

Species Status Assessment

Common Name: Hairy-cheeked Bumblefly **Date Updated:** 2024-10-10
Scientific Name: *Criorhina verbosa* **Updated By:** Erin L. White
Class: Insecta
Family: Syrphidae

Species Synopsis

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

Hairy-cheeked Bumblefly are known from the mid-western states and northeastern U.S. as well as Virginia, North Carolina and Mississippi. It is known in Canada from Nova Scotia west through Manitoba (NatureServe 2024).

The species was ranked an S1S3 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information and resides in a rare and threatened habitat type. The species is historically (1999 and earlier) known from seven to eight counties in NY and has always been a rare fly in the state. It has been confirmed in five disparate counties since 2000. Despite survey effort as part of a statewide pollinator survey, few observations have been confirmed in recent years and it appears to be declining in NY.

In New York, Hairy-cheeked Bumblefly has been found in mixed hardwood forests. It has also been found in pine forests and bogs throughout its range (Skevington et al. 2019). Adults are arboreal and canopy-dwelling in old growth deciduous forests with senescent trees where the larvae live in rot-holes, root cavities and decaying heartwood. Larvae are filter feeders, so conditions within the forest must remain stable and humid. Adults often descend in the evening to visit flowers and bask in sunflecks in canopy gaps (New York Natural Heritage Program 2024).

I. Status

a. Current legal protected Status

i. **Federal:** Not Listed **Candidate:** No
ii. **New York:** Unprotected

b. Natural Heritage Program

i. **Global:** G5

ii. New York: S1S3 Tracked by NYNHP? On Active Tracking List

Other Ranks:

- New York 2025 SGCN status: Species of Greatest Conservation Need
- COSEWIC: Not listed in Canada
- IUCN Red List: Not assessed by IUCN Red List
- Northeast Regional SGCN: Not listed

Status Discussion:

The species was ranked an S1S3 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information and resides in a rare and threatened habitat type. The species is historically (1999 and earlier) known from seven to eight counties in NY and has always been a rare fly in the state. It has been confirmed in five disparate counties since 2000. Despite survey effort as part of a statewide pollinator survey, few observations have been confirmed in recent years and it appears to be declining in NY.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
North America	Yes	Unknown	Unknown	Unknown		
Northeastern US	Yes	Unknown	Unknown	Unknown		No
New York	Yes	Unknown	Declining	Unknown	S1S3	No
Connecticut	No	Unknown	Unknown	Unknown	SNR	No
Massachusetts	No	Unknown	Unknown	Unknown	SNR	No
New Jersey	No	Unknown	Unknown	Unknown	SNR	No
Pennsylvania	No	Unknown	Unknown	Unknown	SNR	No
Vermont	No	-	-	-		No
Ontario	No	Unknown	Unknown	Unknown	S3	
Quebec	No	Unknown	Unknown	Unknown	SNR	

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 Empire State Native Pollinator Survey (ESNPS) was conducted from 2017-2021, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where they have been documented. Some regular monitoring may occur at protected sites that Heritage staff revisit if they occur on state properties, as part of OPRHP or State Lands inventory work.

Trends Discussion

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

The species is historically (1999 and earlier) known from seven to eight counties in NY and has always been a rare fly in the state. It has been confirmed in five disparate counties since 2000. Despite survey effort as part of a statewide pollinator survey, few observations have been confirmed in recent years and it appears to be declining in NY.

