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NOTES ON AUSTRALIAN TAXA OF *ACACIA* NO. 4

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ABSTRACT

Tindale, Mary D., (National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, New South Wales, Australia) 1975. Notes on Australian Taxa of Acacia *No. 4: Telopea 1 (1): 68–83.* Five new Australian species of *Acacia* (Family Mimosaceae) are described, namely *A. gracillima* Tindale, *A. dacrydioides* Tindale, *A. diphylla* Tindale, *A. barringtonensis* Tindale and *A. torringtonensis* Tindale, also a new name is provided for *A. pallida* F. Muell. viz. *A. pallidifolia* Tindale. Three new records for New South Wales i.e. *A. clivicola* Pedley, *A. ausfeldii* Regel and *A. curranii* Maiden are cited, also notes are provided on the following species:— *A. linarioides* Benth., *A. ruppii* Maiden et Betche, *A. macnuttiana* Maiden, *A. kelleri* F. Muell., *A. cluniesrossiae* Maiden, *A. caesiella* Maiden et Blakely and *A. dorothea* Maiden. The identity of *Mimosa terminalis* is discussed.

INTRODUCTION

During the course of my joint phytochemical survey with Prof. D.G. Roux on the flavonoid content in the heartwoods and barks of Australian species of *Acacia* (see Tindale & Roux, (1969) and 1974), it was necessary for me to investigate the taxonomy of a number of species. When they were obtaining wood samples for this survey, collectors were fortunate enough to procure many undescribed and poorly known taxa of *Acacia*.

The species mentioned in this paper have been classified according to Bentham's scheme in Flora Australiensis 2: 302–319 (1864) or Maiden and Betche's classification in A Census of New South Wales Plants: 89–97 (1916). The latter scheme is merely a later and slightly improved version of Bentham's classification.

Unless otherwise indicated all the specimens cited in this paper are located in the National Herbarium of New South Wales, Sydney, Australia.

PHYLLODINEAE
BRUNIOIDEAE

Acacia torringtonensis *Tindale,* sp. nov.

Ab *A. ruppii* Maiden et Betche phyllodiis minoribus (0.8–1.5 cm longis, 1–1.4 mm latis), inflorescentiis multum redactis capitulas singulas saepe sistentibus et leguminibus undulatis, flexuosis, densius tomentosis differt.

Differing from *A. ruppii* Maiden et Betche in its smaller phyllodes (0.8–1.5 cm long, 1–1.4 mm broad), by its much reduced inflorescences which are often in single heads, and by its undulate, flexuose, much more densely pubescent legumes.

HOLOTYPE: NEW SOUTH WALES: 6.6 miles [10.6 km] N. of Torrington by road on the Silent Grove road, 29° 14′ S, 151° 42′ E, multi-stemmed shrub 1–1.5 m high, with smooth grey bark and deep yellow flowers, on low ridges in dry sclerophyll forest in sandy soils (granite), abundant, *R. Coveny 5200,* 7.ix.1973 (NSW 107274, wood voucher for phyto-

chemical survey), located in the National Herbarium of New South Wales, Sydney, Australia. ISOTYPES: K, US, CANB, BRI, L, A, UC, AD, MEL, G.

A multi-stemmed shrub 1–1.5 m high with smooth grey bark. *Bipinnate foliage* sometimes persistent. *Branchlets* terete, clothed with a dense, soft, white (later grey) pubescence. *Phyllodes* crowded, scattered and occasionally irregularly verticillate, linear, falcate, thinly coriaceous, 0.8–1.5 cm long, 1–1.4 mm broad, with 1 scarcely visible main vein close to the upper margin, the apex rounded and terminating in a small, brown, hard mucro often bearing a few white hairs, narrowed towards the base, the margins (especially the lower) thickened, bearing an inconspicuous round gland on the margin about $\frac{1}{2}$–$\frac{2}{3}$ of the distance from the base to the apex of the phyllode, sparsely clothed with spreading, white, weak hairs especially along the margins and at the base of the phyllodes, the surface glabrous to quite pubescent. *Inflorescences* dark yellow, capitate, 0.5–0.8 cm in diam., composed of c. 25–27 flowers in a head, borne on a short axis bearing 2–3 capitula or solitary in the axils of the phyllodes, each peduncle 5–10 mm long and 0.5–0.8 mm in diam., densely clothed with a short grey pubescence and borne in the axil of a broadly ovate, brown or black, pubescent bract. *Bracteoles* c. 1.5 mm long, dark red-brown, with an elongated stalk and a peltate apical region clothed with yellow cilia. *Calyx* cupuliform, c. 1 mm long, dissected to about 1/5-1/3 of its length into 5 obtuse lobes which are ciliolate with white hairs towards their apices, the tube also ciliolate especially at the base and on the ridges. *Corolla* c. 2–2.5 mm long, with 5 free petals abruptly narrowed towards their bases, ciliolate with white hairs towards their apices. *Stamens* numerous, the filaments free, dark yellow, c. 3.5–4 mm long. *Anthers* bilocular. *Ovary* subsessile, dark brown, ± obovoid-oblong, villous, 0.9–1.0 mm long, 0.4–0.5 mm broad, the style light brown, glabrous, c. 3.5–5 mm long, arising obliquely near the apex of the ovary. *Legumes* black, undulate, stipitate, thinly coriaceous, 4–8 cm long, 4–7 mm broad, the margins thickened, slightly constricted between the seeds, clothed with a dense, short, grey, velvety pubescence. *Seeds* black, oblong-elliptical, glossy, longitudinal in the legume, 4–5 mm long, 3–3.8 mm in diam., the pleurogram open at the apex, the funicle filiform at first then expanded into a cupuliform aril at the apex of each seed.

