

Species Status Assessment

Common Name: Deerberry Melitta **Date Updated:** 2024-10-04
Scientific Name: *Melitta eickworti* **Updated By:** Erin L. White
Class: Insecta
Family: Melittidae

Species Synopsis

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

Deerberry Melitta is known from Tennessee and Georgia and north coastally to New York and Massachusetts (Discover Life 2024, NatureServe 2024).

The species was ranked an S1 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information. It has been documented since 2000 in three counties in NY, and previously known from 2 counties historically. The species has been and remains very rare in the state. It is possible additional locations with deerberry may still be found with concerted effort.

Select food plants for *Melitta eickworti* include *Vaccinium* L. (Fowler and Droege 2020); more specifically deerberry (*Vaccinium stamineum*) (Wilson and Carril 2016). This species is a habitat specialist and requires this plant for persistence.

I. Status

a. Current legal protected Status

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

b. Natural Heritage Program

- i. **Global:** GNR
ii. **New York:** S1 **Tracked by NYNHP?** On Active Tracking List

Other Ranks:

-New York 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:

The species was ranked an S1 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information. It has been documented since 2000 in three counties in NY, and previously known from 2 counties historically. The species has been and remains very rare in the state. It is possible additional locations with deerberry may still be found with concerted effort.

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	No
Connecticut	No	-	-	-		
Massachusetts	Yes	Unknown	Unknown	Unknown		
New Jersey	Yes	Unknown	Unknown	Unknown		
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):

The two populations of Deerberry *Melitta* have persisted in central NY (documented in the 70s and 80s and also 2012 and 2014) in Schuylers and Tompkins Counties. For decades this specialist was only known from these locations. It has been recently documented in Putnam County in 2023 and 2024 as well. The species has been and remains very rare in the state. It is possible additional locations with deerberry may still be found with concerted effort.

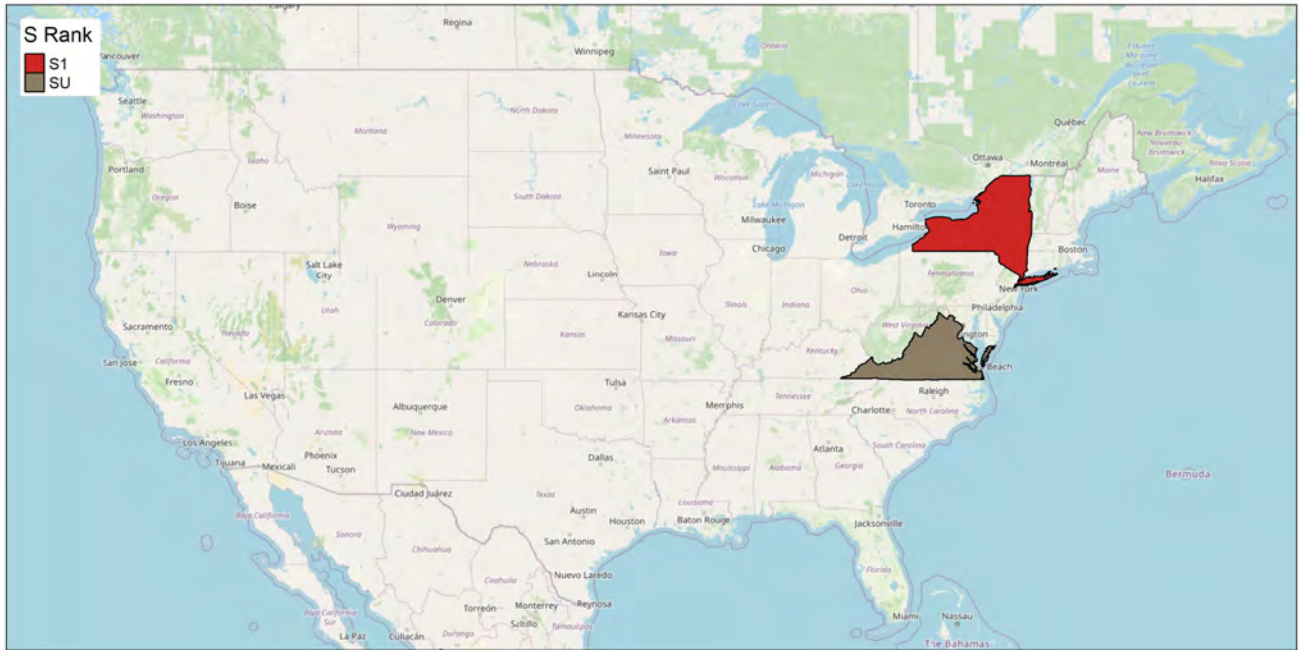


Figure 1. *Melitta eickworti* North American distribution. Points show research-grade iNaturalist observations.



