

A TAXONOMIC STUDY ON *PTERIS* L. (PTERIDACEAE) OF BANGLADESH

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Abstract

Bangladesh lies in Indian subcontinent, an area rich in *Pteris* species. However, so far there is no modern account on the species diversity of *Pteris* in Bangladesh. Based on a thorough study of literature and limited specimens available to us, we currently recognize 15 species of *Pteris* in Bangladesh. Among these species, *P. giasii* is currently known only from Bangladesh; *P. longipinnula*, which has not been collected since 1858, was recently rediscovered in Sylhet. *Pteris cretica*, *P. pellucida*, *P. quadriaurita* var. *quadriaurita*, and *P. quadriaurita* var. *setigera* are excluded for the fern flora of Bangladesh. To facilitate the recognition of species, a key to species and brief notes for each species are provided.

Introduction

The genus *Pteris* L. (Pteridaceae) consists of about 250 species, being a natural group of terrestrial ferns across the world with relatively rich species in tropical, warm-temperate, and south-temperate areas (Tyron *et al.*, 1990; PPG I, 2016). This group is well represented in East Asia with 85 species (Nakaike, 1982; Liao *et al.* 2013) and in Indian subcontinent with 57 species (Fraser-Jenkins *et al.*, 2017). In comparison, other regions are not so rich with *Pteris* species. For example, there are 55 species in America (Tryon and Tryon, 1982), 39 in Indochina (Lindsay and Middleton, 2012; Phan, 2010), 24 in tropical Africa (Kamau, 2012), and only 10 in Australia (Kramer and McCarthy, 1998). Morphologically, the stable characters of *Pteris* include few, narrow scales restricted to rhizome and basal stipe, the marginal and linear sori, and the linear indusia formed by recurved, modified margin of lamina. Morphological variations between species lie mainly in leaf architecture (digitate, pinnate-pectinate, tripartite, etc.) and venation (from free, forming only costal areoles, to completely anastomosing) as shown in Tryon and Tryon (1982: 336–337). To date, no satisfactory subdivision of *Pteris* is available. Christensen (1906) divided *Pteris* into three subgenera, *i.e.*, subg. *Campteria* with a row of costal areoles, subg. *Litobrochia* with amply reticulate veins, and subg. *Eupteris* with free veins. Ching and Wu (1983) proposed three sections, namely 1) sect. *Pteris* with free venation and non-pectinate pinnae, 2) sect. *Quadriauricula* Ching with free venation and pectinate pinnae, and 3) sect. *Campteria* (C. Presl) Ching with anastomosing venation. Tryon *et al.* (1990) suggested two subgenera (subg. *Pteris* and subg. *Litobrochia*) for the genus based mainly on the difference of venation. However, these are all entirely artificial, as Fraser-Jenkins *et al.* (2015: 305) commented, “in fact in S Asia there are no sections or subgenera within the genus”. Recent molecular analyses based on plastid sequences supported *Pteris* to be a monophyletic group but did not support any subdivision previously proposed under this genus (Zhang *et al.*, 2014). Species relationships within this large genus are still uncertain.

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As compared with some countries in Indian subcontinent (such as India and Nepal), *Pteris* in Bangladesh is poorly documented. To know the species diversity of *Pteris* and other ferns in Bangladesh, currently the only literature to refer is *Encyclopedia of Flora and Fauna of Bangladesh* (Siddiqui *et al.*, 2007). However, when consulting this book for the identification of a recent collection of *Pteris* from Sylhet, the first author (Dong) realizes the inaccuracy and incompleteness of *Pteris* recorded in Siddiqui *et al.* (2007). Our new collection turns out to be *P. longipinnula* Wall. ex J. Agardh, a species which was collected in Sylhet probably early in 1850s (Hooker, 1858: 179) but was not included in Siddiqui *et al.* (2007). Other apparent deficiencies on the *Pteris* in Siddiqui *et al.* (2007) include the problematic spelling or misapplication of some species' names, such as "*P. geminata* Wall. apud Hook.", "*P. longifolia* var. *vittata* Roxb.", *Pteris quadriaurita* Retz., and *Pteris quadriaurita* var. *setigera* Bedd., which will be addressed in detail later in this account. In addition, Siddiqui *et al.* (2007) did not provide any taxonomic key to species or any critical description or list of key characters for the purpose of distinguishing species of similar morphology. Therefore, we conducted this study, aiming to provide accurate and updated knowledge on *Pteris* from Bangladesh in species recognition, nomenclature, and geographical distribution.

