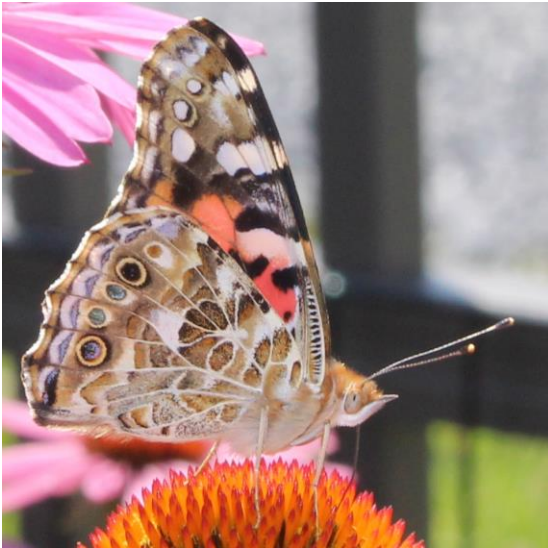


The Hershey Community Garden

Bug Page

The Helpers...
The Pests...

And



...That Live in Your Garden!

By: Andrew Han
December 2015

Note: Bug identification and photography was done by my fellow scouts from Troop 65 and friends of the Hershey Community Garden as part of my Eagle Scout project. Thanks to everyone!

**

The Hershey Community Garden is a project of The Foundation for Enhancing Communities, fiscal sponsor. The official registration and financial information of The Foundation for Enhancing Communities may be obtained from the Pennsylvania Department of State by calling toll free, within Pennsylvania, 1-800-732-0999. Registration does not imply endorsement.



For my Eagle Scout project, I created a gardener-friendly bug database for the Hershey Community Garden on the Hershey Medical Center campus at 45 Life Lion Drive (40° north latitude, 76° west longitude). Each insect has its own page on the database, and it consists of a picture of the bug that was collected from the community garden, the size, the time of year it appears in the garden, and whether or not it is beneficial or detrimental to your garden.

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American Oil Beetle

Meloe americanus



Size: 7.1 – 17 mm

Time of year of appearance: Most active in the spring but are actually around all year long.

The American oil beetle should not be touched. If the beetle feels threatened, it releases a chemical called cantharidin. This chemical creates blisters and irritates human skin. (When we captured the beetle in the photograph, we placed it in a clear plastic bag. Hours later, the bag was littered with drops of bright yellow fluid.)

Detrimental: These beetles feed on plants and flowers, such as buttercups. The larvae are harmful as they attach to bees at the site of the flowers and when back at the beehive, they eat the bee larvae and the bees' food source.

The above and even more information about the American oil beetle can be found on the following websites:

<http://bugguide.net/node/view/303>

<http://www.insectidentification.org/insect-description.asp?identification=American-Oil-Beetle>

Asian Lady Beetle

Harmonia axyridis



Size: 7mm long, 5.5 mm wide

Appears: Early spring through the first frost.

Beneficial: Both the larvae and adult Asian lady beetle are beneficial as they eat soft-bodied arthropods (the pests in your garden), such as aphids and scale, off of your plants. The eggs are laid on the underside of leaves on trees, roses, wheat, soybean and many other plants. You can see these beetles in your garden until early October, or the first frost, and then you will see them in your home.

More Info:

<http://www.ars.usda.gov/is/br/lbeetle/#mixed>

<http://ento.psu.edu/extension/factsheets/multicolored-asian-lady-beetle>

Banded Wooly bear Caterpillar

Pyrrharctia isabella



Size: Up to 57mm (larvae)

Appears: Early spring it begins as a plant-eating caterpillar and through the winter remains as a larva. It continues to eat plants for a short time in the spring before it spins its cocoon and becomes an Isabella tiger moth.

The banded wooly bear caterpillar eats a wide variety of leaves from trees and plants such as asters, birches, clover, corn, dandelions, elms, maples, nettles, and sunflowers.

It was hard to find information that would argue whether the wooly bear is detrimental to your garden. In fact, the last suggested website is a great read on the differences between moths and butterflies in Pennsylvania. In it, it is suggested that the larvae that eat plants are actually stimulating new growth of stronger leaves in your garden.

More Info:

<http://extension.psu.edu/franklin/news/2012/wooly-bear-caterpillars-2013-purported-peerless-prognosticators>

<http://bugguide.net/node/view/539#classification>

<http://www.mothman.org/poster/posterbacktext.pdf>

Black Onion Fly

Tritoxa flexa



Size: 6 – 7mm

Detrimental: The adult black onion fly feeds on nectar while the larvae eat decaying organic matter and roots. It is associated with cultivated garlic and onions. Here is the problem; the larvae feed on the onion roots even after they are harvested thus being referred to as "the enemy of the onion."

