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Lectotypification of Photinia dubia Lindl. (Rosaceae)

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KEY WORDS

Lindley, nomenclatural notes, Photinia, lectotypification.

ABSTRACT

We discuss the typification of the name Photinia dubia Lindl. (Rosaceae). A Gardner in Wallich collection from Nepal, preserved at BM, is designated as the lectotype.

MOTS CLÉS Lindley, notes nomenclaturales, lectotypification.

RÉSUMÉ

Lectotypification de Photinia dubia Lindl. (Rosaceae).

Nous discutons de la typification du nom Photinia dubia Lindl. (Rosaceae). Un Gardner de la collection Wallich du Népal, conservé au BM, est désigné comme le lectotype.

INTRODUCTION

Photinia dubia Lindl. (Eriobotrya dubia (Lindl.) Decne. 1874) (Rosaceae; Jussieu 1789: 539-656) is a small evergreen tree, commonly known as অবিদাদল, Jure kaphal (Nepali), and is mainly distributed in the Eastern and Western Himalayan region (Myanmar, Sikkim, Bhutan), including Nepal (Godavari, Phulchoki; Sheopuri; Sundarijar, Chandragiri Lekh, Sattewati) (Ansari 2007; Pendry & King 2011; Vidal 1965). The species has been recognized since the 19th century (Decaisne 1874; Kurz 1876, 1877), and has been included in numerous taxonomic treatments (Wenzig 1874; Leopold 1876; Lindley 1833; Cardot 1919; Vidal 1965; Hooker 1878; Hara & Williams 1979), country Floras (Pendry & King 2011), and cytological as well as morphometric studies (Mehra et al. 1973; Idrees et al. 2021).

The new combination *Eriobotrya dubia* (Basionym *Photinia* dubia Lindl.) was first published in 1874, and mentioned Photinia dubia Lindl., Crataegus shicola Buch.-Ham., and Mespilus bengalensis Roxb., as synonyms. Later, Kurz (1876: 371) again published the combination and cited the same synonyms. The result was also published in Flora of British Burma (Kurz 1877: 443), without citing any synonyms. The name E. dubia (Lindl.) Kurz, is not listed in online search database such as IPNI (The International Plant Names Index; http://ipni.org/), Tropicos (http://www.tropicos.org/), and The Plant List (http://www.theplantlist.org/). However, being predated by Decaisne's earlier combination, "E. dubia Kurz." is a later isonym without nomenclatural status and that may be disregarded (ICN, Art. 6 Note 2, Turland et al. 2018). In the course of an ongoing revision of the genus Eriobotrya, we noticed that Photinia dubia was inadequately typified (Art. 7.11 of ICN, Turland et al. 2018). This paper clarifies this ambiguity and proposes the designation of a lectotype for P. dubia according to ICN Art. 9.3 and recommendation 9A (Turland et al. 2018) to provide stability in the usage of the name.

LECTOTYPIFICATION

Firstly, there is an indication of a type for *Photinia dubia* in Lindley (1821: 104) when he writes "Wallich (v. s. sp. Herb. Banks et Lambert.)" which we read as vidi siccam speciem meaning, 'I [Lindley] have seen this species in a dried state in the herbaria of Banks and Lambert'. When he prepared his paper reviewing the genera and species of the "Pomoideae", Lindley was working for Joseph Banks at his house in Soho Square, London. At the time, Joseph Banks had the best herbarium in the country and employed Robert Brown as botanist and librarian. Lindley started to work for Banks during October 1819 but unfortunately, Banks died on the 19 June 1820, so Lindley only worked there for about 18 months (Stearn, 1999). Banks' herbarium was left to Brown on the proviso that it was given to the British Museum (BM) now the London Natural History Museum. It was moved there in 1827.

Aylmer Bourke Lambert (1761-1842) was a British botanist who lived near London and eventually amassed a herbarium of around 50000 specimens kept at his London house. He had a keen interest in the Asiatic flora, and actively corresponded with Roxburgh from whom he received at least 2000 specimens, many from continental India. Lambert also corresponded with Nathaniel Wallich and received some material directly from him (Fraser-Jenkins 2006). Miller (1970) records four letters from Wallich between 1818-1819 that reported sending him specimens. After his death, Lambert's herbarium was divided into lots and auctioned by Sotheby. Robert Brown bought at least two lots of Wallich's collections along with a copy of the Wallich Catalogue for £10.00 (Miller 1970, Fraser-Jenkins 2006). Thus both Banks and Lambert's Nepalese collections by and large are now kept at the Natural History Museum (BM), and this would include Lindley's original material of *Photinia dubia* Lindl. (1821: 104).

