

Vermont Lady Beetle Atlas: Pilot Year

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Vermont Atlas of Life at the Vermont Center for Ecostudies

Historic Records

In 2018, VAL researchers digitized a 43-year old document listing lady beetles found during and prior to a survey in 1976.

- This old document spurred questions about Vermont's current Lady Beetle fauna

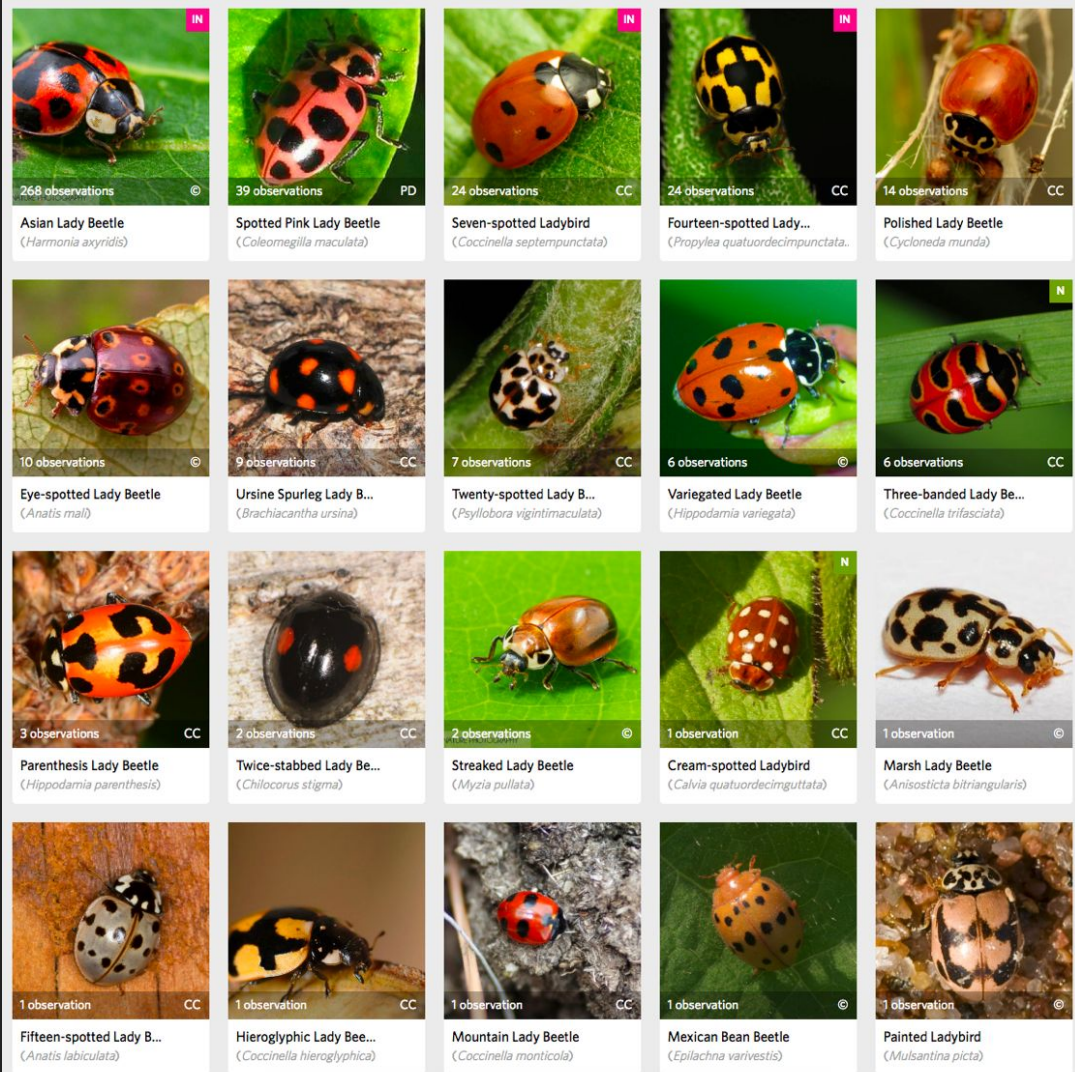
LADY BEETLES: A Checklist of the Coccinellidae of Vermont (Insecta: Coleoptera)

Bruce L. Parker, Gordon R. Nielsen, and Ross T. Bell

Agricultural Experiment Station
Bulletin 681
University of Vermont
Burlington, Vermont
1976

Lady Beetles of Vermont

- 36 native, 7 introduced species
- 13 species missing as of 2019
- Other species seemed to be in decline - where did they go?



