Common Name: Comet darner ***SGCN***
Scientific Name: *Anax longipes*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2
Tracked: Yes

Synopsis:
The comet darner is considered a tropical species (Hine 1913) and the center of its North American distribution lies in southern Kentucky in the Central Hardwood Forest eco-region. It ranges north to New Brunswick, south to Cuba and west to Texas and Wisconsin (Donnelly 2004). However, it has traditionally been thought of as a Coastal Plain species and since it wanders over long distances, many outlying records (especially in the north) could be vagrants and not indicative of established breeding populations (Donnelly 1999). As a coastal plain species, it is not surprising that the New York stronghold is on Long Island. *A. longipes* has been known from around New York City since the late 1800s, and there are numerous coastal plain ponds on Long Island where the species currently is found.

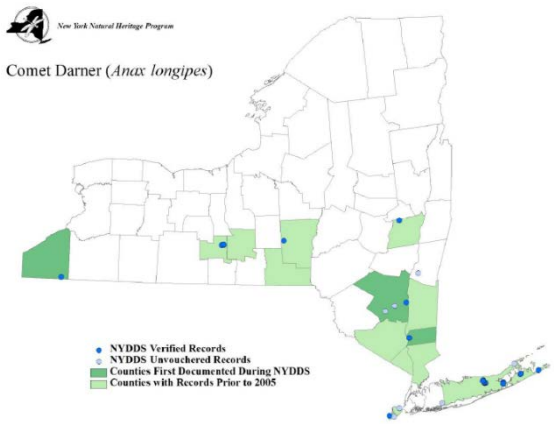
It ranges through the Hudson Valley northward to Albany County, where a persistent breeding colony has occupied a farm pond since the mid-1990s (Donnelly 1999). A second persistent breeding location is found in Schuyler County in the southern Finger Lakes where, like the Albany County location, the breeding pond is manmade (Gregoire and Gregoire 2007). In other locations in New York and elsewhere, this species inhabits a wide variety of small lakes, and especially ponds, including coastal plain ponds, vernal pools, natural rocky ponds, and farm ponds. The common habitat feature seems to be that the water body is well-vegetated with both floating and submerged aquatic macrophytes (Massachusetts NHESP 2003), with a possible preference to those which do not support fish (Dunkle 2000). This species is an excellent colonist and may be relatively robust in the face of anthropogenic change (P. Hunt, personal communication).

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

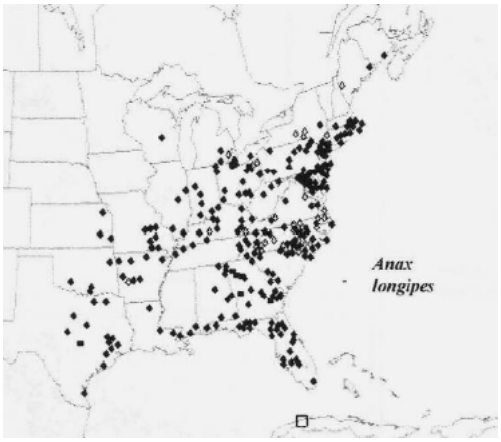
Habitat Discussion:

Primary Habitat Type
Coastal Plain Pond
Lake

Distribution:
Efforts during the New York Dragonfly and Damselfly Survey 2005–2009 (NYSDDS) found *A. longipes* where it was historically known to occur (Long Island and the southern tier). New areas were also discovered, just prior to the NYDDS (Albany, Orange, Rockland, and Westchester Counties) and during the NYDDS (Putnam, Ulster, Columbia, and Chautauqua Counties (White et al. 2010). It should be noted that not all of the recent locations have been documented as sites where the species is definitively breeding and overwintering (as evidenced by or site emergence or collection of exuviae).



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)	R	M	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	N	L	L
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (lawn care)	R	L	L
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
6. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (stocking fish)	W	L	H

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, NY.

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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Common Name: Dusky dancer ***SGCN***
Scientific Name: *Argia translata*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

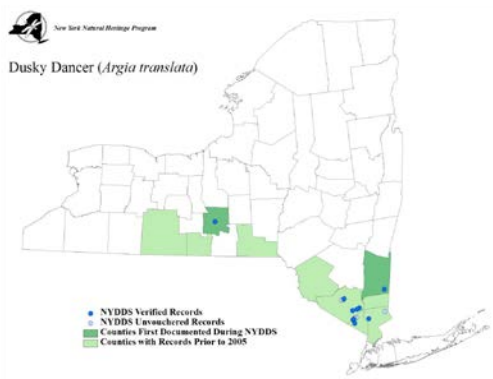
Synopsis:
This tropical dancer is the common ancestor to all the rest of the hundreds of described dancers in the western Hemisphere. It resides primarily in flowing waters, but also turns up infrequently on lakes/reservoirs. It is on its extreme northeastern range margin in New York, and hence is confined to the southern portion of the state. Its range in the state seems to have recently contracted towards the extreme southeastern part of the state. White et al. (2010) found declines in county-level distributions since 1970 and since 2000, throughout the entire Northeast.

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		

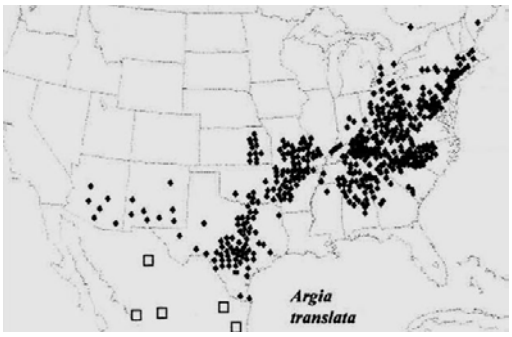
Habitat Discussion:
This species appears to be somewhat of a habitat generalist. It is most often recorded on streams and small rivers in NYS, but can also be found on small lakes or reservoirs.

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

Distribution:
In New York, this species was known to occupy eight counties along the southernmost reaches of the state, but only five counties were occupied during NYDDS and it has nearly disappeared from the southern tier (White et al. 2010).



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)	N	L	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	N	L	V
3. Pollution	Agricultural & Forestry Effluents (runoff, siltation)	R	M	M
4. Climate Change & Severe Weather	Storms & Flooding	R	L	V
5. Natural System Modifications	Other Ecosystem Modifications (stream channelization in response to severe weather events)	R	M	V
6. Pollution	Household Sewage & Urban Waste Water (poor water quality)	R	L	M

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, NY.

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: Horned clubtail ***SGCN***
Scientific Name: *Arigomphus cornutus*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

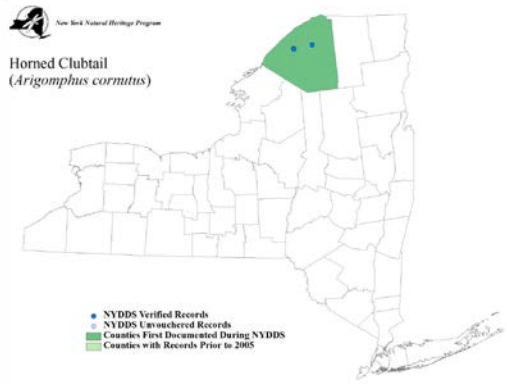
Synopsis:
This species was discovered as a new member of New York's Odonate fauna in 2006 during the New York Dragonfly and Damselfly Survey (NYDDS) (Trybula 2006, White et al., 2010). It is only known from two sites in St. Lawrence County and it is likely that it recently colonized across the St. Lawrence River from nearby populations in Canada. This forms the extreme eastern range boundary of this upper Midwestern species.

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

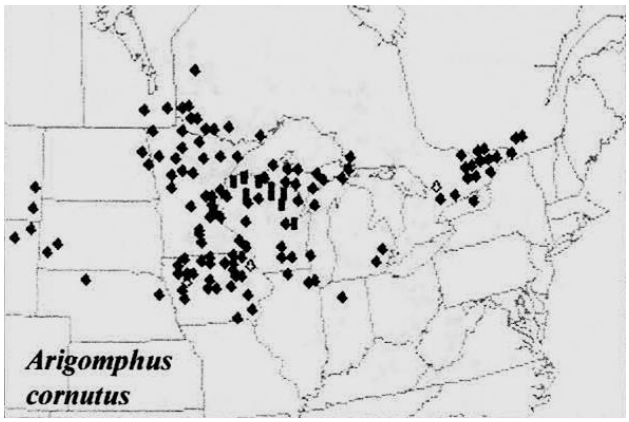
Habitat Discussion:
In New York, this species is found at small marshy lakes, slow streams, and rivers (Trybula 2006).

Primary Habitat Type
Freshwater Marsh

Distribution:
This species was newly discovered in New York on Indian Creek and along the Raquette River in St. Lawrence County in 2006 (Trybula 2006), and in 2009 during the NYDDS at two nearby locations.



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)	P	L	H
2. Biological Resource Use	Logging & Wood Harvesting (siltation of streams)	P	L	L
3. Pollution	Agricultural & Forestry Effluents (runoff)	P	L	L
4. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	H

References Cited:

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

Massachusetts NHESP. 2003. Massachusetts rare species fact sheets. Massachusetts Division of Fisheries & Wildlife, Westborough, MA. <http://www.mass.gov/dfwele/dfw/nhesp/species_info/fact_sheets.htm>. Accessed 30 August 2012.

Trybula, J. 2006. *Arigomphus cornutus*, a state record for New York. Argia 18:11-12.

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: Four-spotted pennant ***SGCN***
Scientific Name: *Brachymesia gravida*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

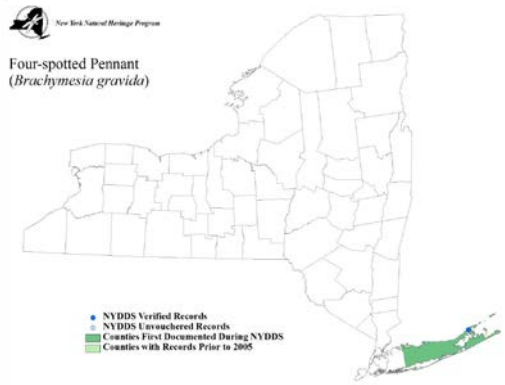
Synopsis:
This species was discovered as a new member of New York's Odonate fauna in 2008 during the New York Dragonfly and Damselfly Survey (NYDDS; White et al. 2010) and has since been located nearby the initial locale in 2012. It is only known from three pond sites in eastern Suffolk County on the eastern tip of Long Island. Recent survey efforts have expanded the known range of this species northeastward to New Jersey and New York, forming the extreme northeastern range boundary of this subtropical species. This probably indicates a recent range expansion, but could also simply be due to increased attention by Odonatologists.

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	X		
26% to 50%		Uncommon			
> 50%		Rare			

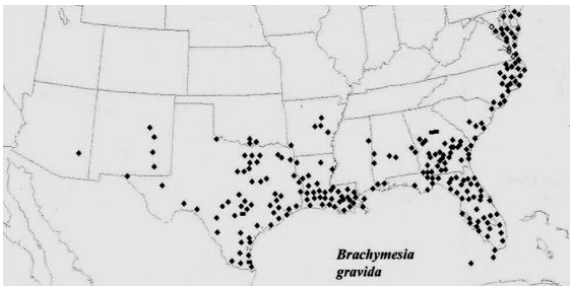
Habitat Discussion:
Inlet Pond is a pond on a beach along the northern shore of the North Fork of Long Island. There is a trail system from North Fork Audubon Center leading to the pond. Skipper Horton Pond is a permanent to semi-permanent artificial pond near a busy road, bordered by mowed lawn and cattails. Sill Pond is a deep pond with a wooded and shrubby border and containing fish and pickerel weed. This species tolerates degraded water, including brackish and over-fertilized waters (Dunkle 2000).

Primary Habitat Type
Coastal Plain Pond
Lake

Distribution:
This species was newly discovered in New York on a pond in Skipper Horton Park in Suffolk Co. in 2008 (White et al. 2010), and also in 2012 at two more nearby ponds. No additional sites have been found since then.



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	M	M
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	P	M	H
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (poor water quality)	P	L	L

References Cited:

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

Dunkle, S.W. 2000. Dragonflies Through Binoculars. A Field Guide to Dragonflies of North America. Oxford University Press: New York, New York.

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: Double-ringed pennant ***SGCN***
Scientific Name: *Celithemis verna*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

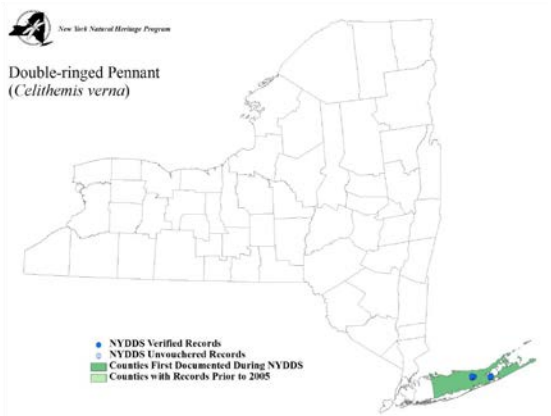
Synopsis:
This species was discovered as a new member of New York's odonate fauna in 2005 during the New York Dragonfly and Damselfly Survey (NYDDS) (Brown 2005, White et al. 2010) and has since been found at several other locales. It is only known from a handful of coastal plain ponds in eastern Suffolk County. This forms the extreme northeastern range boundary of this southerly species. The species favors primarily coastal plain ponds and appears to be expanding its range (Brown 2005).

