

A NEW SPECIES OF LOMANDRA (LOMANDRACEAE) FROM THE WHICHER RANGE, WESTERN AUSTRALIA

GREG KEIGHERY

Department of Environment and Conservation,
Wildlife Research, P.O. Box 51, Wanneroo, WA 6065
email: gregk@calm.wa.gov.au

ABSTRACT

A new species of *Lomandra*, *L. whicherensis* Keighery, is described and illustrated. The new species is confined to the Whicher Scarp, SE of Busselton in southern Western Australia. It is unique in the genus in possessing erect male and recurved female inflorescences.

INTRODUCTION

The Whicher Range is a sickle shaped landform unit that lies between the Blackwood Plateau and the Swan Coastal Plain. This Range extends from near Burekup in the north where it meets the Darling Scarp, to Dunsborough to the west where it meets the granites of the Leeuwin ridge. The Range forms a gentle incline dominated by sandy and lateritic soils with a covering of mostly woodlands with patches of shrublands. The plant communities reflect elements of the flora of the Jarrah Forest and the Ridge Hill Shelf. A series of rivers and creeks incise the Scarp, which when naturally vegetated support plant communities of the wet Jarrah Forest. The area has long been recognised as an area of significance for vascular plants

and is currently being subject to a detailed floristic study. The Range and escarpment are highly biodiverse and contain a large number of disjunct plant species, range ends and a series of endemic taxa. Preliminary interpretation of the results of the survey to date, has recognised up to 83 species as being significant taxa of the Whicher Scarp landform units, these comprise (lists are not mutually exclusive):

- 19 species which are centred upon the Busselton Ironstone landform.
- 13 species of Declared Rare Flora which are located within the Whicher Range landform.
- 34 species of CALM Priority listed flora occurring within the Whicher Range landform units.

- 8 new taxa; *Grevillea pulchella* subsp.nov, *Logania wendyae*, *Lomandra whicherensis*, *Loxocarya* sp. (G. Keighery 12060), *Platytheca* sp. Argyle (G. & B. Keighery 281), *Platytheca* sp. Sabina (G. & B. Keighery 295), *Ricinocarpos* aff. *cyanescens*, and *Stylidium* aff. *miniatum*.
- 29 species with either highly disjunct populations or are at their geographic range ends.

One of the new taxa discovered during these surveys is described herein.

TAXONOMY

Description of species

Lomandra whicherensis G.J. Keighery, sp nov. (Fig 1)

Ab *L. maritima* T.S. Choo. differt a foliis apex trilobus, caulis confertus obtectus per mortus bruneolus foliis. Rachis femineus inflorescentia recurvatus; florescentia Dec.

Typus: Gavins Road, west of Buffer Road, Argyle Forest Block, 33° 31' 24.4" S 115° 43' 49.2" E, 10-Dec. - 2005, G.J. & B.J. Keighery 745 (Holo: PERTH 07325657).

Perennial, rhizomatous tussock forming dioecious herb, to 30 cm across. Leafy stems ascending, up to 15 cm long, densely tufted, and completely covered from ground level to 7–12 cm by a dense tangle of coiled and curled old brown leaves. *Leaves* basal, soft, narrow linear, flat, green, glabrous, 25–40

cm long, 2–3 mm wide, margin entire, apex three lobed, normally grey, spreading to erect. Sheathing bases brown, with scarious margins splitting into fibres. Male and female inflorescence dissimilar. *Male inflorescence* an erect open panicle, 15–25 cm long, about 1/2 to 2/3 length of leaves, whorled, branches 2–4 per node, subtended by a conspicuous triangular to narrowly triangular bract, 2–6 mm long, with branches bearing normally 2 or a solitary flower at each node, subtended by a single bract and bracteole. Flowers are pendant on a slender pedicel. *Flowers* not noticeably fragrant. *Male flowers*, globular, outer tepals purple-inner tepals yellow, 2–3 mm long on pedicels 1–2 mm long. *Tepals* free, incurved, differentiated into an outer sepaloid whorl and inner petaloid whorl; outer tepals purple, shorter than inner tepals, membranous, narrowly ovate to rotund, 2–3 mm long, c 2 mm wide; inner tepals thick and fleshy, with membranous recurved margins, broadly ovate to rotund. Stamens free, mostly equal in length, c. 1.5 mm long, *Female inflorescence* a panicle, sharply recurved in the upper part of the peduncle below the panicle, basal erect portion 10–20 mm. Peduncle smooth, markedly flattened. Female panicle is markedly shorter than the male, 25–35 mm long, branches usually whorled, 2–4 per node, with fewer flowers hidden by the leaves. Pedicels stout, stiff, erect,