Materials and Methods

To update a checklist of *Pteris* from Bangladesh, we critically reviewed each name recorded in Siddiqui *et al.* (2007) according to the original descriptions, type specimens, and herbarium collections in JUH (Jahangirnagar University Herbarium), TAI (Taiwan Forestry Research Institute), and US (Smithsonian Institution) available to us. Recent publications of *Pteris* in adjacent regions, especially the checklist of *Pteris* of Nepal (Fraser-Jenkins *et al.*, 2015) and that of India (Fraser-Jenkins *et al.*, 2017), are also consulted. Our recently collected specimens in Sylhet were deposited in Herbarium of South China Botanical Garden, Chinese Academy of Sciences (IBSC).

Result and Discussion

We recognize 15 species of *Pteris* from Bangladesh for the time being. Of the 15 species, *P. giasii* is currently only known in Bangladesh and *P. longipinnula* has not been collected or reported in Bangladesh since 1858. An updated taxonomic checklist including a key to the species of *Pteris* of Bangladesh is provided below.

Key to species of *Pteris* in Bangladesh

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|---|--------------------------|
| 1a. Lateral pinnae pectinate, <i>i.e.</i> , regularly deeply lobed on both sides of costae (rarely lobed only on basiscopic side) | 2 |
| 1b. Lateral pinnae simple (not lobed), or at most with one to three lobes on one or both sides of costae | 10 |
| 2a. Pinnae 1-pinnate-pinnatifid, at least lowest pinnae with several pairs of pectinate pinnules | 10. <i>P. khasiana</i> |
| 2b. Pinnae pinnatifid, or at most the lower ones having one to three basiscopic branches | 3 |
| 3a. Fronds pentagonal; lateral pinnae 1–2 pairs, their bases connected with rachis-wings | 8. <i>P. grevilleana</i> |
| 3b. Fronds oblong to lanceolate; lateral pinnae more than 3 pairs; rachis wingless | 4 |

- | | |
|---|-------------------------------|
| 4a. Lateral pinnae pectinate only on basiscopic side of costae | 13. <i>P. semipinnata</i> |
| 4b. Lateral pinnae symmetrically pectinate on both sides of costae | 5 |
| 5a. Veins anastomosing below sinuses between pinna-lobes, forming costal areoles | 6 |
| 5b. Veins all free (or those below sinuses occasionally anastomosing), not forming costal areoles | 7 |
| 6a. Pinna-lobes entire at margin | 2. <i>P. biaurita</i> |
| 6b. Pinna-lobes with the distal sterile parts obviously crenate | 6. <i>P. geminata</i> |
| 7a. Lowest pinnae not forked, without branches on basal basiscopic side | 8 |
| 7b. Lowest pinnae forked, each with one or two short branches on basal basiscopic side | 9 |
| 8a. Frond-axes bright blueish-green; pinna-lobes mucronate at apex | 11. <i>P. longipinnula</i> |
| 8b. Frond-axes stramineous or brown; pinna-lobes acute, never mucronate at apex | 7. <i>P. giasii</i> |
| 9a. Fronds herbaceous; costae without spines on the adaxial surface | 1. <i>P. assamica</i> |
| 9b. Fronds chartaceous; costae obviously with spines on adaxial surfaces | 3. <i>P. blumeana</i> |
| 10a. Pinnae cordate at base; lower pinnae gradually reduced in length | 15. <i>P. vittata</i> |
| 10b. Pinnae cuneate at base; lower pinnae not reduced | 11 |
| 11a. Sterile segments entire at margin | 12 |
| 11b. Sterile segments serrate at margin | 13 |
| 12a. Fronds 1-pinnate and becoming 2-pinnate towards base; ultimate segments linear, mostly 1.5–3 cm long | 9. <i>P. griffithii</i> |
| 12b. Fronds uniformly 1-pinnate; pinnae much longer, 15–20(30) cm long | 14. <i>P. venusta</i> |
| 13a. Fronds 1-pinnate to 2-pinnate towards base; lateral pinna 3–5 pairs; rachis wingless | 5. <i>P. ensiformis</i> |
| 13b. Fronds simple, digitate, or consisting of a trilobed terminal part and a pair of lateral segments or pinnae; rachis usually winged | 14 |
| 14a. Fronds digitate to 1-pinnate, segments or pinnae irregularly lobed, producing one to several lobes on one or both sides of costae | 4. <i>P. cadieri</i> |
| 14b. Fronds simple, or digitate, if digitate or nearly pinnate, the segments linear and simple (never lobed) | 12. <i>P. pseudopellucida</i> |

