Minutes from the 574th Meeting of the Connecticut Entomology Society

January 20th, 2023

Zoom

Members:

Guests:

Social pre-meeting began at approximately 18:30.

**Business Meeting:**

-Meeting called to order at 19:30 by president Ray Simpson.

**Reports:**

-Only 14 members have paid dues – the goal is 50!

-Dues can be paid via PayPal or by mailing a check.

-Hoping to resume in-person meetings for the March student symposium, and the April meeting. February’s meeting will be on Zoom.

**New Business:**

-Meeting of March 17th (or possibly 24th)will feature a student symposium.

-An optional questionnaire for members will be sent out, asking for potential constructive critiques, improvements, and requests for the CES.

-The Harvard Museum “I Heart Science Festival” is on February 12-15, and they’re hoping that the CES will be represented there.

-February 17th the next meeting, focusing on CT metalmarks.

-April 21st will have a potluck at the CT Agricultural Experiment Station.

**Guests:**

-Hany Dwick and Kelsey Fisher both work at the CT Agricultural Experiment Station.

-Benjamin Toscano works with stream insects.

-Debra Kiel was the VT Entomology Society treasurer.

**Evening Presentation:**

-Jillian Cowles spoke about plant/insect interactions, with a focus on species living in Arizona. Major relations can include herbivory and defenses against herbivory, pollination, and ant/plant interactions which are a group in their own right.

Herbivory can include piercing, galls, miners, wood and root boring, and chewing. Some herbivores are generalists, while others may be highly specialized, such as the *S. oculata* moth, which requires both male and female specimens of the same specific plant species to reproduce. Many of those who pierce or suck plants are hemipterans, such as the nymphs of cicadas, which feed on roots as they mature underground. For galls, there are gall midges and gall wasps that form most of them, but fungi and viruses can form them, too. A plant can defend against galls through a hypersensitivity reaction, where the plant can basically starve off a leaf/branch if it detects a gall forming in its early stages. Another notable defense against herbivory is chemical defenses, such as alkaloids. But some insects are able to bypass these defenses, and even use them for their own use. Another defense would be the release of volatiles, calling in predators (or parasitoids) of the herbivore.

As for pollination, bats and birds can contribute, but a wide variety of insects can do so, too, such as bees, moths, butterflies, flies, and beetles. Some flowers even have false anthers to entice pollination by bees. One species of plant has the banner petal on a given flower change color to signify that it’s already been pollinated, making the process a lot more efficient. Overall, there seem to be several bee species that are specialist pollinators. Many beetles and flies are generalist pollinators, but not always. A good number of pollinating flies are Batesian mimics of bees/wasps. There exists a biting fly that may mistake one particular plant for the ear of a rabbit, as the fly does take blood meals from vertebrates. This same plant has tons of toxins, and is the sole sustenance of the larval pipevine swallowtail. Sometimes, it can be an arms race between the insect having a long enough tongue to reach a plant’s nectar without getting too close to the flower, and the flower having a deep enough corolla to force the insect to pollinate it. There's a moth that has special mouthparts that play a part in fertilizing the yucca, and in exchange, the moth larvae feed on the plant’s seeds. Bees are known to have species fidelity, where once they visit a given plant, they’re likely to keep visiting that species for the day. But some bees like *A. prima* are very specialized, where that species feeds only on plants in the mustard family. One plant species has false anthers that lack pollen, but are conspicuous, while the anthers that do have pollen are much less noticeable.

When it comes to plant/ant interactions, it can entail protection of herbivores, or protection from herbivores, such as ants that protect aphids since the latter secretes sugars that the former consumes. There are also ants that will use plant material in the process of harvesting fungi.

Meeting adjourned at 21:04.

**Note: corrections and additions to the minutes are welcomed. Please email** **maxengel1@gmail.com****.**