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Colonial botany and the shifting identity of *Balanostreblus ilicifolius* Kurz (Moraceae)

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ABSTRACT. The protologue of *Balanostreblus ilicifolius* Kurz included the citation of specimens from Bangladesh and Myanmar of a plant now called *Taxotrophis ilicifolia* (Kurz) S.Vidal. However, the description in the protologue and the accompanying illustration were based largely on the Neotropical *Sorocea guilleminiana* Gaudich., which was cultivated in the Royal Botanic Garden, Calcutta and has similar vegetative characters. This paper seeks to resolve a century of confusion over the identity of *Balanostreblus ilicifolius* and reviews its history in light of historical correspondence relating to its identity and the trans-continental exchange of plants under British colonialism. The paper concludes that a previous attempt to typify *Balanostreblus ilicifolius* with an uncited cultivated specimen of *Sorocea guilleminiana* should be superseded with material from Myanmar cited in the protologue. A lectotype is designated, fixing the application of the name, which can now serve as the basionym of *Taxotrophis ilicifolia*.

Keywords. *Sorocea*, *Streblus*, *Taxotrophis*

Introduction

Sometime around 1873, Sulpiz Kurz (1834–1878), recently returned from his second and final expedition to Burma, was preparing descriptions for his three-part 'New Burmese Plants', published in the *Journal of the Asiatic Society of Bengal* (Kurz, 1872, 1873, 1874). Kurz had arrived in Calcutta (Kolkata, India) in 1863 to serve as the curator of the herbarium at the Royal Botanic Garden (today's Acharya Jagadish Chandra Bose Indian Botanic Garden). He devoted much of his career thereafter to the plants of Burma (today's Myanmar), culminating in the *Forest Flora of British Burma* (Kurz, 1877), published the year before his premature death. *Balanostreblus ilicifolius* Kurz is the only species in the genus and was described in the final instalment of 'New Burmese Plants' (Kurz, 1874: 248). Kurz enjoyed an enviable position as a European tropical botanist, with access not only to dry specimens but also to extensive living collections in the garden. Although the cited specimens of *Balanostreblus ilicifolius* were collected in the wild (in Chittagong and Ava), Kurz based his description and

illustration largely on a cultivated plant which, although it would remain unrecognised for over 80 years, was actually an introduced species from South America. This led to over a century of confusion over the identity of *Balanostreblus*, which this paper aims to resolve.

The protologue of *Balanostreblus ilicifolius* cited two collections, i.e., syntypes, *Hooker & Thompson 4* from Chittagong (Oct 1857, CAL n.v., K, L, ♂) and *Anderson s.n.* from Ava (apparently lost), but the description and illustration (Fig. 1) were based almost entirely on living material cultivated in the Garden, preserved as *Kurz s.n.* (s.d., CAL, ♀) but not cited. Hutchinson (1918) concluded that while *Hooker & Thompson 4* could be identified as *Taxotrophis ilicifolia* (Kurz) S.Vidal, *Kurz s.n.* is a different species, with very similar leaves, and associated, he supposed, with the lost syntype from Ava. Hutchinson therefore attempted to typify *Balanostreblus ilicifolius* with *Kurz s.n.* and emended the description to correspond only to that specimen. Jarrett (1958) subsequently determined that *Kurz s.n.* was actually the Neotropical *Sorocea guilleminiana* Gaudich., presumably imported to Calcutta along with *Cinchona* trees (Rubiaceae) in the early 1860s. Since Jarrett's (1958) publication, *Balanostreblus ilicifolius* has usually been treated as a synonym of *Sorocea guilleminiana*. It appears, therefore, in the most recent monograph of *Sorocea*, which cited *Kurz s.n.* as the type (Burger et al., 1962), and in Neotropical floristic treatments (Berg et al., 1975; Berg & Akkermans, 1985; Berg, 2001), although some recent publications from India (Singh et al., 2012; Roy et al., 2013) have treated it as a synonym of *Streblus ilicifolius* (Kurz) Corner (= *Taxotrophis ilicifolia* following the recent reinstatement of *Taxotrophis* at genus level (Gardner et al., in press)). Recent investigation spurred by the discovery of correspondence related to Hutchinson's paper has led to a reconsideration of *Balanostreblus ilicifolius*, which as explained below, I now treat as homotypic with *Taxotrophis ilicifolia* and *Streblus ilicifolius*.

