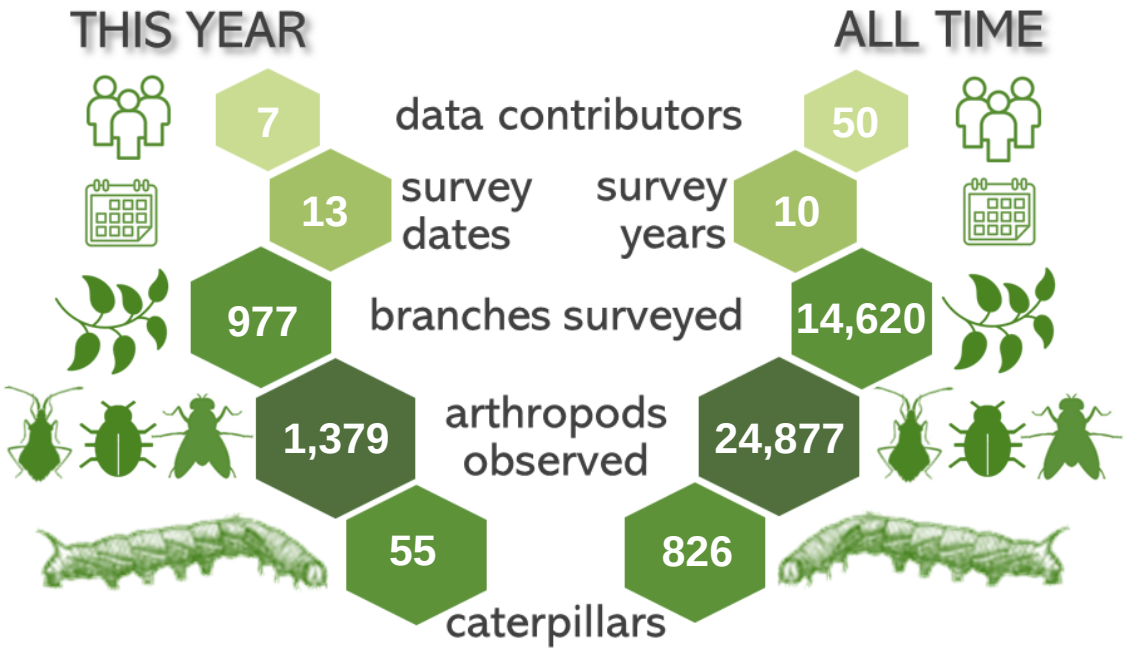
NC Botanical Garden, 2024 Summary



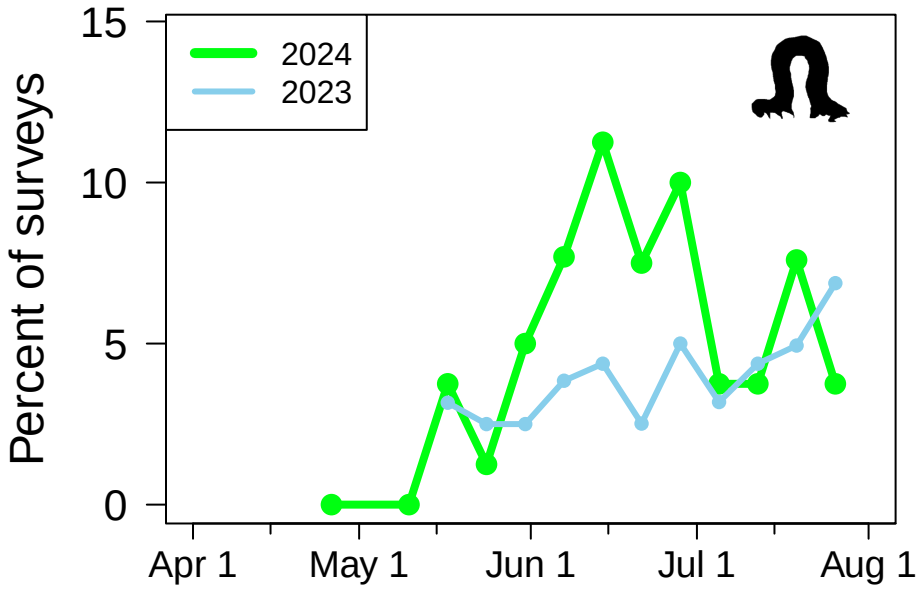
The **977** total surveys conducted at **NC Botanical Garden** this year ranks **2nd** out of the **78** sites that participated in 2024.

