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ACACIA PEDLEYI (FABACEAE, MIMOSOIDEAE), A NEW SPECIES FROM CENTRAL-EASTERN QUEENSLAND

Mary D. Tindale and Phillip G. Kodela

National Herbarium of New South Wales, Royal Botanic Gardens,
Mrs Macquaries Rd, Sydney, NSW 2000, Australia

Summary

***Acacia pedleyi*, a new member of *Acacia* sect. *Botrycephalae*, is described and illustrated with notes on distribution, habitat and alliances. This species has a restricted distribution in the Biloela area in central-eastern Queensland.**

Introduction

A new bipinnate *Acacia* species from Queensland is described, to enable its inclusion in the forthcoming volume on *Acacia* in the 'Flora of Australia'.

Acacia pedleyi Tind. et Kodela, **sp. nov.** ab *Acacia storyi* Tind. atque *A. olsenii* Tind. differt: ramulis non pruinosis, brunneis vel viridibrunneis, puberulis, non glabris ut *A. olsenii* et *A. storyi*, petiolis rhachidibusque puberulis, pinnis 3–8-jugis, pinnularum apicibus rotundatioribus, pedunculis puberulis, ovariis pilis albis pubescentibus, leguminibus 5–9 mm latis et sparse puberulis; ab *A. olsenii* in capitulo 14–20 floribus luteolis non 7–12 floribus luteis distinguitur; ab *A. storyi* calycibus 0.4–0.5 mm longis non 0.6–0.7 mm longis distinguitur. **Typus:** Queensland. PORT CURTIS DISTRICT: c. 20 km NNE of Biloela on western slopes of Calliope Range, 29 November 1989, *L. Pedley* 5488 (holo: BRI; iso: AD,B,CANB,CBG,K,L,MEL,MO,NSW,PERTH,US).

Slender erect tree to 10 m high; bark smooth (sometimes lower part of bole rough), grey at base, greenish above. Branchlets ± terete but angled towards their apices, brown to greenish brown, puberulous with appressed, white, hyaline or pale yellow hairs to c. 0.2 mm long, with minutely tuberculate, longitudinal ridges to 0.3 mm high. Young tips of leaves clothed with a dense indumentum of pale yellow to golden, silky hairs in addition to reddish brown, glandular hairs. Leaves bipinnate, dark green, feathery; pulvinus 1.8–3.5 mm long; petiole 1–2 cm long, slightly flattened in the dorso-ventral plane, clothed with hairs similar to those on branchlets, the adaxial surface with a puberulous ridge bearing a conspicuous gland near the base of the lowest pair of pinnae, the gland broad-elliptical to broad-oblong or sometimes circular in outline, green and puberulous at base, 1.0–1.5 mm long, 0.7–1.0 mm wide, the broad rim brown to tan and usually glabrous, the orifice depressed, 0.3–0.5 mm long, 0.25–0.35 mm wide; rhachis 3.0–5.8 cm long, clothed with ± appressed hairs to 0.2 mm long, the adaxial puberulous ridge bearing a gland at the base of each pair of pinnae and also 1–3 similar (but often smaller) interjugary, brown-rimmed glands between successive pairs of pinnae, the glands similar to the petiolar gland, 0.6–1.3 mm long, 0.4–1.1 mm wide, with a circular to elliptical orifice 0.2–0.4(–0.6) mm long, (0.1–)0.2–0.4 mm wide; pinnae (3–)5–8 pairs, 2.1–7.0 cm long, 3.5–6.5 mm wide; secondary rhachis clothed with short, appressed, yellowish hairs mainly on the abaxial surface; pinnules 20–104 pairs, oblong to cultrate (sometimes almost linear), 0.8–3.6 mm long, (0.3–)0.4–0.5(–0.7) mm wide, often overlapping, glabrous or white-ciliolate, apex obtuse. Capitula of 14–20 flowers, globular, (3–)4–5 mm diameter, pale yellow, borne in racemes or panicles; peduncles 1.5–4.0 mm long, puberulous; bract at base of peduncles broadly deltate, ciliolate; bracteoles 0.45–0.6 mm long, sagittiform with the linear claw expanded into a ± deltoid lamina which is basally or sometimes centrally attached, ciliolate. Flowers 5-merous; calyx 0.4–0.5 mm long, dissected by 1/3–1/2 or sometimes to the base, with minute, stiff, white or brownish hairs on the outer surface mainly on the midribs and sepal apices; sepals broadly deltate to ± spathulate; corolla 1.0–1.2 mm long, dissected by c. 1/2; petals narrow-oblanceolate or narrow-elliptical, 1-nerved; ovary pubescent with white hairs. Legumes linear, 4–13 cm long, 5–9 mm wide, ± straight-sided or constricted between seeds, straight or very slightly curved, flat except convex over seeds, thinly coriaceous, surface with minor transverse nerves, sparsely clothed with appressed white hairs to 0.3 mm long, dull brownish black,

