

# NYC

# EcoFlora

## A Look Back at 2022



# NYBG

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# Introduction

EcoFlora is a community science project based at the New York Botanical Garden. The project has three main goals: to investigate urban ecosystems and urbanization; to support open source biodiversity data; and to increase understanding and appreciation of plant life. To date, over 30,000 observers have made over 800,000 observations of plants and their biotic partners in NYC using the iNaturalist platform.

Each month we sponsor an EcoQuest Challenge, encouraging New Yorkers to observe a particular species, group of species, or interaction, and post them to iNaturalist. Since the first EcoQuest back in August 2017, we have explored many native plants, invasive species, and plant-insect interactions. Each EcoQuest is unique, with the exception being our yearly "Monarchs & Milkweeds" EcoQuest in August.

Here we present some statistics about the observations made in New York City during 2022, as well as summaries of the EcoQuests from each month of 2022.

We want to thank all of the amazing observers and identifiers who have helped to document spontaneous urban plants, while connecting and exchanging knowledge with each other! We hope everyone enjoyed this year's EcoQuests and we look forward to 2023.

# 2022



# NYC EcoFlora 2022

## ALL ORGANISMS

**173,634** observations  
**6,739** species  
**8,986** observers  
**4,447** identifiers

## PLANTS & FUNGI

**85,053** observations  
**3,380** species  
**6,217** observers  
**1,818** identifiers








caiodias in Manhattan

Most Observed Organism:  
**Spotted Lanternfly**















Most Observed Plant:  
**Mugwort**

|  | 8,673<br>non-plant<br>observations  | 2,926<br>non-plant<br>species | 14,224<br>plant<br>observations | 1,167<br>plant<br>species | Most Observed<br>Plant Species<br><br>Garlic Mustard<br><i>Alliaria petiolata</i> |
|--|-------------------------------------|-------------------------------|---------------------------------|---------------------------|---|
| <br>the Bronx        |                                     |                               |                                 |                           |   |
| <br>Brooklyn        | 21,377<br>non-plant<br>observations | 1,585<br>non-plant<br>species | 15,058<br>plant<br>observations | 1,649<br>plant<br>species | Purple Deadnettle<br><i>Lamium purpureum</i>                                      |
| <br>Manhattan      | 32,291<br>non-plant<br>observations | 1,752<br>non-plant<br>species | 27,366<br>plant<br>observations | 1,892<br>plant<br>species | Princess Tree<br><i>Paulownia tomentosa</i>                                       |
| <br>Staten Island | 9,355<br>non-plant<br>observations  | 1,710<br>non-plant<br>species | 7,905<br>plant<br>observations  | 1,461<br>plant<br>species | Mugwort<br><i>Artemisia vulgaris</i>  |
| <br>Queens        | 16,790<br>non-plant<br>observations | 1,596<br>non-plant<br>species | 20,390<br>plant<br>observations | 1,753<br>plant<br>species | Poison Ivy<br><i>Toxicodendron radicans</i>                                       |

Although EcoFlora is focused on plants, we include all forms of life in our iNaturalist project. After all, plants do not exist in isolation animals, insects, and other organisms are all integral to the continued functioning of our unique urban ecosystems.

Click on the links to see more observations.

|  | # OBSERVATIONS       | # SPECIES           | # OBSERVERS | # IDENTIFIERS | TOP 3 SPECIES  |
|--|----------------------|---------------------|-------------|---------------|--|
|  <b>Birds</b>                   | 33,131<br>(95% RG)   | 322<br>(98.8% RG)   | 2,913       | 1,907         | <a href="#">American Robin</a><br><a href="#">Rock Pigeon</a><br><a href="#">House Sparrow</a>                                   |
|  <b>Amphibians</b>              | 909<br>(96% RG)      | 12<br>(100% RG)     | 199         | 149           | <a href="#">Northern Red-backed Salamander</a><br><a href="#">Spring Peeper</a><br><a href="#">American Bullfrog</a>             |
|  <b>Reptiles</b>                | 1,409<br>(92% RG)    | 26<br>(100% RG)     | 623         | 264           | <a href="#">Pond Slider</a><br><a href="#">Italian Wall Lizard</a><br><a href="#">Common Snapping Turtle</a>                     |
|  <b>Mammals</b>                 | 3,638<br>(93.2% RG)  | 37<br>(91.9% RG)    | 1,154       | 584           | <a href="#">Eastern Gray Squirrel</a><br><a href="#">Brown Rat</a><br><a href="#">Raccoon</a>                                    |
|  <b>Fish</b>                   | 761<br>(78.1% RG)    | 74<br>(85.1% RG)    | 232         | 142           | <a href="#">Oyster Toadfish</a><br><a href="#">Atlantic Menhaden</a><br><a href="#">Bluegill</a>                                 |
|  <b>Mollusks</b>              | 2,448<br>(53.3% RG)  | 130<br>(70.8% RG)   | 496         | 196           | <a href="#">Brown Lipped Snail</a><br><a href="#">Atlantic Ribbed Mussel</a><br><a href="#">Leopard Slug</a>                     |
|  <b>Arachnids</b>             | 4,030<br>(37.2% RG)  | 229<br>(50.7% RG)   | 670         | 262           | <a href="#">Red Nail Gall Mite</a><br><a href="#">Spined Micrathena</a><br><a href="#">Orchard Orbweaver</a>                     |
|  <b>Insects</b>               | 41,808<br>(60.5% RG) | 2,485<br>(54% RG)   | 3,356       | 1,542         | <a href="#">Spotted Lanternfly</a><br><a href="#">Eastern Bumblebee</a><br><a href="#">Asian Lady Beetle</a>                     |
|  <b>Plants</b>                | 69,810<br>(46.1% RG) | 2,395<br>(55.7% RG) | 5,813       | 1,516         | <a href="#">Mugwort</a><br><a href="#">Tree-of-Heaven</a><br><a href="#">Common Milkweed</a>                                     |
|  <b>Fungi</b>                 | 15,422<br>(30.4% RG) | 985<br>(54.7% RG)   | 1,504       | 577           | <a href="#">Spindletree Powdery Mildew</a><br><a href="#">Turkey Tail</a><br><a href="#">Splitgill Mushroom</a>                  |
|  <b>Protozoans</b>            | 446<br>(34.5% RG)    | 43<br>(58.1% RG)    | 142         | 78            | <a href="#">Dog Vomit Slime Mold</a><br><a href="#">Wolf's Milk</a><br><a href="#">Honeycomb Coral Slime Mold</a>                |
|  <b>Bacteria &amp; Viruses</b> | 613<br>(23.3% RG)    | 20<br>(70% RG)      | 261         | 117           | <a href="#">Pokeweed Mosaic Virus</a><br><a href="#">Agrobacterium radiobacter</a><br><a href="#">Pagoda Yellow Mosaic Virus</a> |

# Most Active Users

(Plants & Fungi)

## Top Observers

|                                   |       |
|-----------------------------------|-------|
| <a href="#">zitserm</a>           | 7,952 |
| <a href="#">susanhewitt</a>       | 6,899 |
| <a href="#">nycnatureobserver</a> | 1,705 |
| <a href="#">beniiii</a>           | 1,582 |
| <a href="#">mugglelissa</a>       | 1,563 |
| <a href="#">sus_scrofa</a>        | 1,088 |
| <a href="#">elaphornis</a>        | 1,062 |
| <a href="#">srall</a>             | 1,004 |
| <a href="#">cesarcastillo</a>     | 873   |
| <a href="#">sadowolk</a>          | 818   |

## Top Identifiers

|                                   |        |
|-----------------------------------|--------|
| <a href="#">nycnatureobserver</a> | 10,824 |
| <a href="#">peakaytea</a>         | 7,046  |
| <a href="#">sadowolk</a>          | 4,578  |
| <a href="#">zitserm</a>           | 1983   |
| <a href="#">maryah</a>            | 1,455  |
| <a href="#">yayemaster</a>        | 1,134  |
| <a href="#">dogwoodvalley</a>     | 1,134  |
| <a href="#">sigridjakob</a>       | 1,049  |
| <a href="#">tsn</a>               | 973    |
| <a href="#">dauidenrique</a>      | 821    |

218 users made more than 50 observations

154 users made more than 50 identifications

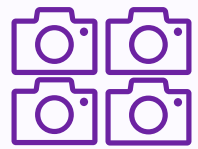
## Top Species Spotters

|                                   |     |
|-----------------------------------|-----|
| <a href="#">zitserm</a>           | 797 |
| <a href="#">susanhewitt</a>       | 613 |
| <a href="#">nycnatureobserver</a> | 601 |
| <a href="#">mugglelissa</a>       | 390 |
| <a href="#">civet</a>             | 390 |
| <a href="#">sus_scrofa</a>        | 377 |
| <a href="#">cesarcastillo</a>     | 375 |
| <a href="#">zihaowang</a>         | 273 |
| <a href="#">beniiii</a>           | 249 |
| <a href="#">kayspurlock</a>       | 214 |

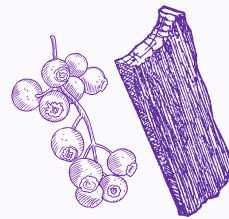
January

# Behold Bark, Berries, and Buds

January is a great month to refine winter botany skills by learning to recognize important dormant-season plant characteristics such as bark, buds, and persistent flower and fruit structures. Additionally, many evergreen species are present in NYC.



