

Species Status Assessment

Common Name: Blueberry gray

Date Updated: March 2025

Scientific Name: *Glena cognataria* **Minor Edits by:** NYSDEC Wildlife Section

Class: Insecta

Family: Geometridae

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

This species historically occurred mainly along the Atlantic Coast, from Nova Scotia to Florida, but also inland in northeastern Pennsylvania, New York, and in the Virginia mountains (Forbes 1954, NYNHP 2011). The range is not continuous (NYNHP 2011). This species is associated with heathlands, including bogs and pine barrens (NYNHP 2011). This species is rare north of New Jersey (NYNHP 2013).

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. This species was listed as SPCN in 2015, but with the removal of this status in the 2025 revision it has been changed to SGCN.

I. Status

a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** _____

ii. **New York:** Not listed _____

b. Natural Heritage Program

i. **Global:** G4 _____

ii. **New York:** S1S3 **Tracked by NYNHP?:** Yes _____

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: N/A

-Northeast Regional SGCN: Watchlist

Status Discussion:

This species is listed as critically imperiled in Pennsylvania; imperiled in New York and Virginia; Vulnerable in New Hampshire and Massachusetts; possibly extirpated in Connecticut; and apparently secure in Maine and New Jersey (NatureServe 2012).

II. Abundance and Distribution Trends

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

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*):

A blacklight survey conducted in 2008 at Minnewaska State Park Preserve, Ulster County produced no specimens (NYNHP 2013).

Intermittent surveys have been conducted in pine barren communities of Long Island

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

Short term trends for this species are unknown; however, it is thought that the species has undergone a long term decline of 25-75% in New York (NYNHP 2011).



Figure 1. Conservation status of *Glenn cognataria* in North America (NatureServe 2024).

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

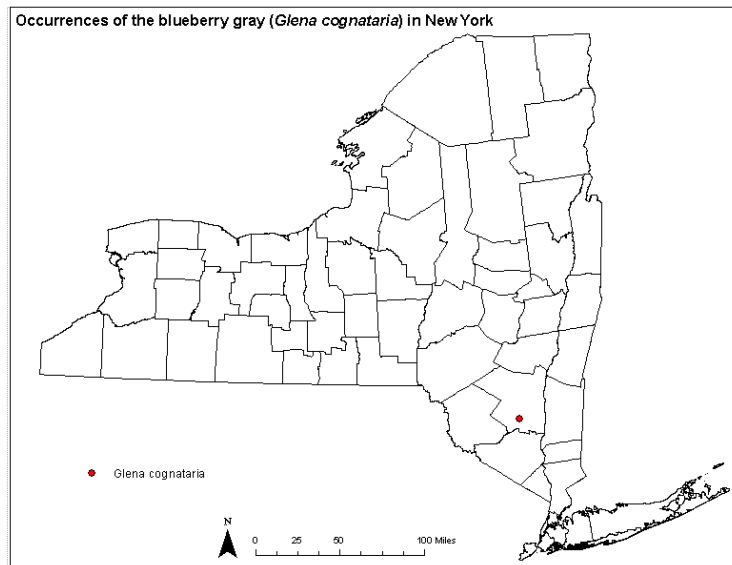


Figure 2. Known occurrences of blueberry gray in New York (NYNHP).

Details of historic and current occurrence:

This species was apparently historically abundant on Long Island and may still occur in unknown locations there (Rindge 1965, NYNHP 2011). In 1988, a specimen was captured by blacklight trap at Millbrook Burn in Minnewaska State Park Preserve in Gardiner, Ulster County (NYNHP 2011).

There are no current occurrences of this species in New York. A survey at Minnewaska State Park Preserve in 2008 resulted in no captures, and that population is thought to be extirpated (NYNHP 2013). Although there are no known locations currently, it is suspected that the blueberry gray may be more abundant in New York than the records show (NYNHP 2013).

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. Pine barrens
- b. Open alkaline peatlands
- c. Oak-pine forest
- d. Subalpine woodland and shrub

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/Community Trend	Time frame of Decline/Increase
No	No	Choose an item.	Stable	

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:

This species can be found in heathlands including bogs and pine barrens and is associated with extensive areas of lowbush blueberry (NYNHP 2011). The NY Natural Heritage Program (2013) has identified an association with the following ecological communities: chestnut oak forest and pitch pine-oak-heath rocky summit.

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*):

The demographics and life history of this species are not described in the literature.

