

BRINGING BACK THE BUTTERFLIES

As numbers of monarchs continue to decrease, local residents are stepping in to help these beloved insects thrive.

BY ASHLEY RYAN

King of the butterflies is a fitting nickname for the monarch, a striking orange-and-black species that is recognized across the globe. But it's not simply the reference to a sovereign ruler (England's King William III, or Prince of Orange, to be exact) that makes the moniker so apt.

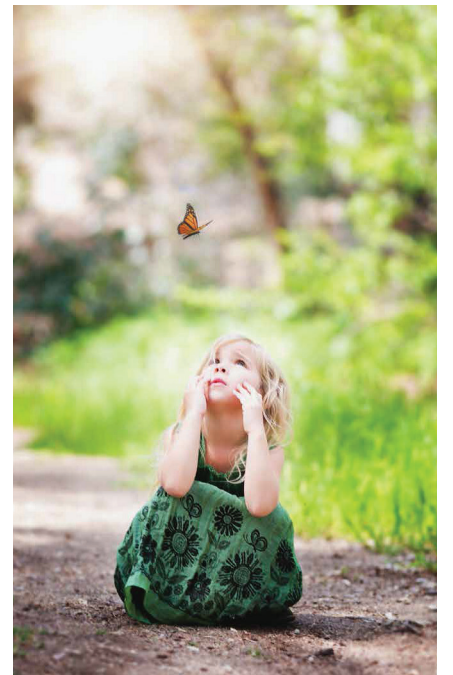
With a migration pattern that takes these tiny creatures on a journey of up to 3,000 miles in the fall, the monarch butterfly travels farther than many other butterfly species. Considering the strict temperature constraints that these insects require and the amount of energy needed to relocate, this is an amazing feat of nature, and one that is practically unrivaled in the animal kingdom.

While the eastern monarchs travel from Canada and the northern U.S. to central Mexico, our local populations venture down the western seaboard to roost in California. One thing both the eastern and western butterflies have in common, though, is their need for milkweed. This flowering perennial serves as a food source for both young caterpillars and adult butterflies, making it vital to the species' survival.

As more and more habitat loss occurs, monarch butterfly numbers have dropped dramatically. But now, local residents are taking it upon themselves to help bring back the butterflies.

LIFE WILL FIND A WAY

In about a month, monarchs are transformed from tiny eggs into beautiful butterflies, but not without plenty of stages



Gaze upon the beauty of butterflies.

in between. The entire process is called metamorphosis, and has a less than 10% chance of success in the wild, even under ideal conditions.

"They're totally dependent on a healthy habitat, both for their migration and their overwintering area," says Peter Bryant, PhD, a research professor in the University of California, Irvine's Department of Developmental and Cell Biology.

These butterflies lay their eggs on the underside of milkweed leaves, "tasting" the plant with their feet beforehand. A few days later, a caterpillar emerges. Over the next two weeks, the larva will go through five instars, or life stages, to grow from

LIVY STEIN PHOTO



Millions of monarchs migrate to California and Mexico for the winter.

FLUTTER-BY ABUNDANCE

While these winged insects are less plentiful than they once were in Southern California, there are still many different species that call Orange County home.

Orange Sulphur

These vibrant yellow or orange butterflies are active year-round. Often found in alfalfa fields, they also frequent San Clemente's San Mateo Campground as well as Irvine Park in Orange.

Mourning Cloak

A bold brown-black species, the mourning cloak's wings have a yellow border and a small row of blue spots. One of the most common butterflies in the region, and also visible all year, it is often spotted in places with willow trees as well as the likes of Sherman Library & Gardens and Upper Newport Bay, both in Newport Beach.

Western Giant Swallowtail

The largest of any butterfly species in the country, its



An orange sulphur butterfly

larvae can be found feeding on rue plants and citrus trees from San Clemente to Huntington Beach. The sleek, black insect has diagonal bands of yellow spots as well as defined tails and antennae.

Behr's Metalmark

These larvae feed on buckwheat, which is typically where this species is found.

Prominent from March through November in south Orange County, especially Laguna Beach and Coto de Caza's Thomas F. Riley Wilderness Park, these low flyers have orange markings mixed with white spots atop their brown wings.

Great Purple Hairstreak

Though primarily gray-brown in color, iridescent

blue and vivid red markings on the tail and dorsal wings make the great purple hairstreak an exciting species to spot. It tends to brood near its larval food plant, a parasitic mistletoe that grows on California sycamore trees in moist canyons and streambeds.

Funereal Duskywing

This skipper butterfly is present in Orange County throughout most of the year, and is attracted to plants like deerweed, alfalfa and black sage as well as minerals found in mud or streams. Though it lacks the vibrant markings that many of the other species have, the brown-black funereal duskywing is rather unique in the sense that it seeks out disturbed areas, like those covered in weeds or where fires have occurred.

