

## *Leptospermum namadgiensis* (Myrtaceae), a new species from the Australian Capital Territory – New South Wales border area

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### Abstract

Lyne, A.M. (Australian National Botanic Gardens, GPO Box 1777, Canberra, ACT, Australia 2601) 1993. *Leptospermum namadgiensis* (Myrtaceae), a new species from the Australian Capital Territory – New South Wales border area. *Telopea* 5(2): 319–324. ***Leptospermum namadgiensis*** is described and illustrated with notes on distribution, habitat and ecology, conservation status and similar taxa.

### Introduction

This species was first brought to botanical attention by Phil Gilmour, who in the summer of 1987/88 had collected two samples of the taxon from Mt Scabby and Kelly Spur, both part of the Scabby Range that forms a southern part of the ACT–NSW border. Examination of the specimens and further field collections have revealed a taxon that does not match any previously described species.

#### ***Leptospermum namadgiensis* Lyne, sp. nov.**

Frutex, 20–50 cm altus, aliquando ad 1 m altus, foliis anguste oblanceolatis ad ellipticis, 3.5–9 mm longis, plerumque sericeis. Flores 6–10 mm diametro, sepalis villosis, persistentibus. Ovarium 3-loculare. Fructus 2–2.5 mm diametro, loculicidalis ad basem, saepe lobato in transectio, deciduus, hypanthio villosos.

HOLOTYPE: AUSTRALIAN CAPITAL TERRITORY: Namadgi National Park, ACT–NSW border, Scabby Range, summit of Mt Scabby, 35°45'40''S, 148°51'30''E, A. Lyne 735 & G. Flowers 30 April 1992 (CBG 9204225). Isotypes: AD, BISH, BRI, CHR, DNA, GAUBA, HO, K, MEL, MO, NSW, PERTH.

Shrub, 20–50 cm high in exposed sites, to 1 m high in sheltered sites, or occasionally procumbent. *Bark* firm and close, shedding in strips or in flaky layers; younger stems silky-pubescent, glabrescent. *Leaves* 3.5–9 mm long, 1.5–3.7 mm wide, divergent; lamina narrowly oblanceolate to elliptic, both surfaces usually covered in white silky hairs to give a silvery or light to dark grey-green appearance although occasionally sparsely hairy or glabrous to reveal the numerous dark oil glands, flat to slightly incurved in cross-section and usually infolded at the acute to shortly acuminate apex, the base tapering to petiole c. 1 mm long. *Flowers* 6–10 mm in diameter, occurring singly or two together on short shoots in leaf axils. *Bracts and bracteoles* not seen, shed before flower opens. *Hypanthium* c. 2.5 mm long, tapering to pedicel, villous, with spreading white hairs; top of ovary silky. *Sepals* c. 1.5 mm long, persistent, long-deltoid, red-brown, villous, the margins infolding, strongly so at the apex. *Petals* white or sometimes flushed pink, 2.5–3 mm long. *Stamens* 7–11, irregularly distributed around hypanthium rim, not obviously in discrete bundles; filaments glabrous, flaring at the base. *Style* not tapering, base shallowly inset into ovary summit; stigma capitate, not much greater in diameter than style. *Ovary* 3-locular, each locus with

6–9 ovules in two rows on a high placenta. *Fruit* 2–2.5 mm in diameter, often lobed in cross-section, villous, with spreading white hairs, widest around the middle and erect hypanthium rim which bears erect persistent sepals, the base mostly rounded above pedicel (c. 1 mm long), the valves thin and extending to hypanthium rim, loculicidal, splitting at times to pedicel, deciduous. *Mature seeds* c. 1.5 mm long, pale, obovoid, with a coarsely reticulate surface pattern. *Main flowering period* Dec.–Jan.

**DISTRIBUTION:** To date, *L. namadgiensis* has only been found on and near Mt Scabby, on and near Mt Kelly and on a knoll on the ridge between these two mountains in Namadgi National Park ACT, and Scabby Range Nature Reserve, NSW (Figure 1). This area forms part of the Scabby Range, which in turn forms part of the southern ACT border with NSW.