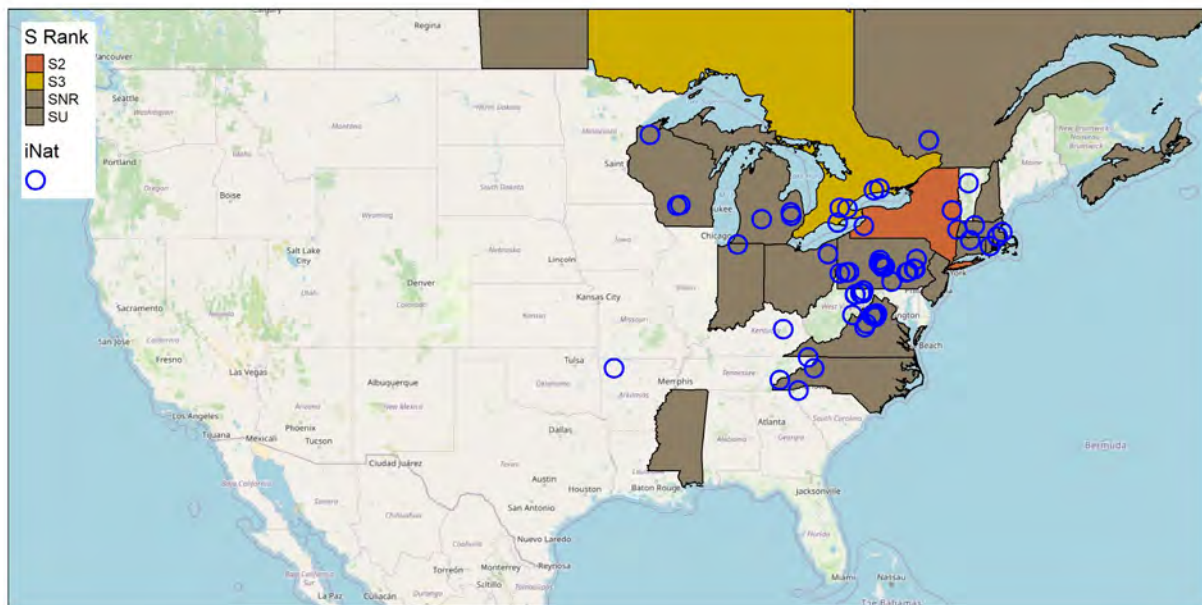


Figure 11: *Criorhina verbosa* North American distribution. Points show research-grade iNaturalist observations.

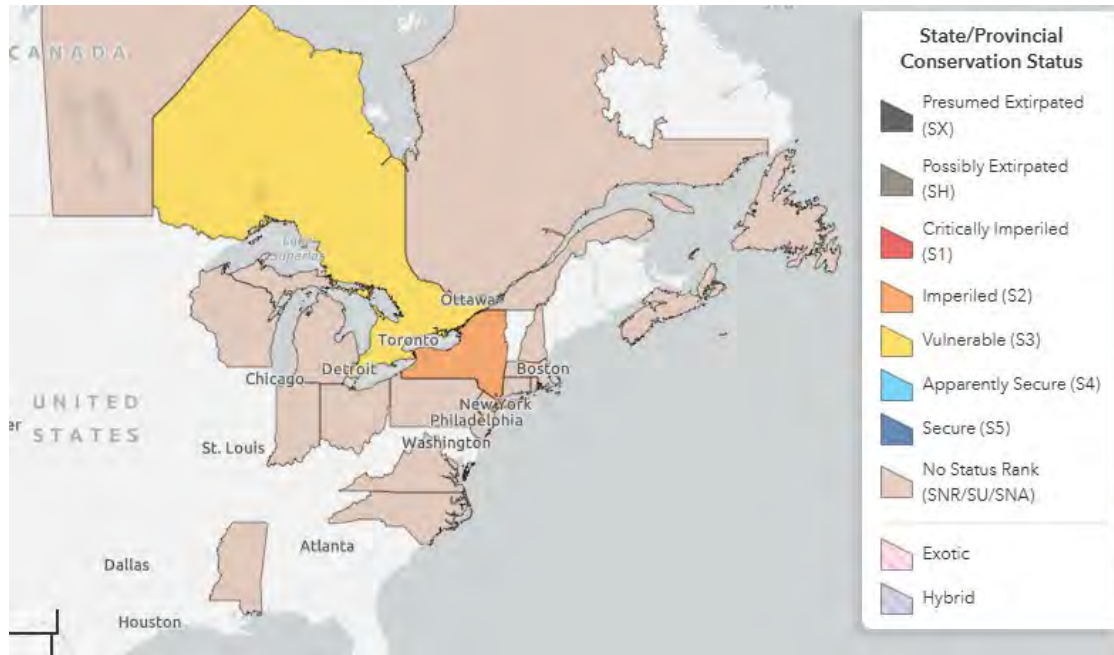


Figure 2. Conservation status of *Criorhina verbosa* in North America (NatureServe 2024).

III. New York Rarity

(provide map, numbers, and percent of state occupied)

