



SHORT COMMUNICATION

Inadvertent lectotypifications of Australian *Dillenia* and *Tetracera* (Dilleniaceae)Timothy A. Hammer^{a,b}^a The University of Adelaide, School of Biological Sciences, Adelaide, South Australia 5005
Email: timothy.hammer@adelaide.edu.au^b State Herbarium of South Australia, Botanic Gardens and State Herbarium, Hackney Road, Adelaide, South Australia 5000

Dillenia L. and *Tetracera* L. (Dilleniaceae) were revised by R. D. Hoogland in 1952 and 1953 respectively. The Australian species *Dillenia alata* (R.Br. ex DC.) Banks ex Martelli and *Tetracera daemeliiana* F.Muell. were treated in these revisions (Hoogland 1952, 1953), where they were inadvertently lectotypified by Hoogland indicating the “holotype” for each name (see McNeill 2014). Hoogland’s use of the term “holotype” is to be corrected to “lectotype” according to Art. 9.10 of the *International Code of Nomenclature for algae, fungi, and plants* (hereafter ICN; Turland *et al.* 2018). This correction is possible as before 2001 it was not necessary to use the phrase “here designated” or an equivalent when lectotypifying names (ICN Art. 7.11). Because multiple sheets exist at the designated herbaria, there may be some confusion as to which specimen is the lectotype. In this paper I clarify typification of these names, preparatory to a treatment of Australian Dilleniaceae for the *Flora of Australia*. Digital images of all type specimens were viewed on the JSTOR Global Plants website (<https://plants.jstor.org>).

***Dillenia alata* (R.Br. ex DC.) Banks ex Martelli**

in Becc., *Malesia* 3: 157 (1886). — *Wormia alata* R.Br. ex DC., *Syst. Nat.* 1: 434 (1817). — *Lenidia alata* (R.Br. ex DC.) Poir. in Cuvier, *Dict. Sci. Nat.* Ed. 2, 25: 448 (1822). — **Type citation:** “Hab. in Novâ-Hollandiâ ad flumen Endeavour, *J. Banks* [...] (v.s. sp.)”. — **Lectotype:** New South Wales [*sic*; now Queensland]: Endeavour’s River, Point Lookout, 1770, *J. Banks s.n.* (BM000573950), *fide* Hoogland, *Blumea* 7(1): 50 (1952), as “holotype”. **Isolectotypes:** BM000551305, G00201228, P00682292; E *n.v.*, *fide* Hoogland, *loc. cit.* **Possible isolectotype:** New Holland [Australia], *s.dat.*, *J. Banks s.n.* (BM000573953).

Dillenia alata Banks ex DC., *Syst. Nat.* 1: 434 (1817), *nom. inval. pro syn.*

Dillenia alata Banks ex Poir. in Cuvier, *Dict. Sci. Nat.* Ed. 2, 25: 448 (1822), *nom. inval. pro syn.*

Wormia alata was described by Candolle (1817b) based on a Joseph Banks collection from Endeavour River (modern Queensland), made during the 1770 voyage of HMB *Endeavour* along the east coast of the Australian mainland. However, a type was not explicitly designated (ICN Art. 9.1, Turland *et al.* 2018). In the protologue Candolle indicated that Banks had used the unpublished name *Dillenia alata* for this taxon, but Candolle adopted the manuscript name he acknowledged as being previously used by Robert Brown. The combination *Dillenia alata* was subsequently made by Martelli (1886), citing “Banks in DC.”

In his revision, Hoogland (1952: 50) typified *Wormia alata* as follows: “Banks, New S. Wales, Endeavour Riv., Point Look Out; holotype in BM, isotypes in E, P”. The JSTOR Global Plants website includes five digital images of sheets of *Dillenia alata* collected by Banks, at three herbaria: three specimens are held at BM, and one each at G-DC and P. I was unable to locate a sheet at E through a search of the herbarium catalogue; if the specimen exists, it has not yet been databased. A sixth digital image on JSTOR Global Plants of *Dillenia alata* is preserved at LINN (LINN-HS976-5), but does not include a location, date, or collector.

Sheet P00682292 was annotated by Hoogland in December 1950 as “typ. dupl.”. He annotated BM 000573950 and BM000551305 in January 1951, the former as “type” [his underlining] and the latter as “type collection”. An additional specimen of *D. alata* collected by Banks in Australia at BM (BM000573953) is annotated with a determinavit slip by Hoogland that is also dated January 1951. The specimen label reads “*Dillenia alata* - D. D. Banks - New Holland”, leaving it unclear where in Australia it was collected. The specimen is a good match for the material mounted on the large sheet BM000573950. However, the *Endeavour* landed at other locations in what is now Queensland and within the modern-day distribution of *D. alata*. This specimen may or may not have been collected from the Endeavour River, and I therefore consider it a possible

isolectotype. Among these three sheets at BM, only BM000573950 carries an original label in Banks's hand (see Marshall 1978), and the sheet was annotated "type" by Hoogland. It is also the only specimen with a label bearing the exact collection locality listed by Hoogland (1952: 50): "Endeavour Riv., Point Look Out". Among the specimens cited by Hoogland (1952), it is clear that he considered BM000573950 as the "holotype".

