

## Researchers Conduct Survey of Wild Chinese Herbs on Rural Tibetan Plateau

Researchers recently completed a 6-year effort in which they documented more than 1,000 wild herbs in the Sanjiangyuan National Nature Reserve on the Tibetan plateau in Qinghai Province, China. The scientists identified 575 varieties of medicinal herbs—six of which were previously unknown to the area—and captured more than 100,000 photographs of local flora.<sup>1</sup> The Sanjiangyuan region (translated as “Three Rivers’ Source”) comprises the headwaters of the Yellow, Yangtze, and Mekong Rivers. The greater Tibetan plateau has been described as the “Third Pole” or the “Roof of the Earth” in terms of ecological importance.<sup>2</sup>

The multi-year survey is part of a strategy of the Chinese government to protect and conserve the fragile region, which in recent years has been impacted negatively by climate change and excessive herding.<sup>1</sup> The wild herb conservation project is one aspect of China’s Great Western Development Strategy, an initiative that took effect in 2005 to improve less-developed regions in rural western China.<sup>3</sup> In 2011, China invested 1 billion yuan (approximately \$160 million USD) to protect the environment of the Sanjiangyuan region, according to an article from *China Daily*.<sup>4</sup>

As part of the development plan, “[The Chinese Academy of Sciences] will select ... species with promising potential and significant research value, especially plants that are important in the agricultural, pharmaceutical, and industrial fields and that could be put into industrial production,” the organization mentions on its website. “Together with the ongoing drive to standardize medicinal herbs in Chinese traditional medicine [and] comprehensively utilize Tibetan traditional medicine, ... the academy will make efforts to find drugs that are highly effective against major diseases.”<sup>3</sup>

Yuntao Zhao, Senior Program Officer at the World Wide Fund for Nature (WWF)-China, described the 6 species not previously known in the Sanjiangyuan region (e-mail, January 28, 2012). The species include the following plants: *Corydalis boweri* (Papaveraceae), *C. hendersonii*, *C. tianzhuensis*, *Meconopsis henrici* (Papaveraceae), *Phlomis younghusbandii* (Lamiaceae), and *Lloydia tibetica* (Liliaceae).

According to Sir Ghilleen Prance, the former director of the Royal Botanic Gardens at Kew, these plants are not newly discovered species (e-mail, January 28, 2012). Records of these plants have existed for years, just not in the protected Sanjiangyuan region. “The [plants were] described long ago,” he said. “For example, *Phlomis younghusbandii* in 1938, *Lloydia tibetica* in 1892, and *Meconopsis henrici* in 1896.”

Despite the extreme climate and isolated location, a population of roughly 200,000 people, most of whom are Tibetan herders, inhabit the reserve—the second largest nature sanctuary in the world.<sup>5</sup> Noted botanist, photographer, and author Steven Foster

explained that traditional medicinal plants used by inhabitants of the Tibetan plateau can vary greatly.

“These areas have the largest numbers of [Chinese] ethnic minorities, all of whom have their own folk medicine traditions,” said Foster (e-mail, January 30, 2012). “Tibetan medicine would not be practiced by nomadic Tibetan herders, whose medicine is more of a localized folk medicine practice; nothing as formal as Tibetan medicine (though similar concepts and plants may be employed).”

According to a February 4, 2012 article in *The Economist*, “In recent years, rural incomes in eastern areas of the vast Tibetan plateau have been soaring thanks to a demand for Tibetan herbal remedies.”<sup>6</sup>

Despite the encouraging outlook for certain medicinal herbs in China, Dr. Prance explained that high demand could lead to disastrous consequences. “When the use of medicinal plants is encouraged, the danger is overuse, especially of local plants with small populations,” he said. “Many medicinal plants are now severely threatened species.”

Foster believes that existing conservation laws are likely not enough to solve the problem.

“The Sanjiangyuan National Nature Reserve, like most natural reserves, discourages harvest of biota; though in most places in the world, such rules or laws are rarely enforced,” said Foster. “Conservation only has teeth, so to speak, when it involves the trade of endangered animals. Plants don’t have cute little brown eyes or soft fur, so they garner little conservation attention and much less enforcement of existing rules and laws.” HG

—Tyler Smith

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