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Study finds leeches may be cause of deadly tumors on sea turtles

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Source:

Researchers who monitor the health of green sea turtles in the Indian River Lagoon have become used to seeing cauliflower-like tumors on up to 70 percent of the turtle population. They're also used to seeing leeches and leech eggs clinging to the turtles' bodies.

But for the first time, a recently published study is connecting the two - giving researchers new hope that the often deadly disease, fibropapillomatosis, which causes the tumors, can be contained or even eliminated.

"I regard it as a major step forward," said Llew Ehrhart, a professor emeritus at the University of Central Florida who's documented the disease in the lagoon for the past 21 years.

The study, published this year in the Journal of Virology, will "provide direction and effort to deal with this debilitating disease," he said.

Authored by researchers from Cornell University and the National Marine Fisheries Service, the study focused its work on Hawaii, where, as in the Indian River Lagoon, large populations of green sea turtles have contracted the disease.

The study showed that of the many internal and external parasites associated with the turtles, including barnacles and crustaceans, only the Ozobranchus leeches carry the same virus found in the tumors.

The leeches don't affect humans but have been known to attach to loggerhead sea turtles and a variety of marine fish. Beyond knowing that the species is native to the area's waters, not much is known about the leech, Ehrhart said.

The authors of the study also weren't sure how the leeches are able to travel and spread the disease from turtle to turtle.

Although the Hawaiian study dealt with a different population of turtles, Ehrhart said the results can be applied to the lagoon turtles.

"Very often, turtles that have the worst tumors have leeches clustered around the tumors," he said. "We rarely see the leeches in mild or moderate cases" of the disease.

Ehrhart said the turtles, which he catches, documents and releases just south of the Sebastian Inlet in Indian River County, often have yellow-brown leech eggs on their undersides. But he said so far there has been no definitive connection between the eggs and the virus.

Sea turtle experts with **Inwater Research Group**, which has initiated long-term studies in Fort Pierce and

Jensen Beach waters, said they suspect the leech isn't the only cause of the disease.

"They find these turtles with tumors in areas that are degraded. The environmental stress factors make them more susceptible," said Michael Bresette, one of the nonprofit group's founders. The leech connection, he said, is "just another theory."

Ehrhart agreed that field research suggests that environmental conditions play a role in the number of turtles found with the virus.

"It seems like there has to be environmental co-factors - toxins, contaminants, pollutants - in these degraded environments that are serving as tumor promoters," he said.

Still, he said the researchers were willing to offer blood samples or other biological data from the turtles they monitor to further study the connection.

Unlike in Hawaii, where funding for research is plentiful, the disease "hasn't gotten the attention here," Ehrhart said.

"It requires more study on the Indian River coast of Florida," he said.

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