

How to Count Butterflies

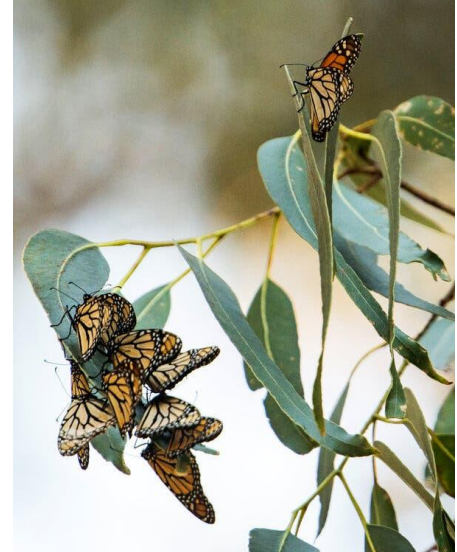
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By Margaret Renkl

Ms. Renkl, a contributing Opinion writer, reports from Nashville on flora, fauna, politics and culture in the American South.

The sharp-eyed birds lift into flight the moment you open the door. The canny squirrels and darting lizards are up a tree at the first oof of your footfall. To study such cautious creatures, you need a quiet nature and a willingness to sit very still. Short of that, a window will do. Hardly anyone is willing to sit very still these days, but the impulse to gaze idly out a window remains a reliable human trait.

Butterflies, on the other hand, require no window to hide behind, no silence or stillness. September is high butterfly season here in Middle Tennessee, and these lovely creatures have more urgent work to do than keeping track of us. For local butterflies, it's the final opportunity to mate and leave behind a new generation. For migrators flying south, it's the last chance to feed and move on before cold catches them up.



Even if you know little about butterflies, September is the perfect time to count them in the South. Who *are* these floating flowers moving so gently among us? Does it even matter that we know?

It matters very much.

This year, the journal *Science* released a study that found steep declines in U.S. butterfly populations — some 22 percent across 554 species. Over the past 20 years, notes the study, “the prevalence of declines throughout all regions in the United States highlights an urgent need to protect butterflies from further losses.”

The study's authors arrived at these numbers by analyzing data collected in 35 citizen-science programs across the country. If it weren't for apps like iNaturalist and eButterfly and population counts conducted by volunteers for nonprofits like the North American Butterfly Association, the Monarch Joint Venture, the North American Butterfly Monitoring Network and Butterfly Conservation — among many, many others — we wouldn't know how many butterflies we've lost or what we can do to help struggling populations rebound.

A changing climate, a changing world

Climate change around the world: In “Postcards From a World on Fire,” 193 stories from individual countries show how climate change is reshaping reality everywhere, from dying coral reefs in Fiji to disappearing oases in Morocco and far, far beyond.

The role of our leaders: Writing at the end of 2020, Al Gore, the 45th vice president of the United States, found reasons for optimism in the Biden presidency, a feeling perhaps borne out by the passing of major climate legislation. That doesn't mean there haven't been criticisms. For example, Charles Harvey and Kurt House argue that subsidies for climate capture technology will ultimately be a waste.

The worst climate risks, mapped: In this feature, select a country, and we'll break down the climate hazards it faces. In the case of America, our maps, developed with experts, show where extreme heat is causing the most deaths.

What people can do: Justin Gillis and Hal Harvey describe the types of local activism that might be needed, while Saul Griffith points to how Australia shows the way on rooftop solar. Meanwhile, small changes at the office might be one good way to cut significant emissions, writes Carlos Gamarra.

God knows, our government doesn't care about the health and safety of butterflies or any other species, including our own. For now, at least, it's up to us to care. And the first step toward caring, as is so often the case in conservation, is getting to know our wild neighbors.

Even from a distance, you can often learn to tell butterflies apart simply by noting their colors and shapes and by watching the way they move. Monarchs and gulf fritillaries, for example, are both charismatic orange butterflies, but their wings are shaped differently, and they have very different flight patterns.