the somewhat prominent margins brown. Seeds 4–13 longitudinal in legumes, slightly compressed, oblongoid to broadly oblongoid or ellipsoid to broadly ellipsoid, 4.4–6.1 mm long, 2.6–3.2 mm wide, black; pleurogram open and constricted towards the hilum, ± "U"-shaped; areole same colour as the rest of the seed, sometimes slightly raised, 2.9–4.1 mm long, 1.3–1.6 mm wide; funicle cream-coloured to fawn, filiform at first then expanded into a cap-like aril, folded 1 or 2 times beneath the seed. **Fig. 1.**

Specimens examined: Queensland. PORT CURTIS DISTRICT: T.R. 170, Thalberg, c. 30 km north-east of Biloela, 24°14′S, 150°39′E, Oct 1987, *Shepard* A33 (BRI); Callide Range, 22 km from Biloela, towards Gladstone, 24°14′S, 150°34′E, Nov 1988, *Bean* 978 (BRI); 15 km NE of Biloela, 24°2–′S, 150°3–′E, May 1987, *Ford* s.n. (BRI, 2 sheets).

Distribution and habitat: So far, *A. pedleyi* is only known from the Biloela area in the Port Curtis District, central-eastern Queensland. It occurs in understorey, sometimes with *Acacia crassa*, in open forest with *Eucalyptus citriodora*, *E. moluccana*, *E. crebra* and/or *E. maculata* or in poplar box (*Eucalyptus populnea*) woodland; recorded from slopes and tops of ridges on red loamy soil.

Phenology: Flowering from November to December. Fruiting May and October. As *A. pedleyi* sometimes fruits in October, this suggests that it may also flower from April to May.

Conservation status: *A. pedleyi* is probably rare but neither of the authors have seen this species in the field.

Etymology: the specific epithet honours Mr Leslie Pedley, formerly of the Queensland Herbarium, for his outstanding contribution to *Acacia* taxonomy and other botanical research.

Notes: *Acacia pedleyi* is a member of *Acacia* sect. *Botrycephalae*, a group of species occurring in the eastern Australian States from central-eastern Queensland to Tasmania and in South Australia. The new species is allied to *Acacia storyi* Tind. (which is confined to the Blackdown Tableland and lower country on its western side, in the Leichhardt District, Queensland) and *Acacia olsenii* Tind. (which occurs on the Southern Tablelands, New South Wales). *A pedleyi*, *A. storyi* and *A. deanei* (R. Baker) Welch, Coombs & McGlynn subsp. *deanei* are the most northerly occurring species in the sect. *Botrycephalae*. *A pedleyi* is more hairy than the other two species and the apices of the pinnules are more rounded than *A. storyi* (Tindale 1980) and *A. olsenii* (Tindale 1966). The latter two species, particularly *A. olsenii*, also often have glaucous branchlets and legumes. The legumes are sparsely puberulous in *A. pedleyi* but glabrous in the other two species. *A. pedleyi* occurs closer to the coast than the other two species and flowers in November and December, as well as possibly in April–May, whereas *A. storyi* and *A. olsenii* flower in April–August.

In Maslin and Pedley (1982) distribution maps are provided for *A. olsenii* (p. 87) and *A. storyi* (p. 113). For the distribution of *A. pedleyi* the Monto sheet (SG 56-1, edition 2) in the Australia 1: 250 000 topographic series should be consulted.

Key to distinguish *Acacia pedleyi* from its closest allies

1. Branchlets brown to greenish brown, non-glaucous, puberulous; young tips of leaves predominantly pale yellow or golden, densely clothed on both surfaces with silky hairs and reddish brown, glandular hairs; leaves with 3–8 pairs of pinnae; petioles and rhachises densely clothed with white or yellowish, mostly single, appressed or subappressed hairs and reddish brown glandular hairs; peduncles puberulous; ovary pubescent with white hairs; flowers 14–20 per head; legumes 5–9 mm wide, sparsely puberulous. . . . . **A. pedleyi**

   Branchlets bluish black, bluish dark brown or purplish, often glaucous, glabrous or almost so; young tips of leaves brownish green with white, yellow or golden-brown, silky, often clustered hairs and reddish brown, glandular hairs on the adaxial surface; leaves with 8–18 pairs of pinnae; petioles and rhachises glabrous or with very sparse, minute, stiff, single or clustered hairs; peduncles glabrous; ovary glabrous; legumes 5–12 mm wide, glabrous 2

