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Dr. Gary Rosenberg is available for media interviews, Contact above.

ACADEMY PARTICIPATES IN PROJECT TO DISCOVER DRUGS, BIOFUELS IN TROPICAL SEAS

PHILADELPHIA—The National Institutes of Health has awarded \$4 million to a group of Philippine and American scientists, including The Academy of Natural Sciences, to aid in the discovery of new molecules and biofuels technology from marine mollusks for development in the Philippines.

Research will be concentrated in the Philippine archipelago, whose waters are inhabited by an estimated 10,000 marine mollusk species—about a fifth of all the known species—and are regarded by marine biologists as the world's epicenter of marine biodiversity. Mollusks are among the most diverse of marine animals and include shelled creatures like snails, clams and slugs.

“Our team wants to marry discovery of new products with deeper understanding of marine biodiversity and conservation of that diversity,” said Dr. Gary Rosenberg, one of the study’s leaders and curator of mollusks at The Academy of Natural Sciences in Philadelphia.

The wide-ranging Philippine Mollusk Symbiont International Cooperative Biodiversity Groups project aims to provide new information to catalog and preserve these diverse mollusk species while providing scientific opportunities for the Philippines. U.S. scientists will work closely with colleagues from the University of the Philippines to uncover interactions between mollusks and their bacterial partners. The project is expected to yield leads to potential central nervous system, cancer and antimicrobial drugs as well as enzymes for cellulosic biofuels production.

Part of the project involves the methodical collection, identification and cataloging of mollusk species from the Philippines, and making this information freely available on the Internet. This effort will be led by Rosenberg, an evolutionary biologist at the Academy, the oldest natural science research institution and museum in the Americas. Rosenberg already has developed a biotic database documenting more than 25,000 species of Indo-Pacific marine mollusks. He oversees the Academy’s world-renowned collection of more than 10 million shells.

“We'll also be training Philippine students in taxonomy and best practices for museum curation and building online identification guides for Philippine mollusks,” Rosenberg said. “Our sampling will focus on four habitats: coral reefs, mangroves, marine grass beds and intertidal flats,

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all of which are heavily impacted by humans. Increased knowledge of the mollusks living in these areas will help Philippine scientists to better monitor, conserve and restore these habitats.”

The project aims to discover biologically active molecules from bacteria associated with marine mollusks. One target is bacteria isolated from gastropod mollusks, or snails, particularly the highly venomous cone snails found in Philippine waters.

Another target of research is shipworms, the marine equivalent of termites and the scourge of wooden structures in estuarine and marine habitats worldwide. A relative of the clam, these animals host bacteria inside their gills that produce enzymes to help them digest wood and may prove useful for converting cellulosic biomass into biofuels.

The National Science Foundation and the U.S. Department of Energy are also sponsors of the five-year grant led by the Oregon Health and Science University School of Medicine. The team also includes scientists from the University of the Philippines, University of Utah and Ocean Genome Legacy in Ipswich, Mass.

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Founded in 1812, The Academy of Natural Sciences is the oldest natural history museum in the Americas and is a world leader in biodiversity and environmental research. The mission of the Academy is the encouragement and cultivation of the sciences.

The Academy is located at 1900 Benjamin Franklin Parkway and is open daily from 10 a.m. to 4:30 p.m. and until 5 p.m. on Saturday and Sunday. Admission is: \$10 for adults, \$8 for children ages 3-12, seniors, military personnel and students, and free for children under 3 There is a \$2 fee for Butterflies!