



## *Pteris langsonensis* (Pteridaceae), a new brake fern species from Lang Son Province, northern Vietnam

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A new fern species, *Pteris langsonensis* belonging to the *P. cadieri* complex (Pteridaceae), is described and illustrated from Lang Son Province, northern Vietnam. *P. langsonensis* is most similar to *P. plumbea*, but the former has typical dimorphic leaves and fertile pinnae much contracted and with a width of no more than half of sterile pinnae, while the latter has slightly dimorphic leaves. The new species is also similar to *P. cretica*, but the former has smaller habit and slightly toothed sterile leaf margins.

**Key words:** *Pteris cadieri* complex, dimorphism, northern Vietnam

### Introduction

The brake fern genus *Pteris* Linnaeus (1753: 1073) contains 200–250 species which are quite diversified in morphology (Tryon and Tryon 1982, Liao *et al.* 2013). The *P. cadieri* Christ (1905: 72) complex (portion of the *P. decrescens* Christ (1906: 244) clade; Zhang *et al.* 2015), characterized by having false veins, reddish petiole at least at the base, and winged distal rachis, is currently known to contain five species. The monophyly of this complex has been confirmed by recent molecular studies (Chao *et al.* 2014, Zhang *et al.* 2015).

In 2013, we carried out one month's field work in northern Vietnam and collected some specimens quite similar to *P. plumbea* Christ (1909: 49), a member of the *P. cadieri* complex by a large lake in Huu Lien Commune, Lang Son Province. The character combination of 1-pinnate leaves and much contracted fertile pinnae of the specimens from Lang Son indicates that they represent a species unknown to science. We describe it here as *Pteris langsonensis*.

### Taxonomy

*Pteris langsonensis* Li Bing Zhang, Liang Zhang & Ngan T. Lu, *sp. nov.* (Figures 1, 2). Type:—VIETNAM. Lang Son Province: Huu Lung District, Huu Lien Commune, 21°39'33.53"N/106°22'03.74"E, in the acidic soils in the evergreen forest, 200–220 m, 20 November 2013, L.-B. Zhang, L. Zhang & N. T. Lu 6593 (holotype VNMN-2015.00100!, isotypes CDBI!, MO!, VNMN!).

Diagnosis: *Pteris langsonensis* is most similar to *P. plumbea* in having 1-pinnate leaves with basal pairs of pinnae lobed, but the former has typical dimorphic leaves and fertile pinnae much contracted and with a width of no more than half of sterile pinnae. It is also similar to some individuals of *P. cretica* Linnaeus (1767:130), but can be distinguished from the latter by having smaller habit and slightly toothed leaf margins.

Plants perennial, (25–)40–50 cm. Rhizomes ascending or shortly creeping, ca. 1.2–3.5 cm long, 2.8 mm in diam., with roots and persistent petiole bases; roots brown when dry, up to 5 cm long, 0.2 mm in diam., covered with fine curved short hairs; scaly on rhizomes where leaves arise, scales very rare on remaining parts of rhizomes, ca. 1.6 × 0.4 mm, bicolor, blackish brown and shiny at middle, light brown on margins, lanceolate, subentire, slightly curly towards apex. Leaves clustered, up to 12 leaves per rhizome, dimorphic, sterile leaves usually 3 to 5 times as fertile leaves on the same rhizomes. Sterile fronds 25.0–30.0 cm long; petiole 14.0–16.0 cm long, 0.3–0.5 mm in diam. in middle, base reddish brown, upwards green or pale brown, grooved adaxially, distal petiole slightly winged; lamina oblong or ovate-oblong in outline, 12.0–15.0 × 5.0–7.0 cm, papery in texture, green when fresh and grayish when dried, glabrous on both surfaces, pinnate. Pinnae 2–3 pairs, 2.1–4.2 cm distant with each other, linear-lanceolate, 4.1–6.2(–9.0) × 0.9–1.4 cm, sessile or basal most pair of pinnae 3.5–7.5 mm