

Species Status Assessment

Common Name: Boreal snaketail

Date Updated: April 2025

Scientific Name: *Ophiogomphus colubrinus* **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):

As its name implies, the boreal snaketail (*Ophiogomphus colubrinus*) is a species of northern distribution, and it has the most northern range of any clubtail (Mead 2003). The range extends from the western provinces of British Columbia and Alberta, eastward across Canada, to Ontario, Quebec, and New Brunswick. In the United States, it occurs in Maine, New Hampshire, and New York, as well as in Michigan, Wisconsin, Minnesota, and Wyoming (Needham *et al.* 2000). *O. colubrinus* was first documented in New York in 1995, with a number of subsequent records in 1996. All of these records are from the Ausable River in the central Adirondacks, including both the East and West Branch. Some of the recorded locations were documented only by the collection of exuviae. Although the original New York location, the Ausable River along Riverside Drive near Lake Placid, and nearby stretches of the Ausable were searched on several occasions, presence was not documented during the New York State Dragonfly and Damselfly Survey (NYDDS). There is no evidence that changes have occurred in the Ausable River in the vicinity of the previously documented records, so additional surveys would be desirable to confirm the continued presence of this species in New York (White *et al.* 2010). Previously recorded locations for *O. colubrinus* in New York are on rivers, principally nearer to the headwaters where the rivers are rapid and shallow with sand, gravel, rock, and boulder substrate, and are primarily bordered by trees and shrubs (New York Natural Heritage Program 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:** G5

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

Other Ranks:

-NYS 2025 SGCN Status: HPSGCN

-IUCN Red List: Least Concern

-Northeast Regional SGCN: Watchlist

Status Discussion:

White *et al.* (2010) suggests that the status remain S1(5 or fewer occurrences, or few remaining acres or miles of stream, or factors demonstrably making it especially vulnerable to extinction rangewide or in New York State).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown	US: 1985 CA: 2012		-
Northeastern US	Yes	Unknown	Declining	1985		-
New York	Yes	Unknown	Stable	2005-2009		Yes
Connecticut	No	-	-			-
Massachusetts	No	-	-			-
New Jersey	No	-	-			-
Pennsylvania	No	-	-			-
Vermont	No	-	-			-
Ontario	Yes	Stable	Stable			-
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 was conducted from 2005-2009, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where it has been documented. Some efforts were made to relocate this species on the Ausable River during the NYDDS, but these efforts are not part of any regular surveys or formal monitoring.

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

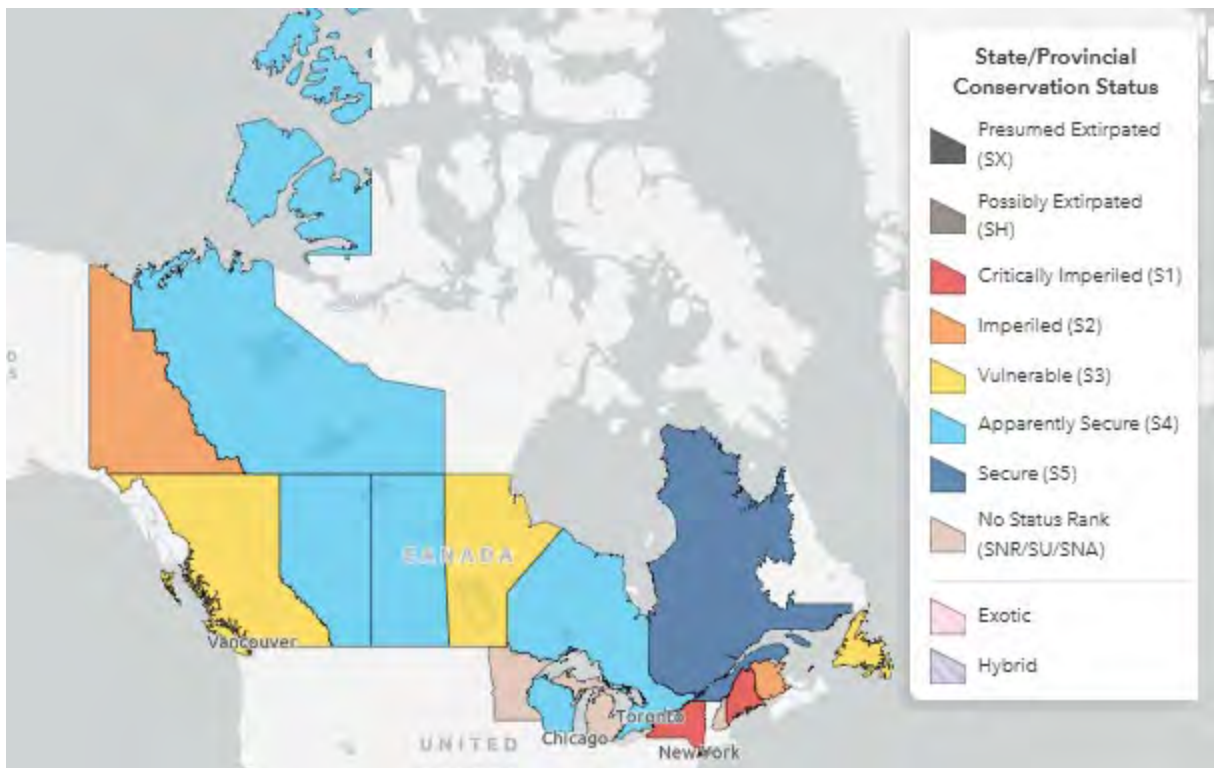


Figure 1. Conservation Status of *Ophiogomphus colubrinus* in North America (NatureServe 2025).