Top Participants of 2024

User	Surveys	Arthropods	Caterpillars	% Caterpillars
I Goulden	213	411	17	7.98
A Smith	244	321	16	6.15
G Layman	234	293	14	5.56
I Nieri	227	223	8	3.08
A Hurlbert	47	109	0	0.00
J Wellum	8	15	0	0.00
M Beverly	4	7	0	0.00

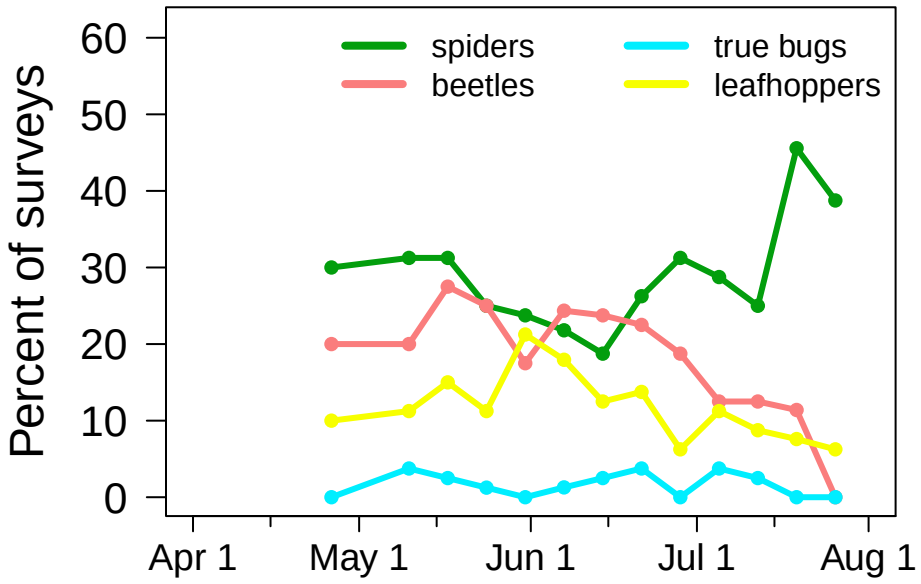
Caterpillar Phenology

As a major source of food for nestlings of migratory birds, we are especially interested in the timing of caterpillar availability. At **NC Botanical Garden** in **2024**, caterpillar occurrence peaked at **11.2%** of surveys on **13 June**. Do you see other peaks as well? How does the pattern compare to the previous year?



