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Newly Identified Parasite Named in Honor of Professor

From now on, when UC Santa Barbara biologist Alejandra Jaramillo thinks of a bladder infection, she'll picture her mentor, UCSB parasitologist Armand Kuris. And because she and her colleagues described and named a new myxozoan parasite that infects fish bladders, every other researcher who encounters Chloromyxum kurisi will know Kuris' name as well.

"I'm honored," said Kuris, of his namesake creature, a tiny water-dwelling animal that's a relative of jellyfish and anemone. "They even made me a T-shirt."

Indeed, for Kuris, who is one of the world's leading authorities on parasites, it is something of a full circle. A self-described "fish guy" in his younger days as a UC Berkeley student, he intended to become a minnow taxonomist, researching, identifying and classifying species of the small fish.

Unfortunately, his adviser passed away during the first summer of his graduate career, which led Kuris down to UC Santa Barbara to consult with zoology professor and parasitologist Elmer R. Noble. He eventually devoted his master's thesis to the relatively little-understood Myxozoa parasites, creatures that infect both freshwater and saltwater fish.

"Naming the parasite after him was appropriate given his contributions to the field," said Jaramillo, a doctoral candidate in the Department of Ecology, Evolution, and

Marine Biology. Working with U.S. Geological Survey/UCSB ecologist Kevin Lafferty, she found the parasite at the Carpinteria Salt Marsh during a study of the wetland habitat as part of an ongoing effort to understand the role of parasites in ecosystems. Never having seen that particular myxozoan before, Jaramillo and Lafferty reached out to Justin Sanders and Michael Kent, researchers at Oregon State University, for their expertise in identifying those fish diseases.

Thanks to the use of several screening procedures, the researchers determined that the parasite was indeed a novel species.

“We are still learning about the parasite,” said Jaramillo. “We think that it probably uses two hosts, the fish and an annelid — such as a bristle worm — to complete its life cycle.”

According to Jaramillo, the parasite lives in the kidney of the fish, reproducing and releasing its spores via the fish urine.

“It can occupy and replace more than 80 percent of the fish’s kidney,” she said. “Remarkably, infected fish look healthy.”

The species descriptions are being published in the Journal of Parasitology. In addition to C. kurisi, another new myxozoan from the Carpinteria Salt Marsh was identified and given the name Sphaerospora olsoni, after Andrew C. Olson, Jr., professor emeritus of zoology at San Diego State University.

According to Lafferty, these finds highlight the importance of studying parasites in the ecosystem.

“New species like this are examples of how little we know about many aspects of biodiversity,” he said. “This is not a rare species, just a type of parasite that is rarely looked for in a host that is rarely looked at for parasites.” The Carpinteria Salt Marsh is part of the University of California Natural Reserve System and has been studied by the UCSB research team for 25 years.

As for Kuris, this parasitic species is the third to be named for him. The first is a tapeworm that inhabits the bonnethead shark, and the second is a “very pretty ribbonworm,” as he described it, that feeds on the eggs of the purple globe crab.

A parasite that spends its days swimming in fish urine might not be everyone’s first choice as an honorific. But, sharing a name with a new species is among the highest

forms of recognition a scientist can get, Kuris said. Centuries from now, the big things — buildings, awards — may crumble or fade from memory. But to have a species, particularly one as pervasive and persistent as a parasite, bear your name?

“It’s that name that lives on,” he said.

Research in the paper was also conducted by Jacob Ashford at UCSB and Stephen Feist at the Centre for Environment, Fisheries and Aquaculture Science.

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