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	X		
26% to 50%		Uncommon			
> 50%		Rare			

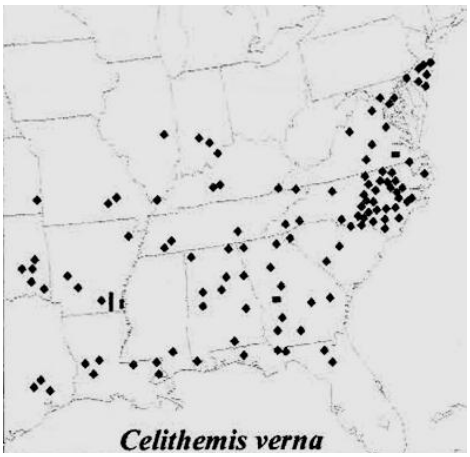
Habitat Discussion:
Peasys Pond is an oblong coastal plain pond with abundant floating and emergent vegetation. The substreate is sand with deep muck overlying the sand. The surrounding landscape is forested with pitch pine and scrub oak. Small, round coastal plain pond with graminoid and floating vegetation and forbs. The shoreline is boggy with a water depth of 1-2.5 feet. Water depth was 6 inches to 1.5 feet. Pond shore vegetation includes rushes and sedges, sundew, cranberry and water lily. Vegetation in the surrounding uplands includes highbush blueberry, sweet pepperbush, pitch pine, and oaks. Fox Pond is in a cluster of small ponds apparently connected by small streams. Small round pond with emergent graminoids and forbs and a boggy shoreline; 2-2.5 ft. water level at survey. Fragrant water lily is present throughout the pond, even in patches of emergent vegetation on the pond shore.

Primary Habitat Type
Coastal Plain Pond

Distribution:
This species was newly discovered in New York on a pond in Suffolk Co. in 2005 (Brown 2005), and also at a handful of additional nearby ponds throughout the duration of NYDDS (White et al. 2010). No additional site records have been found since then.



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural Systems Modifications	Dams & Water Management/Use (alteration of natural hydrology)	W	M	M
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	P	M	H
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (poor water quality)	P	L	L

References Cited:

Brown, V. 2005. *Celithemis verna* in New York. *Argia* 17:21-22.

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: Arrowhead spiketail ***SGCN***
Scientific Name: *Cordulegaster obliqua*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S2S3
Tracked: Yes

Synopsis:
The distributional center of *C. obliqua* lies in southwest Ohio in the Southern Great Lakes Forest Ecoregion, and extends northwest to northern Minnesota, south to Texas and Florida and north to southern Ontario and Quebec (Donnelly 2004, White et al. 2010). However, as with other *Cordulegaster*, it is likely that this large range could comprise a species complex involving varying levels of hybridization (Pilgrim et al. 2002).

New York lies near the northeastern range extent, and the species is rather widely distributed from the Finger Lakes region eastward. Recent survey efforts have expanded the known range of this species. This pattern may indicate a recent range expansion, but could also arise simply from increased survey efforts (White et al. 2010). As elsewhere in the northeast and midwest (Nikula et al. 2003, Wisconsin Odonata Survey 2009, Bangma and Barlow 2010), *C. obliqua* in New York oviposit and spend most of their time at small spring-fed streams and seeps with soft organic muck bottoms and sometimes rocky substrates (White et al. 2010).

Recent survey efforts have expanded the known range of this species. This pattern may indicate a recent range expansion, but could also arise simply from increased survey efforts (White et al. 2010). Although some sites have been known for nearly 20 years, regular visitation with population estimates are not available to further inform the trend discussion.

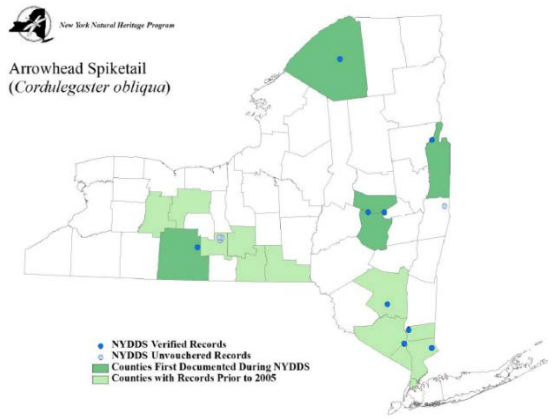
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
As elsewhere in the Northeast and Midwest (Nikula et al. 2003, Wisconsin Odonata Survey 2009, Bangma and Barlow 2010) *C. obliqua* in New York oviposit and spend most of their time at small spring-fed streams and seeps with soft organic muck bottoms and sometimes rocky substrates. These streams are in forested areas, although the seepages themselves may be in small areas of more open habitat types such as wet meadows or small cattail marshes and fields dominated by ferns and other moisture dependent herbaceous plants. Adults may feed in forest clearings in the vicinity of the principal breeding habitat (New York Natural Heritage Program 2009b, White et al. 2010). A somewhat informative distribution model (New York Natural Heritage Program 2009a) found that environmental variables associated with

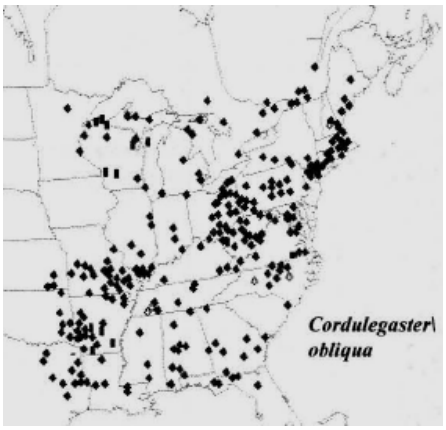
moderate degrees of canopy cover, topographic index and mild temperatures (average annual minimum temperature, and frost free days) were the most informative parameters in defining suitable habitats for this species. Lloyd (2005) noted that such seeps provide a unique habitat for macroinvertebrates such as *C. obliqua* by having smaller seasonal temperature changes and generally predictable year-round flows.

Primary Habitat Type
Headwater/Creek; Low Gradient; Moderately Buffered, Neutral; Transitional Cool
Headwater/Creek; Low-Moderate Gradient; Moderately Buffered, Neutral; Transitional Cool
Small River; Low Gradient
Small River; Low-Moderate Gradient

Distribution:
Ulster, Putnam, and Tioga Counties all have multiple extant locations; there are about 20 in the state (White et al. 2010).



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)	N	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
6. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (hemlock wooly adelgid)	R	L	H

References Cited:

Bangma J. and A. Barlow. 2010. New Jersey Odonata Survey; The dragonflies and damselflies of New Jersey, *Cordulegaster obliqua*. <http://www.njodes.com/Speciesaccts/species.asp>. Accessed 7 September 2012.

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Massachusetts NHESP. 2003. Massachusetts rare species fact sheets. Massachusetts Division of Fisheries & Wildlife, Westborough, MA. <http://www.mass.gov/dfwele/dfw/nhesp/species_info/fact_sheets.htm>. Accessed 30 August 2012.

Lloyd F. 2005. The 2005 ESA annual meeting and exhibition. <http://esa.confex.com/esa/2005/techprogram/paper_22585.htm>. Accessed 7 September 2012.

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New York Natural Heritage Program. 2009b. Online conservation guide for *Cordulegaster obliqua*. <http://guides.nynhp.org/guide.php?id=8181>. Accessed 7 September 2012.

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Pilgrim, E. M., S. A. Roush, and D. E. Krane. 2002. Combining DNA sequences and morphology in systematics: testing the validity of the dragonfly species *Cordulegaster bilineata*. Heredity 89:184-190.

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.

Wisconsin Odonata Survey. 2009. Wisconsin dragonflies and damselflies, species accounts, *Cordulegaster obliqua*. Wisconsin Aquatic and Terrestrial Resources Inventory, Wisconsin Department of Natural Resources, and the Beaver Creek Reserve, Wisconsin. <http://wiatri.net/inventory/odonata/SpeciesList.cfm>. Accessed 7 September 2012.

Common Name: Atlantic bluet ***SGCN***
Scientific Name: *Enallagma doubledayi*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S1S2
Tracked: Yes

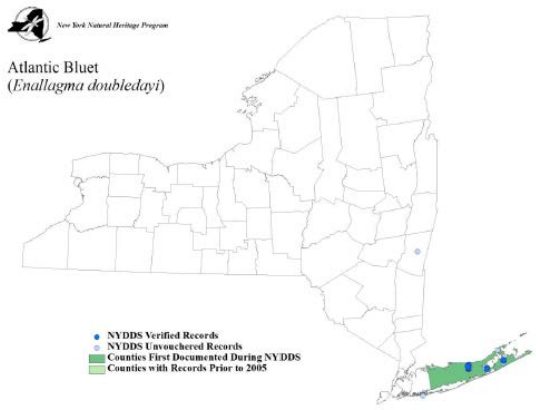
Synopsis:
Atlantic bluet is currently documented in 13 extant locations in Suffolk County. There is a possible record from Columbia County and Nassau County. It is historically known from Suffolk County as well, where they were reported common in 1999. They are known to inhabit coastal plain ponds in NY, which are the most vulnerable Odonate habitat type in the region. While the regional trend appears stable, the species is considered highly vulnerable in the Northeast (White et al. 2014). In New York and Massachusetts, Atlantic bluets are found in coastal plain ponds (Nikula et al. 2003, New York Natural Heritage Program 2010). In the southern part of their range, they can also be found in lakes, temporary ponds, and slow streams, but are usually in fishless waters (Lam 2004, Paulson 2011). In more northern areas, they can be found in bog-bordered ponds (Paulson 2011).

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	X		
26% to 50%		Uncommon			
> 50%		Rare			

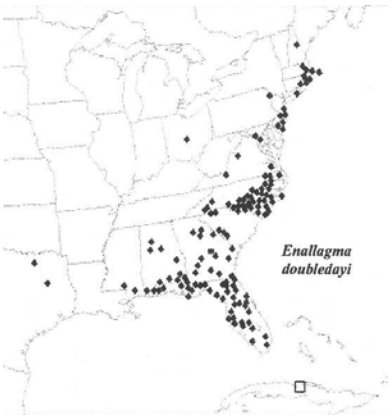
Habitat Discussion:
In New York and Massachusetts, Atlantic bluets are found in coastal plain ponds (Nikula et al. 2003, New York Natural Heritage Program 2010). In the southern part of their range, they can also be found in lakes, temporary ponds, and slow stream, but are usually in fishless waters (Lam 2004, Paulson 2011). In the north, they can be found in bog-bordered ponds (Paulson 2011).

Primary Habitat Type
Coastal Plain Pond
Lake and River Beach

Distribution:
Atlantic bluet is currently documented in 13 locations in Suffolk County. There are possible records from Columbia County and Nassau County. It is historically known from Suffolk County as well, where they were reported common in 1999.



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)	W	L	H
2. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	R	L	H
3. Pollution	Household Sewage & Urban Waste Water (lawn care)	P	L	H
4. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (Phragmites)	W	L	M

References Cited:

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

Lam, E. 2004. Damselflies of the northeast. Biodiversity books, Forest Hills, New York.

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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.

Paulson, D. R. 2011. Dragonflies and damselflies of the East. Princeton University Press, Princeton, NJ.

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: New England bluet ***SGCN***
Scientific Name: *Enallagma laterale*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G3G4
New York: S3
Tracked: Yes

Synopsis:
The New England bluet (*Enallagma laterale*) has a small range that runs only from eastern Pennsylvania eastward, and northward along the Atlantic Coast of the Unites States to southern Maine (Butler et al. 2005, Abbott 2007). The species was recently documented in Vermont as well (Blust 2008). In New York, it is known to occur in at least 17 locations from the following counties: seven in Orange, one in Rockland, three in Westchester, six in Suffolk (New York Natural Heritage Program 2010). Eleven of the sites were visited during the New York State Dragonfly and Damselfly Survey (NYDDS), five of which were first documented during the survey. All of the sites were first documented between 1990 and 2009 (New York Natural Heritage Program 2010).

Enallagma laterale is generally known to occur in ponds and lakes with emergent vegetation or boggy margins and sphagnum bogs (Carpenter 1991, Lam 2004, New York Natural Heritage Program 2009, Butler et al. 2005). In New York, it is known to inhabit Long Island coastal plain ponds with sandy substrate and also bog-bordered ponds in southern New York away from the coastal plain (New York Natural Heritage Program 2009, 2010). The presence of emergent vegetation and floating plants at the shorelines and boggy, shrubby borders is characteristic of New York sites (New York Natural Heritage Program 2009).

In New York, it is known to occur in at least 17 locations, all of which were first documented between 1990 and 2009. This species is extremely widespread and is possibly expanding its range in New England (P. Hunt, personal communication).

