DRAGONFLY

Aliases: skimmer, darner, clubtail

Wanted for: Preying on unsuspecting flying insects such as mosquitoes, flies, and midges.

Family History: A deadly predator able to catch prey in mid-air. Dragonfly larvae (nymphs) live in water and are efficient hunters, eating mosquito larvae and other insects, snails, and small fish. **Known Accomplices:** Often seen in the company of its relative, the damselfly (lower right) another insect predator. Don't be fooled; when at rest, dragonflies hold their wings outstretched while damselflies fold their wings closed over their bodies. **Sightings:** Last seen near garden ponds, streams, and other bodies of water.

GREEN LACEWING

Aliases: aphid lion, walking trashpile

Wanted For: Aggressively devouring aphids, thrips, mealybugs, scales, spider mites, leafhoppers, and insect eggs. Family History: Adult green lacewings feed on nectar, pollen, and honeydew—at dawn and dusk. Juveniles are voracious predators known to eat up to 20 or 30 aphids a day. Sightings: Last seen around nectar-producing plants such as sunflowers, tansy, and buckwheat.

SOLDIER BEETLE

Aliases: leatherwing, cantharid

Wanted For: Attacking and feeding on aphids and other soft-bodied insects.

Family History: Adults feed on pollen and insect pests on plants. The larvae, or young, hunt for pests in leaf litter and soil.

Sightings: Known to feed on the pollen of flowers such as goldenrod and milkweed while waiting for its prey. Reports of sightings appear in early spring, shortly after aphids begin hatching.

Aliases: honeybee, bumblebee, digger bee

Wanted For: Pollinating the flowers of many ornamental, fruit, and vegetable plants.

Family History: Specially equipped for moving large quantities of nectar and pollen, honeybees live in colonies in hives. Most native bees are masters at eluding notice and often live alone in ground nests.

Sightings: Usually seen in gangs in the vicinity of flowers high in nectar and pollen, including asters, sunflowers, mints, lavender, rosemary, and sages.



Aliases: fiery hunter, snail eater, carabid Wanted For: Conspiring to eat many soil-dwelling pests such as slugs, snails, cutworms, and root maggots.

Family History: Fast-moving predator, armed with strong jaws. Generally dark brown or black with long legs, and shiny, hard front wing covers that sometimes have a metallic sheen. Usually hunts at night. Reported to be able to consume its body weight in food each day. Larvae also feed on soil insects.

Sightings: Usually sighted hiding in soil or under rocks, dried leaves, and mulch.

IOP 10 MOST WANTED



WHY YOU WANT THESE BUGS IN YOUR GARDEN

Most insects found in your garden don't harm plants. In fact, 97 percent of the insects you see fall into this category! Such insects are called beneficials because they benefit the garden by pollinating plants, improving soil, and eating the pests that really harm plants. These hard-working beneficials can be a gardener's best friend.



Aliases: hover fly, flower fly

Wanted For: Hunting down aphids, mealybugs, and other pests, and for pollinating plants.

Family History: Adults are known to be important pollinators.
The larvae suck the juices out of their insect victims. A single larva can consume hundreds of victims per month.
Sightings: Larvae are usually found under leaves in the company of aphids. Adults can be seen lurking around sunflowers, feverfew, and other nectar-rich flowers.
Master of Disguise: With their yellow and black stripes, the adults appear to be bees, but they have only one set of wings and can't sting. The larvae look like fat, legless caterpillars.

PARASIHIC WASP

Aliases: fairy fly, chalcid

Wanted For: Parasitizing the eggs and larvae of cutworms, cabbage loopers, codling moths, tomato hornworms, as well as all stages of aphids, whiteflies, scales, and other pests. Family History: These tiny, notorious wasps lay their eggs on or inside of pests or insect eggs and the larvae eat the pest. Can be tracked by the tell-tale signs they leave behind, such as tiny, white cocoons on caterpillars or aphid mummies—the tan, dried up husks of aphids stuck to a leaf.

Sightings: Suspected of foraging for nectar on tiny flowers such as alyssum, yarrow, tansy, and clover.

SPIDER

Aliases: orb weaver, crab spider, wolf spider Wanted For: Trapping and bugnapping a variety of insect pests. Family History: The most deadly natural enemy of pests, spiders are skilled predators. They use webs to trap their victims or track them on the ground and on plants. Spiders can be identified as arachnids, with eight legs and two body parts. Sightings: All over the garden and on porches near lights. Warning: Spiders are thought of as fearsome creepy-crawlers, but very few have a bite that is harmful. Always wear gloves when cleaning garages, debris, woodpiles, storage areas, or piles of clutter.

TACHINID FIN

Aliases: feather-legged fly

Wanted For: Attacking unsuspecting caterpillars and beetles. Family History: Disguised as a hairy housefly, this parasitic insect lays its eggs on caterpillars, grubs, and other insects. When the eggs hatch, the larvae tunnel into their victims and eat them.

Sightings: Adults are often seen stealing the nectar and pollen of tansy, milkweed, and Queen Anne's lace.

