

Species Status Assessment

Common Name:	Diervilla Clearwing	Date Updated:	2025-01-30
Scientific Name:	<i>Hemaris aethra</i>	Updated By:	Hollie Shaw
Class:	Insecta		
Family:	Sphingidae		

Species Synopsis

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

Hemaris aethra was elevated to a full species in 2018 (Schmidt 2018) from *H. diffinis*. *H. aethra* is slightly larger and the forewing apex has a larger reddish-brown patch than *H. diffinis*. The hindwing anal margin is also reddish-brown and the scaling is more extensive in *H. aethra*. The larva is distinctive as it is the only *Hemaris* spp. with bright red spiracles, a yellow prothoracic collar, and a caudal horn is pink-purple with a black apex. It is difficult to identify adults with a photo. A voucher specimen is recommended or a photo of the larva. The only known food plant is *Diervilla lonicera* (bush honeysuckle) (Schmidt 2018).

This species is a northern species with a range that extends from Manitoba eastward to Nova Scotia and south into Michigan and New York (Schmidt 2018, Lotts and Naberhaus 2025). It is likely present in Wisconsin, Vermont, Maine and the northern Appalachians (Schmidt 2018). There are reports from Pennsylvania and Vermont in iNaturalist (iNaturalist 2025) and from Massachusetts in Mass Moths (Mass Moths 2025). The range is limited by the presence of its only known food plant, *D. lonicera*.

Trends are unknown.

The preferred habitat is where its foodplant is found; mesic, open deciduous forests, especially those with igneous rocks (Schmidt 2018). The New York Flora Atlas describes *D. lonicera* habitat as dry to dry-mesic or mesic soils in open to semi-open habitats (Werier et al. 2025).

I. Status

a. Current legal protected Status

i. Federal: Not listed

Candidate: No

ii. New York: Not listed

b. Natural Heritage Program

i. Global: G4

ii. New York: S1 Tracked by NYNHP? On Active Tracking List

Other Ranks:

- NYS 2025 SGCN Status: High Priority 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:

This species has mostly been documented in northern New York in three counties: Clinton, Essex, and Jefferson counties (iNaturalist 2025, White et al. 2022). There is a newer record in Rockland County that is based on an observation of a larva (iNaturalist 2025). This species is ranked S1 (New York Natural Heritage Program 2025) and has been proposed to be HPSCGN.

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		
New York	Yes	Unknown	Unknown	Unknown	U	proposed
Connecticut	No	-	-	-		
Massachusetts	Yes (see Mass Moths)	Unknown	Unknown	2009-2024	Not on MA Heritage List	-
New Jersey	No	-	-	-		
Pennsylvania	Yes (see iNaturalist)	Unknown	Unknown	2019	?	No
Vermont	Yes (see iNaturalist)	Unknown	Unknown	Unknown	SNR	No
Ontario	No	Unknown	Unknown	Unknown	S4	
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

Trends are unknown. *H. aethra* was first elevated to species status in 2018 (Schmidt 2018). Additional field surveys are needed in areas with the food plant, *D. lonicera*. The New York Flora Atlas has records throughout most of the state (Werier et al. 2025).

