

Species Status Assessment

Class: Insecta
Family: Gomphidae
Scientific Name: *Ophiogomphus colubrinus*
Common Name: Boreal snaketail

Species synopsis:

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).

I. Status

a. Current Legal Protected Status

- i. Federal Not Listed Candidate: No
- ii. New York Not listed; SGCN

b. Natural Heritage Program Rank

- i. Global G5
- ii. New York S1 Tracked by NYNHP? Yes

Other Rank:

IUCN Red List— Least concern

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

a. North America

i. Abundance

 declining increasing stable X unknown

ii. Distribution:

 declining increasing stable X unknown

Time frame considered: Last US assessment 1985; Canada 2012

b. Regional

i. Abundance

___ declining ___ increasing ___ stable X unknown

ii. Distribution:

X declining ___ increasing ___ stable ___ unknown

Regional Unit Considered: Northeast

Time Frame Considered: Last assessed 1985

Moderate decline

c. Adjacent States and Provinces

CONNECTICUT Not Present X No data ___

MASSACHUSETTS Not Present X No data ___

NEW JERSEY Not Present X No data ___

PENNSYLVANIA Not Present X No data ___

QUEBEC Not Present X No data ___

VERMONT Not Present X No data ___

ONTARIO Not Present ___ No data ___

i. Abundance

___ declining ___ increasing X stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: _____

Listing Status: Not Listed

d. NEW YORK

Not Present _____

No data _____

i. Abundance

___ declining ___ increasing ___ stable X unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: 2005-2009

Monitoring 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:

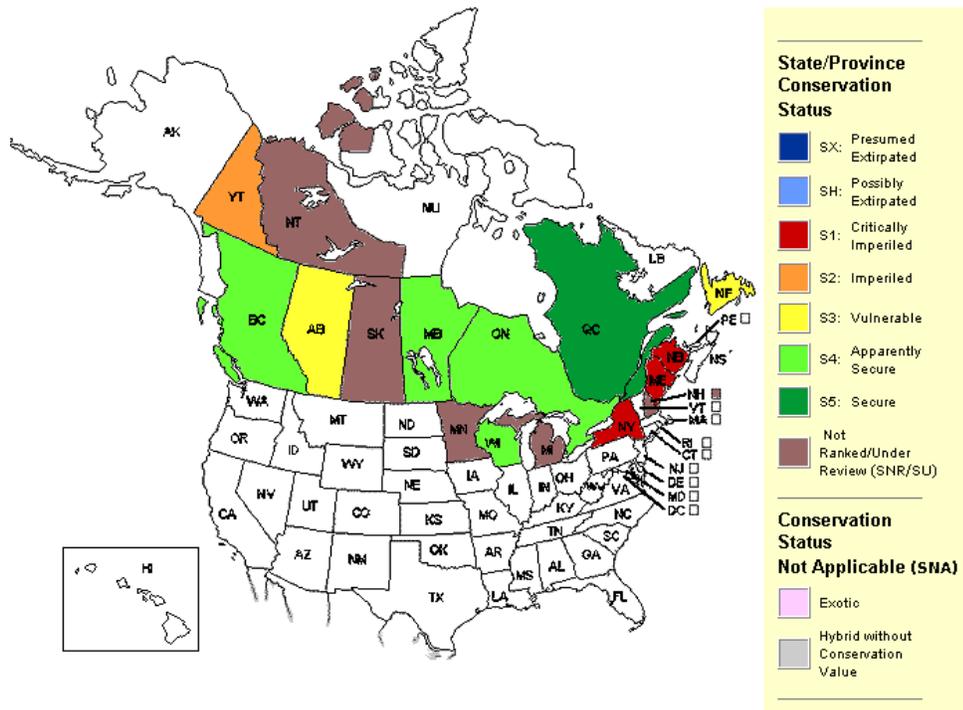


Figure 1. Conservation status of boreal snaketail in North America (NatureServe 2012).



