

Species Status Assessment

Class: Insecta

Family: Coccinellidae

Scientific Name: *Coccinella trifasciata*

Common Name: Three-banded lady beetle

Species synopsis:

Coccinella trifasciata is a small insect that ranges from 4.0 to 5.0 mm. Males have a pale head with the exception of a black band across the base. Females have a black head with two pale spots. The anterior margin of the pronotum is typically pale with a large ventral pale spot that extends posteriorly as far as the dorsal spot. Elytra have three transverse black bands that are interrupted at the suture (Gordon 1985).

Since the beginning of the Lost Ladybug Project, *C. trifasciata* has been found in meadows/fields (non-agricultural), gardens, yards, hayfields, and bramble fruits in New York (Cornell University 2013).

I. Status

a. Current and Legal Protected Status

i. Federal not listed Candidate? no

ii. New York not listed

b. Natural Heritage Program Rank

i. Global not ranked

ii. New York not rank Tracked by NYNHP? No (but possible in near future)

Other Rank:

Status Discussion:

II. Abundance and Distribution Trends

a. North America

i. Abundance

x declining increasing stable unknown

ii. Distribution:

x declining increasing stable unknown

Time frame considered: 1980s-present

b. Regional (e.g., Atlantic Flyway, USFWS Region 5 – Northeast, Watershed, Hydrologic Unit)

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Regional Unit Considered: USFWS Region 5 – Northeast

Time Frame Considered: 1980s-present

c. Adjacent States and Provinces

CONNECTICUT

Not Present

No data

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Time frame considered: 1980s-present

Listing Status: not listed SGCN? N

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 0 of 119 were *C. trifasciata*.

MASSACHUSETTS

Not Present

No data

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Time frame considered: 1980s-present

Listing Status: not listed SGCN? N

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 12 of 471 (2 locations) were *C. trifasciata*.

NEW JERSEY **Not Present** _____ **No data** _____

i. Abundance

___ declining ___ increasing ___ stable x unknown

ii. Distribution:

___ declining ___ increasing ___ stable x unknown

Time frame considered: ___1980s-present_____

Listing Status: ___not listed_____ SGCN? ___N___

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 0 of 133 were *C. trifasciata*.

ONTARIO **Not Present** _____ **No data** _____

i. Abundance

x declining ___ increasing ___ stable ___ unknown

ii. Distribution:

x declining ___ increasing ___ stable ___ unknown

Time frame considered: ___1980s-present_____

Listing Status: _____not listed_____

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 3 of 90 were *C. trifasciata*.

PENNSYLVANIA

Not Present _____

No data _____

i. Abundance

___ declining ___ increasing ___ stable ___x___ unknown

ii. Distribution:

___ declining ___ increasing ___ stable ___x___ unknown

Time frame considered: ___1980s-present_____

Listing Status: ___not listed_____ SGCN? _N_____

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 0 of 407 were *C. trifasciata*.

QUEBEC

Not Present _____

No data _____

i. Abundance

___x___ declining ___ increasing ___ stable ___ unknown

ii. Distribution:

___x___ declining ___ increasing ___ stable ___ unknown

Time frame considered: ___1980s-present_____

Listing Status: ___not listed_____

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 2 of 101 were *C. trifasciata*.

VERMONT

Not Present _____

No data _____

i. Abundance

___ declining ___ increasing ___ stable **_x_ unknown**

ii. Distribution:

___ declining ___ increasing ___ stable **_x_ unknown**

Time frame considered: ___1980s-present_____

Listing Status: ___not listed_____ SGCN? ___N_____

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 0 of 119 were *C. trifasciata*.

d. NEW YORK

No data _____

i. Abundance

x declining ___ increasing ___ stable ___ unknown

ii. Distribution:

x declining ___ increasing ___ stable ___ unknown

Time frame considered: ___1980s-present_____

Declines first noted during the 1980s. The Lost Ladybug Project (Cornell University 2013): 20 of 1639 (12 sites) were *C. trifasciata*.

Monitoring in New York.

This species, as well as other lady beetles, are the target of a citizen science project known as The Lost Ladybug Project. Participants search for, photograph, and submit images and locations of ladybugs. I'm not aware of any regular surveys.

Trends Discussion:

It appears that the population is declining and there is some range reduction.

Range map from Gordon (1985).

