

Conservation news

New hope for Chinese wild orchids

Orchid conservation issues are acute in China. The country's rapid economic growth and rural development have often been at the expense of the environment, resulting in the loss of, and damage to, orchid habitat. China is also a country with a 2,000-year tradition in ethnobotanical use of orchid species as herbal medicine and a 1,000-year tradition of orchid horticulture. Cultivating fragrant *Cymbidium* orchids was one of the refined pursuits of Chinese gentlemen scholars, and this practice remains popular today. In addition, more recent demands from international markets have led to illegal international trade of Chinese orchids such as the lady's slipper orchids *Paphiopedilum*. These cultural, horticultural and ethnobotanical pressures, coupled with shrinking wild habitats and primitive horticultural techniques, have subjected wild populations to destructive collection and local extinction, both from farmers who want quick cash and from breeders in pursuit of new colours and forms.

In 2004 > 130 species of orchids were found in Yachang, a relatively small 220 km² state forestry reserve in a remote area of Guangxi Zhuang Autonomous Region, south-west China. Populations of many of the terrestrial and lithophytic orchids are extremely large with, for example, an estimated 100,000 individual plants of *Paphiopedilum hirsutissimum*. In this natural orchid garden, orchids dominate the forest understorey in large monotypic or mixed-species stands, with orchids of horticultural importance that have been poached to near extinction elsewhere. Yachang is also very biodiverse, with at least 2,400 vascular plant species. A total of 14 *Cymbidium* species occur at Yachang, many of which are the dominant components of the forest herbaceous layer. Among these are an estimated 12,000 individuals of *Cymbidium cyperifolium* growing in an area of 6,000 m², the largest known population of this species. The Guangxi Provincial Government approved a proposal in 2005 to make the former state forestry station a Provincial Nature Preserve, a status with greater legal habitat protection, including a complete logging ban. The Preserve was elevated to a National Nature Preserve in December 2008, a status that brings national level funding for protection and management.

To develop science-based conservation of the orchids at Yachang and other orchid-rich areas in Guangxi, the Guangxi Provincial Government is taking proactive steps. A proposal is being evaluated to establish Guangxi International Orchid Research Institute, with an international field research station in Yachang, to draw and promote international collaborative conservation research. The Research Institute's primary goal will be to promote basic

research on the ecology of orchids and their habitats but with applied research to develop and promote sustainable orchid cultivation and viable orchid markets to help local livelihoods. The latter is essential to the long-term success of orchid conservation in the region as poverty is a prominent issue locally. Illegal orchid markets trading poached orchids are active around Yachang. Because the reserve properties are interspersed among villages, guarding the reserve to prevent poaching and illegal farming is difficult.

The existence of such an abundance of orchids in Yachang is surprising, given the decimation of orchids and their habitats elsewhere in China. The Yachang Orchid Nature Reserve and the proposed Guangxi International Orchid Research Institute will help ensure the long-term survival of these unique plants as long as the complex problems of poverty and resource exploitation in the area can be solved.

HONG LIU *Department of Earth and Environment, Florida International University, 11200 SW 8th Street, Miami, Florida 33199, USA, and Center for Tropical Plant Conservation, Fairchild Tropical Botanic Garden, 11935 Old Cutler Road, Coral Gables, FL 33156-4242, USA. E-mail hliu@fiu.edu*

YI-BO LUO *Institute of Botany, Chinese Academy of Sciences, Xiangshan, Beijing, China*

ROBERT W. PEMBERTON *Center for Tropical Plant Conservation, Fairchild Tropical Botanic Garden, Coral Gables, Florida, USA*

DUN LUO and SI-YONG LIU *YACHANG Orchid Nature Preserve, Leye County, Baise, Guangxi, China*

Reconfirmation of snow leopards in Taxkurgan Nature Reserve, Xinjiang, China

China may hold a greater proportion of the global snow leopard *Panthera uncia* population than any other country, with the area of good quality suitable habitat, estimated at nearly 300,000 km², comprising > 50% of that available across the species' entire range. We can now reconfirm the presence of snow leopard in the Taxkurgan area of Xinjiang Province in north-west China after a period of 20 years.

The Pamir Mountains form a hub across Tajikistan, Kyrgyzstan, Afghanistan, Pakistan and China, connecting the major mountain ranges of Central Asia. In China these mountains lie in Xinjiang Province, at the junction of two biodiversity hotspots: the Mountains of Central Asia and the Himalayas. The Taxkurgan Reserve was established here in 1984 along the border with Afghanistan and Pakistan, adjacent to the latter's Karakorum National Park, offering the potential of transboundary conservation to

benefit threatened species such as snow leopard and Marco Polo sheep *Ovis ammon polii*.