**1544**  
Observations



**370**  
Species



**134**  
Observers



**166**  
Identifiers



***Hedera helix***  
English Ivy  
[zitserm in Queens](#)



***Morus alba*** - White Mulberry  
[zitserm in Queens](#)



***Carya cordiformis***  
Bitternut Hickory  
[beni111 in the Bronx](#)



***Asclepias syriaca***  
Common Milkweed  
[reh1 in Brooklyn](#)



***Alnus glutinosa***  
European Alder  
[dylandiluccio in Queens](#)



***Typha latifolia***  
Broadleaf Cattail  
[cesarcastillo in Queens](#)



***Carya glabra***  
Pignut Hickory  
[zitserm in Queens](#)



***Prunus avium***  
Wild Cherry  
[zitserm in Queens](#)



***Celtis occidentalis***  
Hackberry  
[spiritualnaturalist in Brooklyn](#)



***Betula nigra***  
River Birch  
[sopranobugsy in the Bronx](#)



***Maclura pomifera***  
Osage Orange  
[andrea\\_mckenzie in the Bronx](#)



***Rosa rugosa***  
[aberkov in Manhattan](#)



***Celastrus orbiculatus***  
Oriental Bittersweet  
[vex\\_101 in Staten Island](#)



***Liquidambar styraciflua***  
American Sweetgum  
[gdeoliveira\\_sfc in Brooklyn](#)



***Toxicodendron radicans***  
Poison Ivy  
[zitserm in Queens](#)



***Rhus glabra***  
Smooth Sumac  
[zitserm in Queens](#)



## Top Observers

|                   |     |
|-------------------|-----|
| zitserm           | 531 |
| susanhewitt       | 431 |
| nycnatureobserver | 147 |
| lynalew           | 47  |
| elaphornis        | 41  |

## Top Species Spotters

|                   |     |
|-------------------|-----|
| susanhewitt       | 134 |
| nycnatureobserver | 116 |
| zitserm           | 113 |
| zihao wang        | 17  |
| elaphornis        | 14  |

## Top Identifiers

|                      |     |
|----------------------|-----|
| sadawolk             | 582 |
| nycnatureobserver    | 147 |
| nflicker101          | 92  |
| cotepierreantoinette | 47  |
| peakaytea, zitserm   | 38  |

## Most Observed Species

*Quercus rubra*  
(Northern Red Oak)

*Liriodendron tulipifera*  
(Tulip Tree)

*Liquidambar styraciflua*  
(American Sweetgum)

*Ailanthus altissima*  
(Tree-of-Heaven)

*Hedera helix*  
(Common Ivy)

# February Search for Birch

Birches (*Betula* spp.) are small to medium-size trees and shrubs found in temperate zones of the Northern Hemisphere, used extensively for their wood and bark. New York City is home to five native species of birch, recognized in winter by their bark, buds, and scent. *Betula populifolia* (grey birch) and *B. lenta* (sweet birch) are common; three others are less often seen: *B. nigra* (river birch), *B. alleghaniensis* (yellow birch), and *B. papyrifera* (paper birch).

During this EcoQuest, all five of these species were observed, as well as a spontaneous individual of a non-native species, *B. pendula* (silver birch).



**91**  
Observations



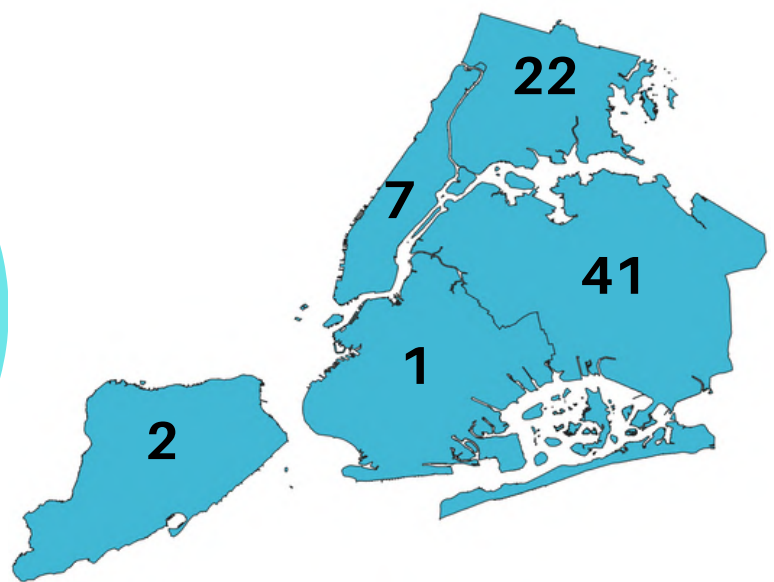
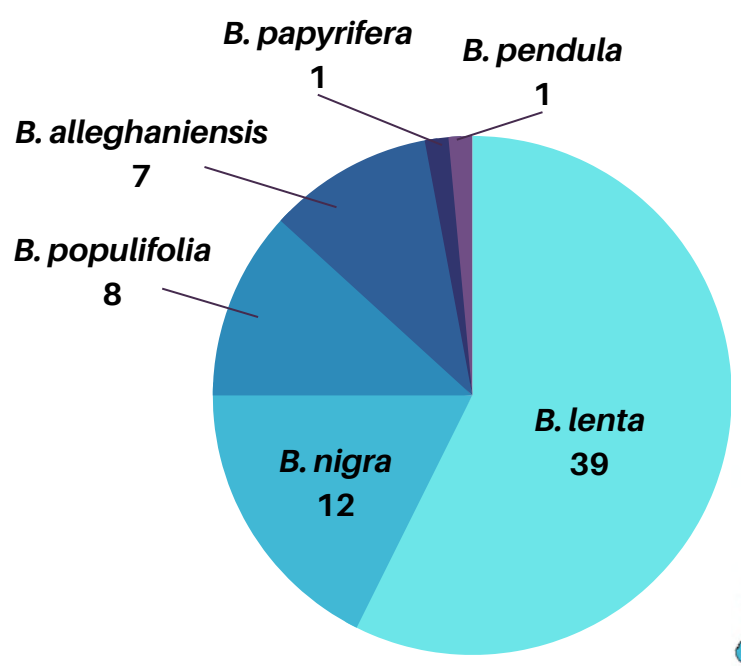
**7**  
Species



**19**  
Observers



**17**  
Identifiers



[Want to learn more? Check out our guide to birches of NYC in winter](#)



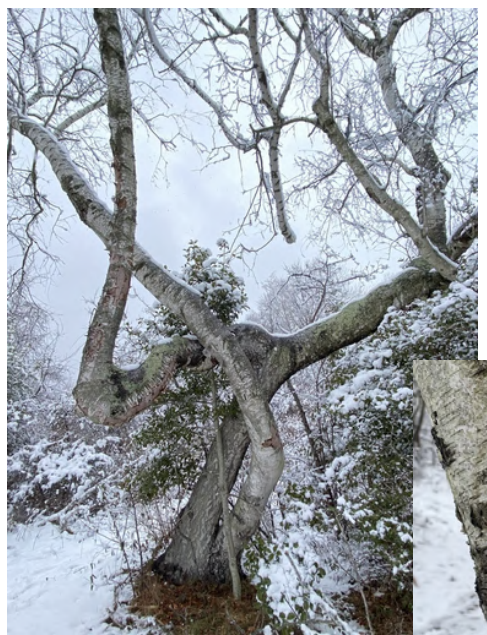
**Betula nigra**  
river birch  
[glyptostrob0ides in the Bronx](#)



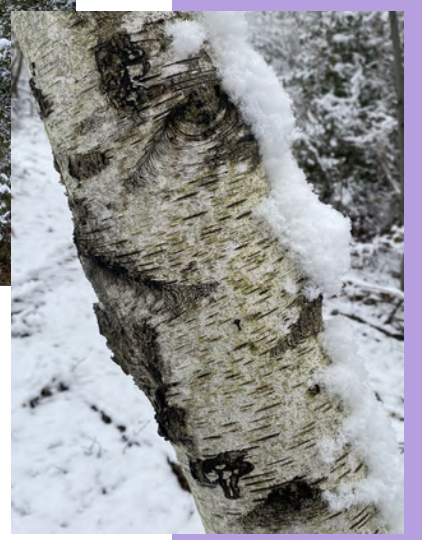
**Betula alleghaniensis**  
yellow birch  
[sadawolk in the Bronx](#)