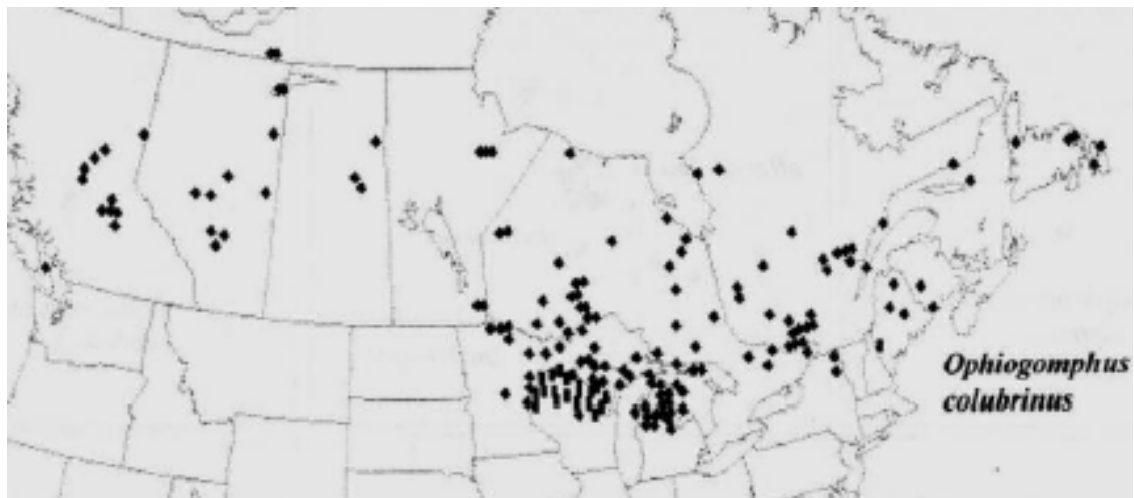


Figure 2. Distribution of boreal snaketail in the United States (Donnelly 2004).

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

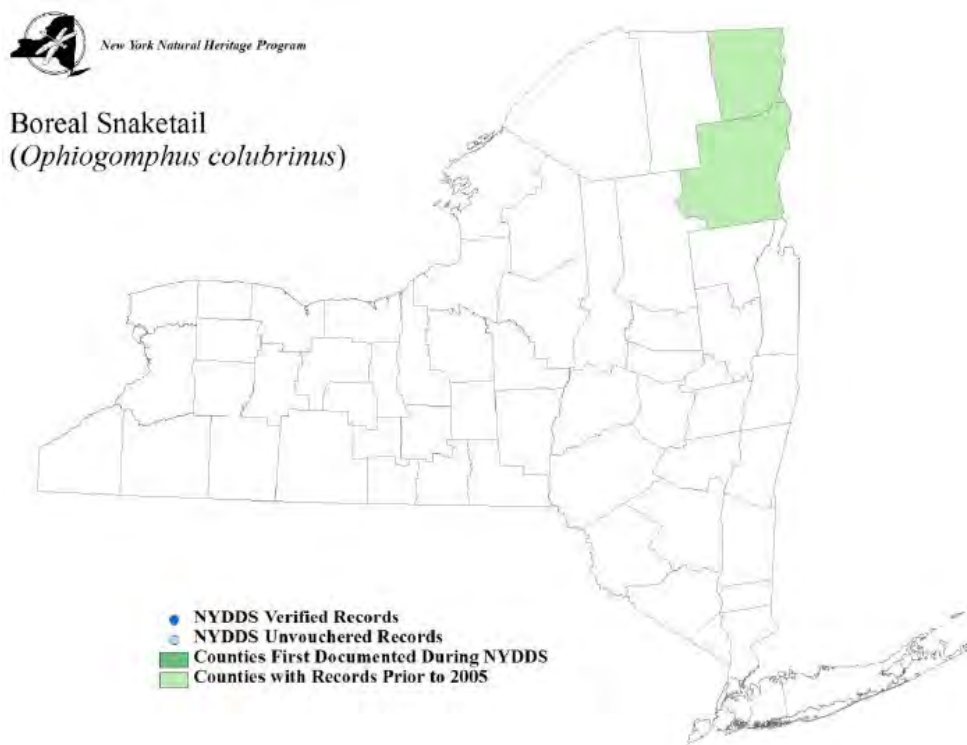


Figure 3. Occurrence records of boreal snaketail in New York (White *et al.* 2010).