Looking for Answers

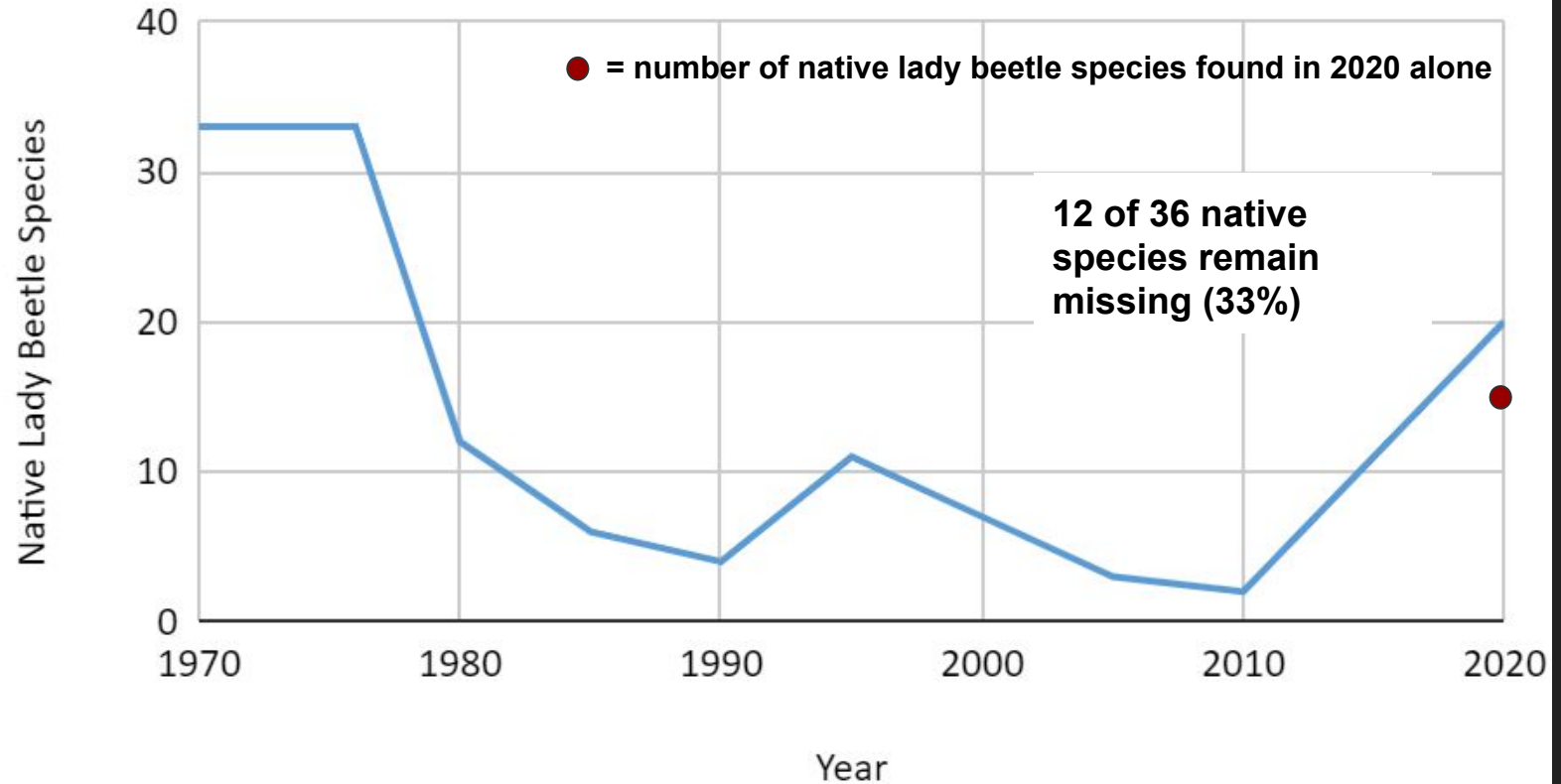
- Vermont Lady Beetle Atlas Pilot Year
 - Citizen science framework (modern lady beetle surveys)
 - iNaturalist



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Parenthesis Lady Beetle (*Hippodamia parenthesis*)

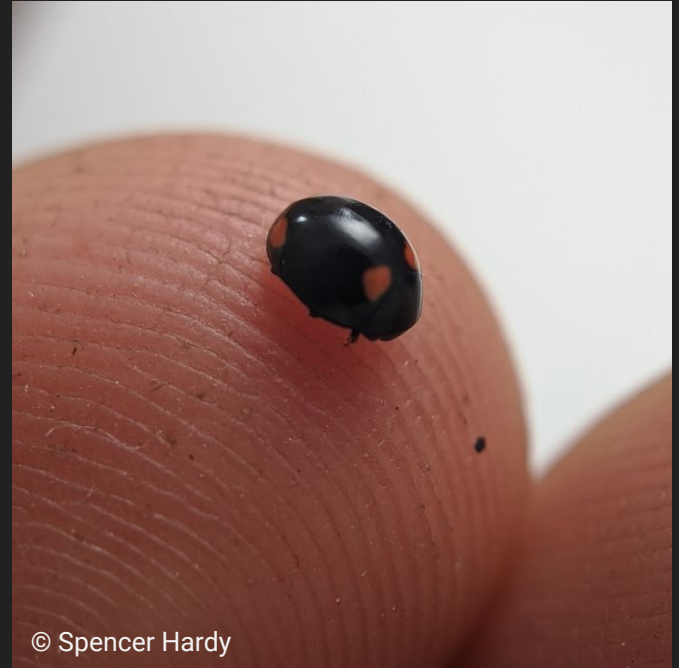
Native Lady Beetles vs. Year



Findings

Citizen scientists have:

- Rediscovered 4 species which were lost for over 40 years
 - Four-spotted Spurleg Lady Beetle (*Brachiacantha quadripunctata*) (2020)
 - Convergent Lady Beetle (*Hippodamia convergens*) (2017)
 - Undulate Sigil Lady Beetle (*Hyperaspis undulata*) (2019)
 - Hieroglyphic Lady Beetle (*Coccinella hieroglyphica*) (2017)



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Four-spotted Spurleg Lady Beetle

Findings

Citizen scientists have:

- Found 3 new lady beetle species, which were never recorded in Vermont before
 - Undoubtable Lady Beetle (*Brachiacantha indubitabilis*) (2014)
 - Mountain Lady Beetle (*Coccinella monticola*) (2017)
 - Octavia Lady Beetle (*Hyperaspis octavia*) (2020)

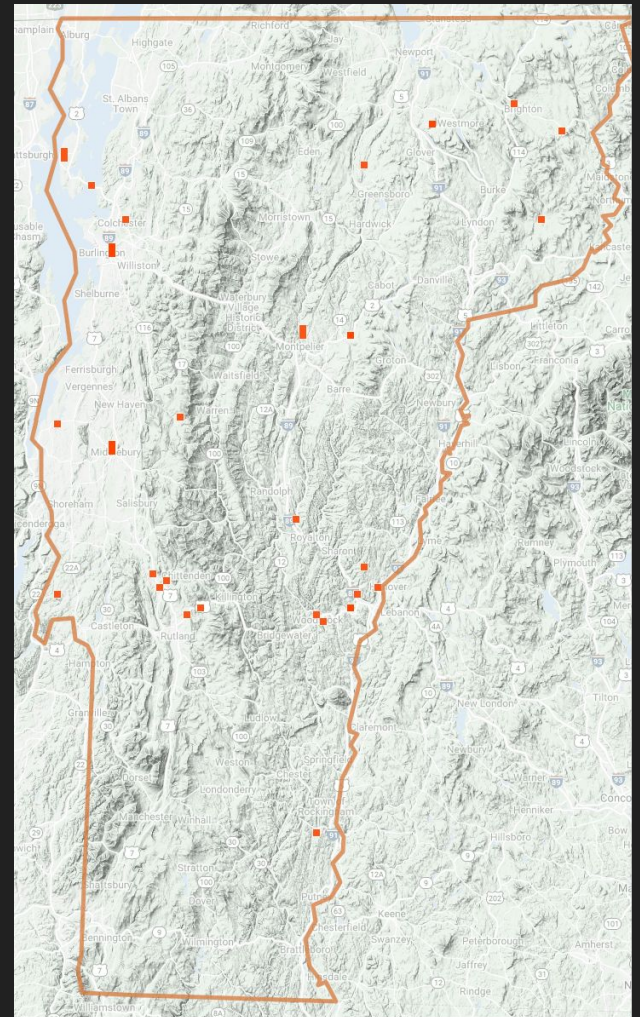


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Octavia Lady Beetle (*Hyperaspis octavia*)

Findings, continued

- Saw an increase of 234 iNaturalist users contributing lady beetle data to iNaturalist
- Doubled the number of lady beetle iNaturalist observations in one year
- Only 12 species missing!



Next Steps

- Increase citizen scientist participation
- Survey Priority Blocks



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Twice-stabbed Lady Beetle (*Chilocorus stigma*)

Why Lady Beetles Matter

- Important as pest control
- Continued collapse of native populations may lead to bad pest outbreaks
- Exist in every ecosystem - forests, grasslands, farmlands



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Polished Lady Beetle (*Cycloneda munda*)

Vermont Forest Friends

Eye-spotted Lady Beetle (*Anatis mali*)



© Joshua Phillips



© Buddy Myles

Vermont Forest Friends

Twice-stabbed Lady Beetle (*Chilocorus stigma*)



We need you!!

- Incidental sightings
- Lady Beetle surveys
- Adopt a Priority Block
- Contribute data

<https://val.vtecostudies.org/projects/lady-beetle-atlas/>



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Three-banded Lady Beetle (*Coccinella trifasciata*)



© Charlie Hohn

Hieroglyphic Lady Beetle