**Betula lenta**  
sweet birch  
[bensadock in Manhattan](#)



**Betula populifolia**  
grey birch  
[zitserm in Queens](#)



| Top Observers               |    |
|-----------------------------|----|
| zitserm                     | 46 |
| sadawolk                    | 10 |
| nycnatureobserver           | 5  |
| vivian_young,<br>blkvulture | 4  |

| Top Species Spotters                                     |   |
|--|---|
| zitserm  | 5 |
| blkvulture,<br>nycnatureobserver,<br>sadawolk, elizajsyh | 2 |

| Top Identifiers      |    |
|----------------------|----|
| sadawolk             | 29 |
| tsn                  | 10 |
| zitserm              | 6  |
| apgarm,<br>peakaytea | 5  |

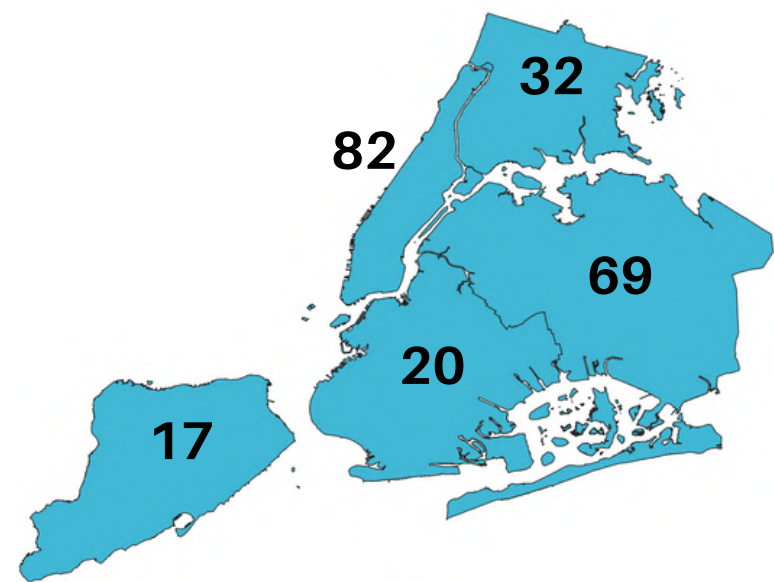
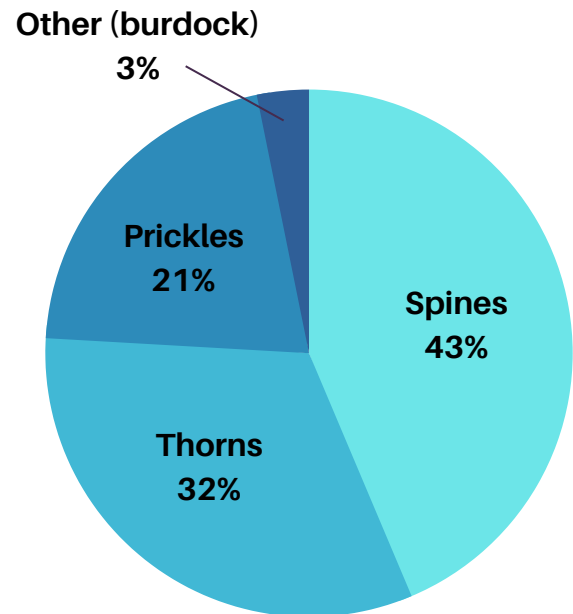


# Pursue Prickly Plants

Spines, prickles, and thorns are sharp structures produced by plants which provide protection against herbivores and help climbing plants hook onto other objects. These structures are differentiated based on which part of the plant they develop from: **prickles** are derived from epidermal tissue, **spines** are modified leaves, and **thorns** are modified branches.

There are a number of native and introduced trees, shrubs, vines, and herbs in New York City which have spines, prickles, and thorns. The most observed species in this EcoQuest include invasives *Rosa multiflora* (multiflora rose) and *Cirsium vulgare* (bull thistle), and natives *Ilex opaca* (American holly), *Gleditsia triacanthos* (honey locust), and *Robinia pseudoacacia* (black locust).

|              |           |           |             |
|--------------|-----------|-----------|-------------|
|              |           |           |             |
| <b>220</b>   | <b>22</b> | <b>82</b> | <b>51</b>   |
| Observations | Species   | Observers | Identifiers |



***Opuntia humifusa***  
(Devil's Tongue Prickly Pear)

a cactus native to New York!  
cacti have spines (modified leaves) as an adaptation to prevent water loss in arid environments

[emilledwolf in Manhattan](#)

***Rubus phoenicolasius***  
(Wineberry)

introduced  
*Rubus* species have prickles, which are modified glandular trichomes (specialized hairs on plant epidermis)

[zitserm in Queens](#)

***Robinia pseudoacacia***  
(Black Locust)

their "spines" are modified leaf stipules - amount and placement of spines can be highly variable between individuals

[jholmes in Manhattan](#)

***Gleditsia triacanthos***  
(Honey Locust)

thorns (modified branches) grow from the branches and trunk  
var. *inermis* with no thorns is often planted - however, offspring of these plants may produce thorns!

[caitlynlynch in Staten Island](#)

***Ilex opaca***  
(American Holly)

holly leaves have spiny margins as a deterrent against herbivory.

[sadowolk in the Bronx](#)

***Cirsium vulgare***  
(Bull Thistle)

introduced  
thistles often have prickles on their leaves, stems and flowers

[cbarron in Staten Island](#)

## Top Observers

|                 |    |
|-----------------|----|
| zitserm         | 47 |
| selbourne       | 15 |
| beniiii, remy64 | 11 |
| sadowolk        | 10 |

## Top Species Spotters

|                      |    |
|----------------------|----|
| zitserm              | 13 |
| sadowolk, selbourne  | 5  |
| sukioji, susanhewitt | 4  |

## Top Identifiers

|                   |    |
|-------------------|----|
| sadowolk          | 43 |
| peakaytea         | 21 |
| nycnatureobserver | 14 |
| tsn, zitserm      | 9  |

## Most Observed Species

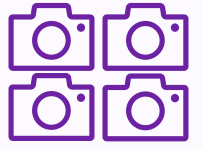
- Rosa multiflora* (Multiflora Rose)
- Ilex opaca* (American Holly)
- Gleditsia triacanthos* (Honey Locust)
- Robinia pseudoacacia* (Black Locust)
- Cirsium vulgare* (Bull Thistle)



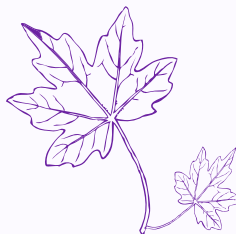
# Map Maple

Maple (*Acer* spp.) is an ecologically and economically important genus of trees that have distinctive palmate leaves and winged fruits. There are at least 12 species of Maple in New York City, including Norway Maple (*A. platanoides*), a common street tree; Sugar Maple (*A. saccharum*), the state tree of New York; and Boxelder (*A. negundo*), the only North American Maple with compound leaves.


During this EcoQuest, 7 species of maple were observed in the wild - the three listed above as well as sycamore maple (*A. pseudoplatanus*), red maple (*A. rubrum*), silver maple (*A. saccharinum*), and Japanese maple (*A. palmatum*).