DISTRIBUTION: This species occurs in dry sclerophyll forest on acid granite in the Wyberba-Wallangarra region of the Darling Downs District of south-eastern Queensland as well as on the Northern Tablelands of New South Wales, where it is quite common in the Torrington-Silent Grove-Bismuth-Deepwater region mainly between 900–1200 m altitude.

FLOWERING PERIOD: September and early October.

FRUITING PERIOD: December to February.

SPECIMENS CITED: QUEENSLAND: **Darling Downs District:** Wyberba, near Bald Rock Creek, in grazing paddocks, in open forest, granitic soil, *K.N. Shea S 27,* 9.1956 (BRI); 8 miles [12.9 km] E. of Wyberba, on deep sand among granite boulders and outcrops, an erect shrub to 3 ft [0.9 m], flowers deep yellow, *L. Pedley 307,* 10.1958 (BRI); Girraween National Park near Wyberba and Wallangarra, on road through Park, 9.6 km from New England Highway, in open forest, deep granite, low shrub, average height 60 cm, *T.L. Ryan 66,* 9.1970 (BRI); Mt Norman, near Wallangarra, *Clemens* 9.1944 (BRI 171861).

NEW SOUTH WALES: **Northern Tablelands:** Silent Grove to Torrington, 3300 ft [990 m] alt., common in acid granite country, *L.A.S. Johnson NSW 107516,* 11.1951; 12 miles [19 km] S. of Silent Grove towards Torrington, spreading shrub 1 m high, *R. Coveny 2270,* 10.1969 (NSW 107524, K, L, BRI, PERTH); 6.5 miles [10.5 km] N. of Torrington on the Silent Grove road, *R. Coveny 3910 & K. Thurtell,* 12.1971 (NSW 106920, wood voucher for phytochemical survey, UC, A, K, US, U, AD, BRI, PERTH); Torrington, *J.L. Boorman NSW 107517,* 1.1911, *J.L. Boorman NSW 107518,* 10.1911, *J.L. Boorman NSW 107526,* 11.1919, *J. Vickery NSW 107522,* 2.1961, *J. Vickery NSW 107523,* 2.1961; Torrington, 29° 19′ S, 151° 42′ E, shrub in dry sclerophyll forest of *Eucalyptus andrewsii,* in sandy soil overlying acid granite *J.B. Williams NSW 72697,* 12.1964; Bismuth to Deepwater, 29° 16′ S, 151° 38′ E, *A. McNutt NSW 107521,* 3.1913.

The specific epithet *"torringtonensis"* refers to the Torrington district of New South Wales in which this taxon was first recorded by J.L. Boorman.

This species belongs to the Brunioideae according to Bentham's classification of *Acacia* (1864), being closely allied to *A. ruppii* (see p. 70). It is a member of a small group of species with crowded, scattered or semi-verticillate phyllodes to which also belong *A. gittinsii* Pedley, *A. resinicostata* Pedley (published as *resinocostata*), *A. brunioides* A. Cunn. *ex* G. Don and *A. conferta* A. Cunn. ex Benth.

Acacia ruppii Maiden et Betche

Acacia ruppii Maiden et Blakely in Proc. Linn. Soc. New South Wales 37: 244 (1912).

