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COLUMNS

Campbell Vaughn: Lightening bugs are amazing creatures. Here's what you should know about them.

Campbell Vaughn Augusta Chronicle

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Key Points AI-assisted summary ⓘ

- Fireflies, also known as lightning bugs, are beetles that use bioluminescence for mating.
 - Each firefly species has a unique flash pattern, and light pollution can disrupt their mating rituals.
 - Firefly populations are declining due to habitat loss and light pollution.
 - Fireflies are beneficial insects that pollinate, prey on pests, and contribute to medical research.
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Every year it is exciting to see the “first” of the season. Recently, my wife and I finally got some insects blinking lights around in the backyard. I can honestly say anytime I see a lightning bug it makes me smile. Some folks call them lightning bugs; some folk called them fireflies. Either way they are one and the same.

Entomologists say they are neither a bug nor a fly but a beetle. Adults are less than an inch long with brownish-black wing covers that have a light yellowish area almost entirely around them.

What separates this insect apart from other insects is one of nature's most extraordinary displays. On warm summer evenings, as the sun dips below the horizon, these small-winged beetles take to the air and transform the landscape into a silent symphony of blinking lights, a sight that has captivated human audiences for centuries.

Charming though it may be the lightning bug's light serves a serious purpose. It is a form of communication and the cornerstone of an elaborate courting ritual in which potential mates beckon one another.

Few other insects can be confused with lightning bugs because rarely will one find another insect possessing the light-producing structures this beetle has. There are over 136 species of lightning bugs, each with a distinctive rate of flashes per second.

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The flashes are produced by a chemical called luciferase, which they use to attract the opposite sex. The summer evening light shows that you see are performed by male lightning bugs. Male lightning bugs flash patterns of light to females. The females signal in response from perches in or near the ground. Each species of this unique beetle sends different mating signals.

When the male sees the female's flash he continues to signal and moves closer. Eventually, through a series of flashes, they find each other and mate. I had friends in college that would have tried the same thing if they could have produced luciferase.

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A few days after mating, which occurs in the spring, a female lays her fertilized eggs on or just below the surface of the ground. The eggs hatch after three to four weeks. While in the larval stage, the lightning bugs have three pairs of legs and are turtle-like creatures with tiny spots on their underside that glow like view holes in the furnace door. Wingless females and luminescent larvae are often called "glowworms." As adults, the lifespan is about two months.

Populations of lightning bugs are on the decline. These beetles aren't known for their lengthy migration range, so with any localized loss of habitation these insects just don't survive. Helene didn't help much this past fall.

Light pollution has also made lightning bug mating difficult by diluting their ability to distinguish their lanterns over what man has introduced.

Whether you know them as lightning bugs or fireflies, these beetles are beneficial insects. They don't bite. They have no pincers. They don't attack. They don't carry disease. They are not poisonous, and they don't even fly very fast. And lately we have learned that lightning bugs are pollinators. The larvae of most species are specialized predators and feed on other insect larvae, snails and slugs. Adults of some species are also predatory.

These wonderful beetles are also helping humans. The lightning bug contains luciferin and luciferase, two rare chemicals used in research on cancer, multiple sclerosis, cystic fibrosis and heart disease. One more reason for me to smile.