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Letters

Flashy displays

Your Aug. 31 cover — a tree aglow with fireflies and looking like a Christmas tree — caught my eye. I went on to read that this "rhythmic, synchronized flashing by the males [is] observed mainly among Southeast Asian species and rarely in North American species" ("Step in Time," SN: 8/31/91, p.136). This surprised me, because I have noticed an apparent abundance of synchronized fireflies, both this summer and previously, where I live near Deep Creek Lake, in western Maryland.

These seem much brighter than the fireflies I watched in western Pennsylvania, about a hundred miles away, when I was a child in the 1940s and 1950s. Maybe the nights are darker here, but a yellow-green disk of light shows on the ground under many of them. For a while the woods will be virtually dark; then a few will

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Cover: Sometimes described as one of the most complicated objects in mathematics, the Mandelbrot set serves as a source of both artistic inspiration and mathematical insight. Mathematicians exploring dynamical systems have focused on settling questions concerning key characteristics of the Mandelbrot set's convoluted boundary. This computer-generated image shows a portion of that boundary. (Image from *Computers, Pattern, Chaos and Beauty*, St. Martin's Press, 1990, © Clifford A. Pickover)



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start, and rapidly the rest seem to take the hint, lighting up in unison.

Gus E. Johnson
Swanton, Md.

One summer evening about 10 years ago, I was privy to an amazing scene. I was in a meadow, and there was heat lightning fairly close by. Each time the lightning flashed, all the fireflies in the entire meadow went off simultaneously — making it obvious why they're called lightning bugs.

Jeff Kitchen
Rochester, Vt.

The article on fireflies flashing in unison was interesting. But why no mention of crickets chirping in unison?

I once rode on the back of a truck at night along mountain roads in India. There the crickets sound out quite loudly. The sound swells and diminishes with a persistent beat.

As we drove along mile after mile, there was not the tiniest perceptible change in the rhythm. In other words, the insects we listened to at any point were modulating their sound at exactly the same frequency, if not phase, maintained by their contemporaries many miles back. Considering the vast areas that must be represented wherever it occurs, the phenomenon must involve unimaginable millions of insects all acting in concert. This is vastly more impressive than the spectacle of fireflies performing together in a single tree.

Moreover, unlike the fireflies, the crickets have to make a mechanical motion to effect their performance. This involves rubbing a limb against the body. So here we have a super Rockettes dance, with millions and millions of insects moving their limbs in synchrony — surely one of the strangest phenomena in all of nature!

Warner Clements
Beverly Hills, Calif.

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