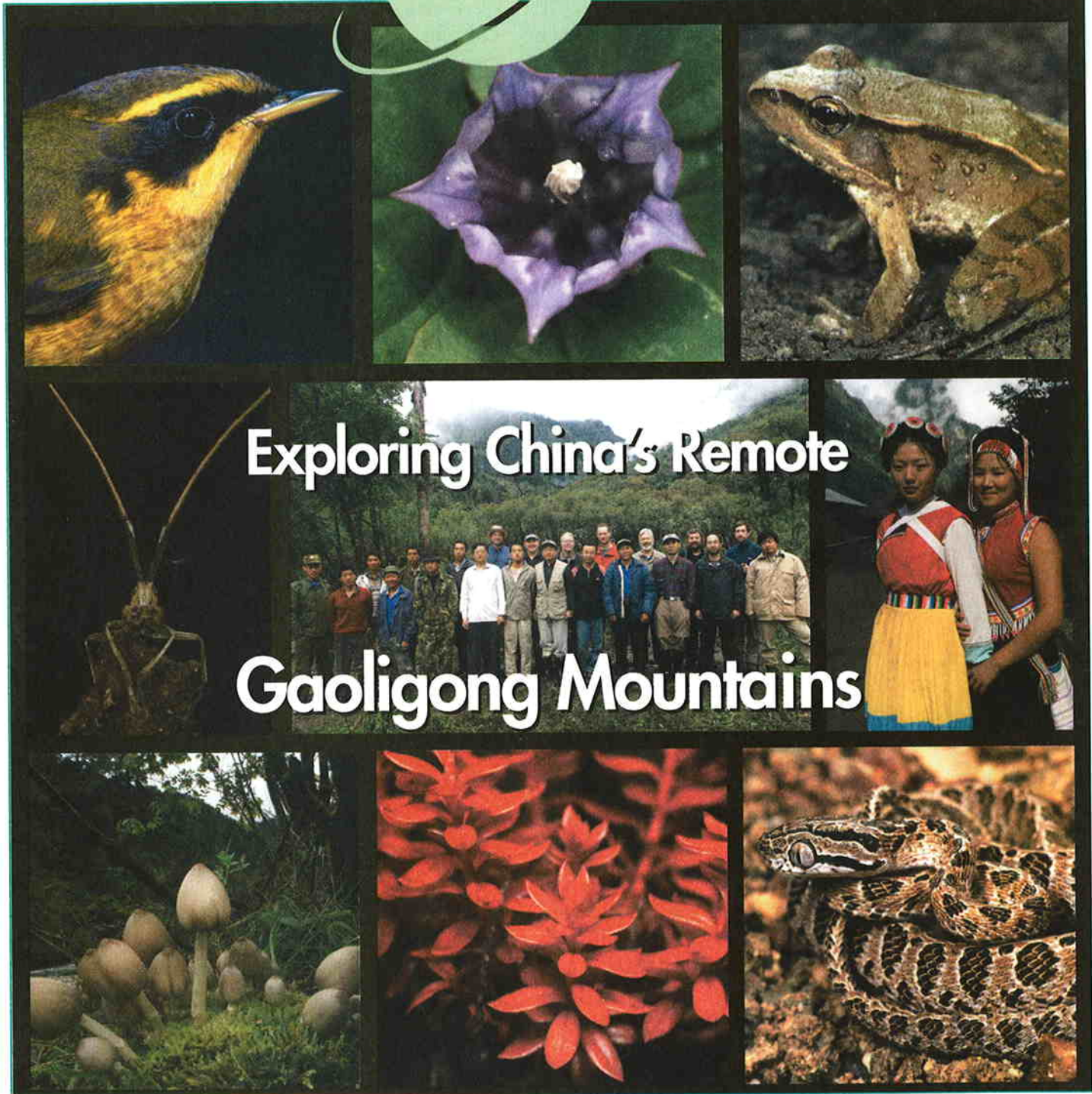


# Academy

California Academy of Sciences' Member Newsletter

December 2002 & January 2003

\$1



Exploring China's Remote

Gaoligong Mountains

# Academy Scientists Trek Through China's Gaoligong Mountains

Stretching across the southwest corner of China, Yunnan Province covers a mere five percent of the country's land but contains over 60% of its native biodiversity. Many rare and endangered species have found a last refuge in Yunnan's wide variety of ecosystems, which range from fog-draped mountains and bamboo groves to sun-swept savannah communities. Such species richness has led a team of scientists and conservationists to designate the region as one of the world's 25 biodiversity "hotspots."

Unfortunately, membership in this exclusive club is a dubious honor. Hotspots are selected not only for the amount of endemic species they contain (plants and animals that cannot be found anywhere else), but also for the amount of stress they have suffered from habitat loss. Experts estimate that only about 8% of Yunnan's mountainous habitat remains in pristine condition. In an effort to examine and protect this unique biodiversity before it disappears, a team of Academy scientists is currently trekking through Yunnan's remote Gaoligong Mountains. Braving monsoon rains and intense altitude gains, they are working with Chinese colleagues to document and collect new species—a process that will help conservationists determine which localities are most in need of protection.

This expedition—the third of its kind—is part of an ongoing research and conservation effort funded by the National Science Foundation and National Geographic. The Academy launched this effort, called the China Natural History Project, in May of 1998 along with the Kunming Institutes of Botany and Zoology in Yunnan. With another ten expeditions scheduled over the next five years, including a paleontology trip led by Academy anthropologist Nina Jablonski later this year, the scientists involved in the project are hoping to make a difference by documenting and

studying the area one species at a time.

One such species is *Bryoxiphium norvegicum*, a rare moss that had never been documented in Yunnan before Academy botanist James Shevock collected it this fall in the mountains near the town of Binzhonglou. One of three Academy botanists on the current expedition, Shevock was surprised to see this species so far away from its other known sources. The new find suggests that the unusual moss once had a much wider distribution.

Not far away, fellow botanist Peter Fritsch found another surprise—a bizarre flowering parasite named *Balanophora involucrata* that looks more like a mushroom. Communicating via e-mail from China, Fritsch explained that this odd

orange organism contains no chlorophyll, the green molecule that is critical for converting the sun's energy into food. To compensate, the parasite attaches itself to the roots of other plants and draws all of its nutrients from its neighbors.

With two entomologists, two herpetologists, an ichthyologist and an ornithologist filling out the Academy's team, exciting finds have not been limited to the plant world. Preliminary research suggests that at least three new frog species have hopped across the path of Academy herpetologists so far, and several members of the team had the rare opportunity to come face to face with an endangered red panda in one of the area's nature reserves.

A relative of China's emblematic giant panda, the smaller red panda has suffered from both habitat loss and hunting, but a small population of the masked raccoon look-alikes still survives in Yunnan's bamboo and rhododendron

forests. Hopefully, the continued efforts of the Academy and other dedicated institutions around the world will keep the red panda and the rest of its ecosystem safe for generations to come.

—Stephanie Greenman, sgreenman@calacademy.org



PHOTO: DONG LIN

**A relative of China's giant pandas, the smaller red panda is one of the many endangered species in Yunnan Province that have earned the area a place on the planet's "Biodiversity Hotspot" list.**



PHOTO: DONG LIN

**A rare parasitic plant, *Balanophora involucrata* attaches itself to the roots of other organisms and draws all of its nutrients from its neighbors.**



PHOTO: DONG LIN

**One of nine Academy scientists on the current expedition, botanist James Shevock examines a species of moss that had never before been recorded in Yunnan.**