Lectotypification of Three Species in the Fern Genus *Pteris* (Pteridaceae) from China

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ABSTRACT. Based on specimen and literature studies of the fern genus *Pteris* L. from China (Pteridaceae), three species are lectotypified: *P. dalhousieae* Hook., *P. esquirolii* H. Christ, and *P. henryi* H. Christ. Distribution for *P. dalhousieae*, which is not found in China, is also provided.

Key words: China, Pteridaceae, *Pteris*.

Pteris L. (Pteridaceae) is one of the largest genera of monilophytes, with approximately 300 species distributed widely in temperate, subtropical, and tropical regions of the world, extending to the south in China, New Zealand, and Tasmania, west to South Africa, north to Korea and Japan, across the United States, as well as the Mediterranean region of Europe (Copeland, 1947; Tryon & Tryon, 1982). About 55 species are recognized in the United States (Tryon & Tryon, 1982), 50 species and seven subspecies are distributed in the Indian region (Fraser-Jenkins, 2008), and 66 species have been reported for China (Wu, 1990), concentrated in South and Southwest China.

Apogamy is common in *Pteris*, and apogamous *Pteris* species often hybridize with members of a common or different complex. This is one of the characteristics leading to *Pteris* being considered as one of the largest genera of monilophytes (Walker, 1962). However, this causes taxonomic confusion, because numerous *Pteris* species are morphologically quite similar and the dividing lines among these taxa are questionable. Therefore, a comprehensive systematic revision of *Pteris* is necessary.

After critical study of the relevant protologues and type collections of Chinese *Pteris* species, we found that single collections were not designated as holotypes for three names, *Pteris dalhousieae* Hook., *P. esquirolii* H. Christ, and *P. henryi* H. Christ, in their respective protologues. According to Article 9.9 of the *International Code of Botanical Nomenclature* (McNeill et al., 2006), lectotypification is required for these three species. The epithet is corrected for the first of these names, following Rec. 60C.1(a) in the *Code*.

1. Pteris dalhousieae Hook., Sp. Fil. 2. 170, tab. 121A. 1858, as "dalhousiae." TYPE: [Malaysia] Malaya, Penang, s.d., *Lady C. Dalhousie s.n.* (lectotype, designated here, K-000444534; duplicate, K-000444535).

Two syntype collections (Malaysia, *Lady Dalhousie s.n.*; Indonesia, *T. Lobb 206*) were cited in Hooker's (1858) protologue of *Pteris dalhousieae*. Both collections are in good condition at K, with Lobb's collection from Java consisting of two sheets (K-000446315, K-000446316). However, one of the two sheets collected by Lady C. Dalhousie in Malaysia is selected as lectotype, since the taxon was named after Lady Dalhousie.

Distribution. Ding's unpublished thesis (2006: 23) reported *Pteris dalhousieae* from Hainan. However, after careful specimen examination, we found that the voucher *Team 75 Hainan 92* at SYS corresponded to *P. dissitifolia* Baker instead. There are no other published reports for the species in China, so we can assume *P. dalhousieae* does not occur there. The distribution for *P. dalhousieae* lies to the south, in Malaysia, Sumatra, Java, and Vietnam (Hooker, 1858; Holttum, 1954).

2. Pteris esquirolii H. Christ, Notul. Syst. (Paris) 1: 50. 1909, as "Esquirolii." TYPE: China. Yunnan: Ouanchay [Yuanchag], 5000 ft., s.d., *A. Henry 13320* (lectotype, designated here, P-00608469).

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Two syntype collections (*A. Henry 13320*; *Esquirol 286*, P-00608470) were noted in Christ's (1909) protologue for *Pteris esquirolii*, collected in different provinces in China—Yunnan and Guizhou—respectively, and both were deposited at P. Because some of the sterile fronds collected by Esquirol have been damaged and the collection is in poor condition, the collection by Henry is selected here as lectotype.

3. Pteris henryi H. Christ, Bull. Herb. Boissier 6: 957. 1898. TYPE: China. Yunnan: Mengtze, s.d., *A. Henry 9911* (lectotype, designated here, US-00055224; duplicates, MO-1858918, NY-00127511).

Two syntypes (*A. Henry 9911*; *A. Henry 9911A*, P-00608410) were cited in Christ's (1898) protologue of *Pteris henryi*. The duplicates at NY and MO differ in morphology from the US lectotype. The duplicates both have sterile and fertile fronds and resemble *P. dactylina* Hook. Their fronds are trifurcate or pinnate, with one or two pairs of lateral pinnae; pinnae are bifurcate or not. In contrast, the lectotype has only fertile fronds and shares many of the morphological characteristics of *P. henryi*. Its fronds are pinnate, with one to three pairs of trifurcate or bifurcate lateral pinnae. The *A. Henry 9911A* syntype at P looks like *P. actiniopteroides* H. Christ, with one or two pairs of linear-lanceolate or bifurcate lateral pinnae, while the lateral pinnae of *P. henryi* are always trifurcate or bifurcate. *A. Henry 9911* at US best represents the morphological characteristics of *P. henryi* and is thus selected as lectotype.

Indeed, the taxonomic delimitation of *Pteris dactylina*, *P. actiniopteroides*, and *P. henryi* has been confusing. *A. Henry 9911* (US-00055224, NY-00127511) was annotated as *P. dactylina*, with a label written as "=? *P. dactylina*." To further the confusion, there is also a label in R. C. Ching's hand, "= *Pteris actiniopteroides* Christ," on *A. Henry 9911A* at P. *Pteris actiniopteroides* was reduced to a synonym of *P. henryi* in *Flora of Yunnan*, but no explanation was given (Lu, 2006). Therefore, further study is required to elucidate the relationship of these three *Pteris* species.

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