

# Tumors threaten green sea turtles

A hospital for turtles is racing to save as many of the creatures as possible

By DAVID ROYSE  
Associated Press

**M**ARATHON, Fla. — A fishing boat captain spots a giant sea turtle in shallow water near a stand of mangroves just off the coast. He's seen turtles here before, only this time there's something horribly wrong.

The green turtle is covered with a gruesome growth of gray, bulbous tissue. The mass — half the size of the turtle itself — is slowly starving the animal by covering the eyes it uses to find food.

The growths, noncancerous tumors called fibropapillomas, have turned up in alarming numbers on sea turtles all over the world, and researchers are scrambling to find a cure while there are still turtles left to save.

"The disease is taking the turtles faster than Mother Nature can replace them," said Richie Moretti, who runs the Turtle Hospital in the Florida Keys. "It's definitely a race."

The tumors themselves don't kill as much as they smother. Eyes and noses get covered. Lungs and the heart are constricted by the tumors on the inside. The turtle found by the boat captain was not only blinded, but the mass also covered its rectum, preventing it from eliminating waste.

Nicknamed Mini Pearl, after the fishing boat that saved it, the turtle underwent surgery at the hospital to remove the tumor and was recovering in a swimming pool. The giant, flaking mass was sent to a lab for study.

Researchers believe something is causing turtles' immune systems to weaken.

The prevalence of tumors in turtles found near shore areas suggests a possible link to runoff from fertilizer or farm waste. Some turtle habitats have an infection rate as high as 90 percent.

"Runoff is definitely a possibility because you see turtles with papillomas mostly in heavily popu-



lated areas," said Glenn Harman, a marine biologist at the Clearwater Marine Aquarium.

Scientists have also speculated that cyclical changes in water temperature may be decreasing the cold-blooded animals' ability to ward off viral intruders.

"There's some worldwide problem going on and how to tie it all together is not easy," said University of Florida veterinarian Elliott Jacobson, who has done research on the tumors.

Jacobson doesn't know how many green sea turtles have been affected, or how many of the endangered turtles remain.

Turtles with tumors have been seen from Brazil to the coast of Florida, from Hawaii to Australia, and in Indonesia. Green sea turtles aren't the only ones turning

up with the tumors; they have also been seen on loggerheads and olive ridley turtles.

A study last year by the Florida Department of Environmental Protection found that 10 percent of live loggerhead turtles caught in Florida Bay, at the southern tip of the state, are affected.

For Moretti, who has worked the last 10 years to heal injured and sick turtles, the tumor is the worst enemy yet.

"We're losing them to something we can't see," he said.

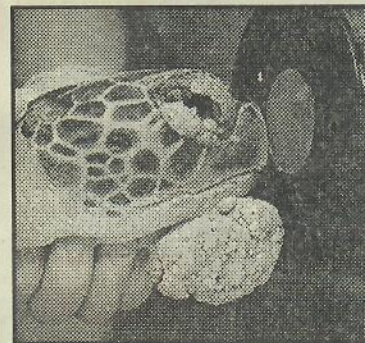
Mini Pearl is about 6 years old and 24 pounds with the tumor. The disease primarily afflicts young turtles, ages 5 to 10, and few turtles with the tumors survive, unless the growths are removed.

At the Turtle Hospital, built on the site of a former strip joint,

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**Richie Moretti**

Founder of the Turtle Hospital in the Florida Keys



*Above, an anesthesia cone is placed on Lumpy III, a green sea turtle with fibropapillomas on its face. At left, Richie Moretti holds Lumpy after surgery, as veterinarian Doug Mader looks on.*

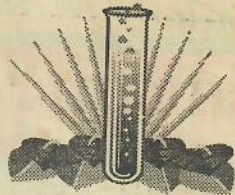
Associated Press photos

that is veterinarian Doug Mader's specialty. These days, much of time is spent removing the fibropapillomas, although the hospital also has repaired turtle hernias, removed fishing line from turtle digestive tracts and plans to perform soon what is thought to be the first ever turtle corneal transplant.

The operation on Mini, which required the reconstruction of the turtle's rectum, was a success. If the turtle stays healthy, it should grow to more than 500 pounds a year, live to be about 100.

"A few animals may be releasable, and many tumors may grow back," Jacobson said. "I've learned a lot that's learned from doing it, and there's some education of people about this, so that's helpful."





## SCIENCE

*Advances in knowledge*



# Mouth tumors found only in Hawaii turtles

*Star-Bulletin staff*

Tumors of the mouth are plaguing many turtles in Hawaii but scientists are not sure why.

Hawaii researchers examined 222 tumored turtles found dead or dying between 1991 and 1995. Of those, 61 percent had tumors inside their mouths. Many of these oral tumors clearly hampered normal breathing and feeding in the turtles, likely contributing to their deaths. In another study, researchers captured, examined and released 236 living turtles with tumors in Kaneohe Bay. Of these, 40 percent had mouth tumors.

In contrast, researchers have found no tumors in the mouths of affected Florida turtles, either living or dead.

No one knows why such a notable difference exists between the two populations. One guess is that perhaps marine parasites found in Hawaii but not Florida make tiny sores in the mouths of our turtles, setting them up for infection.