



Rove Beetles

O & T Guide [T-#07]

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Rove beetles are slender, highly active, black beetles that are occasional burrowing pests of highly manicured golf greens.

Metamorphosis: Complete
Mouth Parts: Chewing (larvae, adults).
Pest Stage: Adult, possibly larvae.

Scientifically: Rove beetles are members of the insect order Coleoptera, Family Staphylinidae.

Typical Life Cycle: Eggs are laid in small clutches near potential food sources (other insects) for the larvae → Series of Larvae. Larvae of most species will be highly active, searching for food in sheltered, slightly moist habitats below ground or in soil litter. Some rove beetle species are known to be predatory on small insects; other species may be plant feeders since some are known to feed on fungi, algae or plant mulches. → The Pupa stage is found in soil litter or in moist soils near larval food sources. → The Adult is highly active and free-living; many species are active primarily at night. Many species are poorly known biologically.

Description of Life Stages:

Egg---minute, white, nearly spherical to elongate; rarely seen.

Larvae---elongate, cylindrical but slightly flattened, off-white with brownish head

capsule and three pairs of prominent, slender thoracic legs. Mature larvae of the largest species are probably less than 5/8 inch long. Most species have two slender projections on the tip of the abdomen; each projection is about the length of two abdominal segments or slightly longer.



Example of a rove beetle adult, Family Staphylinidae. Note the extremely short wing covers and exposed abdominal segments. Two short projections are visible on the end of the abdomen. Photo: Joseph Berger, , www.forestryimages.org

Pupa---bare, off-white to yellowish-tan at maturity. Pupae of the largest species are probably 1/2 inch long or less. The general appearance of the pupa is like a mummy of the adult it will become with abdomen obviously segmented, three pairs of slender, elongated legs, and a well developed head capsule with compound eyes, chewing jaws and antennae visible and tightly pressed to the head. Forewings are short but wrapped closely around thorax. The pupa is generally immobile.

Adult---Most species are slender and dull black or very dark brown, generally resembling earwigs but without the caudal pincers. The forewings are very short, leaving most of the abdominal segments exposed. Antennae thread-like and extended forward; jaws projected forward and visible from above. A pair of stubby projections may be visible on either side of the end of the abdomen. Some species flex the abdomen upward as they run.

Habitat and Hosts: Rove beetles are agile and highly active predators and scavengers. The nocturnal adults and larvae are active during warm weather. They may overwinter as larvae, pupae, or adults.

Damage: Some species of rove beetles eat mites, beetle larvae, aphids, and small caterpillars both as adults and larvae. Other species are readily attracted to dead animals and dead insects, where they probably scavenge on these tissues and other insects feeding there. While larval feeding habits of many rove beetle species are unknown, members of at least one subfamily are known to feed on fungi, algae and plant-based mulches; at least in the laboratory, many species, including predators, will feed to some extent on fruit

slices. Cultural practices associated with turf maintenance on golf courses probably create habitat and perhaps odors attractive to ovipositing rove beetles. Once on site, the nocturnal beetles tunnel in the extremely short turf on golf tees. Adults and possibly larvae burrow, making small holes and mounds of soil on the golf turf, creating poor putting surfaces.

IPM Notes: Over 1500 species of rove beetles are scattered throughout North America. While many are under-appreciated predators of pest insects or scavengers around dead animals or dead insects, others may be omnivorous or even plant feeders to some extent.

Unfortunately, some species of rove beetles have achieved occasional nuisance status on New Mexico golf courses for their burrowing habits on extremely short and highly manicured turf. Rove beetles are not considered pests on home lawn turf or most recreational and ornamental turf.

No insecticides are labeled specifically for rove beetle control in turf, leaving golf turf managers to make spot treatments, as needed, with currently registered, labeled insecticides having activity against various beetle pests on turf.