

## New combinations in Vietnamese Ferns

Rajeev Kumar Singh and Vineet Kumar Rawat\*

Botanical Survey of India, Arid Zone Regional Centre, AllMS Road, Jodhpur, Rajasthan, India

\*E-mail: rawat\_vk2107@rediffmail.com; ORCID: <https://orcid.org/0000-0002-6828-5108>

DOI: <https://doi.org/10.5281/zenodo.15331502>

Article Details: Received: 2025-01-21 | Accepted: 2025-05-01 | Available online: 2025-05-05



Licensed under a Creative Commons Attribution 4.0 International License

**Abstract:** Three new combinations are proposed here in the Ferns of Vietnam, one in Marattiaceae and two in Polypodiaceae.

**Keywords:** *Angiopteris*, Endemic, *Leptochilus*, Marattiaceae, Polypodiaceae, *Selliguea*

### Introduction

The genus *Angiopteris* Hoffm. (Marattiaceae) consists of about 60 species, distributed in tropical and subtropical Asia to Pacific, and West Indian Ocean (POWO, 2025). In Vietnam, the genus is represented by about 13 species, namely *A. annamensis* C.Chr. & Tardieu, *A. cadierei* (C.Chr. & Tardieu) R.Kr.Singh & V.K.Rawat, *A. caudatiformis* Hieron., *A. cochinchinensis* de Vriese, *A. confertinervia* Ching ex C.Chr. & Tardieu, *A. dianyuicola* Z.R.He & W.M.Chu, *A. hokouensis* Ching, *A. indica* Desv., *A. palmiformis* (Cav.) C.Chr., *A. somae* (Hayata) Makino & Nemoto, *A. tamdaoensis* (Hayata) J.Y.Xiang & T.Wang, *A. tonkinensis* (Hayata) J.M.Camus and *A. yunnanensis* Hieron., of which *A. cadierei* is endemic (POWO, 2025). However, the name *Archangiopteris cadierei* C.Chr. & Tardieu needs to be transferred to the genus *Angiopteris*, because in current circumscription *Archangiopteris* Christ & Giesenh. is synonymous to *Angiopteris* (Wang et al., 2020). Therefore, a new combination is proposed here for *Archangiopteris cadierei* under the genus *Angiopteris* as *A. cadierei* (C.Chr. & Tardieu) R.Kr.Singh & V.K.Rawat.

The genus *Leptochilus* Kaulf. (Polypodiaceae) is represented by about 48 species, distributed in tropical and subtropical Asia to Pacific (POWO, 2025). In Vietnam, the genus consists of about 28 species, namely *L. axillaris* (Cav.) Kaulf., *L. cantoniensis* (Baker) Ching, *L. chilangensis* (V.N.Tu) Liang