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

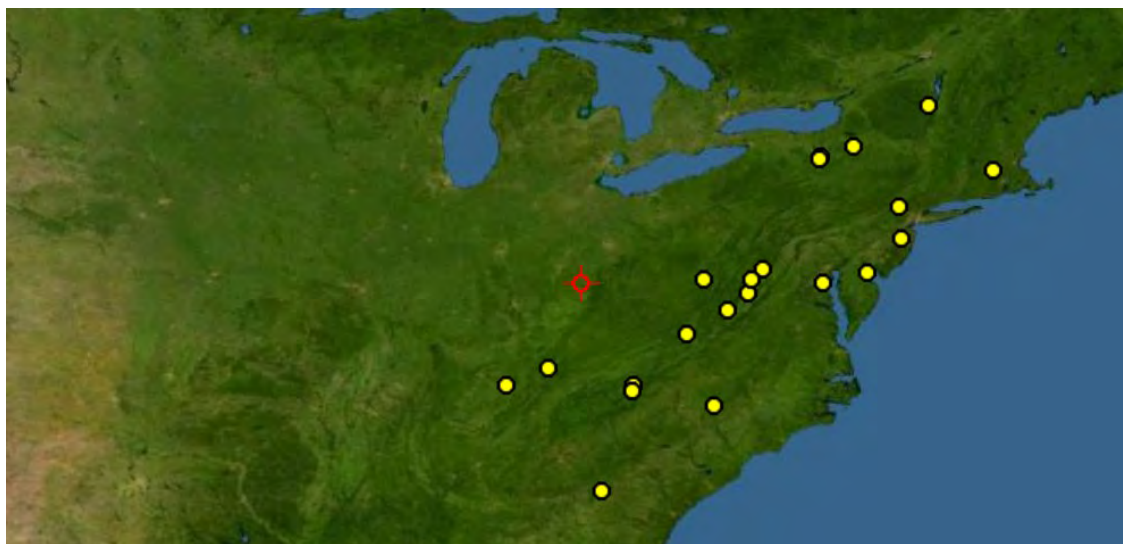


Figure 3. *Melitta eickworti* distribution from Discover Life (2024).

III. New York Rarity

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

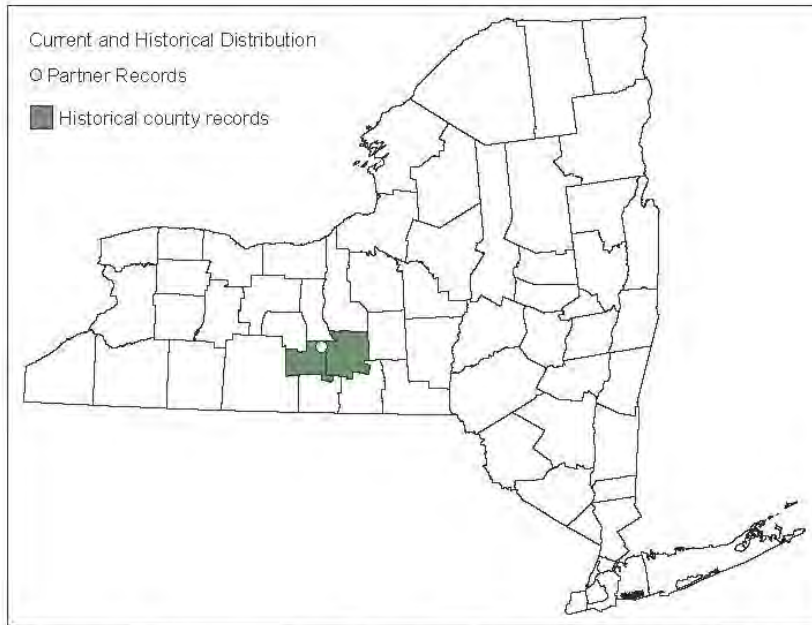


Figure 1: Observations from 2000 to present depicted as dots; those from 1999 and earlier as shaded counties.

Figure 4. NYS distribution for *Melitta eickworti* based on ESNPS (White et al. 2022).

Table 1. Number of observations of *Melitta eickworti* 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	27	2	3.2
2000-2023	15	3	4.8

Details of historic and current occurrence:

There are two historical records (1999 and earlier) from Schuyler and Tompkins Counties.

There are recent (post-1999) records from Schuyler, Tompkins, and Putnam counties in recent years (iNaturalist 2024, White et al. 2022). The Putnam County record was discovered in 2023 by Molly Jacobson and precise location has not been released pending publication.

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

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):

Non-native Shrublands (however, hostplant is a native-Deerberry within habitat)

Oak Forest\Pine Barrens within swamp habitat

NatureServe broad habitat types: Subterrestrial

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:

Select food plants for *Melitta eickworti* include *Vaccinium* L. (Fowler and Droege 2020); more specifically deerberry (*Vaccinium stamineum*) (Wilson and Carril 2016). This species is a habitat specialist and requires this plant for persistence.

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):

All NY observations have been in June (iNaturalist 2024, White et al. 2022), however within its range, it has been documented in May as well (Fowler and Droege 2020).

VI. Threats

Threats facing *Melitta eickworti* and other ground-nesting bees include habitat loss and degradation, invasive plants and pathogens, pesticides, and climate change (White et al. 2022). Kammerer et al. (2020) found that warmer winters will result in fewer bees and solitary bees are more sensitive to drought conditions, which are predicted in the Northeast as a result of climate change.

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.
3. Energy Production & Mining	3.2 Mining & Quarrying	-	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.
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.
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	11.3.3 Gradual temperature change (warmer winters result in fewer bees)	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 (solitary bees more sensitive to drought)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Melitta eickworti*.

Action Category	Action	Description
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
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.9.0.0.0 Education and Training	Training

Table 3. Recommended conservation actions for *Melitta eickworti*.

VII. References

This SSA drew heavily from these resources:

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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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Kammerer, M., Goslee, S.C., Douglas, M.R., Tooker, J.F. and Grozinger, C.M., 2021. Wild bees as winners and losers: Relative impacts of landscape composition, quality, and climate. *Global change biology*, 27(6), pp.1250-1265.

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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.

Wilson, J.S. and O.M. Carril. 2016. A guide to North America’s bees: The bees in your backyard. Princeton University Press: Princeton and Oxford.

Originally prepared by	Erin L. White
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