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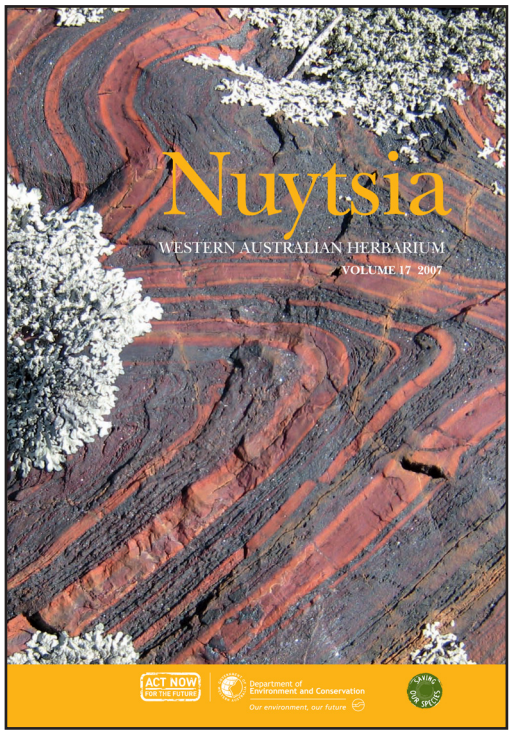

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Micromyrtus trudgenii (Myrtaceae: Chamelaucieae), a new species from the Blue Hill Range area of south-western Australia

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Micromyrtus trudgenii (Myrtaceae: Chamelaucieae), a new species from the Blue Hill Range area of south-western Australia

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Abstract

Rye, B.L. *Micromyrtus trudgenii* (Myrtaceae: Chamelaucieae), a new species from the Blue Hill Range area of south-western Australia. *Nuytsia* 17: 325–330 (2007). The new species *Micromyrtus trudgenii* Rye has conservation priority, being restricted to banded ironstone or dolerite hills in a small area south-east of Yalgoo in Western Australia. It is closely related to *M. racemosa* Benth., differing in its more elongate leaves with a distinct mucro, its yellow flowers and the almost parallel longitudinal slits on its anthers.

Introduction

Recently published revisions for the south-western Australian species of *Micromyrtus* Benth. (Myrtaceae) omitted those taxa that are considered to be variants or very close relatives of *M. racemosa* Benth. (Rye 2002, 2006). The *M. racemosa* complex is fairly widespread, extending from Kalbarri National Park south-east to Kondinin and inland to Diemals Station (Figure 1). One member of this complex is described here to facilitate its conservation, as it has a restricted range and occurs in a habitat that is under threat from mining.

The remaining members of the *Micromyrtus racemosa* complex will be described in a later paper. This species complex needs further study to determine how many additional taxa need to be recognised formally. Two of its variants are currently too poorly known to describe fully as they are each known from a single collection.

Methods

All measurements were taken from dried material as outlined in Rye (2006). The distribution map was compiled using DIVA-GIS freeware Version 5.2.0.2 (http://www.diva-gis.org/), is based on PERTH specimen data and shows Version 6.1 Interim Biogeographic Regionalisation for Australia (IBRA) regional boundaries (Department of the Environment and Water Resources 2007). Due to conservation concerns precise locality data is withheld.

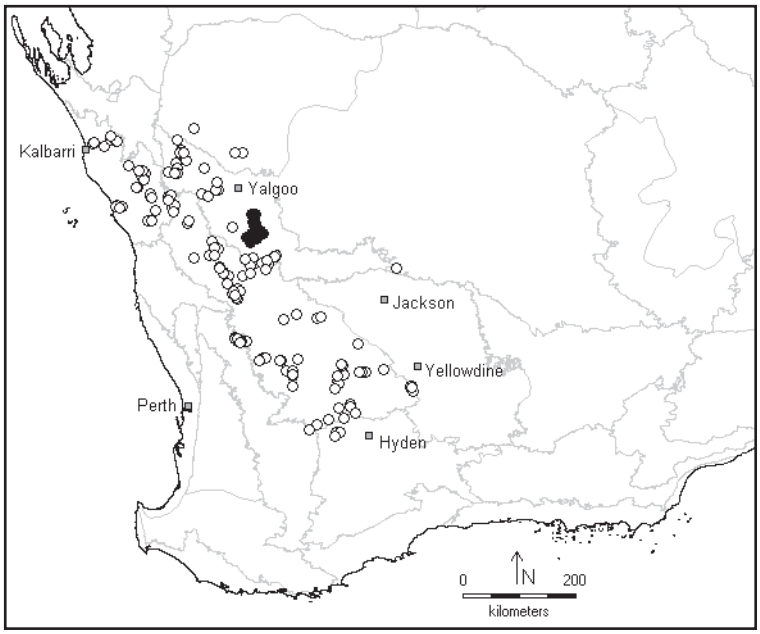

Figure 1. Distribution of *Micromyrtus trudgenii* (●) and the remainder of the *M. racemosa* complex (○) in south-western Australia.

