

Species Status Assessment

Common Name: Bog Elfin

Date: 3/15/2025

Scientific Name: *Callophrys lanoraieenis*

By: Hollie Shaw

Class: Insecta

Family: Lycaenidae

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

Callophrys lanoraieenis is common in New Brunswick and other areas in the Canadian Maritimes (including Nova Scotia) and parts of Maine in the United States. Its range is somewhat limited elsewhere. Outside of the Canadian Maritimes, populations are also found in Massachusetts, New Hampshire, and Vermont in the United States (iNaturalist 2025, NatureServe 2025). There are disjunct populations in Quebec and Ontario in Canada and a single known location in Cicero, New York (NatureServe 2025).

Recent trends need further review. It appears that the core habitat area is stable with some new populations discovered. However, other areas have experienced some losses. The current status in New York is unknown. There is a single known site and there have been no known surveys in recent years.

C. lanoraieenis is found in acidic bogs (including peatlands) with black spruce (*Picea mariana*) stands. Black spruce is the only known larval food plant (NatureServe 2025).

I. Status

a. Current legal protected Status

i. **Federal:** not protected **Candidate:** No

ii. **New York:** not protected; HPSGCN

b. Natural Heritage Program

i. **Global:** G4G5

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

Other Ranks:

-IUCN Red List:

-Northeast Regional SGCN:

Status Discussion:

There is one known site in New York. The current Natural Heritage rank is S1 (critically imperiled) (New York Natural Heritage Program 2025). The site has not been surveyed in recent years.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	-	-			-
Northeastern US	Yes	Unknown	Unknown			-
New York	Yes	Declining	Unknown			Yes
Connecticut	No	-	-			-
Massachusetts	Yes	Unknown	Unknown			Yes
New Jersey	No	-	-			-
Pennsylvania	No	-	-			-
Vermont	Yes	Unknown	Unknown			No
Ontario	Yes	Unknown	Unknown			-
Quebec	Yes	Unknown	Unknown			-

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*):

There are no known monitoring activities or regular surveys.

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

Long-term trends indicate some decline in parts of its range due to large scale use of insecticides to control spruce budworm and other pests and peat mining. Currently, the core population in parts of Canada and Maine are stable with new populations discovered. However, peripheral portions of the range have experienced declines (NatureServe 2025). Surveys are needed in New York to determine the status.

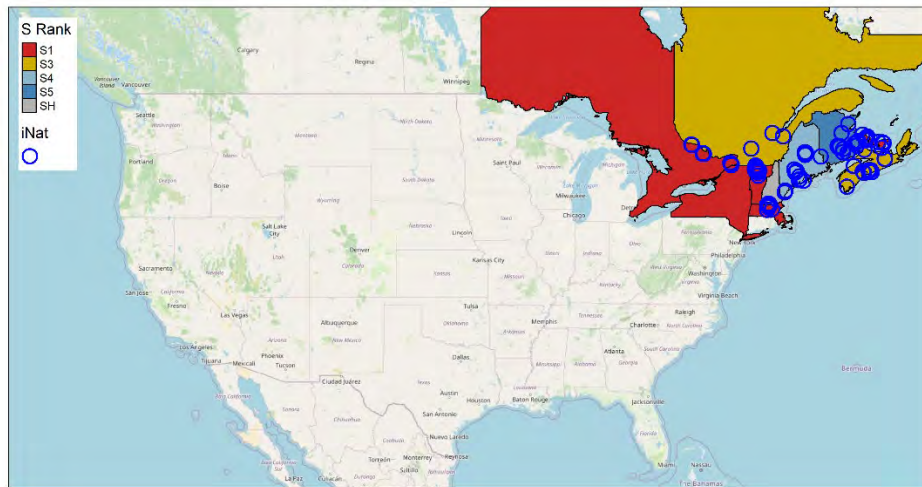


Figure 1. *Callophrys lanoraieensis* distribution status in North America (iNaturalist 2025, NatureServe 2025)

