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ACADEMY ESTABLISHES ASIA CENTER TO PROTECT THE ENVIRONMENT

PHILADELPHIA—Building on nearly 15 years of biodiversity and climate change research in Mongolia, The Academy of Natural Sciences today announced formation of its Asia Center to forge international partnerships for the study, protection and sustainable use of environmental resources.

One of the first partnerships established, and involving St. Joseph's University in Philadelphia, is with Nanjing University, one of the most selective universities in China and among the world's oldest institutions of higher learning. A focus of the collaboration involves training faculty and students to monitor the highly polluted Lake Tai, China's third largest lake, which serves as a drinking water and food source for 6 million people and is on the verge of serious ecosystem damage. Rapid economic development in China and other parts of Asia has led to rampant exploitation of natural resources. This development, coupled with global climate change, is accelerating widespread environmental degradation and loss of ecosystems, with the potential to seriously affect food and water supplies for millions—if not billions—of people.

"Now is the time to act," said Academy President and CEO William Y. Brown. "Water, air and biodiversity are under siege in China and elsewhere in Asia. Science, and Academy scientists, can help stabilize the region through research and by training young scientists and environmentalists in the places impacted."

Through the Asia Center, the Academy will work with host nations and other partners to train researchers and to apply the knowledge to protecting the environment, especially in areas involving climate change and water quality issues. Evoking the 17 million plant and animal specimens under its own care, the Academy also seeks to ensure the preservation of research specimens, images and data in collections in other institutions.

Later this year, Academy scientists and St. Joseph's University faculty will begin training senior-level and graduate students at Nanjing University on basic and applied principles of ecology and systematic research critical for water quality monitoring. Part of the workshop will take place in China, where the students will apply their knowledge to monitoring Lake Tai, which is so badly polluted with toxic algae that it has turned a fluorescent green.

The Academy also has signed agreements for education and research exchanges with The Nanjing Museum and the Institute of the Biological Problems of the North, Far-Eastern Branch of the Russian Academy of Sciences. "This Asian initiative puts the Academy in the forefront of what is likely to be more relationship-building among natural sciences institutions," Brown said.



The Mongolian Connection

The Academy, the oldest natural science research institution in the Americas, has a long history of biodiversity and environmental research in Asia. Most recently, the highly successful Institute for Mongolian Biodiversity and Ecological Research has pursued biodiversity studies of one of the major river systems of Asia (the Selenge River of Mongolia, which feeds into the Yenisei River in Russia) and analyses of the impacts of climate change on the plants, animals and landscape. Northern Mongolia, particularly at the high latitudes, is warming more than twice as fast as the global average. This has caused the sweeping expanse of grasslands, famous as the land of legendary warrior Ghengis Khan, to become drier each year, leading to poor growth of grasses needed for the nomad's livestock and declines in plant and animal species. It also has altered a way of life for many nomadic herdsmen, who are now crowding the unprepared cities.

Last year, Mongolia awarded its highest honor, the Friendship Medal, to Academy ecologist Dr. Clyde Goulden for his outstanding contributions to promoting that nation's development. Goulden, now director of the Asia Center, began working in Mongolia in the early 1990s and has since led teams of international scientists in studying the impacts of global warming and increased grazing of sheep, goats and other cattle on the steppe grassland and forest of the watershed of pristine and ancient Lake Hovsgol. The National Science Foundation recently announced a fiveyear, \$2.5 million grant to expand this research and to involve other ecologists, evolutionists and anthropologists at The Academy of Natural Sciences, University of Pennsylvania, Mongolia University of Science and Technology and National University of Mongolia.

Dr. Jon Gelhaus, an Academy entomologist who has surveyed aquatic insects in Mongolia since 1996, also recently received a three-year, \$740,000 NSF grant to inventory the freshwater insects of waterways in the Altai and the Hangai mountains of western and southcentral Mongolia, building on a previous NSF study he led on the Selenge River Basin in northcentral Mongolia. Studies of aquatic insect taxonomy and distribution provide important information for understanding insect communities, which are being threatened by mining, untreated wastes, over-grazing, fires and climate change. The baseline data will aid in future water quality monitoring programs within the Mongolian government. The project also involves American and European scientists working with Mongolian scientists and students on training programs and the development of scientific infrastructure. Academy partners include the Institute of Meteorology and Hydrology in Mongolia and the Mongolian Academy of Sciences.

Academy scientists in recent years also have conducted field surveys in Mongolia in search of Amur catfish and rotifers (microscopic aquatic invertebrates).

The Historical Collection

The Academy's history in Asia reaches back to its founding in 1812. At the time, Philadelphia merchants accounted for fully one third of the trade between America and China, as well as a significant portion of the America-India trade. These Asian contacts provided the nascent institution with many opportunities to obtain natural history specimens for study and later for public display, specimens the Academy cares for to this day. The Academy's world-renowned Ewell Sale Stewart Library holds many of the classic books on travel and exploration in that part of the world, as well as most of the important monographs on the flora and fauna of Asia.

Two large expeditions to China and Tibet in the 1930s led by Brooke Dolan (and a later one to Tibet) resulted in all but one of the dioramas in the museum's Asia Hall.

For more information on the Asia Center see http://www.ansp.org/research/asia/index.php

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Founded in 1812, The Academy of Natural Sciences is the oldest natural science research 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 in Philadelphia and is open Monday through Friday from 10 a.m. to 4:30 p.m. and weekends until 5 p.m. Admission is \$10 for adults, \$8 for children ages 3–12, seniors, students with college I.D. and military personnel, and free for children under 3. There is a \$2 fee for "Butterflies!"