This species is most closely allied to *A. torringtonensis* Tindale from which it differs principally in its racemose inflorescences, almost glabrous phyllodes and non-undulate legumes which are also almost glabrous except for a few, weak, white hairs along the margins.

LECTOTYPE: Copmanhurst, Coaldale Road, *H.M.R. Rupp NSW 107537,* 8.1909 (NSW), here designated for the first time.

PARATYPES: Copmanhurst, *H.M.R. Rupp NSW 107538,* 9.1909 (NSW) and Copmanhurst, Coaldale Road, *H.M.R. Rupp NSW 107539,* 10.1911 (NSW).

DISTRIBUTION: NEW SOUTH WALES: **North Coast:** apparently restricted to the Coaldale-Whiteman Creek region on sandstone in dry sclerophyll forest.

FLOWERING PERIOD: July to October as well as in January.

FRUITING PERIOD: October to December.

SELECTED SPECIMENS: NEW SOUTH WALES: **North Coast:** Rocky Creek, c. 2 miles [3.2 km] N. of Coaldale-Grafton Rd., 29° 25′ S, 152° 53′ E, spreading shrub 3–4 m high with smooth grey bark in sandy soil in association with *Eucalyptus planchoniana-Angophora* forest, *R. Coveny 4980 & N. Lander,* 8.1973 (NSW 107276, wood voucher for phytochemical survey, U, K, L, UC, S, MEL, BRI, AD, B, US, NA); 4 miles [6.4 km] SSE. of Coaldale, alt. c. 80 m, shrub 2 m high in sandy soil in association with *Eucalyptus gummifera, S. Clark, J. Pickard & R. Coveny 1888,* 7.1969; 6 miles [9.6 km] SSE. of Coaldale, shrub to 3 m high in sandy soil in dry sclerophyll forest in association with *Acacia quadrilateralis, Banksia serratifolia* etc., *R. Coveny 4598,* 9.1972 (NSW 132998, wood voucher for phytochemical survey, K, BR, A, LE, ISC, UC, MEL, PERTH; 6 miles [9.6 km] c. S. of Coaldale, c. 27.4 km NNW. of Grafton, shrub 1–1.5 m high on sandstone in dry sclerophyll forest, *K. Thurtell & R. Coveny 3866,* 12.1971; Coaldale-Whiteman Creek, *K. Grieves NSW 107536,* 8.1967.

UNINERVES

Angustifoliae

Acacia ausfeldii Regel

Acacia ausfeldii Regel, Index Semin. Hort. Petrop.: 106 (1866); Regel, Gartenfl. 16: 225 (1867); A.B. Court in J.H. Willis, Handb. Pl. Victoria 2: 216, 219, 234 (1972).

Until recently this species was believed to be endemic to the auriferous country of the Bendigo-Eaglehawk whipstick region of Victoria growing in alluvial gullies and flats or on low hills, where it is associated with Lower Ordovician rocks. However *A. ausfeldii* has also been collected along the Mudgee-Cassilis road and the Gulgong district of New South Wales, although there are three slight differences from the Victorian material, viz. the white tomentum on the peduncles of the inflorescences is sparser and the minor veinlets of the phyllodes are faintly discernible. In the specimens from New South Wales there is often a secondary vein parallel to the midrib and arising from the latter just above the pulvinus but not reaching the apex or margin of the phyllode.

A. ausfeldii is a member of the *A. leprosa-A. verniciflua* group of species which was placed by Bentham (1864) in the Uninerves Angustifoliae.

It is a viscid shrub or small tree usually 3 to 5 m high, the bark being grey and smooth or sometimes corrugated towards the base in older plants. The branchlets are characterized by prominent resinous ridges. The thick green phyllodes have numerous oil glands and a prominent midrib but the minor veinlets are obscure. The golden flower-heads are orbicular and borne singly or in pairs in the axils of the phyllodes on pubescent peduncles 4–9 mm long.

SPECIMENS EXAMINED: NEW SOUTH WALES: **Central Western Slopes:** c. 12.8 miles [20.5 km] from Mudgee on the Cassilis Road, erect shrub c. 1.8 m high with several grey stems, in bud, old fruit on the ground, fairly common along roadside, in cleared country associated with *Acacia implexa* and eucalypts, *M.D. Tindale 730,* 21.iii.1973 (NSW 107180, wood sample voucher for phytochemical survey, K, L, US, MEL, BRI, UC, CANB), c. 12.5 miles [20 km] NNE. from Mudgee P.O. on the Cassilis road, 32° 21′ S, 149° 42′ E, alt. 525 m, shrub 2–2.5 m high with smooth grey bark corrugated towards the base in older plants, *R. Coveny 5262,* 10.1973 (NSW 107354, wood voucher for phytochemical survey, K, US, L, MEL, BRI, UC, CANB); Gulgong, *P. Althofer NSW 107438,* 12.1947.

