

Species Status Assessment

Common Name: Golden Aster Flower Moth **Date Updated:** 2024-11-26
Scientific Name: *Schinia tuberculum* **Updated By:** Hollie Shaw
Class: Insecta
Family: Noctuidae

Species Synopsis

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

The golden aster flower moth is cryptically colored and similar to many other flower moths (Wagner et al. 2008), its coloration is variable. The forewings usually contain various shades of gold or red, and the hind wings usually are predominantly dark brown. Both the forewings and hind wings contain pale patches. The wingspan is approximately 20 mm (Brou 2006). In New York State, the larval food plant is *Pityopsis falcata* (sickle-leaved golden aster). Elsewhere in its range, *P. graminifolia* (narrowleaf silkgrass) has also been recorded as one of its food plants (Wagner et al. 2008), but this species does not occur in New York State.

The range extends from Massachusetts to Florida and west to Oklahoma and Texas (iNaturalist 2024). Distribution is disjunct along the northern range along the Atlantic Coast (Schweitzer et al. 2018) due to the absence of the food plant in some areas (New York Natural Heritage Program 2023). In New York, the current range is restricted to Long Island. It is historically known from Poughkeepsie and Ithaca (White et al. 2022), but those records are questionable as the food plant is a coastal species (Werier et al. 2024). It was last reported from the state in 2013 (White et al. 2022).

The golden aster flower moth is found in dry sandy areas that contain an abundance of its food plant, *P. falcata* (sickle-leaved golden aster). Although this moth is found in barren-type habitats, it is not considered a barrens species, since it can also inhabit other sandy habitat types (New York Natural Heritage Program 2023).

While current trends are uncertain, it appears that there has been some decline in its range. *P. falcata* has not been found in the New York City area in recent years and is now considered historical (Kyle Webster, pers comm 2024).

I. Status

a. Current legal protected Status

i. Federal: Unlisted

Candidate: No

ii. New York: Unlisted

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 a limited range in New York and only a single food plant is known. There are two known extant occurrences in the state on Long Island. Threats include development and sea level rise. The SGCN status is proposed to be change from SPCN to HPSGCN.

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	Yes
Connecticut	No	-	-	-		
Massachusetts	No	Unknown	Unknown	Unknown	S1	No
New Jersey	No	-	-	-		
Pennsylvania	No	-	-	-		
Vermont	No	-	-	-		
Ontario	No	-	-	-		
Quebec	No	-	-	-		

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):

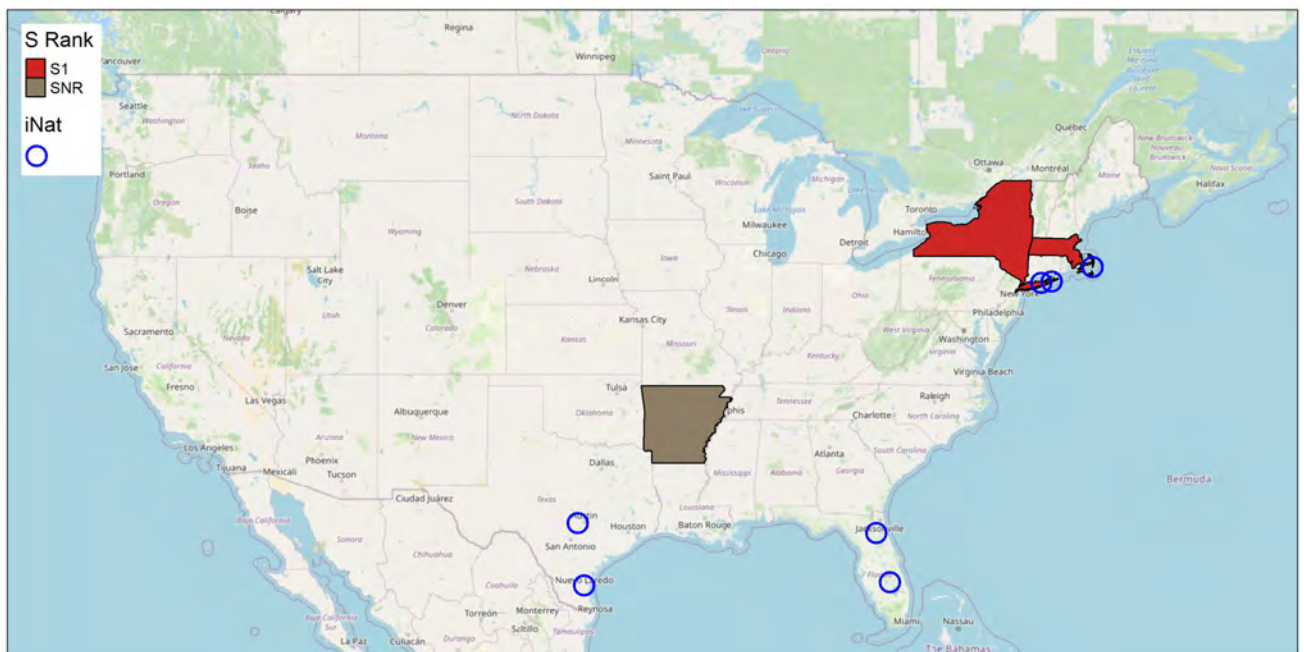


Figure 1: *Schinia tuberculum* North American distribution. Points show research-grade iNaturalist observations.

