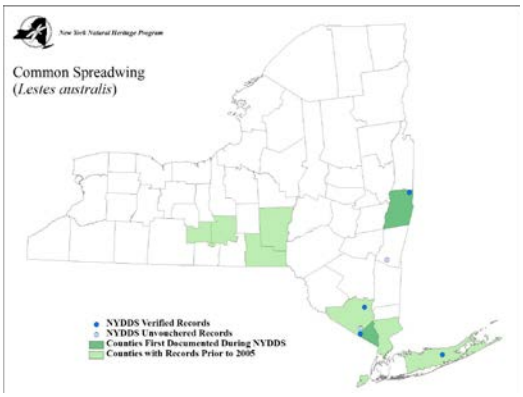
White et al. (in prep) found increases in county-level distributions since 2005 throughout the Northeast. In New York this species was known to occupy eight counties along the southernmost reaches of the state, but only four counties were occupied during the New York Dragonfly and Damselfly Survey (NYDDS) and it has apparently disappeared from the southern tier (White et al. 2010). Trends are difficult to discern in several adjacent states possibly because of taxonomic confusion.

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%		Abundant		Severe Decline	Unknown
6% to 10%	X	Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

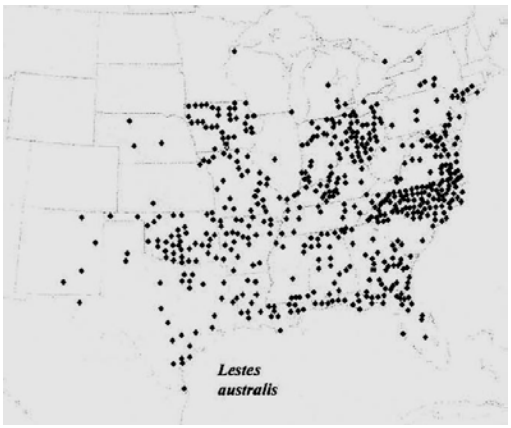
Habitat Discussion:
This species appears to be somewhat of a habitat generalist. Most often recorded on streams and small rivers in New York, but can also be found on farm ponds.

Primary Habitat Type
Medium River; Low Gradient
Medium River; Low-Moderate Gradient
Small River; Low Gradient
Small River; Low-Moderate Gradient

Distribution:
This species only occupies a handful of sites in the extreme southeastern part of the state, with one outlying locale at a farm pond in Rensselaer County.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural System Modifications	Dams & Water Management/Use (changes in hydrology)	R	M	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	W	L	H
3. Pollution	Agricultural & Forestry Effluents (runoff, siltation)	R	L	L
4. Climate Change & Severe Weather	Temperature Extremes	P	L	H
5. Climate Change & Severe Weather	Storms & Flooding	R	L	H

References Cited:

Donnelly, N. 2003. *Lestes disjunctus*, *forcipatus*, and *australis*: a confusing complex of North American damselflies. Argia 15:10–13.

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Common Name: Yellow-sided skimmer ***SPCN***
Scientific Name: *Libellula flavida*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

Synopsis:
New York lies at the northern range extent for the yellow-sided skimmer (*Libellula flavida*), which runs from Texas northward to Oklahoma and Missouri east to the Atlantic Coast and northward to southern New York (Abbott 2010). Older records exist for Westchester and Suffolk counties. One confirmed extant location is at Clay Pit Ponds State Park Preserve on Staten Island, near sphagnum bogs and sandy barrens (Lederer 1997). Information prior to 1997 is limited (Donnelly 1999). There is some evidence that sites on Long Island where the yellow-sided skimmer once occurred have been degraded and the species was once known from Westchester County as well, so populations may be in decline.

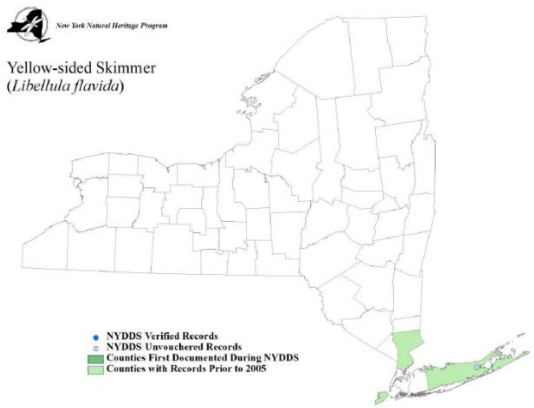
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
The species is known to inhabit mucky or boggy seepages, most commonly along the coastal plain (Dunkle 2000). In New Jersey, they have been found in acidic bogs with sphagnum moss, mainly in abandoned cranberry bogs and along the coastal plain (Barber 1999, Bangma and Barlow 2010). In New York, habitat where the species was previously known on Long Island has been degraded and there are no recent records.