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

Loss of habitat to development and fire suppression are threats to this species (NYNHP 2011). Large scale fires or poorly planned prescribed burns are also a threat, as no live stage of this species would survive burning (NYNHP 2011). There are broad scale studies that have shown artificial lighting to be a partial cause in changes in moth behavior and predation rates, which could affect population levels (Frank 2006). General threats known to affect moths include habitat fragmentation; alteration of natural fire regimes; natural succession of shrubland, woodland, and barrens habitats; land clearing; coastal erosion; and sea level rise. Past use of chemical biocides to control gypsy moth and other pest insects continues to kill native Lepidoptera (Schweitzer 2004). Introduced parasitoid flies have been known to negatively affect native Lepidoptera (Boettner et al. 2000). Other threats may include invasive species, over grazing of host plants by wild deer populations, and off-road vehicle use (NYSDEC 2005).

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.
6. Human Intrusions & Disturbance	6.1 Recreational Activities	6.1.1 Motor vehicles	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	7.1.2 Suppression in the fire regime	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.1 Terrestrial animals (parasitoid flies)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.2 Problematic Native Plants & Animals	(over-browsing by deer)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.6 Excess Energy	9.6.1 Light pollution	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Glenn cognataria*

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:

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

Careful planning of prescribed burns would minimize threats to this species.

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.6.0.0.0 Design and Plan Conservation	Site/Area Protection
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	Resource/Habitat Protection
C.7 Legislative and Regulatory Framework or Tools	C.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations

Table 3. Recommended conservation actions for *Glena cognataria* (add more lines as needed).

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for other moths, and for the blueberry gray in particular.

Easement acquisition:

_____ Where appropriate, acquire easements to promote moth protection and conservation.

Fact sheet:

_____ Create fact sheets covering moths.

Habitat management:

_____ Determine best management regime for moth species, including fire and other forms of management.

Habitat monitoring:

_____ Develop standardized measures of habitat parameters for each species of listed moth.

_____ Investigate threats to food and host plants.

_____ Monitor land development projects.

Habitat research:

_____ Examine role of light pollution as threat to moths.

_____ Determine host/ food plant.

Life history research:

_____ Investigate the metapopulation dynamics of those species which warrant it.

_____ Examine role of introduced parasites and predators in threats to moths.

Other action:

_____ Develop standard definition of what is needed for "viable" populations of moths.

_____ Research the role of pesticide use in threats to moths.

Population monitoring:

_____ Inventory of species within historical range.

_____ Develop standardized survey protocols for moths.

Private fee acquisition:

_____ Where appropriate, encourage/assist private entities to acquire land for moth protection and conservation.

State fee acquisition:

_____ Where appropriate, acquire land essential to moth protection and conservation.

State land unit management plan:

_____ Incorporate needs of moths into state land management plans.

VII. References

NatureServe. 2024. NatureServe Explorer. Page last published 11/1/24.

https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.107323/Glena_cognataria.

Accessed December 5, 2024.

Boettner, G.H., J.S. Elkington, and C.J. Boettner. 2000. Impacts of an introduced generalist parasitoid on three native species of saturniid moths. *Conservation Biology* 14: 1798–1806

EOL. 2012. United States and Canadian Provinces – *Glena cognataria*. Encyclopedia of Life. Available at: <http://eol.org/data_objects/18603072> (Accessed: March 18, 2013).

Forbes, William T. M. 1954. Lepidoptera of New York and neighboring states part II. Cornell University Experiment Station Memoir 274.

Frank, K.D. 2006. Effects of artificial night light on moths. *Ecological Consequences of Artificial Night Lighting* (eds C. Rich & T. Longcore), pp.345–364. Washington, Island Press.

New York Natural Heritage Program. 2011. Online Conservation Guide for *Glena cognataria*. Available at: <<http://www.acris.nynhp.org/guide.php?id=7935>> (Accessed: March 18, 2013).

New York Natural Heritage Program. 2013. Biodiversity Database. New York State Department of Environmental Conservation. Albany, NY. (Accessed: March 5, 2013).

New York State Department of Environmental Conservation. 2005. New York State Comprehensive Wildlife Conservation Strategy. <http://www.dec.ny.gov/index.html>.

Rindge, F.H. 1965. A revision of the Nearctic species of the genus *Glena* (Lepidoptera, Geometridae). Bulletin of the AMNH; v. 129, article 3.

Schweitzer, D.F. 2004. Gypsy Moth (*Lymantria dispar*): Impacts and Options for Biodiversity-Oriented Land Managers. NatureServe: Arlington, Virginia. 59 pp.

Katz, Jim. 2013. *Glena cognataria* Status Assessment for the 2015 New York State Wildlife Action Plan. NYSDEC. Albany, New York.

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