

ON THURSDAY, SEPTEMBER 20, Navy SEAL instructors from Coronado, California came upon an oarfish while jogging. The Navy notified the Birch Aquarium at Scripps Institution of Oceanography (SIO). Somewhere around 11:00 A.M., H.J. Walker (senior museum scientist at SIO's fish collection), Cindy Klepadlo (assistant curator at SIO's fish collection), and I (University of California San Diego undergraduate and student intern at the SIO fish collection) left La Jolla to go to the Naval Special Warfare Command at Coronado. When we got there, we were taken by truck to the specimen. I took a few pictures, and Cindy interviewed the SEAL instructors who had found the fish. When H.J. measured the fish, it came to just over seven meters. The tip of the tail was no longer present, so H.J. estimated the original length to be twenty-three to twenty-four feet. Our best guess on the weight of the fish is probably 250 to 300 pounds. Following this measurement, H.J. dissected the stomach: it was probably six or seven feet long, but was, unfortunately, empty. H.J. checked for any obvious reasons for death on the specimen, but found nothing internal. Externally, the fish had a few large gashes on its right side about one foot behind the head, and a noticeable piece of the forehead had been removed as well. Although we cannot be sure, we believe that the wounds were caused by a propeller of some sort. After this, the Navy took the specimen from the beach, back to the main area of the Naval Special Warfare Command Center. Once there, we washed off the specimen and took a lot of pictures of the fish with the different Navy personnel. Afterward, H.J. and Cindy removed the head and the last fifteen to twenty inches of the tail from the specimen. These two pieces offer the



OARFISH

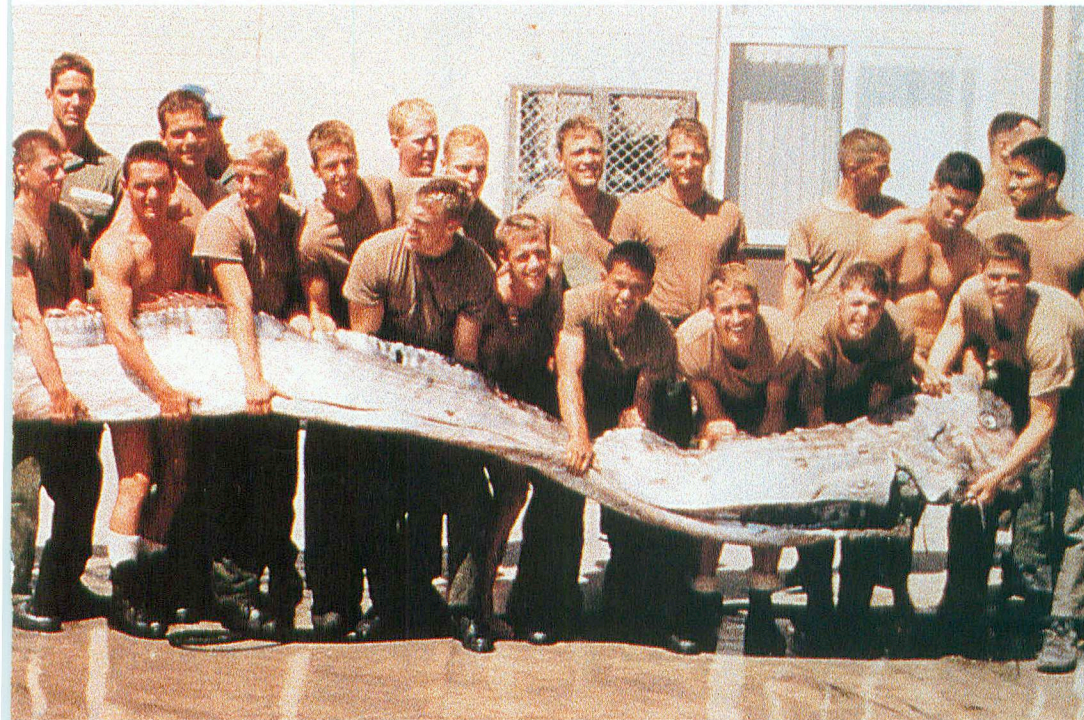
A Glimpse into the World of the Abyss

most information about the fish; the bones in the head and tail have structures that are not found anywhere else on the body. After removing these parts, we returned to Scripps, and the Navy buried the remaining parts of the specimen. Once at Scripps, we took a few pieces of the fish to preserve in a collection of DNA samples for future research. H.J. attempted to find an otolith or "ear stone" from the fish, but was unable to locate it. In a pelagic or open ocean fish such as this, it is extremely rare to find the otoliths. After a number of television stations filmed the head of the oarfish and interviewed H.J., the specimen was placed in our formalin tank. It remained

there for at least three to four weeks, but eventually was moved to a tank filled with isopropanol alcohol for permanent storage.

Oarfish turn up extremely infrequently in San Diego. The last specimen was found around ten years ago. It was caught by a gillnet fisherman about 150 miles off the coast of San Diego. This specimen was much smaller, about fourteen feet. That specimen's stomach contained euphausiids (krill, small shrimp that such animals as the large baleen whales eat). As far as I know, there have not been any other oarfish sighted in San Diego since that specimen. Oarfish tend to be more tropical species, with San Diego being close to the northernmost point they ever reach in the Eastern Pacific. However, they are found worldwide (in the Atlantic, Indian, and Pacific Oceans), predominantly in the tropics.

Little is known about the oarfish. There are few specimens in collections or sightings worldwide. In California,



An unusual coincidence; an oarfish, recently washed ashore in California, and an underwater sighting, right (the only known photograph of a living oarfish). YES, the animal was swimming vertically when photographed.

Fitch and Lavenberg (1968) report that fewer than five had been seen. Yet since then the fish collection at Scripps Institution of Oceanography has seen at least three, so I am not sure what the total count in California would be now. Apparently, the flesh of oarfish is not very good. H.J. Walker, Dr. Richard Rosenblatt, and Cindy Clark baked a piece from the specimen ten years ago and said it shrank down a lot, tasted like paper, and was very fibrous. It is reported that in Scandinavia, even dogs won't eat the flesh of the oarfish—raw or cooked.

The oarfish is probably responsible for many of the sea-serpent legends. The serpents were described as having the head of a horse with a scarlet mane, which is exactly how one might describe the oarfish. Combine this information with its tremendous length (reported to be as long as thirty-five feet) and its snakelike manner of swimming

(anguilliform motion), and it could obviously lead to stories of a sea-serpent.

The oarfish's feeding habits remain uncertain. Both the one in San Diego ten years ago and one found in Point Fermin, California, had been eating small shrimp. It's mouth is very cartilaginous and has no teeth, so they present no threat to humans. It would appear that they range very far from shore; they're thought to swim in the open ocean where depths can reach 9,000 to 12,500 feet. However, they don't actually live this deep, as they're found in the upper 1,000 feet of the ocean, in the photic zone. Although juvenile oarfish have been found in the stomachs of deep-feeding tunas and lancet-fishes off Chile, when mature, they probably have few predators.

The recent sightings of these bizarre fish certainly cause one to ponder: what other strange creatures are yet to be discovered in the depths of the abyss? □



Jonathan Bird