

Flirting with Fireflies

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Fireflies are one of the simple pleasures of early summer. They flash in order to attract a mate. Each species has its own unique flash pattern and can be identified accordingly. It is possible with a small flashlight and a little patience, to fool a male firefly by mimicking the female response flash of the species thus, drawing him in to land gracefully on the back of the hand. As luck would have it, one of the easiest species to communicate with via flashlight also happens to be one of the most common backyard fireflies. This would be the *pyralis* firefly (*Photinus pyralis*). This species apparently has no common name. A male *Photinus pyralis* can easily be identified by his flight and flash habits. He is the familiar firefly who hovers or moves more or less, slowly forward no more than just a few feet above the ground, then suddenly breaks into a sharp upward arc releasing a light flash of about one second in duration that terminates at the top of the ascent. This pattern will be repeated every several seconds producing the defining J-shaped flash. The firefly which exhibits this behavior is looking for a response flash from a flightless female perched near the ground. The *pyralis* firefly is most active in the early evening twilight and will persist with his courtship activities until shortly after dark.

Here's how to draw one in: Hold a penlight or small flashlight near the ground as the *pyralis* fireflies become active in the early evening. Identity a single flashing *pyralis* male within about thirty feet. As soon as a given upward arching flash ends, count off exactly two seconds and then produce a single one second flash of light from the penlight. If the firefly sees your signal, he will immediately fly a few feet closer and produce another J-shaped flash of lesser intensity. Count off another two second pause and release another one second flash of light and repeat the pattern each time bringing the firefly a little closer. Wait for the insect to move closer with another response and repeat the pattern each time bringing the firefly a little closer. If the procedure is done correctly a love-struck albeit, rudely surprised firefly will actually land on your hand or on the ground next to the penlight vainly searching for his girlfriend.



Photo Credit: Terry Priest

Be aware that fairly precise timing of the two-second pause and one-second penlight flash is critical to the success of this endeavor. If your timing is even a little bit off, the insect probably won't respond. Use a small light so as not to frighten your suitor off. Each successive response of the male will be a flash of lesser light intensity and it does sometimes become difficult to keep track of the location of a very dimly flashing insect. Also, this particular procedure will only work with actively courting males of the *pyralis* firefly. An interesting alternative would be to observe some other species of firefly attempting to decipher the unique flash code of that species in order to draw a specimen in. Using this technique I have attracted fireflies from as far away as forty feet and after coaxing a specimen to land, have looked up to a dozen others hovering about my head that have also responded to my penlight. The trick to success is to pick out a single specimen and work that individual in without being distracted by others who have become interested. Please remember to promptly and respectfully release any captured fireflies. Happy hunting!



Mass Audubon

Firefly Watch



Also known as "lightning bugs," fireflies are neither bugs nor flies—they're actually beetles that light up using a chemical reaction in their lower abdomen (the bottom part of their body). Some of them light up in a specific blinking pattern, like a secret code that they use to "talk" with other fireflies and to find mates. Flashes be quick or long-lasting, and one kind is in a j-shape. Use the below chart to help identify the most common fireflies and report your sightings at massaudubon.org/fireflywatch.

Flash Patterns of Common Fireflies

	0	1	2	3	4	5	6	7	8	9 seconds
<i>Photinus ignitus</i> Single Flash	●					●				
<i>Photinus marginellus</i> Single Flash	●			●			●			●
<i>Photinus pyralis</i> Single Flash	✓						✓			
<i>Photinus macdermotti</i> Double Flash	●		●				●		●	
<i>Photinus consanguineus</i> Double Flash	●	●					●	●		
<i>Photinus carolinus</i> Multiple Flash	●	●	●	●	●					