

Most fern species in Xishuangbanna are rare

March 11 2021, by Zhang Nannan



Ferns at the Royal Melbourne Botanical Gardens. Credit: Wikipedia

A researcher from the Xishuangbanna Tropical Botanical Garden (XTBG) said in a floristic study that the majority of fern species in the forest habitat of Xishuangbanna of Yunnan province are locally rare. Two-thirds of terrestrial fern species and nearly all epiphytes are rare.

Using a transect-based method, the researcher conducted a floristic study at 75 sites to investigate the richness and cover of terrestrial and epiphytic [fern species](#) in Xishuangbanna.

It was found a total of 130 fern [species](#), including 99 terrestrial (i.e. self and non-self-supporting, as climbers and as individuals with rhizomes in the soil) species and 31 epiphytes (i.e. growing on a trunk or tree crown). 66% of the terrestrial and 99% of the epiphytes are rare in Xishuangbanna.

He evaluated whether the richness of the common and rare species was different between the drier and humid site, and tried to find whether elevation played a major role for the cover values of rare and common fern species.

He found that the [rare species](#) are more frequent at [higher elevations](#) with the driest sites being slightly richer in terms of the epiphytes and the total number of species. However, the richness and cover of the terrestrial species was higher at lowland sites.

According to the investigation, most of the fern species have a narrow and or wide distribution but low cover values, showing that the fern species in Xishuangbanna tend to have a [population size](#) characterized by low cover and few individuals.

"Since there are so many rare fern species with low occurrence, it is urgent to conserve biodiversity in the fragmented tropical landscape of southern Yunnan," said Daniele Cicuzza, author of the study.

More information: Daniele Cicuzza. Rare Pteridophytes are disproportionately frequent in the tropical forest of Xishuangbanna, Yunnan, China, *Acta Oecologica* (2021). [DOI: 10.1016/j.actao.2021.103717](#)

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