**359**  
Observations



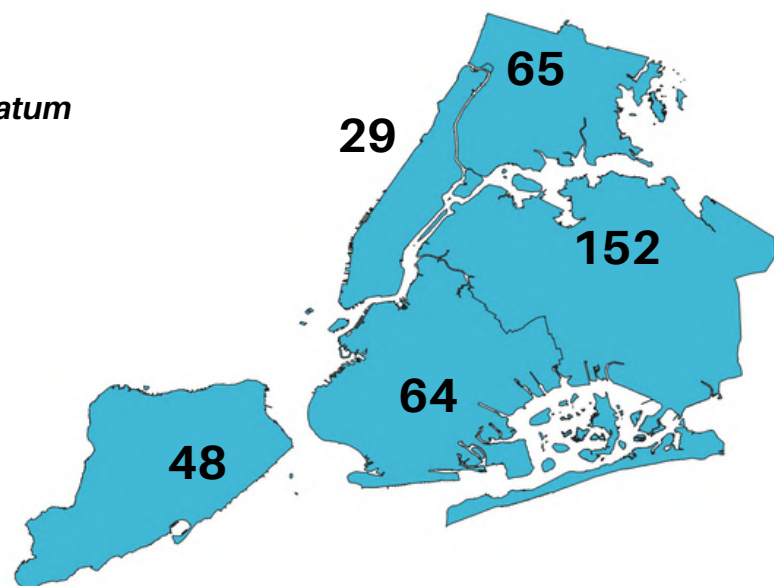
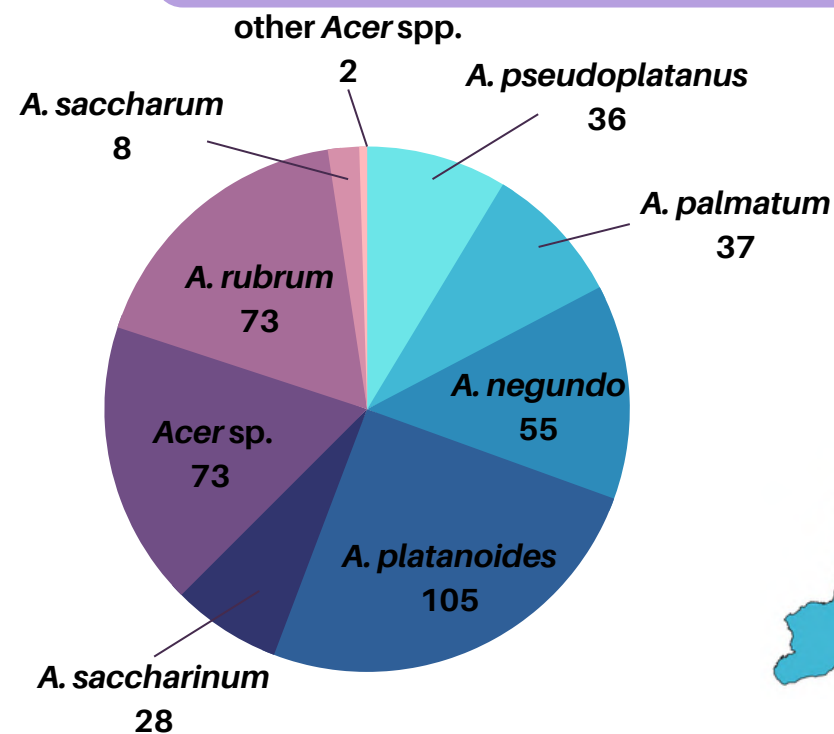
**9**  
Species



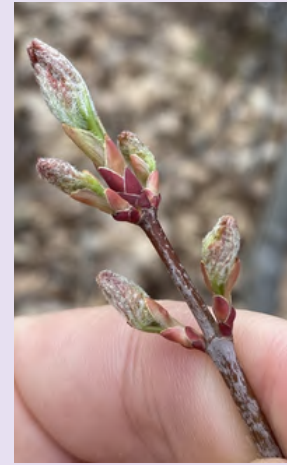

**105**  
Observers



**43**  
Identifiers





### *Acer rubrum* - Red Maple

zitserm in Queens      cesarcastillo in Queens

### *Acer platanoides* - Norway Maple

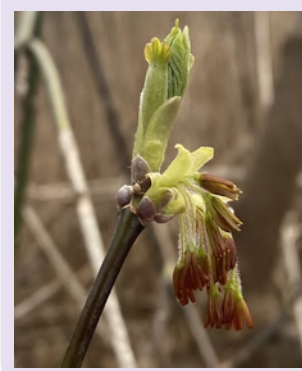

cesarcastillo in Queens      brianboston in Staten Island

### *Acer pseudoplatanus* Sycamore Maple



zitserm in Queens

### *Acer negundo* - boxelder

zitserm in Queens      zitserm in Queens

[Want to learn more?](#)  
[Check out our guide to the maples of NYC](#)

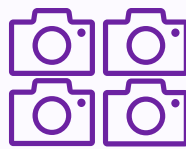



| Top Observers                                  |    |
|--|----|
| cesarcastillo                                  | 95 |
| zitserm  | 68 |
| srall  | 32 |
| klodonnell,                                    | 9  |
| vivian_young                                   |    |
| Top Species Spotters                           |    |
| cesarcastillo                                  | 7  |
| srall, zitserm                                 | 6  |
| aberkov,                                       |    |
| mugglelissa,                                   | 4  |
| spuytenduyvilny                                |    |
| Top Identifiers                                |    |
| sadawolk                                       | 82 |
| conboy   | 28 |
| igor_kuzmin                                    | 21 |
| someplant                                      | 18 |
| spuytenduyvilny                                | 17 |
| Most Observed Species                          |    |
| <i>Acer rubrum</i><br>(Red Maple)              |    |
| <i>Acer negundo</i><br>(Boxelder)              |    |
| <i>Acer palmatum</i><br>(Japanese Maple)       |    |
| <i>Acer pseudoplatanus</i><br>(Sycamore Maple) |    |

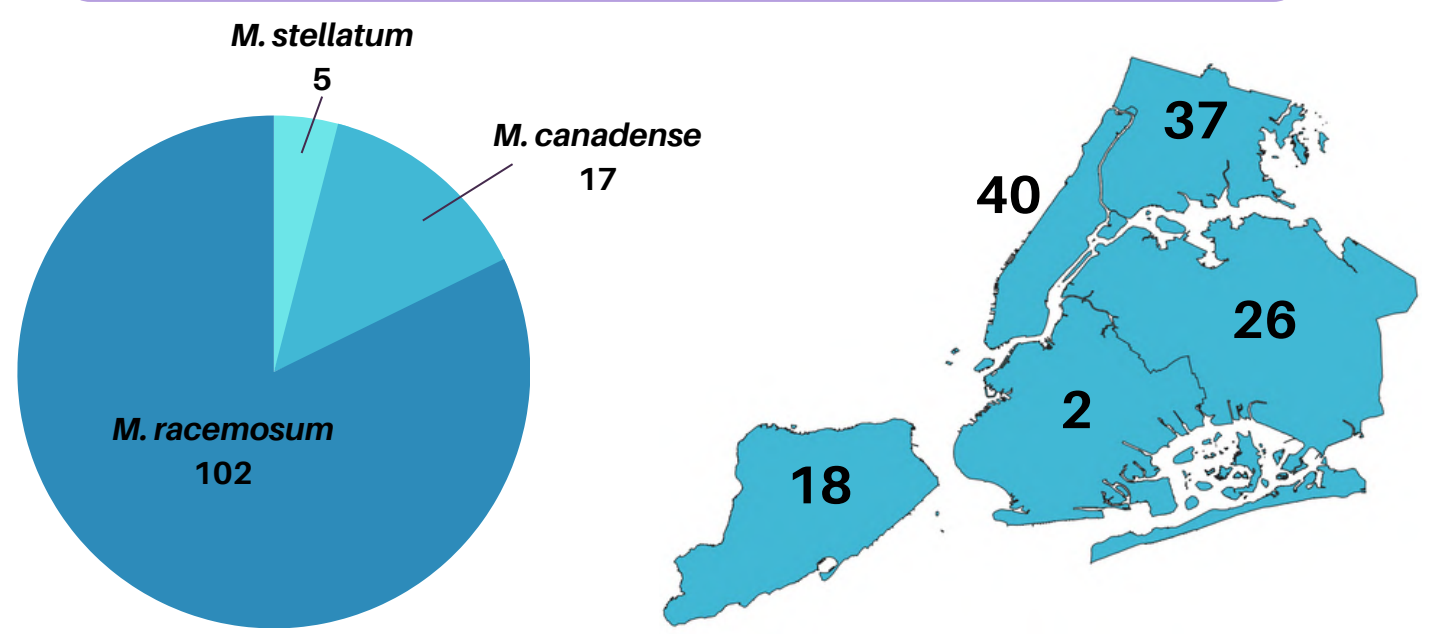


# May **Maianthemum May**

Maianthemum is a monocot genus including many spring-flowering forest herbs that prefer shaded, moist conditions. They are characterized by a zigzag stem in between alternating, simple leaves with parallel venation, and a terminal cluster of small white flowers.

There are 3 native species of *Maianthemum* found in New York City: *M. racemosum* (false Solomon's seal), *M. canadense* (Canada mayflower), and the rarer *M. stellatum* (starry Solomon's seal). During this EcoQuest, all of these species were observed

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
| <b>124</b>   | <b>3</b>   | <b>54</b>  | <b>15</b>  |
| Observations   | Species  | Observers  | Identifiers  |



***Maianthemum stellatum***  
Starry Solomon's Seal



ariel29 in Manhattan      bojedo in Brooklyn

There are only 14 observations of *M. stellatum* in NYC - 5 are from this EcoQuest. However, it has been observed in all 5 boroughs!

