

WINGED WONDERS

Bats are like superheroes to farmers

Bats get a bad rap. We're supposed to fear them. Shriek and run from them. And as legend suggests—never, ever let them near our necks.

But it's really an upside-down perception. In the real world, bats are not the evil, blood-sucking creatures of the night that Hollywood and Halloween have led us to believe.

Quite the opposite.

Bats are docile mammals that help farmers and lead lives similar to ours: They hang out with friends, care for their young and go out to eat at night.

"Bats eat their body weight in insects every night, so they help provide natural—and free—pest control for farmers," said Rachael Long, a

University of California Cooperative Extension farm advisor in Yolo County. A report in the journal "Science" estimates that bats save U.S. farmers as much as \$53 billion each year in the cost of pesticides and crop damage from insect infestation.

"They are one of the most fearsome predators of night-flying insects," Long said.

They're like the Navy SEALs of agriculture, drop-

ping from the sky in the dead of night to carry out feeding raids, snatching bugs out of midair and eating "on the wing" without stopping. They especially like moths—in particular, the codling moth, considered an especially troublesome pest to walnut farmers because their egg larvae feed on walnuts.

Bats do nonfarmers a favor, too. "They eat insects and flies that can harm human health," Long said in her unflappable support of bats. She has written a children's chapter book called "Gold Fever" (see Book Reviews, Page 39) to help dispel the dark mythology surrounding bats.

For one, bats aren't blind. "They can see quite well," Long said. But they navigate

best in the dark using echolocation, a super sense used by dolphins and whales, too. With echolocation, bats emit a call through their mouths that creates a sound wave that bounces back when it hits an object, forming an image in their minds.

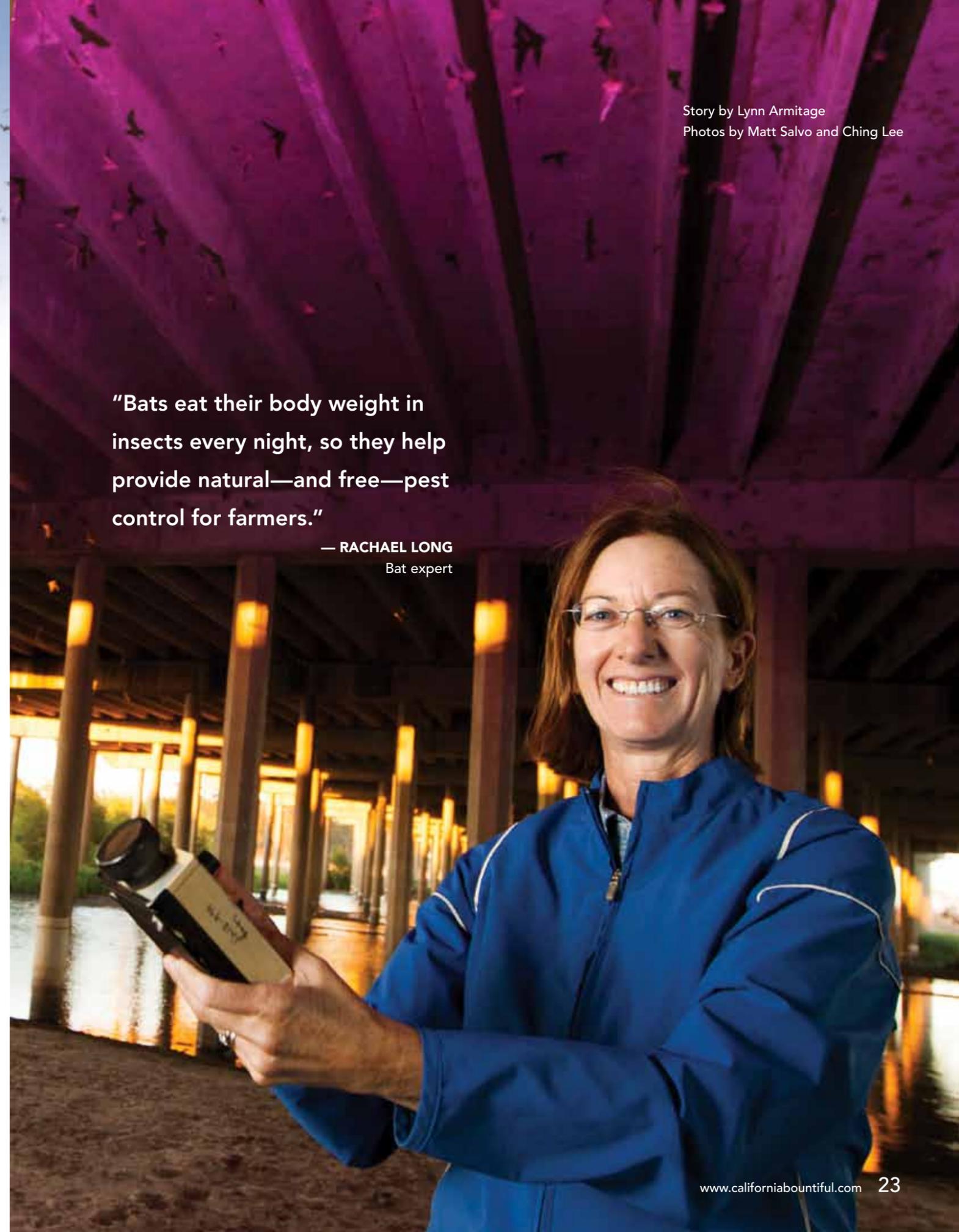
"It's how they find their prey," Long explained. "They have incredibly sensitive hearing," she said, and most flying insects don't stand a chance.