1. ***Pteris assamica*** Fraser-Jenk. & T.G. Walker, *Taxon. Revis. Indian Subcontinental Pteridophytes* 118. 2008. —Type: INDIA. Assam: Bor Bhil marsh, near Digboi, 27 Dec 1995, C.R. Fraser-Jenkins 23943 “F.N. Pt. 84” (holotype, BM, not seen).

Pteris assamica is morphologically similar to *P. biaurita* but differs in its veins being wholly free (versus forming costal areoles), lamina herbaceous (versus chartaceous) in texture, costae spines lacking (versus present), and the basal basiscopic segments on lowest pinnae usually being asymmetric (versus symmetric) (*i.e.*, long and simple on one of the lowest pair of pinnae whereas normal-sized and pinnatifid on the other in *P. assamica*, Fraser-Jenkins, 2008: 118).

In Bangladesh, it is known from Chittagong (C.R. Fraser-Jenkins 31011, TAIF). The species was also reported from India, Bhutan, Malaysia, Myanmar, Nepal, and Thailand (Fraser-Jenkins *et al.*, 2017).

2. ***Pteris biaurita*** L., Sp. Pl. 2: 1076. 1753; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 236. 2007.—Type: “Domingo, Martinica, Jamaica”, *Anonymous s.n.* (lectotype, LINN-1246.19, designated by Tryon in *Contr. Gray Herb.* 194: 201. 1964).

Fraser-Jenkins *et al.* (2015) recognized two subspecies of *Pteris biaurita*, namely subsp. *fornicata* Fraser-Jenk. and subsp. *walkeriana* Fraser-Jenk. & Dominic Rajkumar. It seems difficult and unpractical to accept the two subspecies under *P. biaurita*, since “the subsp. *walkeriana* is very similar to and slightly overlaps subsp. *fornicata*” (Fraser-Jenkins *et al.*, 2015: 319). In addition, one voucher specimen from Chittagong (*King’s collector 185*, US-01480252) morphologically matches well with the type of *P. biaurita*. Therefore, we propose to maintain using only *P. biaurita* for plants in Bangladesh.

In Bangladesh, it is known from Chittagong (*P.F. Lu et al. 16173*, TAIF). This species is widespread in pantropical areas.

3. ***Pteris blumeana*** J. Agardh, *Recens. Spec. Pter.* 22. 1839. —*Pteris quadriaurita* Retz. var. *blumeana* C.B. Clarke, *Trans. Linn. Soc. London, Bot.* 1: 466, pl. 55. 1880; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 243. 2007. —Type: INDONESIA. Java, in 1836, *M. Blume s.n.* (syntype, B-20 0033826).

