

Species Status Assessment

Common Name: Spine-crowned clubtail **Date Updated:** March 2025

Scientific Name: *Hylogomphus abbreviatus* **Minor Edits By:** NYSDEC Wildlife Section

Class: Insecta

Family: Gomphidae

Species Synopsis (*a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York*):

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, north to New Brunswick, and south 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).

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).

DEC is not aware of any additional data or new information on population trends or threats to this species since the last SWAP revision in 2015 to indicate a need for change in SGCN status.

I. Status

a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** No

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G4

ii. **New York:** S1 **Tracked by NYNHP?:** Yes

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: Least Concern

-Northeast Regional SGC: Watchlist

Status Discussion:

White *et al.* (2010) calculated a revised draft S-rank of S1 from S2S3.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown			-
Northeastern US	Yes	Unknown	Stable			-
New York	Yes	Unknown	Stable	2005-2009		Yes
Connecticut	Yes	Unknown	Unknown			Yes
Massachusetts	Yes	Increasing	Increasing		SC	Yes
New Jersey	No data	-	-			-
Pennsylvania	No data	-	-			-
Vermont	Yes	Unknown	Unknown			Yes
Ontario	No	-	-			-
Quebec	No	-	-			-

Column options

Present?: Yes; No; Unknown; No data; (blank) or Choose an Item

Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item

SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York (*specify any monitoring activities or regular surveys that are conducted in New York*):

The New York State Dragonfly and Damselfly Survey (NYSDDS) was conducted from 2005-2009.

Trends Discussion (*insert map of North American/regional distribution and status*):

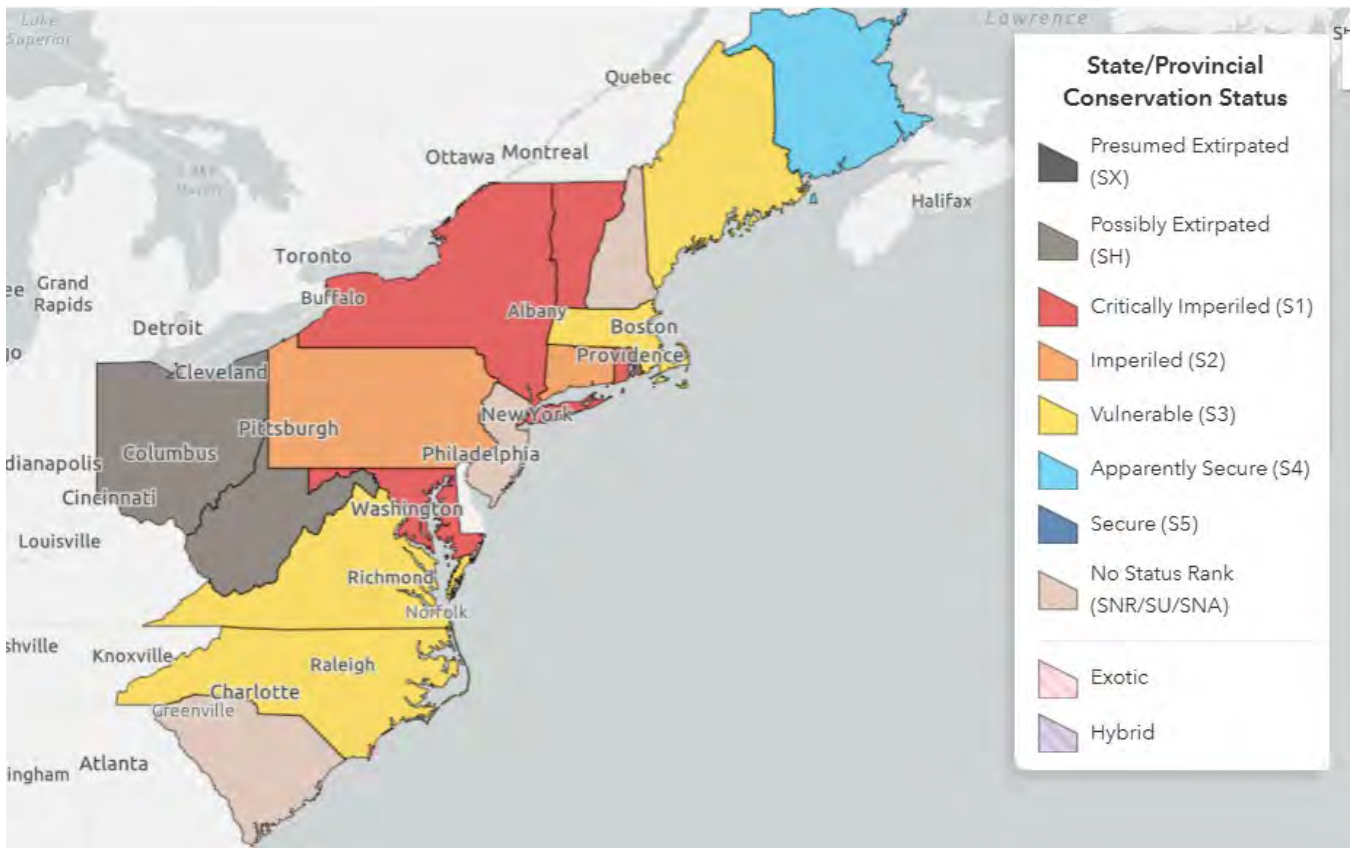


Figure 1. Conservation status of *Hylogomphus abbreviatus* in North America (NatureServe 2025).