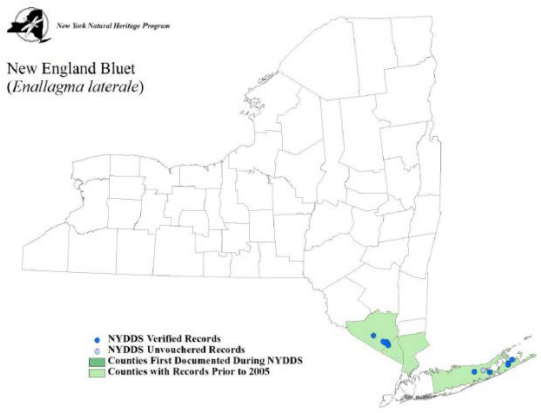
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
E. laterale inhabits ponds and small lakes with emergent vegetation or boggy edges. On Long Island, as in coastal states such as Massachusetts and Rhode Island, these ponds are typically sandy-bottomed coastal plain ponds (Carpenter 1991, Nikula et al. 2003, Lam 2004, New York Natural Heritage Program 2005). In Rhode Island, Carpenter (1991) noted a particular association with emergent stands of rushes (*Juncus*) and pickerelweed. Although the majority of sites occupied by this bluet are in the coastal plain, it is also found at higher elevations away from the coastal plain in Pennsylvania and in the Hudson

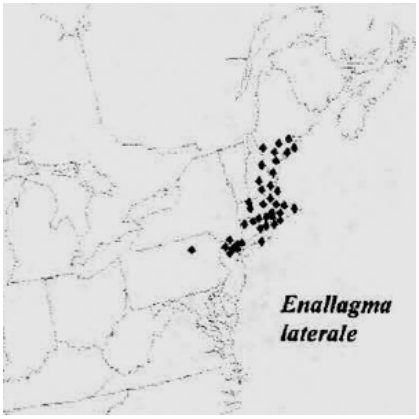
Highlands region of New York where it is found at ponds bordered by boggy vegetation (New York Natural Heritage Program 2011).

Primary Habitat Type
Coastal Plain Pond
Lake
Open Alkaline Peatlands

Distribution:
It is known to occur in at least 17 locations, all of which were first documented between 1990 and 2009.



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	H
2. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	R	M	H
3. Human Intrusions & Disturbance	Recreational Activities (off-road vehicle use)	N	L	M
4. Invasive & Other Problematic Species & Genes	Problematic Native Species (fish stocking)	W	L	H
5. Pollution	Household Sewage & Urban Waste Water (lawn care)	R	L	M
6. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
7. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (invasive plants)	R	L	M

References Cited:

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Blust, M. 2008. Odonata of Vermont. Damselfly distribution by county- Vermont. <http://www.campus.greenmtn.edu>. Accessed 15 May 2012.

Butler, R. G., P. G. deMaynadier, M. Tomlinson, H. Robbins, P. Long, and A. Marenberg. 2005. Northeast range extension and atypical observations of atypical "sash" of *Enallagma laterale* (New England bluet) in Maine. ARGIA 17:23-25.

Carpenter, V. 1991. Dragonflies and damselflies of Cape Cod. The Cape Cod Museum of Natural History, Brewster, Massachusetts.

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

Lam, E. 2004. Damselflies of the northeast: A guide to the species of eastern Canada and the northeastern United States. Biodiversity books, Forest Hills, New York.

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

New York Natural Heritage Program. 2011. Online Conservation Guide for *Enallagma laterale*. < http://www.acris.nynhp.org/>. Accessed 15 May 2012.

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: Blackwater bluet ***SGCN***
Scientific Name: *Enallagma weewa*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

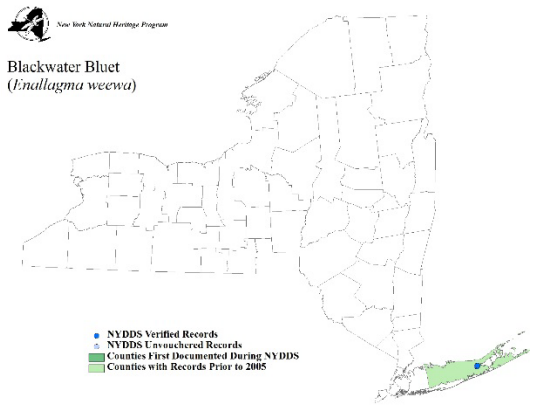
Synopsis:
Blackwater bluets were first documented in the state in Suffolk County in 1998 by Steve Walter. During the New York Dragonfly and Damselfly Survey, it was documented again in 2005 and also at one other location in Suffolk county (Donnelly 1999).

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

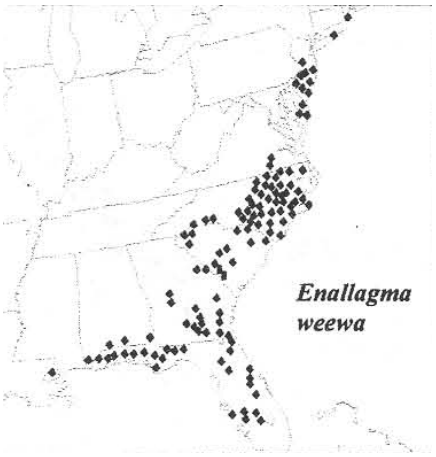
Habitat Discussion:
In New York, *E. weewa* is known from lentic habitats including a lake. However, throughout most of its range in the Northeast, this species is known to inhabit slow streams and rivers, sometimes wooded or flowing through swamps, usually with sandy substrates (Lam 2004, Paulson 2011, NatureServe 2013).

Primary Habitat Type
Medium River; High Gradient
Small River; Low Gradient

Distribution:
A single record from Cranberry Bog County Park in Riverhead, Suffolk County exists from 1998. This was reconfirmed during the NYDDS and one additional location was documented in 2005: Wildwood Lake (New York Natural Heritage Program 2010).



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)	W	L	H
2. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	R	L	H
3. Pollution	Household Sewage & Urban Waste Water (lawn care)	P	L	H
4. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (Phragmites)	W	L	M

References Cited:

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

Lam, E. 2004. Damselflies of the northeast. Biodiversity books, Forest Hills, New York.

NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1, NatureServe, Arlington, Virginia. [Online]. Available: http://www.natureserve.org/explorer. [Accessed: 19-Dec-2013].

New York Natural Heritage Program. 2010. New York dragonfly and damselfly survey database. New York Department of Environmental Conservation.

Paulson, D. R. 2011. Dragonflies and damselflies of the East. Princeton University Press, Princeton, NJ.

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Common Name: Mantled baskettail ***SGCN***
Scientific Name: *Epitheca semiaquea*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2
Tracked: Yes

Synopsis:
The mantled baskettail is distributed from Texas and Oklahoma to the eastern coast of the U.S. from Florida northward to Maine and into New Brunswick and Nova Scotia (Donnelly 2004, Abbott 2007). Older New York records were from Yaphank, North Sea, and Greenport in Suffolk County (Donnelly 1999). There was an apparent long absence of confirmed records in the state after the early 1950s (New York Natural Heritage Program 2010) until it was photographed on Long Island before Donnelly's 1999 publication (Donnelly 1999).

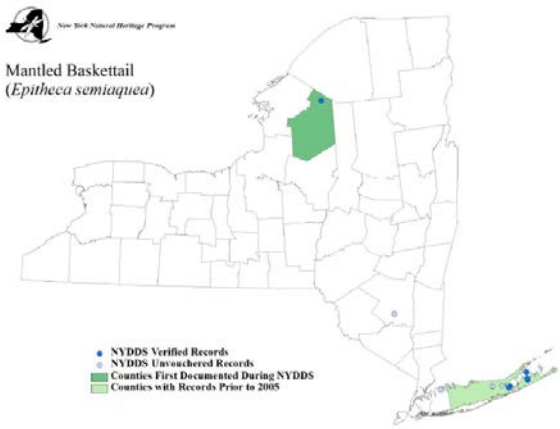
While the recent records for this species obtained during the New York Dragonfly and Damselfly Survey confirmed that the species is still present in New York and that it is not restricted to Long Island, the difficulty in separating it— even with a specimen in hand—from the abundant and widespread common baskettail (*Epitheca cynosura*) make an accurate status assessment of the mantled baskettail in New York problematic without additional survey work.

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			
> 50%		Rare	X		

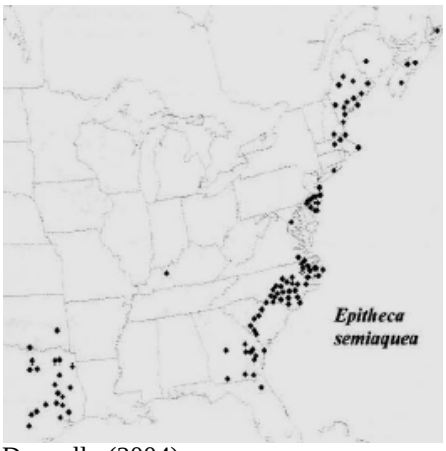
Habitat Discussion:
Mantled baskettails are known to inhabit lakes, ponds, marshy wetlands, swampy beaver ponds, slow streams, and ditches with clear water (Nikula et al. 2003). In New York, they have been found recently at a large bog upstate as well as coastal plain ponds on Long Island.

Primary Habitat Type
Coastal Plain Pond
Lake
Open Acidic Peatlands

Distribution:
Confirmed specimen records were taken from Sunday Swamp in Lewis County in 2006, and from the Mashomack Preserve on Shelter Island, and Crooked, Lily, Penny, and Sears Ponds in 2008 from Suffolk County.



White et al. (2004)



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	H
2. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	R	M	H
3. Invasive & Other Problematic Species & Genes	Problematic Native Species (fish stocking)	W	L	H
4. Pollution	Household Sewage & Urban Waste Water (lawn care)	R	L	M
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
6. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (invasive plants)	W	L	M

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, NY.

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

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

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: Seaside dragonlet ***SGCN***
Scientific Name: *Erythrodiplax berenice*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2
Tracked: Yes

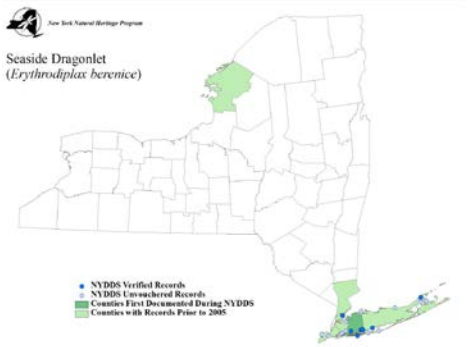
Synopsis:
Erythrodiplax berenice is restricted to the Gulf and Atlantic coasts. It is only known from fewer than a dozen coastal sites on Long Island, which forms the northeastern range boundary of this southerly species. This species ranges quite abundantly throughout the southern U.S. It is one of the few odonates capable of breeding in brackish water (Dunkle 2000).

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

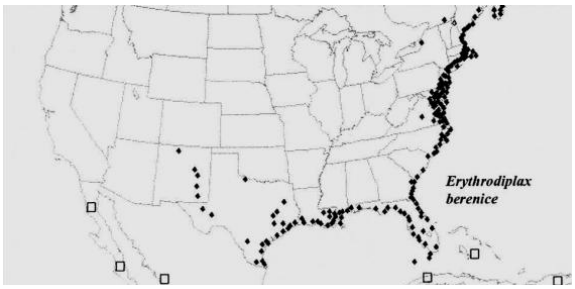
Habitat Discussion:
This is one of the few species that can inhabit brackish water marshes. It appears to be a habitat generalist as populations have been observed in rivers, streams, ponds, marshes.

Primary Habitat Type
Coastal Plain Pond

Distribution:
This species was discovered at several locales in the state during the NYDDS (White et al. 2010). At a few of the locales, dragonflies have been observed on several different occasions, at others they have been seen just once. This species ranges quite abundantly throughout the southern US and at multiple locations in NYS it appears to be rather 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	M	M
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	P	M	H
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (poor water quality)	P	L	L

References Cited:

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

Dunkle, S. W. 2000. Dragonflies through binoculars. A field guide to dragonflies of North America. Oxford University Press, New York, New York.

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Common Name: Spine-crowned clubtail ***SGCN***
Scientific Name: *Gomphus abbreviatus*
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 distributional center of the spine-crowned clubtail (*Gomphus abbreviatus*) is in the Appalachian Blue Ridge region of northeastern Pennsylvania. The range extends along the Appalachians, northward to New Brunswick, and southward to northern South Carolina (Donnelly 2004). An old record exists from central Ohio but, has not been confirmed since the 1930s (Glotzhober and McShaffrey 2002). New York lies in the center of the species' distribution, and it is currently known only in the south-central and eastern portions of the state. There has not been recent confirmation of pre-New York State Dragonfly and Damselfly (NYSDDS) records which existed in the southern tier on the Tioga and Chenango rivers, as well as from Tompkins County. Conversely, several new exuviae found during the NYDDS extend the range eastward to the upper Hudson and Lake Champlain watersheds (White et al. 2010). A large, healthy population was found in 1993 and confirmed extant in 2009 on the Delaware River from north of Lordville in Delaware County and south to central New Jersey (Bangma and Barlow 2010). This species is secretive in its habits, and it is probably more common than records indicate. Further survey efforts may result in the identification of additional populations or range expansions, and may enable population sizes to be estimated.

