

# JOURNAL of the ADELAIDE BOTANIC GARDENS

AN OPEN ACCESS JOURNAL FOR AUSTRALIAN SYSTEMATIC BOTANY

[flora.sa.gov.au/jabg](http://flora.sa.gov.au/jabg)

Published by the

**STATE HERBARIUM OF SOUTH AUSTRALIA**

on behalf of the

**BOARD OF THE BOTANIC GARDENS AND STATE HERBARIUM**

© Board of the Botanic Gardens and State Herbarium,  
Adelaide, South Australia

© Department of Environment, Water and Natural Resources,  
Government of South Australia

All rights reserved

State Herbarium of South Australia  
PO Box 2732  
Kent Town SA 5071  
Australia



Board of the  
Botanic Gardens and  
State Herbarium



## NOTES ON HIBBERTIA (DILLENIACEAE) 4. THE IDENTITY OF *H. ENERVIA*

H.R. Toelken & J.R. Wheeler

State Herbarium of South Australia, Plant Biodiversity Centre,  
P.O. Box 2732, Kent Town, South Australia 5071  
e-mail: toelken.hellmut@saugov.sa.gov.au

Science Division, Dept of Conservation & Land Management,  
120 Albany Highway, Albany, Western Australia 6330  
e-mail: judyw@calm.wa.gov.au

### Abstract

A specimen inscribed "New Holland Gov. King" (G) is identified as the type of *Pleurandra enervia* DC., which is then placed into synonymy of *Hibbertia procumbens* (Labill.) DC. New combinations, *H. hemignosta* (Steud.) J.R. Wheeler and *H. hibbertioides* (Steud.) J.R. Wheeler, are published to replace the Western Australian species previously identified as *H. enervia*.

### History

Candolle (1817) described 41 species which are now included in the genus *Hibbertia* and there is a type specimen for each of them in his own herbarium except for *Pleurandra enervia*, the identity of which remained a problem. It was based on a King specimen in Lambert's herbarium, and this was assumed lost with the sale and distribution of that collection in June 1842.

In identifying the specimen *Preiss 2155* as *P. enervia* Steudel (1845) started an interpretation of the species followed by many subsequent botanists. Similar to Candolle he retained it in the genus *Pleurandra* although the stamens are in several groups and some of the filaments are basally connate, which would have suggested the genus *Candollea*, a genus maintained by that author. Bentham (1863) placed *P. enervia* tentatively into the synonymy *Candollea teretifolia* Turcz., while Druce then publishes the combination *C. enervia* as this is the oldest name for that species. Hoogland (1974) eventually validly published the new combination *Hibbertia enervia* after it had already been used as such in publications in Western Australia.

Miller (1970) established in her extensive research that a collection of Governor P.G. King is now found incorporated in the main herbarium at Geneva (G). She commented that "in 1808 Lambert twice wrote J.E. Smith that he had received New Holland plants brought back by Governor King (Linn. Soc.: Smith Corres.). Whether the specimens were actually collected by King himself is not known." George Caley in Currey (1967, p.47) is quoted to show doubt about this as he revealed that King contacted various people to collect for him.

A specimen in the herbarium at Geneva bearing "New Holland Gov. King" (unknown handwriting, not Lambert's) was identified as *H. enervia* and filed under *H. teretifolia*. The stems as well as the linear veinless leaves of this fragment are glabrous except for a few small coiled hairs adaxial to the leaf bases agree well with the original description. Crucial is "stamens 15-20, very short, uniseriate, sometimes nevertheless 1-2 inserted towards the other side of the pistil (stamina 15-20 brevissima uniseriata, interdum tamen 1-2 ad alterum pistilli latus inserta)". The short stamens, which are grouped around and the filaments adhering to or sometimes slipping between the glabrous pistils, show often only one group of one or two stamens on the anterior of the flower, so that the stamens appear to be mainly clustered at the rear of the pistils as is typical of the stamens of the genus *Pleurandra*. This would explain why Candolle retained the species in that genus in spite of

“stamina...uniseralia” instead of “unilateralia” in all the other species of *Pleurandra*. At the same time the strong grouping of the stamens can be misinterpreted as the fusion of the filaments, sometimes only basally (in *H. enervia*: Wheeler 1987), in species of *Candollea*, a genus Candolle (1817) maintained in his treatise of the family.

