

Labichea mulliganensis A.R.Bean (Leguminosae: Caesalpinioideae), a new species from Queensland

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Summary

Bean, A.R. (2017). *Labichea mulliganensis* A.R.Bean (Leguminosae: Caesalpinioideae), a new species from Queensland. *Austrobaileya* 10(1): 196–199. *Labichea mulliganensis* A.R.Bean, confined to Mount Mulligan in northern Queensland, is described as new. Illustrations are provided, as are notes on its affinities and conservation status. A key to the identification of all Queensland species of *Labichea* is included.

Key Words: Caesalpinioideae, *Labichea*, *Labichea mulliganensis*, Australia flora, Queensland flora, taxonomy, new species, identification key

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Introduction

The genus *Labichea* Gaudich. ex DC. is endemic to Australia and Ross (1998) reported 14 species. Another species, *L. rossii* N.Gibson, has recently been named from Western Australia (Gibson 2011). All species are sclerophyllous shrubs, and almost all have pungent pointed leaflets. While there are some significant floral characteristics used to distinguish between species, notably the anther dimorphism and the number of sepals, the species are largely distinguished on vegetative features.

Mount Mulligan in north Queensland is a well-known botanical hot-spot, being home to several endemic or highly restricted plant species. A species of *Labichea*, endemic to this mountain, is here described. The new species is clearly related to *L. brassii* C.T.White & Francis, but can be immediately distinguished from it by leaflet shape alone. A key to the identification of the six Queensland species of *Labichea* is provided.

Materials and methods

This study is based on the morphological examination of specimens held at BRI. Measurements are taken from dried material

except for floral parts, which were measured from material preserved in spirit, or reconstituted boiling in water.

Taxonomy

***Labichea mulliganensis* A.R.Bean sp. nov.** with affinity to *L. brassii*, but differing by the terminal leaflet 3.5–4.6 times longer than broad, the dense hairs on the lower side of the leaflet, the leaflet margins without glands, and the longer of the two anthers 6.5–7.8 mm long. **Typus:** Queensland. COOK DISTRICT: Mount Mulligan, c. 0.5 km S of the mine site along the pipeline leading to the falls on Richards Creek, 11 April 1984, J.R. Clarkson 5255 (holo: BRI!; iso: CANB, CNS, DNA, K, L, MEL, MO, PERTH, *all n.v.*).

Shrub to 3 m high. Branchlets densely pubescent with erect eglandular hairs, mostly 0.1–0.5 mm long, occasionally longer. Stipules deltate, brown, 3–4 mm long, deciduous. Leaves pinnate, petioles 0–2 mm long, rachis 4–30 mm long; leaflets 5, 7 or 9, narrowly elliptic, shortly petiolulate, with a sharp terminal mucro 2–4 mm long; terminal leaflet 1.5–2.6 times longer than adjacent leaflets, leaflets becoming progressively smaller towards base of rachis. Terminal leaflet 21–50 mm long (excluding mucro), 6–12 mm wide, 3.5–4.6 times longer than broad; leaflets of the uppermost pair 14–24 mm long (excluding mucro), 5–8 mm wide.

Upper side green, with numerous short uncinuate hairs, glabrescent; lower side with moderately dense to dense white straight eglandular hairs, mostly 0.5–0.8 mm long, and up to 1 mm long, often obscuring surface, ± appressed; leaflet margins strongly recurved, lacking glands, not undulate. Inflorescences racemose, 6–10-flowered, pedicels 5–8 mm long at anthesis, pedicels and rachis covered with dense spreading eglandular hairs. Sepals 5, the outer 2 cymbiform, deltate, thick, 7–10 × 2.6–3.9 mm, inner surface glabrous, outer surface densely covered in spreading white hairs to 3 mm long; the inner 3 flat, narrowly-deltate, thin, 5–8.1 × 1.2–2.5 mm, glabrous on both sides. Petals 4, all about the same size and shape, broadly-ovate to orbicular, 11–12 × 8.5–10 mm, glabrous, predominantly yellow but one petal with red colouration near the base. Stamens 2, filaments very short and thick, 0.5–0.8 mm long, anthers greatly unequal in size, longer anther 7–7.8 mm long, usually curved, shorter anther 3.2–3.8 mm long, straight. Ovary + style c. 6.5 mm long, ovary densely villous, 2-ovulate, style glabrous. Pod flattened, obliquely elliptical, 2.3–2.6 cm long, outer surface with many short erect uncinuate hairs and long appressed straight hairs. Seeds ellipsoidal, brown, 4.9–5.9 mm long excluding aril. **Fig. 1.**

