

More efforts are needed to protect orchids in karst forests

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Karst forest and typical orchids in Wanfengshan Nature Reserve. Credit: Liu Qiang

Karst forests develop in a karst landform, and have complex vegetation types and high biodiversity, and are rich in endemic species. As one of the important and special plant groups in the karst habitat, many orchids have unique adaptation mechanisms. However, the distribution pattern and conservation status of orchids in karst forests remain largely unknown.

Researchers from the Xishuangbanna Tropical Botanical Garden (XTBG) of the Chinese Academy of Sciences and their collaborators conducted a comprehensive survey of the orchid flora in a karst forest located in southeast Yunnan, China. They aimed to determine the [species richness](#), distribution, and conservation status of orchid species in Wanfengshan Nature Reserve.

The researchers conducted systematic field surveys in Wanfengshan Nature Reserve from 2019 to 2022. They identified 78 orchid species of 35 genera in eight isolated hills, indicating that the [orchids](#) are of high richness in the karst forest of Wanfengshan Nature Reserve, and the community is occupied by terrestrial orchids.

The researchers found the maximum richness of orchids at middle and [high elevations](#). They observed most of the epiphytes and [terrestrial species](#) in the lower and higher peaks, respectively. Due to physical barriers to dispersal, each isolated small hill has a different assemblage of species.

They also observed that more than one third of the [orchid species](#) are threatened, especially those with ornamental and medicinal value, although the fact that all orchids are well protected in the nature reserve.

The researchers therefore call for more attention to be paid to the conservation of orchids in the karst forest. They suggest that more research should be conducted on the mechanisms of ecological adaptation, mycorrhizal interactions, and pollination of orchids in karst

forests, and effective ways to restore and conserve orchids.

Related results were published in *Forest Ecosystems*.

More information: Qiang Liu et al, Orchid diversity and distribution pattern in karst forests in eastern Yunnan Province, China, *Forest Ecosystems* (2023). [DOI: 10.1016/j.fecs.2023.100117](https://doi.org/10.1016/j.fecs.2023.100117)

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