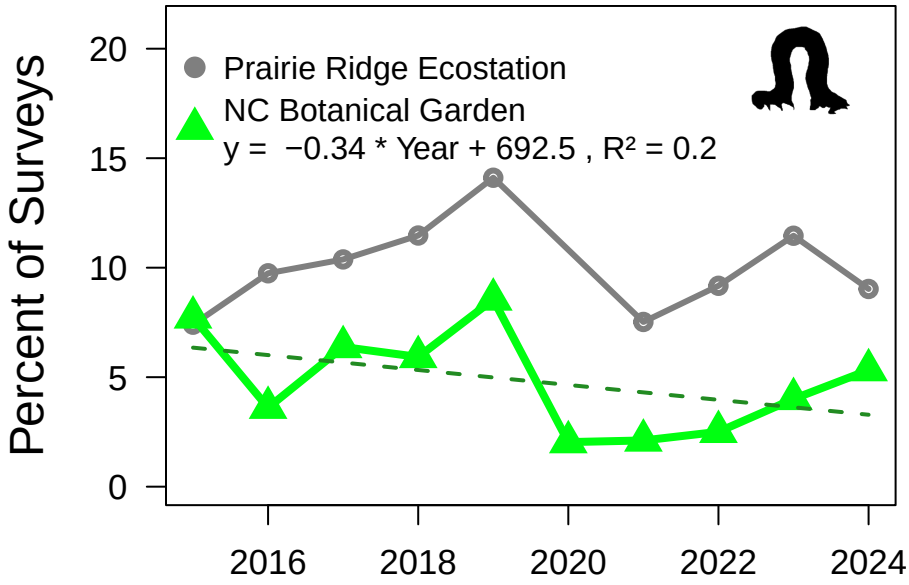
Other Arthropod Phenology

While caterpillars tend to have pronounced seasonal peaks, other groups are more variable. What patterns do you see below for **2024**? You can explore the phenology of other groups on the ***Caterpillars Count!*** **website**.



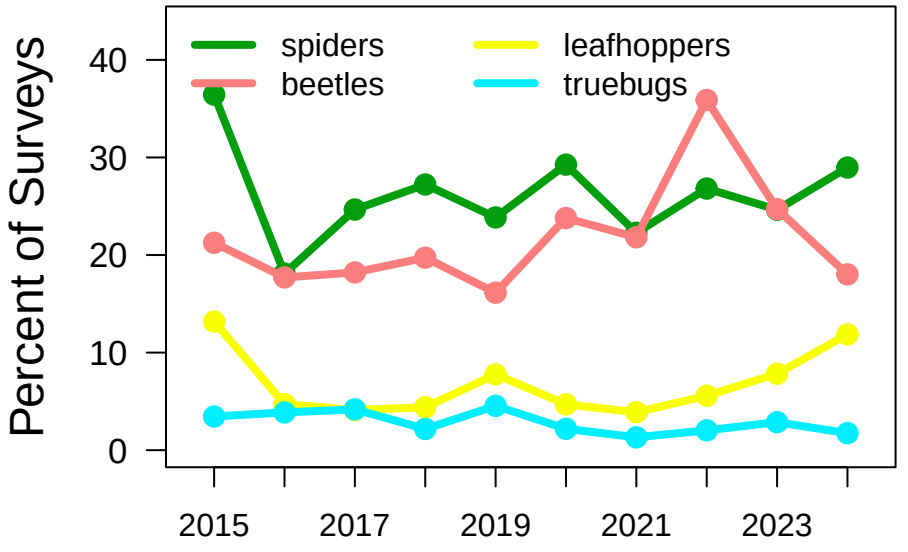
Arthropod Trends

Annual monitoring is critical for assessing the health of ecosystems and evaluating the impacts of environmental change that may be happening in your area. There have been worrying reports of insect declines around the world but there is much we don't know, so your efforts help to fill in pieces of the puzzle. Keep it up!



Above you can see how the proportion of surveys with caterpillars has varied over time at your site, with the trend for one of our flagship sites, **Prairie Ridge Ecostation**, for comparison. If you've surveyed for at least 3 years, then you will also see the average dashed trend line displayed.

Below are trends for some other common arthropod groups. Do the different groups go up and down in sync, or seem to vary independently?

