

# Species Status Assessment

**Common Name:** Stinging Rose Caterpillar Moth **Date Updated:** 01/10/2025

**Scientific Name:** *Parasa indetermina* **Updated By:** Hollie Shaw

**Class:** Insecta

**Family:** Limacodidae

## Species Synopsis

Stinging rose caterpillar moth is approximately 2.3 to 3 cm. The forewing is brown with a large green patch and rounded outer edge. The terminal border has a dark patch in the light brown outer margin. The yellowish hindwing has a narrow brown border (Covell 1984). Eggs are laid along stems or on leaves. Larvae are less than one inch in length and are brilliantly colored with blue, orange, and white stripes. Six pairs of large tubercles are along the dorsal surface. These tubercles are covered with hollow spines with detachable tips. The tips contain toxins that can irritate skin. There is an additional row of spines along the sides of the body (Bess 2005). Larvae have been documented to feed on: apple, dogwood, hickory, maples, oaks, poplars, and rose bushes (Lotts and Naberhaus 2025).

The range for stinging rose caterpillar moth extends from New York to Florida and west to Missouri and Texas. New York is at the northern limit of this species' range (Lotts and Naberhaus 2025). Most New York sites are in Suffolk County and parts of New York City (Queens and Richmond counties). There is a single recent report of an individual found in Westchester County (iNaturalist 2025).

Stinging rose caterpillar moths are generally found in sandy, pine-oak savannahs of the southern Atlantic Coastal Plain (Bess 2005).

Current trends indicate that this species may be rebounding in New York considering it was once considered possibly extirpated in the state. It was rediscovered in 2007 in Suffolk County (New York Natural Heritage Program 2025) and as of 2024 it has been reported from three additional counties: Queens, Richmond, and Westchester (iNaturalist 2025). Although its range is widespread throughout North America, there is insufficient information to conclude it is secure throughout much or all of its range, and this is especially true in regards to its preferred habitats (fire maintained dry coastal scrub, oak woodlands, barrens and grasslands), many of which are globally imperiled (Bess 2005).

## I. Status

### a. Current legal protected Status

i. Federal: Not listed

Candidate: No

ii. New York: Not listed: HPSGCN

**b. Natural Heritage Program**

i. Global: G4

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

**Other Ranks:**

COSEWIC: Not listed in Canada (not present)  
 IUCN Red List: Not assessed by IUCN Red List  
 Northeast Regional SGCN: Not listed

**Status Discussion:**

*Parasa indetermina* is currently considered S1 (critically imperiled) in New York. While current trends appear to be increasing, the current range is limited to only a few counties in the southern portion of the state. The status is recommended to be changed from SPCN to SGCN. Most of the observations are from iNaturalist (2025) and need further expert review.

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**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	Unknown	Unknown	S1	Yes
Connecticut	No	-	-	-	-	-
Massachusetts	No	-	-	-	-	-
New Jersey	? (several iNaturalist reports)	-	-	-	-	

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
Pennsylvania	? (1 site-iNaturalist in 2023)	-	-	-	SNR	-
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