The last published surveys of snow leopard in this area, in the 1980s, revealed few signs of the species. The exception was in the vicinity of the Mariang community, where the population size was estimated by George Schaller and his team to be 50–75. In the more than 2 decades that have passed since these initial surveys social and economic conditions in China have changed markedly and the status of snow leopards is uncertain. We therefore undertook a survey to determine the current status of snow leopards in Mariang and other communities in Taxkurgan.

During June 2008 we conducted an intensive survey for snow leopards throughout an area of 36 km² in the vicinity of Mariang, set within a more extensive survey for wild prey in the surrounding 237 km². Sign surveys and reported sightings by livestock herders confirmed the presence of snow leopards in the area. None of the signs were fresh, and we estimate they date from the previous winter. Smaller snow leopard prey species such as marmot *Marmota caudata* and snowcock *Tetraogallus himalayensis* were sighted and remains of dead prey species, principally blue sheep *Pseudois nayaur*, were recorded. No living wild ungulates were observed, however.

Interviews with herders in three Taxkurgan communities (Mariang, Kukshilik and Chalachiga) revealed differences in husbandry practices that may have consequences for wildlife and conflict with livestock. Within the Kukshilik community, for example, yaks are released to range freely during the spring; herders relocate their yaks only in early summer when they accompany goats, sheep and other livestock to higher grazing habitats and it is then that any depredation is discovered. In Mariang and Chalachiga yaks are accompanied to pastures later in the season. Members of all communities reported that the seasonal timing of livestock movements to higher altitude grazing areas has become earlier in recent years. Our limited observations suggest that snow leopard and their natural prey are being excluded from this region during summer by livestock farming activities, as has been observed elsewhere.

Livestock numbers in Taxkurgan County rose from c. 12,000 animals in 1983 to nearly 18,000 in 1998, and declined to c. 14,500 by 2007. Local government records of livestock attacks revealed no change in the number of snow leopard attacks on livestock, with approximately 15 animals taken per year, mostly yaks. By contrast, livestock predation rates attributed to wolf *Canis lupus* rose from 96 animals attacked in 2000 to 146 animals attacked in 2007, mostly goats and sheep.

Our team continues to develop the programme of work in Taxkurgan by providing training for local community conservation officers and building capacity within the Reserve and local communities. We will conduct more detailed surveys during 2009, including camera trapping.

SHI KUN *Institute of Wildlife Conservation and Management, Beijing Forestry University, China*

ZHU FUDE SHI JUN and DAI ZHIGANG *Xinjiang Forestry Administration, China*

PHILIP RIORDAN and DAVID MACDONALD *Wildlife Conservation Research Unit, Department of Zoology, University of Oxford, Tubney House, Abingdon Road, Tubney, Abingdon, OX13 5QL, UK. E-mail philip.riordan@zoo.ox.ac.uk*

Ramsar Convention on Wetlands: 10th Conference of the Parties

The 10th meeting of the Conference of the Parties to the Ramsar Convention on Wetlands convened in Changwon, Republic of Korea, from 28 October to 4 November 2008. It was attended by c. 2,000 participants, including representatives of 129 of 158 Parties, UN agencies, intergovernmental and non-governmental organizations and the business sector.

The COP adopted an updated Strategic Plan for 2009–2014 that identifies strategies and key result areas for five goals on wise use, Wetlands of International Importance, international cooperation, institutional capacity and effectiveness, and membership. After lengthy negotiations a budget increase of 4% was agreed for 2009–2012, with those African countries whose contributions are assessed at the minimum level additionally announcing a 100% increase in what they would pay. Intense negotiations also took place on the legal status of the Ramsar Secretariat, which is currently hosted by IUCN. Two options will be further considered by an intersessional working group: staying with IUCN under improved conditions, or moving to be hosted by the UN Environment Programme. A total of 32 resolutions adopted by the COP include measures to strengthen bodies and initiatives under the Convention. This includes a list of tasks for the Convention's Scientific and Technical Review Panel, a third Ramsar programme on communication, education, participation and awareness, operational guidelines for regional initiatives in the framework of the Ramsar Convention, guidance for integrating wetland conservation and wise use into river basin management, guidance on responding to the continued spread of highly pathogenic avian influenza H5N1, as well as principles for partnerships between the Ramsar Convention and the business sector. The Convention has had a long-standing partnership with the Danone-Evian Group, and the COP saw the launch of a new wetland-focused Danone-Evian Fund for Nature.

The Ramsar Convention, adopted in 1971, started as a small international treaty focused on the habitats of waterbirds. Since then the Convention has considerably widened its focus and has now found its place among the modern