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

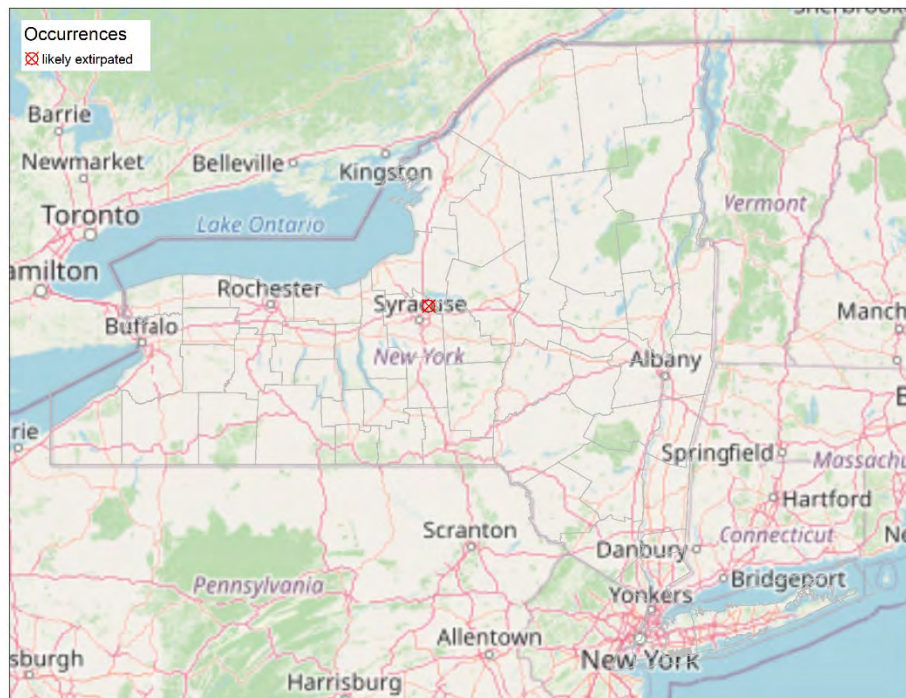


Figure 2. Records of *Callophrys lanoraieensis* in New York (New York Natural Heritage Program 2025)

Years	# of Records	# of Counties	% of State
Pre-2000	1	1	<1
2000- 2023	1	1	<1

Table 1. Records of *Callophrys lanoraieensis* in New York.

Details of historic and current occurrence:

There is one known site in New York that was first reported in 1986. The current status is unknown.

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%	Disjunct	

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. Boreal Forested Peatland

b.

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/Community Trend	Time frame of Decline/Increase
Yes	Unknown	Unknown	Declining	

Column options

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

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

Habitat Discussion:

C. lanoraieensis is found in acidic bogs (including peatlands) with black spruce stands (*Picea mariana*). Black spruce is the only known larval food plant (NatureServe 2025).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	(blank)	No	Yes	Yes	Choose an item.

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):*

There is one brood per year. Adults are found from late May and larvae mature in late June or early July. Most of the year is spent in the pupal stage. Adults spent most of their time high in spruce trees and are most active on warm, sunny days. Eggs and larvae are found on new growth of black spruce (NatureServe 2025). When eggs hatch, the larvae bore into the spruce needles and feed from the inside. As the larvae matures, they feed on the outside of spruce needles (Lotts and Naberhaus 2025).

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

The main threats to this species are insecticide use to control spruce budworm and other pests and peat mining (NatureServe 2025). Surveys may be challenging as this species has a short flight season and tend to stay in the spruce canopy (Schweitzer et al. 2018).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
3. Energy Production & Mining	3.2 Mining & Quarrying	3.2.4 Peat harvesting	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 (insecticides to control spruce budworm)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Callophrys lanoraieensis*.

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:

Wetland regulations may protect this species.

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

Determine the status of *C. lanoraieenis* at the Cicero site. Maintain the integrity the bog habitat and black spruce stands in occupied habitats (Lotts and Naberhaus 2025). Plan pest management to reduce the impact to non-target species, such as *C. lanoraieenis*. Peat mining should be prevented or reduced to reduce the impacts to the habitat.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct Habitat Management	Site Management
A.2 Direct Species Management	A.2.0.0.0 Direct Species Management	Invasive/problematic species control
B.3 Outreach	B.3.0.0.0 Outreach	Awareness and Communications
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation Planning	Site/Area Protection
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation Planning	Resource/Habitat Protection
C.6 Design and Plan Conservation	C.6.5.1.3 Develop a conservation, management, or restoration plan for protected private lands	Habitat/Natural process restoration
C.7 Legislative and Regulatory Framework or Tools	C.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 3. Recommended conservation actions for *Callophrys lanoraieenis*.

VII. References

- iNaturalist.org. 2025. *Callophrys lanoraieenis* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed March 15, 2025.
- Lotts, Kelly and Thomas Naberhaus, coordinators. 2025. Butterflies and Moths of North America. Data set accessed (or exported) 2025-03-15 at <http://www.butterfliesandmoths.org/>.
- New York Natural Heritage Program, State University of New York College of Environmental Science and Forestry. 2025. Element Occurrence and Element Dataset. Albany, New York.
- NatureServe. 2025. NatureServe Network Biodiversity Location Data accessed through NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Available <https://explorer.natureserve.org/>. (Accessed: March 15, 2025).
- Schweitzer, D.F., M.C. Minno, and D.L. Wagner. 2018. Rare, Declining, and Poorly Known Butterflies and Moths (Lepidoptera) of Forests and Woodlands in the Eastern United States. USFS Technology Transfer Bulletin, FHTET-2009-02.

Originally prepared by	Hollie Shaw
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