Pteris quadriaurita var. *setigera* auct., non Bedd., Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 244. 2007.

When originally describing *Pteris blumeana*, Agardh (1839: 23) cited Blume’s collection from Java as the voucher and mentioned its distribution also in India Orientale. To locate the type specimens of this species, we so far traced only a sheet containing pinna fragments of Blume’s collection in B (barcoded B 20 0033826), which should be considered as a syntype of *P. blumeana*.

Pteris blumeana is very similar to *P. biaurita* in appearance but differs mainly in its free veins, *i.e.*, the lowest veins of pinna-lobes reaching lamina margin above sinuses, never anastomosing (versus veins forming narrow areoles along pinna-costae in *P. biaurita*).

In Bangladesh, it is known from Chittagong (Clarke, 1880: 466). This species is distributed also in Cambodia, India, Indonesia, Laos, Myanmar, Singapore, Thailand, Vietnam (Lindsay and Middleton, 2012; Fraser-Jenkins *et al.*, 2017).

4. ***Pteris cadieri*** Christ, *J. Bot. (Morot)* 19: 72. 1905. —Type: VIETNAM. Quang Binh: “Song-Gianh” Valley, in 1903, *L. Cadriere 86* (holotype, P-00532183; isotypes: BM-001044188, P-00532184).

Pteris plumbea Christ, *Notul. Syst. (Paris)* 1: 49. 1909; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 241. 2007. —Type: CHINA. Guangdong: Shantou (formerly as Swatou), *Asverus & Henry s.n.* (lectotype, P-00538980, designated here).

The irregular dissection of lamina indicates the hybrid origin of *Pteris cadieri*. According to Chao *et al.* (2015), *P. plumbea* should be treated as a synonym of *P. cadieri* which is a complex involving complicated hybridization. When Christ (1909) firstly described *P. plumbea*, he cited three specimens from different localities, one from China and other two from Philippines; all the three are syntypes according to ICN (Turland *et al.*, 2018; Art. 9.5.). One of them, *Asverus & Henry s.n.* in herbarium P, is here designated as the lectotype of *P. plumbea*.

In Bangladesh, it was reported from Rangamati District (Mirza & Rahman, 1997). The species is distributed also in China, Philippines, Thailand, and Vietnam (Chao *et al.*, 2015).

5. ***Pteris ensiformis*** Burm. f., Fl. Indica. 230. 1768; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 237. 2007. —Type: SRILAN KA. *Anonymous s.n.* (lectotype, G-00360109, designated by Fraser-Jenkins *et al.* in *Annot. Checkl. Indian Pterid.* 1: 286. 2017).

It is a distinct species characterized by its dimorphic fronds, pinnae in fertile fronds being linear and almost each pinna bearing a short segment on basal basicopic side, and those in sterile fronds much shorter and wider, their bases with one or two pairs of pinnules.

In Bangladesh, it is known from Chittagong (*P.F. Lu et al.* 16184 & 16185, TAIF) and Moulvibazar (*Kamrul* 1985, JUH; *M.A. Rahim* 2482, JUH). The species is widespread in tropical Asia, southeast to Australia and Polynesia (Fraser-Jenkins *et al.*, 2015).

6. ***Pteris geminata*** Wall. ex J. Agardh, *Recens. Spec. Pter.* 31. 1839. —*Pteris geminata* Wall. ex Tardieu, *Fl. Madagasc.* 5: 101. 1958, later homonym. —Type: INDIA. Tamil Nadu, herb. *R. Wight s.n.* (*N. Wallich Cat. no.* 2180) (holotype, K-001057861).

Siddiqui *et al.* (2007: 238) recorded *Pteris geminata* Wall. ex Hook. in Bangladesh and indicated the name is from Hooker's *Species Filicum* on the page "1: 53 (1846)". However, there is no such a name in Hooker's *Species Filicum*. So far as we know, it is Agardh (1839: 31) who firstly validly published Wallich's *Pteris geminata*. Thus, the authorship of *Pteris geminata* should be written as "Wall. ex J. Agardh". Its type (*i.e.*, *Wallich Cat. no.* 2180 at K) morphologically resembles *P. biaurita* but differs in its pinna-lobes being acuminate and serrate towards apexes (versus round and entire).

