



The monarch butterfly. Image AFP

Millions of people and millions of monarch butterflies, tiny insects that fly every year from Canada all the way to Mexico and back again, travel along highway I-35. Climate change and human interference are making it increasingly difficult for butterfly migration.

Seije Slager December 22, 2021

Monika Maeckle has a sixth sense for monarch butterflies. When she spots

another one in the corner of her eye, she interrupts with a 'Look, there you have one!' her stories, in which she fluttered quite a lot from one place to another.

Along the river that cuts through her city of San Antonio, she gives a guided tour of beds of native flowers and plants, especially silk plants, the main food for the monarch butterfly caterpillars. Most butterflies are already in Mexico, last month they moved through the city in large numbers. Maeckle again organized the annual festival here to welcome them. She is the driving force behind the Texas Butterfly Ranch, an activist group that wants to save not only the butterfly migration, not only in Texas, but also the world.



Monika Maeckle. Photo by Seije Slager

“I sometimes call butterflies the gateway bug,” says Maeckle, with a pun that is difficult to translate – the term gateway drug is English for a mild soft drug that eventually causes users to turn to heroin. “Through the monarch butterfly you start to understand how everything is connected, and then you can go really deep. First people see only the butterfly, then they become aware of the caterpillar and the cocoon, then of the plants that the butterfly eats.” And if you’ve started to worry about that, you’ll also make life easier for other migratory animals that move in these regions: from bats to beetles.

How do the butterflies know where to go?

The monarch butterflies are North America’s most iconic migratory species. Because of their striking orange-black wings. But also because their enormous journey appeals to the imagination. The descendants of the butterflies that now hibernate in Mexico will start the enormous journey of almost 5000 kilometers back to Canada in the spring, where the milkweed plants are then in abundance. They will never reach that promised land themselves, nor will their children; it takes several generations of butterflies to get there.

How do the butterflies know where to go? That’s the big mystery, says Andy Davis, an ecologist at the University of Georgia and editor-in- chief of Animal Migration magazine . “We do have some clues. We know that they can orientate themselves by the position of the sun, we know that the wind influences which days they travel. But it comes down to

instinct. It has to be, no butterfly has made that journey before, so it must be in their genetics somewhere.”

What we also know is that butterfly migration is going bad. In the last 20 years, the numbers of butterflies reaching Mexico have fallen dramatically. Once that realization dawned, people like Monika Maeckle sprang into action. Along the Interstate-35 highway, which not only takes motorists from north to south and back again, but whose route, coincidentally or not, coincides exactly with one of the main arteries of the butterfly migration, several cities started butterfly policies.

Getting garden owners excited about native plants

For example, all along I-35 pollinator habitats have developed, environments with plants that butterflies and other pollinators like to feast on. People like Maeckle also try to get common gardeners excited about such native plants, rather than the most colorful flowers that happen to catch the eye at the garden center. They are beautiful, but often require fertilizer and much more water than is available in this arid environment, creating a major environmental problem. And moreover: what is the real beauty of a flower? “When you give a dinner, you don't just invite beautiful people. You invite people who have something to say.” Maeckle herself has a story about every plant in her garden



The route of the Interstate-35 freeway also coincides exactly with one of the main arteries of the butterfly migration. Image UCG/Universal Images Group via G

A culture shift is needed, she says. Because many homeowners' associations in America expect their members to have an impeccable garden, while insects thrive on some clutter. So Maeckle had special signs made for butterfly-friendly gardens. “At least then it is clear that it is not negligence.”

In the garden of Candy Roach and her husband, on the outskirts of San Antonio, there is also such a sign. They live in a gated community , the gardens are raked here. Roach's is by no means a wilderness either, but the plants that grow here have all been selected for their suitability for this climate, and their nutritional value for pollinators. She shows some monarch chrysalises that she has discovered in the last few days.

"Sometimes I even pet them, I can't help it," she says apologetically. "Oh, but this one is dead." Probably OE, she estimates, a known parasite.

Spread knowledge

Roach and her husband are master gardeners, in the US a kind of public volunteer position, where you receive gardening education through the municipality and pass that knowledge on to the community. Here in the neighborhood the motto is sometimes that if you see an insect, you take out the spray can, they say. "We try to spread knowledge about suitable plants, water use, and the reduction of pesticides."

The decline of the butterfly migration is in any case also related to climate change. As with other draft animals, Davis says. "They evolved to go out and dodge the cold. But it's simply not that cold anymore."

Especially not when Maeckle gives her a tour. It's hot, and it's November. Autumn does not attack the butterflies for the time being. Like that butterfly there, perching resignedly in a bush. Or who will still reach Mexico? Well. "Why go to all that trouble to fly all those hundreds of miles when it's nice and warm here and there are partners flying around here?" Maeckle wonders.

Human and animal migration

That is of course a good question. If they feel comfortable somewhere, what's wrong with forgoing the trek? Maeckle gets it. It happened in her own family too. "My eyes are colored because I come from a German immigrant family. My father was a Luftwaffe pilot during World War II, then was a prisoner of war in England for four years, and when he returned to his village it was in ruins. They came on a freighter to America to make a million dollars and go back. But they ended up in a hospitable environment, their children were born, and so they stayed. I know that scientists immediately say that you should not project human characteristics onto animals, but it doesn't really feel that different to me."

But human migration also offers a model for understanding the importance of butterfly migration, she says. "You need an adventurous, strong person to migrate. And help migrants bring new skills and ways of thinking into the US. You also need a strong, adventurous butterfly to reach Mexico. They bring genetic diversity, keep the population strong."

Scientist Andy Davis is indeed starting to sputter at comparisons between human and animal migration. He mainly sees differences. But he does confirm that migration keeps the population healthy. "There are monarch butterflies all over the world. But here in the US we have that famous butterfly migration. And our monarchs are very healthy, because they migrate." They are larger, and less often infected with the parasite OE, because the diseased specimens do not survive the long journey.

Lack of wanderlust

He wonders whether planting milkweed plants is the solution. His data shows: the total numbers of butterflies are not even that bad, they just migrate less and less. Lack of food does not seem to be the problem, but lack of wanderlust is. Human interference can actually have the opposite effect. Monarch butterflies have also been bred in recent years, and the question is whether they weaken the migratory instincts of the entire

population. Just as happens, now released farmed salmon are increasingly mixing with wild salmon: then all salmon lose their appetite instinct.

The fact that the OE parasite has been on the rise since humans have become emphatically concerned with monarch butterflies may be a coincidence, but Davis doesn't think so. "I developed the personal maxim that the best thing you can do for nature is to interfere with it as little as possible. Protect, but not micromanage."

How do you put something like that into practice? "Just fence off a piece of garden that you don't mow, don't weed, don't fertilize, don't eep, you don't do anything at all. That will be a mess, but that's what nature wants. You will be amazed at how many insects and other animals thrive there. Monarchs don't need a butterfly garden, but a place without human intervention."