Rachael Long, right, a University of California Cooperative Extension farm advisor in Yolo County, uses a bat detector to locate bats roosting under the Yolo Causeway near Davis. Above, an injured bat, under the care of a rescuer, poses for a close-up.

"Bats eat their body weight in insects every night, so they help provide natural—and free—pest control for farmers."

— RACHAEL LONG
Bat expert



On the other hand, Long said, the single greatest threat to bats is white-nose syndrome. “It’s a fungus that grows on the face and wings of hibernating bats, and it’s very irritating, so the bats wake up and burn fat tissue and can’t make it through the winter.” White-nose syndrome has wiped out more than 6 million bats in the last few years in North America. “We don’t have it yet in California, but it’s on the way,” she warned.

If you build it, they will come

The best way for farmers to attract bats is to build a bat house on their property, preferably near a water source, which gives a colony a place to hang out during the day, safe from predators. “It’s like a birdhouse, but the opening is on the bottom,” Long said.

Claire Haag knows all about the benefits of bat houses. She and her husband, Jim, grow walnuts in a 70-acre orchard in rural Yolo County. To control pests, they erected two bat houses on the north and west sides of their home, hoping to lure bats there for nightly feasts on moths and mosquitoes, mainly. It took five years for any bats to pick up on the Haags’ bat signal and roost there, but now they come like clockwork every year from March through October.

Although she never sees the bats because they feast while she’s sleeping, Haag said, “We know they’re helping because we don’t have any mosquitoes, even though we have damp places from irrigating the orchards.”

Haag especially likes that bats are very low-maintenance. “They keep down the insect population simply by eating them,” she said, “and we don’t have to provide a thing except roosting opportunities in these little bat houses.”

Claire Haag stands in the walnut orchard in rural Yolo County that she owns with her husband, Jim. Bats help keep flying insects to a minimum on their 70-acre farm.



A state gone batty

In California, there are 25 species of bats—the most diverse population of bats anywhere, according to Corky Quirk, founder of NorCal Bats, a rescue operation based in Yolo County that rehabilitates injured, sick or orphaned bats.

“All the bats in California eat insects, with the exception of two species in Southern California that feed on pollen and nectar,” Quirk said.

This mother of eight knows a little something about bats. She teaches bat education classes through the Yolo Basin Foundation, and leads public and private tours to bat hideouts, such as the area under

the Yolo Causeway on Interstate 80, between West Sacramento and Davis.