The natural distribution of *P. geminata* in Bangladesh is to be confirmed. In Bangladesh, it was reported from Chittagong (Mirza and Rahman, 1997). But according to Fraser-Jenkins *et al.* (2017), this species is distributed only in South India and Comoro Islands.

7. ***Pteris giasii*** Fraser-Jenk. & Pasha, *Taxon. Revis. Indian Subcontinental Pteridophytes* 119. 2008. —Type: BANGLADESH. Chittagong: Chittagong Hill Tracts, *C.R. Fraser-Jenkins* 30176 (holotype, BM, not seen; isotype, TAIF-358100).

It appears to be a distinct species characterized by its 1-pinnate-pectinate fronds, free veins, and lowest pinnae always being simple (never forked). *Pteris giasii* somewhat resembles *P. longipinnula* Wall. ex J. Agardh but differs in its stramineous to brown color frond-axes (stipe, rachis, and costa), pinnae bases broadened, and apexes of pinna-lobes acute and not mucronate. In comparison, *P. longipinnula* has frond-axes being bright blueish-green, pinnae bases usually apparently narrowed, and apexes of pinna-lobes being round and mucronate.

It is currently known to be endemic to Bangladesh (Chittagong Hill Tracts) (*C.R. Fraser-Jenkins* 30177, TAIF).

8. ***Pteris grevilleana*** Wall. ex J. Agardh, *Recens. Spec. Pter.* 23. 1839; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 239. 2007. —Type: BANGLADESH. Sylhet, *W. Gomez s.n.* (*N. Wallich Cat. no.* 2680) (holotype, K-000442839; isotypes: B-20 0139511, E-00257673).

A species characterized by its digitate fronds, lateral pinnae only 1–2 pairs, and the presence of false veins between true veins.

In Bangladesh, it is known from Sylhet (type locality). This species is distributed also in China, India, Myanmar, Singapore, Thailand, and Vietnam (Fraser-Jenkins *et al.*, 2017).

9. ***Pteris griffithii*** Hook., *Sp. Fil.* 2: 170, t. 123A. 1858; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 239. 2007. —Type: INDIA. Mishmee, *W. Griffith s.n.* (holotype, K-001057864).

A special species characterized by its elongate-triangular lamina, lower lamina being remarkably broadened and 2-pinnate, and all ultimate segments widely spaced.

In Bangladesh, it is known from Moulvibazar (*Kamrul 1976*, JUH). The species is distributed also in India, Bhutan, and Myanmar (Fraser-Jenkins *et al.*, 2017).

- 10. *Pteris khasiana*** (C.B. Clarke) Hieron., *Hedwigia* 55: 364. 1914. —*Pteris quadriaurita* var. *khasiana* C.B. Clarke, *Trans. Linn. Soc. London, Bot.* 1: 466, pl. 53. 1880; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 243. 2007.—Type: BANGLADESH. “E Sylhet, misit *Fr. De Silva*, in 1821”, *N. Wallich Cat. no. 106.5* (lectotype, designated by Fraser-Jenkins & Matsumoto in 2015, K, not seen).

A species with completely 2-pinnate fronds, strikingly different from other pinna-pectinate species by its pinnae being 1-pinnate-pectinate (versus uniformly pectinate, sometimes with one or two pectinate segments on lowest pinnae).

In Bangladesh, it is known from Sylhet (locality of the lectotype). This species is distributed also in Bhutan, China, India, Myanmar, and Nepal (Fraser-Jenkins *et al.*, 2017).

- 11. *Pteris longipinnula*** Wall. ex J. Agardh, *Recens. Spec. Pter.* 19. 1839. —Type: MALAYSIA. Penang, *N. Wallich Cat. no. 108* (holotype, B-20 0127560). (Fig. 1).