The science of botany was a major pillar of the British colonial economy, helping to support plantation crops, timber production, and medicines derived from plants (Drayton, 2000; Brockway, 2002). The Royal Botanic Garden, Calcutta, played a major role in the introduction of new plants to India, especially from the Neotropics (Voigt, 1845). Among the most important Neotropical introductions was *Cinchona*, the source of the anti-malarial drug quinine, and by the early 1860s, the British had succeeded in establishing these trees in cultivation in India. Other Neotropical species were introduced as well, some no doubt for economic potential and others perhaps as by-catch along with the *Cinchona* trees. A specimen of one of these introductions, collected by the French botanist Louis Pierre (1833–1905) on a visit to the garden in 1863 and preserved in the Paris herbarium (*Pierre 15,* P), provided the clue Jarrett needed to identify the Neotropical origin of *Kurz s.n.* Pierre noted the origin as "Brasilia?? India?" and initially identified the plant as the Neotropical *Excoecaria ilicifolia* Spreng. (= *Clarisia ilicifolia* (Spreng.) Lanj. & Rossberg). The plant was later filed under *Balanostreblus ilicifolius* and Jarrett deduced that *Pierre 15* and *Kurz s.n.* were likely collected from the same plant, which she identified as *Sorocea guilleminiana*. Perhaps, we might suppose, information about the plant's origin was lost sometime in the succeeding decade, allowing Kurz to suppose that the plant, whose leaves were very similar to those of *Hooker & Thompson 4*, was from Asia.

Fig. 1. The illustration accompanying Kurz's protologue.

The Lace-Gamble correspondence

While reviewing specimens for a revision of *Taxotrophis*, still underway, I came across a collection of J.S. Gamble's correspondence related to *Balanostreblus*, dated between 1916 and 1919 and filed with the type specimen of *Taxotrophis caudata* Hutch. (= *T. zeylanica* (Thwaites) Thwaites). The letters are transcribed in full as Appendix I. John H. Lace (1857–1918), formerly Forest Conservator of Burma and at that time recently retired to Devon, England, wrote to Gamble in 1916 explaining that he had recently visited the herbarium at Kew and suspected that *Balanostreblus ilicifolius* and *Taxotrophis triapiculata* Gamble might be one and the same (Appendix I.1). Gamble then visited Kew himself, where he was able to inspect Kurz's original material, which C.C. Calder, then curator of the herbarium in Calcutta, had sent to him on loan at Lace's request. The material consisted of *Hooker & Thompson 4* and *Kurz s.n*; Calder was unable to find the Anderson syntype (Appendix I.4). Gamble concluded that while *Hooker & Thompson 4* matched *Taxotrophis triapiculata*, *Kurz s.n* was clearly a different species and the basis for Kurz's figure, observing that the label on the latter contained the note "*Sapium ilicifolium* from S. America" (*Sapium ilicifolium* Willd. = *Hippomane spinosa* L. (Euphorbiaceae)). In his reply to Lace, Gamble included drawings of the two entities (Fig. 2) and suggested that *Balanostreblus ilicifolius* should probably be confined to the species represented by *Kurz s.n.* but acknowledged the alternative possibility that *B. ilicifolius*, *Taxotrophis triapiculata* and possibly *T. ilicifolia* might all be considered the same species (Appendix I.6). Lace agreed with the former suggestion (Appendix I.7).

As Gamble was preoccupied with other matters, including the *Flora of the Presidency of Madras*, he passed the matter on to John Hutchinson (1884–1972), then Assistant for India at the Kew Herbarium. Hutchinson published his paper on 6 June 1918, and Lace died three days later. As the paper failed to credit Gamble and Lace despite adopting their conclusions, Gamble sent a summary of his and Lace's investigation to Kew, enclosing the relevant correspondence and requesting that a note be published "in justice to Lace and myself" (Appendix I.8). A brief supplementary note was published the following year (Anonymous, 1919). The matter apparently faded from memory and the 1919 note was not cited by Jarrett (1958).

