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China takes steps to secure pole position in primate research

David Cyranoski, Tokyo

China is poised to become a global centre for biomedical research in primates, specialists from around the world heard at a meeting in Kunming last week.

But some observers are already worried that the circumstances drawing primate researchers to China — low costs, uncertain regulations and the absence of animal-rights groups — could lead to trouble in the future.

Researchers from the United States and Europe are increasingly seeking collaborations with primate centres such as the Kunming Institute of Zoology in southwestern China, which hosted the symposium on 27–30 October.

The symposium promoted biomedical research that uses primates as models. Two dozen talks, mostly given by scientists based in Britain or the United States, covered brain disorders, primate evolution and the use of primates to study cancer, HIV treatments and immune disorders.

“Our research work must be of international standard,” says Weizhi Ji, director of the Kunming Institute. Foreign researchers say that they were awed by the scale of Ji’s facility, which currently hosts 1,400 experimental monkeys, including 300 in isolation. “It’s bigger than anything I’ve ever seen,” says Frances Gotch, an HIV-vaccine researcher who formerly worked with primates in Europe. “This facility undoubtedly could be of great service to the rest of the world.”

Fraser Wilson, a neurophysiologist who until recently was based at the University of Arizona in Tucson, is one of three US researchers who will take a full-time position at Kunming to study neurophysiology. Wilson says that a mountain-top field station there will allow them to track the activity of single neurons in monkeys that are freely exploring large-scale three-dimensional space. “Come here in six months and see what we are doing,” he boasts. “It will be world-class research.”

Other primate-research facilities are also blossoming in China. A collaboration

Unknown quantity: standards for animal care in China’s burgeoning primate laboratories have yet to be established.

between Bruce Lahn, a researcher at the University of Chicago, Illinois, and Sun Yat-sen University in southern Guangzhou, for example, has begun producing transgenic and inbred monkeys that could be used, like their mouse equivalents, to study disease (see *Nature* **424**, 239–240; 2003). And the Institute of Neuroscience in Shanghai will soon start taking functional magnetic resonance images of primates to study their neurophysiology.

Model behaviour

Primates are even making their way into cardiovascular research. Anthony Chan of the Yerkes National Primate Research Center in Atlanta, Georgia, a pioneer of the use of transgenic monkeys, is teaming up with the new Institute of Molecular Medicine in Beijing to create transgenic monkeys that will serve as models for studying atherosclerosis, heart failure and diabetes. Chan, who says that recent studies show the superiority of non-human primates as models compared with other lab animals (G. S. Roth *et al. Science* **305**, 1423–1426; 2004), thinks

that researchers in China are well equipped to pursue such work.

The research will be relatively cheap to do in China, with monkeys costing less than US\$1,000 — about a tenth of what they cost in Europe. And it will be free of the pressure from animal-rights groups, which, according to veterinarian scientist Paul Malatesta of the Robert Wood Johnson Medical School in New Jersey, has prevented his home institution from working with primates. “It’s not worth the expense,” he says, “and you don’t want to be the target of the animal-rights people.” Animal-rights groups have, in the past, criticized Wilson’s experiments at the University of Arizona, and held vigils there in protest.

Ji says that China is fundamentally different from the West in that “human health is always given the first priority and there is less emphasis on animal rights”. But he says that he recognizes the importance of strong ethical regulations — and that the

symposium will help to establish these.

Gotch says that the standards of animal care at Kunming seem to be as strict as those in Britain in terms of emergency exits, cleanliness and operating facilities. “There is nothing ‘third world’ about it,” she says.

Ji claims that China’s regulations on animal research already meet international standards. But in a country where protests or even discussion are rare without government sanction, foreign activists question that. Problems that have arisen with primate care in the United States “will tragically be repeated”, says Elliot Katz, a veterinarian who founded In Defense of Animals, an animal-rights group based in Mill Valley, California, “And they’ll feel there are even fewer limitations.”

Ji concedes that the institution-based review boards that monitor research ethics in the United States have rarely been established in China. But he hopes that a committee on animal care and use — a group that he heads at Kunming — will serve as a model for primate research in the rest of China. ■

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