According to iNat observations, *M. canadense* is most abundant in Staten Island and the Bronx, and is not present in Manhattan.



cbarron in Staten Island

***Maianthemum canadense***  
Canada Mayflower




matthew\_wills in Staten Island



zitserm in Queens

***Maianthemum racemosum***  
False Solomon's Seal



andrewgarn in Manhattan      cjapata92 in Queens      mayacrow in Staten Island

**Top Observers**

|           |    |
|-----------|----|
| selbourne | 23 |
| zitserm   | 15 |
| cbarron   | 12 |
| elizajsyh | 5  |
| beniiii   | 4  |

**Top Species Spotters**

|  |   |
|--|---|
| bodejo, cbarron, cesarcastillo, kayspurlock, vivian_young, zitserm | 2 |
|--|---|

**Top Identifiers**

|           |    |
|-----------|----|
| lalle     | 57 |
| rynxs     | 42 |
| peakaytea | 18 |
| beniiii   | 10 |
| maryah    | 8  |

**Most Observed Species**

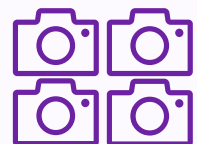
*Maianthemum racemosum*  
(False Solomon's Seal)



# Meet the Mints

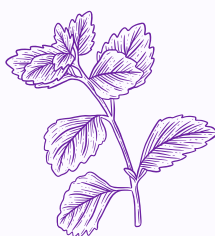
The Mint family (Lamiaceae) is a large group of plants that includes many aromatic species used by humans for food and medicine. They can be recognized by their scent, square stems, opposite leaves, and clusters of flowers with a large lower "lip." More than 60 species have been observed growing wild in New York City.

During this EcoQuest, 43 species of mint were observed. The top 3 species are all native: *Prunella vulgaris* (common selfheal), *Monarda didyma* (scarlet beebalm), and *Collinsonia canadensis* (citronella horse balm).



211

Observations



43

Species



103

Observers



55

Identifiers



*Lamium amplexicaule*  
**Henbit Deadnettle**  
cesarcastillo in Queens



*Leonurus cardica*  
**Common Motherwort**  
cverwaal in Manhattan



*Physostegia virginiana*  
**Obedient Plant**  
dylandiluccio in Queens



*Prunella vulgaris*  
**Common Self-Heal**  
beniiiii in the Bronx



*Lycopus europaeus*  
**European Water-Horehound**  
zitserm in Queens



*Glechoma hederacea*  
**Ground-Ivy**  
andrewgarn in Brooklyn



*Pycnanthemum tenuifolium*  
**Narrowleaf Mountain Mint**  
marieviljoen in Brooklyn



*Monarda fistulosa*  
**Wild Bergamot**  
cesarcastillo in Queens



*Monarda didyma*  
**Scarlet Beebalm**  
winniee in Brooklyn



*Perilla frutescens*  
**Beefsteak Plant**  
cesarcastillo in the Bronx



*Agastache foeniculum*  
**Anise Hyssop**  
vanyc in Manhattan

## Top Observers

|                                     |    |
|-------------------------------------|----|
| cesarcastillo                       | 61 |
| zitserm                             | 11 |
| beniiiii, mahongue                  | 5  |
| cbarron, dylandiluccio, mcdoc919998 | 4  |

## Top Species Spotters

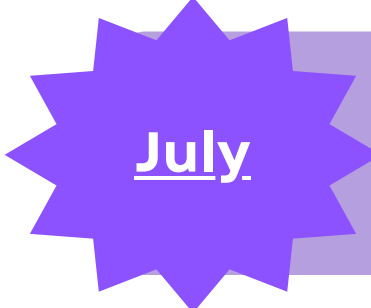
|                                   |    |
|-----------------------------------|----|
| cesarcastillo                     | 19 |
| zitserm                           | 5  |
| dylandiluccio                     | 4  |
| cbarron, mcdoc, nycnatureobserver | 3  |

## Top Identifiers

|                    |    |
|--------------------|----|
| nycnatureobserver  | 24 |
| peakaytea          | 18 |
| alex_abair, maryah | 14 |
| pynklynx           | 12 |

## Most Observed Species

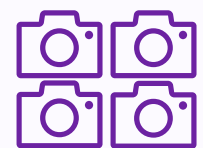
- Prunella vulgaris* (Common Selfheal)
- Monarda didyma* (Scarlet Beebalm)
- Collinsonia canadensis* (Citronella Horse Balm)
- Glechoma hederacea* (Ground-Ivy)
- Monarda fistulosa* (Wild Bergamot)




# Juicy July

*Rubus* (Rosaceae) is a large, diverse genus that includes raspberries and blackberries. These plants, which often colonize disturbed areas, can be identified by their compound leaves and berries, shrubby habit, and prickles. *Rubus* species are an important seasonal food for many birds and mammals.


There are more than 10 species found in New York City. During this EcoQuest, 9 species were observed growing spontaneously. The most observed species was the invasive *Rubus phoenicolasius* (Wineberry), followed by the native *R. occidentalis* (Black Raspberry).