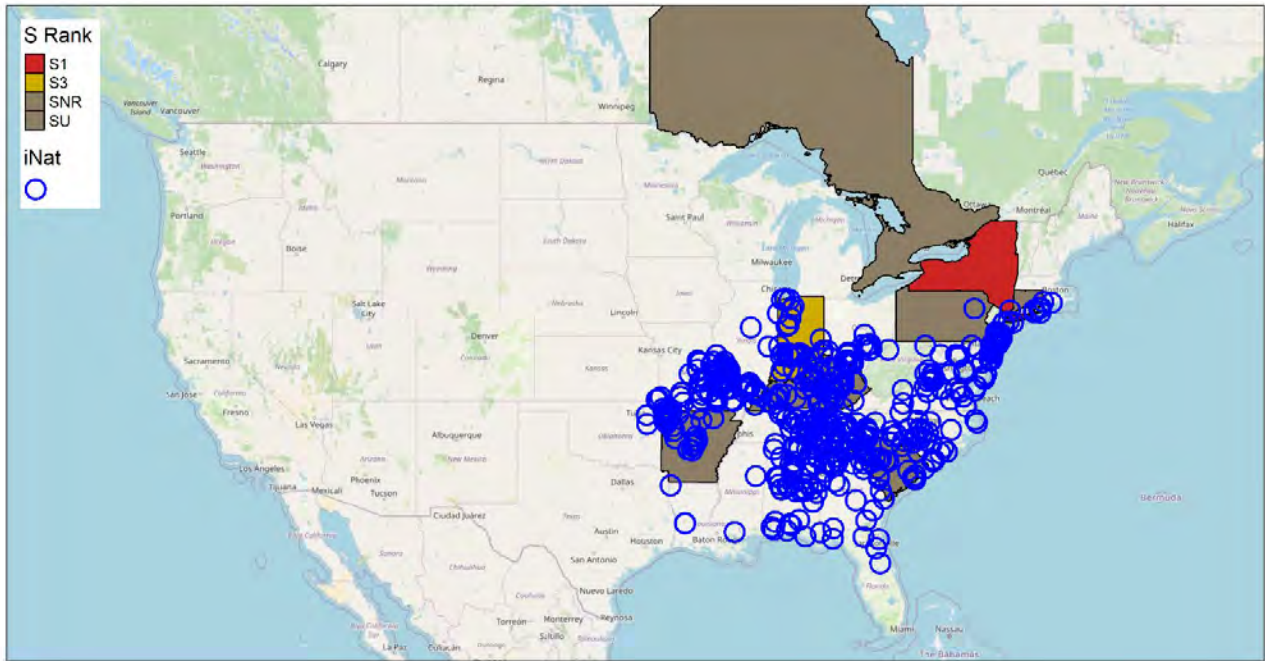
*(specify any monitoring activities or regular surveys that are conducted in New York):*

There are no known regular monitoring programs for this species. It has been found during some New York Natural Heritage Program-based surveys in the state (New York Natural Heritage Program 2025) and there are records in iNaturalist that need further review (2025).

### Trends Discussion

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

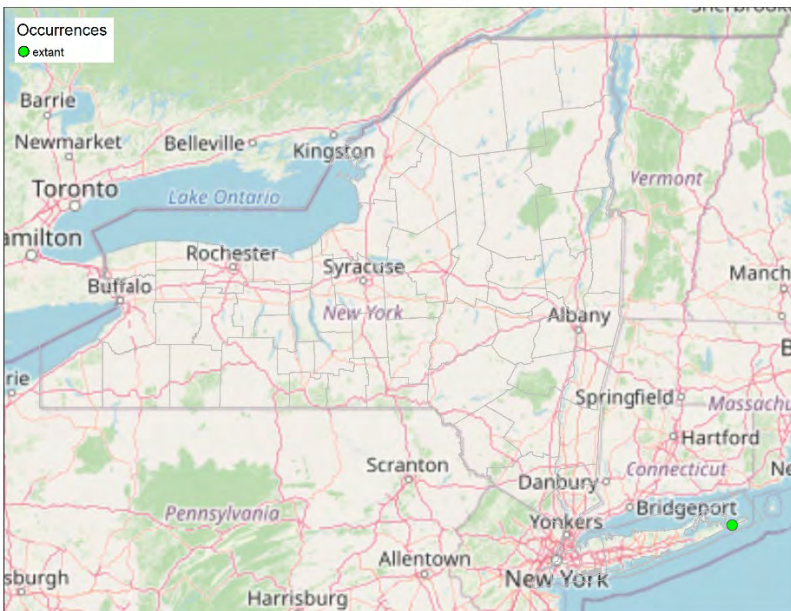
The trends for this species in New York appear to be increasing, but the range is still limited to a small portion of the state. Covell (1984) stated that the species is uncommon. It was considered possibly extirpated in New York until 2007 when it was rediscovered in Suffolk Co (New York Natural Heritage Program 2025). There are 43 observations in iNaturalist (2025) that need further review.



**Figure 1.** *Parasa indetermina* 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 *Parasa indetermina* based on element occurrence data.

Years	Observations	# of Counties	% of counties in State
Pre-2000	unknown	unknown	unknown
2000-2023	44	4	6.4%

**Table 1.** Number of observations of *Parasa indetermina* 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:**

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	965 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):

Coastal coniferous barrens, oak pine forest, and maritime dunes.