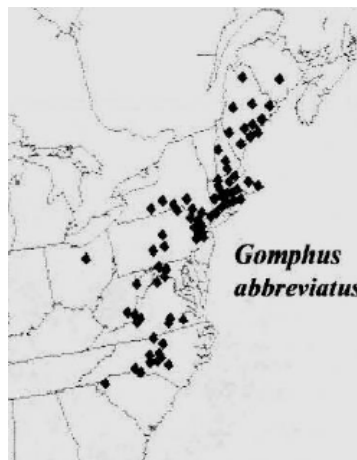


Figure 2. Distribution of spine-crowned clubtail in the United States (Donnelly 2004).

III. New York Rarity (provide map, numbers, and percent of state occupied)

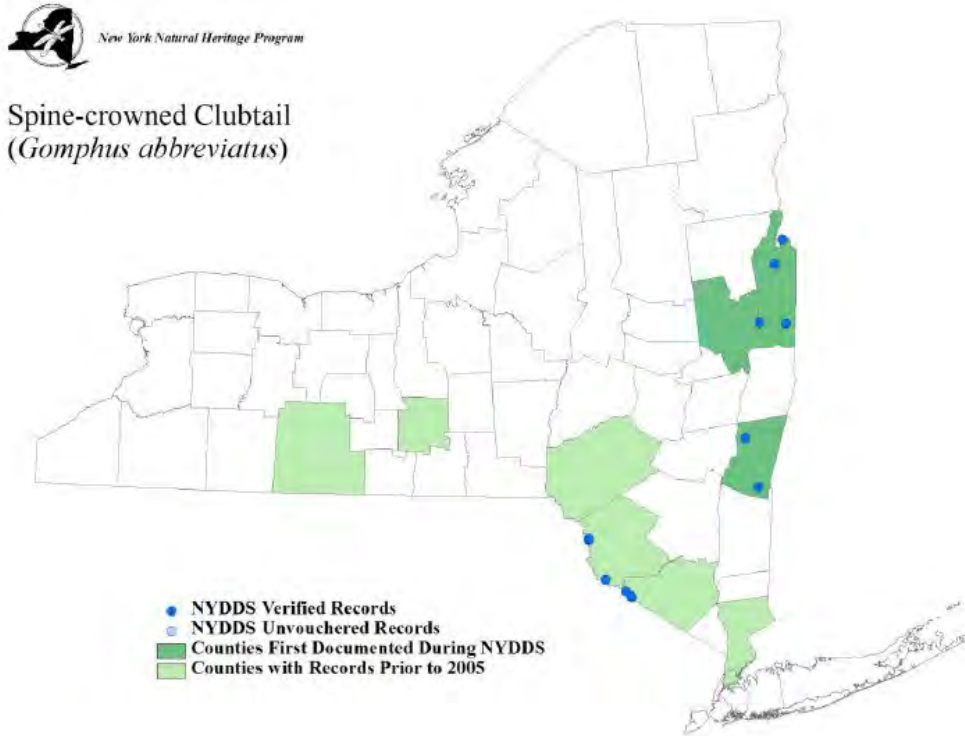


Figure 3. Occurrence records of spine-crowed clubtail in New York (White *et al.* 2010).

Details of historic and current occurrence:

From New York Nature Explorer (2009): Broome County – 1954; Chenango County – 1954.

From The New York Dragonfly and Damselfly Survey 2005-2009. Number of occurrences obtained from map by White *et al.* 2010.

From New York Nature Explorer (2009): Delaware County – 1996; Orange County – 1996; Sullivan County – 1996.