Aliases: ladybug, ladybird beetle

Wanted For: Gorging on soft-bodied insects such as aphids, scales, thrips, mealybugs, and spider mites.
Family History: Adults and larvae eat large numbers of pests. One ladybug can devour 5,000 aphids in its lifetime. The most common suspect is red with black spots, but watch for many other species in a variety of colors, with or without spots.
Sightings: Known to loiter on nectar-rich flowers such as yarrow, clover, and tansy.

Warning: Be on the lookout for a ladybug look-alike: the spotted cucumber beetle! This green beetle with black spots feeds on crops and foliage.

Before you stomp on or spray any unfamiliar bugs in your garden, make sure you know the good guys from the bad guys. Remember that most insects have stages of their life cycle, so the young (larva or nymph) may look totally different from the adult. And, keep in mind, it is often the "young" of the insect that eats the most pests. Learn to identify some of the most common beneficial insects.



www.ipm.ucdavis.edu/PMG/NE/index.html Safe Use of IPM

Natural Enemies Gallery

Native Plants www.wildflower.org

www.bugguide.net www.bugwood.org www.aces.edu/blog/topics/beneficial-insects/pestand-beneficial-insects

Bug Guide: ID, Images for Insects, Spiders & **Their Kin**

nectar-and-pollen-producing-plants-of-alabama-aguide-for-beekeepers/ www.aces.edu/blog/topics/bees-pollinators/theorchard-mason-bee/

Bees www.aces.edu/blog/topics/bees-pollinators/

RESOURCES TO HELP EXPAND YOUR SEARCH

HAVING A GOOD DEFENSE

The diversity of natives available offers gardeners great established and are generally more tolerant of drought. specific climate, they often require very little care once costs. Because native plants have adapted to grow in our eliminate the need for pesticides and reduce maintenance ward off insect pests and diseases. These defenses can Many native plants have developed natural defenses to

HOP 10

MOST WANTED

SISTOREOPSIS

atop long stems. Blooms in the summer. flowers are four-lobed. The yellow, daisy-like flowers occur singly ray flowers, which appear to be attached just below them. Ray The yellow center or disc flowers stand out distinctly from the AKA: Coreopsis sp.

> plants guaranteed to draw in many of the 10 most wanted: beneficials can feed throughout the year. Below are some

> diversity of plants that bloom at different times so that the

them a variety of nectar and pollen-rich flowers. Choose a

and encourage them to stay and hunt for pests by offering

Most beneficial insects need to supplement their diets with

pollen and nectar. You can attract them to your garden

FLOWERS FOR BENEFICIAL INSECTS

BURPLE CONFELOWER COCKSCOME

AKA: Echinacea purpurea

drooping, lavender rays. Blooms spring and summer. the stems and have domed, purplish-brown, spiny centers and and long-lasting, lavender flowers. Flowers occur singly atop A popular, native perennial with smooth 2- to 5-foot stems

OUEEN ANNE'S LACE

AKA: Daucus carota

.llef atel deuordt rammus atel mort

AKA: Celosia cristata

cluster at the top. Blooms in the summer. one central stem, each with an umbrella-shaped flower Consists of one or several hairy, hollow stems, growing from Biennial herbaceous plant that grows 3 to 4 feet tall.

GORDFANROD

.qs ogebilo2 :AXA

Blooms in the fall. Plant heights vary from 1 to 6 feet tall. widely spaced. Yellow flowers that grow in thick clusters. Long, wood-like stems with spiky, tooth-like parts that are



28 inches long. Name is suggestive of a rooster's comb. Blooms

crested head 2 to 5 inches across on leafy stems that are 12 to Annual, nonnative, herbaceous plant. Blooms with a compacted

system before colorful spring blooms emerge.

butterflies, and beneficial insects.

toor ydtlaah a deildate establish a healthy root

Early fall is an ideal time to plant natives. The cool weather

and provides food and habitat for our native birds, wildlife, -boices for both fragrant flowers and beautiful foliage-

TVIN MIATVUOM

appear white.

early fall. Each cluster is surrounded by leafy bracts that often with a bushy appearance. Blooms in the summer to This perennial plant grows 3 feet tall and branches frequently, MKA: Pycnanthemum

HAVE A SMART YARD

POSITIVE IDENTIFICATION

- Provide shelter and overwintering sites by covering bare dirt with an organic mulch such as leaves or bark. Leave a small area of exposed soil to encourage solitary native bees that are ground nesters.
- Include a variety of pollen- and nectar-rich plants to provide a supplemental food source.
- Pesticides (particularly broad-spectrum pesticides that don't target single pests) kill the beneficials as well as true garden pests. Only target treat pests to protect beneficial insects.
- Misused garden chemicals also affect water quality and other wildlife when rain or overwatering move the chemicals to storm drains and surface waters. For information on pesticide alternatives, go to www.aces.edu/blog/topics/ landscaping/garden-bugs-making-your-gardenvegetables-less-susceptible-to-insect-damage/.

www.aces.edu/blogs/topics/bees-pollinators/ protecting-pollinators-in-urban-areas-safe-use-ofintegrated-pest-management

Adapted with permission from the Marin County Stormwater Pollution Prevention Program and Bay Area Stormwater Management Agencies Association Our Water Our World Program

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YOUR

