# Smart Stuff with Twig Walkingstick

**Q.: Dear Twig: How do scientists know there's global warming — global climate change — going on?**

A.: The short answer: **research.** I'll start with one example from my home, Ohio State.

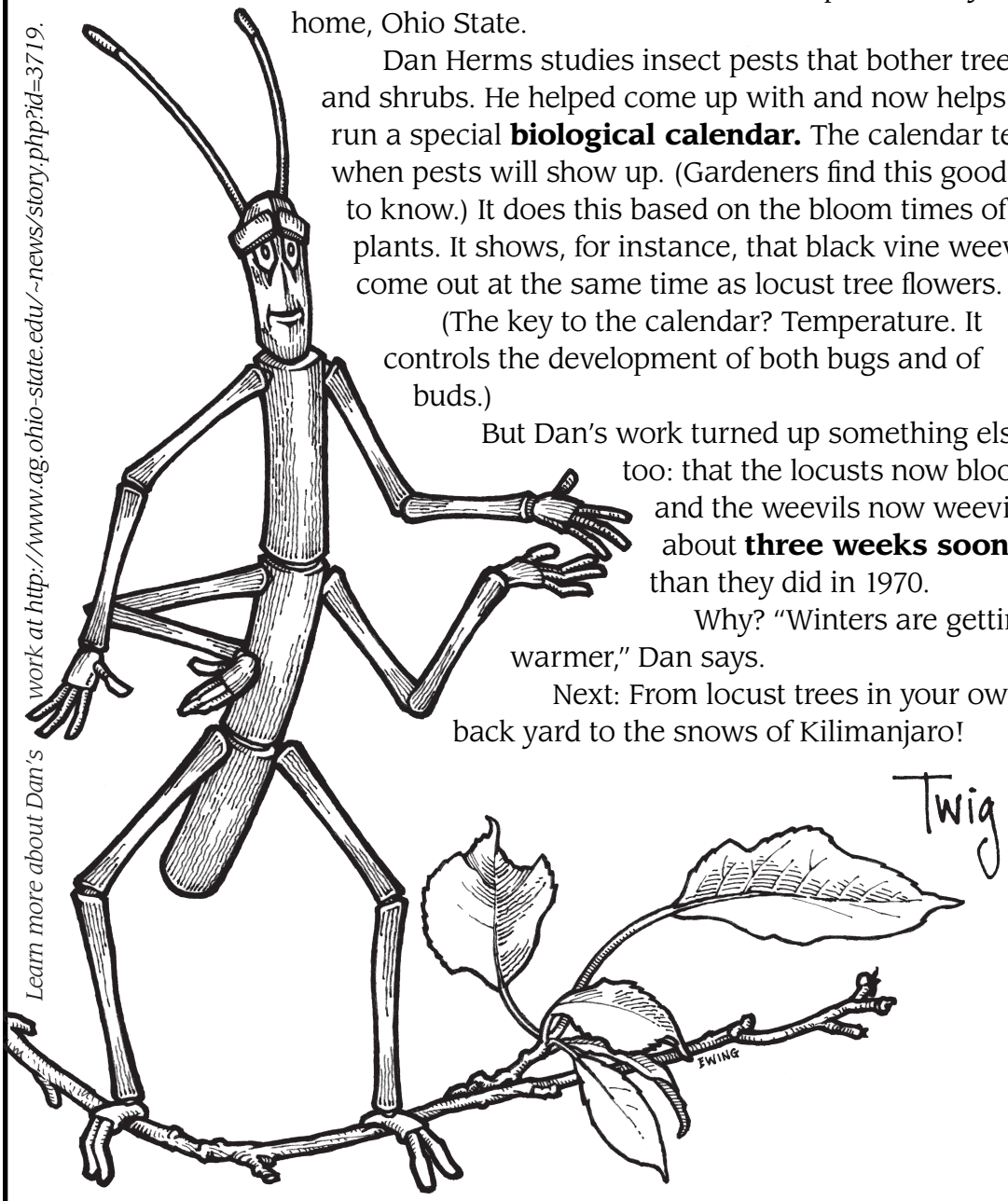
Dan Herms studies insect pests that bother trees and shrubs. He helped come up with and now helps run a special **biological calendar.** The calendar tells when pests will show up. (Gardeners find this good to know.) It does this based on the bloom times of plants. It shows, for instance, that black vine weevils come out at the same time as locust tree flowers.

(The key to the calendar? Temperature. It controls the development of both bugs and of buds.)

But Dan's work turned up something else, too: that the locusts now bloom and the weevils now weevil about **three weeks sooner** than they did in 1970.

Why? "Winters are getting warmer," Dan says.

Next: From locust trees in your own back yard to the snows of Kilimanjaro!




*Learn more about Dan's work at http://www.ag.ohio-state.edu/~news/story.php?id=3719.*

*From your scientific friends at The Ohio State University — specifically, the Ohio Agricultural Research and Development Center (www.oardc.ohio-state.edu) and OSU Extension (extension.osu.edu).*

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**For the week of Jan. 7, 2007**

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**Notes:** An associate professor in Ohio State's Department of Entomology, Dan Herms has appointments with both OSU Extension and the Ohio Agricultural Research and Development Center. Both organizations, organizationally speaking, are in the College of Food, Agricultural, and Environmental Sciences. The source for this column and the link you can read when you turn your head sideways is an Ohio State press release titled "Global Warming in Your Garden? Common Plants, Bugs Reveal Important Climate Changes." Find (and try!) the biological calendar at http://www.oardc.ohio-state.edu/gdd/. Send questions for Twig to his bud, Kurt Knebusch, knebusch.1@osu.edu.

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