

Typifications in Australian Euphorbiaceae, Phyllanthaceae and Picrodendraceae

Paul I. Forster & David A. Halford

Summary

Forster, P.I. & Halford, D.A. (2017). Typifications in Australian Euphorbiaceae, Phyllanthaceae and Picrodendraceae. *Austrobaileya* **10(1)**: 163–167. Lectotypes are selected for *Amanoa dallachyana* Baill., *Antidesma sinuatum* Benth., *Antidesma parvifolium* F.Muell., *Echinus dallachyanus* Baill., *Euphorbia boöphthona* C.A.Gardner, *Euphorbia eremophila* var. *latifolia* Boiss., *Excoecaria agallocha* var. *dallachyana* Baill., *Lebidiera cunninghamii* Müll.Arg., *Macaranga subdentata* Benth., *Micranthemum boroniaceum* F.Muell., *Micranthemum demissum* F.Muell., *Micranthemum ericoides* Desf. and *Micranthemum hexandrum* Hook.f.

Key Words: Euphorbiaceae, Phyllanthaceae, Picrodendraceae, Typification, Australia flora, *Amanoa*, *Antidesma*, *Echinus*, *Euphorbia*, *Excoecaria*, *Lebidiera*, *Macaranga*, *Micranthemum*

P.I. Forster & D.A. Halford, Queensland Herbarium, Department of Science, Information Technology & Innovation, Brisbane Botanic Gardens, Mt Coot-tha Road, Toowong, Queensland 4066, Australia. Email: Paul.Forster@dsiti.qld.gov.au

Introduction

Several typifications were prepared for publication in the *Flora of Australia* treatment of Euphorbiaceae *s. lat.* Due to significant delays in publication, and recently a shift to online publication, these typifications are presented here.

Taxonomy

ANTIDESMA (Phyllanthaceae)

P.I.Forster

1. *Antidesma parvifolium* Thwaites & F.Muell., *Fragm.* 4: 86 (1864). **Type:** [Queensland. NORTH KENNEDY DISTRICT:] Port Denison, *s.dat.*, *E.F.A. Fitzalan s.n.* [in fruit] (lecto [here designated]: MEL 515970; isolecto: MEL 515968, MEL 515969, MEL 515971, MEL 515975).

Syntypes: [Queensland. NORTH KENNEDY DISTRICT:] Port Denison, *s.dat.*, *E.F.A. Fitzalan s.n.* [in flower & some young fruit] (syn: K 000061635, MEL 251036, MEL 251037, MEL 251054, MEL 515973, MEL 515974).

Notes: Mueller (1864) gave in his protologue “Ad sinum Edgecombe Bay juxta portum Denisonii; Fitzalan.” All of the specimens cited here agree with the protologue, are attributed to Fitzalan and collected from Port Denison. The flowering and fruiting specimens are assumed to represent separate collections. All may represent separately mounted pieces of the original syntypes; however, MEL515970 (fruiting) is the best specimen and is selected as lectotype of the name.

2. *Antidesma sinuatum* Benth., *Fl. Austral.* 6: 87 (1873). **Type:** [Queensland. COOK DISTRICT:] Saltwater Creek [Meunga Creek], Rockingham Bay, January 1863, *J. Dallachy* 33 (lecto [here designated]: MEL 515944; isolecto: MEL 515943). (= ***Antidesma bunius*** (L.) Spreng.)

Syntypes: [Queensland. COOK DISTRICT:] Rockingham Bay, *s.dat.*, *J. Dallachy s.n.* (syn: K 000061640, MEL 515940, MEL 515941); Meunga Creek, Rockingham Bay, 25 January 1869, *J. Dallachy s.n.* (syn: MEL 515942).

Notes: Bentham (1873) cited simply “Rockingham Bay, *Dallachy*”. There are collections at K and MEL that agree with the protologue and are eligible as types of this name. All were probably collected by Dallachy; however, the dates of collection

differ and some have more data as to locality, i.e. ‘Saltwater Creek, Rockingham Bay’ or just ‘Rockingham Bay’. All these collections have the sinuate leaves for which the species was named, all are conspecific with *A. bunius*. *A. sinuatum* is lectotypified here with MEL 515944. The label on MEL 515943 has the number ‘33’ on the reverse.