Examination of the original material

Specimens were examined at BM, K and SING, and via images from CAL, SING and L (through https://bioportal.naturalis.nl). Original material is present at CAL, K and L, and examination of these specimens wholly supports Jarrett's identifications. *Hooker & Thompson 4* with its triapiculate leaves clearly matches the material cited by Vidal (1886: 249) when he published *Taxotrophis ilicifolia* (PHILIPPINES: **Luzon:** Marinduque, Nov 1884, *Vidal 1783* (K [K001050023]), *1794* (K [K001050024]), *1795* (K [K001050027]); Guinayangan, Prov. Tayabas, Jan 1884, *Vidal s.n.* (K [K001050025]); Libmanan Prov., S. Camarines, Jan 1884, *Vidal s.n.* (K [K001050026])) and the material cited in the protologue of *T. triapiculata* (MYANMAR: **Kengtawng:**

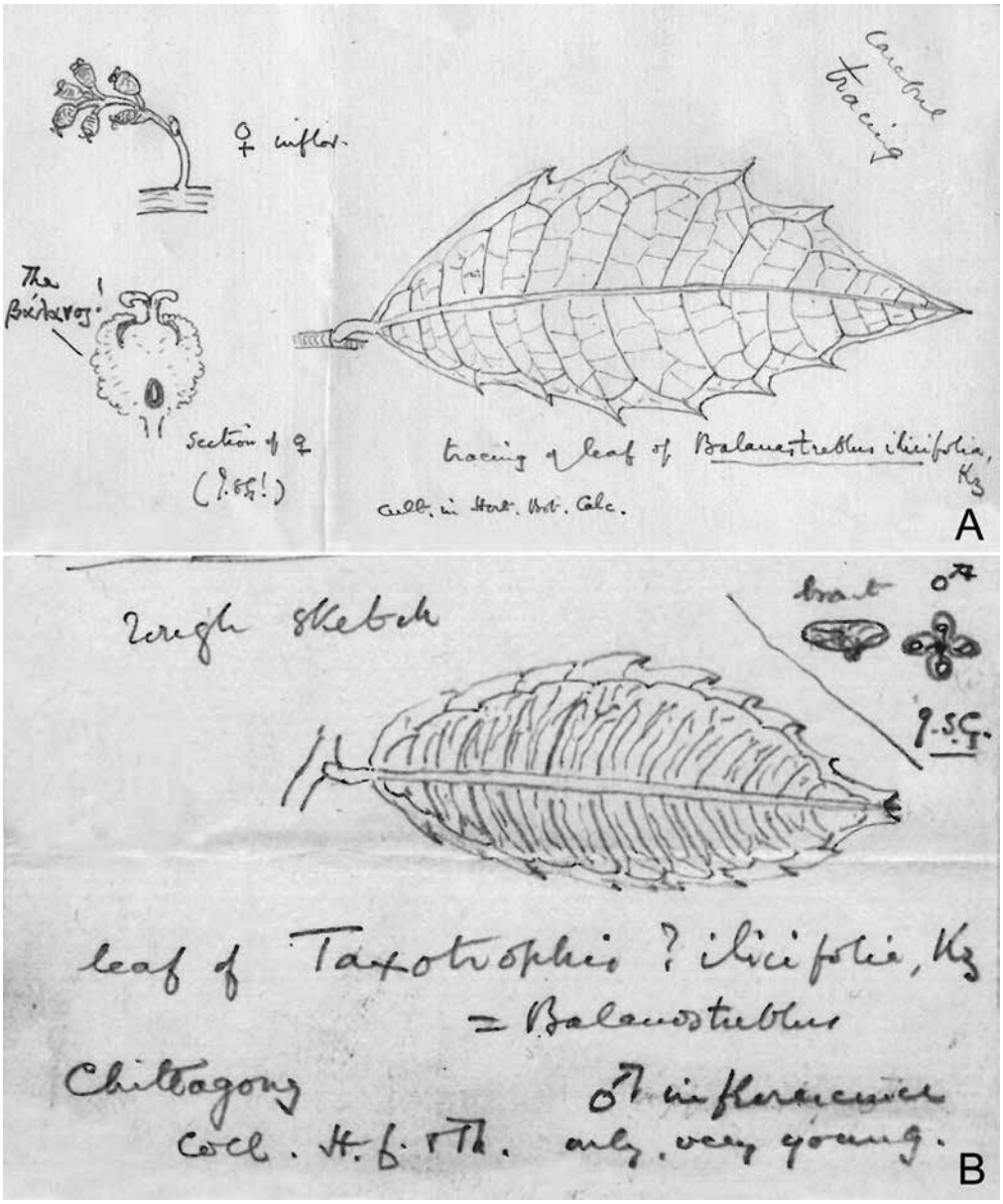

Fig. 2. Gamble's drawings. **A.** *Kurz s.n.* [*Sorocea guilleminiana* Gaudich.]. **B.** *Hooker & Thompson 4* [lectotype of *Balanostreblus ilicifolius* Kurz]. Reproduced with the permission of the Royal Botanic Gardens, Kew.