**294**  
Observations



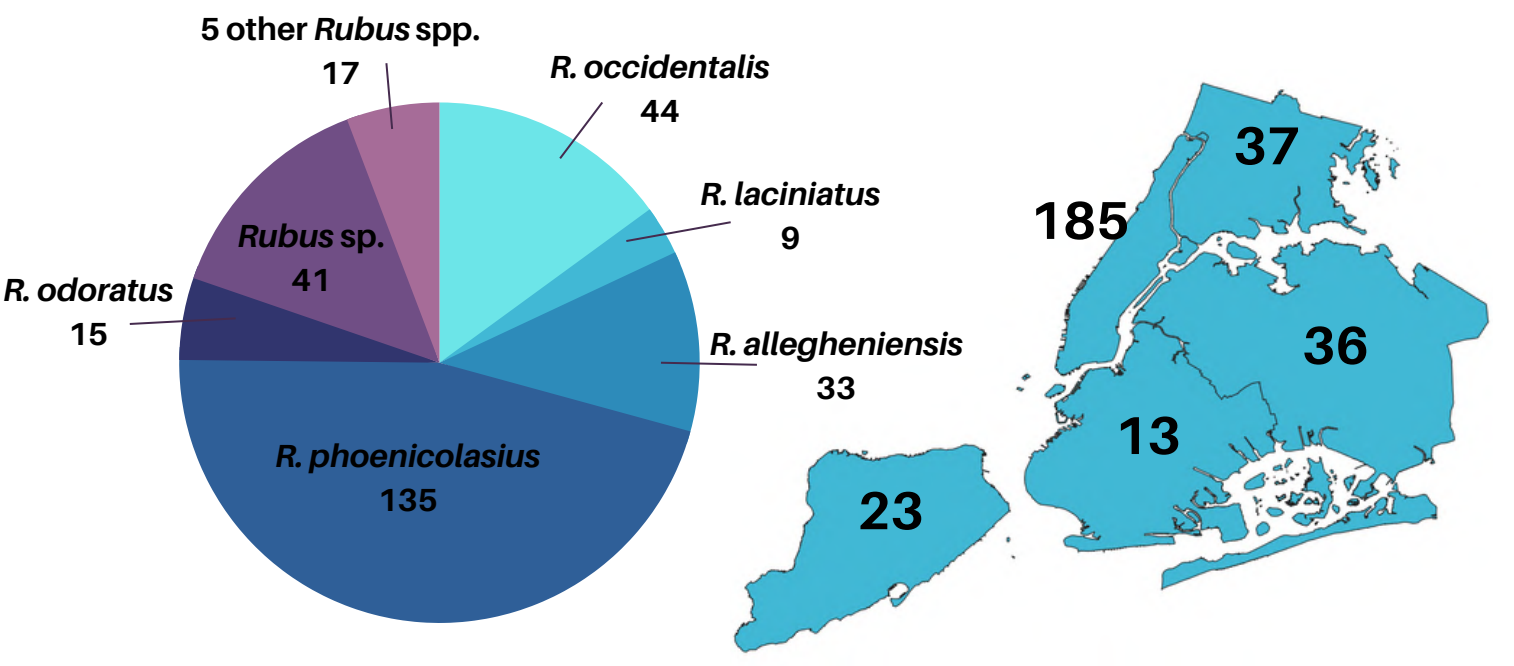
**10**  
Species



**81**  
Observers



**36**  
Identifiers

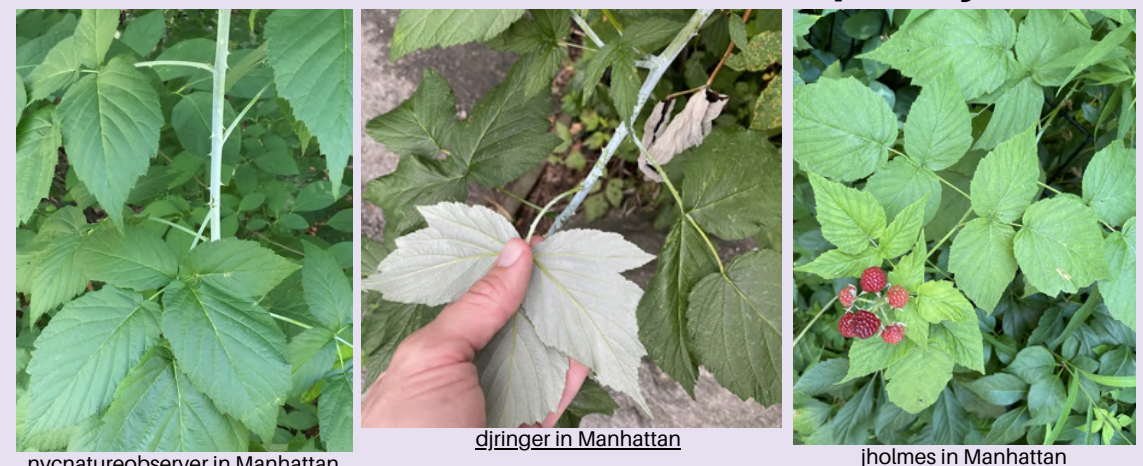


## *Rubus phoenicolasius* - Wineberry



er-birds in Staten Island | bmetcalf1964 in the Bronx | sus\_scrofa in Queens

## *Rubus occidentalis* - Black Raspberry



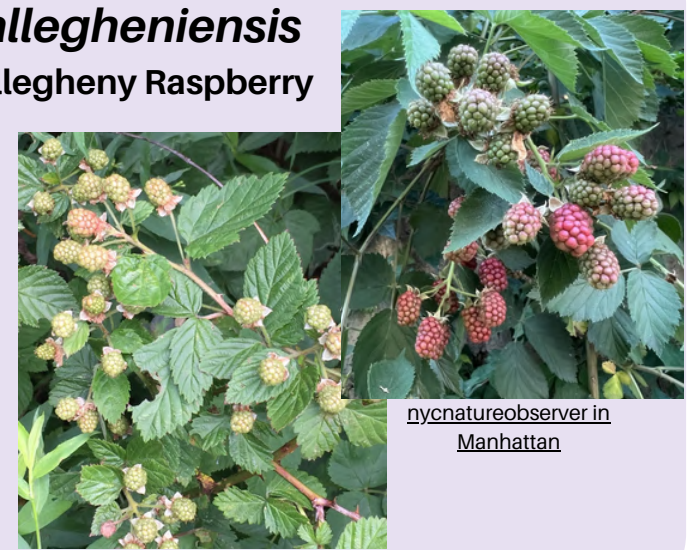
nycnatureobserver in Manhattan | djringer in Manhattan | jholmes in Manhattan

## *Rubus odoratus* Purple-flowered Raspberry



ursulamitra in Manhattan

## *Rubus allegheniensis* Allegheny Raspberry



nycnatureobserver in Manhattan

pottedgarden in Brooklyn

### Top Observers

|                   |    |
|-------------------|----|
| nycnatureobserver | 79 |
| jholmes           | 67 |
| mugglelissa       | 13 |
| zitserm           | 11 |
| babayaga1989,     | 7  |
| spuytenduyvilny   |    |

### Top Species Spotters

|                       |   |
|-----------------------|---|
| jholmes, zitserm,     | 5 |
| nycnatureobserver     |   |
| spuytenduyvilny       | 4 |
| djringer, sus_scrofa, | 3 |
| susanhewitt           |   |

### Top Identifiers

|                   |    |
|-------------------|----|
| nycnatureobserver | 84 |
| peakaytea         | 63 |
| erinimd           | 59 |
| tohmi             | 14 |
| tuq               | 8  |

### Most Observed Species

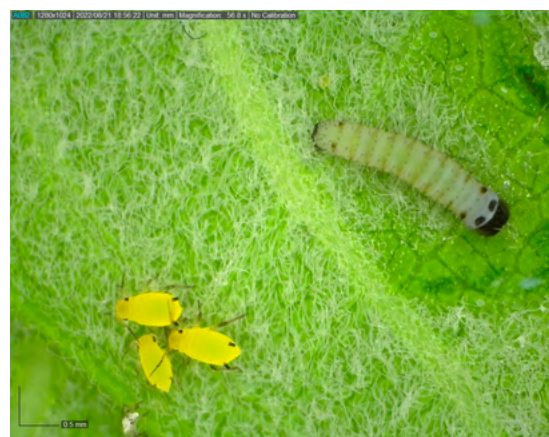
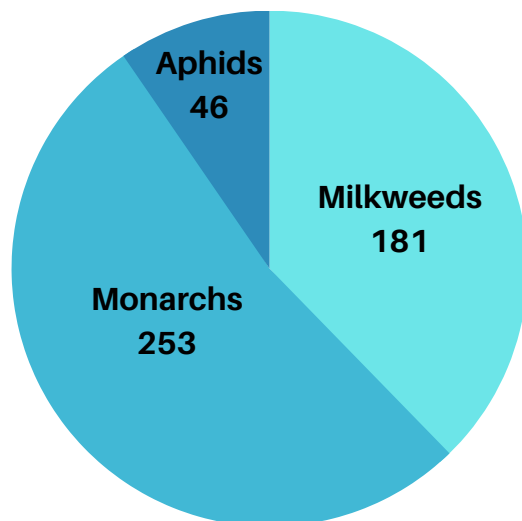
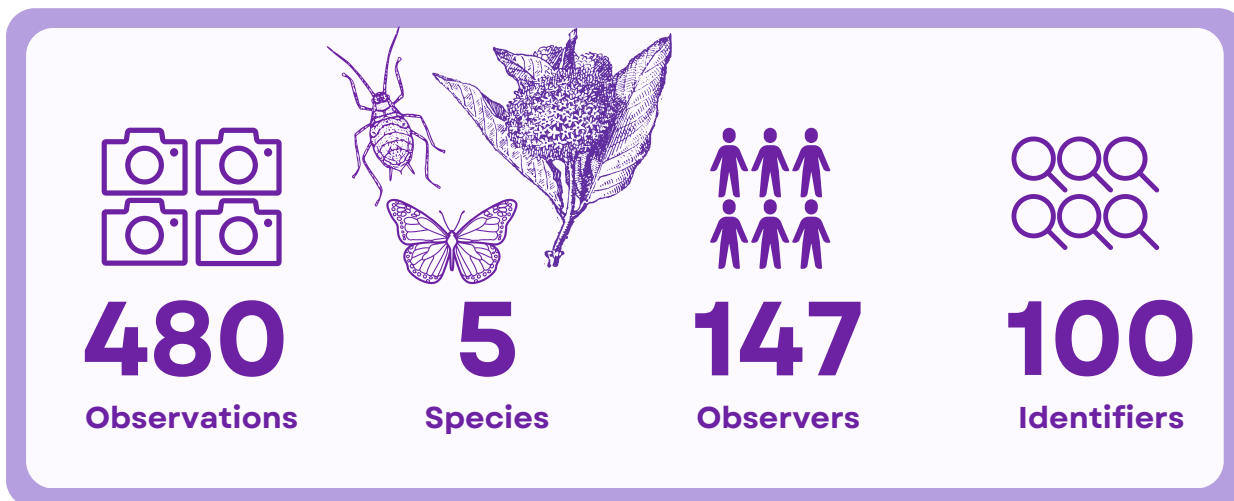
- Rubus phoenicolasius* (Wineberry)
- Rubus occidentalis* (Black Raspberry)
- Rubus allegheniensis* (Allegheny Blackberry)
- Rubus odoratus* (Purple-flowered Raspberry)

August

# Aphids, Monarchs, and Milkweeds

Although Milkweeds (*Asclepias*) have classically been associated with the ecologically valuable and endangered Monarch Butterfly (*Danaus plexippus*), this genus is an actor in a complex community of organisms. The Oleander Aphid (*Aphis nerii*) is a non-native aphid that feeds on the sap of milkweed plants and whose population distribution is increasing worldwide. Although they share a host plant, their effects on monarch success is unknown. Some studies suggest they increase the success of monarchs by acting as preferential prey for predators that would normally feed on monarch eggs. Other studies suggest the presence of *A. nerii* may indirectly increase parasitism on monarchs.

During this EcoQuest, we were able to observe both Monarch Butterflies and Oleander Aphids feeding and reproducing on Milkweed plants.