There is quite actually very little written about the *Tritoxa flexa*.

More Info:

<http://bugguide.net/node/view/65674#classification>

<http://astronomy-to-zoology.tumblr.com/post/69796241410/black-onion-fly-tritoxa-flexa-a-species-of>

<https://www4.uwm.edu/fieldstation/naturalhistory/bugoftheweek/bugs-without-bios7.cfm>

Brown Marmorated Stinkbug (BMSB)

Halyomorpha halys



Size: 17 mm long

Appears: Late-April to mid-May. Adults emerge until the first half of October when they begin to look for overwintering sites.

Detrimental: These bugs are detrimental to a wide range of plants. Fruits, such as apples, peaches, mulberries and persimmons along with sweet corn and soybeans are victims of the BMSB. The bugs poke holes through the skin of fruits; suck the fluids resulting in damaged spots.

More Info:

<http://ento.psu.edu/extension/factsheets/brown-marmorated-stink-bug>

<http://www.mda.state.mn.us/plants/insects/stinkbug.aspx>

Cabbage White Butterfly

Pieris rapae



Size: Wingspan is 44.5 – 57.2 mm

Appears: You will see this butterfly as one of the first butterflies seen in spring and one of the last flying in fall.

Beneficial: The white cabbage butterfly is beneficial to your garden as it feeds on the nectar from a wide range of plants. The flower plants it feeds on include mustard, dandelion, red clover, aster, and mint. However, the caterpillar of the cabbage white butterfly can cause damage to cabbage, broccoli, and radish plants; sometimes people consider these butterflies more of a pest.

More Info:

<http://www.butterfliesandmoths.org/species/Pieris-rapae>

http://www.fcps.edu/islandcreekes/ecology/cabbage_white.htm

Clouded Sulphur Butterfly

Colias philodice



Size: Wingspan is 35 – 50.8 mm

Appears: March through September.

Beneficial: Clouded sulphur butterflies are pollinators. They drink nectar from a variety of plants such as clover, milkweeds, goldenrods, asters, dandelions, thistles, and sunflowers.

More Info:

http://www.fcps.edu/islandcreekes/ecology/clouded_sulphur.htm

<http://www.massaudubon.org/learn/nature-wildlife/insects-arachnids/butterflies/find-a-butterfly/%28id%29/22>

Crane Fly

Tipula genus



Size: Up to 63.5 mm long and a wingspan of 76.2 mm

Appears: Mainly in spring and fall.

Beneficial: Adult crane flies do not eat. Their only purpose is to mate and lay eggs. (They only live as adults from 2- 15 days.) Crane fly larvae eat decaying plants, dead leaves, fungi and roots of plants. This actually helps improve the richness of the soil and benefits the garden. Therefore, they are beneficial to have flying around.

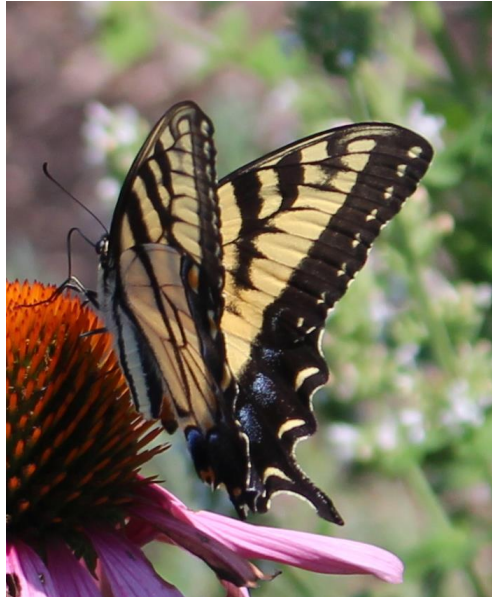
More Info:

http://www.fcps.edu/islandcreekes/ecology/crane_fly.htm

<http://iz.carnegiemnh.org/cranefly/introduction.htm>

Eastern Tiger Swallowtail

Pterourus glaucus



Size: Wingspan from 63.5 - 114.3 mm

Appears: May through September in the north.

Beneficial: Eastern tiger swallowtail butterflies are beneficial to your garden. They fly from flower to flower, drinking nectar. Popular flowers they feed on include Ironweed, Red Clover, milkweed, thistles, and Japanese honeysuckle. Also noted are wild cherry, lilac, and Joe-Pye weed.