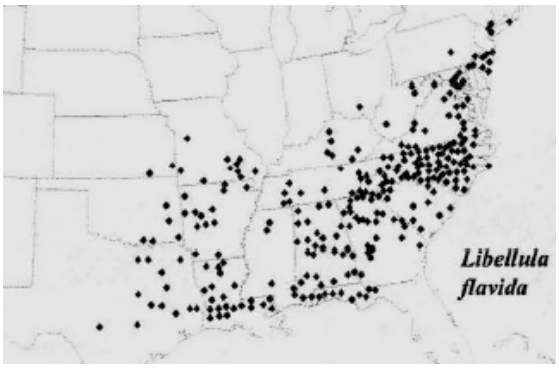
Primary Habitat Type
Coastal Plain Pond
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
The one confirmed extant site is from 1997 at Clay Pit Ponds State Park on Staten Island, a few years prior to the New York Dragonfly and Damselfly Survey (Lederer 1997, Donnelly 1999, White et al. 2010). There is also an unconfirmed record from 2005 at Cranberry Bog County Park in Suffolk County, 2005 (Lederer 1997, White *et al*. 2010, New York Natural Heritage Program 2011). This record is slightly uncertain as the photograph could not be separated from an immature *Libellula incesta* (White et al. 2010). There are historical locations in Westchester and Suffolk counties, where they have not been

documented in recent years and there is at least some suggestion that these historical sites are no longer occupied (Donnelly 1999).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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Donnelly, T. W. 2004. Distribution of North American Odonata. Part I: Aeshnidae, Petaluridae, Gomphidae, Cordulegastridae. Bulletin of American Odonatology 7:61-90.

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White, E. L., J. D. Corser, and M. D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the odonates of New York. New York Natural Heritage Program, Albany, New York, USA.

Common Name: Elfin skimmer ***SPCN***
Scientific Name: *Nannothemis bella*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S3
Tracked: No

Synopsis:
The tiniest dragonfly in North America is the only member of its genus and is one of the few odonates confined wholly to bog/fen habitats. It can be found in both acidic peatlands as well as more calcareous marl fens. Its distribution in the Midwestern and eastern U.S. seems to be shifting northward, and this pattern is evident in New York, where nearly the entire range in the southern part of the state appears to have become uninhabited in favor of locales farther to the north (White et al. 2010). Historically this tiny dragonfly was fairly widely distributed in the eastern half of the state. However the New York State Dragonfly and Damselfly Survey (NYDDS) data show that besides Long Island, it has virtually disappeared from the southern half of New York. In addition to the pattern of apparent northward movement in New York, new populations were discovered farther north than were previously known in both New Hampshire (Hunt 2012) and Maine (Brunelle and DeMayanadier 2005). Meanwhile it has become increasingly rare in areas where it occurs farther southward including Pennsylvania, West Virginia, Ohio, and Virginia (Roblee and Stevenson 1994, Glotzhober and Chapman 2001, NatureServe 2011).

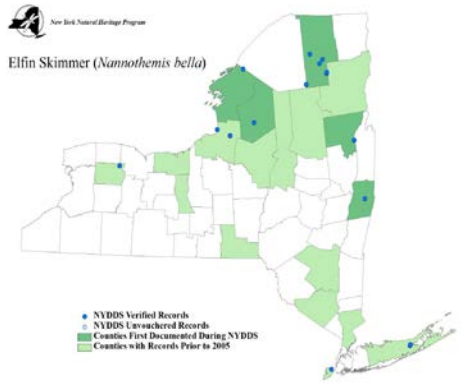
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%		Abundant		Severe Decline	Unknown
6% to 10%		Common			
11% to 25%	X	Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
This species is one of only a very few bog/fen obligate odonates in North America. Occurs in both acidic peatlands along lake shorelines as well as calcareous marl fens.

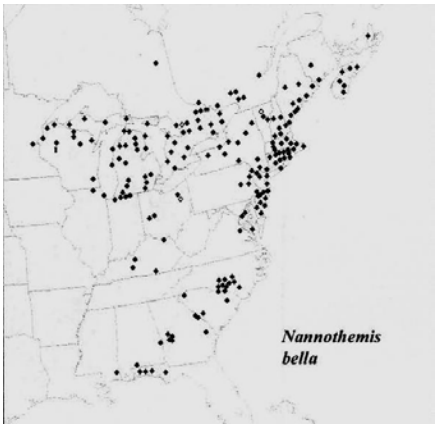
Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
NYDDS data show that besides Long Island, *N. bella* has virtually disappeared from the southern half of New York. There were ~ 25 individual site records for this species during NYDDS, most of which were in northern New York (White et al. 2010). This species occurs in widely scattered bogs and fens and

during NYDDS it was usually found in low numbers when a population was located. Why only a tiny percentage of bogs/fens are suitable for the sparsely distributed breeding populations of this skimmer is unclear.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Temperature Extremes	P	H	H
2. Climate Change & Severe Weather	Droughts	R	L	H
3. Biological Resource Use	Logging & Wood Harvesting (siltation of streams)	R	L	L
4. Natural System Modifications	Other Ecosystem Modifications (succession)	W	L	L

References Cited:

Brunelle, P. M. and P. G. deMaynadier. 2005. The Maine damselfly and dragonfly survey. A final report. A report prepared for Maine Department of Inland Fisheries and Wildlife (MDIFW).

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Common Name: Broad-tailed shadowdragon ***SPCN***
Scientific Name: *Neurocordulia michaeli*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G3G4
New York: S1
Tracked: Yes

Synopsis:
This newly described species (Brunelle 2000) was discovered as a new member of New York's Odonate fauna in 2008 during the New York Dragonfly and Damselfly Survey (NYDDS). It is only known from two sites on the Delaware River and the New York populations are disjunct from the main range forming a small outlier on the extreme southern range boundary of this northerly species. No new sites have been discovered since 2009 and this cryptic, crepuscular species will always likely suffer from a lack of complete knowledge.

