Opinion

Don’t you dare rake your leaves this fall

By Dana Milbank
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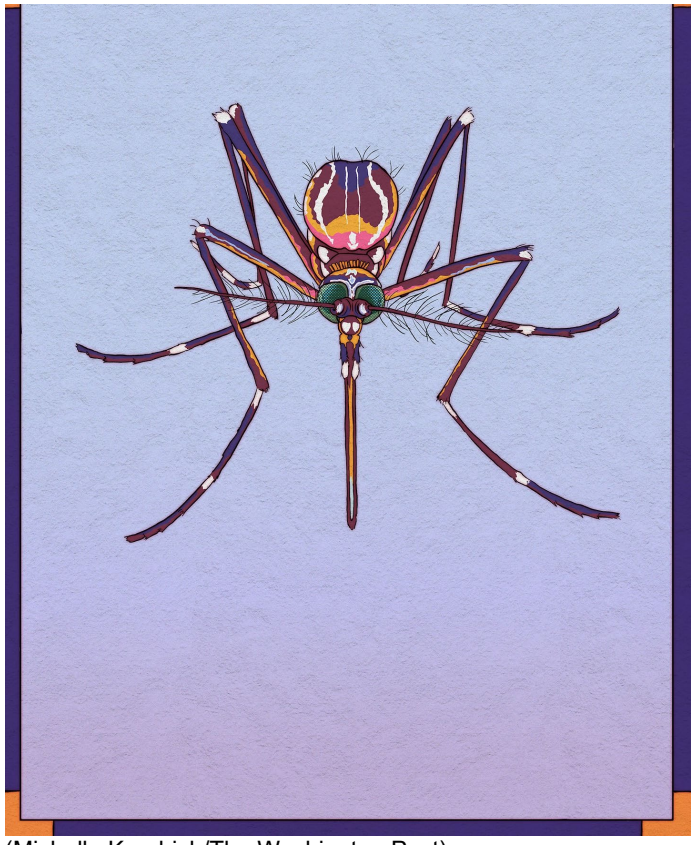

(Michelle Kondrich/The Washington Post)

For decades, I stalked the invertebrate enemy.

I bought a propane-powered contraption that promised to lure and kill mosquitoes by mimicking human breathing. I caught about three.

I fogged my deck before guests visited, removed all traces of standing water and dropped mosquito dunks into a bucket of water to serve as a trap. And still, the bloodsuckers attacked.

I lined my walkway with citronella tiki torches — until one of the lamps lit my shrubs on fire.

I hired a company to spray a garlic-based repellent in the bushes, and I scattered garlic granules in the lawn. It didn't bother the mosquitoes a bit, and my yard smelled like a pizzeria. (It did keep the vampires away.)

In desperation, I resorted once or twice to having the spraying company use chemical insecticides that actually do kill mosquitoes — and probably humans, too. But even that was a short-lived fix.

Finally, I screened in my back porch, where I can now sit under a ceiling fan enjoying the great semi-outdoors, armed with a mosquito-zapping tennis racket in case one of the invaders sneaks past my defenses.

So, when my wife and I bought a place in the Virginia Piedmont last year, I was prepared for the worst. If I had that much trouble with mosquitoes on my postage-stamp lot in the city, surely I would be donating a quart of blood every evening to their country cousins.

But they didn't bite! Here, in the mountains, I walk the fields and putter about in the woods without wearing my usual Eau de DEET, and yet the mosquitoes do not feast. I sit on the porch at dusk, baring my arms to all comers — and not so much as a nibble.

It isn't my imagination. Entomologists tell me this is part of a worldwide phenomenon. We've worked so hard to banish bugs from our lives — destroying their habitats with pavement and lawns, killing them with insecticides and stressing them with climate change — that our cities and suburbs are now insect wastelands but for a few hardy pest species, such as the disease-carrying mosquitoes that feed on the blood of people and pets.