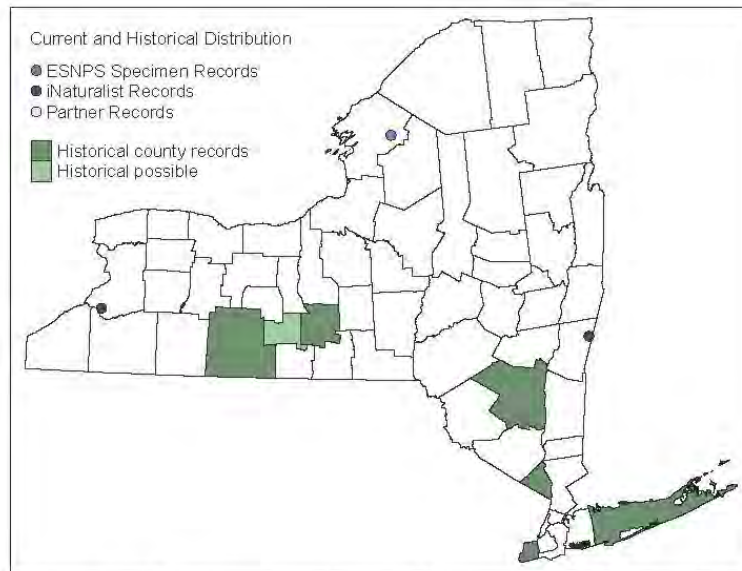


Figure 1: Observations from 2000 to present depicted as dots; those from 1999 and earlier as shaded counties. Observations with defined localities but uncertain counties (e.g., ‘Catskills’) assign ‘possible’ to those counties.

Figure 2 2: NYS distribution for *Criorhina verbosa* based on ESNPS data (White et al. 2022).

Table 1. Number of observations of *Criorhina verbosa* grouped by the dates known to be extant (repeat observations (element occurrences) include the years spanning first observation to last observation) and the number and percent of total of counties these observations fall within for New York State.

Years	Observations	# of Counties	% of counties in State
Pre-2000	12	7-8	11.2
2000-2023	6	5	8.1

Details of historic and current occurrence:

The species was documented in Jefferson County in 2021 as part of a DOD funded pollinator survey at Fort Drum Military Installation as well as Erie, Columbia, Saratoga, and Washington Counties (White et al. 2022, iNaturalist 2024).

Historically, 1999 and earlier, the species is known from seven-eight counties including Bronx, Richmond, Rockland, Steuben, Suffolk, Tompkins, Ulster Counties and a possible record from Schuyler County.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Core	~800 mi

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):

Mixed Northern Hardwoods

Northern White Cedar Swamp

Habitat or Community Type Trend in New York

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

Column options

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

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

Habitat Discussion:

In New York, Hairy-cheeked Bumblefly has been found in mixed hardwood forests. It has also been found in pine forests and bogs throughout its range (Skevington et al. 2019). Adults are

arboreal and canopy-dwelling in old growth deciduous forests with senescent trees where the larvae live in rot-holes, root cavities and decaying heartwood. Larvae are filter feeders, so conditions within the forest must remain stable and humid. Adults often descend in the evening to visit flowers and bask in sunflecks in canopy gaps (New York Natural Heritage Program 2024).

V. Species Demographics and Life History

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	Yes	No	Yes	Yes	No

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):

Adult flight times are late February to mid-August, though mostly in April and May (Skevington et al. 2019).

VI. Threats

Threats facing saproxylic hover flies include habitat loss and degradation, invasive plants and pathogens, pesticides, and climate change (White et al. 2022). Habitat shifting and alteration, droughts, and more frequent severe weather events due to climate change is expected to impact saproxylic flies and beetles. Like all saproxylic (dead wood) insects, this hover fly is threatened by modern forestry and land management practices that remove trees from stands before they can reach old age because the partially decayed breeding sites within senescent trees take upwards of 100 years to form (Speight 2015, New York Natural Heritage Program 2024).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent*	Severity*	Immediacy*	Trend	Certainty
1. Residential and Commercial	1.3 Tourism & Recreation Areas	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
4. Transportation & Service Corridors	4.2 Utility & Service Lines	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
4. Transportation & Service Corridors	4.1 Roads & Railroads	Choose an item.	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.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.1 Terrestrial animals (wood-boring insects)	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	8.1.2 Terrestrial plants	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.4 Pathogens	Choose an item.	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	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.3 Changes in Temperature Regimes	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.4 Changes in Precipitation & Hydrological Regimes	11.4.2 Droughts	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.5 Storms & Severe Weather	11.5.1 Storms & severe weather	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Criorhina verbosa*.

Action Category	Action	Description
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 3. Recommended conservation actions for *Criorhina verbosa*.

VII. References

This SSA drew heavily from these resources:

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New York Natural Heritage Program. 2024. Online Conservation Guide for *Criorhina nigriventris*. Available from: <https://guides.nynhp.org/bare-cheeked-bumblefly/>. Accessed October 10, 2024.

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Skevington, J.H., M.M. Locke, A.D. Young, K. Moran, W.J. Crins, and S.A. Marshall. 2019. Field guide to the flower flies of northeastern North America. Princeton University Press.

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Originally prepared by	Erin L. White
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