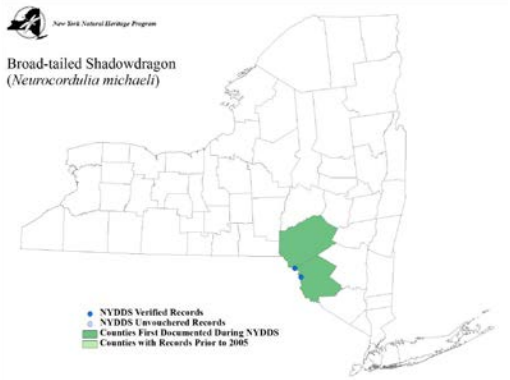
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant	X	Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare			

Habitat Discussion:
Lotic. Overall habitat is clear streams/small rivers with strong current over coarse cobbles and periodic rapids sections; not found in tumultuous mountain streams. Eggs are laid outside of plant tissues in rapids and the downstream ends of pools, and development of larvae in interstices of the benthic cobbles where the eggs would be carried when laid.

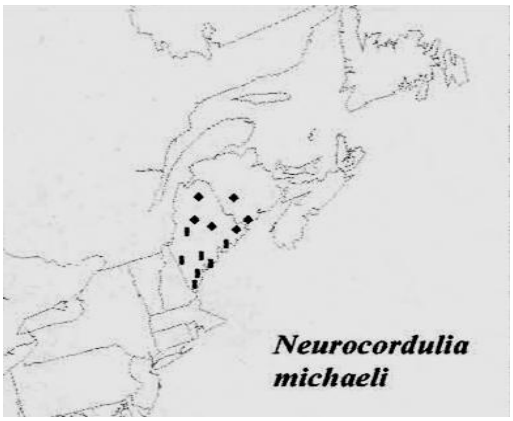
Larvae have been taken in larger rivers (St. Croix River, Charlotte County, New Brunswick), but laying has not yet been observed in that habitat and the larvae might have been flushed from tributaries. The microhabitat appears to be rapids sections below pools. Exuviae can sometimes be found on bridge abutments. Larvae have been collected from beneath stones under boulders in water ½ to 1 m deep in riffles at the head of (spring-fed) pools.

Primary Habitat Type
Medium River; Low-Moderate Gradient

Distribution:
This species was newly discovered in NYS on the Delaware River in 2008 during the NYDDS at two nearby locations on the Delaware River (White et al. 2010). As with other locations in Maine (Brunelle 2000) and Ontario (Catling et al. 2004), the species can sometimes be locally abundant.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	W	L	M
2. Biological Resource Use	Logging & Wood Harvesting (siltation)	R	L	M
3. Energy Production & Mining	Oil & Gas Drilling (hydraulic fracturing issues)	W	M	V

References Cited:

Brunelle, P. M. (2000). A new species of *Neurocordulia* (Odonata: Anisoptera: Corduliidae) from eastern North America. The Canadian Entomologist, 132(01), 39-48.

Catling, P.M., M.J. Oldham, C.D. Jones, R. Oldham, J.J. Domnbroskie, and B. Kostuik. 2004. Broad-tailed shadowdragon, *Neurocordulai michaeli*, new to Ontario. Argia 16:13-16.

Donnelly, T. W. 2004. Distribution of North American Odonata. Part I: Aeshnidae, Petaluridae, Gomphidae, Cordulegastridae. Bulletin of American Odonatology 7:61-90.

White, E. L., J. D. Corser, and M. D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the Odonates of New York. New York Natural Heritage Program, Albany, New York.

Common Name: Lake emerald ***SPCN***
Scientific Name: *Somatochlora cingulata*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

Synopsis:
The center of distribution for the lake emerald (*Somatochlora cingulata*) lies in northwestern Ontario in the central Canadian Shield forest, and ranges west to British Columbia, south to Wyoming, and northeast to Newfoundland and Labrador. New York lies at the southern range extent and a 1966 record from Slide Mountain in the Catskills is the southernmost known occurrence in the northeast (Donnelly 1999, Donnelly 2004). Prior to the 1990s, this species was known for New York from a single record from Slide Mountain in Ulster County in 1966 (Donnelly 1992). Two additional records were obtained in the 1990s (Donnelly 1999) and three other new locations were found during the New York Dragonfly and Damselfly Survey (NYDDS) along with a re-confirmation at one of the 1990s sites. Several records were obtained in the 1990s with additional records during the NYDDS from 2005–2009. All of these recent records have come from the Adirondacks, while the species has not been relocated in the Catskills area. It is almost certain that the recent records are the result of increased numbers of observers looking for dragonflies in the Adirondacks rather than an increasing trend for the species. As such, comparative survey effort in future years will be needed to establish trend information.

This boreal species does not seem to have clear habitat preferences, and is found in both lentic and lotic waters (Walker and Corbet 1975). However, it is generally considered a species of higher elevations, regardless of whether occurring at lakes or rivers.

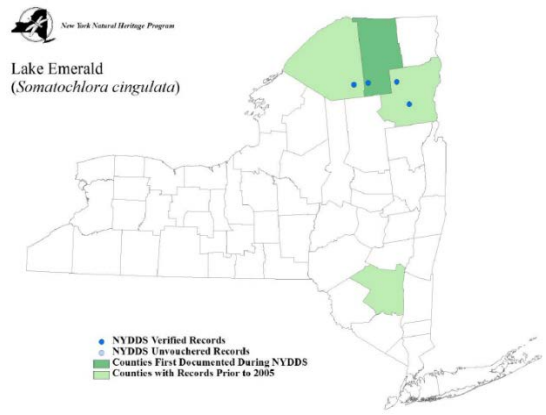
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
This boreal species does not show clear habitat preference, as it is found in both lentic and lotic habitats (Walker and Corbet 1975), although it is generally considered a species of higher elevations, regardless of habitat type occupied, and all New York locations are from higher elevations. Lentic habitats include shallower, boggy lakes as well as deeper rocky ponds with sandy beaches. Lotic habitats include sluggish well-vegetated reaches of medium-sized and large rivers (Cannings and Cannings 1994, Nikula et al. 2003). Despite being seen in New York only about six times, it has been found across all of the aforementioned habitat types, except perhaps “large” river. Adults usually fly out of reach far out over the water (Walker and Corbet 1975). Boreal *Somatochlora* nymphs take at least 4 years to develop and they occupy shallow water meadows, sedge-filled pools, and sedge-filled shallows of small ponds. During this time, they are drought resistant and can survive dry conditions for up to 4–9 months through certain