III. New York Rarity

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

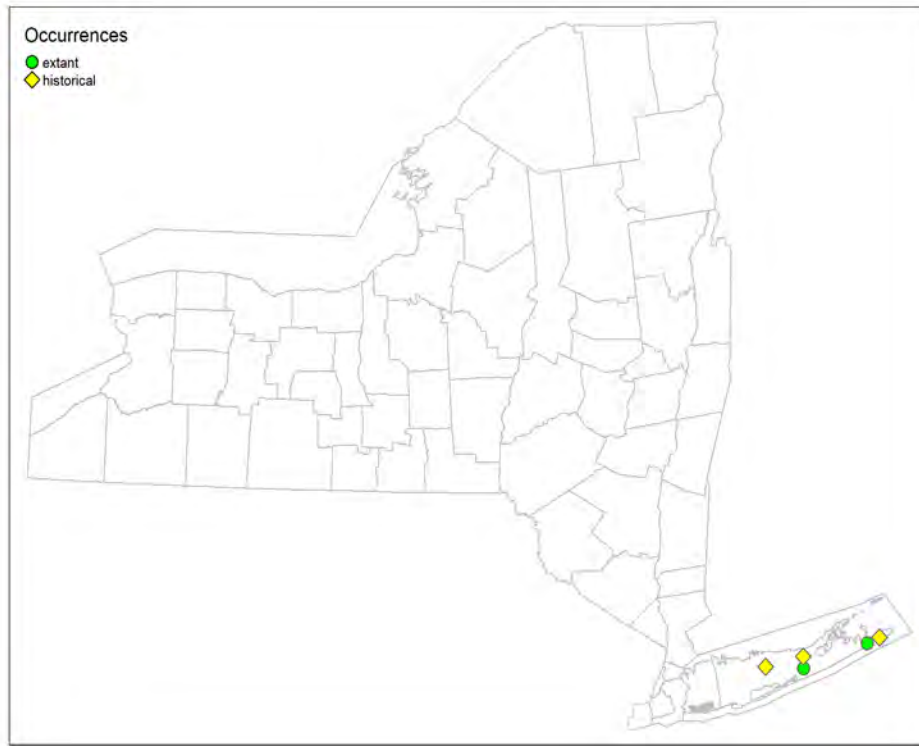


Figure 2: NYS distribution for *Schinia tuberculum* based on element occurrence data. There are historical records from Poughkeepsie and Ithaca that need further investigation.

Table 1. Number of observations of *Schinia tuberculum* 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	13	3	3.2
2000-2023	10	1	1.6

Details of historic and current occurrence:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
26-50%	disjunct	1200 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):

Pine barrens habitats and coastal/maritime dunes.

NY Natural Heritage Communities: Pitch pine-oak-heath woodland

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:

The golden aster flower moth is found in dry sandy areas that contain an abundance of its food source, *Pityopsis falcata* (sickle-leaved golden aster). It is found in dry sandy areas near the coast and in pine barrens, and flowers from July to September. Although this moth is found in barren-type habitats, it is not considered a barrens species, since it can also inhabit other habitat types (New York Natural Heritage Program 2023).

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):

This moth species has one annual generation. In New York State, adults have been documented to fly from late July to mid-September. It is active both during the day (from the late morning to the afternoon) and at night (Hardwick 1996). During the day, it can be found resting on the stems and flower stalks, or feeding on the flowers, of its food source, *Pityopsis falcata* (sickle-leaved golden aster) (Wagner et al. 2008). At night, it is easily taken at light (Hardwick 1996).

VI. Threats

Development and light pollution are the main threat to *S. tuberculum* habitats. This species has been document in pine barrens habitat but is not a pine barrens species. Poorly time prescribed fire may be lethal to this species. Succession is also a threat if the only known food plant is eliminated. Sea level rise may threaten the food plants habitat.

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas		Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	7.1.1 Increase in the fire regime (poorly timed prescribed burns)	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.
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	(sea level rise)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Schinia tuberculum*.

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

VII. References

This SSA drew heavily from these resources:

- Brou Jr., Vernon A. 2006. *Schinia tuberculum* (Hubner) in Louisiana. South. Lepid. News 28:33-34.
- Hardwick, D. F. 1996. A monograph of the New World Heliorthentinae (Lepidoptera: Noctuidae). Centre for Land and Biological Resources Research, Agriculture Canada, Ottawa Canada. 281 pp., 24 color plates
- iNaturalist.org. 2024. *Sphinx canadensis* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed November 8, 2024.
- NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 12/14/2023].
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- New York Natural Heritage Program. 2024. Online Conservation Guide for *Schinia tuberculum*. Available from: <https://guides.nynhp.org/golden-aster-flower-moth/>. Accessed November 27, 2024.
- Schweitzer, Dale F. 1998. Rare, potentially rare, and historic macrolepidoptera for Long Island, New York: A suggested inventory list.
- Schweitzer, Dale 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. U.S. Forest Service.
- Wagner, D. L., D. F. Schweitzer, J. B. Sullivan, and R. C. Reardon. 2008. Owlet Caterpillars of Eastern North America (Lepidoptera: Noctuidae)
- Werier, David, Kyle Webster, Troy Weldy, Andrew Nelson, Richard Mitchell, and Robert Ingalls. 2024. 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.

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