Observation of a monarch caterpillar next to oleander aphids on a milkweed plant!  
[ansel\\_oommen in Manhattan](#)



**Butterfly Milkweed**  
(*Asclepias tuberosa*)  
[glyptostrob0ides in the Bronx](#)



**Oleander aphids of multiple ages on the underside of a milkweed plant**  
[ansel\\_oommen in Manhattan](#)



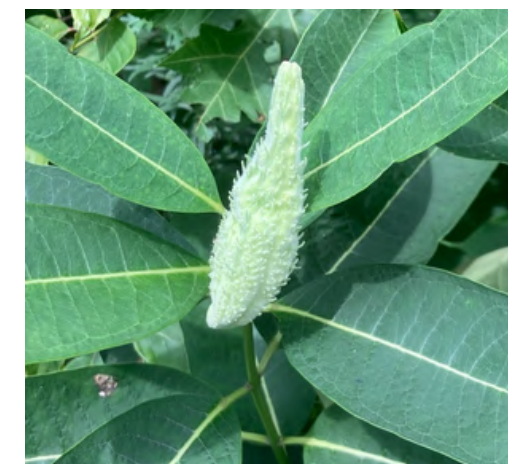
**Swamp Milkweed**  
(*Asclepias incarnata*)  
[matthiasf in Queens](#)



**Monarch feeding on butterfly milkweed (*A. tuberosa*)**  
[cverwaal in Manhattan](#)



**Monarch caterpillar on Swamp Milkweed (*Asclepias incarnata*)**  
[ariolimax in Manhattan](#)



**follicle fruit of Common Milkweed (*Asclepias syriaca*)**  
[bmetcalf1964 in the Bronx](#)

## Top Observers

|                   |    |
|-------------------|----|
| nycnatureobserver | 95 |
| matthew_wills     | 38 |
| dougnaturalist    | 32 |
| ansel-oomen       | 18 |
| cverwaal          | 15 |

## Top Species Spotters

|                   |   |
|-------------------|---|
| nycnatureobserver | 5 |
| cverwaal,         |   |
| jessica216,       | 4 |
| susanhewitt       |   |

## Top Identifiers

|                   |     |
|-------------------|-----|
| nycnatureobserver | 167 |
| aguilita          | 72  |
| as133             | 44  |
| dogwoodvalley     | 29  |
| quiltedquetzal    | 27  |

## Most Observed Species

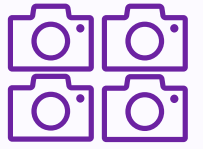



- Danaus plexippus* (Monarch Butterfly)
- Asclepias syriaca* (Common Milkweed)
- Aphis nerii* (Oleander Aphid)
- Asclepias incarnata* (Swamp Milkweed)
- Asclepias tuberosa* (Butterfly Milkweed)

September

# Encounter Evening Primrose

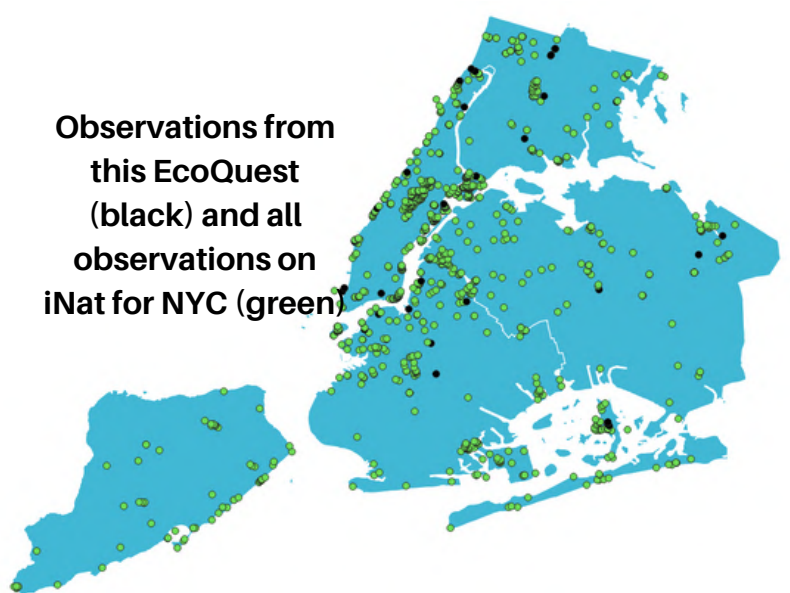
Common Evening Primrose (*Oenothera biennis*) is a native, disturbance-adapted wildflower that can grow up to 6 feet tall. Its yellow flowers, which open in the evening, are pollinated by insects such as Hawk Moths (Sphingidae), Primrose Moth, who's pattern matches the bloom and the pinkish hue of old, dying blooms, and the Evening Primrose Sweat Bee (*Lasioglossum oneotherae*), a native bee which is oligolectic, and only pollinates *O. biennis*. The nectar of this plant is also preferred by hummingbirds and many other pollinators.

During this EcoQuest, we did not capture any observations of these pollinators, likely due to their nocturnal habits. Additionally, this month saw low numbers of observations, proportional to the actual amount of plants in NYC, which speaks to some potential biases in data collected using iNaturalist.

|   |   |  |   |
|---|---|--|---|
|  |  |  |  |
| <b>64</b>   | <b>1</b>  | <b>35</b>  | <b>15</b>   |
| Observations  | Species   | Observers  | Identifiers   |



Eastern Bumblebee (*Bombus impatiens*) pollinating *O. biennis*  
ariolimax in Manhattan



sus\_scrofa in Queens



jappelny in Manhattan



ariolimax in Manhattan



dianaisoutside in Brooklyn



sus\_scrofa in Queens



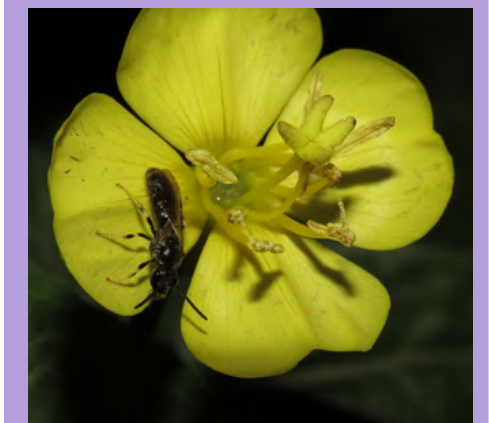
applejaks in Manhattan

## Top Observers

|                    |   |
|--------------------|---|
| elizajsyh,         | 6 |
| nycnatureobserver  | 5 |
| selbourne          | 4 |
| bmetcalf1964,      | 4 |
| sus_scrofa,        | 4 |
| susanhewitt, tohmi |   |

## Top Identifiers

|                   |    |
|-------------------|----|
| nycnatureobserver | 27 |
| tohmi             | 23 |
| yayemaster        | 3  |
| djringer          | 2  |



mayacrow in Staten Island, July 2020

## past observations of the evening primrose sweat bee in NYC

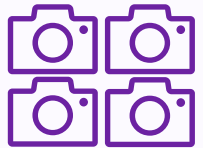





xris in Brooklyn, May 2017

# October **Falling for Galls**

Galls are abnormal, vegetative growths that develop on various plant parts in reaction to the stimulus of insects, mites, nematodes, viruses, fungi, or even other plant species. The appearance of a gall is unique to the organism that creates it, and they sport a spectacular variety of shapes, colors, and textures. Although gall forming organisms have a parasitic relationship with plants, their effect is typically not detrimental to their host. Most gall formers target specific hosts, which is often reflected in their scientific and common names (i.e. *Hormaphis hamamelidis*, Witch-hazel Cone Gall Aphid, which occurs on Witch Hazel leaves). Oaks are popular hosts for galls, with over 500 known species.

In this EcoQuest, galls from 90 species of insects, arachnids, and fungi were observed. This included 10 species which had not been previously observed in NYC!

|  |  |   |  |
|--|--|---|--|
| <br><b>516</b><br>Observations | <br><b>90</b><br>Species | <br><b>68</b><br>Observers | <br><b>34</b><br>Identifiers |
|--|--|---|--|