The Wallich herbarium as it is now known was originally the East India Company herbarium that had been collected and assembled largely by Wallich in Calcutta from 1815 to 1828. It was shipped to London in 1832, and lodged at the Linnaean Society until transferred to Kew in 1913. The Wallich catalogue was published in parts from 1828 to 1849. However, prior to the arrival of the whole Wallich collection in England the East India Company had begun to distribute some duplicates in London from about 1825 according to Stearn (1999). The fact that Banks and Lambert had specimens of *Photinia* collected by Wallich that were examined by Lindley suggests they had been received directly from Wallich. Either that or the release of duplicates may have begun a little earlier, perhaps by early 1820, since Lindley's paper was read before the Linnean Society on 4th and 18th April 1821.

What is the significance of this? That the original material of *Photinia dubia* is to be found at BM. This helps to understand the entry in Hara & Williams 1979): *An enumeration of the flowering plants of Nepal* 2: 136, which references an unnumbered Wallich collection that was regarded as the type by Hara. Hara cited "*Wall. s.n.* (type of *P. dubia*)" and also lists *Wallich* 668.1 and *Stainton* 6375 at BM as additional sheets. However, none of the BM sheets was labeled as a type by Hara, and since there are four sheets representing four different collections linked to Wallich and all without a number, a lectotype still needs to be designated.

There is a further typification by Vidal (1965) who clearly indicates a type twice: first in the synonymy, "Photinia dubia Lindl. (1821: 104) Type: Nepal, Wallich 668/1" then in the main account he writes, "TYPE: Nepal, Wallich 668/1 (E, K, BM)". A problem here is that Wallich catalogue numbers do not refer to accessions or collections but to species. Hence, Wallich 668 refers to his catalogue entry for Photinia dubia. This entry is further subdivided into four lots, each indicating a different set of collections, entry 668/1 refers to Nepal, 1821, which is too late to constitute original material seen by Lindley (1821), and evidently the reason why Hara specified a sheet Wallich s.n. as type in preference to 668/1. We know from examining the Wallich s.n. sheets at BM that they were from different localities in Nepal with two being dated 1818, prior to his visit in person. According to Fraser-Jenkins (2006), Edward

Gardner (1784-1861), the first permanent British Resident (Ambassador) in Nepal, occupied the British Residency in the Kathmandu valley for 14 years prior to 1829, where he created a garden and collected numerous specimens that he sent to Wallich. Consequently, specimens in the Wallich herbarium collected during 1817-1819 prior to his visit in 1820, although bearing labels in Wallich's hand were actually collected by E. Gardner or his assistant Robert Stuart who unfortunately died on 14 March 1820. Such sheets are termed the early Wallich collections by Fraser-Jenkins (2006) and are usually annotated 'from Napaul' in Wallich's hand. Wallich went to Kathmandu in 1820 and stayed for a year, but as a foreigner, he was restricted to the central valley around Kathmandu. In order to obtain collections from further afield he trained and employed native collectors. Consequently, specimens included under Wallich 668/1 represent collections from several different localities. One sheet BM013717910 does bear Vidal's determinavit slip but it is a shoot bearing only leaves and fruit, hence it has not been selected as lectotype, it is discussed further below.

Then there is another typification by Liu et al. (2020a) who were unable to locate any of Lindley's original material, and consequently selected "Wallich 668/1 at K000758395)" as the neotype. This would be acceptable as long as no original material existed.

In addition, David Don (1825) described Mespilus tinctoria in his Prodromus Florae Nepalensis, although it is a later illegitimate name because Don cited *Photinia dubia* Lindl. (1821) as a synonym. It was based on an earlier Buchanan-Hamilton collection made in 1802 (BM000940227 – lectotype of Mespilus tinctoria, designated here) from Nepal (Press & Shrestha 2000). This sheet was amongst a set of duplicates Buchanan gave to A. B. Lambert, probably during his time in London in 1805. It would have been seen by Lindley and is therefore part of his original material for *Photinia dubia*, particularly since Lindley (1821) sites Buchanan collections in herb. Lambert for other taxa such as Eriobotrya elliptica. David Don, who became Lambert's assistant, began working on Buchanan's Nepalese collections in 1820, his studies culminating in publication of the *Prodromus* in 1825. Additionally, Buchanan had given an apparently complete set of his collections, along with associated drawings and notes to J. E. Smith in 1805 while in London. However, Smith did little with them, and in 1829 the collection passed on to the Linnean Society, but much of it is missing at present (Fraser-Jenkins 2006). This is relevant because it accounts for the whereabouts of the Buchanan-Hamilton collections of Eriobotrya dubia, ensuring that they are excluded from lectotypification of *Photinia dubia*, since Lindley specified Wallich collections in the protologue.