More Info:

http://www.fcps.edu/islandcreekes/ecology/eastern_tiger_swallowtail.htm

<http://www.butterfliesandmoths.org/species/Papilio-glaucus>

European Paper Wasp

Polistes dominula



Size: 13 - 25 mm

Appears: Queens appear in the spring and nests grow throughout the summer with a final batch of males called drones produced in the fall. These drones mate with new queens and it is only the queens that survive the winter.

Because European paper wasps are aware of threats to their nests, it is wise to limit any attempt of a nest being built. The first website listed below gives great advice for nest management. Pay particular attention to the differences discussed in the second website regarding the placement of the European paper wasp's nests verses that of our native paper wasp. (Hint: this nest was on the ground, the nest on the page of the paper wasp was on the ceiling of the gazebo in the garden.)

More Info:

<http://ento.psu.edu/extension/factsheets/dominulus-or-european-paper-wasp>

<http://www.livingwithbugs.com/epw.html>

Green Lacewing

Chrysoperla rufilabris



Size: 8.5 – 12.7 mm long

Appears: June through September

Beneficial: The green lacewing is considered a natural pest control. Adults are pollinators as they eat pollen and nectar at night. The larvae are called “aphid lions” as they have a huge appetite and feed on soft-bodied insects, mealybugs, and mites. If no food is around, the larvae eat each other.

More Info:

<http://www.planetnatural.com/beneficial-insects-101/chrysoperla-rufilabris/>

<http://www.gardeninsects.com/greenlacewings.asp>

<http://bugguide.net/node/view/245329>

Harlequin Cabbage Bug

Murgantia histrionica



Size: 9.5 mm long

Appears: April through October.

Detrimental: Harlequin bugs are detrimental to your garden. They feed on the fluid of plant tissue. Large amounts of these bugs can cause a plant to wilt and die. It has the ability to destroy the entire crop if not controlled. Victims of the Harlequin Bug include cabbage, cauliflower, collards, mustards, Brussels sprouts, turnips, and radish. Also potential food sources include tomato, eggplant, bean, beet, and asparagus.

More Info:

<http://www.ipm.ucdavis.edu/PMG/GARDEN/VEGES/PESTS/harlequinbug.html>

<http://extension.psu.edu/plants/vegetable-fruit/news/2012/harlequin-bugs-2013-a-growing-problem-in-pennsylvania>

<http://bugguide.net/node/view/557>

Honey Bee

Apis mellifera



Size: 19 mm

Appears: Honeybees will be seen with the flowering of plants. They will continue to be active until the weather turns cooler and the bees will start to prepare for winter.

Beneficial: Honeybees are one of the most beneficial insects we have. We rely on them to pollinate our flowers and fruit trees. They are attracted to flowers with bright colors but interestingly, cannot see red. (Red flowers must have another source for pollination like a butterfly, moth, or hummingbird.) They eat pollen and nectar from flowers.

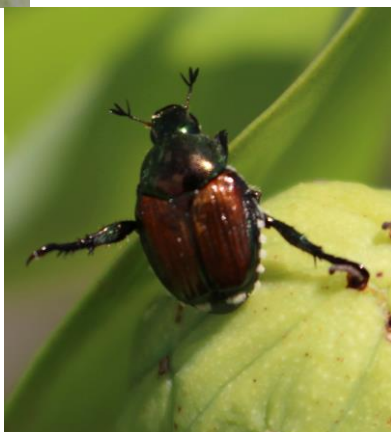
More Info:

http://www.fcps.edu/islandcreekes/ecology/honey_bee.htm

<http://www.gpnc.org/honeybee.htm#SOCIETY>

Japanese Beetle

Popillia japonica



Size: 9.5 mm long and 6.35 mm wide

Appears: Adult Japanese beetles begin to appear around June 20 and are most abundant in July and first part of August.

Detrimental: The damage from Japanese beetles can be quite extensive; they favor plants with full exposure to the sun in the hot weather. The beetles are fond of the following: roses, flowering cherry, zinnias, Virginia creeper, Boston ivy, birch, elm, sunflower, and

marigold. The beetles eat only the tissue between the veins of the leaves. They also eat over-ripe and decaying fruit and corn silk.

