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China's Tiny Bats

Libiao Zhang



The tiny bamboo bat is besieged by threats in south China, where its unique roosts in hollow sections of bamboo plants are falling victim to human commerce. Bamboo forests are disappearing to provide cheap binding for bundles of sugarcane and to feed paper mills. Libiao Zhang, armed with solid research and a BCI Global Grassroots Conservation Fund grant, is educating farmers about how and why they should conserve these bats.

Zhang, of the South China Institute of Endangered Animals in Guangzhou, has studied two species of bamboo bats in China since 2001, documenting their roosting needs, the insects in their diet, their range and populations in China, and many other aspects of these unusual little bats. He is applying that data to his conservation efforts.

The two species are the lesser (*Tylonycteris pachypus*) and greater (*T. robustula*) bamboo bats. A new species, *Tylonycteris pygmaeus*, was officially reported earlier this year in southwest China. It was not part of Zhang's research.

The lesser bamboo bat averages about 1½ inches (4 centimeters) in length and weighs about 2.6 to 3.5 grams (a U.S. penny weighs 2.5 grams). The greater bamboo bat is slightly larger. Adult female usually give birth to twins each year. The two species are found throughout most of South and Southeast Asia and the Philippines.

These little bats roost in the “internodes” of bamboo shoots – the hollow spaces between the solid joints or “nodes” of the plants. They enter the hollows through narrow slits created by beetles. Zhang's research suggests lesser bamboo bats use slits that average less than a half-inch (1.1 centimeters) wide and give access to internodes that average about nine inches (23 centimeters) in diameter and can hold up to two dozen or so roosting bats. (The preferred dimensions are somewhat larger for greater bamboo bats.) The openings are too narrow for most predators, such as snakes, to enter.

Zhang documented that bamboo bats of both species are threatened in this part of China by increased planting of sugarcane as a cash crop. Farmers not only replace historic bamboo forests with sugar cane, but they cut remaining bamboo to make strips used for binding bundles of sugar cane.

Questionnaires and interviews with farmers indicated most had no idea that bats were living inside the bamboo. Worse yet, the farmers reported that they preferred to cut bamboo with the bats' entry slits first in the mistaken belief that those plants were damaged and would stop growing. Zhang also found that people in the area knew almost nothing about bats but generally dislike them.

Zhang and his team developed and distributed a brochure on the values of bamboo bats, especially their role as major predators of damaging insects in the region, and how they can be protected. Zhang said he tries to convince farmers to replace the bamboo strips with plastic or straw rope, but relatively few were willing to accept the expense. He reports much better success in convincing farmers to leave standing the old-growth bamboo with the slits needed by the bats, and instead harvest the bamboo shoots that are inaccessible to bats.

Zhang said his continuing surveys of bamboo bat populations have revealed areas where populations are small and fragile and where conservation efforts, especially to protect bamboo forests, should be concentrated.

Members of Bat Conservation International can read the full story of Libiao Zhang's research and efforts to protect China's bamboo bats in the Fall 2008 issue of BATS magazine.

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