Description

Micromyrtus trudgenii Rye, *sp. nov.*

Micromyrto racemoso Benth. valde affinis sed petalis luteis, cellulis antherarum multo parallelis differt.

Typus: west of Paynes Find, Western Australia [precise locality withheld for conservation purposes], 17 October 1975, *J.Z. Weber* 5166 (*holo*: PERTH 02503166; *iso*: AD *n.v.*, CANB, MEL).

Micromyrtus sp. Warriedar (S. Patrick 1879A), in G. Paczkowska & A.R. Chapman, West. Austral. Fl: Descr. Cat. p. 400 (2000).

Shrubs erect, open, 1–2 m high, up to at least 1 m diam. *Leaves* mostly spreading, very densely arranged on the smaller branchlets. *Petioles* 0.5–0.7 mm long. *Leaf blades* very narrowly obovate to linear in outline, 4–9 mm long, 0.4–0.6 mm wide, 0.3–0.5 mm thick, terminating in a mucro 0.05–0.15 mm long, margins entire; lower surface steep-sided, with a narrow indentation along midvein or rarely with no groove, with 7–17 main glands up to 0.1 mm diam. on each side of midvein; upper surface slightly concave to slightly convex. *Racemes* mostly extending for 6–15 nodes, with widely spreading flowers; peduncles 0.8–2 mm long. *Bracteoles* caducous, rather scarious, narrowly obovate with margins strongly incurved, 0.7–1.3 mm long, often pale, acute, entire. *Buds* with apex hemispheric or high-hemispheric. *Flowers* usually 3–3.5 mm diam.; hypanthium terete, *c.* 2 mm long, *c.* 0.5 mm wide at midpoint, 1–1.4 mm wide at summit, free in distal 0.4–0.5 mm, 10-ribbed. *Sepals* fairly erect in flower and fruit, scarious, very depressed, *c.* 0.2 mm long, 0.4–0.5 mm wide, broadly obtuse, entire. *Petals* widely spreading in flower, closing erect in fruit, more or less broadly elliptic, 1.3–1.6 mm

long, pale to medium yellow, broadly obtuse, entire. *Stamens* 10, the antipetalous ones inserted on summit of disc, the antisepalous ones inserted near the middle of the free tube. *Antipetalous filaments* 0.3–0.35 mm long. *Anthers* 0.25–0.35 mm long; slits subparallel (much closer to longitudinal than transverse); gland with 2 small lateral lobes at base. *Ovary* with 2 ovules in a terminal cavity. *Style c.* 0.25 mm long. *Fruit* terete, tapering very slightly from top to base, 2.2–2.4 mm long, 0.9–1.2 mm wide, 1-seeded; hypanthium 10-ribbed. *Seed* approximately the same shape as the fruit, *c.* 2 × 0.9 mm; enveloping membrane 10-ribbed, golden-brown to deep orange-brown. (Figures 2, 3)

Selected specimens examined. WESTERN AUSTRALIA [localities withheld]: 22 June 2000, *A. Chant* 6 (NSW, PERTH); 22 June 2000, *A. Chant* 8 (PERTH); 22 Apr. 2006, *D. Coultas s.n.* (K, PERTH); 30 Sep. 2004, *C. Godden & G. Woodman* Msw Loc 60 (PERTH); 5 Aug. 2005, *A. Markey & S. Dilon* 3350 (CANB, MEL, PERTH); 16 Sep. 2005, *A. Markey & S. Dillon* 3355 (PERTH); 18 Oct. 2005, *A. Markey & S. Dillon* 3352 (PERTH); 18 July 1994, *S.J. Patrick* 1879A *& A. Brown* (BRI, PERTH).

Distribution and habitat. Known from the Blue Hill Range and nearby hills, extending from near Minjar Hill south to Warriedar Station, south-east of Yalgoo, Western Australia (Figure 1). Occurs on the tops and slopes of hills and ridges of banded ironstone or dolerite, in association with a variety of species of *Acacia*. Another species restricted to the same habitat, *Polianthion collinum* of the Rhamnaceae, has an almost identical distribution to that of *M. trudgenii*.

Phenology. Flowers and fruits from June to October.

Conservation status. Department of Environment and Conservation (DEC) Conservation Codes for Western Australian Flora: Priority Three. Previously listed as having a Priority One status (Atkins 2006), this species has now had its conservation coding revised as additional populations have been discovered. At one of the mine sites where this taxon has been surveyed, there are estimated to be over 500 plants occurring on a number of ridges. All known localities are on potential mine sites and all in a restricted area *c.* 45 km long.