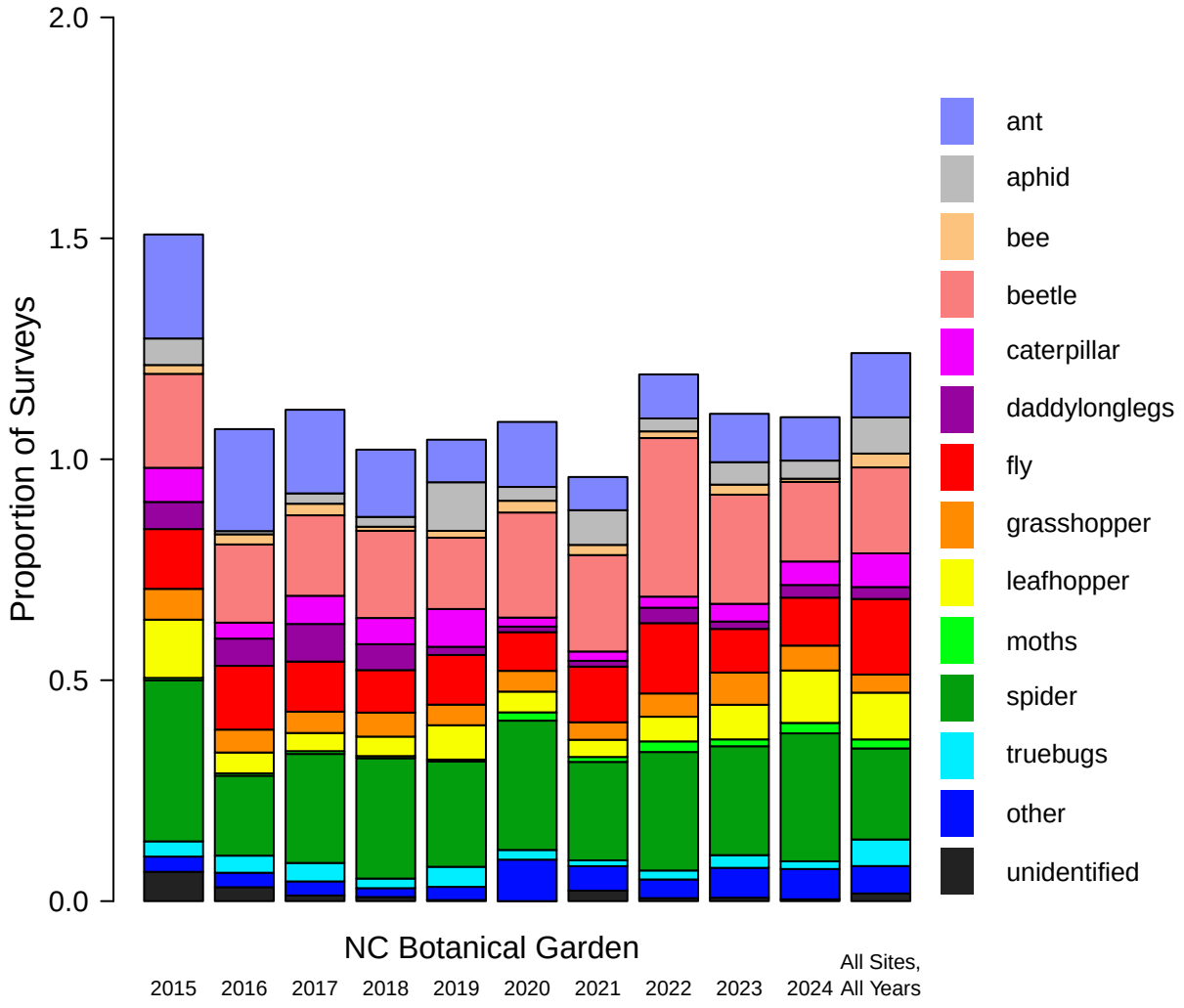


You can explore trends for more arthropod groups, and compare trends at different sites, on your site's **Trends Page**. See also our **November 2021 newsletter** for more on how to interpret these trends.

Site Arthropod Composition

Some arthropods are more commonly encountered than others. The graph below portrays the occurrence (proportion of surveys where a given group was found) for each arthropod group found at your site. See how what was found varies by year (if the site has been participating for multiple years), and how it compares to what has been found across all sites in the ***Caterpillars Count!*** network (*right bar*).