**Habitat or Community Type Trend in New York**

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

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:**

Stinging rose caterpillar moths are generally found in sandy, pine-oak savannahs of the southern Atlantic Coastal Plain (Bess 2005). The extant occurrence in New York was found at the border of two natural community types: maritime dunes and maritime grassland. While native Rosaceae are the preferred larval food plants, this species has been reported to utilize numerous food plants including apple (*Malus* spp.), cottonwood (*Populus deltoides*), dogwood (*Cornus* spp.), hickory (*Carya* spp.), oaks (*Quercus* spp.), redbud (*Cercis canadensis*), chestnut (*Castanea dentata*), cherry and plum (*Prunus* spp.) and sycamore (*Plantanus occidentalis*) (Bess 2005, New York Natural Heritage Program 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):*

Throughout most of this species range, adults can be found from June to July. Larvae feed throughout the summer and into the fall (Bess 2005). Larvae are slow-growing, occurring from the end of June to September, feeding primarily on *Rosa* leaves from mid-summer to fall, when they pupate in a tough cocoon among the leaf litter or humus (Bess 2005). This species is not known to migrate and does not travel far from remnants of high quality dry coastal scrub or woodland habitat (Bess 2005).

## VI. Threats

Known threats include habitat loss due to development and fire suppression in some habitats, although the threat of development for the remaining habitat in New York may be low. The suppression of fires in barrens and other dry places could cause a loss of habitat for the species and therefore a drop in population size. Conversely, a fire affecting an entire occurrence could eliminate all life stages that are present. Succession to brushland and closed canopy forests would eliminate larval foodplants. In addition, invasives plants could also eliminate larval foodplants. Development may further isolate populations (Bess 2005).

This species is attracted to artificial lighting. Artificial lighting can: increase predation risk, disrupt behaviors such as feeding, flight, and reproduction, and interfere with dispersal between habitat patches. In addition, many individuals die near the light source. It is not known if the impact of artificial lighting is severe, but the impact is likely greater for small, isolated populations (Schweitzer et al. 2011).

Another potential threat is persistent use of biocides such as those used to control spongy moth (*Lymantria dispar*) (Bess 2005).

<b>Threat Level 1</b>	<b>Threat Level 2</b>	<b>Threat Level 3</b>	<b>Spatial Extent*</b>	<b>Severity*</b>	<b>Immediacy*</b>	<b>Trend</b>	<b>Certainty</b>
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	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

**Table 2.** Threats to *Parasa indetermina*

## 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:**

The best management strategy for this species is the management of the natural community or habitat where it occurs. Historically, fire has played a role in maintaining maritime grasslands. The entire occupied habitat for a population should not be burned in a single year. For example, in places where prescribed burning is used, refugia (unburned areas) are needed for many species to ensure that any life stage can survive a fire. Schweitzer et al. (2011) suggests waiting five years before burning a unit again to give the lepidopteran population a chance to recolonize and increase local populations to withstand another fire. It may also be beneficial to know the locations of rare lepidopterans since there's a chance of losing localized populations if there are no individuals at the area set aside as refugia (Schweitzer et al. 2011).

In addition, minimizing lighting to maintain dark sky conditions would be beneficial. When lighting is necessary, it's best to use lights that emit red or yellow light because insects are generally not attracted to those colors. However, many sodium lights, which emit yellow light, are so bright that they do attract some insects. The best lighting appears to be low pressure sodium lights which have little effect on flying insects (Schweitzer et al. 2011).

Insecticide use should be avoided when possible if rare species are present. When insecticide use cannot be avoided, careful planning along with consistent rare species monitoring, can result in successful eradication of the target species without eliminating rare species. A biocontrol alternative is *Bacillus thuringiensis* (Btk) for some target species, such as spongy moths. Sensitivity varies between species, and it appears that most species are not sensitive to Btk approximately two weeks post-application. Since it appears that spiny rose caterpillar moths are sensitive to some biocontrols, it is important to try to time applications to minimize mortality for this species. There are two other spongy moth biocontrols that appear to be very effective at eliminating or slowing the spread of spongy moths with little effect on non-target species: Gypchek (Reardon et al. 2016) and *Entomophaga maimaiga* (a fungus). *E. maimaiga* was introduced in 1910 and 1911 and was rediscovered in 1989 in the northeast it can be highly variable (Shelton 2025).

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct habitat management	Site/Area management
A.1 Direct Habitat Management	A.1.1.0.0 Manage plants, animals, fungi, or bacteria	Invasive/Problematic species control
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Site/Area Protection
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Resource/Habitat Protection
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.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

**Table 3.** Recommended conservation actions for *Parasa indetermina*.

## VII. References

- Bess, James. 2005. Conservation assessment for the stinging rose caterpillar (*Parasa indetermina* Biosduval). USDA Forest Service, Eastern Region.
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