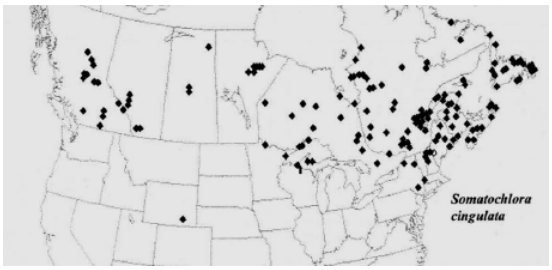
physiological adaptations and by actively burrowing in mud and seeking out sheltered locations in moss, cracks in mud, crevices in rotting logs, and sedge root clumps (Wiley and Eiler 1972).

Primary Habitat Type
Lake; Medium Lake
Lake; Small Lake
Medium River; Low-Moderate Gradient; Assume Moderately Buffered (Size 3+ rivers); Cold
Small River; Low-Moderate Gradient; Low Buffered, Acidic; Cold

Distribution:
The current distribution includes St. Lawrence County, Massawepie Mire – 1994 and 2007; Franklin County, Little Wolf Pond Beach – 2005 (White et al. 2010); Essex County, 3 records: Boreas River at Route 29N – 1995 (Donnelly 1999), Clear Pond Jones Beach – 2009, and Chubb River – 2009 (White et al. 2010) and subsequent years.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Residential & Commercial Development	Housing & Urban Areas (habitat loss from lakeside development)	N	L	M
2. Climate Change & Severe Weather	Temperature Extremes	P	M	V
3. Pollution	Industrial & Military Effluents (mercury)	P	L	H

References Cited:

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Nikula, B., J. L. Loose, and M. R. Burne. 2003. A field guide to the dragonflies and damselflies of Massachusetts. Massachusetts NHESP, Westborough, MA.

Walker, E. M. and P. S. Corbet. 1975. The Odonata of Canada and Alaska. Vol. III. The Anisoptera-three families. University of Toronto Press.

White, E. L., J. D. Corser, and M. D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the Odonates of New York. New York Natural Heritage Program, Albany, New York.

Common Name: Forcipate emerald ***SPCN***
Scientific Name: *Somatochlora forcipata*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

Synopsis:
The center of distribution for the forcipate emerald (*Somatochlora forcipata*) lies in northcentral Ontario in the central Canadian Shield forest ecoregion and ranges northwestward to the Northwest Territories, south to northern Wisconsin and West Virginia, and northeastward to Newfoundland and Labrador (Donnelly 2004b). New York lies near the center of the range, but this species was not discovered in the state until 1980. During the 1990s, it was found in large bog complexes in Franklin County (Bloomindale Bog, Spring Pond Bog, Kildare Peatlands), and St. Lawrence County (Hitchins Pond Bog) as well as sites in Essex and Lewis County (Donnelly 1999, 2004a). Additional new bog sites in the Adirondacks were added during the New York State Dragonfly and Damselfly Survey (NYDDS) in Hamilton and Franklin counties and at least two of the known sites have been extant for 10–15 years. In 2007, the range was extended significantly southward in New York to the Rensselaer Plateau (White et al. 2010). Records for this species are too few and infrequent to accurately assess population trends. The number of new records in 2005–2009 likely reflects heightened interest and survey effort during the New York Dragonfly and Damselfly Survey, rather than an increasing trend (P. Novak, personal communication).

Throughout its range, this species inhabits small spring-fed boggy streams and it feeds in sunny glades and along roads, perching in trees 15–20' high (Walker and Corbet 1975). In New York, specific habitat characteristics include large bogs and boggy swales (White et al. 2010).

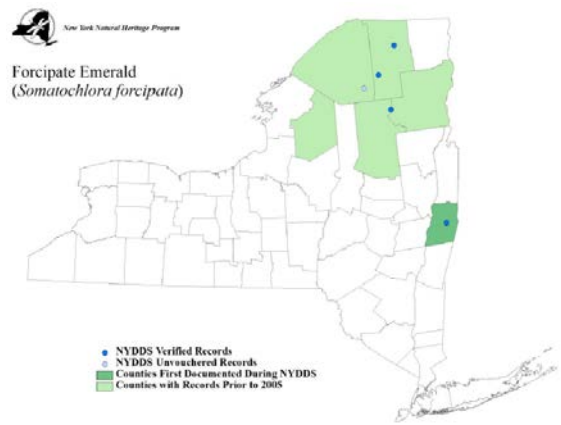
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
Throughout its range, this species inhabits small spring-fed boggy streams and it feeds in sunny glades and along roads, perching in trees 15–20' high (Walker and Corbet 1975). In New York, specific habitat characteristics include large bogs and boggy swales. One site was described as follows: "the boggy swale has a lush growth of *Carex*, blue flag, and sphagnum. Water flows slowly through the swale and pools are present in some areas; the water was several inches deep in July. The swale is connected to a large poor fen/spruce tamarack bog complex" (White et al. 2010). Boreal *Somatochlora* nymphs take at least 4 years to develop and they occupy shallow water meadows, sedge-filled pools, and sedge-filled shallows of small ponds. During this time, they are drought resistant and can survive dry conditions for up to 4–9