**Oak Apple Gall Wasp**  
*Amphibolips cookii*  
[arman\\_in Queens](#)



**Oak Midrib Gall**  
*Callirhytis pigra*  
[matthew\\_wills in Brooklyn](#)



**Oak Wheat Gall**  
*Kokkocynips decida*  
[zitserm in Queens](#)



**Phylloteras rubinum**  
[matthew\\_wills in Brooklyn](#)



**Oak Rough Bulletgall Wasp**  
*Disholcaspis quercusmamma*  
[zitserm in Queens](#)



**Woolly Oak Gall Wasp**  
*Callirhytis lanata*  
[kimcwren in Manhattan](#)



**Poison Ivy Leaf Gall**  
*Aculops rhois*  
[acarcione in Queens](#)



**Hickory Peach-haired Gall Midge**  
*Caryomyia persicoides*  
[matthew\\_wills in Brooklyn](#)



**Cypress Twig Gall Midge**  
*Taxodiomyia cupressiananassa*  
[dirt\\_friend\\_in Brooklyn](#)

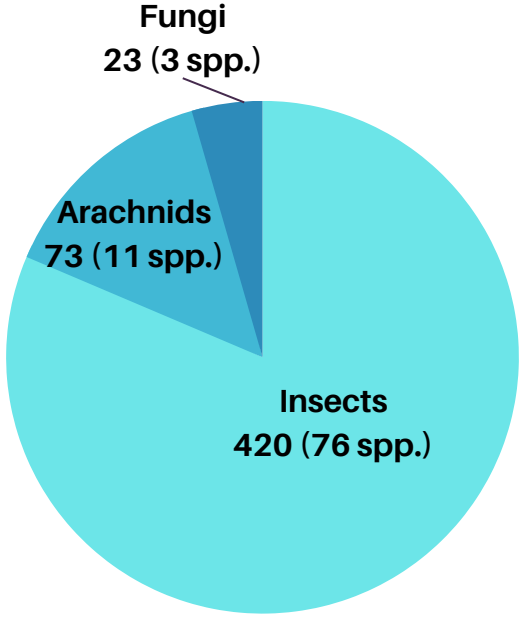


**Ash Flower Gall Mite**  
*Aceria fraxiniflora*  
[matthew\\_wills in Brooklyn](#)



**Hackberry Nipplegall Psyllid**  
*Pachypsylla celtidismamma*  
[natureenthusiast05 in Queens](#)

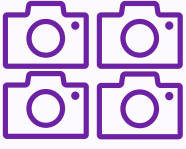



| Top Observers   |     |
|---|-----|
| zitserm   | 140 |
| susanhewitt   | 138 |
| matthew_wills   | 109 |
| kimcwren, arman_  | 11  |
| Top Species Spotters  |     |
| matthew_wills   | 56  |
| zitserm   | 46  |
| susanhewitt   | 12  |
| arman_  | 9   |
| kimcwren  | 6   |
| Top Identifiers   |     |
| calconey  | 120 |
| megachile   | 81  |
| nycnatureobserver   | 58  |
| matthew_wills, zitserm  | 47  |
| Most Observed Species   |     |
| Box Sucker ( <i>Psylla buxi</i> )                                 |     |
| Red Nail Gall Mite ( <i>Eriophyes tiliae</i> )                    |     |
| Woolly Oak Gall Wasp ( <i>Callirhytis lanata</i> )                |     |
| Hackberry Nipplegall Psyllid ( <i>Pachypsylla celtidismamma</i> ) |     |
| Witch Hazel Cone Gall Aphid ( <i>Hormaphis hamamelidis</i> )      |     |



# November Hidden Harvest

Many familiar wild plants are remnant species that have been managed and cultivated by Indigenous societies for thousands of years before the arrival of colonists to the Americas and continue to be today. Many of these species persist in New York City- their uses, histories, and cultural relevance often overlooked in favor of more charismatic species of flora. Mistaken for undesirable weeds and often sprayed with herbicide, their rich histories and high potential for use remain unknown to most.

The fruits, seeds, leaves, bark, and other plant parts are historical and contemporary sources of food and medicine. We included 64 possible species in the iNaturalist project - during this EcoQuest, 40 of those species were observed. These plants reveal the untapped potential of some of our humble native species.

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
| <b>274</b>   | <b>40</b>  | <b>77</b>  | <b>32</b>  |
| Observations   | Species  | Observers  | Identifiers  |



**Aronia melanocarpa**  
Black Chokeberry  
[kiara54 in Brooklyn](#)



**Aronia arbutifolia**  
Red Chokeberry  
[kenchaya in Manhattan](#)



**Amaranthus retroflexus**  
Redroot Amaranth  
[escottberg in Brooklyn](#)



**Amaranthus cruentus**  
Red Amaranth  
[monikastangel in Queens](#)



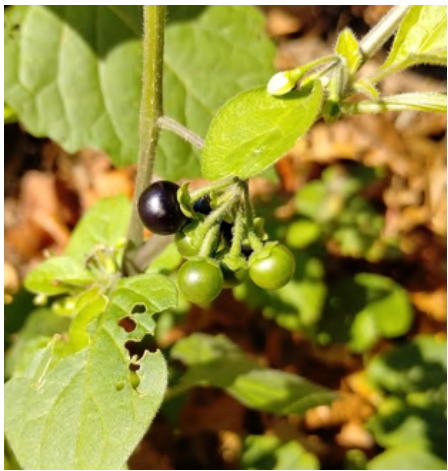
**Chenopodium album**  
Common Lambsquarters  
[jackburkhalter in Manhattan](#)



**Hamamelis virginiana**  
Witch Hazel  
[pennycentury in Queens](#)



**Salicornia sp.**  
Pickleweed  
[bella\\_novae\\_caesarea in Brooklyn](#)



**Solanum nigrum**  
Black Nightshade  
[mulberry0126 in the Bronx](#)



**Urtica dioica**  
Stinging Nettle  
[djringer in Manhattan](#)


| Top Observers                                  |    |
|--|----|
| zitserm  | 93 |
| sadawolk                                       | 56 |
| nycnatureobserver                              | 19 |
| vivian_young                                   | 6  |
| blkvulture                                     | 4  |
| Top Species Spotters                           |    |
| nycnatureobserver                              | 27 |
| zitserm  | 22 |
| susanhewitt                                    | 7  |
| sadawolk                                       | 5  |
| beniiii, cvschmitt, etan999                    | 3  |
| Top Identifiers                                |    |
| nycnatureobserver                              | 65 |
| sadawolk                                       | 26 |
| peakaytea                                      | 25 |
| zitserm  | 14 |
| sus_scrofa                                     | 9  |
| Most Observed Species                          |    |
| <i>Chenopodium album</i><br>(lambsquarters)    |    |
| <i>Celtis occidentalis</i><br>(hackberry)      |    |
| <i>Hamamelis virginiana</i><br>(witch hazel)   |    |
| <i>Prunus serotina</i><br>(black cherry)       |    |
| <i>Oenothera biennis</i><br>(evening primrose) |    |

December

# Tracking Pteridophytes

New York City is home to diverse plants that continue to paint the landscape green well after much of it has died back or turned dormant. Many of these winter greens are pteridophytes, which are vascular plants that produce spores instead of seeds. This group includes ferns, horsetails, and lycophytes (clubmoss, spikemoss, and quillworts), and can be deciduous, semi-evergreen, and evergreen. Ferns and horsetails occur frequently around the city, but lycophytes are much rarer, with only a few sightings of genera such as *Selaginella* and *Dendrolycopodium*., mainly in Staten Island.

During this EcoQuest, none of these rarer lycophytes were observed. All of the fern species recorded were those usually seen in winter months.

|   |  |   |   |
|---|--|---|---|
|  |  |  |  |
| <b>47</b>   | <b>12</b>  | <b>17</b>   | <b>19</b>   |
| Observations  | Species  | Observers   | Identifiers   |

*Asplenium platyneuron*  
(Ebony Spleenwort)



[chris\\_syrett](#) in Brooklyn

*Pellaea atropurpurea*  
Purple-stem Cliffbrake



[kayspurlock](#) in Manhattan



*Onoclea sensibilis*  
(Bead Fern/Sensitive Fern)

[simon\\_verlynde](#) in Staten Island



*Polystichum acrostichoides*  
(Christmas Fern)

[cameron\\_mcisaac](#) in Manhattan



*Dryopteris marginalis*  
(Marginal Wood Fern)

[benliiii](#) in the Bronx



*Dryopteris erythrosora*  
(Autumn Fern)

[ariolimax](#) in Manhattan



*Dryopteris intermedia*  
(Evergreen Wood Fern)

[djringier](#) in Manhattan



| Top Observers   |    |
|---|----|
| <a href="#">zitserm</a>   | 10 |
| <a href="#">ariolimax</a> ,<br><a href="#">kayspurlock</a> ,<br><a href="#">susanhewitt</a> | 5  |
| <a href="#">benliiii</a> , <a href="#">cbarron</a> ,<br><a href="#">etan999</a>             | 3  |
| Top Species Spotters  |    |
| <a href="#">ariolimax</a> ,<br><a href="#">zitserm</a>                                      | 4  |
| <a href="#">cbarron</a> ,<br><a href="#">kayspurlock</a>                                    | 3  |
| Top Identifiers   |    |
| <a href="#">choess</a>  | 12 |
| <a href="#">sadowolk</a>  | 9  |
| <a href="#">tsn</a>   | 8  |
| <a href="#">mjpapay</a>   | 7  |
| <a href="#">zitserm</a> ,<br><a href="#">frondsinihighplaces</a>                            | 4  |
| Most Observed Species   |    |
| <i>Polystichum acrostichoides</i><br>(Christmas Fern)                                       |    |
| <i>Dryopteris marginalis</i><br>(Marginal Wood Fern)  |    |
| <i>Onoclea sensibilis</i><br>(Sensitive Fern, Bead Fern)                                    |    |



NYBG



## Acknowledgements



### More Information:

[EcoFlora on NYBG.org](http://EcoFlora.on.NYBG.org)

[iNaturalist project](#)

[YouTube page](#)

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