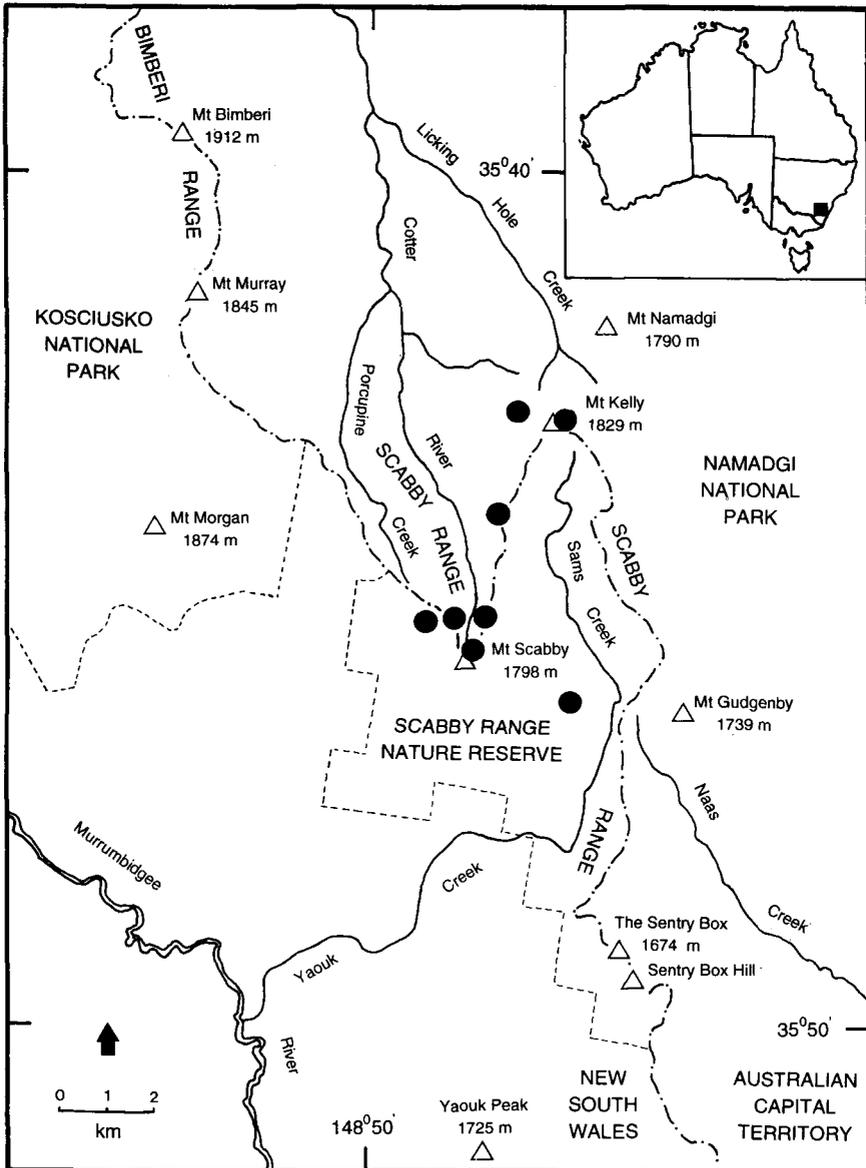


Figure 1. Distribution of *Leptospermum namadgiensis*.

Further field work will allow several other promising areas to be explored for *L. namadgiensis*. A BIOCLIM (bioclimate analysis and prediction system) analysis (see Busby 1991: 64–68) was run to predict the theoretical potential distribution of *L. namadgiensis* (Figure 2). BIOCLIM predicted Mt Namadgi (the most north-easterly open star in Figure 2) and the south-eastern flank of Mt Morgan (the most south-westerly open star in Figure 2) to be climatically suitable. Based upon field observations, both these mountains and also the ridge running from Mt Kelly to Mt Gudgenby inclusive appear to be suitable but have not yet been searched.

**HABITAT AND ECOLOGY:** The new species occurs on shallow, gravelly soil in crevices of rocks or on deeper humic coarse sands. The parent material is of undifferentiated granitic rocks. *L. namadgiensis* grows on exposed rocky ridge tops or mountain summits in low shrubland, low woodland or woodland at 1500–1820 m altitude. Other species commonly associated include *Eucalyptus pauciflora*, *E. debeuzevillei*, *Leptospermum micromyrtus*, *Kunzea muelleri*, *Oxylobium alpestre*, *Phebalium squamulosum* subsp. *ozothamnoides* and *Asterolasia trymalioides*.