Gulfies have elongated forewings and fly with a flitter and a skitter, flapping constantly and moving in many different directions, seemingly at once. A female laying eggs moves so quickly from leaf to leaf that you won't recognize what she's doing unless you know that the leaves she keeps alighting on belong to passionvine, the only plant a gulf fritillary caterpillar can eat.

Monarchs are larger than gulf fritillaries, with upright forewings. Befitting their name, they move with a slow grace, soaring and floating more often than flapping. They glide above the pollinator garden, eyeing the best flowers and keeping watch for encroachers. A male monarch will not willingly share a September flower bed with another male. Sometimes the rival male won't cede his ground. If you see a small orange tornado swirling above the milkweed, it's a monarch brawl. If you see a male and female close together, abdomen to abdomen, it's a welcome sign of more monarchs to come.

Swallowtails can be harder to parse. Zebra swallowtails and eastern tiger swallowtails share a similar size, shape and color pattern, but zebras are mostly white and black, while tigers are mostly yellow and black. Except for the dark-morph female Eastern tiger swallowtails, that is, who are easy to confuse with spicebush swallowtails, pipevine swallowtails and black swallowtails. I have seen all four in my pollinator garden this month, and every time I had to peer closely to tell them apart.

One of the most reliable ways to recognize a butterfly is also one of the most reliable ways to help them survive: By offering the plants their caterpillars need to eat, you'll be bringing them near enough to study.

I have four different varieties of milkweed in my yard, so the mating monarchs I found on my asters this month have plenty of nursery options for their young. I also have pipevine for the pipevine swallowtails and spicebush for the spicebush swallowtails and young black cherry trees for the tiger swallowtails and parsley for the black swallowtails. Most native butterflies will nectar from nearly any native flower, but they seem to gravitate most eagerly to the flowers produced by the plants whose leaves can feed their young. The monarchs in my yard — and this has been a magnificent year for monarchs here — are never far from the milkweed, and the gulf fritillaries are always near the passion vine.

Other ways to bring butterflies close and help their populations rebound:

Eliminate the poisons, even the “organic” ones. Butterflies are insects, and every time you spray for mosquitoes, you're killing every other nearby insect, too. Ditto with chemical fertilizers and garden insecticides. A flower bed is an ecosystem. Leaves and flowers are meant to be eaten.

Skip the fall cleanup. Many butterflies overwinter as chrysalides, clinging to dried flower stems or buried in fallen leaves. When you leave the leaves and the dried flowers intact, you're keeping the next generation safe till springtime.

Make a butterfly fountain. In an era of profound climate disruptions, fall has increasingly become a time of heat waves and drought, and butterflies need a source of water. Birdbaths are generally too deep for insects to drink from safely, but a shallow dish lined with pebbles or marbles makes for a fine butterfly watering hole.

Plant for rolling seasons of blooms. If you're just starting a butterfly garden, remember that it's not enough to offer a variety of native host plants. You'll also need a variety of native flowers that blossom sequentially from early spring till first frost. When the redbuds and the serviceberries have bloomed out in my yard, the spiderworts and the catmint are just getting started. By the time their blooms have faded, the coneflowers and Joe Pye weed are going strong. Once those flowers have gone to seed, the asters and the goldenrods take center stage.

Between the last frost of spring and the first frost of fall, there needs to be something blooming every day, and blooming flowers make conducting a butterfly census much easier. Fortunately, fall is the ideal time to plant perennials and to collect the seeds from annuals for planting in spring.

Counting butterflies is a trust exercise. When I walk outside to see who's floating above the ironweed or drinking deeply from the milkweed, ignoring me as thoroughly as if I weren't there, I can't help thinking about the future that lies before them. That lies before us all.

Like so much of the still-living world, the butterflies in my pollinator garden are a reminder of what I most need to remember. That we must find some way to keep faith in the future. That we must find some way to save them.

Margaret Renkl, a contributing Opinion writer, is the author of the books "The Comfort of Crows: A Backyard Year," "Graceland, at Last" and "Late Migrations."