



A new species of *Cleome* from northwestern Australia (*Capparaceae*)

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Key words

Australia
Capparaceae
Cleome
identification key
new species

Abstract *Cleome arenitensis* is newly described and compared to the allied *C. uncifera*. An identification key is provided for the species of *Cleome* occurring in Australia.

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INTRODUCTION

Cleome L. was treated for Flora of Australia by Hewson (1982) with 10 species being recognised of which six are endemic. Subsequently, Short (2006) reinstated *C. linophylla* (O.Schwarz) Pax & K.Hoffm., which had been included by Hewson (1982) in *C. tetrandra* DC. as *C. tetrandra* var. *simplicifolia* Hewson, and indicated that further species remained to be circumscribed. An African species, *C. rufosperma* DC., now widely naturalised, was first collected in Australia in 2000 (Andrew Mitchell, pers. comm.; Anon. 2007). A further, new, endemic Australian species is described below, bringing the total number of species currently recognised in Australia to 13, with nine being indigenous (eight endemic).

Cleome arenitensis Craven, Lepschi & Fryxell, sp. nov.

A *C. uncifera* Kers petalis brevioribus (4–5 mm longis) et staminibus numerosioribus (ca. 14–17) differt. — Typus: Fryxell, Craven & Stewart 4725 (holo CANB; iso A, DNA, E, L, NY, P, PERTH), Australia, Western Australia, sandstone outcrop E of the Mitchell River near the river mouth, Lat. 14° 40'S, Long. 125° 41'E, 10 June 1985.

Subshrub to 0.5 m tall, unarmed, viscid; hairs glandular, globular to subcylindrical, not or scarcely stalked. **Leaves** usually 3-foliate (proximal leaves sometimes 5-foliate), proximal leaves manifestly petiolate with the petiole progressively becoming reduced in length and the distal leaves sessile; leaflets linear-obtriangular to narrowly obtriangular, acute to obtuse, mucronate with the mucro recurved, to 25 mm long; petiole to 20 mm long. **Flowers** solitary in the axils of the distal leaves, most flowers apparently male (the gynoecium obsolete) with the hermaphrodite flowers scattered on the flowering branchlets; pedicel 2–3.5 mm long (elongating to c. 5 mm in fruit). **Sepals** elliptic, oblong or oblong-elliptic, 1.7–2 mm long. **Petals** narrowly obovate to obovate, often clawed, 4–5 mm long. **Stamens** 14–17, the filaments free, unequal with the longer exceeding the petals, androgynophore c. 0.5 mm long. **Gynoecium** c. 7 mm long, gynophore 1 mm long, ovary c. 2.5 mm long, style c. 3.5

mm long. **Siliqua** c. 23–24 mm long, straight, more or less horizontal to slightly pendulous relative to the branchlet; gynophore c. 1–1.5 mm long; valves longitudinally striate. **Seeds** subreniform, 1.7–2 mm long, transversely strongly ridged (the ridges thin and with minute transverse ridges between these); cleft open, strongly arillate.

Distribution — Australia (Western Australia, the Mitchell River system in the Kimberley region).

Habitat — Sandstone outcrop with overlying sandy soil in *Eucalyptus miniata*–*E. tetradonta* woodland; in sand near sandstone rock formations below the cliff faces of outcropping sandstone massif.

Notes — 1. The distinctive form of the glandular hairs of *C. arenitensis* allies the species to *C. uncifera*, a species that occurs in the Pilbara and Great Sandy Desert regions.

2. The specific epithet is derived from the geological name for sandstone, arenite, and refers to the colloquial name used for the sandstone plateau country of northern Australia, i.e. 'the sandstone'.

Specimens studied. Fryxell, Craven & Stewart 4725 (type); Graham 29 (c. 7 km WSW of the beginning of the track to Mitchell Falls near the helicopter pad in the camping area, Lat. 14° 50' 59"S, Long. 125° 39' 05"E, 25 April 1996).

KEY TO THE INDIGENOUS AND NATURALISED SPECIES OF *CLEOME* IN AUSTRALIA

(Based on Hewson 1982)

1. Stipules spinescent 2
1. Stipules absent or not spinescent 3
2. Stems angled at nodes; petals less than 10 mm long *C. aculeata* L.
2. Stems straight; petals more than 10 mm long *C. hassleriana* Chodat
3. Androgynophore manifest 4
3. Androgynophore obscure (less than 3 mm long) or absent 5
4. Androgynophore about as long as gynophore *C. cleomoides* (F.Muell.) Iltis
4. Androgynophore about half as long as gynophore *C. gynandra* L.

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- 5. Leaves radical; inflorescence 1-flowered *C. oxalidea* F.Muell.
- 5. Leaves cauline; inflorescence more than 1-flowered . . 6
- 6. Glandular hairs not or scarcely stalked, globular to sub-cylindrical 7
- 6. Glandular hairs stalked or absent 8
- 7. Petals 10–25 mm long; stamens 6 *C. uncifera* Kers
- 7. Petals 4–5 mm long; stamens 14–17 . . . ***C. arenitensis***
- 8. Stamens 1 or 3 9
- 8. Stamens 4 or more 10
- 9. Stamen 1 *C. kenneallyi* Hewson
- 9. Stamens 3 *C. linophylla* (O.Schwarz) Pax & K.Hoffm.
- 10. Petals yellow or whitish 11
- 10. Petals pink to mauve *C. rutidosperma* DC.
- 11. Stamens 4 or 5 *C. tetrandra* DC. complex
- 11. Stamens 6 or more 12
- 12. Seeds with aril *C. microaustralica* Iltis
- 12. Seeds without aril *C. viscosa* L.

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