

## FIREFLIES OR CUT WORMS, WHICH DO YOU PREFER?

In the last few years, while unraveling secrets of the miniature lamp-bearer's illumination, scientists have also been discovering surprising things about the firefly's private life. It begins as an egg secreted in the earth. But, in many species, the egg may already show a touch of luminescence—just a wisp, glowing like a promise.

In about three weeks, the eggs hatch into larvae that look something like sow bugs, those multi-legged, turtle-like creatures found under the damp boards. The larva is a voracious predator—paralyzing, then eating, such things as snails and cutworms. At this stage, too, many species glow. Tiny spots on the underside softly shimmer like view holes in a furnace door. Such shining larvae are called glowworms. (The one in the song, however—"Shine, little glowworm, glimmer, glimmer"—is not a larva but the adult of an English species, a steadily glowing, wingless female whose winged mate, alas, is harmless.)

The most familiar U. S. larva type, *Photuris*, lives one or two years underground, then in late spring builds a marble-size mud house around itself and changes to a pupa. In ten days or so, it breaks out and flies forth to add its stardust to the summer night. Now its life-span is short, only a few days.

Fireflies are true beetles, and there are 60 or more luminous species in the United States. Seen from above, the adult looks commonplace. Typically, it has a rectangular brown or blackish back, a pair of nervous segmented antennae, a half-dozen legs, and a head that looks like a space helmet. But turn it over, and you'll notice a difference. The whole lower end of a male firefly's abdomen is yellow; a female has a smaller yellow splotch. It's from these marks that the living light comes.

If a firefly is under stress—caught in a spider's web, for instance—its taillight glows brightly. Even the shock of a firecracker or thunder may cause a field of fireflies to flash once in unison. But, ordinarily, the signal is used to find a mate.

Dr. John S. Buck, chief of the Laboratory of Physical Biology of the National Institute of Health, has been studying fireflies off and on for 30 years and, along with other naturalists, has worked out a typical firefly courtship pattern. It begins on any warm, humid evening—preferably moonless—from June through August. **All day the male insect has been snoozing among moist grass roots. Now he crawls out, raises his hard, tough wing covers, unfolds and spreads his gossamer flight wings, and whirs off, searching.** He flies with his body at a 45-degree angle, holding his hind feet high and close to his sides so the whole world below can see his debonair undercarriage.

Some species emit a signal that looks like a row of periods in the night. Others give only infrequent blips. The common eastern U. S. firefly, *Photinus pyralis*, traces out a bright, "J" or check mark. In his slow, roller-coaster-like flight, he flips on his light—as much as .02 candlepower—toward the end of a steep dip, keeps it burning while he pulls out and nears the apex, then turns it off before he begins another dive.

**Down on the ground, meanwhile, the female waits.** She recognizes a firefly of her species primarily by the length of his flashes. When she sees the gleam she's looking for, she sends out an answering blink. Her light isn't as bright as her beau's, but his compound eyes have more facets and are keener.

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## A SICK AMERICAN

I'm one of the Americans who heard Mr. Krushchev tell our nation that my great-grandchildren will grow up in a Communist world. For some time now, this has bothered me. I am not a brave man — not even a big one. I suppose I would have to admit that I am, among my own neighbors and in my own culture, the typical, average, well-educated, genteel suburbanite, to whom family, the mortgage and security have been the all-important items.

I am now 50, and soon my wife and I will see the first of our 3 children married. I paint my own house, repair my own car, grub my own devil grass and nurse a modest savings account at the Bank of America. I am a law-abiding man on the quiet side and dissension makes me terribly nervous. Frankly, I am the kind who simply doesn't have it in him to fight anyone ever.

My wife had me cleaning out an old trunk in the storage room the other day and I ran across the huge old family Bible that I hadn't thought about for years. My great-grandmother had kept a journal of the trip across the Great Plains with a wagon and oxen when she and great-grandpa were youngsters coming out to settle in California in the great migration. Great-grandma wrote about it as the wild, new land, rich and abundant in mythical proportions.

On the trail she wrote of sickness and hunger, and heat and cold, and dust and thirst, and the deaths and births like beads strung together on a thread of hope — hope of freedom and a land of plenty for their children yet unborn. And when she viewed the new land, she wrote in simple word pictures of the cities and farms and schools, and happiness that would some day bloom in the greatness of the vast new land. She wrote of her tomorrow and my today.

The ink was badly faded, but the message was clear. As I read, I began to think about America and being an American and what it all stands for; and I thought about our enemies and what they intend to do to America, to those rich lands and farms, to the cities and the people, to its freedom and its hope.

And, suddenly, I realized that I am a sick American. I mean really sick. I am sick of panacea and of backing up. I am sick of reaction where there should be initiative. And I'm sick of being a nice, patient guy about it. I am sick of placidly accepting excuses instead of successes; of being a silent gentleman about it for fear of controversy.

I am sick of 40 years of relentless, creeping, cancerous, communistic godlessness that never once has wavered from its avowed purpose of conquering us. I am sick of my genteel desire to stand pat and pray while the enemy advances.

But in all honesty, the thing of which I am most sick is the man who let these things come to me: myself.

And by the living God who made me, Sir, I am a sick American who intends to get well.

(Written by a resident of San Francisco as a letter to a newspaper, this article has since been reprinted in a number of other publications.)

### HELPMATE

The average man about the house  
Can build some shelving for his spouse,  
Can beat a rug or paint a chair,  
Or put the sink in good repair,  
Or play the role as expert fixer  
Of my gadget, switch or mixer;  
In fact, his wife learns to her sorrow,  
There's little he can't do — tomorrow!  
— Stephen Schlitzer