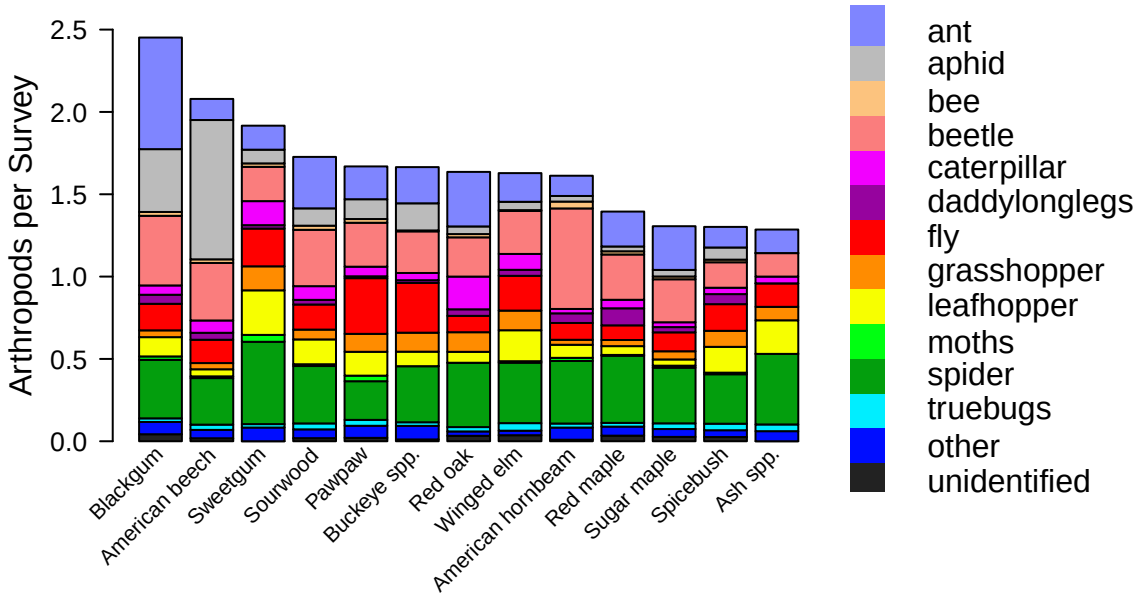
- What are the most common arthropod groups found at your site?
- Has that varied by year?
- Is anything noticeably different about **NC Botanical Garden** compared to all other participating sites?
- If arthropod photos were submitted as part of your site's surveys, check the last section of this report for a summary of any finer taxonomic id's that have been made.

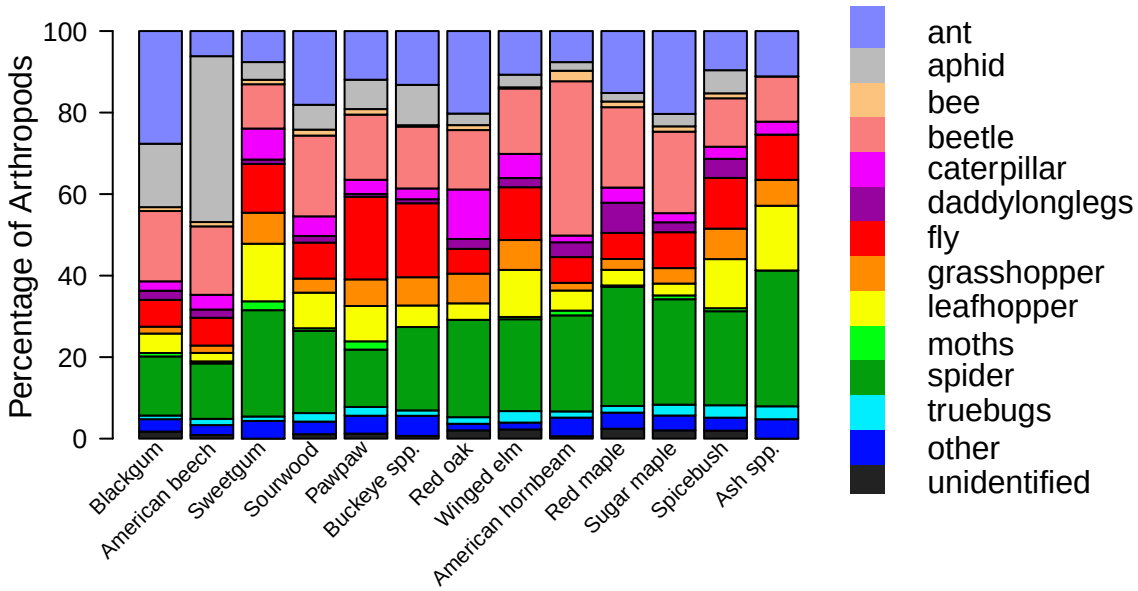


Arthropod Composition by Plant Species

For some arthropods like spiders, trees and leaves are merely habitat–a place where they live, hide, and hunt. For others like caterpillars, the leaves are not just habitat, but also food.