VICTORIA: Eaglehawk Rifle Range, *W. Perry NSW 107357,* 9.1943; Eaglehawk, Growler's Gully, *W. Perry NSW 107359,* 1.1969; Scotchman's Gully, Bendigo, *W. Perry NSW 107358,* 9.1968; 2.3 miles [3.7 km] W. of Bendigo on Calder Highway, shrub c. 2 m high, in *Acacia pycnantha-Eucalyptus largiflorens* forest, c. 36° 45′ S, 144° 10′ E, *M.D. Tindale 760 & A.B. Court,* 4.1973 (NSW 107166, wood voucher for phytochemical survey, K, US, A, MEL, BRI, CANB, L).

UNINERVES

Racemosae

Acacia macnuttiana Maiden et Blakely

Acacia macnuttiana Maiden et Blakely in J. Proc. Roy. Soc. New South Wales 60: 176, t. 16, ff. 8–14 (1926) 1927.

HOLOTYPE: Bismuth, via Deepwater, New South Wales, *A. McNutt NSW 107552,* 8.1913 (NSW).

FLOWERING PERIOD: late July-August.

FRUITING PERIOD: December.

SPECIMENS CITED: NEW SOUTH WALES: **Northern Tablelands:** Boonoo Boonoo Falls, 8.6 miles [13.8 km] NNE. of Tenterfield, 28° 49′ S, 152° 10′ E, bushy shrub 1.5–2 m high, with smooth grey bark and brown pods (slightly glaucous), amongst granite rocks on river bank in association with *Tristania suaveolens, Bursaria spinosa, Leptospermum* sp., *Eucalyptus* sp. etc., scattered, *K. Thurtell & R. Coveny 3889,* 12.1971 (NSW 106908, wood block voucher for phytochemical survey, K, NE, US, L, AD, CANB, PERTH): Boonoo Boonoo Falls, shrub, common on the sides of a gorge above the falls, acid granite, *J.B. Williams NSW 107554,* 11.1965; Boonoo Boonoo Falls. shrub 2–2.5 m high, grey bark and red-brown pods (slightly glaucous), among granite rocks near stream in association with *Casuarina littoralis, K. Thurtell & R. Coveny 3891,* 12.1971 (NSW 106907, B, U, MEL, A, US, BRI, K, UC, CANB, G, LE); Silent Grove, *G. Althofer* NSW *107553,* 7.1971 (NSW).

A description of the legumes of *A. macnuttiana* is provided, as they were unavailable to Maiden and Blakely at the time of their publication of this species:— *Legumes* brown or red-brown, glabrous, slightly glaucous, 5–8 cm long, 0.7–1.1 cm broad, cultrate or linear, thinly coriaceous, the margins thickened and rather prominent and light red-brown. *Seeds* longitudinal in the legumes, black, ± oblong, glossy, 5–7 mm long, 3–3.5 mm broad; the pleurogram fairly prominent, open at the apex, c. 5 mm long; with a cream-coloured cap-like aril at the apex of each seed, the funicle filiform and slightly convoluted.

This species has a somewhat restricted distribution being only recorded from the Northern Tablelands of New South Wales. It usually occurs on acid granite near streams.

Acacia barringtonensis *Tindale,* **sp. nov.**

Ab *A. clunies-rossiae* Maiden ovariis pubescentibus et longioribus (1–1.3 mm longis), ab *A. dorothea* Maiden inflorescentiis breviter oblongis (5–8 mm longis), phyllodiis marginibus magis manifeste incrassatis et pubescentia densiore e pilis appressis griseis sistente differt.

Differs from *A. clunies-rossiae* Maiden in the pubescent, longer ovaries (1–1.3 mm long) and from *A. dorothea* Maiden in the shortly oblong inflorescences (5–8mm long), the phyllodes with much more prominently thickened margins and the thicker pubescence of appressed grey hairs.

HOLOTYPE: NEW SOUTH WALES: Barrington Plateau, 36 miles [58 km] E. by N. of Scone, Hunter Valley, N.S.W., abundant in woodland of *Eucalyptus pauciflora* and *E. dalrympleana,* 6 ft [1.8 m] high, with blackish twigs and yellow heads, *R. Story 7537,* 16.x.1960 (NSW 64629), located at the National Herbarium of New South Wales, Sydney, Australia. ISOTYPE: CANB.

