



LECTOTYPIFICATION OF *COLEBROOKEA* *OPPOSITIFOLIA* SM. (LAMIACEAE)

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The name *Colebrookea oppositifolia* Sm. is lectotypified here.

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Smith (1806: 111, t. 115) published *Colebrookea* (Lamiaceae) as a monospecific genus with *C. oppositifolia* Sm. as its single species. Interestingly Smith, perhaps following Linnaeus, treated this genus a “*Gymnospermia*”! The genus name honours “Henry Thomas Collebrooke Esq., Chief Judge of the Supreme Civil and Criminal Courts for the natives of Bengal”. Although *C. ternifolia* Roxb. was published in 1815, the preceding name has been treated as a synonym of *C. oppositifolia*, and the genus *Colebrookea* continues to be a monospecific genus chiefly occurring in the Yunnan area of China, Bhutan, India, Myanmar, Nepal, and Thailand. For his *Colebrookea oppositifolia*, Smith (1806: 111) gave a detailed description of the species and illustrated it (t. 115). For the type, he mentioned that “this shrub was gathered around villages and by roadsides in Nepal, in 1802, by Dr. Buchanan, who collected specimens of what he esteems a distinct species”. Regarding the typification of the name *C. oppositifolia* it is noted here that the protologue includes an illustration (t. 115) and plant specimens, and the cited specimens have priority over illustration for lectotypification (see Art. 9.12, Turland *et al.*, 2018).

According to Stearn, (1988: 200, 205), the herbarium and types of Smith, housed at LINN, (Stafleu and Cowan, 1985) consist of “19,567 sheets, some holding as many as six

specimens” and “the bulk of the herbarium consists of the incorporated herbaria of other botanists, that of the younger Linnaeus (1741-1783), 3573 specimens acquired by purchase, the East Anglian herbarium of Hugh Rose (c. 1717-1792) and the Swiss herbarium of Edmund Davall (1763-1798), 4854 specimens, received by request, a Nepal herbarium of Francis Buchanan-Hamilton (1762-1829) largely duplicating the collection on which David Don based his *Prodromus Florae Nepalensis* (1825) and hence containing valuable isotype material (cf Stearn, 1960:180) and smaller collections, for example West Indian specimens from Olof P. Swartz, and various specimens by gift; thus there are about a thousand specimens from Banks's herbarium. In all, some 490 collectors are represented by material”.

Surprisingly no original material of *Colebrookea oppositifolia* exists at LINN. For this species, the LINN does have a single Nepalese specimen, but it was collected in 1819, i.e., 13 years after the publication of the name! We also looked for the original material at other herbaria, viz., BM, BR, CAL, E, G, H, K, LIV, MPU, OXF, P-JU, and PH. Of these herebaria, Buchanan-Hamilton's main collections are at BM, E, and K (Stafleu and Cowan, 1985). We did find an original material of *Colebrookea oppositifolia* at BM; otherwise, we did not find any original material at other herbaria. The BM specimen was



Figure 1: Lectotype of *Colebrookea oppositifolia* Sm. (Reproduced with kind permission taken by third co-author from BM Herbarium BM001001032).

collected by Buchanan from “Muking, Napaul” (Nepal) in 1802. Mark Watson annotated this collection as 'Isolectotype'. On our request, Mark Watson (pers. comm.) informed the following: 'I annotated the specimen in 2011, I was working on the historical collections of Buchanan-Hamilton and realised that the lectotype should be the specimen that Smith used in his own herbarium, and that the BM specimen is a duplicate of this. Hence I annotated the BM specimen accordingly. I have not formally published the retrospective lectotypification since then, so it still needs to be done'.

The BM sheet (BM001001032) has two

twigs, which are placed one above the other. The sheet label shows a single date (January 1802) and collector's name (Buchanan Hamilton). In our observation, we found that the lower plant twig is in bud stage whereas the upper plant twig is a mature fruiting infructence. Therefore, in spite of the single date shown on the label, it is evident that these two plant twigs pertain to two gatherings made at different times and refer to two specimens. In this species, bud initiation occurs before January, flowerings in January, and fruiting in March. During fruiting, lengthening of calyx occurs. In other words, bud and fruiting stages cannot overlap. This assertion is supported by

the phenology given in “Flora of China” according to which this species flowers in January and fruits in March.

Regarding typification, we thoroughly searched all the relevant literature and found that the name has not yet been typified, albeit “type” citations in two works. Firstly, Hedge (1990) comment on typification of *Colebrookea oppositifolia* is “Type: [India], Buchanan-Hamilton (K).” On this basis, we did contact K and found that K does not have any original type material for this species. We speculate that Hedge either erred in citing K (instead of BM) or assumed that K has a specimen. Since we cannot ascertain Hedge's intention, his “type” citation is treated here as an error.

Secondly, Singh and Garg (2020) did cite the BM sheet (BM001001032) as the holotype, but they overlooked the fact that the sheet bears two specimens of two gatherings. Furthermore, their citation lacked the phrase “here designated” (or its equivalent). Their citation does not constitute an advertent lectotypification of this species name.

We conclude that a lectotype designation is needed. Hence, we herewith lectotypify the name. Of the two specimens, the upper one matches more with the protologue, so we designate the upper specimen as lectotype in accordance to Art. 9.3 (Turland *et al.* 2018).

Colebrookea oppositifolia Sm., Exot. Bot. 2: 111, t. 115 (1805).

Lectotype (**designated here**): Napaul (Nepal), Muking, 21 January 1802, *Francis Buchanan-Hamiltons.n.* (BM001001032, image! [image seen at <https://data.nhm.ac.uk/dataset/collection-specimens/resource/05ff2255-c38a-40c9-b657-4ccb55ab2feb/record/2399008>]) Fig.1 upper specimen.

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name has not been typified, to curators of K, LINN, E, and CAL for herbarium access. The authors are also grateful to Dr. K. N. Gandhi, Senior nomenclatural registrar, Harvard University and Dr Subir Bandyopadhyay retired scientist, BSI for reviewing and refining the manuscript.

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