The interpretation of Steudel and subsequent botanists was applied to a Western Australian species, while it is highly unlikely that Governor King, being stationed in the first Australian settlement at the present Sydney, could have obtained specimens from so far away before 1808 when he brought them with him on his return to England. The specimen at G must be identified as *H. procumbens* (known from Tasmania and adjoining Victoria), and was probably collected by George Caley or his helpers on the expedition to the southern coast of mainland Australia and Tasmania in 1805. In one flower investigated of that specimen 19 stamens (*H. procumbens*: 20-25: Curtis & Morris 1975; 18-25: Toelken 1996) were counted while for the Western Australian species only 9-12 were recorded (Wheeler 1987). Judging by his description, it would seem that Steudel (1844) was not aware of these anther characters since he seem to have based his identification on Candolle's (1824) Prodrumus, which does not give this detail. Furthermore, the anthers of *H. procumbens* shrivel very much after dehiscence so that they are short and scarcely longer than broad (0.8-1.2 (to 2.2 mainly undehisced) mm long) with the margins of the empty pollen sacs irregularly shrivelling and exposing the inside, as also shown on the King specimen. The anthers of specimens of the Western Australian species investigated are narrowly oblong (1.4-1.6 mm long, un- and dehisced) and laterally split but the margins have not shrivelled to show the inside. The specimen agrees with the protologue not only well in essential characteristics, such as the stamens, but also more closely with the eastern Australian species, *H. decumbens*, than with *H. hemignosta* or *H. hibbertioides* from Western Australia. The specimen is therefore accepted as the type of *Pleurandra enervia*.

Two Hibbertia specimens out of four ascribed to Governor King found in Geneva herbarium are annotated “New Holland or Van Diemens Land”, and one of them must also be identified as *H. procumbens*. Candolle (1817) does not mention these three other specimens, but he cites eight Caley specimens from Lambert's herbarium of which there are specimens in his herbarium but no duplicates in the general herbarium. Miller (1970) could not ascertain the whereabouts of the Caley collections from Lambert's herbarium. Lambert was very generous and gave away many specimens, for instance, to de Candolle etc. (p. 505), but the significance of the Caley specimens being present in his herbarium and those of Governor King absent can not be assessed.

### Taxonomy

As a type specimen of *P. enervia* has been located it is necessary to rearrange the nomenclature of three species as Bentham (1863) had included several species including *P. enervia* under *Candollea teretifolia*. However, Ostenfeld (1921) already observed: “it seems as if two species are hidden under the name of *H. teretifolia*”. A revision of the following species will be presented separately.

**H. procumbens** (Labill.) DC., Syst. Nat. 1: 427 (1817); Prodr. 1: 74 (1824); G. Don, Gen. Hist. 1: 75 (1831); Hook., J. Bot. (Hook.) 1: 246 (1834); Hook.f., J. Bot. (Hook.) 2: 403 (1840); Hook.f., Fl. Tasm. 1: 13 (1855), partly excl. *H. obtusifolia*; Benth., Fl. Austral. 1: 33 (1863); Spicer, Handb. Pl. Tasm. 101 (1878); Gilg, Nat. Pflanzenfam. 3, 6: 116 (1893); Ewart, Pl. Vict. 768 (1930); Garnet, Wildfl. Wilson's Prom. 65, 152, fig. 580 (1971); J.H. Willis, Handb. Pl. Vict. 2: 387 (1972); W.M.Curtis & D.I.Morris, Stud. Fl. Tasm. 1: 24 (1975); A.M.Buchanan, Cens. Vasc. Pl. Tasm. 19 (1995); Toelken in N.G.Walsh & Entwisle, Fl. Vict. 3: 303 (1996).

*Type*: Tasmania, “in capite Van-Diemen”, *J.H.H.Labillardière s.n.* (lecto – selected here: Herb. Webb No 3963: FI; photo, AD; iso.: G-DC; G).

*Dillenia procumbens* Labill., Nov. Holl. Pl. 2, 16, t. 156 (1806).