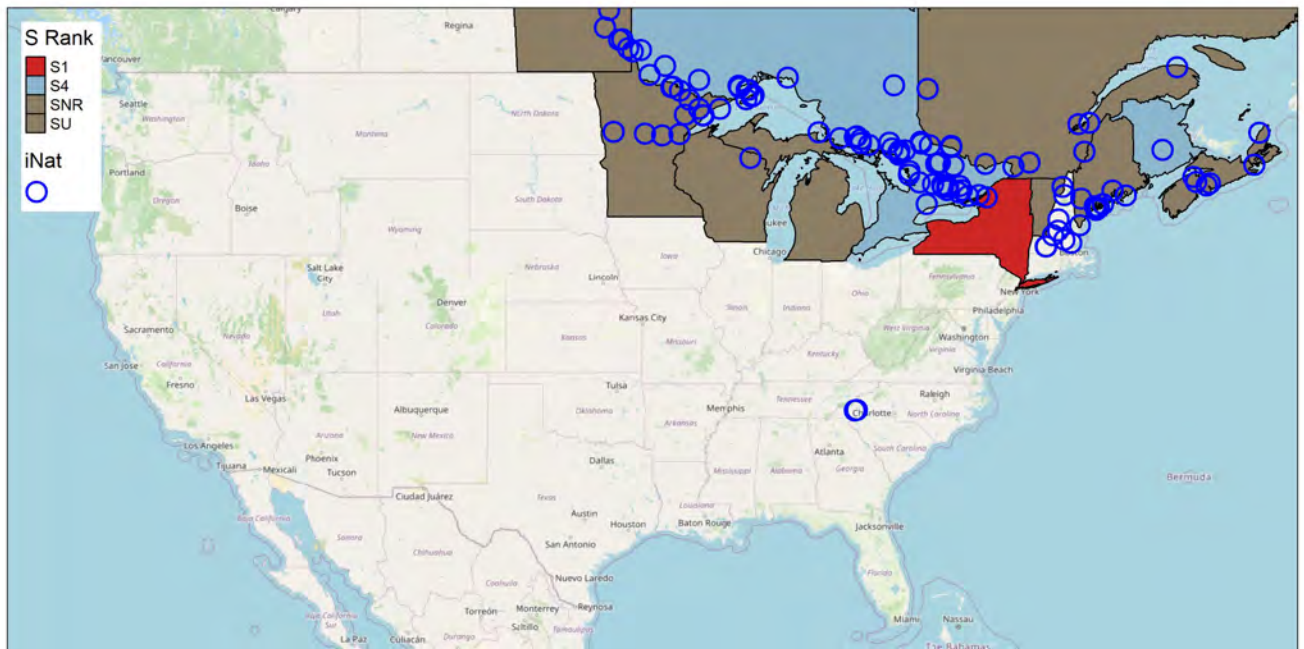


Figure 11. *Hemaris aethra* North American distribution. Points show research-grade iNaturalist observations.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	500 km

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):

NatureServe broad habitat types: Forest - Hardwood, Barrens

Habitat or Community Type Trend in New York

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

H. aethra is often found in dry-mesic, open deciduous forest habitats, often with natural openings on igneous bedrock (Schmidt 2018, Lotts and Naberhaus 2025). *D. Ionicera*, the food plant, is often found in dry to dry-mesic or mesic soils in open to semi-open habitats. Examples of habitats where the food plant might be found include bluffs, ledges, rims of cliffs, fine talus slopes and thin rock forests (Werier et al. 2025).

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):

In the northern portion of the *H. aethra* range there is typically one brood. Adults are found from from June to mid-July with a peak in the last two weeks of June. Two broods were documented in southeastern Ontario with spring and summer flights. There extreme dates were from early May to early August; peaks were recorded from early to late June and from mid-July to early August (Schmidt 2018).

VI. Threats

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.2 Vegetation succession	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	-	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.
11. Climate Change	11.1 Habitat Shifting & Alteration	-	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 2. Threats to *Hemaris aethra*.

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	
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 3. Recommended conservation actions for *Hemaris aethra*.

VII. References

This SSA drew heavily from these resources:

iNaturalist.org. 2025. *Hemaris aethra* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed January 29, 2025.

Lotts, Kelly and Thomas Naberhaus, coordinators. 2025. Butterflies and Moths of North America. Data set accessed (or exported) 2025-01-23 at <http://www.butterfliesandmoths.org/>.

Mass Moths. 2025. Species information for *Hemaris aethra*. <https://massmoths.org/moths/hemaris-aethra/>. Accessed on 15 January 2025.

NatureServe. 2025. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 01/29/2025].

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.

Northeastern Association of Fish and Wildlife Agencies. 2023. Regional species of greatest conservation needs. <https://northeastwildlifediversity.org/rsgcn>

Schmidt, B.C. 2018. Cryptic species among bumblebee mimics: an unrecognized *Hemaris* hawkmoth (Lepidoptera: Sphingidae) in eastern North America. *Zootaxa* 4399 (1): 032-048.

Werier, David, Kyle Webster, Troy Weldy, Andrew Nelson, Richard Mitchell†, and Robert Ingalls†. 2025. **New York Flora Atlas**. [S. M. Landry and K. N. Campbell (original application development), **USF Water Institute. University of South Florida**]. **New York Flora Association**, Albany, New York.

White, Erin L., Matthew D. Schlesinger, and Timothy G. Howard. 2022. The Empire State Native Pollinator Survey (2017-2021). New York Natural Heritage Program. Albany, NY.

Originally prepared by	Hollie Shaw
Date first prepared	1/30/2025
First revision	
Last revision	