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***Malva preissiana* Miq.,
an overlooked name for *Lavatera plebeia* Sims (Malvaceae),
with a note on variation within the species**

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Abstract

The name *Malva australiana* M.F.Ray, which replaced *Lavatera plebeia* Sims when *Lavatera* was merged with *Malva*, is predated by *M. preissiana* Miq. The relationship of this earlier name to variation within the species is discussed. The type specimen now falls within the less common white-flowered offshore island morphotype, sometimes recognised previously as *Lavatera plebeia* var. *tomentosa* Hook.f.

Many of the species of *Lavatera* (Malvaceae) occurring in Australia have been transferred to *Malva* by Ray (1998). Except for that of *L. assurgentiflora* Kellogg, the original epithets were already pre-occupied within *Malva* and new names were needed. Thus, the familiar *Lavatera cretica* L. became *Malva linnaei* M.F.Ray, *L. arborea* L. became *M. dendromorpha* M.F.Ray and *L. plebeia* Sims became *M. australiana* M.F.Ray.

However, in the case of *Lavatera plebeia* there were already two names available within *Malva*. Initially it was thought that *Malva behriana* Schltld. was the only one available, hence its inclusion in the latest census of South Australian plants (W.R. Barker et al. 2005) by the first author, but the second has recently pointed to the earlier *M. preissiana* Miq. Its full synonymy is documented below.

***Malva preissiana* Miq.**

Miq. in Lehm., Plant. Preiss. 1(2): 238 (1845). **Type:** *L. Preiss 1893*, 14 Nov. 1839, crescit in insula Penguin-Island [S of Cape Peron, Rockingham, WA, fide Marchant (1990)]. **Holotype** (n.v., see Typification); **isotypes:** MEL 1528422 (ex Herb. Steetz); MEL 2282397).

M. behriana Schltld., Linnaea 20: 633 (1847). — *Lavatera behriana* (Schltld.)Schltld., Linnaea 24: 699 (1852). **Type:** H.H.Behr, July [1845], In Thale des Murray-Flusses (n.v., HAL see Institute of Geobotany and Botanical Garden, Halle 2004).

M. australiana M.F.Ray, Novon 8: 291 (1998), replacement name for *Lavatera plebeia* Sims, Bot. Mag. 48: pl. 2269 (1821), non *M. plebeja* Stev., Bull. Soc. Nat. Mosc. xxix. (1856) I. 325. — *Althaea plebeia* (Sims) Schult. ex Steud., Nom. Bot. ed. 2, 1: 210 (1840). **Type:** Sim's plate 2269 (see discussion by Ray 1998, p. 292).

Lavatera plebeia Sims var. *eremaea* J.M.Black, Fl. S. Austral. 3: 373 (1926). **Type citation:** "Ardrossan, Y.P.; Caroon, E.P. Ooldea; Franklin Islands; along the Great Bight". **Syntypes** (all from J.M.Black's herbarium at AD and annotated as var. *eremaea*): T.G.B. Osborn s.n., Jan 1922, Franklin Islands (AD 96303018); O. Tepper s.n., 1879, Ardrossan (AD 96303017 p.p.); R. Tate s.n., 8 Feb. 1879, Gully Bunda Cliffs E from Wilson Bluff (AD 96303017 p.p.); T. Richards s.n., Nov. 1879, Euria (AD 96303017 p.p.).

L. plebeia Sims var. *tomentosa* Hook.f, J. Bot.: 412 (1840). **Types:** Van Diemens Land, near Woolnoth, R. Gunn 655; New Holland, Cunningham. **Syntypes** (n.v., presumably at K).

L. australis Schrad. ex Colla, Hortus Ripulensis App. 1: 134 (1824), nom. nud.

Typification of *M. preissii*

The original specimens seen by Miquel will almost certainly be found in his herbarium in U or within the first set of *Plantae Preissianae* material in LD (Crisp 1983). As well as the isotypes seen in the National Herbarium of Victoria (MEL), Preiss collections are usually represented by numerous duplicates in other European herbaria

Variation within *Malva preissiana*

There are two distinctive morphotypes (variants) within *M. preissiana*. These have been recognised previously under *Lavatera plebeia* as var. *tomentosa* (Hooker 1840) and var. *eremaea* (Black 1926) for the white-flowered offshore island/coastal variant, with var. *plebeia* for the pink-flowered inland form (see also W.R. Barker 1986 for a brief discussion of differences

between these three varieties). In cultivation, plants attributable to var. *tomentosa* remain morphologically very distinct from var. *plebeia* under cross transplant experiments (Moore 1994). There are also instances where var. *plebeia* occurs on offshore islands or along coastlines, but there it remains strongly different from var. *tomentosa* (Keighery 1995; Keighery et al. 2002), and generally grows very poorly, producing tiny, stunted plants with much smaller flowers and fewer-seeded fruits (e.g. Rat Island in the Abrolhos Group). However, the two morphs do not differ in their ITS sequences (Conran unpubl. obs), suggesting that they are probably the same species based on ITS sequence divergence within and between *Malva* taxa (Ray 1995). Nevertheless, because these morphotypes are distinctive morphologically and ecologically, it is still important to note that the type for *M. preissiana* falls within the 'var. *tomentosa*' morphotype.