- Which plant species supports the most arthropods per survey?
- Which plant species supports the most **caterpillars**?
- Are any plant species dominated by just one or two types of arthropods?
- Or do they support a diversity of arthropod types?

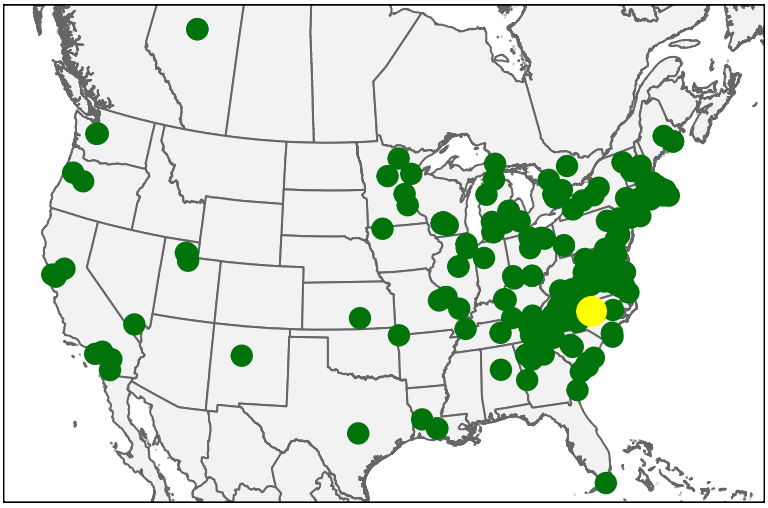




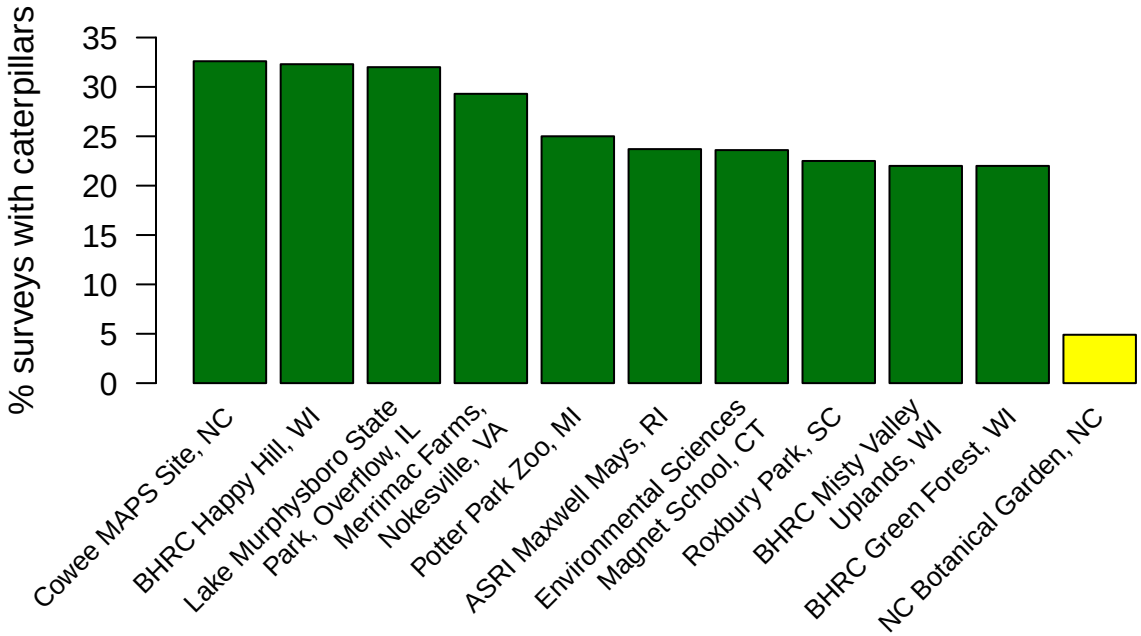
This bottom panel shows, of the arthropods found on a given plant species, what proportion were from each taxonomic group. At most, only the top 25 plant species are shown.

