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Rediscovery of the Critically Endangered *Rhododendron auritum* in Tibet

With the support of the Second Qinghai-Tibetan Plateau Integrated Scientific Expedition Project (2017QZKK0502), field investigations were conducted in June 2021 and June 2022 for *Rhododendron auritum* Tagg, which is categorized as Critically Endangered on *The Red List of Rhododendrons* (Gibbs et al., 2011, Botanic Gardens Conservation International). The type specimen of *R. auritum* was collected by Frank Kingdon-Ward in 1924 in Pemako Chung in Milin County, south-east Tibet, and was deposited in the Royal Botanic Garden Edinburgh in 1932. Since then, no more information on this species had been recorded in the wild. Although we were unable to explore the type location because Pemako Chung was seriously damaged during an earthquake that occurred in 1950, we have discovered two additional sites with the species, in Medog County, Tibet.

In June 2022, we discovered a previously unknown population of *R. auritum*, comprising < 100 individuals, in Gedang, at the edge of a fir forest. This population is exposed to disturbance from anthropogenic activities, including road construction. With a population comprising 29 individuals discovered in Lage in 2021, there are now two known populations of *R. auritum* in Medog county, 43 and 62 km from the type location.

Local authorities need to take action to conserve these two small populations. We have collected seedlings from Lage and planted them in the Kunming Botanical Garden, for ex situ conservation. We have also collected DNA material from both populations, for investigation of the species'



Flowers of *Rhododendron auritum* Tagg. Photo: Zi Wang.

conservation genetics. Further investigations are needed to locate any other potential wild populations. In addition, we will perform propagation experiments once seeds are mature in the autumn, and some seeds will be preserved in the Germplasm Bank of Wild Species in Kunming Institute of Botany.

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In vitro conservation of *Paphiopedilum wenshanense* at Kunming Botanical Garden, China

The orchid *Paphiopedilum wenshanense* Z. J. Liu & J. Yong Zhang is categorized as a Plant Species with Extremely Small Populations and a grade I national key protected plant. As a result of overexploitation for its beautiful flowers, *P. wenshanense* has extremely small populations, and its natural distribution range is limited. Additionally, its habitat is fragmented by urbanization. Only 431 wild individuals of *P. wenshanense*, in three populations, are known, in Shiping and Yanshan Counties in Yunnan Province, China. The three populations are not located within a protected area.

Many threatened plants, including *P. wenshanense*, have weak reproductive capacity in the wild. Tissue culture is an efficient way to multiply such threatened orchid species for conservation purposes. In June 2022, with the support of a conservation programme (grant number: 2021SJ14X-09) of Yunnan Forestry and Grassland Bureau, aseptic seed germination protocols for *P. wenshanense* were successfully developed in Kunming Botanical Garden, Kunming Institute of Botany, Chinese Academy of Sciences. Germination began after 30 days, with a germination rate of 70%, and root development after an additional 30 days. Seedlings could be planted after a further 2 months of growth, and survival rate was c. 95%.

Following this success, population reintroduction or reinforcement measures can be used to assist the recovery of this threatened species in the wild. We are planning to establish a near situ conservation population of *P. wenshanense* within the Wenshan Laojun Mountains National Nature Reserve through working with the local forestry and grassland bureau. In addition, conservation of the remaining wild