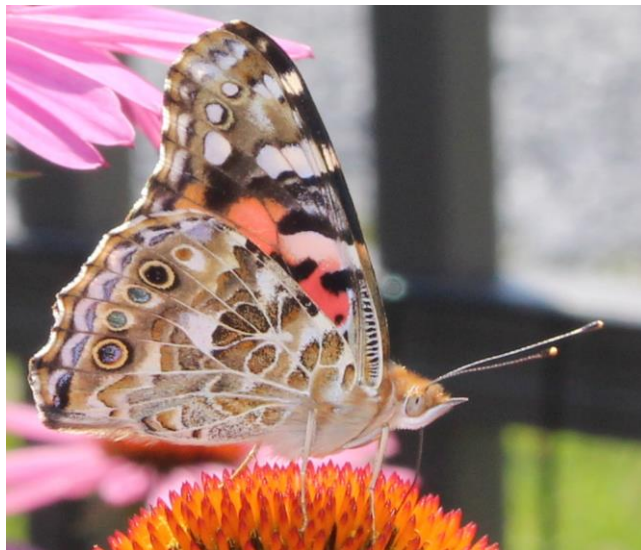
More Info:

<http://ento.psu.edu/extension/factsheets/japanese-beetle>

<http://extension.entm.purdue.edu/fieldcropsipm/insects/corn-japanese-beetles.php>

Painted Lady Butterfly

Vanessa Cardui



Size: Wingspan: 50.8 - 73 mm

Appears: May through October.

Beneficial: The painted lady butterfly is beneficial because it prefers the nectar from taller plants and flowers. Some of their

favorites include thistles, aster, cosmos, blazing star, ironweed, and Joe-Pye weed. Red clover, buttonbush, privet, and milkweeds are also noted as being popular food sources.

More Info:

<http://www.butterfliesandmoths.org/species/Vanessa-cardui>

http://www.fcps.edu/islandcreekes/ecology/painted_lady.htm

Pandorus Sphinx

Eumorpha pandorus



Size: Wingspan of the moth is 82.5 - 114 mm

Appears: Caterpillars are seen June through November. The moth can be seen at dusk from June through August.

Beneficial: These larvae eat leaves of the pepper vine, grape, and Virginia creeper. Because the caterpillar can grow quite large, they eat large amounts. The moth helps pollinate

eating from flowers such as the petunia, bouncing betty, and white campion.

More Info:

<http://bugguide.net/node/view/3937>

<http://www.butterfliesandmoths.org/species/Eumorpha-pandorus>

<http://www.silkmoths.bizland.com/Sphinx/epandoru.htm>

Paper Wasp

Polistes exclamans



Size: 13 - 25.5 mm long

Appears: The paper wasp will be active in the summer months and remain so into fall in their search for nectar.

Beneficial: Adult paper wasps feed on nectar, liking goldenrod in the fall. The paper wasp also attacks caterpillars. (Apparently, they are

chewed up by the worker wasps and fed to the larvae.) Some of the butterfly and moth caterpillars identified as their food include the cabbage white butterfly, clouded sulphur butterfly, silver spotted skippers, tiger moths, and the sphinx moths, all of which are active in the garden. Because they eat these caterpillar pests, many feel it to be beneficial to have the paper wasp around. They build their nests from wood fibers collected from posts and plant stems causing some damage.

More Info:

<http://bugeric.blogspot.com/2012/12/wasp-wednesday-polistes-exclamans.html>

<http://texasinsects.tamu.edu/cimg348.html>

<http://www.inaturalist.org/taxa/133791-Polistes-exclamans>

Robber Fly

From the *Asilidae* family



These robber flies can bite!

Size: 9 – 15mm

Appears: These flies are most abundant in the summer months.

Beneficial: The robber fly, as an adult, feeds on a variety of insects including bees, beetles, leafhoppers and other flies, typically catching them in mid flight. Their larvae feed on other arthropods such as white grubs, beetle pupae, and grasshopper eggs. They are considered beneficial, but remember, they do kill and eat good garden insects as well.

More Info:

<http://bugguide.net/node/view/151>

http://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-27_robber_flies.htm

Silver Spotted Skipper Butterfly

Epargyreus clarus



Size: Wingspan 44.5 – 60.3 mm

Appears: Beginning in early June.

Beneficial: Skippers are beneficial to your garden as they have long “tongues” and feed on the nectar of many different flowers, serving as pollinators.

More Info:

<http://www.massaudubon.org/learn/nature-wildlife/insects/arachnids/butterflies/find-a-butterfly/%28id%29/5>

http://entnemdept.ufl.edu/creatures/bfly/silver-spotted_skipper.htm

Small Eastern Milkweed Bug

Lygaeus kalmii



Size: 10 – 12 mm.

Appears: Commonly seen from June through October.

Beneficial: These insects are beneficial to your garden as they drink the nectar from herbaceous plants (plants that have soft green stems and grow fast, producing many seeds and flowers in a short amount of time.) They also feed on milkweed seeds. When these food sources are scarce in early spring, they are predators to some caterpillars and beetles too.