Zhang & Li Bing Zhang, *L. chingii* Liang Zhang & Li Bing Zhang, *L. daklakensis* Liang Zhang, X.M.Zhou, T.T.Luong & Li Bing Zhang, *L. decurrens* Blume, *L. digitatus* (Baker) Noot., *L. ellipticus* (Thunb.) Noot., *L. hemionitideus* (C.Presl) Noot., *L. henryi* (Baker) X.C.Zhang, *L. heterophyllus* (S.K.Wu & L.K.Phan) R.Kr.Singh & V.K.Rawat, *L. lanceolatus* Fée, *L. locii* Liang Zhang, N.T.Lu & Li Bing Zhang, *L. longissimus* (Blume) L.Y.Kuo, *L. minor* Fée, *L. morsei* (Ching) Fraser-Jenk., *L. neolongipes* Liang Zhang, X.M.Zhou, T.T.Luong & Li Bing Zhang, *L. oblongus* Li Bing Zhang, Liang Zhang & N.T.Lu, *L. ornithopus* T.Fujiw. & B.H.Quang, *L. ovatus* Copel., *L. pedunculatus* (Hook. & Grev.) Fraser-Jenk., *L. pothifolius* (Buch.-Ham. ex D.Don) Fraser-Jenk., *L. pteropus* (Blume) Fraser-Jenk., *L. saxicola* (H.G.Zhou & Hua Li) Liang Zhang & Li Bing Zhang, *L. × shintenensis* (Hayata) Nakaike, *L. sinovietnamica* Liang Zhang, N.T.Lu & Li Bing Zhang, *L. vietnamensis* Liang Zhang, N.T.Lu & Li Bing Zhang and *L. wrightii* (Hook.) X.C.Zhang, of which *L. chilangensis* (V.N.Tu) Liang Zhang & Li Bing Zhang, *L. chingii* Liang Zhang & Li Bing Zhang, *L. daklakensis* Liang Zhang, X.M.Zhou, T.T.Luong & Li Bing Zhang, *L. heterophyllus* (S.K.Wu & L.K.Phan) R.Kr.Singh & V.K.Rawat, *L. locii* Liang Zhang, N.T.Lu & Li Bing Zhang, *L. neolongipes* Liang Zhang, X.M.Zhou, T.T.Luong & Li Bing Zhang, *L. oblongus* Li Bing Zhang, Liang Zhang & N.T.Lu, *L. ornithopus* T.Fujiw. & B.H.Quang and *L. vietnamensis* Liang Zhang, N.T.Lu & Li Bing Zhang are endemic (POWO, 2025). However, the name *Kontumia heterophylla* S.K.Wu & L.K.Phan needs to be transferred to the genus *Leptochilus*, because in current circumscription *Kontumia* S.K.Wu & L.K.Phan is synonymous to *Leptochilus* (Kim et al., 2012; Wei & Zhang, 2022). Therefore, a new combination is proposed here for *Kontumia heterophylla* under the genus *Leptochilus* as *L. heterophyllus* (S.K.Wu & L.K.Phan) R.Kr.Singh & V.K.Rawat.

The genus *Selliguea* Bory (Polypodiaceae) consists of about 125 species, distributed in tropical and subtropical Asia to Pacific (POWO, 2025; Singh & Rawat, 2024). In Vietnam, the genus is represented by about 14 species, namely *S. amplexifolia* (Christ) Christenh., *S. capitellata* (Wall.) X.C.Zhang & L.J.He, *S. cruciformis* (Ching) Fraser-Jenk., *S. dareiformis* (Hook.) X.C.Zhang & L.J.He, *S. enervis* (Cav.) Ching, *S. griffithiana* (Hook.) Fraser-Jenk., *S. lateritia* (Baker) Hovenkamp, *S. lehmannii* (Mett.) Christenh., *S. moulmeinensis* (Bedd.) X.C.Zhang & L.J.He, *S. nigrovenia* (Christ) S.G.Lu, Hovenkamp & M.G.Gilbert, *S. oxyloba* (Wall. ex Kunze) Fraser-Jenk., *S. rhynchophylla* (Hook.) Fraser-Jenk., *S. tamdaoensis* (V.N.Tu) R.Kr.Singh & V.K.Rawat and *S. triloba* (Houtt.) M.G.Price, of which *S. tamdaoensis* is endemic (POWO, 2025). However, the name *Crypsinus tamdaoensis* V.N.Tu needs to be transferred to the genus *Selliguea*, because in current circumscription *Crypsinus* C.Presl is synonymous to *Selliguea* (Wei & Zhang, 2022). Therefore, a new combination is proposed here for *Crypsinus tamdaoensis* under the genus *Selliguea* as *S. tamdaoensis* (V.N.Tu) R.Kr.Singh & V.K.Rawat.

## New combinations

### Marattiaceae

***Angiopteris cadierei*** (C.Chr. & Tardieu) R.Kr.Singh & V.K.Rawat, *comb. nov.*

≡ *Archangiopteris cadierei* C.Chr. & Tardieu, Notul. Syst. (Paris) 5: 5, t.1(1-2). 1935.