Excluded name

Malva tenuicalyx Ten.

Cat. Orto Bot. Napoli 87 (1845). **Type citation:** "Ten. Ind. sem. H. R. N. 1837. pag. 5." "Habitat in N. Hollandia?". **Holotype:** New Holland? without precise locality or collector (NAP?, n.v.).

The only other name within *Malva* applied to Australian material is *M. tenuicalyx* Ten. It is cited as having been grown from material possibly collected from Australia, but was described as having yellow flowers and a capsular fruit. There are no yellow-flowered *Malva* (or *Lavatera*) species with capsular fruits known for Australia, and it is quite probable that the taxon does not even belong in the Malvoideae if its fruit is truly a capsule.

The type specimen is likely to be held by Herbarium Neapolitanum (NAP) of the Università Degli Studi di Napoli Federico II (Holmgren & Holmgren 1998 onwards, De Castro & Menale 2004).

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References

- Barker, W.R. (1986). *Lavatera* L. In J.P. Jessop & H.R. Toelken, *Flora of South Australia* (Edn 4). (Govt Printer: Adelaide), pp. 833–835.
- Barker W.R., R.M. Barker, J.P. Jessop & H.P. Vonow (2005). Census of South Australian vascular plants. 5th Edition. *J. Adelaide Bot. Gard. Suppl.* 1. (Botanic Gardens of Adelaide & State Herbarium: Adelaide).
- Black, J.M. (1926). *Flora of South Australia*, Part III, 1st Edition (Meliaceae-Scrophulariaceae). SA Govt. Printer, Adelaide.
- Crisp, M.D. (1983). *Plantae Preissianae* types at Lund. *Australian Systematic Botany Society Newsletter* 36: 4-6.
- De Castro, O. & Menale, B. (2004). PCR amplification of Michele Tenore's historical specimens and facility to utilize an alternative approach to resolve taxonomic problems. *Taxon* 53: 147-151.
- Holmgren, P.K. & Holmgren, N.H. (1998 onwards, continuously updated). *Index Herbariorum*. New York Botanical Garden. Accessed 22 Nov. 2006. <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>
- Hooker, J.D. (1840). Contributions towards a Flora of Van Diemen's Land, chiefly from the collections of Ronald Gunn, Esq. and the late Mr Lawrence. *Hooker's Journal of Botany* 2: 399-421.
- Institute of Geobotany and Botanical Garden, Halle (2004). *Type collections of the herbarium of the Martin-Luther-University, Institute of Geobotany and Botanical Garden (HAL). Database of types*. Accessed in 2004 at <www.biologie.uni-halle.de/bot/herb_engl.html#liste>.
- Keighery, G. (1995). Additions to the flora of the Recherche Archipelago. *Western Australian Naturalist* 20: 133-138.
- Keighery, G.J., Alford, J.J., Longman, V.M. (2002) A vegetation survey of the islands of the Turpentine Coast from Dongara to Lancelin, south-western Australia. *Conservation Science Western Australia* 4: 13-62.
- Marchant, N.G. (1990). The Western Australian collecting localities of J.A.L.Preiss. In P.Short. (ed.) *History of systematic botany in Australasia*. (Australian Systematic Botany Society: Melbourne). pp.131- 135.
- Moore, B. (1994). Variation in *Lavatera plebeia* Sims (Malvaceae) in South Australia, and the taxonomic status of var. *tomentosa* Hook. f. and var. *eremaea* Black. Unpublished B.Sc. (Hons), The University of Adelaide.
- Ray, M.F. (1995). Systematics of *Lavatera* and *Malva* (Malvaceae, Malveae) - a new perspective. *Pl. Syst. Evol.* 198: 29-53.
- Ray, M.F. (1998). New combinations in *Malva* (Malvaceae – Malveae). *Novon* 8: 288-295.
- Tenore, M. (1845). *Catologo Delle Piante che si Coltivano nel R. Orto Botanico di Napoli*. (V. Puzziello, Naples).