CLEISTANTHUS (Phyllanthaceae)

P.I.Forster

1. *Cleistanthus cunninghamii* (Müll. Arg.) Müll.Arg. in A.DC., *Prodr. Syst. Nat. Regni Veg.* 15(2): 506 (1866); *Lebidiera cunninghamii* Müll.Arg., *Linnaea* 32: 80 (1863). **Type:** ‘Nouvelle Hollande’ [received] 1836, *A. Cunningham* 31 (lecto [here designated]: G-DC G00319207); [Queensland. MORETON DISTRICT:] Banks of the Brisbane [River], Moreton Bay, June–July 1829, *A. Cunningham* 31 (isolecto: BM, *n.v.*; K 001081634, *p.p.*, image seen; NSW 193006).

Syntypes: ‘Nouvelle Hollande’, 1828 [received 1836], *A. Cunningham* 120; (syn: G-DC G00319206); [Queensland. MORETON DISTRICT:] Brisbane River, 1828, *A. Cunningham* 120/1828 (syn: K 001081634, *p.p.*, image seen; K 001081635, image seen); ‘N.S.W.’, Moreton Bay, 1828 [received 1836], *A. Cunningham* *s.n.* (syn: G-DC G00319208, 3 sheets).

Notes: The two specimens in G-DC both have the same kind of label with the same location and date in the same script. It appears these are labels added when the specimens were received in 1836. Cunningham’s original field numbers are also attached, allowing original collection dates to be established, and the matching of the specimens at G with duplicates at K and NSW. The specimen at NSW is apparently a duplicate of material at BM, but no material at BM has been located. A single sheet at K has elements from both *Cunningham* 120/1828 and 31/1829, but which number matches which piece(s) cannot be ascertained.

2. *Cleistanthus dallachyanus* (Baill.) Benth., *Fl. Austral.* 6: 122 (1873); *Amanoa dallachyana* Baill., *Adansonia* 6: 335 (1866).

Type: [Queensland. PORT CURTIS DISTRICT:] Rockhampton, *A. Thozet* 357 (lecto [here designated]: MEL 707908).

Syntypes: [Queensland. PORT CURTIS DISTRICT:] Stony Creek, Rockhampton, Qld, 24 December 1862, *J. Dallachy* 17 (syn: K 001081629 image seen, MEL 708138); [Queensland. NORTH KENNEDY DISTRICT:] Port Denison, *s.dat.*, *J. Dallachy* *s.n.* (MEL 707905); [Queensland. SOUTH KENNEDY DISTRICT:] Mount Mueller [Millar], 11 September 1863, *J. Dallachy* *s.n.* (MEL 707910).

Notes: Baillon (1866) cited “Dallachy (1862), n. 17, Rockhampton (1863); Mount Mueller; Port Denison. – Thozet, n. 337, Rockhampton (herb. F. Muell.!).” Four sheets were located at MEL that correspond to these locations and collectors and agree with the protologue. The collection by Thozet has several branchlets and is in flower, so it is here designated as the lectotype. Thozet’s collection number appears to have been incorrectly transcribed by Baillon as it is clearly 357 on the sheet at MEL.

EXCOECARIA (Euphorbiaceae)

P.I.Forster

Excoecaria dallachyana (Baill.) Benth., *Fl. Austral.* 6: 153 (1873); *Excoecaria agallocha* var. *dallachyana* Baill., *Adansonia* 6: 324 (1866). **Type:** [Queensland. PORT CURTIS DISTRICT:] W side of River [Probably Fitzroy River, Rockhampton area], 29 January 1863, *J. Dallachy* 248 (lecto [here designated]: MEL 705386 [sheet 1 of 2]; MEL 705387 [sheet 2 of 2]; isolecto: P 00716776, *p.p.*, image seen).

Syntype: Queensland, in [18]62, *E.M. Bowman* 162 (syn: MEL 705388).

