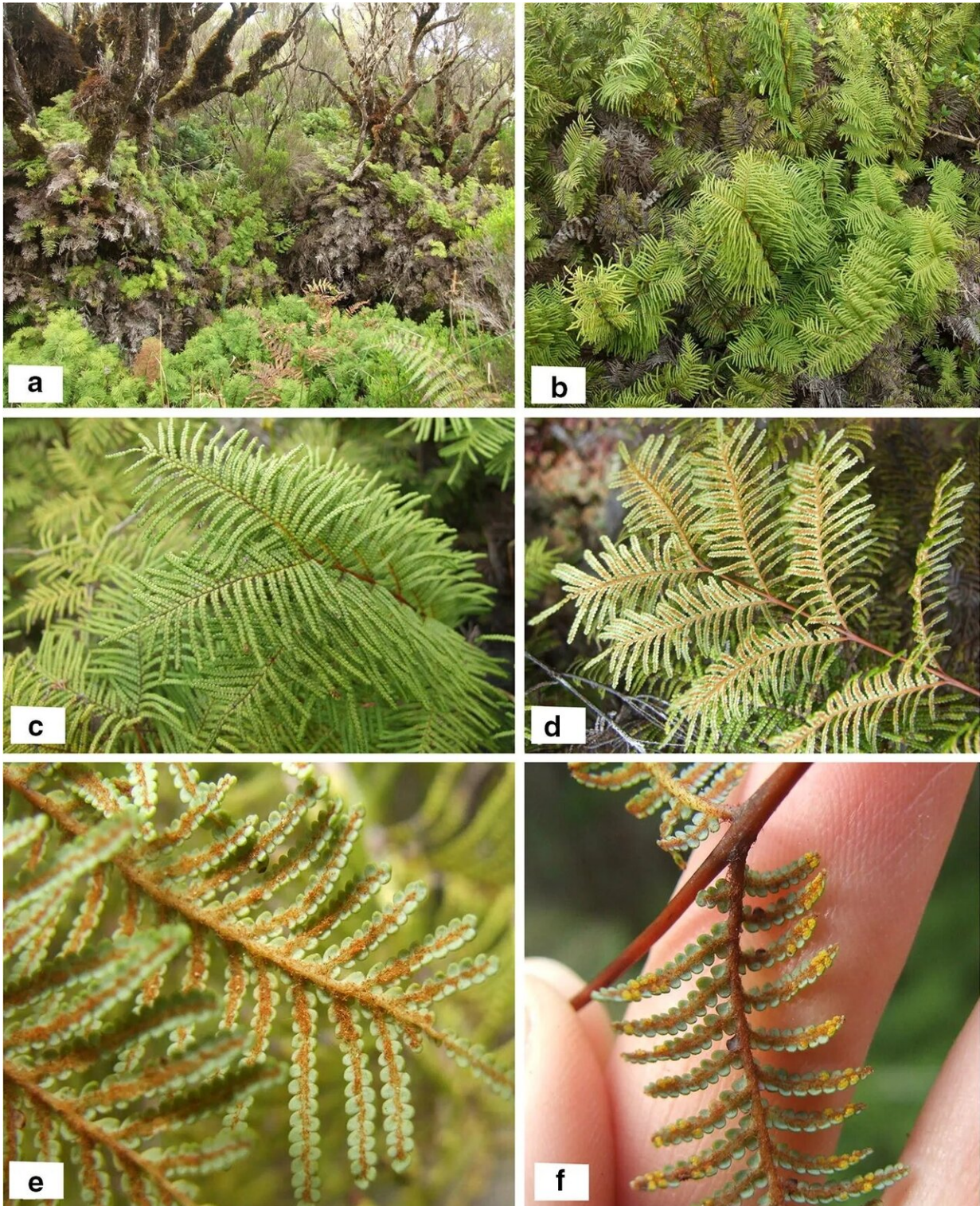


A new genus of forking fern family reported

March 4 2020, by Zhang Nannan



Gleichenia (Rouxopteris) boryi. Credit: LIU Hongmei

Gleichenia boryi is a poorly known species of Gleicheniaceae (the forking fern family) endemic to Madagascar and La Réunion Island. This fern was distinct from other Gleicheniaceae in its leaf morphology. However, the generic relationships of this fern have not been investigated until now.

In a study published in *Plant Systematics and Evolution*, researchers from Xishuangbanna Tropical Botanical Garden (XTBG) addressed the phylogenetic relationships of *Gleichenia boryi* to other gleichenioid ferns especially *Gl. polypodioides*. This Afromadagascan species is distinct in its typical pseudo-dichotomous gleichenioid leaf morphology from *Gl. boryi* and it is in turn the type species of *Gleichenia*.

Using sequences of the chloroplast *rbcL* gene, the researchers reconstructed a global phylogenetic framework that includes representatives of all accepted genera and is rooted with the putative closest relatives Dipteridaceae and Matoniaceae.

Consistent with the unique leaf morphology, *Gleichenia boryi* was found to form an isolated lineage and was not nested within the *Gleichenia* clade. The family Gleicheniaceae was divided into two main clades. One clade comprised *Gleichenia*, *Sticherus* and *Stromatopteris*, whereas the other clade consisted of *Dicranopteris*, *Diplopterygium* and *Gleichenella*. *Rouxopteris (Gleichenia) boryi* was found to be the sister to the later clade.

The new genus *Rouxopteris* is terrestrial ferns distributed in Madagascar and Mascarene Islands (La Réunion). The generic name is dedicated to the pteridologist Jacobus Petrus Roux (1954–2013) who made major contributions to the taxonomy of the ferns occurring in the Afromadagascan region.

"The discovery of the separation of *Rouxopteris (Gleichenia) boryi*

sheds new light on the early diversification of Gleicheniaceae, an old lineage of leptosporangiate ferns," said Dr. Liu Hongmei, first author of the study.

More information: Hongmei Liu et al. The significance of Rouxopteris (Gleicheniaceae, Polypodiopsida): a new genus endemic to the Madagascan region, *Plant Systematics and Evolution* (2020). [DOI: 10.1007/s00606-020-01657-9](https://doi.org/10.1007/s00606-020-01657-9)

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