0.5–5 mm long, each subtended by a bract and bracteole. *Female flowers* globular to ellipsoid, yellowish, 2.5–3.5 mm long; perianth segments free, apices only slightly parted at anthesis. *Tepals* free, incurved, differentiated into an outer sepaloid whorl and inner petaloid whorl; outer tepals yellow or purple-yellow, fleshy, narrowly ovate to rotund, shorter than inner tepals; inner tepals yellow thick and fleshy, with membranous recurved margins, broadly ovate to rotund. *Ovary* green, three celled with one ovule per cell. *Capsules* green at maturity, resting on ground, 10–11 mm across, with one large yellow seed per locule, 4–5 mm long.

Distribution and Habitat. Normally found along lateritic or quartzite ridges under low woodlands of Mountain Marri (*Coymbia haematoxylon*). Flowers recorded in December. Previous year's mature capsules present in December.

Conservation status. Should be listed as CALM Priority 1 as it is currently not known from any conservation reserve.

Etymology. The specific name is derived from the Whicher Range and Scarp, where this species is confined.

Other specimens examined. WESTERN AUSTRALIA: Dardanup Forest Block, 33° 24' 53" S 115° 48' 09" E, 4 – October – 1995, G.J. Keighery 15065 (PERTH), Gavins Road, Argyle Forest Block, 10 – December – 2005, G.J. & B.J. Keighery 744 (PERTH, male plant), Gavins Road, Argyle Forest Block, 10 – December – 2005, G.J. & B.J. Keighery 746 (PERTH, female plant).

DISCUSSION

This species was first recorded sterile during a survey of Dardanup Forest Block (Keighery *et al.*, 2007, in press).

The species has proved elusive to find in flower, being heavily grazed by Western Grey Kangaroos in all known populations, which appears to inhibit flowering. At the type population only 10% of plants were flowering in 2005.

Of the 50 species recognised in *Lomandra* (Lee & Macfarlane 1986), this species is the second known to possess nutant inflorescences, the other being *Lomandra nutans* Macfarlane (Macfarlane 1984). However, in that species both male and female inflorescences are recurved. *Lomandra whicherensis* seems more closely related to

◀ **Figure 1.** A. Flowering stem of female plant of *Lomandra whicherensis*, showing presence of mature fruit and flowers on same plant (From specimen Keighery & Keighery 745). X 1/3; B. Female inflorescence (Keighery and Keighery 745) X0.8; C. Male inflorescence of *Lomandra whicherensis* (Keighery and Keighery 744) X1/2; D. apex of leaf (Keighery and Keighery 745) X4. Note most mature leaves on illustration A have lost their tips through grazing or abrasion.

Lomandra maritima T.S. Choo and *L. hermaphrodita* (C. Andrews) C.A. Gardn. (Choo 1984). Both of these Western Australian species, retain the dry leaves as a covering of the aerial portion of the rhizome, although neither has as dense a covering as *Lomandra whicherensis*.

ACKNOWLEDGEMENTS

Thanks to all participants of the survey groups, who searched for flowering material on several occasions.

REFERENCES

- CHOO, T.S. 1984. Two new Western Australian species of *Lomandra* Labill. (Xanthorrhoeaceae). *Nuytsia* 5: 43–48.
- KEIGHERY, G.J., KEIGHERY, B.J. and GIBSON, N. 2007. Floristics of reserves and bushland areas of the Whicher Scarp 1: Flora and Vegetation of Dardanup Forest Block. *Western Australian Naturalist* 26: 42–66.
- MACFARLANE, T.D. 1984. *Lomandra nutans* (Xanthorrhoeaceae or Dasypogonaceae), a new species from the Stirling Range area, Western Australia. *Nuytsia* 5: 171–175.
- LEE, A.T. and MACFARLANE, T.D. 1986. *Lomandra*. Flora of Australia 46: Australian Government Publishing Service, Canberra, 100–141.