In March 1973, subsequent to his 1952 revision, Hoogland annotated a sheet of *D. alata* collected by Banks at Endeavour River and held at G-DC (G00201228) as the "HOLOTYPE". Following ICN Art. 9.19 (Turland *et al.* 2018), this is an error, as the author who first designates a lectotype must be followed, although the first choice of lectotype is superseded if the holotype is found to exist. It is, however, unlikely that there is a holotype, as Candolle's monographic work *Regni vegetabilis systema naturale* (in which the name was published) was based on the examination of specimens from many private herbaria (Stafleu 1967).

Additionally, it is known that de Candolle visited London in January 1816, where he was allowed to work in Banks' herbarium and library (Mabberley 1985: 197). It is also likely that, while in London, de Candolle discussed with Brown his manuscript names and descriptions of Dilleniaceae (Mabberley 1985: 203), as de Candolle thanked Brown in the preface of *Regni vegetabilis systema naturale* for sharing information on Australian species (Candolle 1817a: 8). Furthermore, the sheet G00201228 is annotated "m[isit] Rob. Brown 1816", presumably being sent to de Candolle following his visit to the Banks herbarium in January 1816 and after he had already examined the sheets in London.

The location specified on G00201228 is "Endeavour River", lacking the location "Point Look Out", where Banks also collected material and included together with material from Endeavour River on the sheet BM000573950. The other duplicates lack labels specifying a location, but presumably all material that originated from Banks's herbarium (including the material subsequently sent to de Candolle) was mixed from the two locations, as indicated by Banks's original label on BM000573950. The omission of the second location on the specimen at G-DC is likely an error that was duplicated in the protologue. As BM000573950 was collected from Endeavour River (as well as Point Lookout) and was available to de Candolle prior to the preparation of the protologue, it cannot therefore be excluded as original material (ICN Art. 9.4a; Turland *et al.* 2018).

From this, it is reasonable to believe that de Candolle's description of *Wormia alata* was not based solely on the specimen in his own herbarium (G00201228), and therefore a holotype does not exist for this name. The material from Banks's gathering, represented in multiple herbaria, would have had the status of syntypes prior to the publication by Hoogland (1952). Consequently, the inadvertent lectotypification by Hoogland (1952) is

therefore followed according to ICN Art. 9.19 (Turland *et al.* 2018), making the specimen BM000573950 the lectotype.

Tetracera daemeliana F.Muell.

Fragm. 5: 191 (1865). — **Type citation:** "In vicinia promontorii Cape York, ubi Parinaro Griffithiano et Xeroti Banksii consociata. E. Daemel." — **Lectotype:** Cape York, Queensland, October [*s. anno*], *E. Daemel s.n.* (MEL2283231), *vide* Hoogland, *Reinwardtia* 2(2): 212 (1953), as "holotype". **Isolectotypes:** BRI-AQ0341730, K000687306, MEL2283232.

Hoogland (1953: 212) gave the typification for *Tetracera daemeliana* as follows: "Daemel *s.n.*, Cape York, October, holotype in MEL, isotype in BRI". There are two Daemel sheets of *Tetracera daemeliana* at MEL. Hoogland annotated only one of these (MEL 2283231), on which he wrote "type!". In addition, this is the only sheet that is annotated with the collecting month ("Octbr"). It is clear that Hoogland accepted MEL2283231 as the holotype, which is correctable to lectotype under ICN Art. 9.10 (Turland *et al.* 2018). This sheet is thus here regarded as the lectotype for the name *Tetracera daemeliana*, with MEL2283232 being an isolectotype. The sheets at BRI and K include labels from Hoogland that read "typ. dupl.", and are isolectotypes.

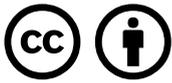
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References

- Candolle, A.P. de (1817a). Prologomena. In: *Regni vegetabilis systema naturalis* 1: 1–11. (Treuttel & Würtz: Paris).
- Candolle, A.P. de (1817b). Dilleniaceae. In: *Regni vegetabilis systema naturalis* 1: 411–438 (Treuttel & Würtz: Paris).
- Hoogland, R.D. (1952). A revision of the genus *Dillenia*. *Blumea* 7(1): 1–145.
- Hoogland, R.D. (1953). The genus *Tetracera* (Dilleniaceae) in the eastern old world. *Reinwardtia* 2(2): 185–224.
- Mabberley, D.J. (1985). *Jupiter Botanicus: Robert Brown of the British Museum*. (J. Cramer: Braunschweig).
- Marshall, J.B. (1978). The handwriting of Joseph Banks, his scientific staff and amanuenses. *Bulletin of the British Museum (Natural History)* 6(1): 1–85.

- Martelli, U. (1886). Le Dilleniaceae Malesi e Papuane delle collezioni Beccari. In: Beccari, O. (ed.), *Malesia* 3: 150–167. (Fratelli Bencini: Florence & Rome).
- McNeill, J. (2014). Holotype specimens and type citations: General issues. *Taxon* 63(5): 1112–1113.
- Stafleu, F.A. (1967). The great Prodromus. In: *Adanson Labillardiere De Candolle: Introduction to four of their books reprinted in the series Historiae naturalis classica*, pp. 64–100. (J. Cramer: Lehre).
- Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P. S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (eds.) (2018). *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. (Koeltz Botanical Books: Glashütten). [*Regnum Vegetabile* 159].



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