It is a very distinct species with pectinate pinnae. This species is morphologically similar to *Pteris biaurita* but differs in its stipe, rachis and costa being bright blueish-green in color (versus stramineous), lowest pinnae lacking produced basal basispic pinnules, pinnae deeply lobed to or nearly to the costae (versus lobed to wide costa-wing), and lowest veins of lobes free and spreading to segment edge above sinuses (versus anastomosing below sinuses).

Pteris longipinnula was reported in wide range of Asia, from NE India, Myanmar and China, south to Indonesia and southeast to Philippines (Fraser-Jenkins *et al.*, 2015), but was not included in *Encyclopedia of Ferns and Fauna of Bangladesh* (Siddiqui *et al.*, 2007). When sorting out literature on *Pteris* from Bangladesh, we found that *P. longipinnula* had been collected by J.D. Hooker and T. Thomson from Sylhet probably in 1850s (Hooker, 1858). Since then this species has never been collected or reported in Bangladesh. Till September 2019 when surveying ferns in Sylhet, we found this species (*S.Y. Dong 5190*, IBSC) in rain forest of Khadimnagar National Park.

- 12. *Pteris pseudopellucida*** Ching, *Lingnan Sci. J.* 15: 395. 1936; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 241. 2007. —Type: INDIA. Khasia, *W. Griffith s.n.* (holotype, K-001057865).

A species with variable fronds, ranging from simple, trilobed, to 1-pinnate (*i.e.*, fronds consisting of a trilobed terminal part and a pair of lateral linear pinnae which adjoin to rachis-wing at base).

In Bangladesh, it is known from Moulvibazar (*Kamrul 1940, 1941 & 1942*, JUH). This species is distributed also in China, India, Laos, Myanmar, and Vietnam (Fraser-Jenkins *et al.*, 2017).

- 13. *Pteris semipinnata*** L., *Sp. Pl.* 2: 1076. 1753, nom. cons. —Type: CHINA. Guangdong: Guangzhou, *Gröndal s.n.* (conserved type, S-P-5847).

Pteris semipinnata is unique from other *Pteris* species from Bangladesh by its “semi-pinnate” pinnae, namely, pinnae being pectinate only at basispic side of costae.

In Bangladesh, it is known from Chittagong (*P.F. Lu et al. 16231*, TAIF) and Moulvibazar (*Kamrul 1979 & 1980*, JUH). This species is widespread throughout SE Asia, northwest to NE India, and naturalized in N Australia (*Fraser-Jenkins, 2008*).



Fig. 1. The collection of *Pteris longipinnula* Wall. ex J. Agardh newly found in Sylhet (*S.Y. Dong 5193*, IBSC).

14. *Pteris venusta* Kunze, Bot. Zeitung (Berling) 6: 195. 1848; Siddiqui *et al.*, Encycl. Flora Fauna Bangladesh 5: 245. 2007. —Type: INDONESIA. Java, *H. Zollinger 918z* (holotype, B-20 0127565).

Pteris pellucida auct., non C. Presl, Siddiqui *et al.*, Encycl. Flora Fauna Bangladesh 5: 240. 2007.

A species characterized by its 1-pinnate fronds and linear, entire pinnae.

Fraser-Jenkins *et al.* (2015) proposed to recognize a separate subspecies, namely *Pteris venusta* subsp. *matsudae* (Masam.) Fraser-Jenk. & Kandel, from subsp. *venusta*. We don't think

they made clear the difference of morphology and geographic distribution between the two subspecies. As the concept of *P. venusta* subsp. *matsudae* sensu Fraser-Jenkins *et al.* (2015) is obscure, we tentatively use only *P. venusta* for the plants in Bangladesh.