In the country, by contrast, the ecosystem is in better balance. There are actually more mosquitoes here, but a smaller proportion of them dine on human blood and carry disease. Competition with other insects keeps their numbers in check, and the other abundant species in the ecosystem — spiders, frogs, fish and birds — gobble up the mosquitoes.

In other words, the problem isn't that we have too many bugs in cities and suburbs; the problem is that we don't have nearly enough. We've been so successful at vanquishing the little critters that the entire insect world is in big trouble — and so are we if we don't help them to recover.

“You’re experiencing exactly what’s happening in many places around the world,” says Akito Kawahara, a University of Florida entomologist who specializes in insect biodiversity. “In the wilderness, where there’s more diversity of organisms, you have a better balance. In places where it’s become urbanized, a few species that are extremely dominant create outbreaks and all kinds of unstable circumstances.” A more robust and diverse insect population means fewer pests. More bees, butterflies and spiders mean fewer mosquito bites.

The mosquito paradox is just one piece of a much bigger problem. Multiple studies show that the overall insect population is declining by 1 percent to 2 percent per year, which means losing perhaps a third of all insects on the planet within 20 years — moving us toward what’s often called an “insect apocalypse.” “Really, there’s no debate anymore,” says Scott Black, head of the Xerces Society, which promotes invertebrate conservation. “We are seeing the rapid decline of insects pretty much anywhere that they’re studied.”

It’s hard to overstate how ruinous this could be. If this mass extinction of insects isn’t reversed, it will decimate the entire food chain, threaten crop pollination and generally cause havoc. Some bird and mammal populations are already shrinking even faster than the bugs are.

Without insects, the legendary biologist E.O. Wilson wrote nearly 40 years ago, “I doubt that the human species could last more than a few months.” First, “most of the fishes, amphibians, birds and mammals would crash to extinction.” Next would go the flowering plants and forests. “The earth would rot,” he continued, and the remaining vertebrates would disappear. “Within a few decades the world would return to the state of a billion years ago, composed primarily of bacteria, algae and a few other very simple multicellular plants.”

You thought rising sea levels were bad?

Wilson called insects “the little things that run the world.” Now, humans are taking them out — a suicide mission if ever there were one. Last year, a group of entomologists met to rank the top three causes of the massive declines across insect species, and they came up with what Binghamton University’s Eliza Grames calls the “big three” — all human-created: development and other land-use changes, pesticides and pollution, and rising temperatures.

Agricultural pesticides are a big problem, but there's some evidence that we use even more insecticide per acre in cities and suburbs. In the sterile environment we've created, a few nasty species flourish, such as the tree-devouring spongy (formerly gypsy) moth, the crop-destroying spotted lanternfly, the domestic cockroach, the bloodsucking mosquito.

Luckily, the insect apocalypse is relatively easy to reverse compared with other anthropomorphic disasters. And unlike , say, climate change, you can quickly make a noticeable improvement in your own backyard, or even on your apartment balcony. You simply need to invite bugs back into your life. They'll quickly accept. As a bonus, you'll also wind up with more songbirds — and you just might save the planet.

One of my neighbors in the Virginia Piedmont did this in a big way. A decade ago, Dana Squire's five acres of hay fields were what she calls "a biological desert" — a monoculture of fescue grass mowed too short to offer much forage or shelter to insects. So she killed off the grass and planted wildflowers in its place, at a cost of just $350 per acre.

Now, years later, it's a mature pollinator meadow, bursting with color and a crazy patchwork of goldenrod, milkweed, sumac, aster, coneflower, false indigo, black-eyed Susan, pokeweed, sunflower, wild bergamot, bee balm, coreopsis, ironweed and mountain mint. The once-barren fields now stage a three-season riot of reds, yellows, pinks and purples — and serve as home to untold millions of critters.