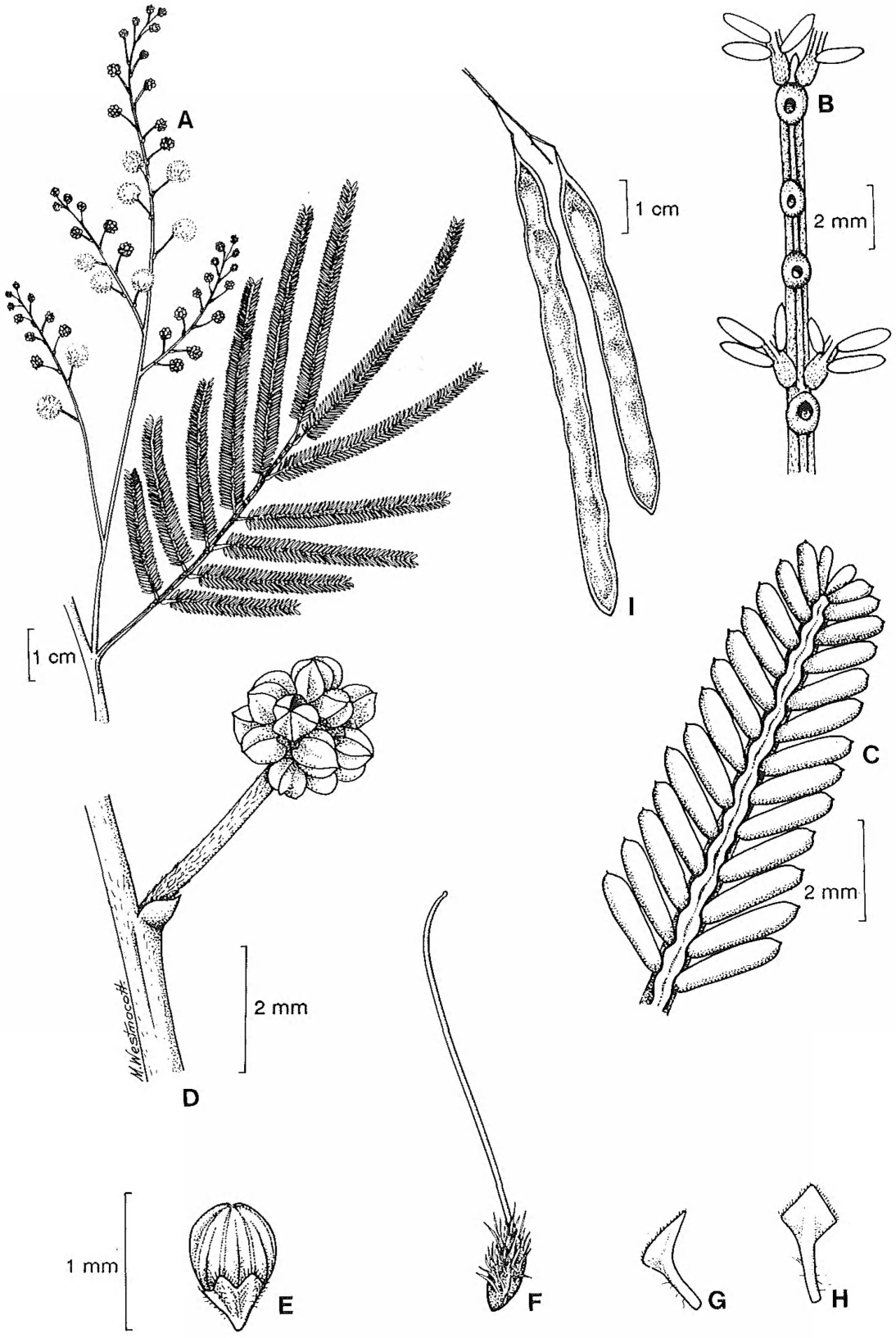

Fig 1. *Acacia pedleyi*: A. habit study; B. detail of main rhachis with glands. C. pinnules. D. capitulum in bud. E. young flower. F. gynoecium. G, H. bracteoles. I. legumes. A–H, Pedley 5488; I, Bean 978.

2. Pinnules in 32–61 pairs; flowers 14–20 per head, pale yellow; calyx (0.5–)0.7–0.85 mm long; corolla c. twice the length of the calyx . . **A. storyi**
Pinnules in 52–106 pairs; flowers 7–12 per head, deep yellow; calyx 0.3–0.5(–0.7) mm long; corolla c. 2.5–3.0 times the length of the calyx **A. olsenii**

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