“A colony of about 300,000 Mexican free-tailed bats roost between the expansion joints there, providing safe shelter for the bats to give birth,” she said.

At dusk, long black ribbons of bats fly out for their nightly feeding, eager to bring food back to their young. It’s a beautiful sight to see, Quirk said.

Not spooky at all. 🌿

Lynn Armitage
larmitage@californiabountiful.com



Humans are heroes, too

As helpful as bats are to farmers and nonfarmers, sometimes they need our help. Corky Quirk, above, founder of a bat rescue operation called NorCal Bats (www.norcalbats.org), explains the ins and outs of rescuing a bat.

Q: How do you get involved in rescuing a bat?

A: We get calls from individuals or businesses that have found a bat. Either it’s not behaving in a normal way, or it has been injured by a domestic pet, construction projects or tree trimming.

Q: Do all bats have rabies?

A: Most bats are not rabid. But about one in 10 bats you find on the ground is sick with rabies. They die from rabies; they are not carriers.

Q: What has been your most memorable rescue?

A: It was at a building in downtown Sacramento that had a Spanish-tile roof. It was 115 degrees in July, which is baby bat season. It was so hot, the baby bats were coming out from the tiles to cool off and they fell to the ground in massive numbers. We picked up 439 bats from one building.

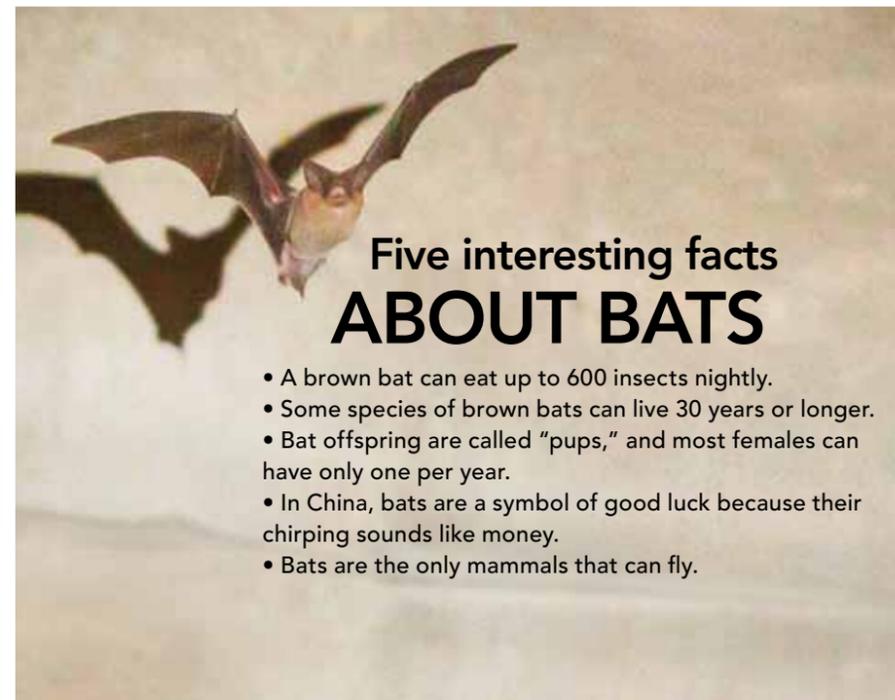
Q: Can you keep a bat as a pet?

A: It is against the law to have native wild animals as pets in California.

Q: What fascinates you so much about bats?

A: I like the way they move, the way they communicate with each other. I’ve always liked the underdog, and bats certainly fulfill that role for me.

Below, a bat detector converts bat sonar into an audible sound and plays it back on a built-in speaker. Right, Claire Haag looks out her kitchen window at a bat box she had built to lure bats for insect control at her walnut orchard.



Five interesting facts ABOUT BATS

- A brown bat can eat up to 600 insects nightly.
- Some species of brown bats can live 30 years or longer.
- Bat offspring are called “pups,” and most females can have only one per year.
- In China, bats are a symbol of good luck because their chirping sounds like money.
- Bats are the only mammals that can fly.