

SHORT COMMUNICATION

A new *Mitrasacme* (Loganiaceae) from the Western Australian desert

Dunlop (1996) revised *Mitrasacme* Labill. for *Flora of Australia*, recognising 48 species in three subgenera (Dunlop 1996). Of these, 22 occur in Western Australia and are largely restricted to the Kimberley, with a few species extending into the Pilbara (Western Australian Herbarium 1998–). In 2001, an apparently undescribed species was collected from the Gibson Desert, an area remote from all previous collections (Figure 1). The same entity was recently collected in the Little Sandy Desert, some 500 km to the west, during a biological survey of Katjarra [Carnarvon Range area] in the Birriliburu lands (Gibson *et al.* 2015). Study of these collections has confirmed that they represent a new species, which is formally described below.

Mitrasacme katjarranka N.Gibson & S.J.van Leeuwen, *sp. nov.*

Type: Lake Kerrylyn [Little Sandy Desert], Western Australia [precise locality withheld for conservation reasons], 17 May 2014, N. Gibson 7252, S. van Leeuwen, M. Langley & K. Brown (*holo*: PERTH 08591482; *iso*: BRI).

Ephemeral herb, caespitose, to 5 cm. Short vegetative *stems* glabrous. *Stipules* reduced to a membranous interfoliar sheath. *Leaves* sessile, narrowly elliptic or ovate, 10–25 mm long, 2–3 mm wide, glabrous, conduplicate. *Scapes* not foliose, erect to spreading, 8–50 mm long. *Inflorescence* a few-flowered, compound cyme; *axis* 7–30 mm long; *bracts* appressed to spreading, narrowly triangular, 2.5–3.0 mm long, 0.5–0.7 mm wide, with a few, coarse marginal teeth. *Pedicels* 3.5–16.0 mm long, glabrous. *Calyx* glabrous, campanulate; tube 1.0–1.5 mm long, with hyaline band below sinus; lobes 1.0–1.5 mm long, occasional marginal teeth at base of lobe. *Corolla* white; tube 2.5–3.0 mm long, bearded below lobes; lobes 4, 1.5–2.0 mm long. *Stamens* 4, 0.8–1.0 mm long; filament 1.0–1.2 mm long; anthers obtuse, dehiscing longitudinally, extrorse. *Styles* 2, united in upper part. United *fruiting style* 0.7–1.0 mm long. *Stigma* 1, squat-obconical, papillose on upper surface, generally dark-pigmented. *Capsule* globular, 1.5–2.5 mm long, including style bases. *Seeds* dark brown, shiny, minutely rugulose, *c.* 0.4 mm long. (Figure 2)

Diagnostic features. *Mitrasacme katjarranka* can be distinguished from other members of the genus by the following combination of characters: caespitose habit; glabrous and conduplicate leaves; inflorescence a few-flowered, compound cyme; scapes not foliose, to 50 mm long; small, white flowers to 5 mm long.

Other specimens examined. WESTERN AUSTRALIA: [localities withheld for conservation reasons] 11 May 2001, C.P. Campbell 2044 (PERTH); 31 July 2001, C.P. Campbell 3011 (PERTH).

Phenology. Flowering and fruiting recorded in both May and July.