Notes: There are several sheets at MEL that are possible types for this name. The name is typified with the numbered, fertile Dallachy collection, the first sheet of which bears diagnostic notes on the new taxon and agrees with the protologue. The lectotype is clearly labelled as a single collection mounted on two sheets, the current mounting having been prepared relatively recently, and certainly post-publication of the name. The sheet at P

is obviously original material, but it consists of a leafless branchlet, with six leaves, two fruit and an old flower in a packet, and the label states that the sheet is a mixed collection from *Dallachy 248* and *Bowman 142*, most likely representing portions removed from the sheets at MEL. The location of ‘Rockingham Bay’ on the label at P is probably somewhat erroneous as the species is not known that far north. Dallachy may have grouped it with his collections from the Rockingham Bay area. Another possibility is that the label may have been intended to be ‘Rockhampton’.

MACARANGA (Euphorbiaceae)

P.I.Forster

1. *Macaranga dallachyana* (Baill.) Airy Shaw, *Kew Bull.* 23: 90 (1969); *Echinus dallachyanus* Baill., *Adansonia* 6: 314 (1866). **Type:** [Queensland. COOK DISTRICT:] Rockingham Bay, Salt Water Creek [Meunga Creek], 3 March 1865, *J. Dallachy s.n.* (lecto [here designated]: MEL 707973; isolecto: MEL 707976).

Syntypes: [Queensland. COOK DISTRICT:] Rockingham Bay, [received] 1872, *J. Dallachy s.n.* (syn: K 001067255, K 001067256); Rockingham Bay, Salt Water Creek [Meunga Creek], 16 December 1864, *J. Dallachy s.n.* (syn: MEL 707974); Rockingham Bay, *s.dat.*, *J. Dallachy s.n.* (syn: MEL 515964, MEL 515965).

Notes: Baillon (1866) cited specimens examined as; ‘Dallachy (1865), Rockingham’s Bay, “salt water creeks” (herb F.Muell.!)’. Two of the MEL sheets have ‘salt water creek 1865’, written in Dallachy’s handwriting and eight sheets have Rockingham’s Bay written by another hand (probably Mueller’s). The lectotype was chosen as the best of the two that have labels that were dated and written in Dallachy’s hand and that agree with the protologue.

2. *Macaranga subdentata* Benth., *Fl. Austral.* 6: 145 (1873). **Type:** [Queensland.] Telegraph Line, Rockingham Bay, 2 November 1870, *J. Dallachy s.n.* (lecto [here designated]: MEL 515927; isolecto: MEL 515925, MEL 515926);

Syntypes: [Queensland.] [Rockingham] Bay, [received] 1872, *J. Dallachy s.n.* (syn: K 001067257, K 001067258, K 001067259); Telegraph Line, Rockingham Bay, 23 January 1871, *J. Dallachy s.n.* (syn: MEL 232442).

Notes: There are at least seven sheets identified as type material of this name at K and MEL. The sheet with a dated, fertile collection at MEL that agrees with the protologue is chosen as the lectotype, rather than the undated material at K.

EUPHORBIA (Euphorbiaceae)

D.A.Halford

1. *Euphorbia boöphthona* C.A.Gardner, *J. Roy. Soc. W. Australia* 27: 181 (1942). **Type:** Western Australia. Jimba Jimba [Station], Gascoyne River, 3 September 1932, *C.A. Gardner & F.J.S. Weir s.n.* (lecto [here designated]: PERTH 1618083; isolecto: PERTH 1618091).

Notes: Gardner (1942) clearly indicates the type of *E. boöphthona* to be “Jimba Jimba ad fluminen Gascoyne River, Gardner n. 3302”. A specimen with this number and locality has not been located. There are two PERTH sheets of material collected by Gardner from Jimba Jimba, Gascoyne River that predate the protologue. One sheet (PERTH 1618083) is labelled *E. boöphthona* in Gardner’s hand. This sheet is chosen as the lectotype.