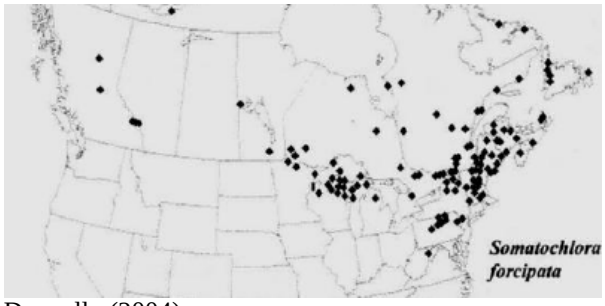
months through certain physiological adaptations and by actively burrowing in mud and seeking out sheltered locations in moss, cracks in mud, crevices in rotting logs, and sedge root clumps (Wiley and Eiler 1972).

Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
During the 1990s, *Somatochlora forcipata* was discovered in large bog complexes in Franklin County (Bloomindale Bog, Spring Pond Bog, Kildare peatlands), and St. Lawrence County (Hitchins Pond Bog) as well as sites in Essex and Lewis counties (Donnelly 1999, 2004a). Additional new bog sites in the Adirondacks were added during the NYDDS in Hamilton and Franklin counties and at least two of the known sites have been extant for 10–15 years. In 2007, the range was extended significantly southward in New York to the Rensselaer Plateau when an adult was captured at the Dyken Pond Educational Center (P. Novak, personal communication).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V

2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

References Cited:

Donnelly, T. W. 2004a. The Odonata of New York State. Unpublished data, Binghamton, NY.

Donnelly, T. W. 2004b. Distribution of North American Odonata. Part II: Macromiidae, Corduliidae and Libellulidae. Bulletin of American Odonatology 8:1-32.

Novak, Paul. 2015. Personal communication. NYSDEC, Schenectady, NY.

Walker, E. M. and P. S. Corbet. 1975. The Odonata of Canada and Alaska. Vol. III. The Anisoptera-three families. University of Toronto Press.

White, E. L., J. D. Corser, and M. D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005–2009: Distribution and status of the Odonates of New York. New York Natural Heritage Program, Albany, New York.

Wiley, R. L. and H. O. Eiler. 1972. Drought resistance in subalpine nymphs of *Somatochlora semicircularis* Selys (Odonata: Corduliidae). The American Midland Naturalist 87:215-220.

Common Name: Delicate emerald ***SPCN***
Scientific Name: *Somatochlora franklini*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1
Tracked: Yes

Synopsis:
S. franklini is one of a number of primarily boreal emeralds, many of which are on the rear edge of their northern ranges and limited to the coldest regions of the state. It inhabits remnant boreal habitats such as big bog complexes in the northern Adirondacks. As with its preferred habitat, this species occurs in a disjunct population in New York, and is therefore at risk primarily owing to warming climates as its range retracts northward.

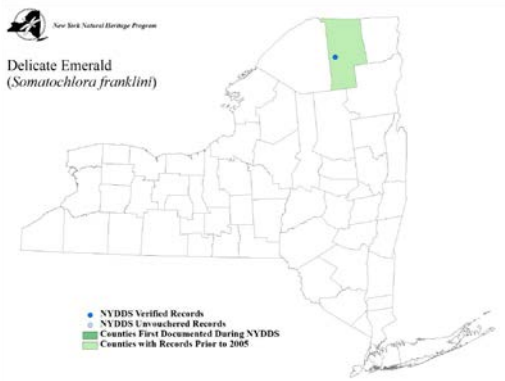
S. franklini was first discovered in the state in 1995 at Spring Pond Bog (Donnelly 1999). This species was discovered at just a single locale in Franklin County during the New York State Dragonfly and Damselfly Survey (NYDDS; White et al. 2010). Another Franklin County record was documented in 2010. This is an extremely narrowly distributed species in the state, and only just a handful of individuals have ever been found with the borders of New York.

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Increasing	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

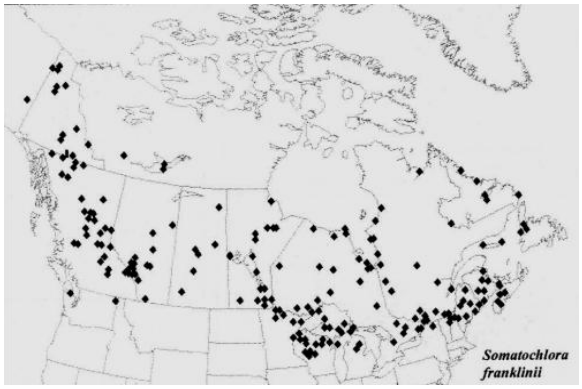
Habitat Discussion:
Throughout its range, this species inhabits small spring-fed boggy streams (Walker and Corbet 1975). This species is found in sedge and moss-filled fens, at the foot of hillsides below seepage or in wide-open meadows. It is not usually encountered near open water. Adult males fly through stretches of tall grasses, sedges, and shrubs. In New York, specific habitat characteristics include large bogs and boggy swales. Boreal *Somatochlora* nymphs take at least 4 years to develop and they occupy shallow water meadows, sedge-filled pools, and sedge-filled shallows of small ponds. During this time, they are drought resistant and can survive dry conditions for up to 4–9 months through certain physiological adaptations and by actively burrowing in mud and seeking out sheltered locations in moss, cracks in mud, crevices in rotting logs, and sedge root clumps (Wiley and Eiler 1972).

Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands

Distribution:
In New York this species has only ever occupied one or two sites in Franklin County.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	H
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

References Cited:
Donnelly, T. W. 1999. The dragonflies and damselflies of New York. Prepared for the 1999 International Congress of Odonatology and 1st Symposium of the Worldwide Dragonfly Association. Colgate University, Hamilton, New York, USA.

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Common Name: Incurvate emerald ***SPCN***
Scientific Name: *Somatochlora incurvata*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S1
Tracked: Yes

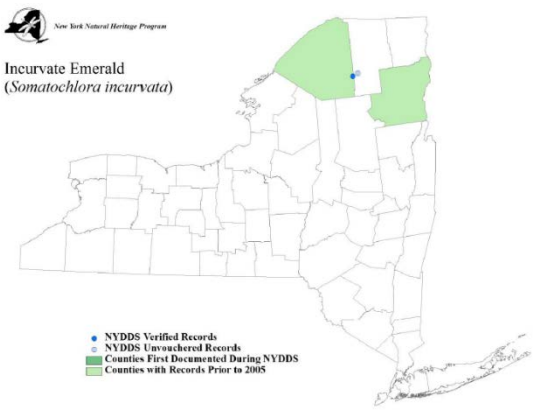
Synopsis:
The center of distribution for incurvate emerald lies in southeastern Ontario in the Eastern Great Lakes lowland forest ecoregion and ranges westward to Wisconsin, eastward to Nova Scotia and southward to Ohio (Donnelly 2004). New York lies near this center, but the species is exceedingly rare and only known from a handful of northern bogs. This species (all adults; exuviae have not been reported in New York) was not discovered in the state until 1993. In New York, *S. incurvata* inhabits large, open, forest-bordered bogs, poor fens, and peatlands with widely scattered tamarack and black spruce, and ericaceous bog shrubs interspersed with sedges and Sphagnum, with abundant shallow, pooled water and rivulets (White et al. 2010). It was not documented in New York until 1993 (SGCN Expert Meeting). Other large bogs similar to those where this species has been documented occur within the Adirondacks, and while it is most certainly a rare and localized species of specific habitat, it is likely that additional sites will be discovered in New York (Paul Novak, pers. comm.).

Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

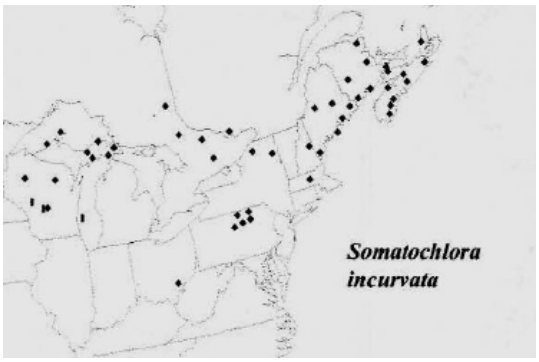
Habitat Discussion:
In New York, *S. incurvata* inhabits large, open, forest-bordered bogs, poor fens, and peatlands with widely scattered tamarack and black spruce, and ericaceous bog shrubs interspersed with sedges and Sphagnum, with abundant shallow, pooled water and rivulets. The water in these pools is clear and cold and moves almost imperceptibly through the sphagnum mat (Shiffer 1993). In Michigan, *S. incurvata* can be found in patterned peatlands and northern fens associated with flowing alkaline groundwater that contains marl or peat (Lee 1999). Wisconsin habitats are large wetland complexes on old glacial lake beds, often adjacent to sandy pine uplands. Larvae have only recently been described and were found clinging to the underside of sphagnum mounds at pool edges in partially decomposed dark brown sphagnum and sedges (Wisconsin Natural Heritage Inventory Program 2010). Boreal *Somatochlora* nymphs take at least 4 years to develop and occupy shallow water meadows, sedge-filled pools, and sedge-filled shallows of small ponds. During this time, they are drought resistant and can survive dry conditions for up to 4–9 months through certain physiological adaptations and by actively burrowing in mud and seeking out sheltered locations in moss, cracks in mud, crevices in rotting logs, and sedge root clumps (Wiley and Eiler 1972). Males fly low and erratically over vegetation and occasionally perch on tree branches or hover over open pools (White et al. 2010).

Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
There are no records for this species in New York prior to 1993 (Donnelly 1999). This species has been documented at four sites in New York, two between 1993 and 1995 (Massawepie Mire 1993, Bloomingdale Bog 1995) and two between 2004 and 2005 (Sevey Bog 2004, Bear Brook or Jordan River Bog 2005) (Paul Novak, pers. comm.).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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Common Name: Ocellated emerald ***SPCN***
Scientific Name: *Somatochlora minor*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2S3
Tracked: Yes

Synopsis:
The Midwest Canadian Shield forest ecoregion in Northwester Ontario forms the center of distribution for the ocellated emerald (*Somatochlora minor*), whose full range extends from the Yukon, south to Colorado and northeast to Newfoundland and Labrador. New York lies along the southeastern extent of that range. Records from the Adirondacks are some of the southernmost known occurrences in the Northeast (Donnelly 2004b).