Walking with Squire on a mowed path through the meadow, we are greeted by a painter's palette of butterflies: the orange monarchs, the yellow eastern tiger swallowtails, the blue spicebush swallowtails, the silver-spotted skippers and hundreds of smaller white and gray skippers. She uncurls a yellowed leaf to reveal the green larva of a spicebush swallowtail, with its comical false eyes. Blue-winged wasps browse the goldenrod; common eastern and brown-belted bumblebees sample the butterfly milkweed; and an orange-and-black milkweed beetle feeds on its eponymous host. Cicadas chirp, goldfinch and jays call, and countless tiny creatures go about their affairs. In the evenings, fireflies (now just a memory in some places) sparkle in the meadow.

Where did all these creatures come from? "They just find you," Squire says. The meadow's many residents aren't all desirable. After wading into the eye-high meadow to take a wasp's photo with her phone, Squire pulls a tick from her hair

("they've been bad this year"). But in our hour in the meadow, not one insect stings or bites us. They have more important things to do.
To rejuvenate the meadow, Squire burns half of it each winter, and she spot-treats it in summer to kill off invasive plants that pop up. But there's no need for such heroics. In fact, for the typical urban or suburban gardener, it couldn't be easier to boost the insect diversity in your yard. You just have to do … well, a whole lot of nothing.

Stop mowing your lawn so often and let it stay shaggy. Don't rake and bag your leaves this fall. Quit deadheading flowers and cutting back dead stalks. This creates refuges for insects. If your neighbors ask why you've let your yard go, tell them you're saving the planet — for bugs and humans. "Probably the most important thing is to have a messy yard," Grames counsels. Of course, stop the pesticides. Also skip the fertilizer, and stop washing your car in the driveway to spare macroinvertebrates in nearby streams.

Fire your landscaper, if you have one, and use the money you saved to replace some lawn with trees and shrubs, particularly native ones — and ideally ones from nurseries that don't grow their plants with long-lasting insecticides called neonicotinoids. Turn off exterior lights at night. If you can afford it, buy organic produce to encourage farmers to quit pesticides.

To go further, get behind efforts in Congress (Democratic Sen. Jeff Merkley of Oregon is the invertebrates' inveterate champion in Washington) to create a nationwide pollinator-friendly labeling program, to put incentives for pollinator conservation in the farm bill, and to promote more sensible pesticide regulation. In the states, various efforts are underway to reclassify insects so they can be managed like other wildlife rather than exterminated as pests.

Ultimately, to save the insects (and therefore ourselves), we'll also need to get people to stop thinking of bugs as icky things to squish but, rather, as valuable animals to conserve. "It's hard, man," says Kawahara, who heads a working group of entomologists devoted to improving bugs' PR. "The problem is most people think everything bites, but in reality 99 percent don't." It's even harder to change perceptions now that humans have created urban insect wastelands where biting mosquitoes rule. "It's one very small fraction of bugs causing problems, because we created the environment for them to survive," Kawahara says. "We created the problem ourselves, and we're kind of blaming the bugs."

I confess I've had trouble overcoming the "ick" factor myself. On trips to the country as a child, I had a terror of "daddy longlegs" spiders (it turns out they aren't spiders and can't bite people) and half-dead hornets that overwintered indoors. In college, the fear shifted to dorm-room cockroaches that were so big we gave them names (Oscar was the biggest) as we chased them with brooms. Later, dear friends got married on an island in the St. Lawrence River, but I had to flee to the mainland — because of the spiders. In my vague recollection, they were hairy and as big as my hand. (Now, I know that these "orb weavers" almost never bite.) Then came my one-man campaign to rid the Washington metropolitan area of the mosquito.

But country living requires a reorientation of my thinking, as it does on many topics. I can't afford to be fussy about insects now that there are stink bugs and ladybugs in the house, wolf spiders in the basement, mud daubers in the garage, carpenter bees in the porch railing, and ticks in the woods.

Far better, it seems, to think of all the good work the bugs do for me: feeding the birds, the frogs and the fish; pollinating the flowers and the crops; nurturing the soil; breaking down the fallen trees; and otherwise keeping the earth habitable for humans.
That's reason enough to help the little guys get back on their many feet.