2. *Euphorbia eremophila* var. *latifolia* Boiss., in A.DC., *Prodr.* 15(2): 70 (1862). **Type:** [Queensland. MORETON DISTRICT:] islands of Moreton Bay, August 1855, *F.Mueller* (lecto [here designated]: K 001080206 image seen [and K 001040200 image seen]; isolecto: MEL 503407 image seen). (= ***Euphorbia tannensis*** Spreng. subsp. ***tannensis***)

Syntype: [Western Australia.] Intercourse Islands, Dampier Archipelago, in 1819, *A.C. [A.Cunningham s.n.]* (syn: K 001080207 image seen, K 001080208 image seen).

Notes: In describing this variety Boissier (1862) cites two collections, “Ad Moreton Bay (Müll.!), Intercourse Island Archip. Dampier (h. Kew!)”. The Mueller specimen at K is chosen as the lectotype as the material agrees

with the description in the protologue and it is the more ample of the collections. D.J. McGillivray annotated the sheet at K in 1969, adding a pencil line between the two branches on the sheet; however, both are from a single collection as evidenced by the single label on the sheet and there is no reason to separate the elements. Two barcode numbers have been added to the sheet to represent the two elements. The entire sheet is accepted as the lectotype. The *A. Cunningham* collections (K 001080207 and K 001080208) are conspecific with *E. tannensis* subsp. *eremophila* (A.Cunn.) D.C.Hassall.

MICRANTHEUM (Picrodendraceae)

D.A.Halford

1. *Micranthemum boroniaceum* F.Muell., *Fragm.* 1: 32 (1858). **Type:** [Queensland. Burnett District:] Burnett, *s.dat.*, *Dr M.* [*F.Mueller*] (lecto [here designated]: K 000950775 (ex herb. Hook.); possible isolecto: MEL 2065887, MEL 2065890). (= **Micranthemum ericoides** Desf.)

Notes: Mueller (1858) cited two localities when describing this species: Burnett and Brisbane River, with the names Hill and Mueller, suggesting collections made by Walter Hill and himself. The Burnett River collection is the only one that has been located. Two sheets at MEL both have a label in Mueller's hand 'Burnett River, *Micranthemum ericoides*', and another sheet at K has the label '*Micranthemum boroniaceum* ferd Muell., Burnett Dr M.' also in Mueller's hand. The K specimen, the only collection found that is annotated by Mueller with this name, is nominated here as lectotype. A sheet at HBG (HBG 515896 image seen) is possibly a syntype, but the only location given is 'Australia'.

2. *Micranthemum demissum* F.Muell., *Vict. Naturalist* 7(5): 67 (1890). **Type:** [South Australia.] St Vincent Gulf, Square Waterhole, 6 & 7 January 1882, [*J.G.O.*] *Tepper 44* (lecto [here designated]: MEL 2065933; isolecto: K 000950764 image seen).

Syntypes: [South Australia.] Near Eleanor River, Kangaroo Island, 23 January 1883, *R. Tate s.n.* (MEL 2065695); Encounter Bay District, Square Waterhole, in 1883, [*J.G.O.*] *Tepper 1076* (syn: MEL 2065694); Willunga to Pt. Victor [Victor Harbour], Square Waterhole, 4 November 1882 [*J.G.O.*] *Tepper 1076* [+44, January 1881] (syn: MEL 2065932).

Notes: Mueller (1890) cited two localities when describing this species: near Encounter Bay and Kangaroo Island, with the names Professor Tate and O.Tepper. Four sheets of material collected by O.Tepper, all dated before the protologue, were found in MEL. A fifth sheet held at K (000950764) is apparently a duplicate of material at MEL (2065933). The sheet nominated here as lectotype agrees with Mueller's description and is annotated by Mueller with this name. The last syntype cited above (MEL 2065932) has a label which is difficult to interpret, but may indicate a mixed collection, or an attempt to cross-reference to other collections of this taxon made by Tepper.

3. *Micranthemum ericoides* Desf., *Mèm. Mus. Hist. Nat.* 4: 252–255, t.14 (1818). **Type:** [Australia] Port Jackson, [without date], *Baudin expedition 115* (lecto [here designated]: P 152756; isolecto: P 152757; P 152758).

