PACIFIC BEAT

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LIFE IN A GYRE: DRIFTING PACIFIC SEA TURTLES

ON AN ISOLATED Galápagos beach just before sunset, biologist Mario Hurtado pointed to a black cloud of frigatebirds building at the far end of the cove. As we approached, the birds scattered, Hurtado fell to his knees, pressed his arms elbow-deep into the sand, then leaned back with a handful of wriggling sea turtle hatchlings. Hurtado talked gently to the silver-dollar-size turtles, encouraging them from their warm, sandy womb. He counted and inspected dozens of the soft, squirming babies, and then politely asked me to slip them down the front of my T-shirt for safekeeping against the hungry frigatebirds. After the winged predators had gone to roost, we released the grey-green bundles of energy into the surf. When I asked him where the hatchlings swam to, the turtle expert shrugged.

From the moment they enter the surf until they return to coastal waters several years later, baby sea turtles just seem to disappear. This phenomenon is commonly referred to as "the missing years." The late Archie Carr, internationally recognized dean of sea turtle research, conservation, and boosterism, dedicated his life to unraveling the mysteries of the seven sea turtle species that ply our oceans. Of particular fascination to Dr. Carr were those missing years.

Carr discovered that some Caribbean-born turtles hitchhike on Gulf Stream currents and oceanic fronts or driftlines to the shores of Ireland, Cornwall, southern France, and the Azores. They return to the Caribbean, Carr believed, after a year or two circling the Sargasso Sea in the mid-Atlantic.

What about young turtles in the Pacific? The fact is, nobody knows. Zoologist and sea turtle expert George Balazs of the National Marine Fisheries in Honolulu, says that our knowledge of baby Pacific turtles is based on circumstantial evidence at best. "I wouldn't use the term theory when talking about baby Hawaiian green turtles," states Balazs. "Speculation is a better word."

And speculate he does. Balazs believes green turtles (*Chelonia mydas*) hatched northwest of the main Hawaiian islands drift north, cruise on eastwardly moving currents, and eventually swing back into the southern archipelago. Similar unchartered, current-powered travels are postulated for turtles born along the Pacific coastline from Mexico to Chile, and throughout the South Pacific. "In Hawaii," continues Balazs, "hard evidence on little turtles is extremely scarce because we can't just motor 100 miles [or 160 kilometers] offshore, and know exactly where to find them."

Is it important to know exactly where they go? Isn't it somehow pleasing to live with a few natural mysteries? Balazs enjoys a mystery as well as anyone, but he feels it is crucial to find out where young turtles travel—it may decide the future of sea turtle populations worldwide. The same currents and transitory surface driftlines that transport baby turtles and gather invertebrates and fish eggs for them to eat, also accumulate tons of deadly plastics, garbage, and toxins.

According to Balazs, "We now know where sea turtles would be impacted the most by marine debris—on the high seas, where the missing years are spent. All sea turtle species spend time at sea. The leatherback (*Dermochelys coriacea*), olive ridley (*Lepidochelys olivacea*), and Kemp's ridley (*Lepidochelys kempi*) may pass their whole life in a pelagic environment. While out there, all species feed at or near the surface. Most man-made garbage is buoyant. When we analyze dead juvenile turtles that drift to shore, the chances of their being full of plastic are much greater than for the large-size turtles that live close to shore permanently."

Until scientists do further research on driftline habitats and address the mounting problem of ocean pollution, Dr. Carr stressed, "we are bound to remain peculiarly ignorant of the ecologic organization of three-fifths of the surface of the earth." This April, the Second International Conference on Marine Debris will be held in Honolulu. Dr. Carr would have been pleased.

It has been several years since I released those sixty or so hatchlings into the dark equatorial surf of the Galápagos. Perhaps a few survived the modern perils of the open ocean, quit their itinerant ways, and are following the currents home.

EL CONDOR LLEGÓ— AN EPISODE TOWARD RECOVERY?

IN THE CONTINUING SAGA of the beleaguered California condor (*Gymnogyps californianus*), yet one more episode unfolded this winter. All twenty-eight of California's native condors are in a captive breeding program at the Los Angeles Zoo