

New firmoss species found in Guizhou, China

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Huperzia crassifolia. Credit: Guo Zhiyou

Huperzia is a genus of lycophyte plants, sometimes known as the firmosses or fir clubmosses. It contains about 25 species that mainly occur in temperate and boreal climatic zones of the world.

During medicinal plant inventories in Guizhou, researchers from Xishuangbanna Tropical Botanical Garden (XTBG) and their [collaborators](#) discovered unknown plant materials morphologically similar to *Huperzia javanica*.

After consulting *Huperzia* checklists of China, local floras, and careful comparison of morphological characters with previously described species by checking [specimens](#) and species protologue for all the known species of *Huperzia*, the researchers considered that the [plant material](#) represented a [new species](#).

To further confirm the new species, the researchers employed genome size measurement and phylogenetic reconstruction. Molecular evidence provided support for the confirmation.

The new species was named as *Huperzia crassifolia* to refer to its thick and coriaceous texture of the pinnae. Results were [published](#) in *PhytoKeys*.

Huperzia crassifolia is a terrestrial firmoss. It resembles species *H. javanicain* in its gross morphology, but can be easily distinguished by its thicker texture and round-lanceolate pinnae. It is morphologically distinct by its thick coriaceous texture and elliptic to slightly oblanceolate pinnae as well as the well-differentiated seasonal constriction zones. Its stem is erect or ascending. Its [spores](#) are tetrahedral, with trilete aperture and foveolate ornamentation on distal pole.

The new species is currently only known from Guizhou, Hubei, Hunan, and Chongqing, growing in humus rich soils in shady conditions formed in the undergrowth of broad leaf forests at elevations from 1,100 to 1,900 m above sea level. However, the population size of each locality is very small.

"If people know its medicinal value, *Huperzia crassifolia* may be in danger of being over-collected. We tentatively propose its conservation status as Endangered (EN) according to the IUCN categories and criteria," said Liu Hongmei of XTBG.

More information: Zhi-You Guo et al, *Huperzia crassifolia* (Lycopodiaceae), a new species from China based on morphological characters and molecular evidence, *PhytoKeys* (2024). [DOI: 10.3897/phytokeys.246.131046](https://doi.org/10.3897/phytokeys.246.131046)

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