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

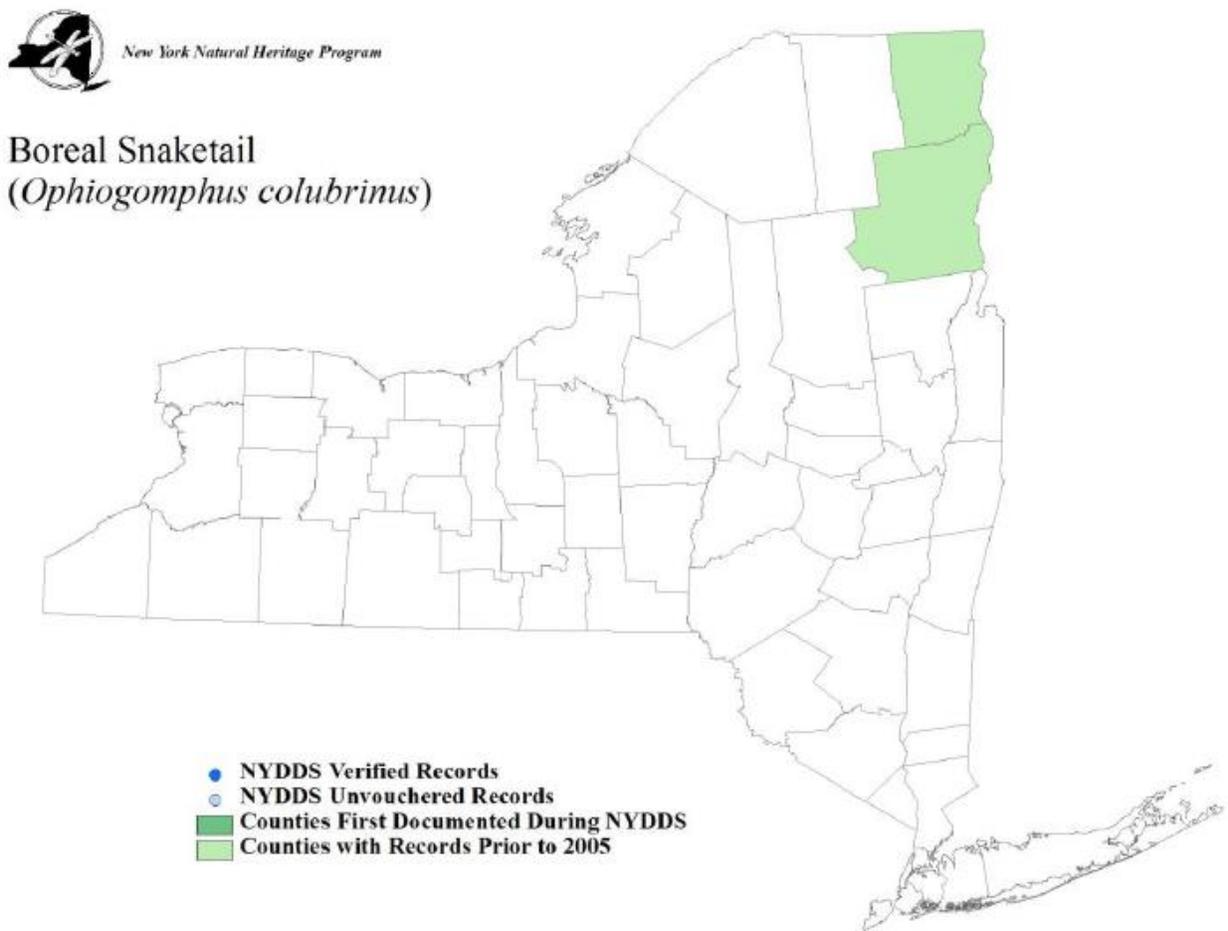


Figure 3. Occurrence records of boreal snaketail in New York (White *et al.* 2010).

III. New York Rarity, if known:

Historic	<u># of Animals</u>	<u># of Occurrences</u>	<u>% of State</u>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	<u>0</u>	<u>0%</u>

Details of historic occurrence:

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

Current	<u># of Animals</u>	<u># of Occurrences</u>	<u>% of State</u>
	_____	<u>1</u>	<u><1%</u>

Details of current occurrence:

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:

Distribution (percent of NY where species occurs)

Abundance (within NY distribution)

<u>X</u> 0-5%	___ abundant
___ 6-10%	___ common
___ 11-25%	___ fairly common
___ 26-50%	___ uncommon
___ >50%	<u>X</u> rare

NY's Contribution to North American range

<u>X</u> 0-5%
___ 6-10%
___ 11-25%
___ 26-50%
___ >50%

(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. New York Species Demographics and Life History

- Breeder in New York**
 - Summer Resident**
 - Winter Resident**
 - Anadromous**
- Non-breeder in New York**
 - Summer Resident**
 - Winter Resident**
 - Catadromous**
- Migratory only**
- Unknown**

Species Demographics and Life History Discussion:

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:

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?

No Unknown
 Yes

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:

Conservation actions following IUCN taxonomy are categorized in the table.

Conservation Actions	
Action Category	Action
Law and Policy	Policies and Regulations

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.

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