Details of historic and current occurrence:

There are no historical occurrences for this species as it was first documented in New York in 1995.

The NYNHP element occurrence database only lists one occurrence for this species, however, White *et al.* (2010) states that it was first documented in NY in 1995 with a number of subsequent records in 1996. All of these records are from the Ausable River in the central Adirondacks, including both the East and West Branch. It would be logical to consider the East Branch as one occurrence and the West Branch as a second occurrence (Paul Novak, pers. comm.).

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%	Peripheral	~700 miles

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. Headwater Creek, Low-Moderate Gradient, Low Buffered, Acidic, Cold
- b. Small River, Low-Moderate Gradient, Low Buffered, Acidic, Cold

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:

O. colubrinus inhabits clear, rapid, streams and rivers with gravel substrate (Dunkle 2000; Mead 2003), but has also been found on lakes with gravel or sand bottoms (Jones *et al.* 2008). Adults may be found patrolling areas of moving water or perched on rocks, logs, sandy beaches, or bushes (Harding *et al.* 1998; Mead 2003), whereas juveniles have been noted perching in tree canopies (Mead 2003). The previously recorded locations for *O. colubrinus* in New York are also on rivers, principally nearer to the headwaters where the rivers are rapid and shallow with sand, gravel, rock, and boulder substrate, and are primarily bordered by trees and shrubs (New York Natural Heritage Program 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):

Mead (2003) showed the adult flight season in the Minnesota/Wisconsin/Michigan area to be from approximately mid-June through August. Needham *et al.* (2000) shows extreme dates of 9 May and 3 September from Ontario, but these dates are well outside the mid-June through August dates identified by both Mead (2003) and Jones *et al.* (2008). The initial specimen for New York was collected on 29 June, with a number of additional adults recorded at the same location the following year on 19 July. Donnelly (1999) also lists a date of 14 August, and while not specified as such, this date is likely an adult record as opposed to an exuvia. All New York records fit in well with other published information, showing a flight season in New York running largely from mid-June through August (White *et al.* 2010).

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

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
7. Natural System Modifications	7.3 Other Ecosystem Modifications	(stream channelization in response to severe weather)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.1 Domestic & Urban Wastewater	9.1.2 Runoff (esp. salt runoff at Lake Placid ski slope)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.3 Changes in Temperature Regimes	(temperature extremes)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.5 Storms & Severe Weather	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to *Ophiogomphus colubrinus*

Little published information is available citing specific cases of negative impacts to the various species of river dwelling odonates, but any activities which degrade the sensitive hydrology of these habitats would threaten populations of these species. The most important likely negative impacts would come from changes in the natural hydrology such as the building of dams, increases in the sediment load of the river (such as might result should logging occur down to the river edge), changes in dissolved oxygen content, direct effects of pesticides, and chemical contamination by runoff of agricultural or other discharge (New York State CWCS 2006).

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

Yes: ✓

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 permit program. This is not adequate to protect the habitat/species.

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

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 *Ophiogomphus colubrinus*.

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for odonates of rivers and streams, and for boreal snaketail 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

- 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.
- Dulvy, N.K. 2003. *Dipturus laevis*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist.org>. Accessed 1 February 2013.
- Dunkle, S. W. 2000. Dragonflies through binoculars. A field guide to dragonflies of North America. Oxford University Press, New York, New York.
- Harding, J. S., E. F. Benfield, P. V. Bolstad, G. S. Helfman, and E. B. D. Jones. 1998. Stream biodiversity: The ghost of land use past. *Proceedings of the National Academy of Sciences* 95:14843-14847.
- Jones, C. D., A. Kingsley, P. Burke, and M. Holder. 2008. Field Guide to the dragonflies and damselflies of Algonquin Provincial Park and the surrounding area. The Friends of Algonquin Park.
- Mead, K. 2003. Dragonflies of the north woods. A comprehensive field reference to all 102 species of north woods dragonflies. Kollath+Stensaas Publishing, Duluth, MN. 203 pp.
- NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. Accessed 19 September 2012.
- Needham, J. G., M. J. Westfall, Jr., and M. L. May. 2000. Dragonflies of North America. Revised edition. Scientific Publishers, Gainesville, FL.
- New York Natural Heritage Program. 2010. Element Occurrence Database. Albany, NY.
- New York State Department of Environmental Conservation. (2006). *New York State Comprehensive Wildlife Conservation Strategy*. Albany, NY: New York State Department of Environmental Conservation.

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

Murtaugh, Jenny. 2012. *Ophiogomphus colubrinus* Status Assessment for the 2015 New York State Wildlife Action Plan. NYSDEC. Albany, New York.

NatureServe. 2025. NatureServe Explorer. Page last published 2/28/25.
https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.115945/Ophiogomphus_colubrinus. Accessed April 1, 2025.

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