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Gilberto Cintrón Morelo: A passion for science born from the sea [1]

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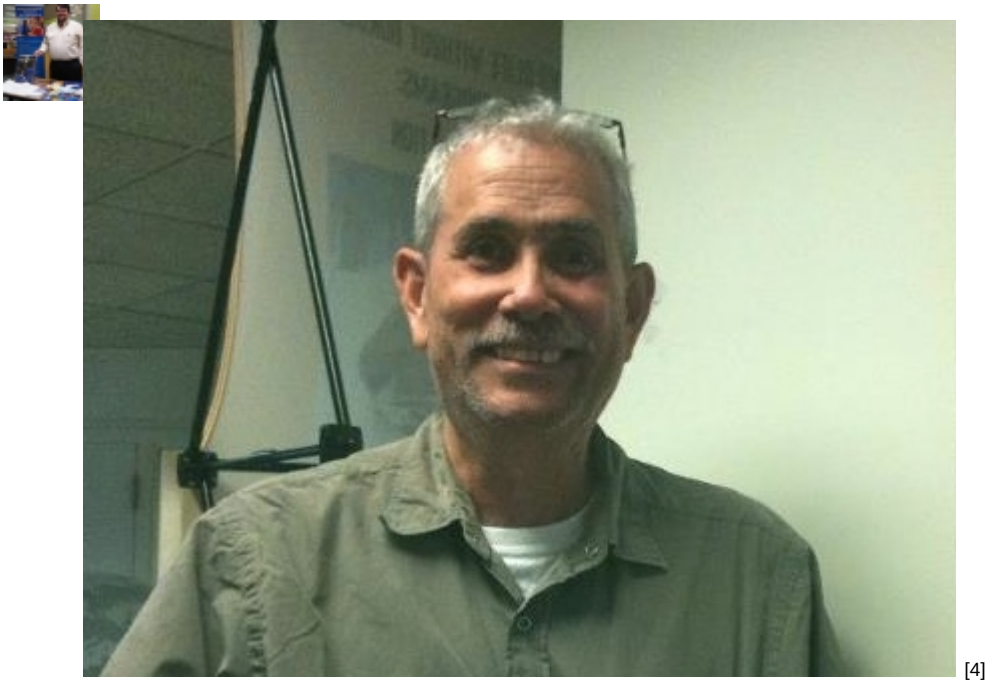

Marine biologist, Gilberto Cintrón Morelo

Out of his fascination for understanding the world around him, scientist **Gilberto Cintrón Morelo** fell in love with the sea. Don Gilberto has dedicated his life to build a successful career as a marine ecologist, preserving coastal ecosystems in Puerto Rico and the Caribbean region. His professional achievements demonstrate that a deep understanding of basic scientific principles is needed to protect the environment.

Don Gilberto inherited his passion for outdoor activities from his father's side of the family. As a child, he used to go sea fishing with his father and uncles. From these night escapades, Don Gilberto still lovingly remembers the impressive starry nights of Vacía Talega [5]. The adults also enjoyed exploring cavern systems in the municipality of Aguas Buenas. Due to his age, Gilberto

could not go with his father and uncles, but he marveled at their adventurous stories. These experiences influenced Gilberto profoundly, developing in him a deep love for nature and its seas.

Don Gilberto's father shaped his son in a completely different way, making young Gilberto become curious about how things worked around him. His old man loved short wave radios, spending hours together listening to broadcasts from all over the world, including Moscow, London, Spain, and Holland. One memorable day for Gilberto, his father brought home the parts of a galena crystal radio for assembling. This type of radio is a simple modulated-amplitude or AM receptor that uses a lead sulfide semiconductor. Putting the pieces together helped Don Gilberto to understand as much as possible about all sorts of electronic devices.

Before college, Don Gilberto worked as a crewmember on a cargo ship that traveled between Puerto Rico and the U.S. Virgin Islands. This experience increased his love for the sea and his interest in navigation. Fortuitously, it was during one of these work trips that Don Gilberto became acquainted with Dr. John Randall, a scientist who would become the Director of the Marine Biology Institute in Magüeyes Island [6], part of the University of Puerto Rico at Mayagüez [7]. Dr. Randall invited Gilberto to complete a summer course at the Institute, an experience that cemented his interest in the discipline of marine sciences.

