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Rosier outlook for Palos Verdes blue butterfly

The rare insect's numbers are increasing through a pioneering program that includes a biologist baby-sitting 720 pupae.

By Deborah Schoch
Times Staff Writer

March 26, 2007

The heat lamps have been blazing for half an hour in Jana Johnson's laboratory, orange light flooding over a sea of plastic cups. Johnson hovers, waiting for metamorphosis. She points at a brown pod in one of the cups.

"Look at the seams. This one is ready to pop," she says.

The seam widens. A sliver of gray wing appears.

"Go. Go. Go," she cajoles. "You can do it. Go."

In a double-wide trailer in San Pedro, Johnson is presiding over the rebirth of the Palos Verdes blue, one of the rarest butterflies in America. As manager of a pioneering program to breed the butterfly in captivity, she has witnessed hundreds of moments like this one: butterfly after butterfly crawling out of its pod, or pupa casing, lured by the spring-like warmth and light.

Johnson, 37, a Texas-born biologist with an affinity for country music, never tires of the drama. Each "pop" means that the Palos Verdes blue is one butterfly further from extinction.

Slightly more than 200 Palos Verdes blues remain in the wild, virtually all of them on a 330-acre military fuel depot uphill from the Port of Los Angeles.

This is proving a bountiful year for boosting the numbers of the thumbnail-sized creature with cobalt blue wings and a hankering for Gatorade.

Pupae are popping in greater numbers than ever. Johnson has been tending to a bumper crop of 720, half in San Pedro and half at a new site at Moorpark College in Ventura County.

Now she is ringmaster of a four-ring circus — new butterflies, the eggs they lay, larvae and more pupae.

She is lucky to catch four hours of sleep before she zigzags from her home in the Winnetka neighborhood in the San Fernando Valley, 40 miles southeast to San Pedro or 23 miles northwest to Moorpark, fueled by coffee and the music of Garth Brooks and the Dixie Chicks.

If the Palos Verdes blue is to rebound, scientists say, the program must produce enough pupae to establish colonies elsewhere on the Palos Verdes Peninsula.

This month is prime time for butterfly "hatching," and Johnson arrives at her lab before the heat lamps click on at 7 a.m. She knows the first pupae will start popping at 7:30 a.m. with military-like precision.

She tries to coax butterflies out of their pods by talking to them in the same soothing tone she uses with her two sons, ages 7 and 4.

If a butterfly struggles, unable to spring free of its pod, she ratchets up the energy like a mother at a sports match.

"Shake it off," she urges a newly emerged male with a tiny piece of casing still hanging from its wing. "This is the part that makes me so freaking nervous."

If the male doesn't escape the casing, its wing won't expand properly.

"If that doesn't expand, he can't fly, and if he can't fly, he can't mate," she said. "And if you're not pretty, you get rejected." In this race to save the Palos Verdes blue, everything is about courtship, mating and eggs.

The male she is watching emerges successfully; blue glinting on his folded wings. Johnson exhales in relief.

She plays music for her wards, starting with Brooks' "Do What You Gotta Do," and "Defying Gravity" from "Wicked." She finishes with the blues, of course: "Don't Look Down," by B.B. King.

At feeding time, she kneels by the wood-and-netting boxes where the butterflies live, offering each a wad of honey-water-soaked toilet paper until its proboscis, or feeding tube, shoots out like a long straw.

Some won't eat unless she keeps holding the wad. "Princess feeders," she calls them.

The butterflies are normally fed the honey-water mix, a substitute for the locoweed and deer weed nectar they drink in the wild. But Johnson has started using Fierce Melon Gatorade, based on research at the University of Florida, which is doing captive breeding with the endangered Miami blue butterfly.

Assistant professor Jaret C. Daniels explained in an e-mail that the program tested flavored drinks as a substitute for natural nectar.

Fierce Melon came in first, with passion fruit a close second. The butterflies need the sugars and electrolytes, Daniels wrote, and the color attracts them like a bright-colored flower.

Nationwide, other blue butterfly species are barely surviving, in part because they rely on specialized habitats, often on land being developed, the habitat paved over.

The Karner blue butterfly is struggling in the vanishing oak savannah of the Midwest and the pine barrens of the upper Northeast. Experts in Indiana, Ohio and New Hampshire are now breeding it in captivity.

In the Los Angeles area, the better-known El Segundo blue butterfly a few miles up the coast is also endangered, but federal biologists believe its numbers are as high as 10,000 now.

The Palos Verdes blue favors the coastal sage scrub that has given way to development on the steep peninsula that protrudes into the Pacific 30 miles south of Los Angeles. The butterfly vanished in the 1980s, prompting experts to declare it extinct. It resurfaced at the fuel depot in 1994 and gained fame as the Lazarus butterfly, back from the dead.

At the time, biologists estimated that only 60 or so butterflies remained. Its numbers have fluctuated wildly ever since, rising, dropping to less than 50 in 2003 and rebounding again.

"It's renewed my faith in the resilient nature of this species," said conservation biologist Travis Longcore, science director of the Urban Wildlands Group, a Los Angeles-based group that handles the 10-year-old breeding program for the U.S. Department of Defense. "That said, we've given it a lot of help along the way."

Because the butterfly lives on military land, the U.S. Defense Logistics Agency and the U.S. Navy have invested many thousands of dollars in helping it, with support from the U.S. Fish and Wildlife Service, the Palos Verdes Peninsula Land Conservancy and other groups.

Rudi Mattoni, the longtime butterfly advocate who founded the breeding program, moved to Argentina last year. Johnson, a UCLA doctoral candidate, had worked with him and inherited the program. She hopes to end this season with enough pupae that some can be released in the nearby Chandler Preserve.

Johnson's work with the Palos Verdes blue began four years ago, shortly before she went through a difficult divorce.

"Rescuing butterflies kind of rescued me," she said. She loves observing how people react as they see a butterfly work itself free of the pupa casing.

"I have never seen someone watch it and say, 'Oh, that's nice,' " she said.

"They just light up. When you watch a living thing struggling for its survival, it's automatically the underdog, and you just start cheering it on."

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Wild Palos Verdes blue butterflies collect food and fly about in the shrub covered hills surrounding laboratory of Conservation Biologist Jana Johnson in San Pedro.
(Bob Chamberlin / LAT)



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Conservation biologist Jana Johnson watches boxes filled with cocoons before the first Palos Verdes blue butterfly emerged in her laboratory in San Pedro.
(Bob Chamberlin / LAT)

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A Palos Verdes blue butterfly emerges from its cocoon in the laboratory of conservation biologist Jana Johnson. (Bob Chamberlin / LAT)



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(Bob Chamberlin / LAT)