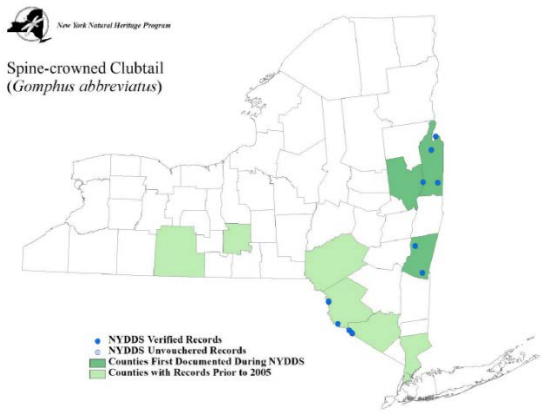
Due to much difficulty in separating *Gomphus abbreviatus* from *Gomphus adelphus* as larvae or exuviae, records should be confirmed with adult presence. The following new locations have been validated: Kinderhook Creek in Columbia County and the Poultney River in Vermont on the border with Washington County. Other records await confirmation (White et al. 2010).

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

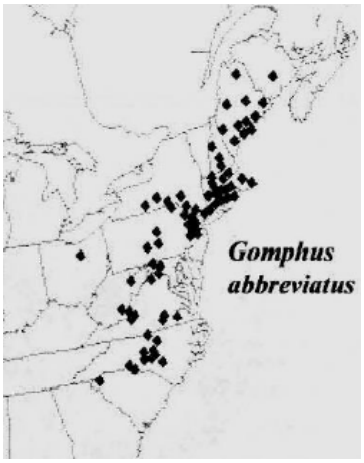
Habitat Discussion:
G. abbreviatus inhabits clean, medium to large streams and rivers with sandy or rocky substrates containing muck deposits (Dunkle 2000, Nikula et al. 2003). Larvae are aquatic, while adults are terrestrial and are found in habitats surrounding streams and rivers (White et al. 2010).

Primary Habitat Type
Riparian

Distribution:
Recent observations of *G. abbreviatus* have been made between the 1990s and 2002 in Broome, Chenango, Orange, Delaware, and Sullivan counties, and the species is also known to occur in Tompkins, Steuben, and Westchester counties based on early observations (Donnelly 2004, New York Natural Heritage Program 2007). Since there is limited historical information and the full extent and size of the populations have not been determined, long-term trends are unclear.



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)	N	L	M
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	R	L	M
3. Biological Resource Use	Logging & Wood Harvesting (siltation)	R	L	M
4. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
5. Transportation & Service Corridors	Household Sewage & Urban Waste Water (salt runoff from roads)	R	L	M
6. Energy Production & Mining	Oil & Gas Drilling (hydraulic fracturing issues)	R	L	V

References Cited:

Bangma J. & Barlow A. 2010. NJODES; The dragonflies and damselflies of New Jersey [web application] <http://www.njodes.com/Speciesaccts/species.asp>. Accessed 3 August 2012.

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Dunkle, S. W. 2000. Dragonflies through binoculars. A field guide to dragonflies of North America. Oxford University Press, New York, New York.

Glotzhober, R. C. and D. McShaffrey, editors. 2002. The dragonflies and damselflies of Ohio. Ohio Biological Survey Bulleting New Series, Ohio, USA.

New York Natural Heritage Program. 2009b. Online conservation guide for *Cordulegaster obliqua*. <http://guides.nynhp.org/guide.php?id=8181>. Accessed 7 September 2012.

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Common Name: Midland clubtail ***SGCN***
Scientific Name: *Gomphus fraternus*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S3
Tracked: Yes

Synopsis:
The distributional center for the midland clubtail is in western lower Michigan in the Southern Great Lakes Forest ecoregion, and extends northwest to Manitoba and northeast to Maine and south to Texas (Donnelly 2004). Despite the extirpation of a large population along the Lake Erie shoreline in southern Ohio prior to 1960 (Catling 2001), and the decline of a formally abundant population along the Niagara River (Van Duzee 1897), the species seems to be expanding its range eastward. New state records have recently been reported in Connecticut (Wagner et al. 1995), Vermont (White et al. 2010), Delaware (Heckscher and White 2005), and New Jersey (Bangma and Barlow 2010).

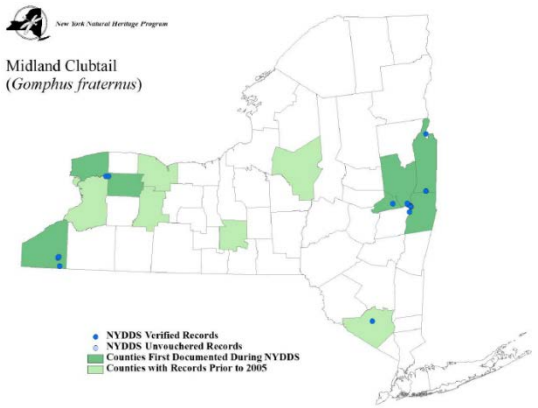
There are distinct morphological differences between eastern U.S. populations and those in the central U.S. (Catling and Hughes 2008). Potentially different habitat preferences in western and eastern New York raise further question of species status because of the disjunct distribution in the far eastern (upper Hudson and Lake Champlain watersheds) and western (Lake Erie and Allegany watersheds) parts of the state, which suggests post-glacial colonization via separate pathways (Beatty and Beatty 1968).

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

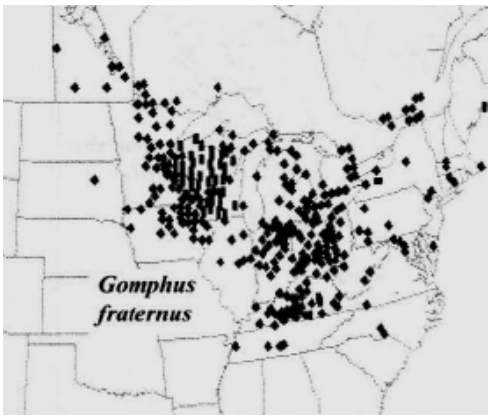
Habitat Discussion:
G. fraternus inhabits medium to large, moderately to rapidly flowing rivers and streams with sandy and muddy substrates. It is also found in and around large lakes with emergent vegetation (Nikula et al. 2003). In the east (as well as in Connecticut and Massachusetts), the species occurs primarily on large rivers and in river-sized portions of lakes, with high wave action and windswept shores where larvae burrow shallowly in fine sand and nutrient-rich, alkaline mud and clay substrates (Wagner et al. 1995, Massachusetts NHESP 2003). In contrast, large numbers of larvae along the Ottawa River in Quebec emerged from heavily impacted areas with stone walls along the shoreline and some aquatic plants, debris, and sand/mud substrates (Hutchinson and Menard 1999). The adults perch on the ground on fine-sediment beaches and in shoreline trees, and fly out over the water. In western New York, the species is found on smaller, well vegetated streams containing cobble bars, rather than on sandy beaches along large rivers. In eastern New York, the Mohawk River and Hudson River locations more closely match locations in Connecticut and Massachusetts in being larger, deeper rivers.

Primary Habitat Type
Headwater/Creek; Low Gradient
Headwater/Creek; Low-Moderate Gradient
Medium River; Low Gradient
Medium River; Low-Moderate Gradient
Small River; Low Gradient
Small River; Low-Moderate Gradient

Distribution:
Locations discovered a few years before the New York Dragonfly and Damselfly Survey (2005–2009) include Rome Sand Plains, Oneida County and Wallkill River, Orange County (Donnelly 1999). During the NYDDS *Gomphus fraternus* was documented on eight separate waters spanning seven new counties including; Hoosick River (Buskirk), and Champlain Canal (Chubbs Dock), Washington County; Cassadaga Creek, Chadokin River Millrace, and Conewango Creek, Chautauqua County; Hudson River, Troy area, Rensselaer County; Mohawk River, several localities, Saratoga and Schenectady Counties; and Tonawanda Creek, Genesee and Niagara 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 (changes in hydrology)	N	L	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	N	L	V
3. Pollution	Agricultural & Forestry Effluents (runoff, siltation)	R	M	M

4. Climate Change & Severe Weather	Storms & Flooding	R	L	V
5. Natural System Modifications	Other Ecosystem Modifications (stream Channelization in response to severe weather events)	R	M	V

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Common Name: Rapid's clubtail ***SGCN***
Scientific Name: *Gomphus quadricolor*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G3G4
New York: S3
Tracked: Yes

Synopsis:
The rapids clubtail is a globally rare to uncommon dragonfly found throughout eastern North America, in a range extending from Maine to Minnesota, including southern Ontario. Western Ohio in the southern Great Lakes forest ecoregion forms the center of distribution. New York falls within the northeastern range extent, with populations extending to the northern New Hampshire/Maine border (Donnelly 2004), although discovery in Maine was not until a recent atlas effort (Brunelle and deMaynadier 2005).

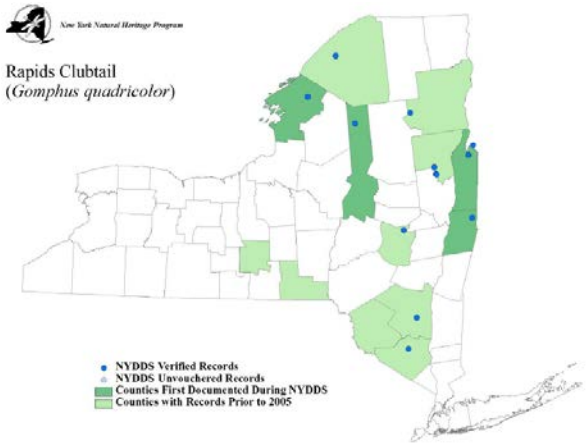
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%		Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%	X	Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
Gomphus quadricolor inhabits rapid flowing streams with projecting rocks and a substrate consisting of boulder, rock, gravel, and sand (Walker 1958, Cuthrell 2000). It may also be found in or near slow-flowing, small streams and swiftly-flowing large rivers (Nikula et al. 2003).

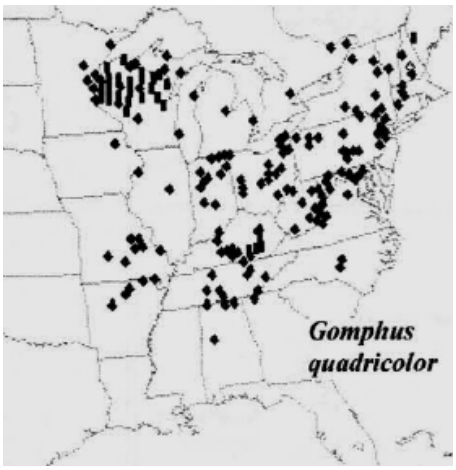
Primary Habitat Type
Riparian

Distribution:
In New York, the species is confined to the eastern part of the state, and occurs in the northeast Lake Ontario/St. Lawrence, Champlain, and Upper Hudson watersheds. Widely scattered populations occur in nine counties, from Rondout Creek in central Ulster County, northwestward to the Indian and Oswegatchie Rivers, and eastward to the upper Hudson River and the Poultney and Mettawee Rivers along the Vermont border (White et al. 2010).

There are five extant and two historical locations where this species is known to occur in New York State, with no population estimates determined. There are two locations in the state where exuviae have been found, but no adult sightings were confirmed (New York Natural Heritage Program 2011).



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. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	W	L	M
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (poor water quality)	R	L	M
5. Pollution	Household Sewage & Urban Waste Water (salt runoff from roads)	R	L	M

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Common Name: American rubyspot ***SGCN***
Scientific Name: *Hetaerina americana*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S3
Tracked: No

Synopsis:
Hetaerina americana is a damselfly of the family Calopterygidae. It is the most widespread of the North American rubyspots.

H. americana is widely distributed across the U.S. and Mexico, with the center of its distribution along the Oklahoma/Kansas border in the central/south mixed grasslands ecoregion. It is reported from every state except Washington and Idaho. In New York, American rubyspots are near their northeastern range margin and have a disjunct distribution, being found primarily in far eastern (upper Hudson and Lake Champlain watersheds) and western (Lake Erie, southwest lake Ontario watersheds) New York (White et al. 2010).

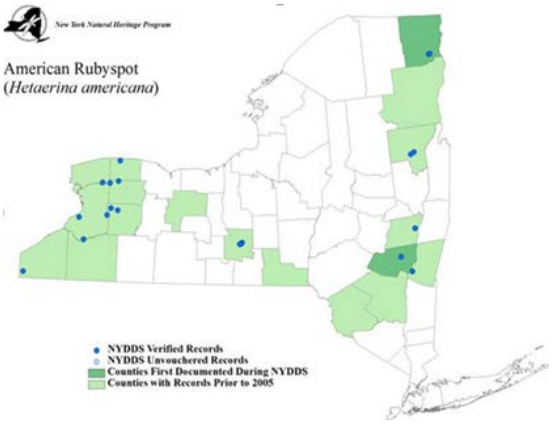
Throughout its wide range, this species is a lotic habitat generalist. In New York, it inhabits open, sunny, smaller to medium-sized creeks and small rivers, including rocky, swiftly-flowing streams with sandy bottoms in places. Other habitats in New York include more sluggish, muddy or silty creeks with well-vegetated banks. Little is known of the larval habitat (White et al. 2010).