*Type*: as above.

*Hibbertia angustifolia* Salisb., Parad. Lond. Pl. 73 (1807), *nom. illeg.*; Smith in Rees, Cycl. 17 (1811); F. Muell., Pl. Indig. Col. Vict. 1: 18 (1862), partly excl. *H. fasciculata*, *H. prostrata*, *H. glandulosa*, *Pleurantra camphorosma*; Syst. Cens. 1: 2 (1882); Key Syst. Vict. Pl. 1: 123 (1887), partly; Second Syst. Cens. 1: 2 (1889), partly; Rodway, Tasm. Fl. 4 (1903).

*Type*: same as for *H. procumbens*.

*Pleurantra enervia* DC., Syst. Nat. 1: 421 (1817); Prodr. 1: 72 (1824); Spreng., Syst. Veg. 16 edn, 2: 462 (1825); G. Don, Gen. Hist. 1: 74 (1831); Steud. in Lehm., Pl. Preiss. 1: 264 (1845), partly as for type; Nomencl. Bot. 2 edn, 2: 355 (1841), partly.

*Candollea enervia* (DC.) Druce, Rep. Bot. Exch. Club Brit. Isles 1916: 612 (1917), partly, excl. synonymy.

*Hibbertia enervia* (DC.) Hoogl., Kew Bull. 29: 156 (1974), partly, excl. synonymy.

*Type*: “New Holland Gov. King” (holo.: G).

*H. procumbens* (Labill.) DC. -- *β. pilosa* Hook.f., J. Bot. (Hook.) 2: 403 (1840).

*Type*: Tasmania, Rocky Cape, *Gunn 776* (holo.: K, n.v.).

## Notes

Although variable in size, shape and hairiness of its various organs *H. procumbens* is easily identified by its decumbent to procumbent habit and 3-5 glabrous pistils. Even the length of the anthers varies considerably particularly in central- to south-western Victoria, where they often hardly shrink after dehiscence so that they are up to 2.2 mm long, while in Tasmania they are rarely more than 1 mm long on dried specimens. It seems therefore most likely that the type specimens discussed above was obtained from Tasmania.

Since Labillardiere apparently described the species on all his material, determined no holotype and distributed specimens later, a lectotype was here selected.

## **H. hemignosta** (Steud. in Lehm.) J.R.Wheeler, *comb. nov.*

*Pleurantra hemignosta* Steud. in Lehm., Pl. Preiss. 1: 265 (1845), *basionym*.

*Type*: South Western Australia: *Preiss 2172* (holo.: LD; iso.: MEL).

*Pleurantra enervia auct. non DC.*: Steud. in Lehm., Pl. Preiss. 1: 264 (1845).

*Candollea teretifolia auct. non Turcz.*: Benth., Fl. Austral. 1: 43 (1863), partly, as for reference.

*Hibbertia teretifolia* (Turcz.) F.Muell., Fragm. 11: 95 (1880), partly; Diels & E.Pritz., Bot. Jahrb. 35: 386, 637 (1904), partly; Ostenf., Kgl. Dansk. Vid. Selsk. Biol. Medd. 3(2): 89, pl. Xb (1921), partly; Blackall & B.J.Grieve, W. Austral. Wildfl. 2: 382 (1956), partly; B.J.Grieve, W. Austral. Wildfl. edn 2, 2: 52 (1998), partly.

*Candollea enervia auct. non DC.* Druce: Druce, Rep. Bot. Exch. Club Brit. Isles 1916: 612 (1917), partly, as for references.

*Hibbertia enervia auct. non DC.* Hoogl.: Hoogl., Kew Bull. 29: 156 (1974), partly, as for references; C.A.Gardner ex Beard, W. Austr. Pl. 67 (1965); Beard, W. Austral. Pl. 2edn; 87 (1970); J.R.Wheeler in N.G. Marchant et al., Fl. Perth Region 1: 122 (1987).

**H. hibbertioides** (Steud.in Lehm.) J.R.Wheeler, *comb. nov.*

*Pleurandra hibbertioides* Steud. in Lehm., Pl. Preiss. 1: 265 (1845), *basionym*.

