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Lomandra rubriflora (Asparagaceae: Lomandroideae), a new species from the Wet Tropics of north eastern Queensland, Australia

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Abstract

Lomandra rubriflora B. Gray *sp. nov.*, from the Wet Tropics area in northern Queensland, Australia, is described, illustrated and compared to *L. grayi* Jian Wang ter, a closely related species.

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Introduction

The genus *Lomandra* Labill., in Asparagaceae: Lomandroideae (Angiosperm Phylogeny Group, 2016), has been studied extensively in recent years and currently 59 accepted species and 10 subspecies are recognized (Australian Pland Census, https://biodiversity.org.au/nsl/services/search/taxonomy, accessed 22 Oct 2026). All of these occur in Australia, with two extending to New Guinea and one to New Caledonia.

Recently, several new, closely related species (*L. scabrifolia* Jian Wang ter & B.Gray, *L. tenuifolia* Jian Wang ter & B.Gray; *L. dolichoclada* Jian Wang ter, *L. accedens* Jian Wang ter and *L. grayi* Jian Wang ter) have been described from the Wet Tropics of Queensland and the drier, mineralized ridges just to the west of the Atherton Tableland. Close examination in the field and herbarium of *L. grayi* have led to the recognition that it comprises two separate taxa; accordingly, the new species *L. rubriflora* is segregated from *L. grayi* in this paper.

Lomandra rubriflora was first thought to occur only on dry, very rocky granite ridges to the west of Atherton, southwest of Cairns. However, further targeted field work has resulted in specimens also being collected from tall Wet Sclerophyll Forest and on the margin of and into rainforest in Dinden National Park west of Cairns.

Methods

This study is based on fresh material as well as dried and spirit preserved herbarium specimens held at BRI and CNS.

Taxonomy

Lomandra rubriflora B. Gray *sp. nov.*

Type: Australia. Queensland. Cook District, Mount Baldy State Forest. Western Road. 6 Feb. 2026, B. Gray 10194 (holotype BRI: isotype: CNS).

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Figure 1. *Lomandra rubriflora*: a—habit; b—female inflorescences; c—male inflorescences; d—fruits (undehisced); e—fruits (dehisced); f—female flower; g—leaf apices. Scale bars represent 10 mm except on f where it is 1 mm. All photos—Bruce Gray.

Tussocks usually comprising several to numerous tufts from short ascending rhizomes, each tuft 5–15 mm in diameter at the base with leaves arranged distichously or irregularly. **Leaves** glabrous, upright to reflexed, 25–50 cm long, 4–7(–10) mm wide. Leaf sheaths cream to creamy brown, the margins at first membranous, to 5 cm long, fraying to strips or fibres. **Leaf blades** green to yellowish green, flat (sometimes slightly convex abaxially), smooth, with 14–20 parallel veins, the margins smooth but with a few very short, fine, hairlike teeth at the apex. Leaf apex obtuse to rounded, without teeth. Male and female inflorescences similar in appearance. **Male inflorescence** a raceme, 1–3(–5) per tuft, each 1.8–6.5 cm long; scape flattened, smooth, 1–3(–5) cm long, 1.8–2.5 mm wide, white, with or mostly without 1 intermediate bract to 1.5 mm long; rachis mostly terete, 5–20 mm long 1–1.5 mm wide, white; inflorescence subtended at the base by 3–6 membranous white to pale brown bracts 5–12 mm long, 1–2 mm wide, clasping the inflorescence base. **Male flowers** 5–15(–25), alternate, densest at the rachis apex, each flower subtended by a bract to 2.5 mm long and 1.5–2 mm wide, clasping at the base, acute at the apex, almost encircling the pedicel; pedicels terete, 0.5–2 mm long, 0.5–1 mm wide, white; flowers usually of similar age within each inflorescence; buds globular, pinkish-cream to pink or dark pink; **male perianth** segments 6, with distinct outer and inner whorls; **outer tepals** (sepals) 3, deltoid, free almost to the base, thick-textured, strongly cucullate, 2–2.1 mm long. 2.1–2.5 mm wide, pink to dark pink to maroon with thin, paler margins; **inner tepals** (petals) 3, broadly elliptical to orbicular, free except at the very

Table 1. Vegetative and floral differences between *Lomandra grayi* and *L. rubriflora.*

	L. grayi	***L. rubriflora***
Leaf width	3–5 mm	4–7(–10) mm
Leaf apex	obtuse, near rounded, minutely toothed	obtuse to rounded, without teeth
Male inflorescences	32–55 cm long, unbranched or with few branches	1.8–5.5 cm long, unbranched
Male flowers	40–90, on pedicels 2.5–7 mm long; sepals green; petals cream, 1.5–1.8 mm long	5–15(–25), on pedicels 0.5–2 mm long; sepals pink to maroon; petals 2.8–3 mm long
Female inflorescences	4–30 cm long	3–6 cm long
Female flowers	10–25, 2.6–3.5 mm long, on pedicels to 0.2 mm long	3–10, 2.7–2.9 mm long, on pedicels 1–3(–6) mm long