FLYING AGAINST THE WIND

Despite the elements that help the monarchs on their journey, they also face plenty of challenges; one such issue being climate change. Monarchs can't fly unless it is at least 55 degrees Fahrenheit, and also struggle when their wings are wet. As temperatures and weather patterns grow increasingly unpredictable, the areas where these delicate creatures can thrive become more restricted.

But the main thing affecting the species is a lack of milkweed. In addition to being the only edible plant for monarch caterpillars and a source of nectar for adult butterflies, it's the only place where females will lay their eggs. It also plays an important biological role: The toxins in milkweed seep into the exoskeletons of the caterpillars as well as the wings of the butterflies, making them both poisonous and bitter tasting to predators.

The decline in the amount of milkweed available both locally and globally can likely be attributed to urbanization. "That plant would, in the past, have occupied a lot of the unplowed



Each butterfly's metamorphosis includes the caterpillar stage.

areas around farms ... among the weeds," Bryant notes. "But I think there's probably less of that kind of habitat available than there used to be."

Furthermore, Bryant adds that he believes the lack of milkweed is probably a result of the overuse of insecticides, namely neonicotinoids. "Those are especially harmful to insects and, more specifically, pollinators because they spray that insecticide on the plant and ... it makes the plant itself toxic to insects that feed on it. But it also makes the pollen and the nectar toxic to pollinators. So, I think that's probably what's happening to the monarch butterfly population. Because the butterflies will stop and feed on nectar at any point along their migration route, and that's going to be very detrimental to them."

A HELPING HAND

Habitat loss and changing climates have affected monarch butterfly populations all over the U.S. and beyond. According to a study released by The Xerces Society for Invertebrate Conservation, the western population that migrates through California was at 1.26 million just a couple decades ago, but that number dropped to about 28,000 in 2018. Luckily, there are ways to help the monarchs, and they're already being implemented locally.

Dana Point resident Dayna Anderson lives just a few miles from Monarch Beach Resort at the Monarch Hills Condominium, a 325-unit housing development within the Ritz Pointe community. Along with the president of the Monarch Hills homeowner association, Ken Torbert, Anderson founded the Monarch Hills Butterfly Committee in an effort to bring butterflies back to south Orange County.

"I learned it would be fairly easy to create a safe haven for the monarchs," Anderson explains. With the help of the committee, she built a butterfly garden and got it registered as an official waystation.

To deem it such, the committee had to follow specific guidelines set by Monarch Watch, a nonprofit that includes a network of researchers and volunteers working to educate others and protect the monarch butterfly. These regulations include incorporating milkweed as well as other nectar-producing plants, ensuring the space receives at least six hours of sunlight and fortifying the area to protect from predators.

"Even with the first modest phase, we've seen the numbers of monarchs increasing," Anderson says. "... We plan to add seeds, so the next season will bring us significantly more of the crucial milkweed." Additional plots of land are being prepared for the group's second- and third-phase projects, as well.

"It doesn't have to be a large garden," she adds. "Even one milkweed plant and one nectar plant will make a difference. Any safe place for them to rest [and] refuel will help their numbers increase."

The Monarch Hills Butterfly Sanctuary is one of a few that have taken shape in the local area. Anderson's was inspired, in part, by one at Monarch Beach Resort, and there are two others in Dana Point that are registered as official waystations. Anderson also says that the city has implemented butterfly-friendly plants and water features at local parks.

"It has been very rewarding to see the increased interest in the local community," Anderson says. "... A dream come true, one little step at a time."

A MEMORABLE MONIKER

Monarch Beach Resort plants milkweed to encourage habitat growth for the butterflies that serve as its namesake.

There's no doubt that the ocean takes center stage at Monarch Beach Resort, but the monarch butterfly plays a prominent role, too, and has since the resort's inception. With the transition to Monarch Beach Resort in 2016, the company introduced a new logo: the butterfly.

Viewed from above, Monarch Bay is shaped like a butterfly (a possible nod to the origin of its moniker). This cove also inspired the resort's name, forever tying the monarch butterfly to Monarch Beach Resort.



Milkweed, a vital plant for monarchs

With such a strong connection between the resort and this butterfly species, it should come as no surprise that the hotel is making the property more monarch-friendly. To do so, landscapers have incorporated pods of milkweed into the resort's butterfly sanctuaries, providing the monarchs with access to a pivotal, native plant that helps the species thrive.

"Their lovely butterfly garden is located on the public path that leads to Salt Creek Beach, [a walkway] that we ... enjoy and monitor regularly," says Dayna Anderson, a local resident who started her own butterfly sanctuary. "... It has been a great joy to witness the butterflies thriv[ing] there. ... Monarch Beach Resort has done a fantastic job in bringing butterfly awareness, not only to its guests, but also the surrounding community."

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FROM LEFT: JAN J. PHOTOGRAPHY/SHUTTERSTOCK.COM; PHOTO WIND/SHUTTERSTOCK.COM