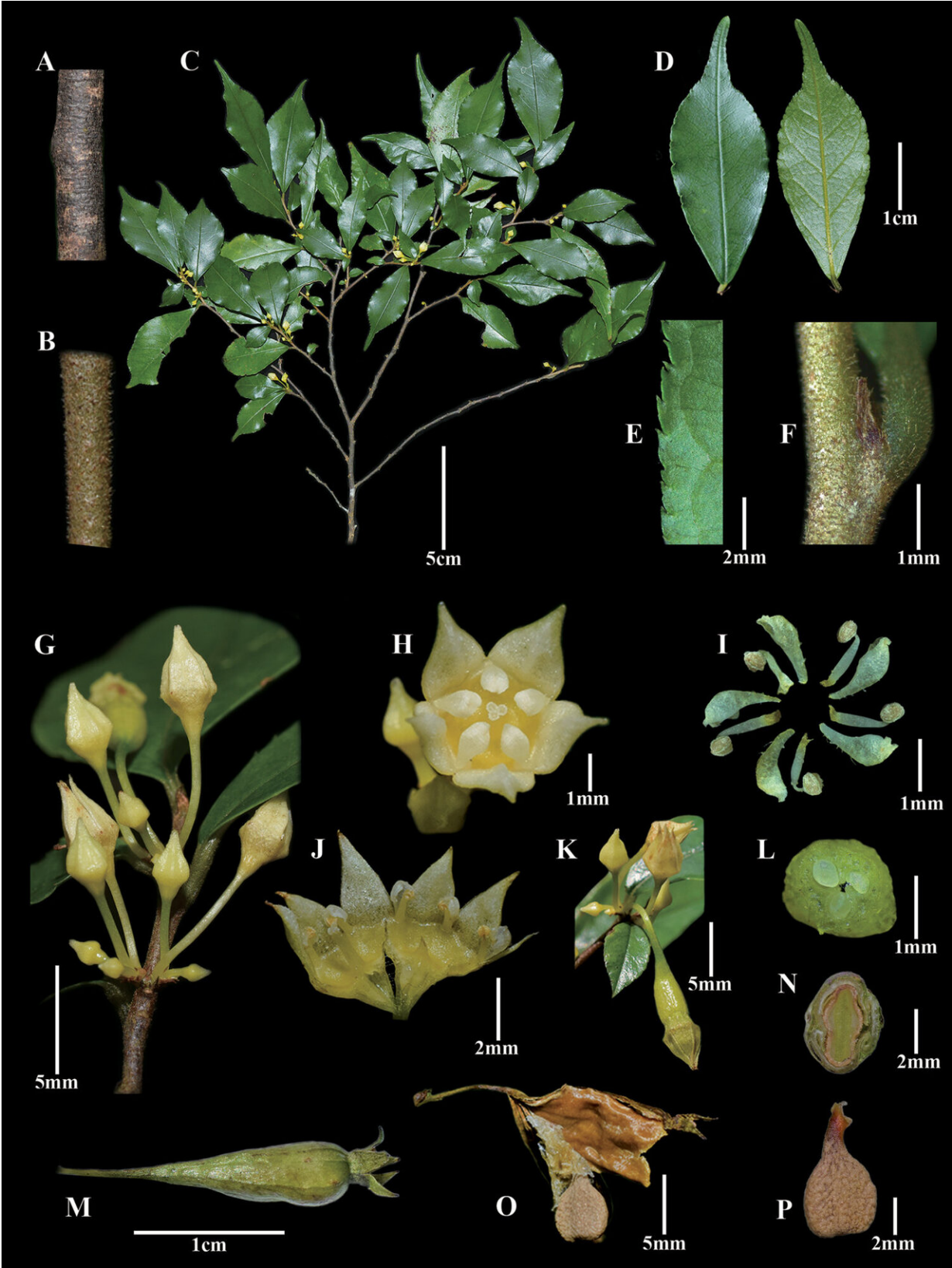


Fenghwaia, a new tree: Identifying the monotypic genus of Rhamnaceae from China

February 9 2021, by Zhang Nannan



Fenghwaia gardeniicarpa: A main stem with glabrous surface B young stem with pubescent surface C fertile branches D adaxial (left) and abaxial (right) side of leaf blade, respectively E serrated leaf margin F stipule G inflorescence H flower in anthesis I morphology of petals and stamens J longitudinal section of a flower, showing the stamens enclosed by cucullate petals K young fruit L transection section of an ovary, showing three ovules M mature fruit N transection section of mature fruit with only one well-developed seed O dehiscent capsule P seed, with an elongate and pronounced basal appendage. Photos: G.T. Wang, G.B. Jiang.

During a field investigation, taxonomic researchers from the South China Botanical Garden of the Chinese Academy of Sciences found a new species *Fenghwaia gardeniicarpa*, belonging to the monotypic genus *Fenghwaia* of the family Rhamnaceae.

The new species *Fenghwaia gardeniicarpa* is a treelet and grows in the seaside mountains of Jiangmen City, Guangdong Province, China. It caught the researchers' eyes firstly by its cylindrical and longitudinally ribbed drupaceous fruits, looking like *Gardenia jasminoides*, but its alternate and anisophyllous leaves implied that it was probably a member of the [family](#) Rhamnaceae.

From 2019 to 2020, several field expeditions to observe and collect its tiny and inconspicuous flowers indicated that the plant was surely closed to *Rhamnus* and *Sageretia* by having five cucullate flower petals and 3-locular ovary, etc. However, the characters of its inferior ovary and dorsiventrally compressed seeds with elongated basal appendage are much different from those of all other genera.

Further analysis to its morphological and palynological characters, as well as the [phylogenetic analysis](#) based on nuclear ribosomal internal transcribed spacer and plastid trnL-F intron spacer, revealed that this species is a new [species](#) and represents a monotypic genus of the family.

A global conservation assessment according to the guideline of International Union for Conservation of Nature Red List categories and criteria is performed and classifies *Fenghwaia gardeniicarpa* as Near Threatened, because the plants are well protected in a [nature reserve](#) and the population is not severely fragmented and no [population decline](#) and no extreme fluctuations caused by natural events have been observed in their habitats.

This new genus *Fenghwaia* is one of the 17 monotypic genera of the family Rhamnaceae. The founding of *Fenghwaia gardeniicarpa* provided important material to elucidate the evolution of the genus and the phylogeny and biogeography of the family.

The generic name is dedicated to Professor CHEN Fenghwei (1900-1993), a Chinese plant taxonomist who contributed a lot to the botanical gardens in China.

More information: Gang-Tao Wang et al. Morphology and molecules support the new monotypic genus *Fenghwaia* (Rhamnaceae) from south China, *PhytoKeys* (2021). [DOI: 10.3897/phytokeys.171.57277](https://doi.org/10.3897/phytokeys.171.57277)

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