**CONSERVATION STATUS:** Given its distribution in remote and rugged terrain and the protection afforded by Namadgi National Park and Scabby Range Nature Reserve, *Leptospermum namadgiensis* does not appear to be under any immediate threat. As such, a conservation code of 2RCat would seem appropriate, following the criteria given in Briggs & Leigh (1988: 7–13).

**EPITHET:** Namadgi is the name used by the local Aboriginal people to broadly encompass the mountain ranges to the south-west of Canberra.

**SIMILAR TAXA AND NOTES:** *L. namadgiensis* fits into the *L. brevipes* F. Mueller subgroup of Thompson (1989: 328). This subgroup is defined by Thompson (1989: 332) as having a restricted terminal bud development. Within this subgroup, *L. namadgiensis* appears closest to *L. blakelyi* J. Thompson, sharing the precocious development of the vegetative bud and the splitting of the fruit. Vegetatively, the less closely related *L. myrtifolium* Sieber ex DC. (in the *L. myrtifolium* subgroup of Thompson (1989: 334)), which may adjoin the habitat of *L. namadgiensis*, is very similar, but examination of its large, woody fruits or the linear striate pattern on the seeds reveals diagnostic differences.

In exposed sites, *L. namadgiensis* grows as an erect or spreading shrub to 50 cm high. In more sheltered sites it can either be an erect, bushy shrub to 1 m or a low, spreading, procumbent shrub covering several square metres.

An interesting feature of this taxon (which *L. blakelyi* shares) is the way in which the fruit continues to split after the valves have opened. In young fruit the loculicidal split is confined to the hypanthium rim and upper part of the hypanthium, but, as the fruit matures, the split continues down the length of the hypanthium. In fruit from previous seasons that have been shed and caught in the foliage, the split is seen to have continued to the pedicel. In this case the fruit divides into three widely spreading parts (Figure 3).

Cutting material and seeds were collected and have been incorporated into the living collections at the Australian National Botanic Gardens, Canberra.

**SELECTED SPECIMENS EXAMINED:** NEW SOUTH WALES: Southern Tablelands: c. 34 km SW of Tharwa, c. 2 km due west of Mt Gudgenby, unnamed ridge top, 35°46'20"S, 148°53'E, *Lyne 707 et al.*, 18 Dec 1991 (CBG, AD, AK, BRI, HO, K, MEL, MELU, NE, NSW, PERTH); Scabby Range, ACT–NSW border area, c. 2 km SSW of Mt Kelly, 35°44'S, 148°52'E, *Lyne 711 et al.*, 22 Jan 1992 (CBG, BRI, MEL, NSW); Scabby Range Nature Reserve, Scabby Range, ACT–NSW border c. 1 km NW of Mt Scabby, 35°45'10"S, 148°50'45"E, *Lyne 730 & Flowers*, 30 April 1992 (CBG). AUSTRALIAN CAPITAL TERRITORY: Mt Scabby, Namadgi National Park, 35°45'S, 148°51'30"E, *Gilmour 6296*, 15 Dec 1987 (CBG, MEL, NSW); Kelly Spur, Namadgi National Park, 35°43'S, 148°52'E, *Gilmour*