Möng-Nai, 9 Mar 1911, *Robertson 255* (K [K001050065]), *256* (K [K001050063]), *257* (K [K001050064])), while *Kurz s.n.* matches the type of *Sorocea guilleminiana* (BRAZIL: **Corcovado:** Dec 1888, *Guillemin 131* (P [P00156782])) with its simple leaf apices and acorn-like pistillate flowers. Anderson's specimen from Ava could not be traced, nor could his collection from Bhamo (referenced by Gamble and Hutchinson).

Discussion

The Gamble-Lace-Calder correspondence provides a window into the practice of colonial botany in Britain during the First World War. The war is nearly invisible in these letters, bearing mention only as a nuisance that impedes science; Lace called the pause in the publication of the *Kew Bulletin* "an uncalled for and petty Economy" (Appendix I.7), and Calder obliquely expressed his apprehension about shipping specimens to England during the war, telling Gamble, "I have a lot more material ready for you when you call for it but I don't want to lose more S. Indian Sheets and the Hun still wallows in his Kultur!" (Appendix I.4). Lace's letters in particular paint a picture of a retired forest conservator with an unrelenting devotion to botanical science removed from economic considerations, combined with an abiding interest in the economics of resource extraction in British Burma. Two of his letters about *Balanostreblus* open with enquiries about the identity of a timber sample with the potential for exploitation in Burma (Appendix I.5, I.7). Perhaps these matters provided a respite from the horrors of a world collapsing around these men.

From a taxonomic standpoint, the most curious aspect of the whole affair is that everybody involved, until Jarrett, assumed that Kurz's cultivated specimen had to be an Asian plant. Despite the rich Neotropical holdings of the Garden in Calcutta and notwithstanding the annotation in Kurz's hand, "*Sapium ilicifolium* from S. America," there is no evidence that Gamble considered the possibility that *Kurz s.n.* had a Neotropical origin. Perhaps when confronted with a cultivated plant that so closely resembled the specimens from Chittagong and Ava, Kurz, who knew better than anyone the extraordinary international range of the Garden's collections, assumed that the record indicating a South American origin was incorrect and "quite unusually for a careful man like him, mixed up two quite distinct plants," as Gamble put it (Appendix I.6). And perhaps Gamble, trusting Kurz's instinct, assumed that the "S. America" annotation must have been a mistake.

The ultimate source of the confusion was of course the remarkable transcontinental exchange of plants facilitated by the colonial economy, which saw tropical Asian species grown in the Caribbean, African plants in Bogor, and South American plants in Calcutta. The *Balanostreblus* story may be seen as a partial inverse to that of *Solanum rigidum* Lam. Long considered a New World introduction to the Cape Verde Islands, recent investigation revealed that it is in fact endemic there and was likely introduced to the Caribbean through the slave trade (Knapp & Vorontsova, 2013). Other similar stories undoubtedly await discovery.

Hutchinson's attempt to redefine *Balanostreblus* makes a good deal of sense; after all, the generic name no doubt refers to the acorn (βάλανος) -like pistillate flowers of *Sorocea guilleminiana*. However, Kurz's attempt to describe the species he saw in Burma was successful in practice. Despite the case of mistaken identity in the protologue, for the remainder of the nineteenth century, *Balanostreblus ilicifolius* was consistently applied by collectors including Ridley, King, Curtis and Koorders to plants matching *Hooker & Thompson 4* from Chittagong and now identifiable as *Taxotrophis ilicifolia*. The plant was not known only from dried specimens; in 1896,

H.N. Ridley (1855–1956), director of the Botanic Gardens in Singapore, sent two cases of live plants to Kew, including "*Balanostreblus ilicifolia*, a holly-like shrub from Pahang" (Ridley to Thiselton-Dyer in 1896), perhaps of the same origin as the large plant now growing at the edge of the Gardens Jungle in Singapore (accession no. 20092163). Even though the pistillate inflorescences on these collections would not have matched Kurz's illustration, the holly-like leaves, which are not shared by any other Asian Moraceae, would have been unmistakable. They may have been aided by Kurz's updated description in his *Forest Flora*; with the exception of the pistillate flowers and fruits, which are still those of *Sorocea*, that description corresponds well to the syntype from Chittagong (Kurz, 1877: 465). The lost Anderson syntype was very likely the same Asian species, barring the rather implausible scenario of a wild *Sorocea* having been collected in Ava in the mid-nineteenth century. In a practical sense, therefore, doubt as to the identity of *Balanostreblus* arose primarily following Gamble's investigation and the dissemination of those results by Hutchinson. It is noteworthy, though perhaps coincidental, that Gamble's investigation coincided with Ridley's return from Singapore to Kew (to work on his *Flora of the Malay Peninsula*) as well as the early years of I.H. Burkill's (1870–1965) directorate of the Singapore Botanic Gardens (1912–1925), which saw a renewed focus on basic taxonomy, including a reorganisation of the herbarium (Barnard, 2016).