The pattern of increased records for this species could be indicative of either a recent range expansion, or simply increased survey efforts, most likely the latter. Similarly, the number of known townships inhabited by this species in Maine more than tripled to over 40 during atlas efforts in the state (Brunelle and deMaynadier 2005) and the species was recorded from several new townships during the New Hampshire Dragonfly Survey (Hunt 2012).

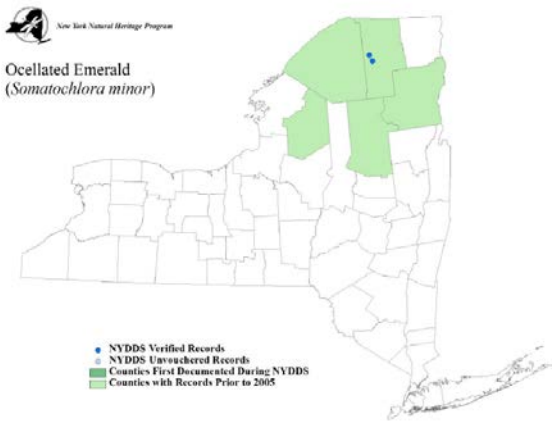
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
In New York, the most thorough habitat description comes from a site in St. Lawrence County where *S. minor* was found in a wetland small stream (5–8’ wide) with a mud and muck bottom. At least one small beaver dam is present on the site and one end of the bog appears to have been impounded in previous years, with scattered dead spruce and a marshy portion at the far end. Another end of the wetland is more typical of a bog with stunted black spruce, tamarack, ericaceous shrubs, sedges, cranberries, and areas of standing water and rivulets. The spruce grades into dense 10-30 foot-tall black spruce and tamarack. All remaining four extant locales in New York were from streams in, or near, similar bog habitats (White et al. 2010). Ross (2001), however, described very different occupied sites in Michigan, and eastern vs. western North American populations appear to have alternative habitat preferences (Walker and Corbet 1975, Dunkle 2000, Cannings and Cannings 1994).

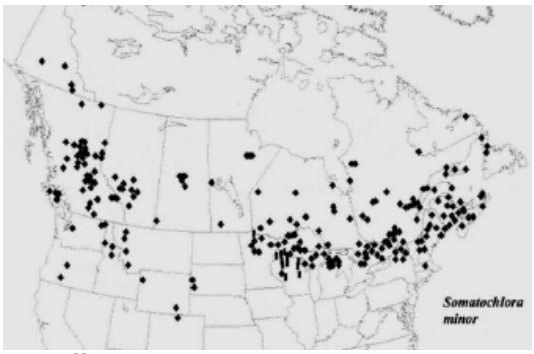
Primary Habitat Type
Boreal Forested peatland
Headwater/Creek; Low Gradient; Low Buffered

Open Acidic Peatlands

Distribution:
From The New York Dragonfly and Damselfly Survey 2005–2009 and other recent records reported in White et al. 2010: Donnelly (1999) reported records from the early to mid-1990s at Bloomingdale Bog in Essex County, Spring Pond Bog near Derrick in Franklin County, and at the Oswegatchie in St. Lawrence County. The range was extended further south in the early 2000s when records were reported for Lewis and Hamilton Counties (Donnelly 2004a), and another at Leonard Pond Bog near Sevey Corners in St. Lawrence County. In 2008, *S. minor* was found near bog streams along Blue Mountain Road (White et al. 2010). Essex County, Bloomingdale Bog (1992), recently confirmed; St. Lawrence County, near Oswegathchie and Leonard Pond Bog (2004), recently confirmed; Franklin County (2008), recently confirmed; Lewis County (no date), recently confirmed; Hamilton County (no date), recently confirmed.



White et al. (2010)



Donnelly (2004a)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M

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Walker, E. M. and P. S. Corbet. 1975. The Odonata of Canada and Alaska. Vol. III. The Anisopter three families. University of Toronta Press.

White, Erin L., Jeffrey D. Corser, and Matthew D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the odonates of New York. New York Natural Heritage Program, Albany, New York.

Common Name: Black meadowhawk ***SPCN***
Scientific Name: *Sympetrum danae*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2S3
Tracked: Yes

Synopsis:
The black meadowhawk's range covers boreal habitats across North America and Eurasia. Recent genetic analysis has revealed that a subdivision exists for this species between the North American population and the Eurasian-Beringian population, where individuals from these two populations should be recognized as separates species (Pilgrim 2007). In North America, the species has been documented from Alaska east across Canada to Newfoundland, the western mountains of the U.S., where it is fairly common, and east across the northern states, where it is less common (Dunkle 2000, Abbott 2007). In the Northeast, it is known from New Jersey, New York, Vermont, New Hampshire, and Maine (NatureServe 2012, Abbott 2007). In New York, extant populations occur on the Chubb River where there is a pond with marshy habitat and a stream nearby, at a site on the West Branch of the Ausable River near a field, and at a wetland near the Ausable (New York Natural Heritage Program 2010). There is an older record from a private fen in Genesee County (Donnelly 1999). In North America, this species is known from wetland habitats including bogs, fens, and marshes, and less often, ponds and lakes and moving water (Dunkle 2000).

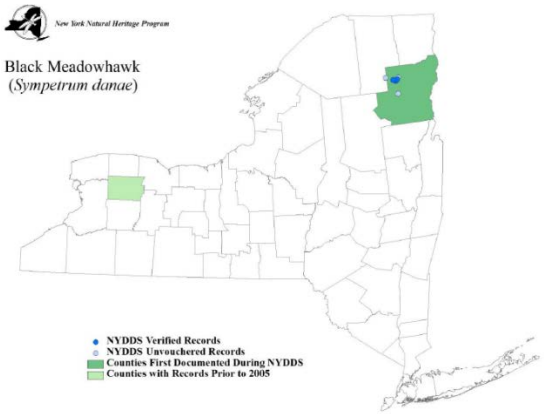
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
The species occurs in wetland habitats including bogs, fens, and marshes, and less often, ponds and lakes and moving water (Dunkle 2000). Known New York locations fit these descriptions being marshy areas associated with rivers, ponds, and wetlands (White et al. 2010).