Broader Patterns

Thanks to participants like yourself, ***Caterpillars Count!*** observers have now submitted a total of **310,306** arthropod observations–including **20,843 caterpillars**–from **257** different sites.



Across all surveys ever done at **NC Botanical Garden**, caterpillars have been found **4.9%** of the time, which ranks **102nd** across the **189** sites with ≥20 surveys. The top 10 sites are shown for comparison.



Caterpillar occurrence and phenology vary as a function of climate, land cover, tree species, and other local factors, and **your data** are helping us understand this variation and what it might mean for birds. Thank you for participating in ***Caterpillars Count!***

Expert Identifications

2,033 photo observations from ***Caterpillars Count!*** surveys have been submitted from your site which ranks **3rd** out of the **177** sites with photos. You can check them all out at the site's **iNaturalist page**. Based on these photo observations, experts on **iNaturalist** have identified the following taxa, including at least **105** unique species. Taxa seen for the first time this year are marked with a *.

Caterpillars

Depressariidae
- Antaeotricha schlaegeri

Erebidae
- Halysidota tessellaris
- Hypena sp.
- Panopoda sp.*
- Hyphantria cunea
- Orgyia leucostigma

Geometridae
- Epimecis hortaria
- Hypagyrtis unipunctata

Gracillariidae
- Phyllonorycter sp.

Incurvariidae
- Paraclemensia acerifoliella

Limacodidae
- Acharia stimulea

Nepticulidae
- Ectoedemia nyssaefoliella

Noctuidae
- Acronicta increta
- Acronicta americana
- Acronicta retardata
- Colocasia sp.
- Morrisonia confusa

Notodontidae
- Peridea basitriens
- Cecrita biundata
- Cecrita guttivitta
- Lochmaeus bilineata
- Macrurocampa marthesia

Papilionidae
- Papilio glaucus*

Moths, Butterflies

Blastobasidae
- Blastobasis sp.

Crambidae
- Crambus sp.*

Anageshna primordialis

Geometridae
- Dyspteris abortivaria*

Notodontidae
- Datana sp.*

Tortricidae
- Proteoteras sp.

Spiders

Anyphaenidae
- Anyphaena sp.
- Wulfila albens

Araneidae
- Araneus marmoreus
- Eustala sp.
- Larinioides sp.
- Mangora placida
- Metepeira sp.
- Neoscona sp.
- Micrathena gracilis
- Micrathena mitrata
- Micrathena sagittata
- Verrucosa arenata

Clubionidae
- Castianeira sp.

Corinnidae
- Trachelas sp.

Philodromidae
- Philodromus sp.

Salticidae
- Colonus sylvanus
- Hentzia sp.
- Lyssomanes viridis
- Paraphidippus aurantius

Tetragnathidae
- Leucauge venusta
- Tetragnatha sp.

Thomisidae
- Misumessus oblongus
- Tmarus sp.

Uloboridae
- Uloborus glomosus

Stenotrachelidae

Grasshoppers, Crickets

Gryllacrididae
- Camptonotus carolinensis

Gryllidae
- Hapithus sp.
- Cyrtoxipha columbiana

Oecanthidae
- Oecanthus sp.
- Neoxabea bipunctata

Tettigoniidae
- Microcentrum sp.
- Scudderia sp.

Trigonidiidae
- Cyrtoxipha sp.
- Phyllopalpus pulchellus

True Bugs

Alydidae

Coreidae
- Acanthocephala declivis
- Acanthocephala terminalis
- Leptoglossus fulvicornis
- Leptoglossus oppositus

Lygaeidae
- Lygaeus turcicus

Miridae
- Hyaliodes harti*
- Neolygus sp.