As interesting as this story is, it must end with a relatively straightforward application of the Code (Turland et al., 2018). Hutchinson's attempted designation of *Kurz s.n.* as the type, was ineffective under Article 9.12 because Kurz's *Sorocea* specimen from Calcutta, while certainly original material, cannot supersede the extant syntypes (*Hooker & Thompson 4*) (Turland et al., 2018). As the specimen at CAL has not been found, we designate the Kew duplicate as the lectotype. By so settling the type, *Balanostreblus ilicifolia* becomes available to serve as the basionym for Vidal's later name, which becomes an implied combination under Article 41.4, *Taxotrophis ilicifolia* (Kurz) S.Vidal. Likewise, Corner's combination with *Streblus* Lour. should now be corrected to *Streblus ilicifolius* (Kurz) Corner. It is possible but by no means certain that Vidal saw the type of *Balanostreblus ilicifolius*, as he visited the Kew herbarium in 1883 (Van Steenis-Kruseman & Van Steenis, 1950); the name is not mentioned in the protologue of *Taxotrophis ilicifolia*.

Conclusion

The whole story may therefore be summarised as follows. Kurz established *Balanostreblus ilicifolius* based on mixed material but cited only specimens from Bangladesh and Myanmar of what is today called *Taxotrophis ilicifolia*. Having in cultivation the vegetatively similar *Sorocea guilleminiana*, he based his illustration and most of the protologue on that species. Nevertheless, *Balanostreblus ilicifolius* was consistently applied thereafter to plants matching the cited specimens. In 1916, Lace, presumably familiar with this usual application, correctly suspected that *Balanostreblus ilicifolius* and *Taxotrophis triapiculata* were identical and wrote as

much to Gamble, who correctly concluded that the material cited by Kurz and his figure were two different species. In 1918, Hutchinson, taking up Gamble's findings, attempted to typify *Balanostreblus ilicifolius* with the *Sorocea* specimen that was likely the source of Kurz's figure. After this, the name *Balanostreblus ilicifolius* fell into disuse, with the material previously assigned to it identified as *Taxotrophis ilicifolia* or *Streblus ilicifolius*, these names then not considered to be homotypic with *Balanostreblus ilicifolius*. In 1958, Jarrett uncovered the Neotropical origin of Kurz's cultivated material but accepted Hutchinson's attempted typification of *Balanostreblus ilicifolius*, which thereafter was generally considered a synonym of *Sorocea guilleminiana*. Here, the earlier attempted typification of *Balanostreblus ilicifolius* with an uncited specimen is superseded with a lectotype from Chittagong, thereby reestablishing the former usage of the name as an Asian species and fixing it as the basionym of *Taxotrophis ilicifolia*.

Taxotrophis ilicifolia (Kurz) S.Vidal, Revis. Pl. Vasc. Filip. 249 (1886); Corner, Wayside Trees Malaya, ed. 1, 693 (1940). – *Balanostreblus ilicifolius* Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42: 247 (1874), as '*ilicifolia*', excl. p. p. maj. descr. et tab.; Kurz, Forest Fl. Burma 2: 465 (1877); Hutchinson, Bull. Misc. Inform. Kew 1918: 147 (1918); Hutchinson, Bull. Misc. Inform. Kew 1919: 448 (1919); Kanjilal, Fl. Assam 4: 271 (1940); Jarrett, J. Arnold Arbor. 39(2): 107 (1958). – *Streblus ilicifolius* (Kurz) Corner, Gard. Bull. Singapore 19: 227 (1962); Corner, Phytomorphology 25: 1 (1975); Berg, Proc. Kon. Ned. Akad. Wetensch. C 91(4): 358 (1988); Go, Tree Fl. Sabah & Sarawak 3: 333 (2000); Berg, Fl. Males., Ser. 1, Spermat. 17(2): 55 (2006); Berg, Fl. Thailand 10(4): 669 (2011); Singh, J. Bot. Res. Inst. Texas 6(2): 611 (2012); Roy, NeBIO 4(2): 50 (2013). – TYPE: [Bangladesh], Chittagong, *Hooker & Thompson 4*, October 1857 (lectotype K [K001050061], designated here; isolectotypes CAL [not found], L [L.1623328]).