Don Gilberto entered college already decided in completing a degree in marine sciences. During his university years, he was mentored by several scientists, including distinguish ecologist Dr. Howard T. Odum [8]. They worked together researching the effects of radioactivity in El Verde, a tropical forest. Later, Don Gilberto learned about the ecosystems of Mona Island. He did not know it at the time, but this scientific knowledge would become invaluable for Don Gilberto in the near future.

After completing his undergraduate degree, Don Gilberto finished a master's degree in marine sciences at the Marine Biology Institute [6]. As a graduate student, he was particularly useful as an electronics technician, repairing the old instruments that were used to measure chlorophyll levels. Around this time, he learned about brine pollution in the salt evaporation ponds in Magüeyes. This phenomenon occurs when highly saline water, which is denser tan regular seawater, seeps and settles at the bottom of a bay. Don Gilberto measured the salinity of this brine and discovered that it was three times saltier tan seawater. This important finding became his first scientific publication, co-written by Dr. William Maddux, his thesis mentor, and Dr. Paul Bulkholder.

After finishing his thesis, Don Gilberto spend several years in the military, fighting in the Vietnam War. When he returned home, he went back to his scientific work and became part of the Puerto Rico Environmental Quality Board. In this position, he researched water circulation in the northern estuaries, discovering that the rivers that flowed to the ocean had deep saline intrusions that created areas of low-oxygen water at the bottom. He also researched the bioluminescence of Vieques Bay, where he discovered that the shape of the bay was an important variable in the accumulation of bioluminescent phytoplankton.

As a member of the Puerto Rico Environmental Quality Board, he was a part of the group that created the Puerto Rico Department of Natural and Environmental Resources [9] (DRNA from the Spanish acronym), where he became the director of the Oceanography Program. During this time, he was an expert witness against the company that owned oil tanker Zoe Colcotronis. This

ship ran aground in the coast near Cabo Rojo, spilling its cargo and creating an environmental mess. He testified in federal court about the impact of this disaster in the southwestern coast of Puerto Rico.

Don Gilberto was part of the rescue efforts, and subsequent court fight, caused when MV A. Regina, a passenger ferry, ran aground in the coral reefs near Mona Island. This was a significant court case for the Puerto Rico Department of Natural Resources because, after rescuing the passengers, the owners considered the ship a total loss and left it abandoned at sea, destroying the corals as the ship swayed with the waves. Thanks to the collaboration of organization like the Animal Protection Society, Greenpeace, and the Puerto Rico Department of Natural and Environmental Resources, the ferry owners had to remove it, preventing further environmental damage.

In addition of participating in these historic environmental court cases, while at the Puerto Rico Department of Natural Resources, Don Gilberto researched mangrove ecology and taught courses in coastal conservation in several Latin American countries.

Currently, Gilberto Cintrón Morelo works with the Latin America and Caribbean Branch, Office of International Conservation, United States Fish and Wildlife Service [10] (USFWS). As the Branch Chief, Don Gilberto engages in a daily battle to preserve ecological refuges worldwide. This is achieved by establishing partnerships to designate sensitive areas as “Wetlands of International Importance” under the Convention on Wetlands, also known as the "Ramsar Convention [11]". This is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their wetlands and to plan for their sustainable use. One of Don Gilberto’s main goals is to include many wetlands in Puerto Rico as “Wetlands of International Importance”. This would help preserve coral reefs, mangroves, and sea grass field that could become endangered.

Looking back at his decades-long scientific career, Don Gilberto reflected on the importance of science to society. He argued that science is needed to fully comprehend the interrelation between nature and reality, and that when scientific knowledge is correctly used, then we can see nature and reality as a whole, instead of isolated pieces.

If you want to know more about Gilberto Cintrón Morelo, please visit his profile in our website, http://www.cienciapr.org/ [12].

Tags:

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- Instituto de Biologia Marina [14]
- UPR-RUM [15]
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