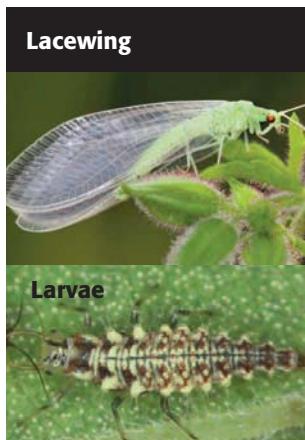
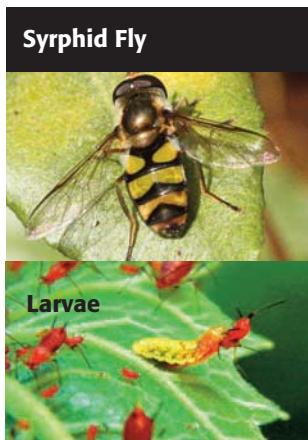


Insects

POLLINATOR, PREDATOR AND PARASITOID—



What more could a gardener want?

BY ARNOLD MERCER, '07

The larvae and adults of many native insects are predators or parasitoids. The adults of all of them are pollinators. By eliminating all pesticides and by planting appropriate nectar and pollen sources, these beneficial insects can be attracted and sustained.

Syrphid Fly adults look like small bees with yellow and black striped abdomens. The larvae have pointed heads and are greenish or grayish in color. The larvae feed on aphids and are able to get into tight places where aphids hide such as curled up leaves. Syrphid Flies are especially valuable, because they appear in early spring, before other beneficials are active.

Lacewing adults are pale green or brown and have large, veined wings. The larvae, which have been described as looking like $\frac{1}{2}$ " long alligators, devour aphids, small caterpillars, mealy bugs, scales, thrips, whiteflies and insect eggs.

Minute Pirate Bug adults are only about $\frac{1}{16}$ " long. They have black bodies with a white chevron pattern on their backs. In addition to feeding on pollen and nectar, adults and nymphs feed on many soft-bodied insects: aphids, spider mites, thrips, small caterpillars and insect eggs. Minute Pirate Bugs also appear in early spring. Though so small that they are rarely noticed, the adults can give a painful bite to the unwary gardener.

The Tachinid Fly is the largest and most important group of parasitic insect flies. There are over 1300 species in North America. Many species bear a resemblance to houseflies. All are parasitic as larvae. Most Tachinid Flies attack caterpillars and adult beetles and their larvae. Others kill sawfly larvae, true bugs, grasshoppers and other types of insects.

Parasitic Wasps form a huge group of insects, comprising thousands of species. They are generally small (most are less than a $\frac{1}{4}$ "). There are some exceptions such as the Cicada Killer, which can top two inches in length. Parasitic wasps attack eggs, caterpillars, pupae and adult insects. Most are host specific, attacking a particular species.

Planting to attract these beneficial insects helps reduce many insect pests that plague our gardens. A wide variety of flowering plants should be planted to provide pollen and nectar for different beneficial insects. Many of these insects are tiny or have short mouth parts, so plants with small flowers and short nectaries should be included. Start attracting beneficials quickly with annuals like alyssum, cosmos, zinnias, sunflowers, and marigolds. At the same time, plant perennial flowers and herbs, including golden marguerite, yarrow, lavender, mint, fennel, angelica and tansy. Beneficials are also fond of dill, parsley and cilantro flowers. After harvesting these herbs, leave the plants in the garden to flower. A small patch of carrots can also be left to flower. Their blossoms are fragrant, and beneficials love them.

Attract Beneficial Insects, by Planting these Native Plants:

- ◆ *Apocynum cannabinum*- Indian Hemp; Bloom Time- June to August
- ◆ *Coreopsis tinctoria*- Plains Coreopsis; Bloom time- June to August
- ◆ *Eupatorium perfoliatum*- Boneset; Bloom time- July to September
- ◆ *Helenium autumnale*
Common Sneezeweed;
Bloom time- August to September
- ◆ *Solidago juncea*- Early Goldenrod;
Bloom time- July to September
- ◆ *Solidago patula*- Rough-leaved
Goldenrod;
Bloom time- September to October
- ◆ *Sympyotrichum laeve*- Smooth Blue Aster
Bloom time- August to October

References

Plants in the list were selected from **Pollinator-Friendly Plants for the Northeast United States**, (USDA), Natural Resources Conservation Service. This impressive publication lists 56 native plants and describes their habitats, culture, attractiveness to pollinators and what groups of pollinators they attract. It also includes sources of additional information and a list of native plant suppliers. www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nypmctn11164.pdf.

Other articles on attracting beneficials:

Fine Gardening Magazine,
"Attracting Beneficial Insects",
www.finegardening.com/attracting-beneficial-insects .

Rodale's Organic Life
www.rodalesorganiclife.com/garden/meet-beneficial-insects