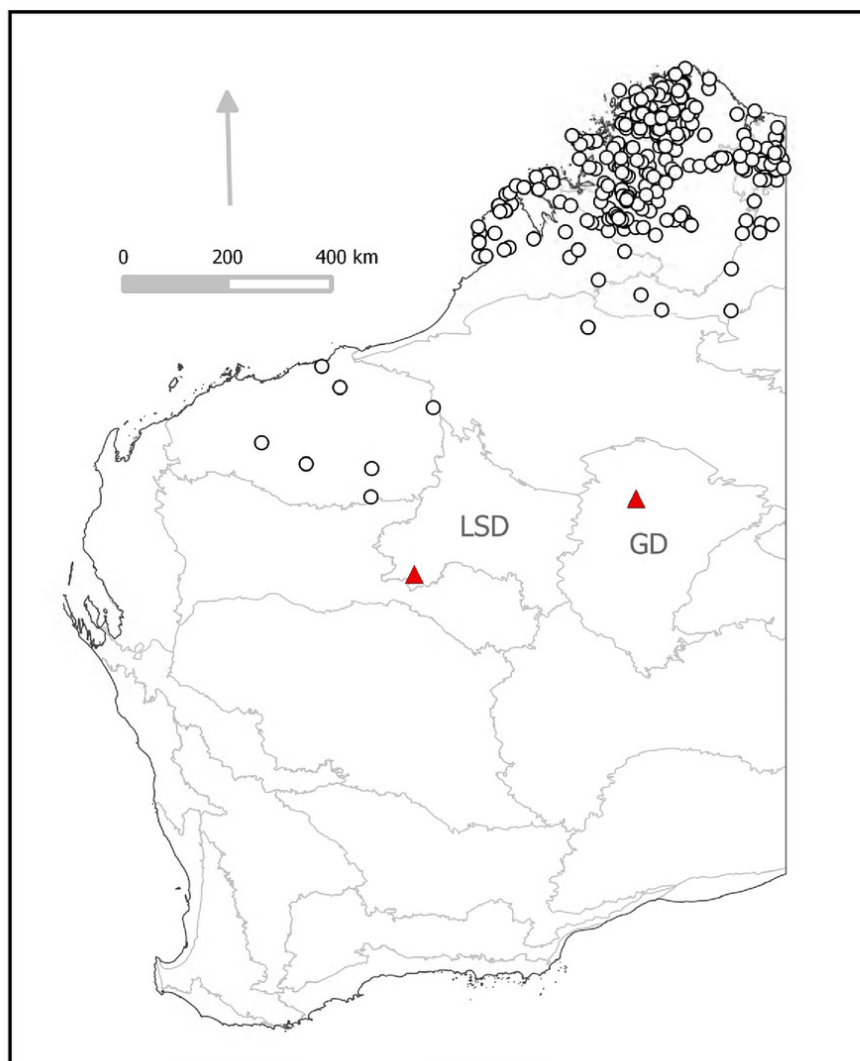


Figure 1. Distribution of *Mitrasacme katjarranka* (red triangles) in Western Australia compared to all other species (circles) based on Western Australian Herbarium records (Western Australian Herbarium 1998–). IBRA boundaries shown as grey lines; GD, Gibson Desert; LSD, Little Sandy Desert (Department of the Environment 2013).

Distribution and habitat. Recorded from the Gibson Desert and Little Sandy Desert in the swale of red sand dunes and in red sand over lateritic sandstone (Figure 2). This distribution pattern is at odds with other species in the genus whose distributions in Western Australia are centred in the Kimberley (Figure 1). Only two species (*M. connata*, *M. exserta*) extend as far south as the Pilbara and none, other than *M. katjarranka*, have been recorded as far south as the Little Sandy or Gibson Deserts.

Conservation status. *Mitrasacme katjarranka* is to be listed as Priority One under Department of Parks and Wildlife Conservation Codes for Western Australian Flora (A. Jones pers. comm.).

Etymology. The epithet *katjarranka* is from the local aboriginal language meaning ‘from Katjarra’ in reference to the locality. It is used as a noun in apposition.

Common name. Desert Mitrewort.

Notes. The campanulate calyx and compound style indicates this taxon belongs to subgen. *Mitrasacme*. All three collections were made from recently burnt areas following good rains, implying an ephemeral

