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FEATURE

Horse Flies and Meteors

08.10.2009

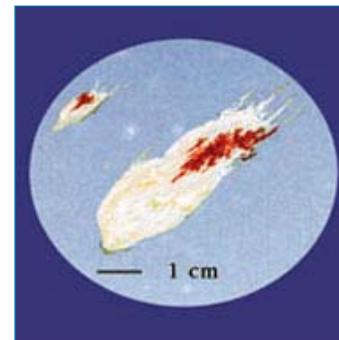
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August 10, 2009: Splat! There goes another bug on the windshield.

Anyone who's ever driven down a country lane has seen it happen. A fast moving car, a cloud of multiplying insects, and a big disgusting mess.

The next time that happens to you, instead of grossing out, try thinking of the experience as an astronomy lesson. Your car is Earth. The bugs are tiny flakes of comet dust. The carnage on your windshield ... it's a meteor shower!

Right: A fiery meteor? No. It's a horse fly. From "That Gunk on your Car: A Unique Guide to Insects of North America," by Mark E. Hostetler. [\[more\]](#)



Earth, like a speeding car, races around the Sun sweeping up everything in its path. There are no insects in space, at least none that we know of, but there are plenty of meteoroids, little flakes of dust from comets and asteroids. They hit Earth's atmosphere and--splat!--they disintegrate as fiery streaks of light called meteors.

This week lots of meteors will appear over Earth's northern hemisphere when our planet plows through a swarm of dust shed by periodic comet Swift-Tuttle. It's the annual [Perseid meteor shower](#), which peaks on August 11th and 12th.

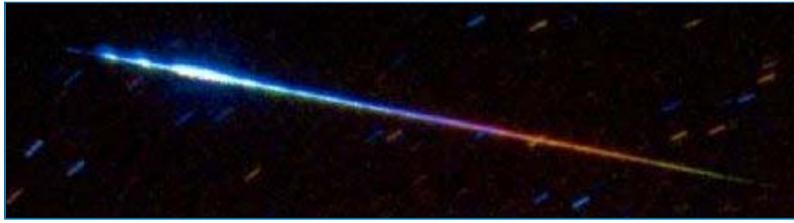
Just as bugs tend to accumulate on the front windshield of a car, Perseids accumulate on the front windshield of Earth.

Earth has a windshield? It's the atmosphere, which protects us from solar wind and comet dust much as a car's windshield protects passengers from wind, rain and bugs. Earth's front windshield is the early morning sky. Earth circles the Sun dawn-side first, scooping up whatever lies on that side of the planet. That's why it's usually best to look for Perseids just before dawn.



A good time to see Perseids this year is before dawn on Wednesday morning, August 12th, when Earth's front windshield is overhead. You could see dozens of meteors despite the glare of a 66% gibbous Moon.

Side windows, the ones to the left and right of passengers in cars, are good, too. Zooming down a bug-infested lane, side windows don't intercept many insects, but the ones they do gather are worth examining. Bugs that strike side windows do so at a shallow angle, leaving long and colorful streaks.



Above: A Perseid meteor. Credit: S. Kohle & B. Koch.

This also happens to meteors. When the constellation Perseus (the source of the Perseids) hangs low near the horizon, meteors streaming from Perseus will skim the top of Earth's atmosphere, much like a bug skimming the side window of an automobile. Astronomers call these meteors "Earthgrazers." They tend to be long and colorful.

Look for Perseid Earthgrazers on Tuesday night, Aug. 11th, between about 9:00 and 11:00 pm local time.

Earthgrazers don't come in large numbers. The special geometry required to produce them keeps counts low, but even one or two is enough. A breathtaking Earthgrazer is the sort of meteor you're likely to remember for years.

Best of all, there's no goopy residue.

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