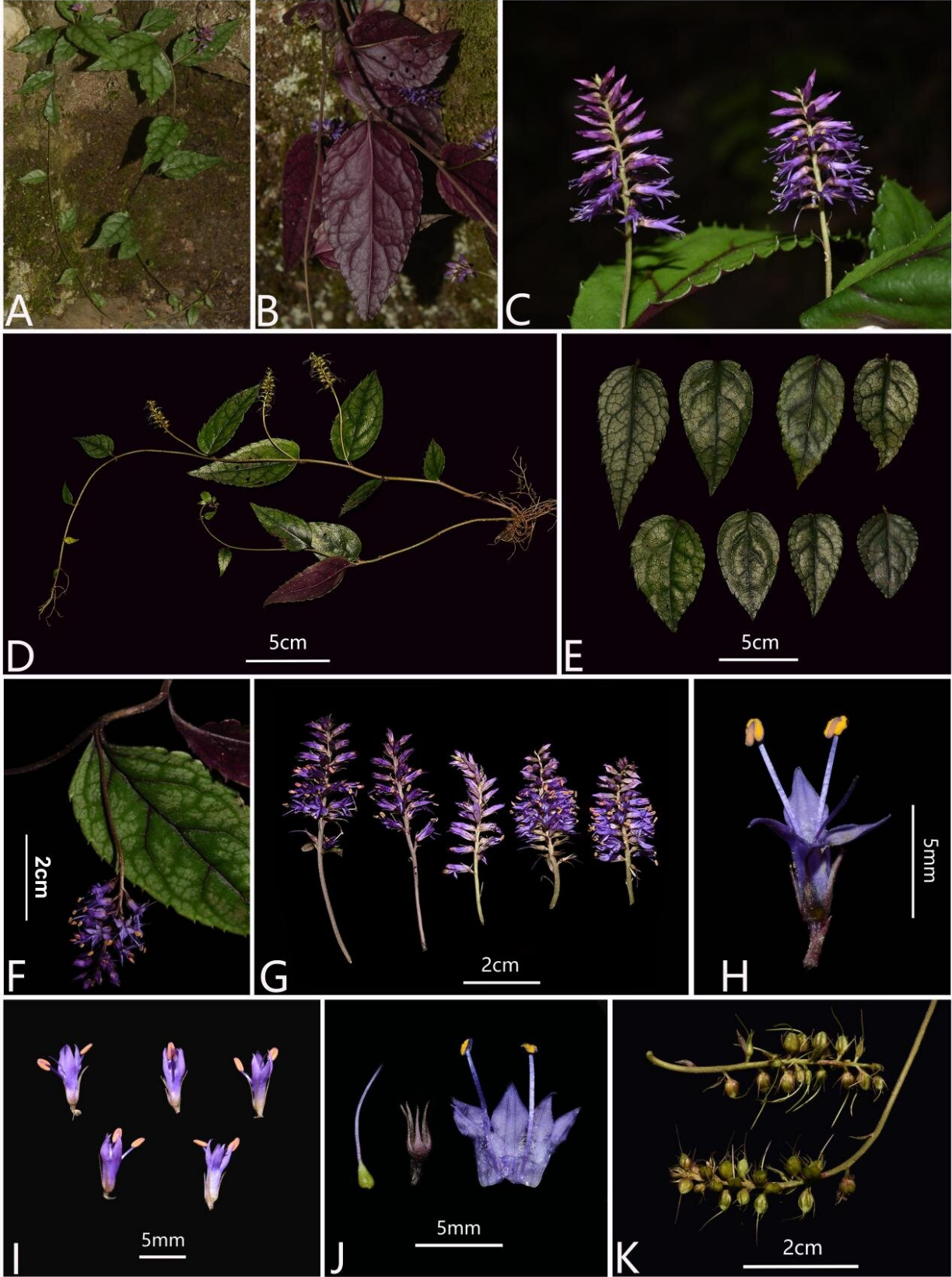


# **New species of perennial herb, *Veronicastrum wulingense*, discovered in Hubei, China**

February 13 2023, by Zhang Nannan

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The morphological characteristics of *Veronicastrum wulingense*. Credit: WBG

A new species of *Veronicastrum wulingense* was recently discovered by a research team from the Wuhan Botanical Garden of the Chinese Academy of Sciences in Pingbaying National Forest Park, southwest Hubei, China. The new species is the first identified and named by the research team, and the only new species of this genus published in Chinese mainland in the past four decades.

