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Archie Carr strives to make the world safer for sea turtles

When Archie Carr was a boy growing up in Savannah, he occasionally witnessed a spectacular sight along the Georgia shoreline.

"These great monstrous things would come up to the beach," he says animatedly, "and start laying their eggs. It astounded me." Those monstrous things were sea turtles, and it was such chance encounters that spurred Carr to make studying these creatures his life's work—even passion.

For the past 30 years, this University of Florida biologist has endeavored to understand the habits, ecology and life cycle of sea turtles, particularly the green turtles of the western Caribbean. Now, because of his efforts, scientific knowledge of these ponderous creatures and public awareness of them as an endangered species have increased.

Dressed in the professorial tweed jacket, sweater and khakis, Carr does not look his 75 years. Nor is his life a retired one. Besides juggling teaching and research responsibilities, he regularly addresses audiences on the dangers—mostly man-made—that threaten the turtles' feeding and nesting grounds. A recent lecture in New York City found him lamenting the "generally melancholy outlook for the sea turtle," given poaching, pollution of ocean currents where young turtles feed and the destructive effects of commercial development along their coastal nesting areas.

Yet Carr also feels encouraged by several developments on the sea-turtle conservation front. One is the work of the Caribbean Conservation Corporation, a nonprofit group that has succeeded in pressuring the governments of Mexico, Costa Rica, Venezuela, Brazil and the United States into passing laws protecting beach nesting areas from egg poachers. The conservation group was formed in the early 1950s. "We were just three or four then," says Carr. "Now there are three or four hundred people who care about the creatures."

When Carr began his work in the 1930s, there was virtually no protection for sea turtles. "Every bar on the coast from Colombia north to Florida seemed to have someone in it selling raw turtle eggs," he recalls. "Eating them was supposed to restore male potency." When Carr wrote his graduate thesis at the University of Florida in 1937, "very little was known about sea turtles. Not about their ecology, their life cycle, nothing." His interest piqued, Carr tried to learn all he could about them and eventually reached the eastern shores of Costa Rica and a hamlet known as Tortuguero.

On the strength of tales told by fishermen, Carr journeyed there several times in search of green turtles that were said to crawl up on the beach to lay eggs. The trouble was, he came at the wrong times. But one July evening in 1953, as he strolled along the beach, he saw the females make their way onto the shore. "I was just ecstatic," he recalls. "I thought, 'Hell, we can set up a camp.'"

Thus, the Tortuguero Research Station was born—one of the first centers dedicated exclusively to the study of turtles. Since then, Carr and others have tagged 28,000 green turtles. This program has helped verify what had long been rumor: Every year, sea turtles migrate from feeding to nesting grounds and back again. The Tortuguero turtles, which typically weigh several hundred pounds and grow to four and a half feet, journey mostly from Nicaragua, several hundred miles away. Others come down from Florida—over 1,000 miles away.

But the mystery of how the turtles perform this navigational feat remains unsolved. Theories abound; Carr leans toward those that contend that sea turtles use the sun as a compass while following a certain taste and smell in the water to reach their destination. But, he maintains, "Until you track them, it's sort of stupid to theorize about what kind of mechanism guides them. So you're just hog-tied."

In the next few years, Carr hopes to explore this phenomenon and to prod others to study, for example, how many species of sea turtles there are; when they reach sexual maturity; and how old they can grow to be.

Another important question concerns the sex ratio of the species. For decades, scientists have been giving turtles a "head start" by collecting eggs, incubating them under uniform, controlled conditions and then releasing the hatchlings into the sea. But according to Carr, researchers have recently discovered that cool nesting temperatures produce male turtles and warm nests produce females. Mother turtles presumably spread their eggs around in the nest to achieve a viable sex ratio that ensures the species' survival. Until now, the scientists, however, have not.

Such gloomy news of mistakes in conservation management, poaching and ruined habitats would probably discourage most scientists. But Archie Carr intends to persevere: to pursue the elusive mystery that is the sea turtle. ■

—Jonathan Beard