Specimens examined. INDONESIA: **Sulawesi:** Minahassa, 1897, *Koorders 19625* (K, L [L0450639, L0450640]).
MYANMAR: Kengtawng, Möng-Nai, 9 Mar 1911, *Robertson 255* (K [K001050065]), *256* (K [K001050063]), *257* ([K001050064]); Phanoe Hill, 13 Mar 1827, *?Wallich s.n.* [EIC 1885], (K-W [K001132561]).
PENINSULAR MALAYSIA: **Kedah:** Pulau Adung, Apr 1891, *Ridley 15714* (K, SING [SING0290753]). **Penang:** 'Trang (an island near Penang)', Mar 1881, *King 1435* (K, SING [SING0292240]); Waterfall, Apr 1890, *Curtis 2289* (K, SING [SING0292257]); ibidem, Mar 1915, *Ridley s.n.* (K); Waterfall Gardens, Feb 1900, *Fox s.n.* (SING [SING0290755]. **Perak:** Lenggong, Jul 1909, *Ridley 14564* (BM [BM012559337], SING [SING0292258]). **Kelantan:** Chaning, 6 Feb 1899, *Ridley s.n.* (K). **Pahang:** Kota Glanggi, *Ridley s.n.* (SING [SING0304521]); Temerloh, Aug 1891, *Ridley 2309a* (BM [BM012559340], K, SING [SING0292251]). **Johor:** Pengerang, 2 Jul 1891, *Ridley 2309* (SING [SING0292255]).
PHILIPPINES: **Luzon:** Marinduque, Nov 1884, *Vidal 1783* (K [K001050023]), *1794* (K [K001050024]), *1795* (K [K001050027]); Guinayangan, Prov. Tayabas, Jan 1884, *Vidal s.n.* (K [K001050025]); Libmanan Prov., S. Camarines, Jan 1884, *Vidal s.n.* (K [K001050026]).

Specimens of Sorocea guilleminiana *Gaudich. also examined.* BRAZIL: **Corcovado:** Dec 1888, *Guillemin 131* (P [P00156782]).
INDIA: cult. in Hort. Bot. Calcutta, *Pierre 15* (P [P00756660]); ibidem, *Kurz s.n.* (CAL [CAL0000014232]).

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Appendix I

Correspondence regarding Gamble's investigation into *Balanostreblus ilicifolius* (sometimes as *'ilicifolia*'). Reproduced with the kind permission of the Royal Botanic Gardens Kew.

[1. Lace to Gamble, 29 November 1916]

Maerbrook, Exmouth, Devon
29th Novr '16

My dear Gamble,

While at Kew recently I happened to see for the first time Robertson's specimens named *Taxotrophis triapiculata*, and think it would be well if you compared them with *Balanostreblus ilicifolia*, Kurz, as I venture to think they are identical.

You gave me a duplicate specimen of Robertson's named *Luculia Pinceana*, and as I happened [a] to want to test the difference between that species & *L. gratissima* I dissected a flower bud (there being no open flower on the specimen) and could not find the characteristic processes between the corolla lobes of *L. Pinceana*. Probably you have better specimens of the flower, and I shall be glad if you will look at them again, because if Roberson's specimens are not *L. Pinceana*, it appears that species has not really been recorded from Burma. Other specimens of *Luculia* were wrongly named *Pinceana* at Calcutta, and that is how the name got into my List.

There is also the *Aporosa* [b] which I hope you will have time to look at when you ar[e at] Kew this time.

With kind regards to Mrs Gamble and yourself.

Yours Sincerely
JH. Lace

[a. Gamble's annotation:] Hutch. Has transferred to *L. gratissima* Sweet
[b. Gamble's annotation:] villosa not microcalyx (as given)

[2. Note by Gamble, 30 November 1916]

W. Lace has suggested that my *Taxotrophis triapiculata* is really *Balanostreblus ilicifolius*, Kurz. It is quite possible that I overlooked the latter, omitting to examine the specimens. But I do not think I overlooked Kurz' description in J. As. Soc. Beng. XLII. 247 t. 19 where the plate seems to me to represent something different. W. Lace is very likely right in his identification but I still think the genus correct.

