



Class Insecta, Insects

Order Coleoptera, Beetles

Coleoptera means “sheathed wings.” All beetles have hard forewings, called elytra, which do not help in flying but cover the membranous hind wings and protect the abdomen. Beetles are the largest group of insects, making up approximately 40% of all known insect species. Their habit, diet, and range are quite variable. About 40 families contain predaceous species. All beetles have chewing mouthparts.

Ground beetles

Family Carabidae

Description and life history: Ground beetles, live in or on the soil. They are nocturnal predators, hiding under rocks or at the bases of plants during the day. They vary in size from a few millimeters to over 4 cm. Most adults are brown or black, although a few are metallic blue or green. Some of the larger species can live for 2 to 4 years. They have wings but generally move by walking. Most consume insects found in or on the soil, but some climb into trees, shrubs, and crop plants to hunt.

Prey species: Predatory carabid species feed on a wide range of insects and earthworms. Beetles in the genus *Calosoma* eat caterpillars; *Calosoma sycophanta* is an important predator of gypsy moth larvae and pupae. Larvae consume up to 40 gypsy moth larvae, and may adults eat up to 200. No species are available commercially, although *C. sycophanta* was introduced in the United States for gypsy moth control. Avoiding frequent tillage and broad spectrum soil insecticides conserves these natural predators. Large ground beetles in the genus *Harpalus* are common throughout the US.



Harpalus sp., seed-eating ground beetle adult. (304)
Photo: unknown



Pterostichus sp., ground beetle adult. (304)
Photo: Vera Krischik



Calosoma sp., caterpillar hunter adult. (304)
Photo: Vera Krischik