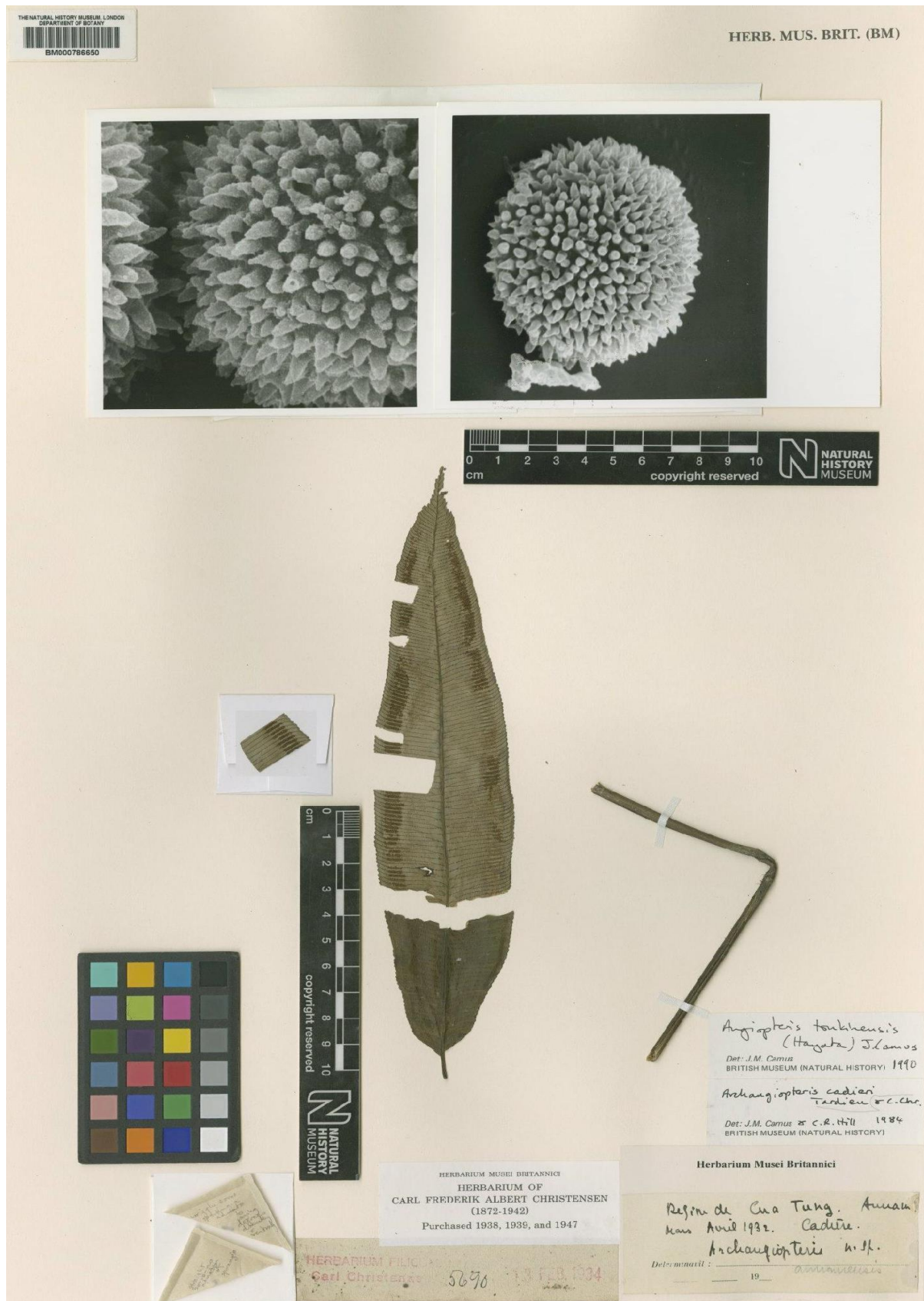


Figure 1: Isotype of *Archangiopteris cadieri* C.Chr. & Tardieu (BM000786650, © The Natural History Museum, London)



Figure 2: Paratype of *Kontumia heterophylla* S.K.Wu & L.K.Phan (C0367023F, © Field Museum of Natural History, Chicago)



Figure 3: Paratype of *Kontumia heterophylla* S.K.Wu & L.K.Phan (L3556698, © Naturalis Biodiversity Center, Leiden)



Figure 4: Paratype of *Kontumia heterophylla* S.K. Wu & L.K. Phan (MO5776200, © Herbarium of Missouri Botanical Garden, Saint Louis)



Figure 5: Paratype of *Kontumia heterophylla* S.K.Wu & L.K.Phan (MO04479896, © Herbarium of Missouri Botanical Garden, Saint Louis)

Holotype: Vietnam, Annam, Cua Tung, 50-100 m, 1932, *Léopold-Michel Cadière s.n.* (P); isotype BM000786650! (Figure 1),

Distribution: Endemic to Vietnam.