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

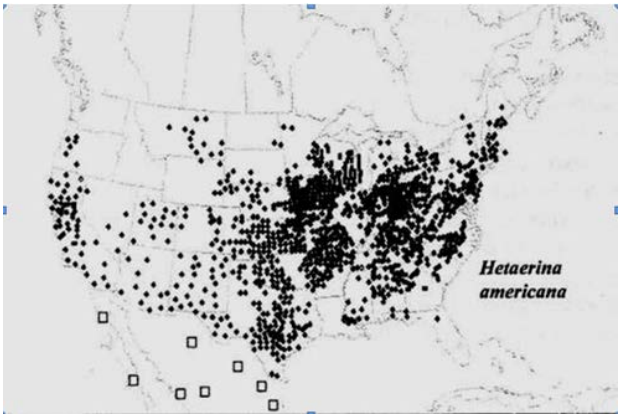
Habitat Discussion:
In New York, *H. americana* typically inhabits open, sunny, smaller to medium-sized creeks and small rivers, including rocky, swiftly-flowing streams with sandy bottoms in places. Other habitats in New York are more sluggish, muddy or silty creeks with well-vegetated banks. It is known to occur on at least a couple of larger rivers including the Delaware and the Genesee. Little is known about the larval habitat (White et al. 2010).

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

Distribution:
Sullivan, Genesee, Chautauqua, Wyoming, and Columbia Counties were added to the county list for this species by 1999 (Donnelly 1999). Some records obtained during the New York Dragonfly and Damselfly Survey (2005–2009) were from counties where the species was previously recorded while Clinton and Montgomery Counties were added as well. Some occurrences for the species span multiple counties as the occupied rivers and streams flow from one county to another, or a county boundary is in the middle of the river or stream, but the species has been recorded on least 15-20 different streams or rivers since the mid-1990s (New York Natural Heritage Program 2013).



White et al. (2011)



Donnelly (2004)

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

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: Rambur's forktail ***SGCN***
Scientific Name: *Ischnura ramburii*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2
Tracked: Yes

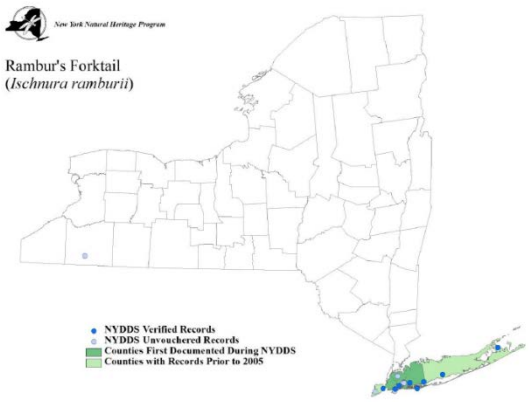
Synopsis:
Rambur's forktail has a wide global range stretching from northern South America northward through Central America and the Islands of the Caribbean, the Hawaiian Islands, and the southern Unites States eastward to the U.S. Atlantic Coast and north to Maine (Donnelly 2004, Abbott 2010). In New York, the northern extent of its range, *I. ramburii* has been confirmed from Staten Island, Brooklyn, Queens, Nassau, and Suffolk counties since the 1990s (New York Natural Heritage Program 2011). Records prior to the 1990s were from Staten Island and Suffolk County (Donnelly 1999). Survey efforts from the New York State Dragonfly and Damselfly Survey (NYSDDS) uncovered at least eight additional locations. There is also an unvouchered record from Cattaraugus County (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	X		
> 50%		Rare			

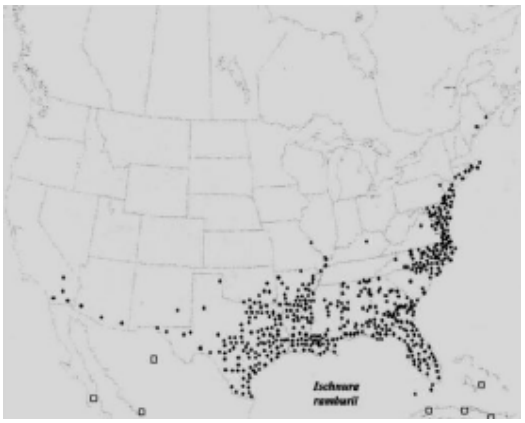
Habitat Discussion:
Typical habitat for *I. ramburii* in the Northeast includes coastal plain ponds, lakes, marshes, and slow-flowing rivers or streams. Brackish water is particularly favorable (Nikula et al. 2003, Lam 2004). This pattern is consistent in New York. There is one additional site in New York which deviates from the habitat profile, where *I. ramburii* are found at an ephemeral pool on Long Island (New York Natural Heritage Program 2011).

Primary Habitat Type
Coastal Plain Pond
Estuarine; Brackish Intertidal; Tidal Wetland
Estuarine; Brackish Shallow

Distribution:



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural System Modifications	Dams & Water Management/Use (ditching & filling in)	N	L	M
2. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (invasive plants Phragmites)	N	L	M
3. Pollution	Household Sewage & Urban Waste Water	N	L	H
4. Climate Change & Severe Weather	Habitat Shifting & Alteration (sea level rise)	P	M	V
5. Natural System Modifications	Dams & Water Management/Use (Water withdrawal for urban use)	N	L	H

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Lam, E. 2004. Damselflies of the northeast. Biodiversity books, Forest Hills, New York.

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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.

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: Lyre-tipped spreadwing ***SGCN***
Scientific Name: *Lestes unguiculatus*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

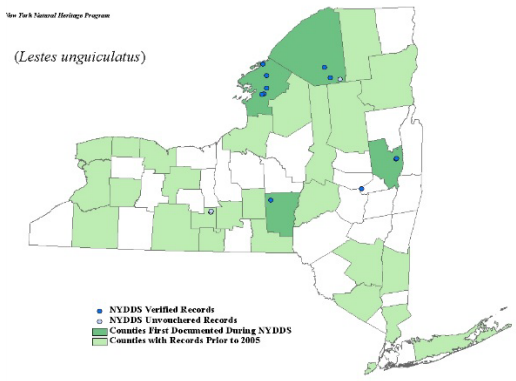
Synopsis:
This species occurs across the northern half of the U. S. and northward into Canada. New York is near the eastern edge of its range. It was historically known from 26 counties in New York and its range has apparently retracted.

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			

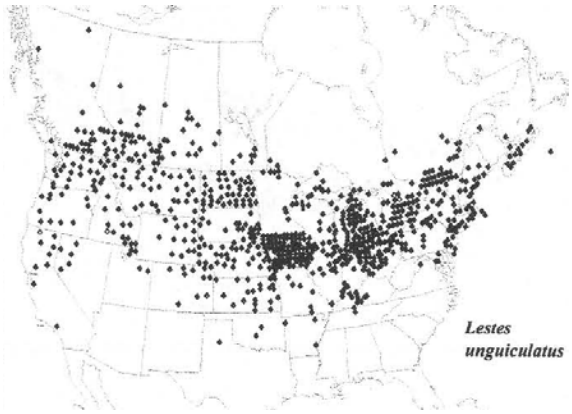
Habitat Discussion:
In New York, *L. unguiculatus* is known from lentic habitats including vernal pools, ponds, and marshy habitats (White et al. 2010). This species is often found in habitats that dry completely in mid-summer (Lam 2004, Paulson 2011, NatureServe 2013).

Primary Habitat Type
Lake and River Beach
Vernal Pool

Distribution:
L. unguiculatus is currently documented in 10 locations in four counties: Chenango, Jefferson, Saratoga, and St. Lawrence. There is a probable record from Tompkins County.



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)	W	L	H
2. Natural System Modifications	Dams & Water Management/Use (alteration of natural hydrology)	R	L	H
3. Pollution	Household Sewage & Urban Waste Water (lawn care)	P	L	H
4. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (Phragmites)	W	L	M
5. Climate Change & Severe Weather	Drought (increase in frequency or length of droughts)	R	H	V
6. Climate Change & Severe Weather	Temperature Extremes	W	H	H

References Cited:

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.

Common Name: Needham's skimmer ***SGCN***
Scientific Name: *Libellula needhami*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S3
Tracked: Yes

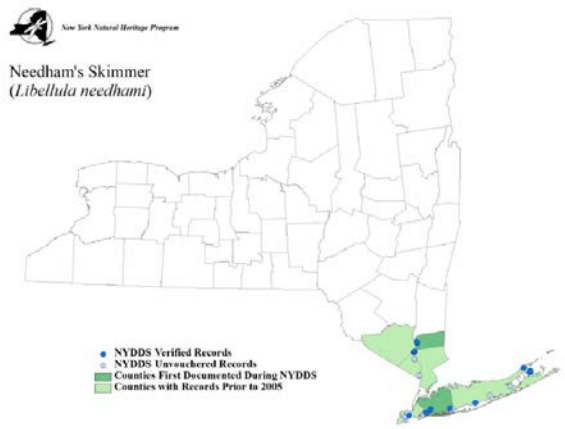
Synopsis:
In the United States, Needham's skimmer is found from the southern states that border the Gulf of Mexico, northward along the Atlantic coastline to southern Maine. The range extends from the southern United States to Quintana Roo, Mexico, in the Florida Keys, Cuba, and the Bahamas (Dunkle 2000). The effort from the New York State Dragonfly and Damselfly Survey (NYDDS) added a number of new records for this species. Six recent observations of *L. needhami* have been made in Putnam, Richmond, Rockland, and Suffolk counties since 1997 (New York Natural Heritage Program 2011). The species is also known to occur in Kings, Orange, and Westchester counties (Donnelly 1999). Since there is limited historical information, few recent records, and the full extent and size of the populations have not been determined, long-term trends are unclear.

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

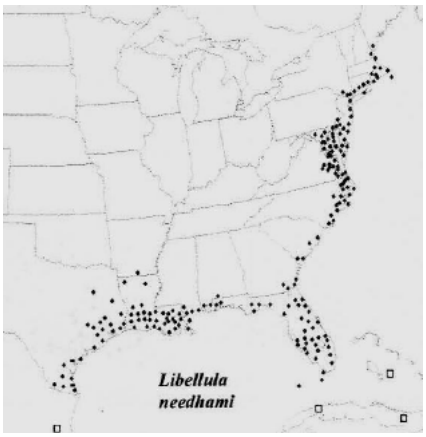
Habitat Discussion:
L. needhami is a coastal species that inhabits ponds, lakes, tidal river areas, and brackish wetlands in New York State (Dunkle 2000, New York Natural Heritage Program 2011, Nikula et al. 2003). This is a more coastal species than *Libellula auripennis* (golden-winged skimmer) which it is believed to outcompete in most habitats (Dunkle 2000).

Primary Habitat Type
Coastal Plain Pond
Estuarine; Brackish Shallow
Lake and River Beach

Distribution:
L. needhami is found is the southern portion of New York, in the counties of Westchester, Putnam, Orange, Rockland, Richmond, Kings, Queens, Nassau, and Suffolk (Donnelly 1999). This skimmer has been confirmed in at least 16 locations across these counties and has been observed in at least nine other locations, many of which were documented since 1997 (New York Natural Heritage Program 2011).



White et al. (2010)



Donnelly (2004)

Threats to NY Populations				
Threat Category	**Threat**	**Scope**	**Severity**	**Irreversibility**
1. Natural System Modifications	Dams & Water Management/Use (ditching & filling in)	N	L	M
2. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (invasive plants Phragmites)	N	L	M
3. Pollution	Household Sewage & Urban Waste Water	N	L	H
4. Climate Change & Severe Weather	Habitat Shifting & Alteration (sea level rise)	P	M	V
5. Natural System Modifications	Dams & Water Management/Use (water withdrawal for urban use)	N	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.

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: Cyrano darner ***SGCN***
Scientific Name: *Nasiaeschna pentacantha*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G5
New York: S2S3
Tracked: No

Synopsis:
This large dragonfly is the only member of its genus in North America and although it is very rare in New York, it is a habitat generalist. It can be found in both lentic and lotic habitats including slow swampy rivers, acidic peatlands and well vegetated ponds. In New York nearly the entire range in the southeastern part of the state appears to have become uninhabited in favor of locales further to the north. Although it appears to be faring well coast-ward in other eastern states, it appears to have declined precipitously in New York, including from formerly occupied coastal areas, including Long Island.

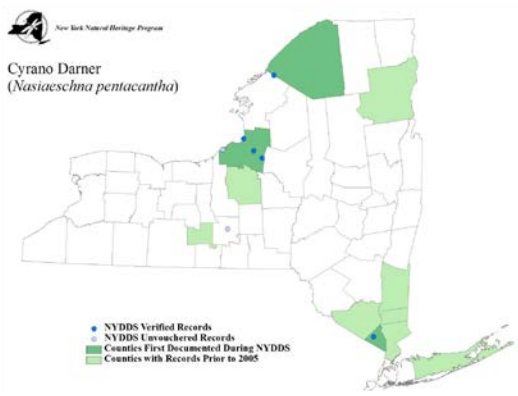
New records of this species were discovered during the recent New Hampshire and Maine odonate atlases (Brunelle and DeMayanadier 2005, Hunt 2012). This very large distinctive dragonfly is not likely to be overlooked, although there is some evidence that while the adults are difficult to find, the exuviae can be surprisingly widespread (Pollard and Berrill 1992).

