



BUG BIZ

Pest Management and Insect Identification Series



Platydracus maculosus, Golden Platydracus Beetle (Coleoptera: Staphylinidae)

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Description

The golden platydracus beetle is a large rove beetle that is a native predator of other insects associated with decaying organic matter, especially dead animals. Adult golden platydracus beetles are easily distinguished their large sizes, 7/8 to 1 1/4 inch (22 to 30 mm) in length, brown coloration with golden highlights of fine short hairs (setae), and short, modified forewings that expose most of the abdomen. The golden hairs are more pronounced at the tip of the abdomen. The head is large, oval in outline, with large mandibles and long, slender antennae. The eyes are located in the curvature of the sides of the heads and do not bulge out. The short elytra are typical of many members of the family staphylinidae and some members of a few other families of beetles, but most are much smaller in size. The flight wings are folded and tucked beneath the elytra. When extended for flight, the beetles look very much like small flying wasps due to their size, shape and bright yellow setae.

Mature larvae are nearly the same size as the adult beetles and possess long slender, tapering bodies that end in a pair of long, multisegmented processes called urogomphi. The head is large, shiny, and oval with large mandibles and short antennae. Six legs are large and suited for the rapid movement required for prey capture.

The genus *Platydracus* is a member of the largest family of animals on Earth, Staphylinidae (rove beetles), with more than 56,000 described species and many more undescribed. The genus *Platydracus* includes more than 20 species in the U.S. and at least nine in Louisiana. Several undescribed species are known to occur in southern United States. Species differ mainly in size, color pattern, and other details of anatomy. Another species of large rove beetle, *Ontholestes cingulatus* (golden and brown rove beetle) is superficially similar in size and coloration, but the large eyes are distinctly bulging beyond the curvature of the head.



An adult golden and brown rove beetle (*Ontholestes cingulatus*), a species similar to the golden platydracus beetle, feeding on an adult fly. Note the bulging eyes (Susan Ellis, USDA APHIS PPQ, Bugwood.org).



A preserved specimen of an adult golden platydracus beetle (*Platydracus maculosus*) (Susan Ellis, USDA APHIS PPQ, Bugwood.org).

Life Cycle

Platydracus maculosus is one of the largest and most commonly encountered species in the genus, and its biology can be considered typical of the group.

Platydracus beetles undergo four developmental stages: eggs, larvae, pupae and adults. Female adults lay eggs in decomposing organic matter. After hatching, larvae undergo three growth stages (instars). The larvae are active predators of various insects, especially fly larvae and other arthropods, on decomposing dung or animal carrion. Fully mature larvae burrow into loose soil or organic debris and prepare a chamber of compacted soil and debris. They pupate within it and emerge as adults about two weeks later. Development is faster at higher temperatures, slower at lower temperatures. At 77 F (25 C) the total life cycle requires approximately one month.

Ecological Significance

Platydracus beetles are large, agile predators of other insects, including crop pests. They are active flyers and are often seen during daytime flying in the vicinity of carrion and animal dung where scavenging insects are concentrated. Although they will prey on a variety of insects and other arthropods such as terrestrial isopods, they prefer carrion-feeding fly larvae (maggots) and adults. Adult platydracus beetles and larvae actively hunt maggots on carrion, and adults have been observed perching and snatching adult flies as they fly past.

Platydracus beetles are members of the large natural complex of organisms that break down decomposing materials into nutrient rich substrates in a variety of habitats. They are more common and abundant in forests, where they are beneficial members of the forest insect predator community.

References

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