Additional specimens examined: Queensland. COOK DISTRICT: Base of Ngarrabullgan, Apr 1994, *Cassidy 2* (BRI); Mt Mulligan, on the southern plateau of the mountain, Apr 1984, *Clarkson 5302* (BRI, CANB, CNS, MEL); Mt Mulligan, c. 40 km NW of Dimbulah, Apr 1985, *Clarkson 5830B* (BRI, CNS); Mt Mulligan, c. 30 km NW of Dimbulah, Jun 1995, *Clarkson 10540* (BRI); Mt Mulligan, c. 30 km NW of Dimbulah, Jun 1995, *Clarkson 10544* (BRI); Mt Mulligan, Feb 1934, *Flecker s.n.* (BRI [AQ234593]; CNS [QRS31340]); SE base of Mt Mulligan, Feb 1990, *Forster PIF6291* (BRI, CNS); Mt Mulligan, southern end, Branch Creek catchment, Jul 1995, *Forster PIF17179 & Figg* (BRI, CNS); Mt Mulligan, 40 km NW of Dimbulah, Apr 1989, *Neldner 2757* (BRI, CNS); Slopes of Mt Mulligan Range, Sep 1977, *Powell 790 & Armstrong* (BRI, NSW); Base of Mt Mulligan, Mar 1986, *Walker s.n.* (BRI [AQ399830]).

Distribution and habitat: *Labichea mulliganensis* is confined to Mount Mulligan, about 35 km north-west of Dimbulah, and about 100 km west of Cairns in northern Queensland. It grows in eucalypt woodland

on quartzose sandstone ridges and slopes, or on ephemeral watercourses. Soils are shallow and sandy.

Phenology: Flowers have been collected from February to July, and fruits have been collected in February, April and June.

Affinities: *Labichea mulliganensis* differs from *L. brassii* by the narrower leaflets (terminal leaflet 3.5–4.6 times longer than broad, versus. 1.9–2.4 times for *L. brassii*); the leaflet margins lacking glands and not undulate (margins of many leaflets with 3–5 pairs of yellowish flat glands, and leaflets undulate for *L. brassii*); the underside of the leaflets moderately densely to densely hairy, with the hairs often obscuring the surface (sparsely hairy, surface readily visible for *L. brassii*); the longer anther 6.5–7.8 mm long (longer anther 5.5–6.4 mm long for *L. brassii*). *L. mulliganensis* differs from *L. buettneriana* F.Muell. by the much narrower leaflets, with the terminal leaflet much longer than the lateral ones (broad leaflets, all about the same size for *L. buettneriana*), the leaflet apices pungent (leaflet apices usually innocuous for *L. buettneriana*), and the 5–9 leaflets per leaf (7–13 for *L. buettneriana*).

Notes: Ross (1985, 1988) included this species in his concept of *Labichea brassii*, although he noted a number of differences between the Mt Mulligan material and the typical form of that species.

Conservation status: *Labichea mulliganensis* has an approximate extent of occurrence of 90 km², and is known from 7 subpopulations with an estimated Area of occupancy of 20 km². As there are no known threats to the species, a conservation status of **Least Concern** is recommended (IUCN 2012).

Etymology: The specific epithet refers to the type locality, Mount Mulligan.

