

Rockfish get glass eyes, with assist from aquarium

January 9 2015, by Sandi Doughton, The Seattle Times

"A fish with a glass eye" sounds like the punchline to a joke that starts with an angler and an ophthalmologist walking into a bar.

(Suggestions, anyone?)

But two rockfish at the Vancouver Aquarium are now sporting bright yellow ocular prosthetics, thanks to a technique honed in Seattle.

The [fish](#), which each lost an eye to disease, were restored to their former good looks by the operation. The primary goal, however, was to prevent them from being harassed by other fish, which seem to view an empty eye socket as a sign of weakness, said Seattle Aquarium veterinarian Dr. Lesanna Lahner.

"There's an aesthetic piece, but my main concern is fish health," said Lahner, who has been fine-tuning the procedure over the past few years.

A handful of fish at the Seattle Aquarium have received the implants, and Lahner assisted Vancouver vets with their one-eyed rockfish last month.

The staff at the British Columbia aquarium was very worried about a copper rockfish that had an eye surgically removed after a cataract rupture. The 6-pound fish started avoiding its tank mates and hiding in nooks and crannies, said Dr. Martin Haulena, the aquarium's head veterinarian.

"Fish were picking at it," he said. "Its fins were tattered, and it was really getting banged up."

With life spans that can exceed a century in the wild, quality of life is particularly important for captive rockfish.

During the 20-minute procedure, a technician bathed the anesthetized animal's gills and skin with water, while Lahner popped the prosthetic into the socket and coached Haulena on the best way to thread fishing line through bone to hold it in place.

The glass eyes are the kind taxidermists use in trophy trout and salmon mounted for display. Lahner glues two of the flat-backed inserts together to form a sphere.

Fake eyes for fish aren't new, she pointed out.

The idea was pioneered in the 1990s by Drs. Craig Harms and Greg Lewbart, Lahner's mentors at North Carolina State University. They developed a surgical procedure tailored for ornamental koi. Collectors will pay tens of thousands of dollars for a single, exquisitely patterned specimen, and there's little tolerance for one-eyed fish in an industry built around beauty.

Lahner adapted her mentors' method to work in cold-water species, eliminating an adhesive that can cause inflammation and devising a way to anchor the prosthetic with [fishing line](#) and titanium clips.

"It's still a work in progress," she said. "I would not say by any means this technique is perfected."

Fish with a missing eye used to be routinely euthanized at aquariums because they were considered unsightly, Haulena said.

"It's no longer a good idea by any stretch of the imagination to think of animals as disposable, and just go out and get another one," he said.

Eye disease is the most common ailment in captive rockfish, perhaps because they evolved to live under high pressure in deep water, Lahner said. In aquarium tanks, some rockfish experience disruptions in their swim bladders - the balloonlike sacs that maintain buoyancy. As a result, air can leak into the eye cavity, possibly triggering problems.

Lahner is collaborating with local radiologists and veterinary ophthalmologists to better understand the details and develop fixes.

Meanwhile, she'll be outfitting several Seattle Aquarium rockfish with prosthetics soon.

The results from Vancouver's experience are encouraging.

Since getting its new [eye](#), the copper rockfish seems to be back to its old self, Lahner said.

"It's now out in the open and behaving like a normal fish."

©2015 The Seattle Times

Distributed by Tribune Content Agency, LLC

Citation: Rockfish get glass eyes, with assist from aquarium (2015, January 9) retrieved 24 April 2024 from <https://phys.org/news/2015-01-rockfish-glass-eyes-aquarium.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--