



Tenacious

Janet Voight's search for living organisms takes her to the bottom of the deepest oceans

WHEN JANET VOIGHT CALLED THE FIRST stop on her recent ocean voyage “high-risk,” she didn’t mean a volcano might erupt by the submarine. She wasn’t worried about earthquakes, or hot vent fluid melting fiberglass on the Alvin submersible. She meant she might not find animals – tubeworms, giant clams, crabs, and octopuses – to bring back to the Field Museum of Natural History in Chicago, where she has been a curator in the zoology department since 1990.

Voight (1977 biology) led a research cruise to the Pacific Ocean last November, funded by the National Science Foundation’s Biotic Surveys and Inventories Program, to recover specimens of deep-ocean animals. Such animals are difficult to collect, living only at mid-ocean ridges more than a mile and a half deep. Once collected, they are not always shared.

“They tend to sit on shelves in various labs, not catalogued or described in a way all of us can use,” she said, leaning

against the railing of the research ship Atlantis. She was relaxing after the most intense part of her workday, spent with other biologists carefully unloading animals from the basket on the front of the sub and quickly preserving them in ethanol or formaldehyde.

“We’re trying to preserve the present for our own study, but also for the future, when people will know much more than we do today. Fifty years ago, scientists used ethanol only when they ran out of formaldehyde, but today those specimens are a treasure trove because we can get DNA from them.” Her voice undulates like small waves, smooth but with unexpected accents, lending a musical lilt to her sentences.

Voight’s gentle manner harbors an impressive reservoir of determination. This was her seventeenth cruise but her first as chief scientist. As chief scientist, she was responsible for assembling a team of 18 biologists and geologists,

obtaining funding, selecting the site and crew for each submarine dive, supervising the preservation of specimens, and maintaining harmony and purpose throughout the voyage.

“Breaking into this field is hard to do,” said Tim Shank, a biologist with the Woods Hole Oceanographic Institution, “but Janet has hung in there with her face right in the wind. I think this is the first time a museum curator has led an expedition to study the diversity of marine life. She’s tenacious, she really enjoys what she’s doing, and she wants the Field Museum to be the premier hydrothermal depository in the world.”

Voight’s sense of humor, by turns pungent and cornball, served her well during the 25-day cruise. When a male geologist called her “She Who Must Be Obeyed,” she dubbed him “He Who May Be Ignored.” A running joke pitted biology against geology. Voight cheerfully agreed to geological requests with a breezy, “Sure! That’s easy. It’s not like it’s rocket science – or biology.” And if things got a little tense, as they did when a dive to an unexplored area found almost no living things, she advised her colleagues to “keep clam.” Voight bows her head like a shy girl when she laughs, hiding her smile under a crown of curly hair. It’s a gesture hard to square with her tall, slender physique and firm sense of purpose.

The daughter of blue-collar parents, she grew up in Davenport and often walked along the Mississippi River to watch birds and mammals. She became the first in her family to go to college when she enrolled at ISU. Her early interest in anthropology soon gave way to biology, and she credits an experience with college fieldwork for laying the foundation of her scientific career. She worked with the Iowa Coal Project, an experiment to reclaim land displaced by open-pit mining. By the time she



High on a pillar of tubeworms, 2,600 meters below the surface of the Pacific Ocean, an eelpout and a crab search for food.

PHOTO COURTESY OF WOODS HOLE OCEANOGRAPHIC INSTITUTION AND NSF; JANET VOIGHT, PRINCIPAL INVESTIGATOR, THE FIELD MUSEUM



Janet Voight stands by the front window of the Alvin submersible, ready to unload animal samples for the Field Museum's collection.

graduated from Iowa State in 1977, she had published two articles, one about mammals and the other about birds, in peer-reviewed journals. She went on to earn a Ph.D. in evolutionary biology from the University of Arizona, focusing on marine life and the reproductive biology of octopods.

Voight has published 60 articles since college, and some have brought unwelcome publicity. Reporters pelted her with phone calls after she identified a pair of octopuses from a videotape taken during a submarine dive: they were copulating, they belonged to different species, and

they were both male. Journalists called again last summer to ask for details from a paper Voight co-authored about erectile tissue in the male octopus's copulatory organ.

"It's just the discovery of a histological tissue type," she shrugged, unimpressed.

Voight studies octopus morphology in her lab at the museum, but she conducts her field work on ocean ridges where tectonic plates slide apart, volcanoes erupt to make the earth's new crust, and vents of sulfurous fluid support life in a way that was considered impossible when she was a college student.

Somehow, octopuses make a living near the tubeworms and other species that thrive near hydrothermal vents, with no sunlight, very little oxygen, volatile temperatures, and pressures exceeding 3,000 pounds per square inch. Their adaptations fascinate her, but during her stint as chief scientist, she had to restrain her enthusiasm for pure biology.

"It's scary how fast I've learned to carry a clipboard," she lamented one morning as she sat at a table in the ship's main lab to review a dive plan and make notes for a dispatch to the museum's Web site. "I used to have a career in marine biology!"

The cruise began in Panama and made a five-day transit to the East Pacific Rise, an underwater chain of mountains 1,300 miles west of the Panama Canal. The science party began to dive at a point about 450 miles north of the equator and worked its way north along the ridge about 300 miles, making a total of 17 dives to observe and collect specimens for biological and geochemical analysis.

Voight made two dives herself, sharing the 80-inch hull of the Alvin each time with a pilot and one other person.

"Diving isn't my favorite part of a cruise," she admitted, "but it's important to see these animals in their habitat as well as bring them back for study." She gazed into the sky to watch a pair of masked boobies, their brown wings spread wide, circle the top of the ship's jackstaff. It was a calm afternoon, warm and peaceful. Then a horn sounded, announcing that the sub was about to surface.

"Back to work," she said, pushing off from the ship's railing and beginning her graceful lope toward the stern, eager to see what the basket would bring. □

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