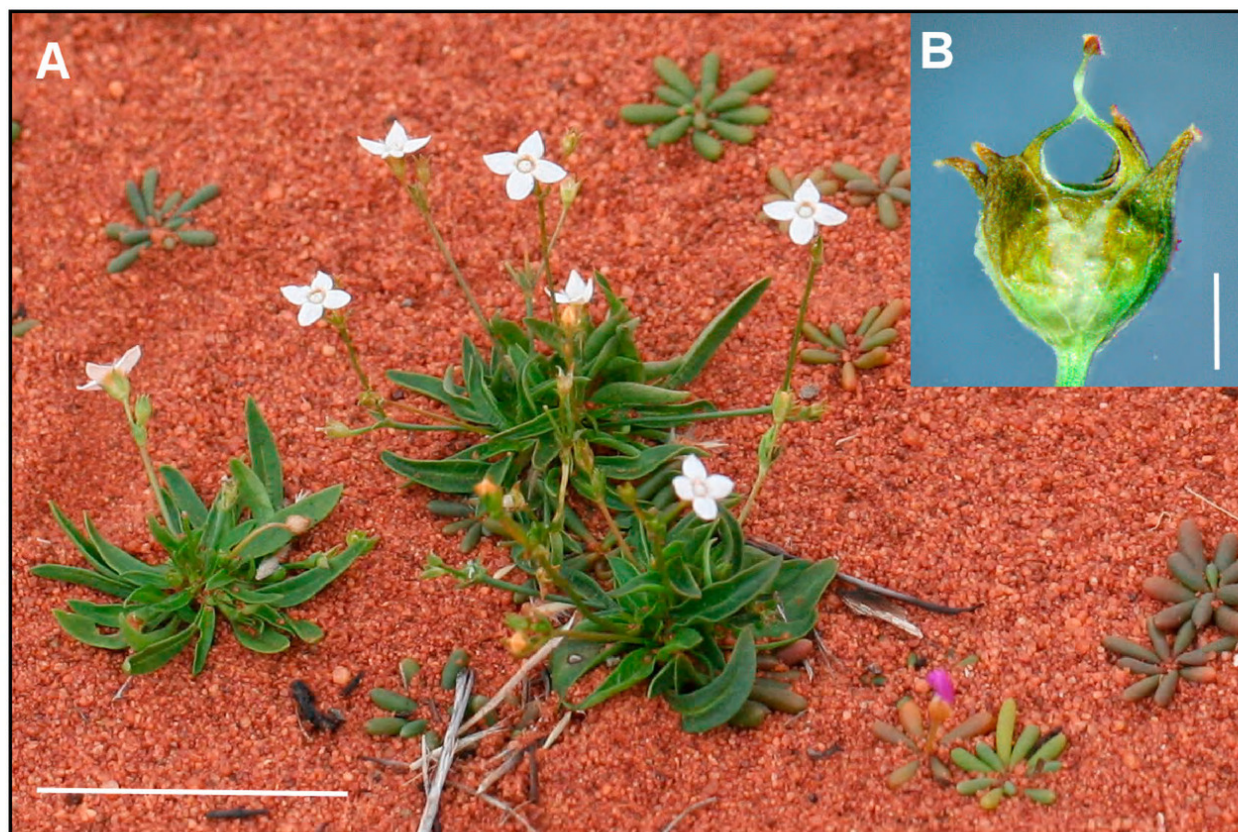


Figure 2. *Mitrasacme katjarranka*. A – flowering plant *in situ* showing the caespitose habit and inflorescence; B – capsule. Scale bars = 40 mm (A); 1 mm (B). Both images from N. Gibson 7252, S. van Leeuwen, M. Langley & K. Brown. Photographs by K. Brown (A); S. Dillon (B).

habit. It was only recorded once at Katjarra despite surveys over an extensive area. The affinities of this species to others in subgen. *Mitrasacme* are not clear. The following amendment should be made at couplet 39 to the *Mitrasacme* key in *Flora of Australia* (Dunlop 1996).

Amendment to the *Flora of Australia* key

39. Leaves hispidulous

40. Capsule subglaucous; fruiting style 0.5–1 mm long **M. scrithicola**

40: Capsule non-glaucous; fruiting style 0.5–5 mm long **M. pygmaea**

39: Leaves glabrous

39a. Leaves flat, length:width ratio 2–3, inflorescence axis > 50 mm, inflorescence commonly with many flowers **M. glaucescens**

39a: Leaves conduplicate, length:width ratio 5–8, inflorescence axis < 35 mm, inflorescence few-flowered **M. katjarranka**

Acknowledgements

The Birriliburu native title holders are thanked for the invitation to survey Katjarra within the Birriliburu Indigenous Protected Area and for suggesting an appropriate name. Thanks to K. Brown and S. Dillon for the photographs and to an anonymous referee for helpful suggestions.

References

- Department of the Environment (2013). *Australia's bioregions (IBRA)*, IBRA7, Commonwealth of Australia. <http://www.environment.gov.au/topics/land/national-reserve-system/science-maps-and-data/australias-bioregions-ibra#ibra> [accessed 2 January 2014].
- Dunlop, C.R. (1996). *Mitrasacme*. In: Wilson, A. (ed.) *Flora of Australia*. Vol. 28. pp. 29–57. (Australian Biological Resources Study: Canberra.)
- Gibson, N., Langley, M.A., van Leeuwen, S. & Brown, K. (2015). *Vascular flora of Katjarra in the Birriliburu Indigenous Protected Area*. Report to the Birriliburu Native Title Claimants and Central Desert Native Title Services. (Department of Parks and Wildlife: Kensington, Western Australia.)
- Western Australian Herbarium (1998–). *FloraBase—the Western Australian Flora*. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> [accessed 17 December 2014].

Neil Gibson¹ and Stephen van Leeuwen

Science and Conservation Division, Department of Parks and Wildlife,
Locked Bag 104, Bentley Delivery Centre, Western Australia 6983

¹Corresponding author, email: Neil.Gibson@dpaw.wa.gov.au



Gibson, Neil and Van Leeuwen, S. 2015. "A new Mitrasacme (Loganiaceae) from the Western Australian desert." *Nuytsia: journal of the Western Australian Herbarium* 25, 191–194. <https://doi.org/10.58828/nuy00756>.

View This Item Online: <https://www.biodiversitylibrary.org/item/282457>

DOI: <https://doi.org/10.58828/nuy00756>

Permalink: <https://www.biodiversitylibrary.org/partpdf/306821>

Holding Institution

Western Australian Herbarium

Sponsored by

Atlas of Living Australia

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Western Australian Herbarium

License: <http://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <http://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.