*Veronicastrum* Heist. ex Fabr. is a perennial herb genus in the tribe Veroniceae in the family Plantaginaceae, with about 20 species, which are mainly distributed in East Asia, except for one species discontinuously distributed in eastern North America. Thirteen *Veronicastrum* species are listed in original distribution records in China, and most of them are Chinese endemic species.

This genus of species is an important medicinal resource: the whole plant can be used as medicine. It is rich in a variety of active medicinal ingredients, which have curative effects as an antioxidant, antiseptic, anti-inflammatory, cancer prevention, and is especially effective in the treatment of ascites caused by schistosoma. *Veronicastrum* species are also excellent ornamental garden resources, which can be cultivated as understory ground cover or flower bed landscape.

In June 2021, Hu Guangwan's team was invited to investigate plant resources in Pingbaying National Forest Park, southwest Hubei Province. They found several clusters of distinctively morphological *Veronicastrum* individuals, with plants procumbent and arching on the humus of the stone wall along the plank road above the karst cave in the scenic spot of Sidong Canyon. The whole plant also was purplish-red when young, and the small purplish-red flowers were densely clustered at

the tip of the inflorescence axis, 2–3 cm long. This unknown *Veronicastrum* species attracted the interest of the research team, so they collected some live material for further study.

Through in-depth morphological and molecular systematic studies of the genus of *Veronicastrum*, this population was verified as a new taxon of *Veronicastrum* species that had not been reported in previous literature. It was named "*Veronicastrum wulingense*" based on its type location in the Wulingshan Region of western Hubei.

It is similar in morphology to *Veronicastrum liukiense* from the Ryukyu Islands, but can be clearly distinguished by its axillary inflorescences (versus terminal on short leafy branches), pedicels up to 2.5 mm (versus sessile), corollas purple to purple-red (versus white tinged with pale purple), flowering in June to July (versus September to October), and distributed in the limestone mountain at an altitude of 1,000–1,400 m (versus low altitude island).

Furthermore, these diagnostic features of peduncles up to 7 cm, flowers clustered densely in rachis apex and steadily about 2–3 cm long, are unique in the all known *Veronicastrum* species of axillary inflorescences. Molecular phylogenetic studies show that the [new species](#) is an independent clade of the phylogenetic tree.

The discovery of this new species not only reflects the diverse habitat and [high species diversity](#) in the Wulingshan Region of western Hubei, but also has great significance for the further study of the speciation, evolution and biogeography of *Veronicastrum* species in East Asia.

It is noteworthy that only two [wild populations](#) with a few individuals of *V. wulingense* have been found after continuous investigation in the surrounding of the distribution area. One is distributed on the side of the plank road in the Sidong Canyon, and the other is in the mountain near

the village in Bajiao Township, where there is activity of wild resource digging and sale. It is urgent for the relevant departments to strengthen their protection of wild resources and rescue population propagation.

The study, titled "Veronicastrum wulingense (Plantaginaceae), a new species from Southwestern Hubei, China," is published in *Botanical Studies*.

**More information:** Shi-Xiong Ding et al, Veronicastrum wulingense (Plantaginaceae), a new species from Southwestern Hubei, China, *Botanical Studies* (2023). [DOI: 10.1186/s40529-023-00367-y](https://doi.org/10.1186/s40529-023-00367-y)

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