

## HYMENOPTERA PARASITES

### Hymenoptera: Ichneumonidae, Braconidae, Chalcidae

#### DESCRIPTION

**Adult ichneumonids** are 4 to 35 mm long with slender bodies. Females have a long ovipositor which is permanently extruded. Adults are usually brown, red, or black, with long antennae (16 or more segments). **Adult braconids** are smaller (2 to 12 mm long) and more stout-bodied than ichneumonids. Most species are black or dark brown. **Adult chalcids** are very small (0.3 to 3 mm long) and are often metallic blue or green. Many species have a laterally compressed or triangular abdomen. The antennae are elbowed with 13 or fewer segments. The wings either lack veins or have much reduced venation. Larvae of most Hymenoptera parasites are white, legless, and grub-like.

#### LIFE HISTORY

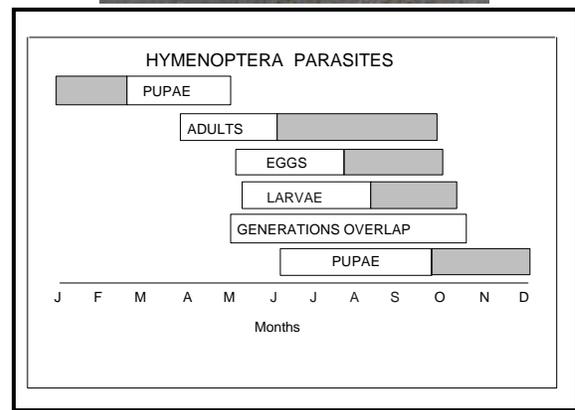
Most Hymenoptera parasites overwinter as pupae or prepupae in soil, under trash, within prey, or in other protected areas. Adult emergence in the spring is closely synchronized with the prey. Females lay an egg in or on the prey and the parasite larva develops on or within the prey. Larvae consume internal tissues and organs, eventually killing the prey. When mature, the larva pupates within the body of the prey or emerges from the prey and pupates in a protected area. Many parasites have numerous overlapping generations during the summer, but some have only one generation each year. Life histories of these parasites are closely synchronized with the prey and vary according to the species.

#### IMPORTANCE

These parasites are important in suppressing populations of many insects. The alfalfa weevil parasite, *Bathyplectes curculionis* may parasitize 80 to 90% of weevil larvae in the spring. At least four species of *Aphidius* and *Praon* have been released in the northwest and are important parasites of aphids, especially pea aphid. *Aphelinus mali* is a well-established parasite of woolly apple aphid. Nine parasites of omnivorous leafhopper have been introduced, but only *Bracon stabilis* is abundant. *Macrocentrus* spp. are established and help suppress populations of oriental fruit moth and some tortricid larvae. *Apanteles* spp., *Meteorus* spp., and *Campoletis* spp. are parasitic on several species of



Adult Hymenoptera parasite and Larvae (below)



cutworms and loopers in mint, alfalfa, and vegetable crops. In mint, *Meteorus communis* may reduce populations of cutworms such as variegated cutworm and bertha armyworm by as much as 90%. The principal parasites of cutworms and loopers east of the Cascade Mountains are Porizintinae species and *Copidosoma* spp. *Apanteles solitarius* is an effective parasite on statin moth, and *Meteorus argyrotaeniae* parasitizes the orange tortrix. Parasites are important on many crops grown in the northwest and should be conserved.

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