The four sheets attributed to Wallich at BM are:

BM013717909 annotated "Wallich (Lambert)" "Mespilus an bengalensis Rb. E. Napalia, January 1818". The slightly smaller width of the sheet (c. 28 cm) is characteristic of Lambert herbarium mounting; Bank's herbarium sheets were slightly larger. This is evidently one of the early Wallich collections made by Gardner/Stuart in 1818, and sent to Lambert from Calcutta by Wallich. It matches the description of duplicate material given to R. Brown by David Don from Lambert's herbarium. Such specimens are recognizable as 'often small or scrappy with little data but Napalia and the species' name in Don's hand, written in small letters and with double-slit labels through which the stem had originally been inserted' (Fraser-Jenkins 2006). It would have been seen by Lindley.

BM013717910 annotated "Wallich, Nepal 1820-1" with a determinavit slip of Vidal 8/1964. This matches the entry in the Wallich Catalogue 668.1 "Napalis 1821" corresponding to Wallich's visit in person and his collecting in Nepal during 1820-1821. In view of the date it would not have been available for Lindley to study.

BM013717911 annotated in ink "Cooshee lus in Napalia. Martio 1818. Arbor magna." and "Wallich" in pencil. The original specimen has been remounted by cutting around the pressed shoot and pasting the original sheet fragment onto a new sheet. The date 1818 indicates this is a Gardner/Stuart collection, sent to Lambert from Calcutta by Wallich, who in turn may have sent it to Banks. In view of the date it would have been seen by Lindley.

BM013717912 annotated in ink "Kaboosher Soah from Napaul. Mespilus spec", and in pencil "Wallich". The label is in Wallich's hand, and 'from Napaul' suggests that it predates his visit to Nepal in 1820, so it is also possibly a Gardner/Stuart specimen. Colin Pendry and colleagues (pers. comm. 2021) kindly explained that "Kaboosher Soah" is not a locality, but a vernacular name in Newari, the language of the dominant tribe in the Kathmandu valley. Soah [Swanh] means flower. Fraser-Jenkins (2006) commented that Gardner sent Wallich information about vernacular names that Wallich added to the herbarium labels. However, one of the curators at BM expressed concerns that the mounting of this sheet was fairly modern also it does not have annotations by Banks or his assistant on the reverse. Hence, he suggested it could be unmounted duplicate material from Banks that was mounted after its arrival at BM in 1827, or it belongs to the consignment of Wallich material that was sent directly to BM from Calcutta, rather than Banks, between 1829 and 1847/1849 (Anonymous 1904) or it could be from the Lambert herbarium. This raises the possibility it may not have been studied by Lindley and consequently is questionable as lectotype material.

> Family ROSACEAE Juss. Genus Photinia Lindl.

Photinia dubia Lindl. (Fig. 1).

Transactions of the Linnean Society of London 13 (1): 104, t. 10 (Lindley 1821).

Eriobotrya dubia (Lindl.) Decne., in Nouvelles Archives du Muséum d'Histoire naturelle 10: 145 (Decaisne 1874). — Rhaphiolepis dubia (Lindl.) B.B. Liu & J. Wen, Frontiers in Plant Sciences 10 (1731): 10 (Liu et al. 2020b).

LECTOTYPE (designated here). — Nepal. "Wallich (Lambert)", "Mespilus an bengalensis Rb. E. Napalia, January 1818", E. Gardner s.n. in Wallich (lecto-, BM[BM013717909]!; syn-, BM[BM013717911, BM013717912]!).



Fig. 1. — Lectotype of *Photinia dubia* Lindl. (BM013717909).

REMARKS

With the kind assistance of Herbarium staff at BM Lindley's original material was located. This specimen bears flowers and may have provided the basis for the illustration of *Photinia* dubia in Lindley (1821), and consequently this sheet would make a suitable lectotype. Hence, following ICN Art. 9.3, 9.12 (Turland et al. 2018), we here designate the original specimen deposited at BM013717909 as lectotype, superseding Vidal (1965), and Liu et al. (2020a) selection of "Wallich 668.1" as provided by ICN Art. 9.19 (Turland et al. 2018). The selected sheet is a complete and well-preserved specimen that displays morphological diagnostic traits in agreement with the protologue.

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