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Fireflies or Lightening Bugs?

"Lightning beetle" is the correct common name since these insects are neither flies, in the Order Diptera or true bugs, in the Order Hemiptera. Adult male lightening beetles are long and narrow and ½- inches in length; they have a black head with a reddish section behind the head and dark brown wing covers edged with yellow. The underside of their last abdominal segments is colored greenish-yellow, since they are capable of producing flashes of light. Few other insects can be confused with lightning beetles, since no other insect possess the light-producing structures on their abdomens. The larvae and wingless adult female lightening beetles are flattened and spindle-shaped. They do have structures that produce light, so they are called "glow worms." The light produced is due to the reaction of two substances, luciferin and the enzyme, luciferase.

Adults produce light to find mates and some species use it to attract other lightning bugs as prey. Immature stages of lightning beetles are predatory on other small insects, earthworms, slugs and snails. Larvae and adults are active at night and inject toxic digestive enzymes into prey before sucking out the liquefied body contents.

Winter is spent in the larval stage in chambers formed in the soil. They pupate in the spring and emerge in early summer. Lightning beetles can be found in early summer beginning at dusk and are mostly found in wooded areas. After mating, females lay eggs in the damp soil. The eggs hatch into larvae in about 4 weeks and the larvae develop through several stages before pupating. The life cycle from egg to adult in most lightning beetle species takes two years.



A lightning beetle, *Photinus* sp. (Coleoptera: Lampyridae). Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

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