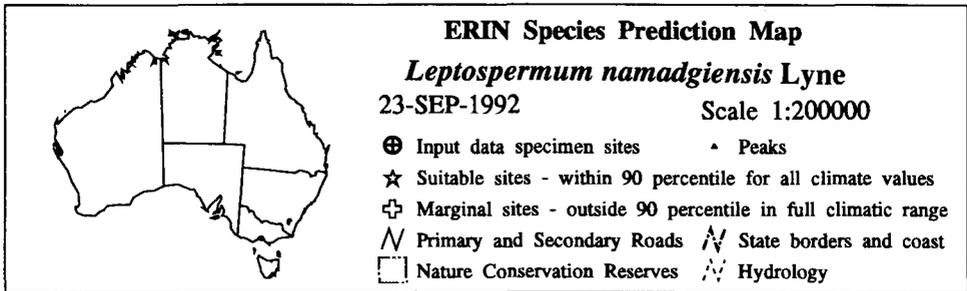
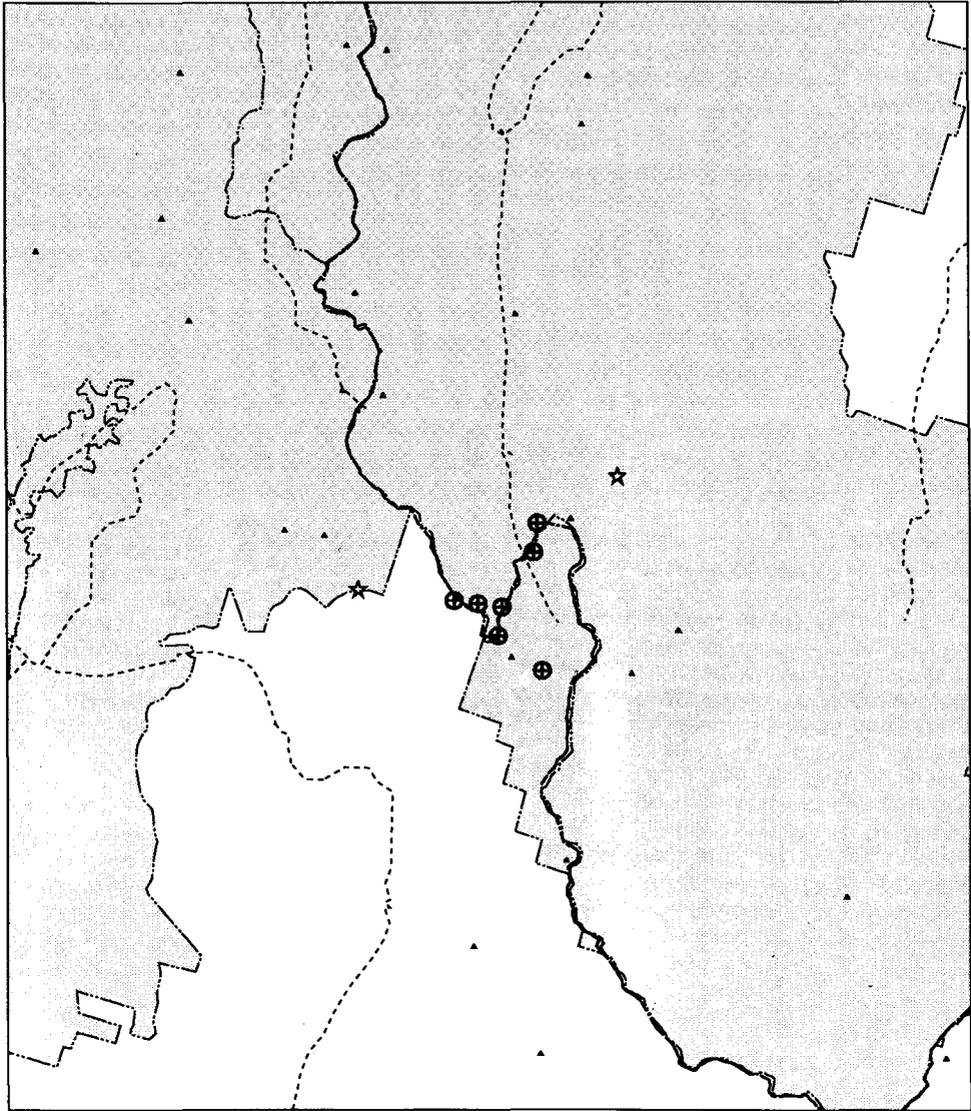
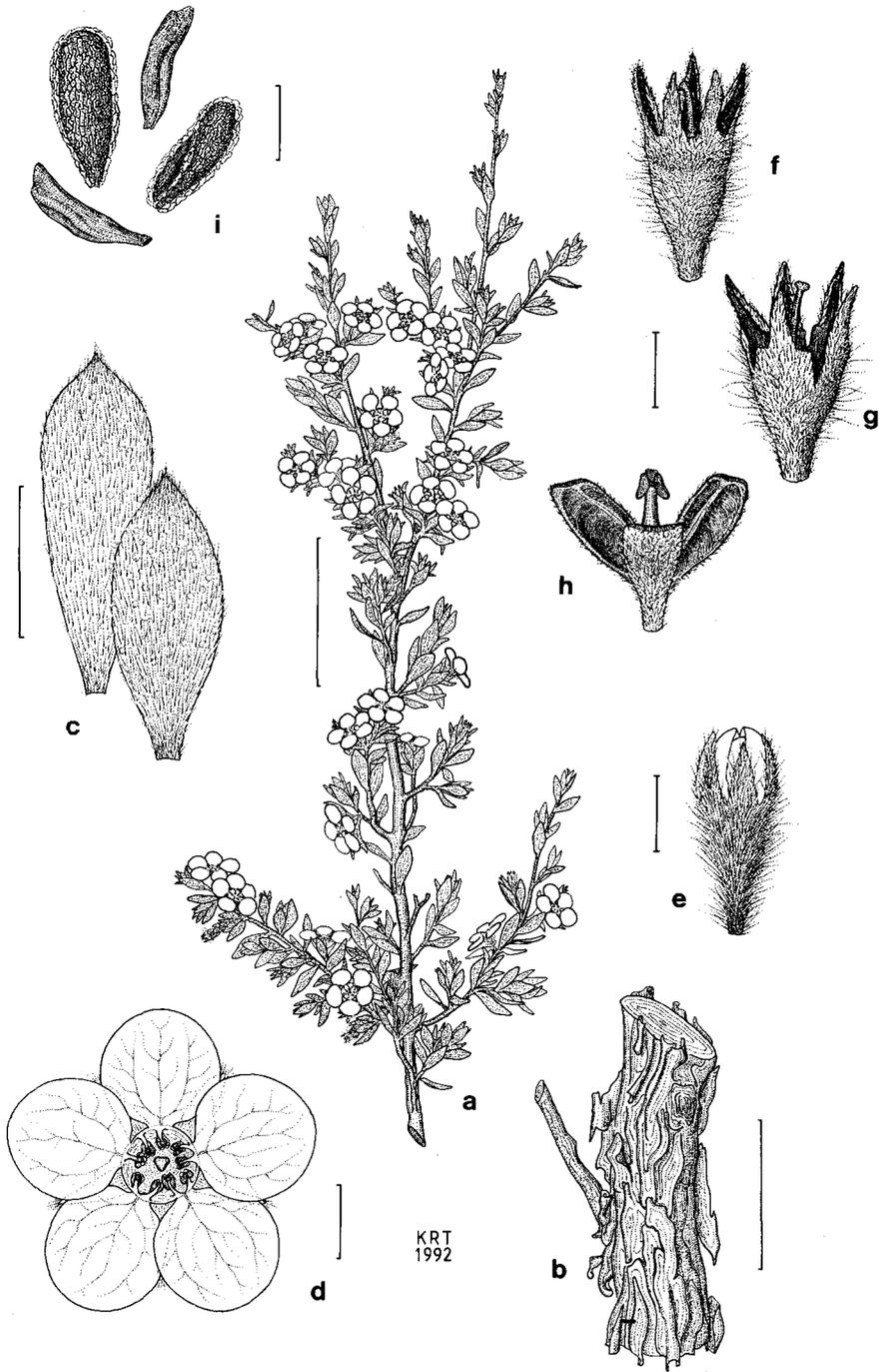


