

## The West

### Scientists find eels living around undersea volcano

By JEFF BARNARD  
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GRANTS PASS — Scientists exploring an emerging undersea volcano near the islands of American Samoa in the South Pacific were so amazed to find eels living in the newly formed lava that they nicknamed the population "Eel City."

Hundreds and perhaps thousands of purplish-gray eels about a foot long were swimming around and hiding in the nooks and crevices at the summit of the new volcano at a depth of about 2,000 feet, Craig Young, director of the University of Oregon's Oregon Institute of Marine Biology, said Wednesday from his office in Charleston.

"We were astounded," said Young. "Many of us had worked on hydrothermal vents in other parts of the ocean and had never seen or heard of anything like this before."

The discovery, as yet not reported in a scientific journal, was made on a joint expedition with a 3-person submersible to observe the Vailulu'u Volcano, discovered in 1999 about 20 miles east of the island of Ta'u.

A sonar scan showed a shallowing of the caldera at the summit. On the first dive on March 30, geologist Hubert Staudigel saw another volcano growing out of the first, like Wizard Island in the middle of Crater Lake. Formed sometime in the last four years, it was dubbed Nafanua after the Samoan goddess of war.

Staudigel is a geologist at the University of California, San Diego's Scripps Institution of Oceanography.

Growing at a rate of about eight inches a day, Nafanua had reached a height of nearly 1,000 feet and could go much higher, Staudigel said in a statement.

When the pilot of the submersible Pisces V settled in the murky waters of the caldera at Nafanua's summit, scores of eels swam out of the caves and crevices.

Young got his only look at them in a video that Staudigel brought to the surface. Young got to join the last of the expedition's three dives on April 1, which went to the outside of Vailulu'u, where they found more vents and some white microbial mats, but he never saw Eel City.

The life around hydrothermal vents normally draws energy from the hydrogen sulfide emitted, Young said. At other vents, scientists have found mats of microbes, tubeworms, and mussels. But not eels, which would normally be expected to eat small invertebrates, such as shrimp.

Though the team gathered samples of the microbial mats, they could not capture an eel, Young said. That will have to wait for a return trip in July. As a result, they could not identify the eels, though they looked like something from the family Synaphobranchidae.

"Although you do see a lot of little eels in the deep sea in general — one here, one there — I have never seen an aggregation of eels anywhere in the deep sea," Young said. "We have no idea what they are eating."

"We want to figure out why we have only one kind of animal living around hydrothermal vents with nothing else but microbial mats as a source of food," said Young.

"I suppose it's possible they migrate up the water column and feed in the water column and migrate back down to the cracks and crevices to hang out. But it seems odd that a deep-sea fish that would normally be experiencing 2- to 5-degree centigrade (35.6 degrees to 41 degrees Fahrenheit) water would be seeking out water that is warmer."

As for the new volcano, Staudigel said it would be kept under close observation.

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