

Beneficial Insects Sheet 2 ¹

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- **Assassin bugs** (Plate 1 and Plate 2). These insects are generally black or brown, but many of them are brightly colored. They are 1/2" to 1" in length. The head is elongate with a short, curved beak. There are more than 160 North American species and most are predaceous. These bugs are usually found on foliage, where they attack many harmful insects. Caterpillars are their favorite prey. Many species will inflict a painful bite if handled.
- **Syrphid flies** (Plate 3). These are commonly found on flowers and are also known as flower flies. This large group consists of about 900 North American species. The flies vary greatly in color and size; most are yellow with brown or black stripes on the abdomen. Many syrphid flies resemble wasps, and others closely resemble bees, but none sting. Adult flies feed primarily on pollen. Many syrphid larvae are predaceous, especially on aphids. The larvae are slug- or maggot-like, have no legs or visible head and are usually a greenish, translucent color (Plate 4).
- **Spiders** (Plate 5 and Plate 6). All spiders are predaceous, feeding almost exclusively on a wide variety of insects, paralyzing their prey with venom injected by their bites. They rarely bite man and only a few, such as the widows and brown recluse spiders, are dangerously venomous. The majority capture their prey in webs but many of the more beneficial species such as the wolf, jumping and crab spiders do not spin webs. Those that do not construct webs are especially effective in capturing insects that inhabit the soil surface or plant foliage.
- **Ground beetles** (Plate 7). Both the adults and larvae of ground beetles are predaceous upon harmful insects. As the name suggests, they are usually found on the ground, and are most active at night. Adult beetles are 1/4" to 1" long and are generally black, but often are metallic-colored. They prey on some of our most serious lawn, vegetable and field crop pests including webworms, armyworms, cutworms, corn earworms, small mole crickets and others.
- **Big-eyed bugs** (Plate 8). These are 1/16" to 1/8" long and are usually black with silver wings. They are stout-bodied and somewhat flat. They have large, prominent eyes, hence their name. They are often found on the soil surface

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preying on many small pests, especially chinch bugs, small caterpillars and other soft-bodied insects.

- **Parasitic wasps.** These are an extremely important and large group of beneficial insects with about 16,000 species occurring in North America. These wasps are very small - most are less than 1/8" long and usually are not noticed. They lay their eggs on or in the body of a host insect and the immature stage consumes the host's tissues over a period of time, eventually killing it. Pupation may occur in or on the host (Plate 9). Some wasp larvae construct many small white cocoons on the body of their host. Other species pupate inside their host, and the emerging wasp leaves a small circular hole in the host's body as evidence of parasitism. These wasps parasitize many harmful insects such as scales, whiteflies, aphids, leafminers and caterpillars (Plate 10).



Plate 1.



Plate 2.



Plate 3.



Plate 4.



Plate 5.



Plate 6.



Plate 7.



Plate 8.



Plate 9.



Plate 10.