

# Species Status Assessment

**Common Name:** Hydrangea Sphinx      **Date Updated:** 2024-12-31  
**Scientific Name:** *Darapsa versicolor*      **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):

*Darapsa versicolor* is an olive-green sphinx moth that has white maculation. There is a distinct white mid-dorsal stripe. This species is known to be a target species of collectors because of the striking colors (Tuttle 2007).

Specimens have been found from Maine south to Florida and west to Illinois, Missouri, Arkansas, and Mississippi (Lotts and Naberhaus 2024).

Recent trends are unknown. NatureServe (2024) describes this species as somewhat rare, but widespread. Wagner (2012) describes them as locally common. It appears that there have been some declines in New York. It is historically known from 20 counties. Of those counties, there are recent (post-1980) records from five of them (White et al. 2022) and one new county (Dutchess) for the species in New York (iNaturalist 2024).

This species is typically found in wetlands that are along the edge of wooded areas (Tuttle 2007, NatureServe 2024). Larval food plants are known to be hydrangea (*Hydrangea arborescens*), buttonbush (*Cephalanthus occidentalis*), and swamp loosestrife (*Decodon verticillatus*) (Tuttle 2007, NatureServe 2024, Lotts and Naberhaus 2024).

## I. Status

### a. Current legal protected Status

i. **Federal:** Not listed

**Candidate:** No

ii. **New York:** Not listed; SGCN

### b. Natural Heritage Program

i. **Global:** G4?

ii. New York: S2

Tracked by NYNHP?

On Active Tracking List

**Other Ranks:**

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 S2 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information. There have been 18 reported observations (number of sites unknown) since 2000 in four counties.

**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	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	S2	no
Vermont	No	Unknown	Unknown	Unknown	SNR	no
Ontario	No	Unknown	Unknown	Unknown	S3	
Quebec	No	Unknown	Unknown	Unknown	S3	

*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

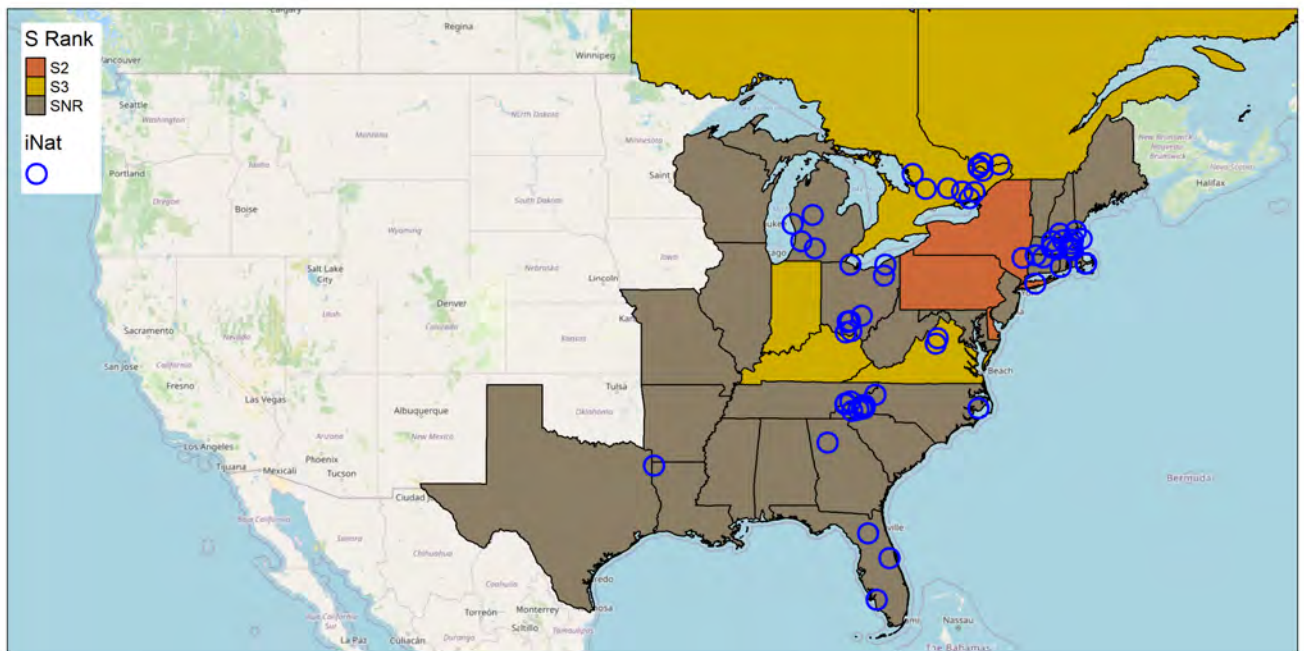
**Monitoring in New York**

*(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

Recent trends are unknown. NatureServe (2024) describes this species as somewhat rare, but widespread. Wagner (2012) describes them as locally common. It appears that there have been some declines in New York. It is historically known from 20 counties. Of those counties, there are recent (post-1980) records from five of them (White et al. 2022) one new county (Dutchess) for the species in New York (iNaturalist 2024).



