



Scripps Miramar Seed Library

“Grow & Share”

Newsletter

April 23

Bugs or Insects

A pest is **any animal or plant harmful to humans or human concerns**. The term is particularly used for creatures that damage crops, livestock, and forestry or cause a nuisance to people, especially in their homes.

Humans have identified approximately 1 million insect species on our planet but only 1 percent of those species are pests to us. The remaining species are either beneficial or benign. Beneficial bugs include lacewings, lady bugs, ground beetles and spiders. They spend their days munching on aphids, insects' eggs and other problematic pests. Other beneficial invertebrates pollinate the flowers of edible or ornamental plants.

Benign species, while they are not particularly helpful in controlling pests, don't bother humans or crops on farms. However, many of them

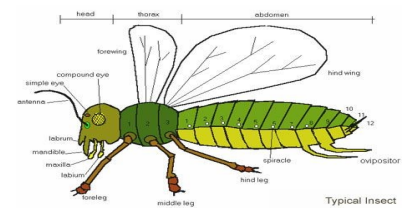


feed on decomposing plants and material, thus, building and aerating the soil in the process. In our gardens, beneficials prevent pests from disturbing the growth of the plants while the benign species help keep the soil alive. Myriad groups of bugs contribute to the balance of our planet's various, complex ecosystems.

Insect Anatomy

Six legs, Four wings, Two Antennae. That is the rule of thumb. You can count the legs since most insects

have six legs, all attached to the midsection of their body. Most insects also have wings. These are attached on the midsection as well. The front segment, the head, has a mouth and the most important sense organs – eyes and antennae. Though insects never have more than two antennae. There is one crucial hallmark of insects: their bodies are divided into three parts. These are clear and distinct sections: head, thorax and abdomen as if somebody had cut them with a sharp implement. In fact, that is what gave this class of animals its name: the word insects come from the Latin verb *insecare*, meaning “to cut into”.



Know the bugs/insects.

The best practice is to casually stroll around in your garden. It's a simple and pleasurable daily routine and will allow you to find issues developing with the plants. The best offense is a good defense. As soon as you see a problem, act immediately. Some types of bugs might be deterred with the spray of the water from the hose. Use organic gardening practices as well as hand picking and discarding larger bugs.

Spider Mites—They have tiny bodies (less than 1mm) and live in colonies. The two spotted spider mites are considered the most damaging of all spider mites for vegetables.



Family name: Tetranychidae
Latin name:
Many different species



Spider mite damage on a tomato leaf

These are typically seen on beans, cucumbers, lettuces peas, and tomatoes. The sign of their activity is white or yellow stippling of the leaves, stunted growth and fine webbing. Watch plants frequently especially during hot, dry weather. Water regularly using a strong jet of water to dislodge mites from the affected plants.

Japanese Beetles have 1/2 inch -long metallic green bodies with bronze-colored wing covers. The adults feed on ornamental plants and vegetable crops. They also feed in groups in hot weather, eating leaf tissues between the veins. Beetles are typically seen on basil, collards, corn, eggplant, peppers, and tomatoes. Their signs of activity is skeletonized leaves, chewed corn silks, and a dead section of lawn. To control them, be diligent about hand picking the beetles early on to curb population levels. Apply beneficial nematodes, kaolin clay, and neem. Cut back the frequency of watering the lawn as the young grubs are very susceptible to dry conditions.

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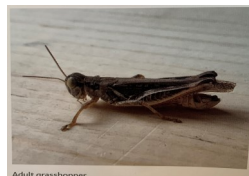
Family name: Scarabaeidae
Latin name: Popillia japonica



Skeletonized leaves are a common sign of Japanese beetle activity.

Grasshoppers grow up to 3 inches long and have strong hind legs. They have green, brown, or yellow coloration. They are seen on leafy green vegetables, onions and carrots. Grasshoppers chew irregular, large holes in the leaves of the vegetables and ornamental plants. To control them, grasshopper repelling plants, such as calendula and cilantro can be helpful and attract birds to the garden to eat the grasshoppers.

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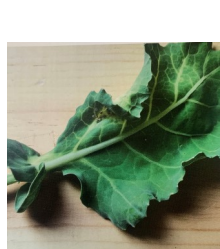


Adult grasshopper



Grasshoppers don't ordinarily bother squash plants but they made an exception in this case!