J.S. Gamble
30/11/16

[3. Note by Gamble, undated]

Balanostreblus ilicifolius, Kz
J. A. S. B. XLII. 247 t. 19
K quotes Hook. f. & T. 4 Sapium, Chitt[agon]g which has no fl[owe]rs but 2 kinds of leaves – long narrow like Kz' Fig. & round, v[er]y like R[obertson]'s sp[ecime]ns.
Also And[erso]n's W. Ava sp[ecime]n – not at Kew only one from Bhamo which is perhaps same.

[4. Calder to Gamble, 3 April 1917]

Royal Botanic Garden
Sibpur – Calcutta,
The 3rd April 1917.

My dear Gamble,

I have had a letter from Lace in which he refers to a discussion you had with him regarding the validity of the genus *Balanostreblus*. Apparently Lace suspected Robertson's plant from the Shan States which you described as *Taxotrophis triapiculata* to be the same as Kurz's *Balanostreblus ilicifolius* described and figured in the Journ. As. Soc. Vol. XLII. The validity of *Balanostreblus* can apparently only be settled by a reference to Kurz's type plant. Lace suggested that we might try to get … Robertson's plant sent us by the forest people in Burma but we have no Authentic *Taxotrophis triapiculata* here and should have no certainty that what the Forest people might send would be your species.

Lace tells me you assure him that the plant figured in the Journ. As. Soc. Vol. XLII is not a bit like your plant. I think the point worth clearing up and am taking the liberty to send you on loan
Kurz's type (H.F. et Th. Sub. Sapii Sp. No. 4)
A plant which I suspect may be different from (1) and which yet looks like the origin of Kurz's figure. (We do not seem to have the second sheet quoted by Krz Ava (J. Anderson).) Would you favour us with your opinion and also let Lace know? In case you do not happen to know, his address is Maerbrook, Exmouth, Devon. How is the Madras Flora getting on? I have a lot more material ready for you when you call for it but I don't want to lose more S. Indian Sheets and the Hun still wallows in his Kultur!

Yours sincerely,
C.C. Calder

[Note at bottom:] Specns returned through the Kew Herbm J.S.G.

[5. Lace to Gamble, 24 May 1917]

Maerbrook, Exmouth, Devon
24th May '17

My dear Gamble,
Can you kindly tell me what species or genus the enclosed sample (please return) of timber belongs to? The sapwood seems unusually hard. It is said to be of a big tree attaining a diameter of 2'6" at least, and may possibly be from Burma or the Andamans.

Have you heard from Calder about *Balanostreblus*? He wrote a short time ago with reference to a letter I sent to Gage about Kurz's species and said he proposed to send you material on which he believed Kurz founded his species *B. ilicifolius*.

I suppose you still go periodically to Kew. Wish I could, but is too expensive! With kind regards to Mrs Gamble & yourself.

Your Sincerely
JH. Lace

[6. Gamble to Lace, 27 May 1917, apparently a copy kept by Gamble]

How about *Balanostreblus*! The question is a very interesting one. Calder has sent me 2 sheets from the Calc. Herb. Both named *Balanostreblus ilicifolia* by Kurz, but obviously, at a mere glance, belonging to 2 different species. I send you tracings of the leaves of the 2 specimens.

(A) a ♀ plant with holly like leaves 'cult. In Hort. Calc.' said to "= *Sapium ilicifolium* from S. America". Here is, I think (and Calder agrees) the one figured by Kurz

(B) a ♂ plant with smaller leaves triapiculate at apex "Coll. Chittagong H.f. & Th.". I think this is undoubtedly my *Taxotrophis triapiculata* & much of Kurz' description in the 'Forest Flora' seems to be based on it.

I have not got Vol XLII of the As. Soc. Journ. Here so I must wait till I go to Kew to see the picture and original description once more, but there seems to be no doubt that Kurz, quite unusually for a careful man like him, mixed up two quite distinct plants, distinct, not only specifically, but even in Family (or subfamily as you please) for *Balanostreblus* was placed in Artocarpaceae while *Taxotrophis* comes in Moraceae. That is clearly how I overlooked the former. The ♀ flowers of my plant are quite different from those of (A) and from those figured by Kurz and are clearly, I think, *Taxotrophis*. I enclose you a sketch of the ♂ & ♀ from Robertson's specimens.