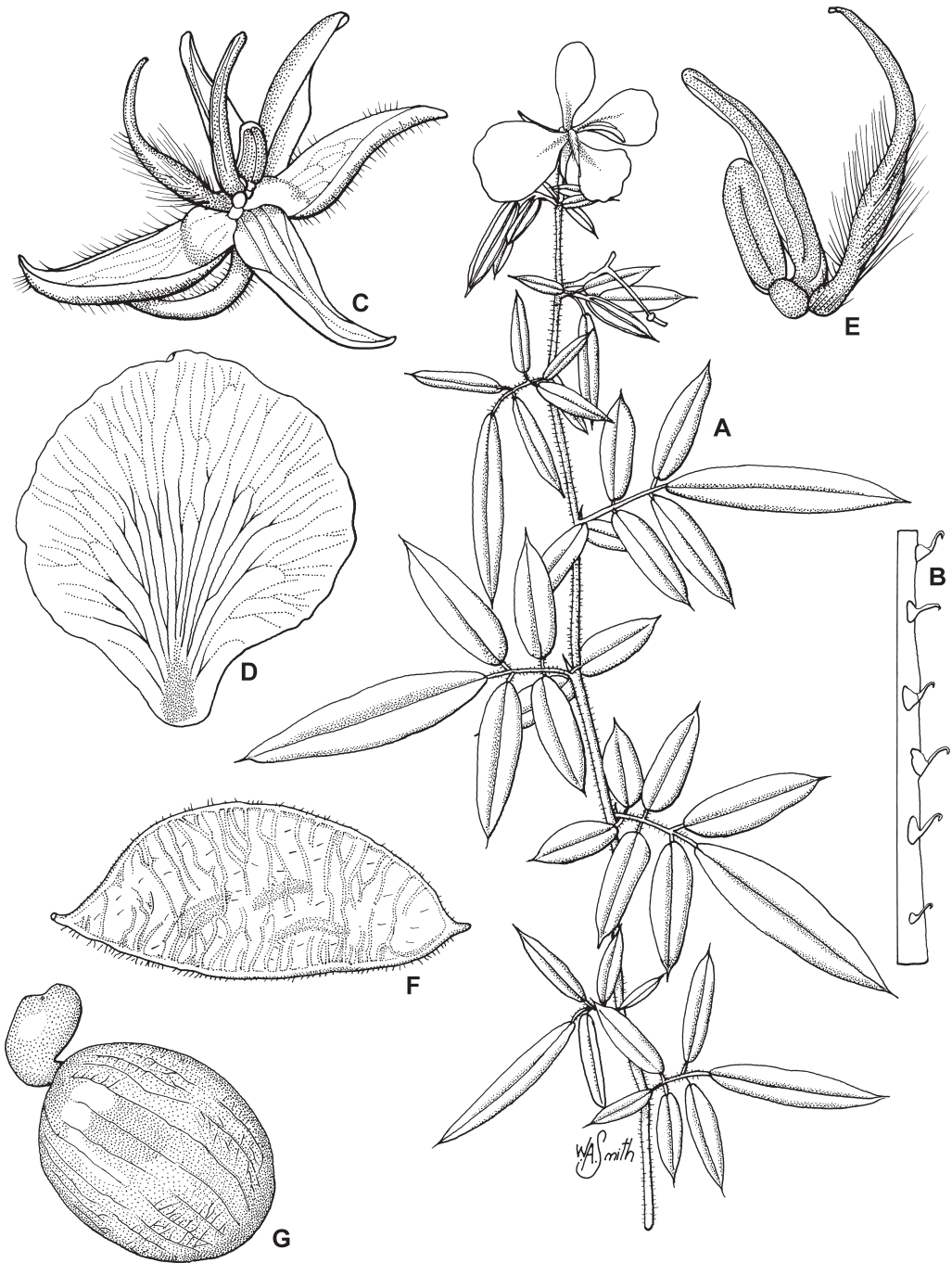


Fig. 1. *Labichea mulliganensis*. A. flowering branchlet $\times 1$. B. uncinately hairs on upper leaf surface $\times 40$. C. flower (petals removed) $\times 4$. D. petal $\times 4$. E. stamens and style $\times 6$. F. pod $\times 2$. G. seed $\times 6$. A–B, F–G from *Clarkson 10540* (BRI); C–E from *Clarkson 5302* (BRI).

Key to the Queensland species of *Labichea*

- 1 Leaves pinnate 2
- 1. Leaves palmate 4
- 2 Leaf rachis 30–150 mm long, leaflets all about same size; pods lacking uncinata hairs **L. buettneriana**
- 2. Leaf rachis 2–30 mm long, terminal leaflet longer than lateral leaflets; pods with many uncinata hairs 3
- 3 Terminal leaflet 3.5–4.6 times longer than broad; leaflets recurved but not undulate, marginal glands absent; the longer anther 6.5–7.8 mm long **L. mulliganensis**
- 3. Terminal leaflet 1.9–2.4 times longer than broad; leaflets undulate with 3–5 pairs of flat glands along the margin; the longer anther 5.5–6.4 mm long. **L. brassii**
- 4 Terminal leaflet 2–5 times longer than the next longest leaflet; leaves often with 3 leaflets, otherwise 5; leaflet undersides with persistent sparse hairs along the midrib and on lamina surface. **L. rupestris**
- 4. Terminal leaflet 1–2 times longer than the next longest leaflet; leaflets 5 or 7, never 3; leaflet undersides glabrous or with scattered hairs along the midrib only 5
- 5 Leaflets oblanceolate to narrowly obovate, 5–15 mm wide; terminal leaflet 1.3–2 times longer than next longest leaflets; anthers dimorphic (i.e. one nearly twice as long as the other) **L. nitida**
- 5. Leaflets linear or very narrowly elliptic, 1.5–3 mm wide; all leaflets about the same length; anthers very similar in size. **L. digitata**

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