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

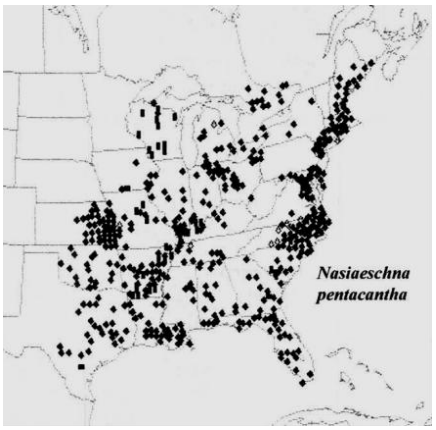
Habitat Discussion:
This species appears to be a habitat generalist, having been found in both lentic and lotic habitats during NYDDS. Habitat associations are unclear since populations were located in a heavily vegetated pond, a slow river/swamp, and a shrub bog.

Primary Habitat Type
Boreal Forested peatland

Distribution:
Historically this dragonfly was fairly widely distributed from central NYS eastward, with a cluster of occurrences in extreme southeastern NYS and Long Island. New York State Dragonfly and Damselfly Survey (NYDDS) data show that besides one record in Rockland County, *N. pentacantha* has virtually disappeared from the southern half of New York where it was historically contiguous with robust gulf and Atlantic coastal populations in the eastern U.S. However, there were only five individual site records for this species during NYDDS, most of which were in Oswego 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	Temperature Extremes	W	L	H
2. Climate Change & Severe Weather	Droughts	P	L	H
3. Biological Resource Use	Logging & Wood Harvesting (siltation of streams)	R	L	L
4. Natural Systems Modifications	Other Ecosystem Modifications (succession)	N	L	L

References Cited:

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Pollard, J.B., and M. Berrill. 19992. The distribution of dragonfly nymphs across a pH gradient in south-central Ontario lakes. Canadian Journal of Zoology 70:878-885.

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Common Name: Southern sprite ***SPCN***
Scientific Name: *Nehalennia integricollis*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Special Concern

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

Synopsis:
The range of the southern sprite (*Nehalennia integricollis*) begins in Texas and Oklahoma and stretches eastward across the southern United States, then northward along the Atlantic Coast to Rhode Island (Donnelly 2004, Abbott 2010). In New York, there are four older Roy Latham records for *N. integricollis*, all from Suffolk County (Donnelly 1999). There are two extant locations in Suffolk County, one from 1995 and one from 2005 (Donnelly 1999, New York Natural Heritage Program 2011).

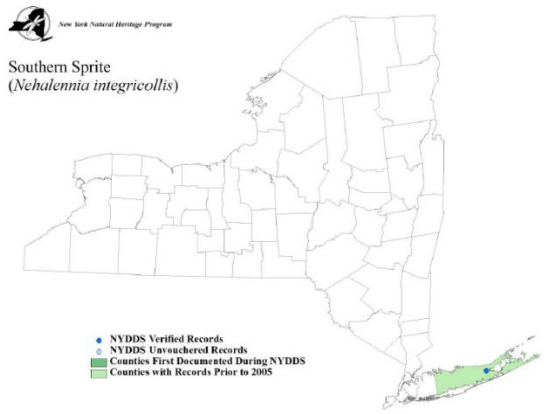
No estimate of population size for this species has been made based on observations from 1995 and 2005 in Suffolk County (New York Natural Heritage 2010). There are observations prior to this at four other locations in Suffolk county (Donnelly 1999), but information prior to the late 1990s is limited (Donnelly 2004). Therefore, any new location information on *N. integricollis* in New York may reflect heightened interest in surveying for this species rather than a population increase or a range expansion (NYS DEC 2005). Despite increased survey efforts on Long Island in recent years for the New York Dragonfly and Damselfly Survey (2005-2009), only one new location was documented during those years (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		

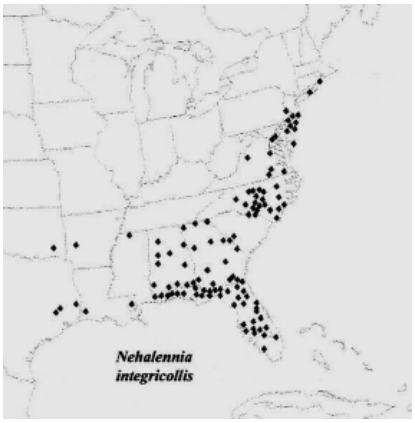
Habitat Discussion:
N. integricollis occurs on northeastern coastal plains at grassy ponds, lakes, marshes, and bogs (Lam 2004, Bangma and Barlow 2010). In New York, known habitats are coastal plain ponds on Long Island (New York Natural Heritage Program 2011).

Primary Habitat Type
Coastal Plain Pond
Lake

Distribution:
There are two extant locations for this species, both from Suffolk County. One is from Manorville from 1995 (Donnelly 1999, White at al. 2010), while the second is from Riverhead (White et al. 2010, New York Natural Heritage Program 2011).



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)	N	L	H
2. Natural Systems Modifications	Dams & Water Management/Use (dams, alteration of hydrology)	W	M	H
3. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (invasive plants)	P	L	L
4. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	W	L	M
5. Pollution	Household Sewage & Urban Waste Water (poor water quality)	W	L	L
6. Climate Change & Severe Weather	Habitat Shifting & Alteration	P	L	L

References Cited:

Abbott, J.C. 2007. OdonataCentral: An online resource for the distribution and identification of Odonata. Texas Natural Science Center, the University of Texas at Austin. <http://www.odonatacentral.org>. Accessed 25 September 2012.

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

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Lam, E. 2004. Damselflies of the Northeast: A guide to the species of eastern Canada and the northeastern United States. Biodiversity books, Forest Hills, New York, USA.

New York Natural Heritage Program. 2011. Online Conservation Guide for *Nehalennia integricollis*. < http://www.acris.nynhp.org/guide.php?id=8353>. Accessed 23 July 2012.

Common Name: Umber shadowdragon ***SGCN***
Scientific Name: *Neurocordulia obsoleta*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

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

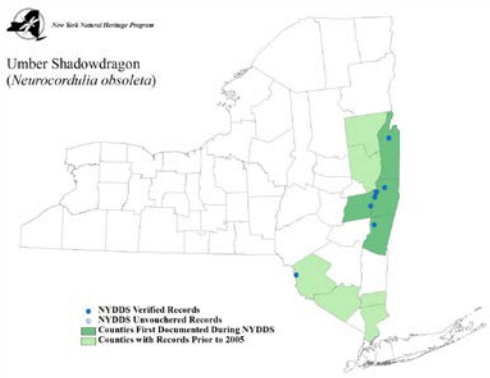
Synopsis:
This species is only known from the Delaware River and Hudson/Champlain Canal systems. These large river systems are being degraded by a multitude of threats. Distribution trends throughout the northeast region appear to be stable, so the apparent range retraction in NYS depicted in White et al. (2010), could be a sampling artifact. 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%		Abundant		Stable	Unknown
6% to 10%	X	Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

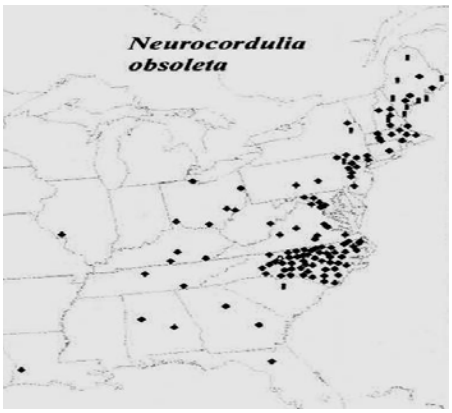
Habitat Discussion:
Lotic. Populations are found in the larger rivers such as the Delaware and the mid-Hudson. Eggs are laid outside of plant tissues in rapids and the downstream ends of pools, and development of larvae in interstices of the benthic cobbles where the eggs would be carried when laid. Exuviae can sometimes be found on bridge abutments. Larvae have been collected from beneath stones under boulders in water ½ to 1 meter deep in riffles at the head of spring-fed pools.

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

Distribution:
Only exuviae were detected during NYDDS for this cryptic, crepuscular species. One population occurs along the mid-Hudson River from near the mouth of the Kinderhook Creek in Columbia County, north to Troy, and also in the Champlain Canal in Washington Co. The species also occurs on the Delaware River Curiously this species was found to occupy only 1 of 7 historically- known counties, while surveys during the New York Dragonfly and Damselfly Survey (NYDDS) located the species in four new counties in the Capital district region (White et al. 2010).



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)	H	L	H
2. Natural System Modifications	Dams & Water Management/Use (dams, alteration of riverine systems)	P	L	H
3. Biological Resource Use	Logging & Wood Harvesting (siltation)	L	L	L
4. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	L	L	L
5. Pollution	Household Sewage & Urban Waste Water (poor water quality)	W	M	L

References Cited:

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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Common Name:	Extra-striped snaketail	***SPCN***
Scientific Name:	*Ophiogomphus anomalus*	
Taxon:	Dragonflies and Damselflies	

Federal Status:	Not Listed	**Natural Heritage Program Rank:**	
New York Status:	Special Concern	Global:	G4
		New York:	S2S3
		Tracked:	Yes

Synopsis:

The extra-striped snaketail is uncommon throughout its fairly small, northern range in northern North America (Lee 2007). It has a total known range from New Brunswick, Quebec, Ontario, Maine, New York, New Jersey, Pennsylvania, Michigan, Wisconsin, and Minnesota (Nature Serve 2011, Donnelly 2004). Prior to 1993, this species was known in New York from a single specimen collected in 1951 at Port Jervis, which is located at the junction of the Delaware and Neversink Rivers, in Orange County (Soltesz 1995b, White et al. 2010).

O. anomalus was a possible candidate for federal listing in the early 1990s, at which time the New York Natural Heritage Program began survey efforts for this species. These surveys located additional occurrences on the upper Hudson River, Moose River (Oneida County), Raquette River, St. Regis River, and West Branch St. Regis River, bringing the total number of rivers for New York to six (Dunkle 2000, Mead 2003, Lee 2007). The species was eventually confirmed from nine counties in the eastern portion of the state in the 1990s to present in larger rivers of the Adirondacks and Catskills (Donnelly 2004, New York Natural Heritage Program 2011). It is not known to occur in western New York and has possibly declined from the Delaware River (White et al. 2010, SGCN Expert Meeting).

O. anomalus is known to occur on six rivers, in nine counties in eastern New York State, with no population estimates determined (New York Natural Heritage Program 2009). While it is present in lower numbers than other *Ophiogomphus* species (based on exuviae) on some rivers, it appears to be quite abundant on at least the Upper Hudson River where it occupies a river stretch of some 41 river miles, from Lake Luzerne north to North River (Novak 1998). In comparison, it appears to be far less common and much more localized on the Delaware River, the only one of the other rivers with thorough surveys comparable to those done on the upper Hudson (Soltesz 1995a, Soltesz 1995b, Soltesz, 1996). However, there have been no serious attempts to estimate population size for this species at these sites. In addition, there appear to be a number of threats to this species, as it is intolerant of pollution, and the species is narrowly distributed in New York State, with no known western New York populations (New York Natural Heritage Program 2009).

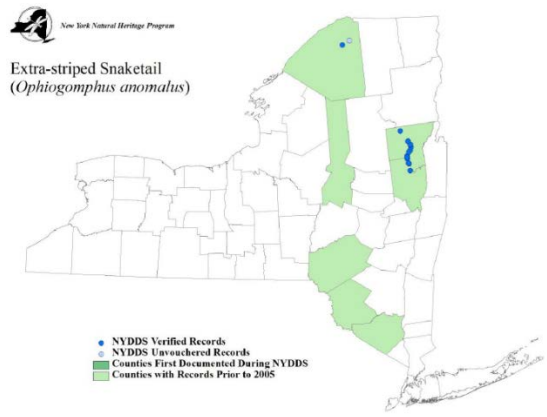
In addition to the surveys by Ken Soltesz, Frank Carle searched the Port Jervis area without success in the 1980s and early-1990s (Soltesz 1994). Thus, it seems likely that the species is gone from this section of the river and has therefore suffered a decline in at least that portion of the Delaware River. New location information on *O. anomalus* in New York is almost certainly reflective of heightened interest in surveying for this species, and the collection of exuviae as a survey method (the exuviae of this species is very distinctive), rather than a population increase or a range expansion (New York Natural Heritage Program 2011). Several historical records are known from the Delaware River in the vicinity of Port Jervis (one from New York, one from New Jersey, two from Pennsylvania), all from the 1920–1951 time period. These specimens were all the result of casual collecting. The full extent and size of the populations have not been determined. Long-term trends are not clear, though a decline on this river is suspected.