Now, what is to be done?! I must ask the people at Kew what they think. If, as seems right *Balanostreblus* is confined to (A) then my *Taxotrophis* is all right and will include the Chittagong spn (B). If, on the other hand (B) is Kurz's *Balanostreblus* that name must go but *ilicifolia* must go too because there is already a *Taxotrophis ilicifolia* in the Philippines, which may or may not = Robertson's plant. If it is (and I thought not, I forget why) the Burmese plant becomes *Taxotrophis ilicifolia* Vidal, if it is not then my name holds good. May I have the tracing back in due time please, but after I have been to Kew & seen Vol XLII & its drawing & consulted authorities, I can send you the 2 sheets recd from Calder & also my specimens of Robertsons's for you to see & return to me.

J.S.G.

[7. Lace to Gamble, 2 June 1917]

Maerbrook, Exmouth, Devon
2nd June '17

My dear Gamble,

Many thanks for your letter of 27th May. I am sorry you cannot match the wood at present. If it is *Melanorrhoea*, there is lots of it in Burma which could probably be easily exploited. The timber is being supplied to a Munitions Factory by a contractor, but he has only a small quantity and does not know where it came from; a curious thing about it is that the timber is chiefly composed of sapwood, with only a small amount of dark heart wood. It is said to work up well, and is considered a valuable timber. It is therefore important to get it named if possible, with a view to supplies, and as is rather a long time to wait until you go to Oxford in October can you suggest any other way to get it matched? Would it be any use do you think for me to ask if they can name it at Kew, or is there anyone capable of matching it at Oxford?

Yes, it looks pretty certain that Kurz must have mixed up two distinct plants under his *Balanostreblus ilicifolia*. Thanks for sending me the tracing and sketch, which I herewith return. (A) agrees with a rough tracing Craib sent me from Vol. XLII of the As. Soc. Jour., and it seems only right that *Balanostreblus* should be taken as the plant Kurz figured.

The specimen I was interested in is Cubitt's N^{o} 239, named *B. ilicifolius*, Kurz at Calcutta, collected in 1909 in the Bhamo Dist., it is [M] only, and there may be a duplicate at Kew; it is no doubt your *Taxotrophis* with triapiculate leaves.

There is no need to send me the Calcutta specimens, but I shall be interested to hear when you decide whether Robertson's plant is the same as the Philippines one or not.

I see that the publication of the Kew Bulletin is to be stopped, which seems an uncalled for and petty Economy!

With kindest regards
Yrs Sincerely
JH Lace

[8. Gamble, 29 September 1919]

[Annotation at upper left:] This is the Note which I hoped W.H would have sent on & so gracefully admitted his omission. J.S.G. 30/10/19

I think that W. Hutchinson's paper on '*Taxotrophis* and *Balanostreblus*' published in the Kew Bulletin for 1919 p. 147 requires some addition in order to describe how the enquiry came about. In November 1919 the late M^{r}. Lace wrote to me saying that when recently in the Kew Herbarium he had seen the specimen of my *Taxotrophis triapiculata* and thought that "it would be well if you compared them with *Balanostreblus ilicifolia*, Kurz, as I venture to think they are identical". The next time I was at Kew, I did as he requested and wrote to him that I was convinced that the genera *Taxotrophis* and *Balanostreblus* were distinct but that in order to set the matter right, it would be necessary to see the specimen which Kurz had had before him. I sent M^{r}. Lace drawings of the leaves of the two plants and dissections of the flowers and M^{r}. Lace thereafter wrote that he agreed with me and apparently wrote about it to Calcutta for I next received from W.C.C. Calder the Curator of the Herbarium at the Royal Botanic Gardens,

Sibpur, a letter dated April 3rd 1917 sending me, on loan, Kurz's type of *Balanostreblus* and a sheet of *Taxotrophis* which had the appearance of being the one from which Kurz had drawn the leaves which were figured by him in the Journal Asiatic Soc. Of Bengal Vol XLII. I compared and dissected these again and took them to Kew and should have taken up the question myself at once. As, however, I shewed them to the then Assistant for India, W. Hutchinson, the latter offered to go into the question and try to settle it. So I was glad to transfer the specimens with my drawings and dissections to him, being myself engaged in other work and the result was the paper which W. Hutchinson published, of the conclusions of which I freely approve. I think that, in justice to Mr. Lace and myself, this little historical addition should be made.

J.S. Gamble

Liss Sept 26. 1919