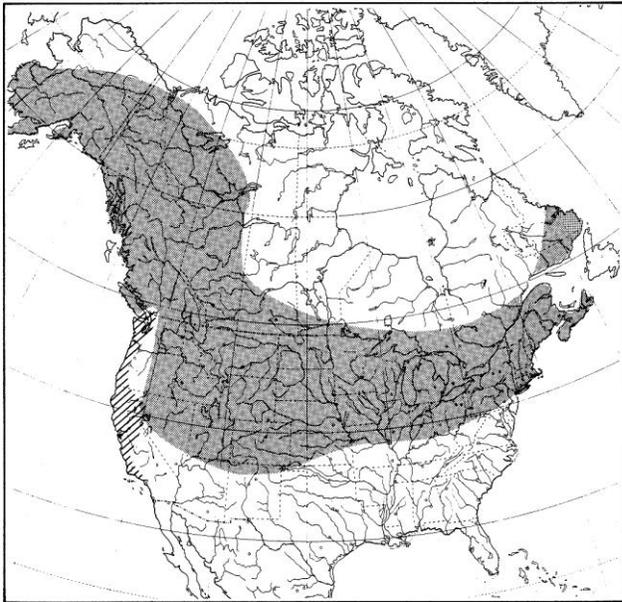
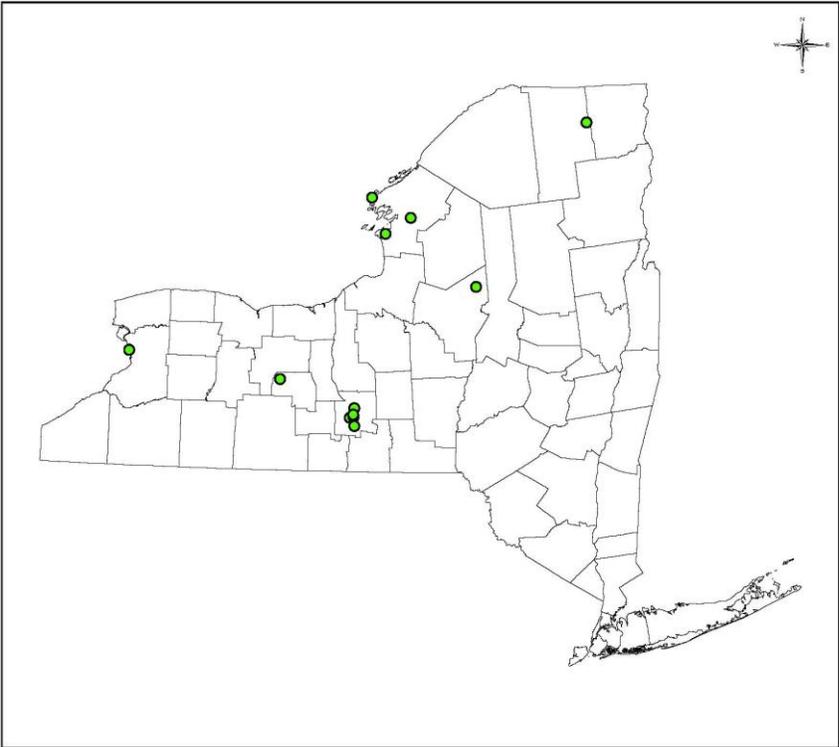


Fig. 640. Distribution. *Coccinella trifasciata trifasciata* (shaded); *C. t. subversa* (cross hatch).

Observation points from The Lost Ladybug Project 2000-2013 (Cornell University 2013).



New York State Range Map for *Coccinella trifasciata* (three-banded lady beetle) 2000-2013 (Cornell University 2013)

III. New York Rarity, if known:

Historic (select one)	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

Details of historic occurrence:

Abundance and locational data are not known at this time.

Current	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
	<u> 20 </u>	<u> 12 </u>	<u> <1% </u>

Details of current occurrence:

Twenty *C. trifasciata* have been found at twelve sites in six counties in Central/Western and Northern New York.

New York's Contribution to Species North American Range:

% of NA Range in New York	Classification of New York Range
<u> </u> 100 (endemic)	<u> </u> Core
<u> </u> 76-99	<u> x </u> Peripheral
<u> </u> 51-75	<u> </u> Disjunct
<u> </u> 26-50	Distance to core population:
<u> x </u> 1-25	_____

V. New York Species Demographics and Life History

- Breeder in New York**
 - Summer Resident**
 - Winter Resident**
 - Anadromous**
- Non-breeder in New York**
 - Summer Resident**
 - Winter Resident**
 - Catadromous**
- Migratory only**
- Unknown**

C. trifasciata is a year-round resident.

Species Demographics and Life History:

Specific demographics and life history information are not available for this species. It is assumed that its life cycle follows that of most Coccinellidae. In general, egg hatch after several day, larvae go through several instars before pupating and reaching adulthood.

Non-native lady beetles are predators of C. trifasciata. In addition, non-native lady beetles are likely outcompeting C. trifasciata for resources. *Perilitus coccinellae*, a braconid wasp, parasitizes lady beetles. There are several other known pathogens and parasites of Coccinellidae (Graves 2013).

VI. Threats:

1. While it is difficult to prove, it appears some native species have been displaced by nonnative lady beetles (Lost Ladybug Project, 2013).
2. A decline in farming (farm/open habitat loss) has decreased some of the available suitable habitat.
3. Lady beetles appear to be sensitive pesticide use (Stephens and Losey 2003).

Note: These are general threats that may or may not apply to New York sites. However, non-native species are found throughout the state making competition a likely threat.

Are there regulatory mechanisms that protect the species or its habitat in New York?

No Unknown

Yes

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

** Complete Conservation Actions table using IUCN conservation actions taxonomy at link below. Use green headings 1-7 for Action Category (e.g., Land/Water Protection) and associated subcategories for Action (e.g., Site/Area Protection). <http://www.conservationmeasures.org/initiatives/threats-actions-taxonomies/actions-taxonomy>

Conservation Actions	
Action Category	Action
1 Species Management	Species Re-introduction
2 Species Management	Ex-Situ Conservation (laboratory rearing)

Additional research is needed to determine specific habitat needs. Additional survey work is needed to determine the full range and population size in New York. Consider incentives that encourage sustainable farming or reduced pesticide use.

VII. References

Committee on the Status of Endangered Wildlife in Canada. 2013. "Candidate Wildlife Species." Government of Canada. http://www.cosewic.gc.ca/eng/sct3/index_e.cfm. (date accessed December 29, 2013).

Cornell University. 2013. "The Lost Ladybug Project." www.lostladybug.org. (date accessed: December 29, 2013).

Graves, D. 2013. "Coccinella transversoguttata" (On-line), Animal Diversity Web. Accessed January 16, 2014 at http://animaldiversity.ummz.umich.edu/accounts/Coccinella_transversoguttata/

Stephens, Erin and John Losey. 2003. The decline of C-9- New York State's insect. The Xerces Society. Wings: Essays on Invertebrate Conservation. Fall 2003 pp. 8-12.

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