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	X		
> 50%		Rare			

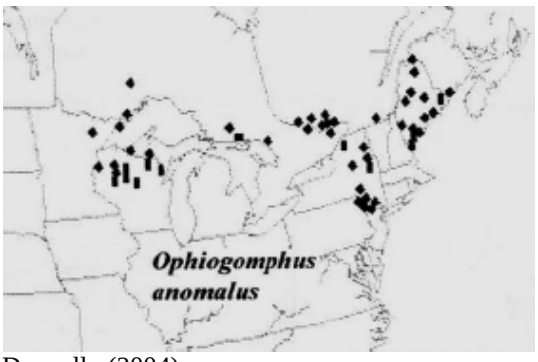
Habitat Discussion:
O. anomalus inhabits clear, rapid and cold, medium to large rivers with high dissolved oxygen content and high water quality (Dunkle 2000, Mead 2003, Lee 2007). Individuals can often be found perched on bushes near the tree line, bordering riffle areas of rivers (Dunkle 2000) and are known to spend much of their time aloft and perched high in the treetops (Mead 2003).

Primary Habitat Type
Large/Great River; Low-Moderate Gradient; Assume Moderately Buffered (Size 3+ rivers); Tran
Medium River; Low-Moderate Gradient; Assume Moderately Buffered (Size 3+ rivers); Transitio
Small River; Low-Moderate Gradient; Low Buffered, Acidic; Cold

Distribution:
Following its re-discovery on the Delaware River in 1993 and then discovery on the upper Hudson River in 1995, additional surveys documented this species on the Moose River (Oneida County), Raquette River, St. Regis River, and West Branch St. Regis River, all in St. Lawrence County, bringing the total number of rivers for New York to six (Dunkle 2000, New York Natural Heritage Program 2012). The upper Hudson River could possibly be considered as multiple populations (occurrences).



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. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	W	L	M
3. Biological Resource Use	Logging & Wood Harvesting (siltation)	R	L	M
4. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
5. Pollution	Household Sewage & Urban Waste Water (salt runoff from roads)	R	L	M

References Cited:

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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Common Name: Brook snaketail ***SGCN***
Scientific Name: *Ophiogomphus aspersus*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S3
Tracked: Yes

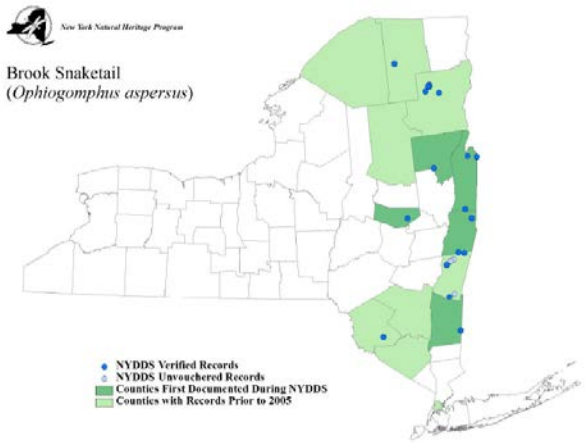
Synopsis:
The brook snaketail (*Ophiogomphus aspersus*) is a northeastern species, occurring from New Brunswick, Nova Scotia, and Quebec, southward through New England and New York and into the Appalachians in Virginia, North Carolina, and Kentucky (Abbott 2007). Within that range the species has been described as spottily distributed or localized (Nikula et al. 2003). Older records of *O. aspersus* in New York suggested this clubtail might be restricted to the Adirondacks and the Delaware River/Catskills area (Donnelly 1992), but it was subsequently found in Columbia County as well (Donnelly 1999). During the New York State Dragonfly and Damselfly Survey (NYDDS), Warren, Washington, Rensselaer, Dutchess, and Montgomery counties were added to New York's distribution. While these records indicate the *O. aspersus* is more widespread in New York than previously believed, it is undoubtedly more common in the Adirondacks than elsewhere in the state (White et al. 2010). During the NYDDS, either sand/gravel or rock/boulder were listed as the substrate at all of the sites where this species was recorded. The majority of sites were bordered by woods, as would have been expected based on New York records from prior to the NYDDS, but interestingly, adjacent agriculture was noted at several sites, all of which were outside of the Adirondacks (White et al. 2010).

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

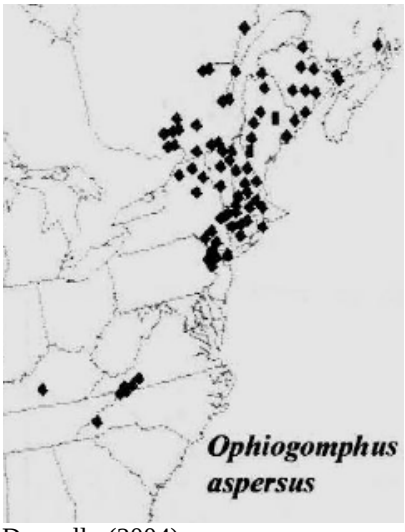
Habitat Discussion:
Throughout its range, *O. aspersus* inhabits clear, rapid-flowing streams that are shallow with sandy and rocky substrate (Dunkle 2000, Needham et al. 2000). It is often found near riffles at open areas of streams where the banks are brushy (Dunkle 2000). It may also be found in fast-flowing areas of larger rivers with similar substrate (New York Natural Heritage Program 2010). These habitat descriptions correspond well with records obtained during the NYDDS, where either sand/gravel or rock/boulder were listed as the substrate at all of the sites where this species was recorded. The majority of sites were bordered by woods, as would have been expected based on New York records from prior to the NYDDS. Interestingly, adjacent agriculture was noted at several sites, all of which were outside of the Adirondacks (White et al. 2010).

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

Distribution:
This snaketail was recorded from Sullivan County in the early 1990s and from Essex, Ulster, Columbia, and Orange counties by 1999 (Donnelly 1999). During the NYDDS (2005–2009), Warren, Washington, Rensselaer, Dutchess, and Montgomery counties were added to the species known New York county distribution. Some occurrences for the species span multiple counties as the occupied rivers and streams flow from one county to another, or a county boundary is in the middle of the river or stream, but the species has been recorded on least 15 different streams or rivers since the mid-1990s (New York Natural Heritage Program 2013).



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. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	W	L	M
3. Biological Resource Use	Logging & Wood Harvesting (siltation)	R	L	M
4. Pollution	Agriculture & Forestry Effluents (runoff, pesticides)	R	L	M
5. Pollution	Household Sewage & Urban Waste Water (poor water quality)	R	L	M
6. Pollution	Household Sewage & Urban Waste Water (salt runoff from roads)	R	L	M

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Common Name:	Common sanddragon	***SPCN***
Scientific Name:	*Progomphus obscurus*	
Taxon:	Dragonflies and Damselflies	

Federal Status:	Not Listed	**Natural Heritage Program Rank:**	
New York Status:	Special Concern	Global:	G5
		New York:	S1
		Tracked:	Yes

Synopsis:

The distributional center of *Progomphus obscurus* lies along the Ohio River in southern Illinois in the Central Hardwood Forest ecoregion. The species ranges widely across the eastern U.S., west to Colorado, northwest to northern Wisconsin, east to the Maine/New Hampshire border and south to Florida and Texas (Donnelly 2004). New York is near the northeastern range extent and *P. obscurus* was known historically from Suffolk County Long Island and, more recently, from the upper Hudson and Schroon Rivers. One of the historical Long Island occurrences, as well as the Hudson River population, were re-confirmed during the New York State Dragonfly and Damselfly Survey (NYDDS). While the Schroon River population was last documented in 1996, but has not been well surveyed in recent years. An additional pond in Suffolk County was added during the NYDDS (White et al. 2010). Both lentic and lotic habitats are occupied in different parts of New York. On Long Island, this species is found in small, shallow, sand-bottomed ponds (kettleholes) with shoreline beaches and emergent vegetation. In the upper Hudson watershed, forested medium-sized clean rivers with sandbars, moderate flow, and few boulders are characteristic of preferred habitat (White et al. 2010).

This is one of the rarest dragonflies in the state. Currently, there are only four known extant populations—two nearby ponds on the north shore of Long Island, and along the upper Hudson and Schroon Rivers in the southern Adirondacks. Despite an intensive statewide odonate survey in 2005–2009 (White et al. 2010), no new locations were found. Abundance levels at the Suffolk County ponds are fairly robust. The Hudson River population occurs over at least several river miles, though numbers of exuviae typically collected are fairly low (possibly owing to their emergence very close to the water resulting in some being washed away during post emergence rains). The Schroon River population was not re-confirmed during NYDDS, but more survey effort is needed on the Schroon, both upstream and downstream of Schroon Lake.

It is unclear whether the Schroon River population remains extant. It was not re-located during NYDDS (2005-2009) despite targeted searches for it. Likewise, only a few larvae have ever been seen at the upper Hudson River locale since the mid-1990s, despite much searching. However, it should be noted that exuviae have been regularly found, and are the more reliable survey technique, though survey timing is critical for this species as emergence is typically very close to the water edge and exuviae can be readily washed away by post emergence rains. On the other hand, abundance levels and reproductive activity at the two inhabited Suffolk County ponds appear to suggest viable populations at the Coastal Plain sites (White et al. 2010).

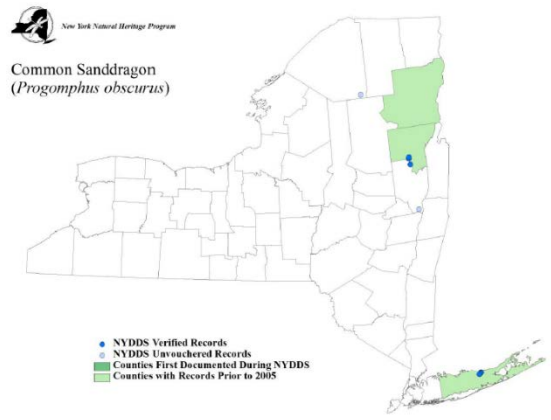
Sanddragons have been known from Long Island since the 1920s and were first documented from the Hudson and Schroon Rivers only since the mid-1990s. Populations in both of these widely disjunct areas remain extant, although possibly somewhat reduced, suggesting a fairly stable trend statewide (White et 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		

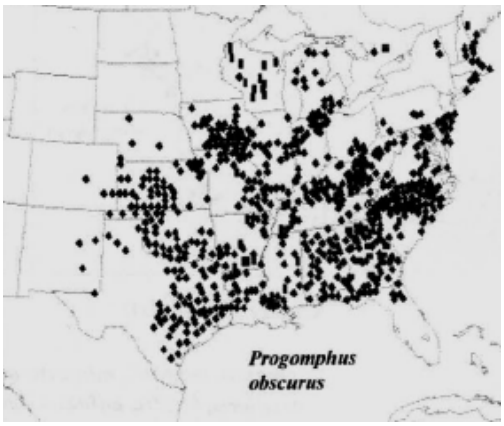
Habitat Discussion:
True to their name, sanddragon larvae are burrowers (< 2 cm deep) found primarily in shifting sandbars in small streams and the sandy shallows of wide lakes. The nymphs show a preference for sand particle sizes from 0.625-1.0 mm (Huggins and DuBois 1982) and they emerge on sandy beaches (Phillips 2001). At breeding sites, males perch on sandy ground or in vegetation and hover very low over the water (Nikula et al. 2003). Both lentic and lotic habitats are occupied in different parts of New York. On Long Island, this species is found in small, shallow, sand-bottomed ponds (kettleholes) with shoreline beaches and emergent vegetation. In the upper Hudson watershed, forested medium-sized clean rivers with sandbars, moderate flow, and few boulders are the preferred habitat (White et al. 2010).

Primary Habitat Type
Coastal Plain Pond
Medium River; Low-Moderate Gradient
Small River; Low-Moderate Gradient

Distribution:
Counting the Schroon River population which was last verified in 1996, *Progomphus obscurus* is known from four occurrences or populations in New York State including the upper Hudson River in the vicinity of Lake Luzerne, the Schroon River, north of Schroon Lake and Deep Pond and Tarkill Pond in Suffolk County on Long Island.



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)	P	L	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	R	L	H
3. Biological Resource Use	Logging & Wood Harvesting (siltation)	N	L	L
4. Pollution	Household Sewage & Urban Waste Water (poor water quality)	R	L	M

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Common Name: Spatterdock darner ***SGCN***
Scientific Name: *Rhionaeschna mutata*
Taxon: Dragonflies and Damselflies

Federal Status: Not Listed
New York Status: Not Listed

Natural Heritage Program Rank:
Global: G4
New York: S2
Tracked: Yes

Synopsis:
The distributional center of the spatterdock darner lies in the Appalachian Mixed Mesophytic Forest ecoregion of central Ohio, and extends northwest to northern Michigan and Wisconsin, south the Tennessee, and northeast to western Maine. A record was recently recorded from Nova Scotia (Cook and Bridgehouse 2005) but it is unclear whether this represents an established breeding population because individuals of this genus are known to wander over long distances (Beatty and Beatty 1969) and the nearest record in western Maine has not been reported since 1998 (Brunelle and deMaynadier 2005, Cook and Bridgehouse 2005).