### Polypodiaceae

***Leptochilus heterophyllus*** (S.K.Wu & L.K.Phan) R.Kr.Singh & V.K.Rawat, *comb. nov.*

≡ *Kontumia heterophylla* S.K.Wu & L.K.Phan, *Novon* 15(1): 245, f. 1 & 2. 2005.

Holotype: Vietnam, Kon Tum province, Kon Plong district, Ngoc Tem Municipality, Mang La state forest, 14°41'41" N, 108°22'21" E, 1100 m, 9 April 2000, *Phan Kê Lôc* P-10551 (HN); isotypes KUN, LE, MO.

Paratypes: Vietnam, Kon Tum province, Kon Plong district, Hieu Municipality, Mang La forest enterprise, 14°39' N, 108°25' E, 1000–1200 m, primary evergreen broad-leaved wet forest on steep mountain slopes on sandstone and gneiss, 15 April 2000, *L. Averyanov et al.* VH-5129 [HN, F (Figure 2), L (Figure 3), LE, MO (Figure 4)]; Kon Plong district, Hieu Municipality, 14°41'48" N, 108°22'23" E, c 1250 m, 20 November 2003, *Wu et al.* WP-136 (HN, KUN, MO); Kon Plong district, Po E Municipality, first village, 14°43'16" N, 108°38'18" E, c 1200 m, logged primary closed evergreen seasonal tropical broad-leaved submontane forests on slope of mountains, 22 November 2003, S.G. *Wu et al.* WP-201 [HN, KUN, MO (Figure 5)].

Distribution: Endemic to Vietnam.

***Selliguea tamdaoensis*** (V.N.Tu) R.Kr.Singh & V.K.Rawat, *comb. nov.*

≡ *Crypsinus tamdaoensis* V.N.Tu, *Bot. Zhurn. (Moscow & Leningrad)* 64(9): 1316. 1979.

Holotype: Vietnam, Tam Dao (not traceable).

Distribution: Endemic to Vietnam.

### Acknowledgements

The authors are thankful to the Director, Botanical Survey of India, Kolkata and Head of Office, Botanical Survey of India, Arid Zone Regional Centre, Jodhpur for facilities.

### References

- Kim C, Zha HG, Deng T, Sun H and Wu SG. (2012). Phylogenetic position of *Kontumia* (Polypodiaceae) inferred from four chloroplast DNA regions. *Journal of Systematics and Evolution*. 51(2): 154–163. <https://doi.org/10.1111/j.1759-6831.2012.00230.x>
- POWO. (2025). Plants of the World Online. Royal Botanic Gardens, Kew. Available from: <http://www.plantsoftheworldonline.org/> (accessed 18 January 2025).
- Singh RK and Rawat VK. (2024). New combinations in *Selliguea* (Polypodiaceae, Crypsinoideae). *Journal of Biodiversity and Conservation*. 8(4): 130–139.



- Wang T, Xiao B, Liu ED, Nguyen KS, Duan JQ, Wang KL, Yan YH and Xiang JY. (2020). Rediscovery of *Angiopteris tonkinensis* (Marattiaceae) after 100 years, and its revision. *PhytoKeys*. 161: 1–9. <https://doi.org/10.3897/phytokeys.161.54912>
- Wei R and Zhang XC. (2022). A revised subfamilial classification of Polypodiaceae based on plastome, nuclear ribosomal and morphological evidence. *Taxon*. 71: 288–306. <https://doi.org/10.1002/tax.12658>