New York’s Contribution to Species North American Range:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Core	

Column options

Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item

Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type (from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):

- a. Riverine, sand bottom
- b. Riverine, rocky bottom
- c. Riverine, muck bottom

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/Community Trend	Time frame of Decline/Increase
No	No	Unknown	

Column options

Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item

Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

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

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	-	-	Yes	Yes	-

Column options

First 5 fields: Yes; No; Unknown; (blank) or Choose an item

Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion (include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):

Gomphus abbreviatus is elusive and little is known about its life history. It takes about a year for nymphs to mature, during which time they will undergo several molts. They are voracious predators and feed upon a variety of aquatic organisms. After eclosion, adults seek refuge in the vegetation of adjacent uplands where they spend several days or more feeding and maturing before they return to the breeding habitat. The species is seldom encountered during this stage, which may suggest that they spend much time high in the canopy (Massachusetts NHESP 2012). Once mature, males return to the water. They are often found resting on sandy stretches of shoreline or perched on overhanging vegetation. They make periodic flights over the water, about a foot above the surface, and hover, presumably in search of females. Brief chases between competing males are frequent. Females typically only appear at the water to mate and lay eggs. The duration of mating for this species has not been recorded, but in similar-sized odonates it typically ranges from several minutes to an hour or more. Females oviposit by flying low over the water, periodically striking the surface with the tip of their abdomen to wash off the eggs. Development time for the eggs is unknown (Massachusetts NHESP 2012).

G. abbreviatus has a short flight season, with emergence beginning in late May and early June and adults flying only through July.

VI. Threats (from NY 2015 SWAP or newly described):

Any activity which might lead to water contamination or the alteration of natural hydrology could affect *G. abbreviatus* populations. Such threats may include roadway and agricultural run-off, industrial pollution, the building of dams, recreational boating, and development near their habitats (Natural Heritage Endangered Species Program 2003).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
4. Transportation & Service Corridors	4.1 Roads & Railroads	4.1.1 Roads (salt runoff)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
5. Biological Resource Use	5.3 Logging & Wood Harvesting	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
3. Energy Production & Mining	3.1 Oil & Gas Drilling	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.2 Dams & Water Management/Use	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.3 Agricultural & Forestry Effluents	9.3.3 Herbicides & pesticides (pesticides, runoff)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to *Hylogomphus abbreviatus*.

Are there regulatory mechanisms that protect the species or its habitat in New York?

Yes: ü

No: _____

Unknown: _____

If yes, describe mechanism and whether adequate to protect species/habitat:

Article 15 of Environmental Conservation Law provides protection of rivers, streams, lakes and ponds through the Protection of Waters Program.

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

As with many species, the exact management requirements of *G. abbreviatus* are not known but, water quality is a primary concern. Any efforts to reduce roadway and agricultural run-off, industrial pollution, flow manipulation, development of upland stream borders, and contamination of fast-flowing streams should be considered when managing for this species (Natural Heritage Endangered Species Program 2003). Preservation of remaining uplands bordering *G. abbreviatus* river habitat should also be a top priority (Massachusetts NHESP 2012).

Further research is needed to define the distribution and population size of *G. abbreviatus*. In addition, research is required to understand the habitat requirements, life history, and threats to this species, and to create appropriate management guidelines for its persistence in known locations.

Due to much difficulty in separating *G. abbreviatus* from *G. adelphus* as larvae or exuviae, records of the latter form the following locales should be confirmed with adult presence: the Battenkill in Washington County, Roeliff Jansen Kill in Columbia County, and the Hudson River and Champlain Canal. Additional inventory is needed on southern tier rivers to determine whether the species still occupies the Susquehanna watershed (White *et al.* 2010).

Action Category	Action	Description
C.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	
C.7 Legislative and Regulatory Framework or Tools	C.7.2.1.0 Create or amend policies	

Table 2. Recommended conservation actions for *Hylogomphus abbreviatus*.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for odonates of rivers and streams, and for spine-crowned clubtail in particular.

Habitat monitoring:

_____ Support and encourage habitat monitoring efforts that would complete the baseline assessment of habitat quality and threats.

Habitat research:

_____ Support and encourage research projects that will help define preferred habitat in order to guide future monitoring, restoration and habitat protection efforts.

New regulation:

_____ Recommendations for official state endangered, threatened, and special concern listing are an anticipated result of the statewide inventory. It is expected that at least a few species will be recommended for listing and officially adding these species to the list would constitute a concrete action. Four of the species are currently listed as Special Concern, but it is possible a change in their listing status may be warranted following additional surveys.

Population monitoring:

_____ Conduct surveys to obtain repeatable, relative abundance estimates for these species at known sites and newly discovered sites where access permission to conduct surveys is obtained (as indicated in the State Wildlife Grant Odonate Inventory Project).

Statewide baseline survey:

_____ Most of these species are known from fewer than 10 locations in the state, but new populations undoubtedly remain to be discovered. A currently approved, but not yet begun State Wildlife Grant Statewide Odonate Inventory Project will utilize volunteers, Natural Heritage Program and other staff to conduct surveys for these species at potential sites throughout the state.

VII. References

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New York Natural Heritage Program, Albany, New York, USA.

Originally prepared by	Jenny Murtaugh
Date first prepared	August 6, 2012
First revision	Samantha Hoff (February 19, 2014)
Latest revision	