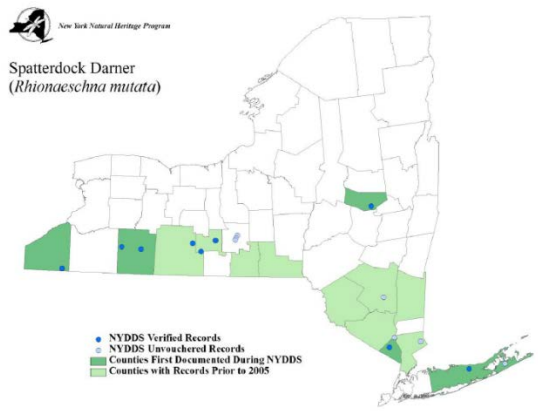
R. mutata is the only eastern North American representative of Rhionaeschna, a tropical genus with the majority of species residing in South America. It was renamed from *Aeshna mutata* in 2003, and is believed to be a relict species which had colonized northward during Ecocene times over 30 million years ago, then retracted during the Miocene and Pliocene, leaving the current relict distribution (Von Ellenrieder 2003). Since many locales in the eastern U.S. have obviously been colonized post-glacially (Beatty and Beatty 1969), some have suggested that the range continued to expand northward (Cook and Bridgehouse 2005). The temporal pattern of distribution in New York seems to support this scenario, as the species was not known in the state until it was collected from Cinnamon Lake in the Southern Tier in 1939; this population was still extant in 2005. Records were not added again until the late 1980s, when additional southern tier sites were located. During the 1900s, it was discovered at several locations in southeastern New York. During the New York State Dragonfly and Damselfly Survey (NYSDDS), the range of *R. mutata* continued to expand west and northward to Montgomery County— currently one of the northernmost extant locales in the northeast (Donnelly 2004). This pattern could be the result of increased survey effort, however, no new locales were added during recent atlas efforts in Maine (Brunelle and deMaynadier 2005) and despite increased survey efforts, it has not been observed north of extreme southwest Ontario since the mid–1980s (Ontario Natural Heritage Information Centre 2010). The 2007 record in Chautauqua County was not unexpected, as several records are known from nearby Pennsylvania and Ohio (Donnelly 2004).

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

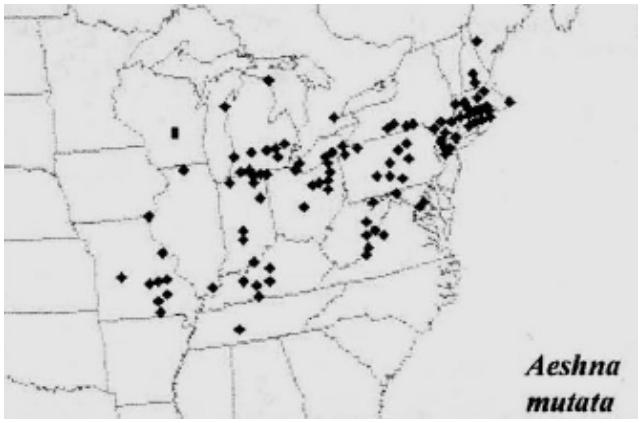
Habitat Discussion:
R. mutata is a lentic generalist and the habitat has been described as "fishless ponds, usually with water lillies" (Dunkle 2000) or "vegetated ponds and pools, open marshes and bogs, often with spatterdock" such as Nuphar or yellow water lily. Typical New York locations are small, shallow ponds with abundant emergent and submerged vegetation which sometimes, but not always, includes spatterdock. Many of the occupied waterbodies are heavily vegetated, older, man-made ponds where *R. mutata* co-occurs with a large suite of more common Odonata (Shiffer and White 1995, Roble 1999). It is unknown whether New York sites for this species contain fish (New York Natural Heritage Program 2011).

Primary Habitat Type
Open Acidic Peatlands
Open Alkaline Peatlands

Distribution:



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)	R	M	H
2. Residential & Commercial Development	Housing & Urban Areas (habitat loss)	N	L	L
3. Pollution	Agricultural & Forestry Effluents (runoff, pesticides)	R	L	M
4. Pollution	Household Sewage & Urban Waste Water (lawn care)	R	L	L
5. Invasive & Other Problematic Species & Genes	Invasive Non-Native/Alien Species (grass carp)	W	L	M
6. Invasive & Other Problematic Species & Genes	Problematic Native Species (stocking fish)	W	L	H
7. Energy Production & Mining	Oil & Gas Drilling (fracking)	W	L	H

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Common Name: Mocha emerald ***SGCN***
Scientific Name: *Somatochlora linearis*
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:
Central Kentucky in the central U.S. hardwood forest ecoregion, ranging south to Florida and Texas, and north to Michigan and Massachusetts, forms the distributional center of the mocha emerald. Unlike most New York Somatochlora, *S. linearis* is a southern species that inhabits hardwood forests. Rangewide, it inhabits small (3–9' wide) intermittent, shaded streams with fine gravel and/or sandy substrates in deciduous forests (Dunkle 2000).

A distribution model developed by the NY Natural Heritage Program (NHNHP) indicated that *S. linearis* may be temperature-limited, as it is not predicted to occur north of the lower Hudson Valley or southwestern New York. Distribution currently appears to be confined to extreme southeastern New York in the Lower Hudson River watershed as NYSDDS records came from Orange, Rockland, and Westchester Counties. One individual was observed as part of a multi-species feeding swarm on the edge of the Catskills in Greene County in 2007. Donnelly (1999), however, reported *S. linearis* as far north as West Point and Swamp River (Dutchess County) in the Hudson Valley. In western and central New York. *S. linearis* is historically known from scattered locales including Red House Brook in Allegany State Park, although it has not been found since it was first discovered in 1981, despite follow-up searches (White et al. 2010). Other upstate locales have not been reported since 1928 (Needham 1928) and the species has not been found in Grand Island in Erie County since the late 1800s (Walker 1925). However, it should be noted that few observers are familiar with this species or its habitat and with the exception of Red House Brook, most historical locations were probably not surveyed during the NYDDS (P. Novak, pers. comm.).

A few locations in Putnam County, especially near Philipse Brook, Sprout Brook, and Canopus Creek, as well as small watercourses in and around Allegany State Park (Sawmill Run, Quaker Run, Chipmunk Creek, Limestone Brook), may hold populations yet undiscovered (White et al. 2010, New York Natural Heritage Program 2011).

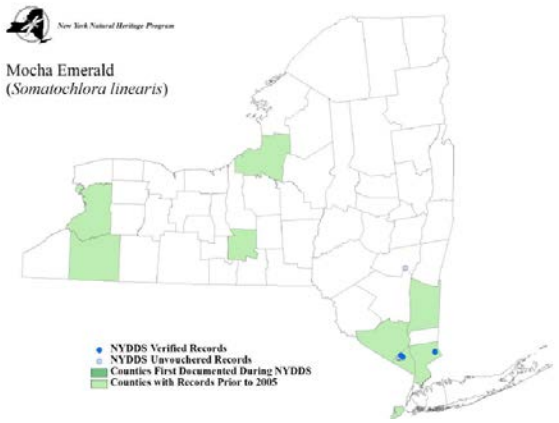
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Moderate Decline	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon			
> 50%		Rare	X		

Habitat Discussion:
The most complete habitat descriptions are from eastern Massachusetts, where large numbers of individuals were found in habitats where small intermittent forest streams crossed open areas. *S. linearis*

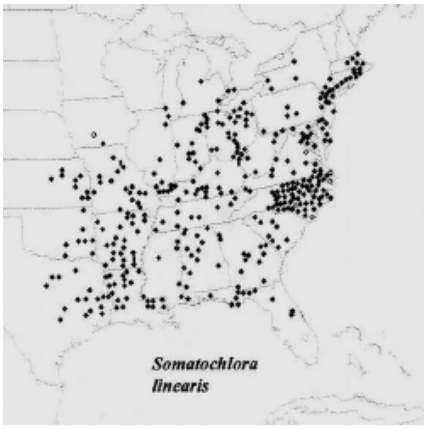
was especially prevalent at utility easement sites and areas where the substrate was muck-bottomed or boggy, often choked with sphagnum and smartweed (SaintOurs 2004). Individuals can also be found away from watercourses at forest ecotones, such as a site in Rockland County, which is a low-gradient intermittent section of forested stream flowing from a sedge meadow with vegetated banks containing sedge and sphagnum moss (White et al. 2010).

Primary Habitat Type
Small River; Low Gradient

Distribution:
This species currently occurs in Orange, Dutchess, Westchester, and Rockland counties, all of which have been recently confirmed.



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)	N	H	L
3. Climate Change & Severe Weather	Droughts	N	M	H
4. Climate Change & Severe Weather	Storms & Flooding	N	L	H

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Common Name: Russet-tipped clubtail ***SGCN***
Scientific Name: *Stylurus plagiatus*
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 of the russet-tipped clubtail is in the southern forest and grassland ecoregion along the Kansas/Oklahoma border. It reaches its northern extent in eastern New York. The northeastern-most occurrence in its range is on the Mohawk River very near its confluence with the Hudson (Hemeon 2007). Pre-NYDDS records (Donnelly 2004) are from this location southward along the Hudson to its mouth. However, NYSDDS records were concentrated in Greene, Columbia, and southern Albany counties, pointing to an important [meta] population in this vicinity. There is an older record from Lake George but despite searching, no recent records from that location. Further inventory is needed along southern Lake Champlain and westward along the Mohawk River where the habitat appears suitable for population expansion along the northern edge of this presumably temperature-limited species (Corser 2010).

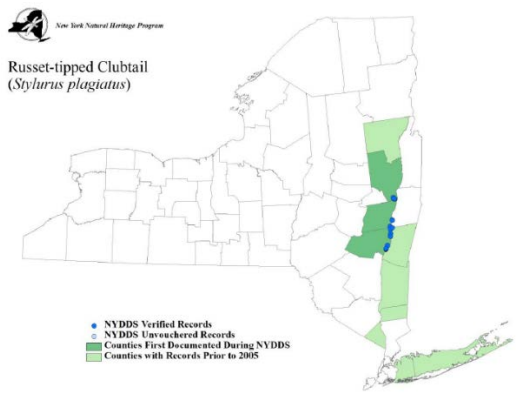
Distribution (% of NY where species occurs)		**Abundance** (within NY distribution)		**NY Distribution Trend**	**NY Abundance Trend**
0% to 5%	X	Abundant		Stable	Unknown
6% to 10%		Common			
11% to 25%		Fairly common			
26% to 50%		Uncommon	X		
> 50%		Rare			

Habitat Discussion:
In the main part of its range, *S. plagiatus* primarily inhabits larger rivers but, also smaller creek tributaries and even lakes and reservoirs with sandy and/or silty bottoms, into which the larvae burrow (Dunkle 2000). In New York, it is a habitat specialist species, almost exclusively inhabiting forested tidal mudflat communities along the Hudson River and short stretches of tidal tributaries (Corser 2010). Appropriate habitat includes smaller rivers and medium-sized forested trout streams with intermittent riffles and rapids (Walker 1958) and sandy/mucky bottoms with slow to moderate flow (White et al. 2010).

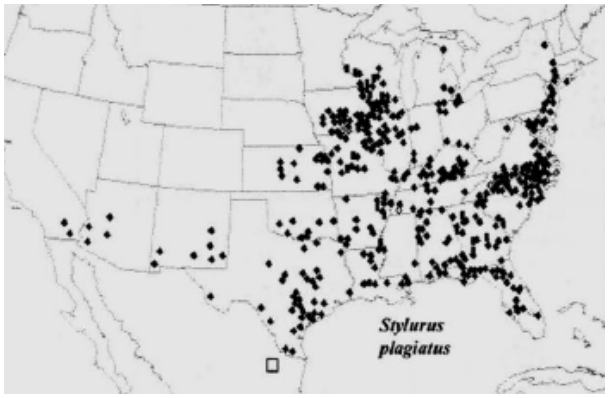
Primary Habitat Type
Tidal Creek
Tidal Flat

Distribution:
Recent observations of *S. plagiatus* have been made in Columbia and Dutchess counties, NY in the early 1990s. General reports of observations made also include locations in Albany, Greene, Putnam, Rockland, and Warren counties, as well as on Long Island (Donnelly 2004). Since these are fairly recent records and the full extent and size of the populations have not been determined, long-term trends are unclear.

A pre-NYSDDS record from Ward Pound Ridge in Westchester County (Donnelly 1999) indicated that S. plagiatus may be more widely distributed in southern New York since it also occurs in the adjacent states of New Jersey, Connecticut, and Massachusetts (Donnelly 2004).



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)	W	L	H
2. Climate Change & Severe Weather	Storms & Flooding	W	L	V
3. Pollution	Household Sewage & Urban Waste Water (poor water quality)	W	M	M
4. Transportation & Service Corridors	Shipping Lanes (channel dredging)	R	M	H
5. Residential & Commercial Development	Commercial & Industrial Areas (habitat loss/degradation from development, esp. south of Albany)	R	L	H

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