Aphids grow up to 1/8 inch long and have soft pear-shaped bodies that can be green, gray, white, yellow, or black. They are usually wingless. Typically, they are seen on the artichokes, asparagus, arugula, cabbage and kale. Their damage appears as puckered, curling and discoloration of leaves; honeydew, stunted growth tips and ants on or below the



Aphids caused the puckering and discoloration on this kohlrabi leaf.

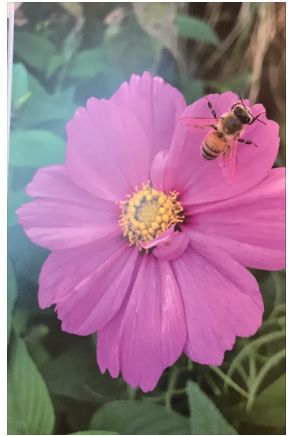


Family name: Aphididae
Latin name: Many different species

may help to control the problem but excessive use of high-nitrogen fertilizers produces abundant new growth that attracts aphids

Bees

Bees are beneficial insects. There are 20,000 bee species worldwide, 4000 in North America, and of those 4000, there are 1600 in California alone with roughly 650 different bee species identified here in San Diego. There is only one non-native bee species which is the honeybee, and they are by far the most populous. They grow in hives and live in large social groups, anywhere from 10,000 to 60,000 bees per colony. All other bee species are native, most of which are solitary and therefore have small populations. This is one of the main reasons while checking your blooming plants, you will notice more honeybees foraging, collecting nectar and pollen, than the native bees. During foraging, pollen gets moved from one plant to another and hence pollination occurs, an important function performed for our society's food needs.



Seed library pick-recipe- Lemon Balm Honey Syrup

What you need-

Lemon Balm leaves -2 cups

Water- 5 cups

Local raw Honey-1 1/2 cup



What to do

Put lemon balm leaves in a pot and cover them with water. Heat over medium-low with the pot partially covered. Let the liquid reduce by half, which will only take 10 minutes for a small batch. Be sure to watch that it does not lose too much water. Strain the mixture and let it cool a bit. Mix two parts liquid and one part honey. Keep it in a sealed jar or bottle in the fridge.

Seed Library Pick- Plant – Lemon balm

Lemon balm, a member of the mint family, is considered a calming herb. It was used as far back as the Middle Ages to reduce stress and anxiety. This plant is native to Europe and grows all over world.



It is grown not only in herb gardens or to attract bees, but also in crops for medicine, cosmetics, and furniture polish manufacturing. The plant grows up to 2 feet high, sometimes higher if not maintained. In the spring and summer, clusters of small, light-yellow flowers grow where the leaves meet the stem. Plant lemon balm during the warm weather of late spring once all chances of frost have passed. Check soil moisture every few days and water appropriately.

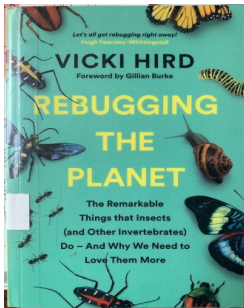
Seed Library Book Suggestion

“Vegetable Garden Pest Handbook”

This book is one of the most practical guides ever written to help any environmentally conscious home gardener identify and manage pests. Consider this a must have resource. Call Number 635.0496\Mulvihill.



“Rebugging the Planet”



The decline of insect life globally is a huge concern of our biodiversity crisis. This book demonstrates how to repopulate with different species of insects that will have a major impact on our food sources. Call Number 595.7\Hird

Garden Events @ Scripps Ranch Library

The library has several events going on this month if you are interested.

Garden Share- April 15th 11-1 pm

Major Wine Regions of France-

April 29th, · 1— 2:00 PM

References:

Hird, Vicki (2021) “Rebugging the Planet”. Published by Chelsea Green Publishing.

Mulvihill, Susan (2021) "Vegetable Garden Pest Handbook". Published by Cool Springs Press.

Special thanks to Denise Bienias for her invaluable Information on bees.

There are multiple resources available at Scripps Ranch Library that are not cited here.

We request that you share pictures of your garden and tells us about your experiences, which can be helpful for other gardeners. Also, we invite you to send in your garden related questions and we will answer them in the next newsletter.

This newsletter is composed by Ashu Agarwal and edited by Jeff Lash

For any questions, please contact Ashu Agarwal (AAgarwal@sandiego.gov)

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