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Profile of Dr. Bob Bidigare

Searching the world over for useful marine natural products can be an exciting adventure. Many people have explored the oceans to find cures for cancer and other diseases and compounds that could be useful products for industry, but few have taken it as far as Dr. Bob Bidigare from the University of Hawaii.

Bidigare always knew he would go into marine science as the ocean always provided him with so many unanswered questions and riddles. After completing an undergraduate degree in 1977 in aquatic biology at Eastern Michigan University, he was accepted to graduate school at Texas A&M where he completed his doctoral degree in oceanography in 1981.

Bidigare is very interested in learning more about potential pharmaceuticals in the marine environment. More than one million microorganisms are present in each milliliter of seawater and each one could hold the answer to developing cures for some of our most challenging diseases. At present, there are many marine natural products in clinical trials to treat everything from cancer to HIV to tuberculosis. The exciting news is that researchers like Bidigare are discovering new products all the time. Some of these products include an antiviral agent from the sponge *Cryptotethya* that is now commercially available and an anticancer agent in Phase III clinical trials from the tunicate *Ecteinascidia*. Marine products are not limited to pharmaceuticals; Bidigare also searches for products that can be used in industry.

Bidigare serves as Director for the Center for Marine Microbial and Ecological Diversity at the University of Hawaii. In this position he develops partnerships with biotechnology companies such as Diversa Corporation, who are also interested in drug discovery from the sea. Partnerships such as this one have resulted in improved education programs in areas where exploration is occurring as well as training in the use of technical equipment that can provide positive economic returns in areas where options can be few.

Bidigare really likes studying some of the ocean’s smallest organisms. His other research interests are the biology and chemistry of phytoplankton pigments, metabolism in marine plankton, algal photosynthesis, and the function of food webs in the open ocean. These areas have led to a greater understanding of the microbiological life in the world’s oceans. Bidigare works with many education programs, including the Marine Options Program at UH, and loves interacting with K–12 students and their teachers through Dr. Bob’s marine science program.

In addition to the fun he has at work, Bidigare has a number of hobbies that fit in well with his career and his Hawaiian location. He likes traveling, scuba diving, underwater photography, and boating. He has been on expeditions to many oceans in the world, but recalls the most dramatic was an expedition with the U.S. Navy aboard a nuclear submarine.

As Bob Bidigare maintains, the ocean provides us with incredible diversity and we have only begun to explore its full potential. New drugs and pharmaceuticals as well as food products are already being tested and with more than 30 potential new drugs in the pipeline, a cure for cancer may not be so far away. The search has begun and adventure is waiting. Join Dr. Bidigare on this adventure!