In Bangladesh, it is known from Chittagong (*J.L. Lister s.n.*, US; *P.F. Lu et al. 16165 & 16211*, TAIF) and Moulvibazar (*Kamrul 1977 & 1978*, JUH; *M.A. Rahim 2487*, JUH). The species is widespread in S & SE Asia.

- 15. *Pteris vittata*** L., Sp. Pl. 2: 1074. 1753. —Type: CHINA. Guangdong: Guangzhou, in 1751, *P. Osbeck s.n.* (lectotype, LINN-1246.3, designated by Tryon in *Contr. Gray Herb.* 194: 191. 1964).

A species with some unique characters, such as fronds being oblanceolate in shape, pinnae numerous (usually 15–35 pairs) and linear in shape with cordate bases, and when young its stipe and rachis bearing copious spreading hairs.

Pteris longifolia var. *vittata* Roxb. was recorded by Siddiqui *et al.* (2007: 240) as a taxon in Bangladesh flora. However, it seems that there is no such a name in science. According to the description of “*Pteris longifolia* var. *vittata*” given by Siddiqui *et al.* (2007: 240), the taxon should be named *Pteris vittata*.

In Bangladesh, it is known from Chittagong (*J.L. Lister s.n.*, US; *P.F. Lu et al. 16213 & 16219*, TAIF) and Moulvibazar (*Kamrul 1975*, JUH; *M.A. Rahim 2485*, JUH). The species is widespread in tropics and subtropics of the Old World.

Excluded species:

- 1. *Pteris cretica*** L., Mant. Pl. 130. 1767; Siddiqui *et al.*, *Encycl. Flora Fauna Bangladesh* 5: 237. 2007. —Type: “Habitat in Creta, Ilva Insula”, *Arduino s.n.* (lectotype, LINN-1246.7, designated by Tryon in *Contr. Gray Herb.* 194: 192. 1964).

In Bangladesh, this species has not been found in wild. Siddiqui *et al.* (2007) included this species in *Encyclopedia Flora and Fauna of Bangladesh* just because it was used as ornamental plants in Bangladesh.

- 2. *Pteris pellucida*** C. Presl, *Reliq. Haenk.* 1: 55. 1825.—Type: PHILIPPINES: Luzon, *T.P.X. Haenke 118* (holotype, PRC-450304).

According to Fraser-Jenkins *et al.* (2017), *Pteris pellucida* is a Philippine species and has not found in Indian subcontinent. The record of plants from Indian subcontinent formerly called as *P. pellucida* is probably due to misidentification of either *P. pseudopellucida*, a species characterized by sterile segments being finely serrate at margin, or *P. venusta* with entire pinna-segments.

- 3. *Pteris quadriaurita*** Retz. *Observ. Bot.* 6: 38. 1791. —Type: SRI LANKA. Without locality, *König s.n.* (holotype, LD-1221924).

According to Walker (1960), the name *Pteris quadriaurita* has been wrongly applied to various species and the true *P. quadriaurita* is distributed only in Sri Lanka and South India. The recognition of *P. quadriaurita* in Bangladesh (Siddiqui *et al.*, 2007) is probably due to misidentification.

- 4. *Pteris tenuissima*** Ching, *Lingnan Sc. J.* 15: 394. 1936. —*Pteris quadriaurita* var. *setigera* Bedd., *Ferns Brit. Ind.*, t. 202. 1866. —*Pteris setigera* (Bedd.) N.C. Nair, *Bull. Bot. Surv. India* 11: 187. 1971.—Type: MYANMAR. Moulmein, on limestone rocks, *Parish s.n.* (lectotype, designated here, K-001057845; isolectotypes: K-001057846, K-001057847, BM-001044181).

According to Fraser-Jenkins *et al.* (2017), *Pteris tenuissima* Ching is endemic to Myanmar; however, Beddome (1876) misapplied *P. quadriaurita* var. *setigera* (= *P. tenuissima*) for the plants from South India. The *P. quadriaurita* var. *setigera* sensu Siddiqui *et al.* (2007) is a wrong report of *P. blumeana*.

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