Syntypes: 'Nov. Holl.', *s.dat.*, *s.coll.* (syn: G-DC G00313758 image seen); 'Nouvelle. Hollande' [received from P in 1824], *s.dat.*, *s.coll.* (syn: G-DC G00313759 image seen, G-DC G00313760 image seen).

Notes: Desfontaines (1818) cited "Cet arbrisseau croit à la nouvelle Galle, où il a été observé et recueilli par les botanistes de l'expédition du capitaine Baudin. L'herbier du Muséum en possède plusieurs individus garnis de fleurs et de fruits." Three sheets of apparently original material collected during the Baudin expedition have been located at P [P 152756, P 152757, P 152758]. All the material agrees with the description in the protologue of *M. ericoides*. The sheet label [P 152756] is here selected as the lectotype of *M.*

ericoides. Three specimens at G-DC may well be duplicates of the lectotype, but the label data are insufficient to have any certainty.

4. *Micrantheum hexandrum* Hook.f., *London J. Bot.* 6: 283–284 (1847). **Type:** [Tasmania.] V. D. Land, Launceston, 27 September to 19 October 1839, *R.C. Gunn* 35/1842 (lecto [here designated]: K 000950765, two largest branches at top of sheet (herb. Hook.), image seen; possible isolecto: CANB 333034 (ex BM) image seen, K 000950768 image seen, MEL 2065871).

Syntypes: [Tasmania.] V.D.L., in 1833, *R.W. Lawrance* 292 (syn: K 000950767 image seen); Van Diemen's Isle, *s.dat.*, *J. Scott s.n.* (syn: K 000950766 image seen).

Notes: In the protologue Hooker (1847) cited the locality "Launceston" with the names Scott, Lawrence and Gunn, suggesting collections made by them. There are two sheets at K which are stamped as originating from herb. Hookerianum that appear to be at least in part the material collected by Scott, Lawrence and Gunn and used by Hooker in the description of this species. The first sheet has three branchlets and two labels, while the second sheet has eight branchlets and two labels with several notes directly written on the sheet. The first sheet has two large branchlets with flowers attached which appear to be part of a single collection associated with Gunn's label '35/1842, Launceston, 27 Sept to 19 Oct 1839', while the other smaller branchlet with fruit is associated with the label '*Micrantheum hexandrum*, Gunn [illegible] 1832/35, v. Dland'. The larger two branchlets at the top of the sheet are selected as lectotype. As Gunn used species numbers rather than collecting numbers, it is impossible to determine if the isolectotypes are genuinely duplicates. In this case, it appears the species number '35' was allocated in 1842 to collections made in 1839, hence 35/1842.

Acknowledgement

Thanks to Russell Barrett for suggesting this solution to a long standing typification Gordian knot.

References

- BAILLON, M.H. (1866). Species Euphorbiacearum. Euphorbiacées Australiennes. *Adansonia* 6: 282–345.
- BENTHAM, G. (1873). *Flora Australiensis: A description of the plants of the Australian Territory. Vol. VI. Thymeleae to Dioscorideae*. L.Reeve & Co.: London.
- BOISSIER, E. (1862). Euphorbiaceae. In A.P. de Candolle (ed.), *Prodromus systematis naturalis*. 15(2): 3–188. V. Masson & fils: Paris.
- DESFONTAINES, M. (1818). Description de quatre Nouveaux genres de plantes. *Mémoires du Muséum d'Histoire Naturelle* 4: 245–255.
- GARDNER, C.A. (1942). Contributiones florae Australiae Occidentalis XI. *Journal of the Royal Society of Western Australia* 27: 165–210.
- HOOKE, J.D. (1847). Flora Tasmania specilegium; or, Contributions toward a Flora of Van Diemen's Land. *London Journal of Botany* 6: 265–286.
- MUELLER, F.J.H. (1858). *Fragmenta Phytographiae Australiae* 1: 32. Government Printer: Melbourne.
- (1864). *Fragmenta Phytographiae Australiae* 4: 86. Government Printer: Melbourne.
- (1890). Descriptions of new Australian plants, with occasional other annotations. *Victorian Naturalist* 7: 66–68.