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Pteris barklyae (Pteridaceae): A new combination and neotypication of *Adiantum pallens* for the fern flora of the Indian Ocean Islands

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Abstract

Pellaea barklyae, a fern endemic to the Seychelles, is transferred to the genus *Pteris* based on recent molecular studies. We also neotypified *Adiantum pallens* Swartz, a species endemic to Madagascar, Mauritius, and La Réunion.

Introduction

The fern genus *Afropteris* Alston (1956: 5; Pteridaceae) consists of two species in tropical West Africa and the Seychelles. *Ochropteris* J. Smith (1841: 158) contains three species occurring in Madagascar and the adjacent Seychelles and Mascarenes (Tryon *et al.* 1990). Recent molecular studies based on either chloroplast *rps4-trnS* or *rbcL* sequence data have unambiguously resolved *Afropteris* and *Ochropteris* as nested within a paraphyletic *Pteris* (Sánchez-Baracaldo 2004, Schuettpelz *et al.* 2007). Our study based on six-locus sequence data confirms their findings (Zhang *et al.* in press). To maintain a monophyletic *Pteris*, these two small genera should be synonymized with *Pteris* for maximum nomenclatural stability. All species of these two genera already have available names in *Pteris* except one. We here transfer one species of *Afropteris* to *Pteris* and neotypify one name in *Ochropteris*.

Taxonomy

Pteris barklyae (Baker) Li Bing Zhang, X.F.Gao & Liang Zhang, *comb. nov.*

Basionym: ***Pellaea barklyae*** Baker in W.J.Hooker & J.G.Baker (1867: 151).

Type:—THE SEYCHELLES. Without location, 1864, *Lady A. Maria Barkly s.n.* (holotype, K-000435410!).
Homotypic synonym:—*Afropteris barklyae* (Baker) Alston (1956: 6).

Distribution: The Seychelles.

Notes:—*Afropteris* consists of *A. repens* (C. Christensen) Alston (1956: 5) of tropical West Africa and *A. barklyae* (Baker) Alston (1956: 6) endemic to the Seychelles. The former was originally placed in *Pteris*, i.e., *P. repens* C. Christensen (1906: 606). The latter is the only one that needs to be transferred to *Pteris*. It should be noted that the Barkly specimen was collected in 1864, not 1804 as sometime believed.

Additional specimen examined:—THE SEYCHELLES. Praslin Island: Vallée de May, along trail through coco-de-mer forest, on laterite soil, 4°20′S, 55°44′E, 2010, *M. C. Mamamik 5896* (MO-2270986).

Pteris pallens (Swartz) Mettenius (1856: 54).

Basionym: *Adiantum pallens* Swartz (1801: 84).

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Type:—LA RÉUNION. Grand Etang, sentier menant du parking vers le point de vue, puis piste aux bords du lac, 21°05′44″S, 55°38′39″E, 557 m, forêt sempervirente de moyenne altitude, fortmente sécondarisée, 30 Mar 2005, *T. Janssen & H. Schneider 2677* (neotype, P-00590797!, here designated!; isoneotype, BM).

Homotypic synonyms:—*Cheilanthes pallens* (Swartz) Desvaux (1827: 306). *Ochropteris pallens* (Swartz) J. Smith (1841: 158). *Cryptogramma pallens* (Swartz) Prantl (1882: 414).

Distribution: Madagascar, Mauritius, La Réunion.

N**otes:**—The authority of this species is often wrongly attributed to "Mettenius". When *Adiantum pallens* was published (Swartz 1801), no type material was cited in the protologue. Swartz's major material and types are supposed to be deposited at S in addition to a number of other herbaria (Stafleu & Cowan 1986: 116). We could not find any Swartz's material of *A. pallens* at neither S nor some of the herbaria for Swartz's material listed by Stafleu & Cowan (1986), e.g., B, BM, E, FI, G, H, K, L, LINN, M, NY, P, UPS. A specimen at BR (RB-00633294) was assigned the name but this material was collected from Java, Indonesia and is assignable to *Monachosorum henryi* Christ (1898: 869). A neotype of *A. pallens* is needed.

Later, Swartz (1806: 125) himself was uncertain about his species delimitation and cited material from Chusan [= Zhoushan, Zhejiang Province, China] and a Pluketnet's (1705) "most unsatisfactory" (Hooker 1844: 55) plate, t. 403. f. 2 under his "*A. pallens*" while giving "Mauritii?" [= Mauritius] with a mark of doubt of its native country. Neither the Chusan material nor the Pluketnet's plate is original material of this species, not only because they don't belong to the species in current usage but also they were not cited in the 1801 protologue. When transferring this species to *Ochropteris* J. Smith (1841: 158), Smith implied that at least one of the native areas of the species is Mauritius. Hooker (1844) gave Mauritius as its only distribution area. Mettenius (1856: 54) provided an illustration of this species but that illustration does not include any habit figures. Now we know that this species occurs in Madagascar, Mauritius, and Réunion (Tardieu-Blot 1958; our citation of material below). Based on the discussion above, it seems more desirable to choose a specimen collected from Mauritius as the neotype of *A. pallens*. However, there is a gathering with duplicates at BM and P, *T. Janssen & H. Schneider 2677*, recently collected from the neighboring region of Mauritius, La Réunion, which is unambiguously assignable to this species and is the voucher specimen of three GenBank sequences: EF452160 (*rbcL* gene), EF452106 (*atpA* gene), and EF452044 (*atpB* gene). We here designate the sheet at P as the neotype and thus the one at BM is isoneotype.

Additional specimens examined: —MADAGASCAR. Toamasina: Analanjirofo, 16°53′S, 49°53′E, *A.C.J. Bernier 45* (MO); no locality, 8–9 Oct 1846, *M. Boivin 823* (MO). REPUBLIC OF MAURITIUS. Valley above Ferney Sugar Estate, 200 m, 3 Apr 1974, *D. Lorence 391* (MO); Mt. Lagrave south flank, 650 m, 5 Apr 1974, *D. Lorence 394* (MO). LA RÉUNION. Grand Etang, disturbed lower montane wet forest, 500 m, 15 Jul 1979, *D. Lorence & A. Rolland 2761* (MO); Sentier de la Grande Jument, 21°12′S, 55°29′E, *S. Hennequin 280* (P-02432327!).

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