More Info:

<http://bugguide.net/node/view/460>

<http://ninnescahlife.wichita.edu/node/736>

Spotted Cucumber Beetle

Diabrotica undecimpunctata



Size: 5 – 9mm

Appears: Early spring and all summer long.

Detrimental: This is quite a pest in your garden. Known for damaging cucumbers, squashes, corn, and soy plants, they also damage hibiscus and roses. Most of the damage these beetles (and the Striped Cucumber Beetle) spread is through bacteria. The beetles carry bacteria in their gut and spread it as they feed on plants. Once the bacteria are inside a plant, it is spread through the plants vascular system causing the plant to wilt and die. Unfortunately, the beetles are attracted to the dying vegetation and pick up more bacteria and continue spreading it.

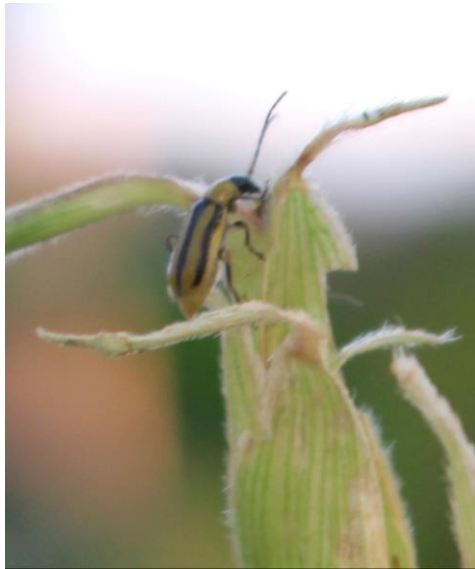
More Info:

<http://bugguide.net/node/view/456>

http://www.americangourdsociety.org/FAQ/cucumber_beetle.html

Striped Cucumber Beetles

Acalymma vittatum



Size: 6.5 mm.

Appears: Once weather reaches 65 degrees or more and plants begin to emerge from soil, these pests are abundant.

Detrimental: The striped cucumber beetle eats the emerging plants, seedlings and lay eggs at the base of roots and stems of plants on which they will feed. The major damage caused in gardens is Bacteria Wilt, caused from a bacterium they spread. The beetles carry bacteria in their gut and spread it as they feed on plants. Once the bacterium is inside a plant, it spreads through the plant's vascular system, causing the plant to wilt and die. Unfortunately, the beetles are attracted to the dying vegetation and pick up more of the bacteria and continue to spread it.

More Info:

http://www.americangourdsociety.org/FAQ/cucumber_beetle.html

<http://www2.ca.uky.edu/entomology/entfacts/ef311.asp>

Tachina Fly

Trichopoda pennipes



Size: 6.5 – 12.7 mm

Appears: Adult flies will appear in late spring or early summer.

Beneficial: The larvae of the tachina fly feed upon only living insects such as leaf eating caterpillars. These flies are enemies of many major garden pests and because of this, they have been introduced into North America as bio controls to keep pest populations down. These include but not limited to the squash bug and stinkbug. Adult tachina flies drink nectar, especially from wild carrot and meadowsweet, serving as pollinators to benefit your garden in a second manner.

More Info: including a review of how we have spread this fly in our country in an example of biological control from Cornell University.

<http://www.insectguide.net/tachinaflies.html>

http://www.pbase.com/inaturalist/insects_flies_tachinidae

<http://www.biocontrol.entomology.cornell.edu/parasitoids/trichopoda.php>

Two-spotted Tree Cricket

Neoxabea bipunctata



Size: 20 – 22 mm

Appears: August through September

Detrimental: The two-spotted tree cricket can be found on many different plants including Grapevine, Sunflowers, and trees like White Pines and Apple trees. The males chew holes in the

leaves of the plant to fit their wings as it helps to amplify their sound. The plants serve as their food.

More Info:

<http://bugguide.net/node/view/9013>

<http://songsofinsects.com/crickets/two-spotted-tree-cricket>

Wheel Bug

Arilus cristatus



Do Not Touch!

The wheel bug has a “fang” on the front of its head and kills its prey with a stabbing motion. It also uses this fang to stab humans when touched.

Size: 25.4 – 31.75 mm long

Appears: Summer into fall.

Beneficial: The wheel bug is part of the assassin bugs and they prey on the insects that are considered defoliators like beetles and caterpillars. Unfortunately, they also have Lady Beetles and Honey Bees on their list of food.

More Info:

http://entnemdept.ufl.edu/creatures/trees/wheel_bug.htm

http://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-09_wheel_bug.htm