*Type*: Mt Bakewell (York), *Preiss 2164* (holo.: LD; iso.: MEL).

*Candollea teretifolia* Turcz., Bull. Soc. Natural. Moscou 22(2): 6 (1849); Benth., Fl. Austral. 1: 43 (1863).

*Type*: Western Australia, *J.Drummond 4, 124* (holo.: KW; iso.: PERTH, MEL).

*Hibbertia teretifolia* (Turcz.) F.Muell., *Fragm.* 4: 117 (1864); *Fragm.* 11: 95 (1880); *Syst. Cens.* 1: 2 (1882); *Second Syst. Cens.* 1: 2 (1889); Gilg, *Nat. Pflanzenfam.* 3, 6: 118 (1893); Diels & E.Pritz., *Bot. Jahrb.* 35: 386, 637 (1904); Ostenf., *Kgl. Dansk. Vid. Selsk. Biol. Medd.* 3(2): 89, pl. Xb (1921); Gilg & Werderm., *Nat. Pflanzenfam.* 2dn, 21: 28 (1925); C.A.Gardner, *Enum. Pl. Austral. Occ.* 83 (1931); Blackall & B.J.Grieve, *W. Austral. Wildfl.* 2: 382 (1956).

*Candollea enervia auct. non* (DC.) Druce: Druce, *Rep. Bot. Exch. Club Brit. Isles* 1916: 612 (1917), partly, as for references.

*Hibbertia enervia auctt. non* (DC.) Hoogl.: Hoogl., *Kew Bull.* 29: 156 (1974), partly, as for references; C.A.Gardner ex Beard, *W. Austral. Pl.* 67 (1965); Beard, *W. Austral. Pl.* 2edn; 87 (1970); J.R.Wheeler in N.G.Marchant et al., *Fl. Perth Region* 1: 122 (1987).

**Acknowledgments**

The Director and staff of Geneva Herbarium (G) and the Western Australian Herbarium (PERTH) are thanked for their assistance. In particular nomenclatural advice received from Paul Wilson and discussions with John Jessop are gratefully acknowledged. The directors of many herbaria especially LD, KW and MEL are thanked for the loan of specimens.

A grant from the Research Fund of the Botanic Gardens of Adelaide is gratefully acknowledged as it enabled the first author to examine material in Geneva.

**References**

- Bentham, G. (1863). *Dilleniaceae*. *Fl. Austr.* 1: 26, 27. (Reeves: London).
- Candolle, A.P. de (1817). *Dilleniaceae*. *Regni vegetabilis Systema naturales* 1: 411–438. (Treuttel & Würtz: Paris).
- Candolle, A.P. de (1824). *Dilleniaceae*. *Prodromus* 1: 72. (Treuttel & Würtz: Paris).
- Currey, J.E.B. (1967). *Reflections on the colony of New South Wales*: George Caley. (Angus & Robertson: London).
- Curtis, W.M. & Morris, D.I. (1975). *Stud. Fl. Tasm.* 2 edn: 24. (Gov. Printer: Tasmania).
- Druce, G.C. (1917). *Nomenclatural notes: chiefly African and Australian*. *Rep. Bot. Exch. Club Brit. Isles* 1916: 612.
- Hoogland, R.D. (1974). *New combinations in Hibbertia* (Dilleniaceae). *Kew Bull.* 29: 156.
- Miller, H.S. (1970). *The herbarium of Aylmer Bourke Lambert*. *Notes on its acquisition, dispersal and present whereabouts*. *Taxon* 19: 489–656.
- Ostenfeld, C.H. (1921). *Contribution to West Australian Botany*. *Det Kongrligr Dandr Videnskaberne selskab. Biologiske meddelser* 3(2): 89-90.
- Stuedel, E.T. (1845). In Lehmann, J.G.C. (ed). *Plantae Preiss.* 1: 264, 5. (Meissner: Hamburg).
- Toelken, H.R. (1996). In Walsh, N.G. & Entwistle, T.J. (eds). *Flora of Victoria* 3: 303. (Inkata Press: Melbourne).
- Wheeler, J.R. (1987). In Marchant, N.G. et al., *Flora of the Perth Region* 1: 122. (Western Austr. Herbarium: Perth).