

CHINA

After Long March, Scientists Create 'Chinese NIH'

BEIJING—Scientists here rang in the New Year with the debut of China's first biomedical research fund. Last week, the National Natural Science Foundation of China (NSFC) launched a medical department that expects to disburse about 1 billion renminbi (\$150 million) in government grants in 2010.

The department should be a shot in the arm for unraveling disease mechanisms, modernizing traditional Chinese medicine, and moving results from bench to bedside. "It will promote a speedy transition of basic research into clinical application," says Pei Duanqing, director general of the Guangzhou Institute of Biomedicine and Health of the Chinese Academy of Sciences.

For backers of basic biomedical research, the new department is a decisive victory in a decade-long ideological struggle. In 2001, when NSFC first declared its intention to create a medical department, "some people believed that there was no basic research in medical science," says NSFC President Chen Yiyu. That unfavorable climate com-

promised many scientists to work abroad. In the early 1990s, says Ma Yue, a "poor atmosphere" and a shortage of grants made it "hard to do medical research." Ma left for the United States in 1994 and returned here in 2006 to conduct stem cell research at the Institute of Biophysics of the Chinese Academy of Sciences.

The prevailing winds shifted in 2008, when hematologist Chen Zhu was appointed health minister. He has campaigned vigorously for creation of an agency akin to the U.S. National Institutes of Health (NIH) (*Science*, 28 March 2008, p. 1748). Although Chen Zhu has not forsaken that goal, he threw his weight behind NSFC's effort. The health minister was "instrumental" in helping to get the medical department off the ground, says Chen Yiyu.

Unlike NIH, NSFC's medical department will not have an intramural research program. Nevertheless, says Stephen Roper, a biophysicist at the University of Miami in Florida, "the target of NSFC and NIH is the

same: apply basic research to solving ongoing human disease problems."

Chen Yiyu has tapped Wang Hong-Yang, an expert on hepatitis-induced liver cancer, as the medical department's first director. Wang, director of the International Cooperation Laboratory on Signal Transduction at the Second Military Medical University in Shanghai, will spend a third of her time here overseeing the new department. "My job is to clarify the research directions and make sure the best medical scientists get funded," she says.

That's music to the ears of Huang Lique of the Monell Chemical Senses Center in Philadelphia, Pennsylvania. The medical department's initial budget "is an excellent start," says Huang, who believes the new entity will usher in a much wider range of opportunities for cooperation between Chinese and U.S. scientists on basic biomedical research.

—LI JIAO

Li Jiao is a writer in Beijing. With reporting by Richard Stone.

ECOLOGY

Europe's Bats Resist Fungal Scourge of North America

The same fungus that has devastated bat colonies in the northeastern United States has been identified for the first time in Europe—in a healthy bat. "The astonishing thing is that [the fungus] affects North American bats so devastatingly, but that European bats can get along with it," says Christian Voigt, a bat physiologist at the Leibniz Institute for Zoo and Wildlife Research (IZW) in Berlin.

White-nose syndrome was first identified in a cave in upstate New York in 2006. Since then, it has spread across nine states and caused unprecedented mortalities. Affected bats emerge from hibernation too frequently and lose body fat, and many starve to death. Last year, a group led by microbiologist David Blehert of the U.S. Geological Survey in Madison, identified the fungus associated with the syndrome as *Geomyces destructans*, but many puzzles remain about the nature of the disease, such as whether the bats' immune systems were

compromised (*Science*, 29 May 2009, p. 1134).

European researchers watched the U.S. outbreak with alarm. "I thought, 'Oh my God, we've got a huge nightmare on our hands,'" recalls Kate Jones of the Zoological Society of London. So far, no mass casualties have been detected among Europe's species, but researchers did find anecdotal reports of bats with white fungus that no one had paid attention to previously.

On 12 March, Sébastien Puechmaile of University College Dublin (UCD) spotted a mouse-eared bat (*Myotis myotis*) covered with fungus in a cave

130 kilometers northeast of Bordeaux, France. Microscopic examination of the spores and two molecular markers showed that it was *G. destructans*, the team reported online 29 December in *Emerging Infectious Diseases*. Another group, led by Gudrun Wibbelt of IZW, has also identified the fungus in bats from three other European countries, none reporting bat deaths. Their results have been submitted to the same journal.



Survivor. This French bat was not killed by fungus on its nose (arrow).

Now the challenge is to figure out why most European bats are not infected and why those that are remain healthy—and whether that knowledge can be used to help ailing bat populations in the United States. One scenario is that *G. destructans* has been present in Europe for a long time, and European bat species have evolved immunity, says Emma Teeling of UCD, the senior author of the December paper. Or perhaps the fungus evolved greater virulence after arriving in North America, a possibility that could be investigated with further sequencing.

Whatever the explanation, the European reports are "great news," says Alan Hicks, a mammal specialist with New York's Department of Environmental Conservation in Albany, who has charted the decline of the state's once-massive bat colonies. Eventually, an understanding of these differences could help lead to the development of a vaccine or treatments for endangered bats, Blehert says. Meanwhile, researchers are beginning once again to survey hibernating bats in the Northeast United States. Hicks says the signs so far are that deaths are continuing.

—ERIK STOKSTAD

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