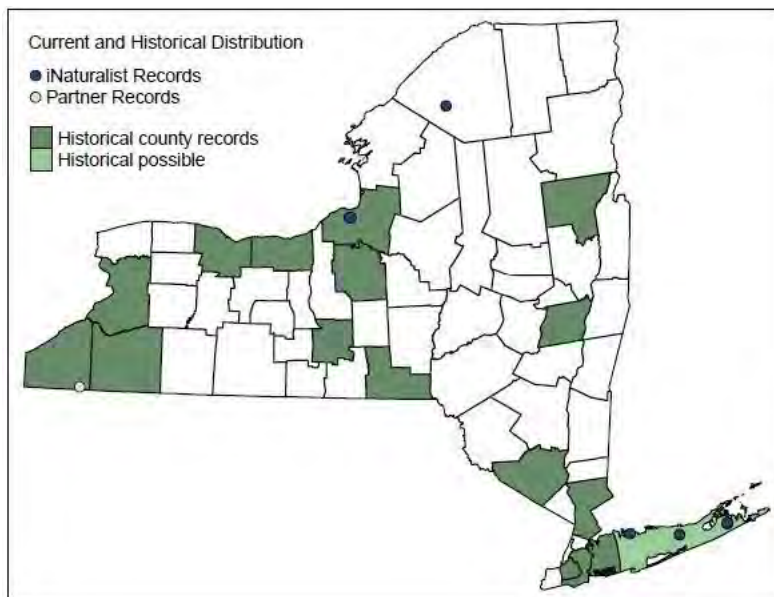
**Figure 1.** *Darapsa versicolor* North American distribution. Points show research-grade iNaturalist observations.



**Figure 2.** *Darapsa versicolor* regional distribution as reported at <https://northeastwildlifediversity.org/rsgcn> .

### III. New York Rarity

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



**Figure 3:** NYS distribution for *Darapsa versicolor* based on Empire State Native Pollinator Survey (White et al. 2022..

Years	Observations	# of Counties	% of counties in State
Pre-2000	35	20	14.5
2000-2024	18	5	6.5

Table 1. Number of observations of *Darapsa versicolor* 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.

### Details of historic and current occurrence:

This species was historically recorded from 20 counties that includes portions of northern, southern, western, and central New York. It is currently known from four counties: Chautauqua, Dutchess, Oswego, and Suffolk (White et al. 2022, iNaturalist 2024).

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

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: forested wetland, scrub-shrub wetland

### 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:

This species is typically found in wetlands that are along the edge of wooded areas (Tuttle 2007, NatureServe 2024). Larval food plants are known to be hydrangea (*Hydrangea arborescens*), buttonbush (*Cephalanthus occidentalis*), and swamp loosestrife (*Decodon verticillatus*) (Tuttle 2007, Lotts and Naberhaus 2024, NatureServe 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):

*D. versicolor* typically has one generation per year in most of its range with exceptions. Second broods are known from Virginia and possibly New Jersey. There may be several broods in Florida and Louisiana (NatureServe 2024). Adults are found from June to July in the north, including New York; March to September in Louisiana; and February to July in Florida (Lotts and Naberhaus 2024). However, there have been some reports of flying adults in the fall on Long Island (Tuttle 2007). Caterpillars pupate under the leaf litter in loose cocoons of leaves and silk (Lotts and Naberhaus 2024) where they typically overwinter (Tuttle 2007).

## VI. Threats

Sphinx moths and other large moth species have been in decline in the Northeast for decades (Wagner 2012). *Compsilura concinnata* was introduced to control spongy moth (*Lymantria dispar*) populations but contributed to the decline of many native moth species, including this species. The first generation of this tachinid parasitizes spongy moth larvae. After that, it parasitizes native larvae. Other current threats include habitat loss by destruction or succession, over-grazing by deer, and climate change (Wagner 2012). Collecting may be a threat in some locations (Tuttle 2007).

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.
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	( <i>Compsilura concinnata</i> introduced for spongy moth control)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	-	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

**Table 2.** Threats to *Darapsa versicolor*.

**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:

Many wetlands in New York are protected, especially those that are at least 12.4 acres or smaller wetlands that have "unusual importance" that meet specific criteria.

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

Additional research is needed to get a better understanding of this species habitat needs, population distribution and size, and reasons for declines. However, behaviors are poorly understood, and management planning would be more effective with more information. *D. versicolor* is difficult to detect as it tends not to be attracted to lights. There are scattered known locations in New York. Additional survey work is needed to determine the full extent in the state and to estimate the population size. Wetland protections and management may be needed to maintain the needed foodplants and nectar sources, especially since it tends not to travel far from the food plant sources. Locations should not be made public to reduce the chances of collection.

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

Action Category	Action	Description
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 *Darapsa versicolor*.

## VII. References

- iNaturalist.org. 2024. *Darapsa versicolor* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed December 19, 2024.
- Lotts, Kelly and Thomas Naberhaus, coordinators. 2024. Butterflies and Moths of North America. <http://www.butterfliesandmoths.org/> (Version 12/19/2024).
- NatureServe. 2024. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 12/14/2024].
- New York Natural Heritage Program, State University of New York College of Environmental Science and Forestry. 2023. Element Occurrence and Element Dataset. Albany, New York. [Exported 12/14/2023].
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- Wagner, D.L. 2012. Moth decline in the northeastern United States. *News of the Lepidopterists' Society* 54(2):52-56.
- 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.

<b>Originally prepared by</b>	Hollie Shaw
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