



Crooked Creek
Environmental
Learning Center

CROOKED CREEK ENVIRONMENTAL
LEARNING CENTER

Summer's Here!

Volume 3 , Issue 6

Fireflies are actually beetles!

Fireflies are not really "flies" as entomologists know them, but are beetles in the family Lampyridae. "Flies" have one pair of wings (like houseflies) while all other winged insects have two pairs of wings, or, four wings altogether. In general, when the common names of insects contain the word "fly" as part of a one word common name such as firefly, dragonfly or scorpionfly, the insects are not true flies and belongs to another order of insects. When the word "fly" is hyphenated or follows the first word of an insect common name, it is most likely a true fly (and by definition, has only two wings.)

Most known firefly species are bioluminescent as adults. However, all known firefly larvae are bioluminescent, as are firefly eggs. Thus, the ability to glow as an adult insect is not characteristic of this group of beetles. Also not all bioluminescent beetles are fireflies.



Firefly Larvae are predaceous and have been observed feeding mostly on earthworms, snails and slugs. Larvae can detect a snail or slug slime trail, and follow it to the prey. After locating their future meal, they inject an anesthetic type substance through hollow ducts in the firefly's mandibles into their prey in order to immobilize and eventually digest it. Multiple larvae have also been observed attacking large prey items, such as large earthworms. Other observations suggest larvae sometimes scavenge dead snails, worms and similar organic matter.

Adult Fireflies also have mouth parts suggestive of predation (long sickle-shaped mandibles). Although it is widely known that fireflies of a few species mimic the mates of other species in order to attract and devour them, observations of adults feeding on other prey items are practically non-existent. It is likely however, that adults might feed on plant nectar in order to sustain their energy requirements in the adult stage, which can last several months or longer).

Why do fireflies glow?

All known firefly larvae have photic organs and produce light. The behavioral function of the larval light has received considerable speculation and several plausible theories have been proposed ([Lloyd 1971](#); [Sivinski 1981](#)). However, the most generally accepted hypothesis is firefly larvae use their luminescence as a warning signal (aposematism) that communicates to potential predators that they taste bad because they have defensive chemicals in their bodies. These larvae also increase both the intensity and frequency of their glow when disturbed ([Sivinski 1981](#)).

In most species of North American fireflies, during a certain time of night, males fly about flashing their species specific flash pattern. Females of the same species tend to be perched on vegetation, usually near the ground, and if a flashing male catches a female's fancy, she will respond at a fixed time delay after the last male's flash. A short flash dialogue may ensue between the male and female as the male locates her position and descends to mate ([McDermott 1958](#)).

(Article information obtained from Ohio State University's Web Site)

OPEN HOUSE 2006

Wow! What a great day for Open House!



Thanks to the presenters and the exhibitors who made the day a success. Thanks to Dave Beale who lead the Nature Walk and to Terry Laux who presented us with his knowledge on Amphibians and Reptiles. The exhibits included DEP, WPC Crooked Creek Watershed Assoc., Cowanshannock Creek Watershed Assoc., Kiski Watershed Assoc., Roaring Run Watershed Assoc., Bluebird Society, The Conservation District, Rails to Trails, Armstrong County Department Planning and Development and the local 4H groups who provided food and crafts.

ELC
OPEN HOUSE





Thank you to Daniel and William English who created our
new
Wing Span Display

Come out and see to which size bird your wing span compares.



**CROOKED CREEK
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CENTER**

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