Etymology. Named after Malcolm Eric Trudgen. In the course of his studies of *Baeckea* and other small-flowered Myrtaceae, Malcolm allocated informal names to the new species of *Micromyrtus* described here and to the species now known as *M. uniovula*. He was apparently the first collector of the latter species.

Affinities. Micromyrtus trudgenii is one of several members of the *M. racemosa* complex that have mucronulate leaves. It differs from other members of the complex in its usually more densely clustered longer leaves, its yellow flowers, and in the almost parallel vertical orientation of the two long slits of dehiscence of its anthers. All other members of the complex have white to cream (sometimes pink-tinged) petals and they mostly have much more oblique slits, which converge towards the base of the anther.

Micromyrtus racemosa s. str. is the only previously named member of the complex and the only one to occur immediately adjacent to, or overlap slightly in range with, *M. trudgenii*. It is readily distinguished by its unclustered shorter leaves that lack a mucro or are scarcely mucronulate, as well as by its different flower colour and very oblique anther slits.

The white-flowered *Micromyrtus racemosa* var. *mucronata* J.W. Green ms appears to be the closest relative of *M. trudgenii*, being similar in having clustered mucronulate leaves and in tending to have

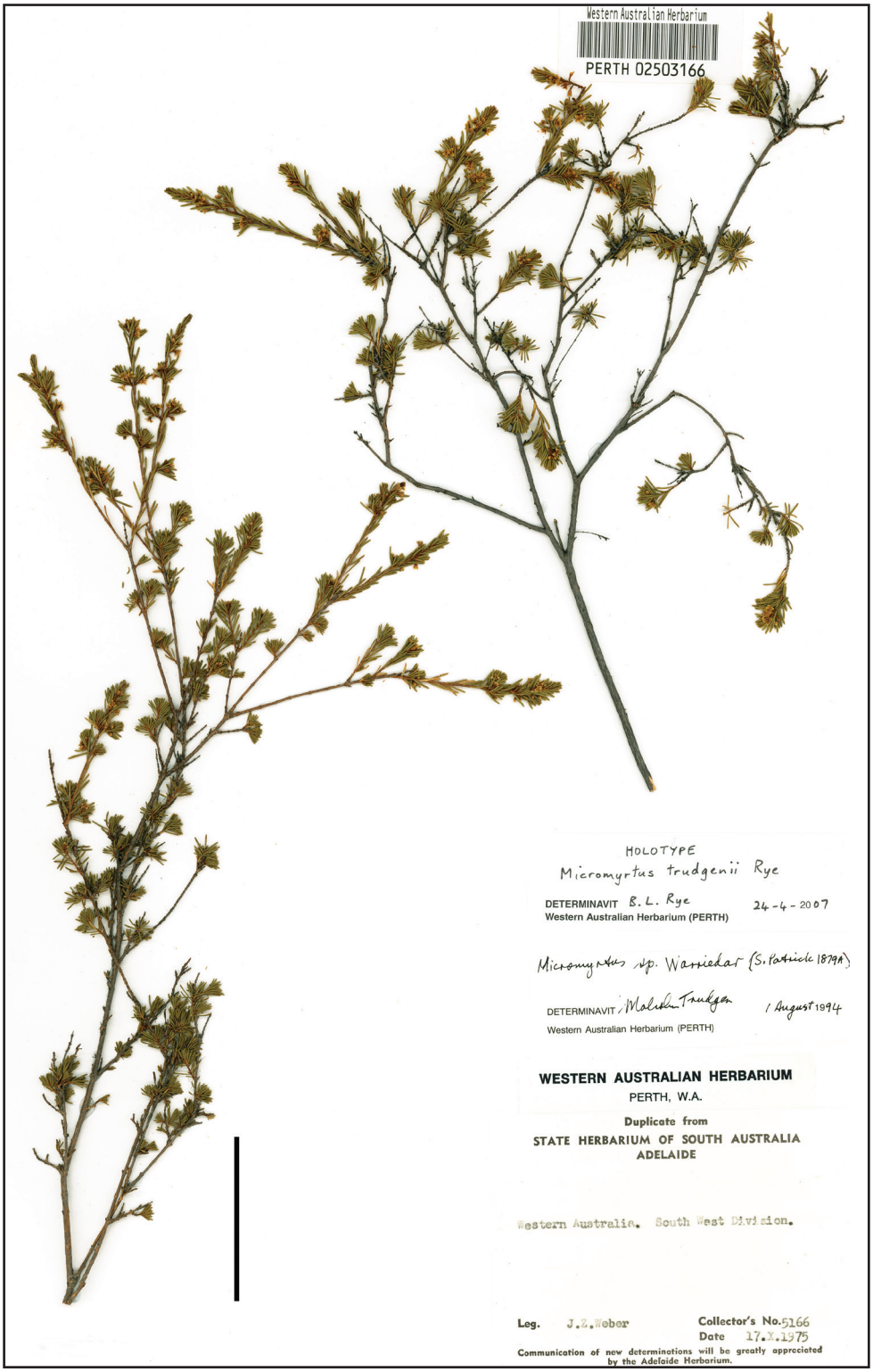

Figure 2. Holotype of *Micromyrtus trudgenii* (*J.Z. Weber* 5166). Scale bar = 5 cm.

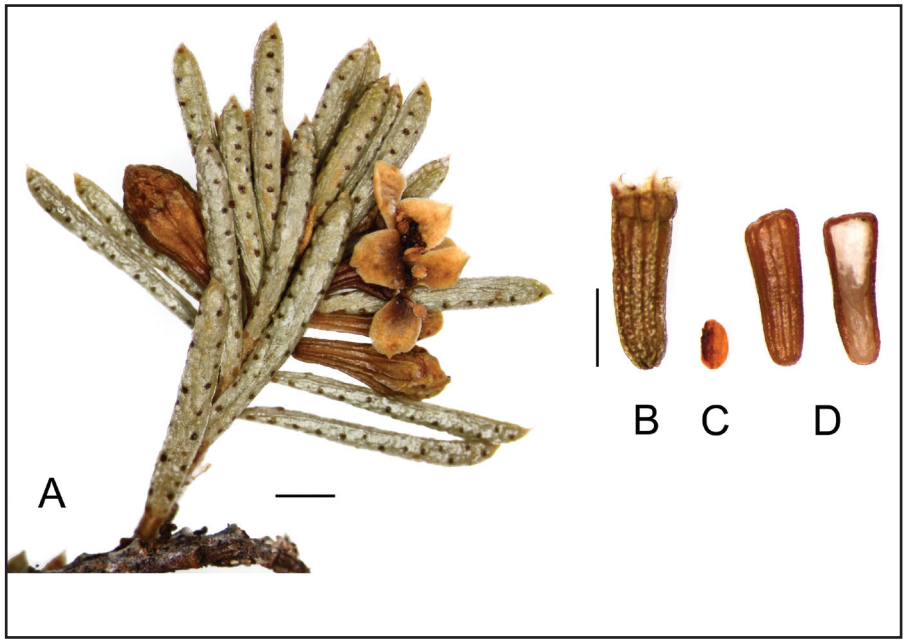

Figure 3. *Micromyrtus trudgenii*. A – flowering branchlet from *J.Z. Weber* 5166, showing leaves from lower and side views, buds and an open flower; B – fruit from *D. Coultas s.n.*, 22 Apr. 2006; C – compressed ovule from *C. Slee* 693–01; D – mature seeds from *C. Slee* 693–01, right hand seed with a portion removed to show the white interior. Scale bars = 1 mm, B–D to scale.

