



Class Insecta, Insects

Order Hymenoptera, Ants, bees, and wasps

Hymenoptera means “membraneous wings.” The hind wings are smaller than the front wings and have a row of tiny hooks, hamuli, that attach the two wings. There are two suborders. The smaller suborder includes sawflies and horntails, which are phytophagous. Bees, wasps, and ants belong to the larger suborder, which includes nectar, pollen, and insect feeders. Hymenoptera is the second largest group of insects, most of which are beneficial. These insects undergo complete metamorphosis and have complex behaviors. Most parasitic wasps do not sting humans. All hymenopterans have chewing mouthparts.

Encyrtid wasps

Family Encyrtidae

Description and life history: Encyrtids are small wasps with an enlarged pair of middle legs used for jumping. Adults are gray to black, and extremely small, usually less than 2 mm long. Some *Copidosoma* species are barely visible to the eye. The wings are covered with short hairs. The encyrtid adult female life span is 2–3 days.

Prey species: Encyrtid hosts include ticks and various insect eggs, larvae, or pupae, including beetles, true bugs, moths, mealybugs, and scales. *Encyrtus* species attack soft scales common in greenhouses. *Copidosoma floridanum* attacks cabbage looper larvae. A female encyrtid deposits 1–2 eggs within a host egg. As the caterpillar develops, the wasp eggs divide many times to produce 1000–2000 wasp larvae, which can be seen through the skin of the caterpillar prior to their emergence.



Encyrtus fuscus reared from hemispherical scale, a soft scale that is a common greenhouse pest. (347)

Photo: John Davidson



Parasitized hemispherical scale, a soft scale, turned black as a result of the developing parasitoid. (348)

Photo: John Davidson