Light-emitting beetle found in moist places of temperate and tropical regions. Organs underneath the abdomen usually give off rhythmic flashes of light that are typical of the species. The luminous larvae and wingless females of some species are called glow-worms. Length: to 25mm (1in). There are 1,000 species. Family Lampyridae.

or lightning bug, small, luminescent, carnivorous beetle of the family Lampyridae. Fireflies are well represented in temperate regions, although the majority of species are tropical and subtropical. They are nocturnal in their behavior, and males commonly fly about in the evening during early summer. In many species the females are wingless.

Males, females, and larvae emit a heatless, greenish-yellow to reddish-orange light; in some species even the eggs glow. The light, which plays a role in mating, is produced by light organs located on the underside of the abdomen. These consist of several layers of small reflector cells and a layer of light-producing cells. The light-producing cells are permeated by nerves and air tubes; oxygen supplied by the air tubes converts the cell product luciferin to oxyluciferin. This oxidation, catalyzed by the enzyme luciferase, releases energy in the form of light. The insect controls the emission of light by regulating the amount of air supplied to the cells. The intensity and frequency of the flashes vary with the species and probably serve to identify males and females to each other. Synchronized flashing is characteristic of some tropical species.

Adult fireflies of many species do not feed. The larvae, which hatch from eggs laid on or in wet soil, feed on snails and earthworms, injecting their prey with a paralyzing fluid. Pupation (see insect) occurs after one or two years. Both larvae and wingless females are called glowworms. The common European glowworm is the female of the Lampyris noctiluca. Asian glowworms are considered beneficial controllers of crop-damaging snails and slugs. There are other luminescent insects, including members of other beetle families; the most spectacular are found in the click beetle family.

Fireflies are classified in the phylum Arthropoda, class Insecta, order Coleoptera, family Lampyridae.
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