the anther slits subparallel. *Micromyrtus racemosa* var. *mucronata* also occupies a similar habitat but is apparently restricted to a range of hills over 50 km south of the range of *M. trudgenii*. Its leaves tend to be shorter and are more flattened than those of *M. trudgenii*; if a groove is present on the lower surface it is broad, not narrow as in *M. trudgenii*, and the oil glands are in a single, more prominent, row on each side of the midvein.

Another mucronulate variant of the complex, currently known as *M. racemosa* var. Jingemarra (R.J. Cranfield 5253a), has leaves with the apical point up to 0.3 mm long, compared with a mucro up to 0.15 mm long in *M. trudgenii* and *M. racemosa* var. *mucronulata*. *Micromyrtus racemosa* var. Jingemarra also differs from *M. trudgenii* in its broader and shorter leaves with more numerous small oil glands. This taxon appears to be a distinct species but is too poorly known to describe fully. Its only known locality is over 100 km north of the range of *M. trudgenii*.

Notes. All of the diagnostic characters mentioned above for this species are shown in Figure 3A, which also illustrates the shape of the flower buds with their uniform longitudinal ribbing. As in other members of the *Micromyrtus racemosa* complex, the new species has two ovules, only one of which forms a seed (Figure 3D), while the other remains small and becomes pressed flat in the mature fruit (Figure 3C).

Micromyrtus trudgenii overlaps in range with another yellow-flowered species, *M. sulphurea* W.V.Fitzg., but that species is readily distinguished by its shorter leaves, by its longer stamens and style and by the persistent spreading petals on its fruit.

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