Figure 2. BIOCLIM species prediction map for *Leptospermum namadgiensis* (produced by ERIN).



**Figure 3.** *Leptospermum namadgiensis*. **a**, flowering branch; **b**, bark; **c**, leaves; **d**, flower; **e**, bud; **f**, **g**, **h**, fruits, showing transition from immature to old (in **h**, the style and stigma have abscised leaving the placentas on the central column); **i**, seeds and chaff. (**a**, **d**, **e**, **g**, **h** from *Lyne 707 et al.*; **b** from *Lyne 711 et al.*; **c**, **f**, **i** from *Lyne 730 & Flowers*). Scale bars: **a** = 20 mm; **b** = 10 mm; **c** = 4 mm; **d**, **e**, **f**, **g**, **h** = 2 mm; **i** = 1 mm.

6621, 22 Feb 1988 (CBG, NSW); Namadgi National Park, Scabby Range, ACT–NSW border, Mt Scabby, 35°45'11"S, 148°51'36"E, *Lyne 725 et al.*, 11 Mar 1992 (CBG, AD, AK, BRI, HO, K, MEL, NE, NSW, PERTH); Namadgi National Park, Scabby Range, headwaters of Cotter River, Mt Scabby, 35°46'20"S, 148°51'25"E, *Lyne 726 et al.*, 11 Mar 1992 (CBG); Namadgi National Park, Mt Kelly, 50 km SSW of Capital Hill, Canberra, 35°45'S, 148°52'E, *Streimann 80040*, 22 Jan 1992 (CBG, A, H, L, NY).

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