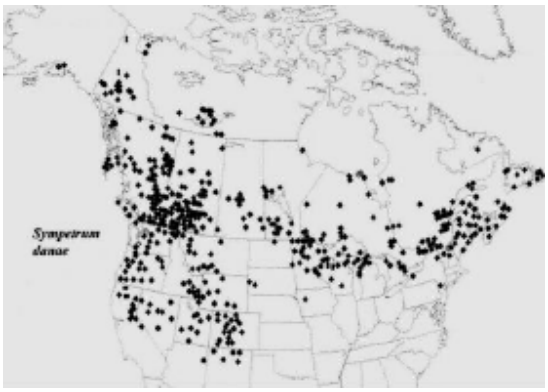
Primary Habitat Type
Freshwater Marsh
Open Acidic Peatlands
Wet Meadow/Shrub Marsh

Distribution:
Extant populations occur on the Chubb River where there is a pond with marshy habitat and a stream nearby, at a site on the West Branch of the Ausable River near a field (this site was initially documented

in 1997), and at a wetland near the Ausable (New York Natural Heritage Program 2010, White et al. 2010).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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White, Erin L., Jeffrey D. Corser, and Matthew D. Schlesinger. 2010. The New York dragonfly and damselfly survey 2005-2009: Distribution and status of the odonates of New York. New York Natural Heritage Program, Albany, New York.

Common Name: Ebony boghaunter ***SPCN***
Scientific Name: *Williamsonia fletcheri*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S1
Tracked: Yes

Synopsis:
A North American species, the ebony boghaunter is found in the Canadian provinces of Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia (Charlton 1985, Abbott 2007). In the United States, it is known from Wisconsin, Michigan, New York, Vermont, New Hampshire, Massachusetts, and Maine (Donnelly 2004, Abbott 2007). Appropriate habitats in northern New York should be searched in May and June to try to document new locations for this species. Mead (2003) notes that populations tend to be very small and susceptible to local extinction, so known populations should be monitored in the future and threats to the habitat should be assessed. *W. fletcheri* is found in sphagnum bogs, fens, and swamps with open pools near woodlands (Nikula et al. 2003), often with soupy sphagnum pools (Massachusetts NHESP 2003).

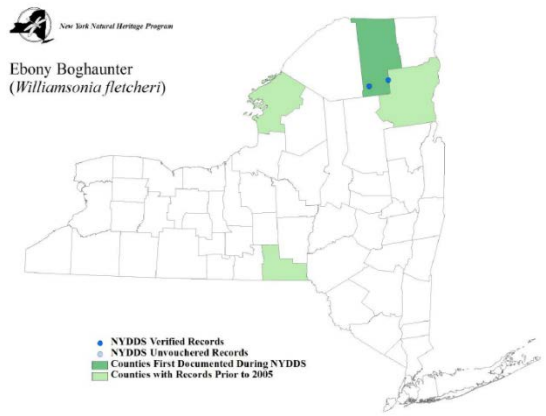
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Unknown	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
The habitat of *W. fletcheri* includes sphagnum bogs, fens, and swamps with open pools near woodlands (Nikula et al. 2003), often with soupy sphagnum pools (Massachusetts NHESP 2003). While the larvae live in these wet areas, the nearby woodland component appears essential for adult behaviors such as hunting, roosting, and mating (Charlton 1985, Massachusetts NHESP 2003). Larvae of *W. fletcheri* develop in small, open pools of water within bogs/fens or sphagnum mats (U.S. Forest Service 2010) that are often connected by ditches of standing, or slightly flowing, water (Hutchinson and Ménard 1999).

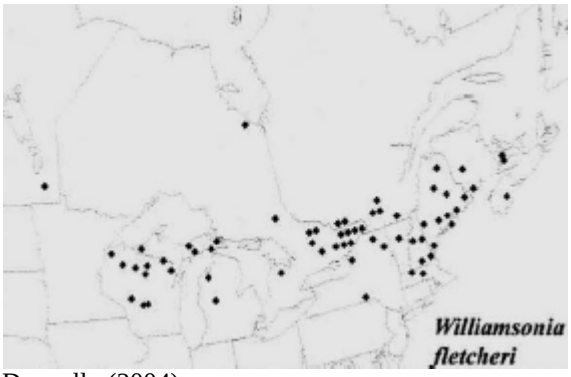
Primary Habitat Type
Boreal Forested peatland
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:
In New York, a 1947 record exists from Chenango Valley State Park in Broome County; this record has not been relocated despite efforts by many odonatologists (Donnelly 1999). There are four extant locations in the state. Heron Marsh in Franklin County and Perch River Swamp in Jefferson County were

documented in the 1990s (New York Natural Heritage Program 2010). New locations during the NYDDS include a marsh on the Raquette River in Franklin County and a bog near Oseetah Lake also in Franklin County (White et al. 2010).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	V
2. Climate Change & Severe Weather	Temperature Extremes	P	H	V
3. Pollution	Industrial & Military Effluents (acid rain, mercury)	P	L	M
4. Climate Change & Severe Weather	Droughts	P	M	V

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