base, thick and fleshy, 2.8–3 mm long, 2.5–3.4 mm wide, pink to dark pink; **stamens** 6, all adnate to the base of the tepals, 3 alternating with inner tepals positioned slightly higher, *c.* 1.1 mm long, 0.3–0.5 mm diameter at the base, 3 alternating with the outer tepals positioned slightly lower, 0.9–1 mm long, 0.3–0.4 mm diameter at the base; anthers all similar, dorsifixed, 0.8–0.9 mm long, 0.6–0.7 mm wide, bright yellow; **pistillode** whitish, 0.2 mm high or missing. **Female inflorescence** a raceme, 1–2(–4) per tuft, 3–6(–9) cm long, usually completely hidden under leaf litter; scapes terete, oval or flattened in cross section, smooth, white or creamy white, 2–6(–7) cm long, 1.3–2 mm broad; rachis flattened or slightly angled, smooth, 5–20 mm long, 0.6–1.5 mm wide. **Female flowers** 3–10(–15), alternate, usually crowded; each flower subtended by a membranous bract which is narrowly triangular, broadest at the base, acute at the apex, 1.5–2.5 mm long, 0.8–1 mm at the base, partly encircling the pedicels, which are 1–3(–6) mm long, 0.4–0.6 mm wide, terete or sometimes flattened, white. Female flowers of similar age within each inflorescence; buds ovate, opening to cup-shaped with age, pinkish to pink; **female perianth** segments 6, with distinct outer and inner whorls, pink to dark pink; **outer tepals** (sepals) ovate, 2.2–2.5 mm long, 1.5–1.7 mm wide, fused to inner tepals at the very base; **inner tepals** (petals) broadly ovate to almost orbicular, 2.7–2.9 mm long, 2.6–2.7 mm wide, connate near the base; **staminodes** small and inconspicuous, the vestigial anthers sessile, 3 central on inner tepals, 3 alternating with them central on lower part of outer tepals; **pistil** conspicuous, styles fused, 0.4–0.5 mm long, 0.4–0.5 mm wide, stigmatic lobes 3, *c.* 0.4 mm long; **ovary** sessile, compressed-globular, 1.6–1.9 mm diameter, with 3 locules; **ovules** 1 per loculus. **Fruiting pedicels** 1–3(–5) mm long, 0.4–0.6 mm wide. **Fruiting styles** usually persistent, 0.3–0.4 mm long. **Capsules** globose to slightly compressed-globose 7–8(–9) mm high, 8–8.5 mm diameter, pinkish-brown to dark brown with 2 or 3 transverse stripes or ridges when ageing; carpels cream to pale greenish brown; fruiting perianth segments 6, persistent, each 2–2.5 mm long, 2–3 mm wide. **Seeds** 1 per locule, with 1–3 developed per fruit, ovoid to ellipsoidal, 5.9–7 mm long, 4–4.2 mm wide, flat to slightly 2-angled on inner face, domed and rounded on outer face, smooth, cream or creamy white.

Additional Specimens Examined:- Australia. Queensland: Cook District, 500 m N of Bridal Ck. Road, Dinden SF, 4 Jan. 2013, *B.Gray* BG9550 (CNS); 700 m N of high transmission powerline, Bridal Ck area, North of Bare Hill,18.5 km ENE of Mareeba, 12 Jan. 2018, *Gray & Simpson* BG10088, BG10089. BG10090, BG10091 (BRI); Mt Baldy SF. Western Rd., 19 Jan. 2023, *B.Gray* BG10099 (BRI); 700 m N of high transmission line Bridal Ck. N of Bare Hill, 18 km ENE of Mareeba, 24 Feb. 2024, *B.Gray* BG10136, BG10140, BG10141, BG10151 (BRI); 700 m N of high transmission line Bridal Ck. N of Bare Hill, 18 km ENE of Mareeba, 20 Jan. 2026, *B.Gray & S.Kitchener* BG10191 (BRI, CNS); Mt. Baldy SF, Western Road, 6 Feb. 2026, *B.Gray* BG10194 (BRI, CNS); Mt Baldy SF, Western Road, 16 Feb. 2026, *B.Gray* BG10195 (BRI, CNS).

Diagnostic features*. Lomandra rubriflora* plants are very similar to *L. grayi* but are easily distinguished by inflorescence structure: *L. rubriflora* has male and female inflorescences usually < 6 cm long and pink flowers, while in *L. grayi* male inflorescences are 32–55 cm long, female inflorescences are 4–30 cm long, and flowers are cream (Table 1).

Distribution & habitat. *Lomandra rubriflora* is endemic to northeast Queensland, occurring in the ranges west of Cairns where it can be locally common. It occurs between 500 and 1300 m, in open forests on rocky ridges among grasses and sedges with *Corymbia intermedia, C. citriodora* and *Eucalyptus portuensis*, in wet sclerophyll forest with *Corymbia intermedia*, *Eucalyptus*

resinifera, *E. grandis*, *Allocasuarina littoralis, A. torulosa* and *Syncarpia glomulifera*, and penetrating into rainforest margins and rainforests.

Phenology. Male and female flowering has been recorded from December to May, and fruiting specimens collected between December and February.

Etymology. From the Latin *ruber* (reddish) and *flos* (a flower), in reference to the pink to reddish flowers.

Notes. Vegetatively, *Lomandra rubriflora* could be mistaken for *Lomandra grayi*, both having a similar growth habit. The two species are easily distinguished by their distribution, *L. grayi* occurring north of 14° S and *L. rubriflora* south of 16° S.

Lomandra rubriflora grows with a heavy covering of leaf litter, and flowering and fruiting can usually only be seen if this is removed. Seeds sometimes germinate within a tussock, so some tussocks can comprise both male and female plants.

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