Pentatomidae
- Banasa sp.
- Podisus maculiventris

Reduviidae
- Sinea sp.

- Pselliopus barberi
- Zelus luridus

Leafhoppers, Cicadas

- Acanaloniidae
  - Acanalonia bivittata
  - Acanalonia conica
  - Acanalonia servillei*
- Cercopidae
  - Prosapia bicincta
- Cicadellidae
  - Oncopsis nigrinasi
  - Osbornellus sp.
  - Graphocephala coccinea
  - Oncometopia orbona
- Cicadidae
  - Magicicada sp.*
- Flatidae
  - Flatormenis proxima
  - Metcalfa pruinosa
  - Ormenoides venusta
- Issidae
  - Thionia quinquata
- Membracidae
  - Platycotis vittata
  - Telamona ampelopsidis
- Tropiduchidae
  - Pelitropis rotulata

Aphids, Scales

- Aphididae

Beetles

- Buprestidae
  - Agrilus obsoletoguttatus
- Cantharidae
  - Rhagonycha sp.
- Cerambycidae
  - Analeptura lineola
  - Neoclytus scutellaris
  - Urgleptes signatus
- Chrysomelidae
  - Cryptocephalus badius
  - Demotina modesta
- Coccinellidae
  - Harmonia axyridis
- Cupedidae
  - Tenomerga cinerea
- Curculionidae
  - Aphrastus taeniatus
  - Cyrtepistomus castaneus
  - Heilipus squamosus
  - Magdalis armicollis
  - Odontopus calceatus
  - Pseudocneorhinus bifasciatus
  - Pseudoedophrys hilleri
- Elateridae
  - Melanotus sp.
  - Limonius quercinus*
- Hybosoridae
  - Germarostes sp.
- Lampyridae
  - Photinus pyralis*
- Melandryidae*
- Mordellidae
  - Mordellistena sp.
  - Falsomordellistena hebraica
  - Glipa oculata
- Staphylinidae
  - Palaminus sp.
- Tenebrionidae
  - Strongylium crenatum

Bees, Wasps

- Chrysididae
- Mutillidae
  - Pseudomethoca simillima

Ants

- Formicidae
  - Formica fusca
  - Camponotus americanus
  - Camponotus castaneus
  - Camponotus pennsylvanicus
  - Camponotus snellingi
  - Camponotus subbarbatus
  - Nylanderia sp.
  - Brachyponera chinensis
  - Prenolepis imparis

Flies

- Cecidomyiidae
- Chironomidae
- Culicidae
  - Psorophora ferox
- Dolichopodidae
  - Condylostylus comatus
  - Condylostylus sipho
  - Gymnopternus sp.
  - Amblypsilopus dorsalis
- Keroplatidae
  - Macrocera formosa
- Lauxaniidae
  - Homoneura sp.
  - Minettia sp.
- Limoniidae
  - Epiphragma solatrix
  - Gnophomyia tristissima*
- Rhagionidae
  - Rhagio punctipennis*
- Sarcophagidae
- Syrphidae
- Tipulidae
  - Erioptera needhami

Other observations

- Collembola

- Tomocerinae
- Ixodida
  - Amblyomma americanum
- Mantodea
  - Stagmomantis carolina
- Neuroptera
  - Chrysoperla
  - Chrysopidae
  - Leucochrysa
  - Hemerobiidae*
- Odonata
  - Calopteryx maculata
  - Argia tibialis
- Opiliones
  - Leiobunum
  - Leiobunum vittatum
- Plecoptera
  - Nemouridae
- Polydesmida
  - Oxidus gracilis
- Stylommatophora
  - Pallifera
  - Philomycidae

Thank you for participating in ***Caterpillars Count!*** For a more in-depth exploration of the data check out our **Maps & Graphs page**. The raw data from your site, or any site, can be downloaded **here**!

We can't wait to see what you find next year!

Maple dagger caterpillar, *Acronicta retardata*, observed by *margiemcchemp* on July 2, 2024 at **ASRI Fort**, Rhode Island.

Allen Hurlbert
Director
Caterpillars Count!
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