Environmental Activity: Local Invasive Species

SBI 3U: Diversity of Living Things: Life cycles, Resistance of Insects to Pesticides

SNC 3C: Environmental Science: Population Growth, Local Use of Pesticides

SBI 4U: Population Dynamics: Predation, Parasites, Population Growth

Background: In mid July, gypsy moths emerge from their pupal stage and the males can be seen flying around in the daytime. The small grey/brown male moths are erratic flyers, in search of females. The females are larger white moths. The females do not fly well and can be found on the trunks of host trees. These adults can easily be caught, placed in specimen containers, and placed in a freezer. Some pupae will still be intact as the moths failed to emerge. Egg masses should be collected still attached to a substrate (tree bark). The date and location that the specimens were collected should be recorded.

Identification: Students are given a lesson on morphology of moths. This will describe the basic body design of moths. Students will complete an unlabelled diagram to show forewing, antenna, compound eye, proboscis, leg, abdomen, hindwing, and tail. Adult moth specimens will be handed out, and students will fully describe their appearance.

The top picture features a male gypsy moth. The feathered antennae, small body size and brown/grey body are telling characteristics. They are good flyers.

The lower picture shows the larger, white female with its club antennae. The females are very poor flyers as they are carrying a lot of eggs. This female likely hatched from an egg mass, fed as a caterpillar, and is now laying eggs on the same flowering crab apple tree in my yard. That must limit their ability to spread from area to area. That movement must occur when they are caterpillars.

Internet Search: A google search for small brown moths emerging in July in Eastern Ontario immediately generated an article on gypsy moths. A search on the website On Nature Magazine featured articles on 20 moths, one of which was the gypsy moth. The identification of these moths should not be difficult.

https://onnaturemagazine.com/butterfly-and-moth-guide.html#luna

Biology: Have students search for information to cover the following topics. A short report with accompanying drawings would be an appropriate assignment.

Life cycle

Host trees

Predators and parasites

Gypsy Moth Introduction to N. America

Economy and the Gypsy Moth

Pesticides as a control agent

Mating and the gypsy moth

Caterpillar died from parasite

Pupae, male, and female adult moths

Light brown egg mass at abdomen of female