Shrub or small tree 0.9–7 m high, usually of mallee habit, bark grey. *Branchlets* dark brown, black or sometimes red-brown, prominently angled with pale ridges especially towards the apex, clothed sparsely with short, white, appressed hairs. *Young tips* of the foliage greyish white. *Phyllodes* obliquely elliptical or sometimes oblong-elliptical, slightly falcate or straight, penninerved, coriaceous, 3.5–9 cm long, 0.5–2 cm broad, the apex with a curved and obliquely placed mucro, broadly rounded or subacute, the margins quite prominent, the base tapering gradually or abruptly narrowed into the petiole, the gland 1–1.5 mm long, reniform, sparsely pubescent, marginal, occurring about 1/3–1/7 of the distance from the base of the phyllode, subtended by a strong lateral vein from the midrib, the margin often indented, both surfaces of the lamina, clothed with short, white, appressed hairs. *Flower-heads* yellow, globose, in racemes shorter than the phyllodes or in panicles, usually 5–11 in a raceme, mostly 8–11 flowers in a capitulum, 2.5–4 mm in diam., the peduncles 1.5–4 mm long and 0.2–0.5 mm in diam., clothed with appressed white hairs. *Bract* at the base of the peduncle ± deltoid, black, ciliolate along the margin. *Bracteoles* c. 0.7 mm long, dark brown, stipitate, the peltate lamina fringed with white cilia. *Calyx* 0.3–0.8 mm long, obconical, very shortly 5-lobed to about 1/5 of its length, slightly angular, with the ribs of the tube and the base ciliolate, the broadly obtuse lobes ciliolate around the margins. *Corolla* c. 1.2–1.5 mm long with 5 free petals which are acute, narrowly lanceolate, with a central, longitudinal, slightly darker stripe, glabrous, or more usually clothed with a few white cilia along the midribs. *Filaments* of the stamens numerous, 3-5 mm long. *Anthers* bilocular. *Ovary* subsessile, densely pubescent with white hairs, oblong, scarcely dilated towards the apex, 1–1.3 mm long. *Style* fawn, glabrous, c. 1.5–3.3 mm long. *Legumes* stalked, coriaceous, 2–6.5 cm long, 0.7–1.2 cm broad, dark brown to blue-black, glaucous, flat except for the contours of the seeds, not indented between the seeds, glabrous or sometimes with a few, short, white, appressed hairs towards the base and margins, the horizontal veins quite prominent. *Seeds* black, slightly glossy, oblong-elliptical, rather compressed, 4.5–6 mm long, 2–3 mm broad, longitudinal in the legume, the pleurogram open at the apex, the areole 3–4 mm long, 1–1.5 mm broad, the funicle at first filiform with a loop near the thickened white aril.

DISTRIBUTION: On the eastern side of the Northern Tablelands of New South Wales, southwards from the Gibraltar Range National Park. It is quite common on the Tomalla tableland, as well as on Barrington and Gloucester Tops. It occurs in dry sclerophyll forest or woodland (especially in the *Eucalyptus pauciflora-E. dalrympleana* association), in moist situations near creeks or along the margins of swamps, usually on basalt but also on granitic soils, mostly between 1170–1700 m alt.

FLOWERING PERIOD: September to early November.

LENGTH OF LEGUME FORMATION: About 6 months, the mature legumes being borne on the shrubs or trees in December and January.

NEW SOUTH WALES: **Northern Tablelands:** Mulligan's Hut, Gibraltar Range National Park, shrub 1.5–2 m high, in association with *Hakea eriantha, Leucopogon lanceolatus* and *Acacia mitchellii, R. Coveny 2229,* 10.1969; c. 3 miles [4.8 km] WNW. along fire trail from forestry hut in Carrai State Forest, c. 35 miles [56 km] NNW. of Kempsey, 31° 00′ S. 152° 16′ E, shrub 1 m high, in sandy soil in association with *Banksia integrifolia* etc., *R. Coveny 420 & D. McGillivray,* 7.1968 (NSW 106803, wood voucher for phytochemical survey, K, US, L); Forbes River crossing on top of Hastings Forest Highway, Mt. Boss State Forest, Bellangry, in montane woodland, c. 4000 ft [1200 m] alt., growing with *Eucalyptus dives, E. acaciaeformis* and *E. pauciflora,* shrub 1 m high, *J.T. Waterhouse 1316,* 8.1969; Upper Manning River, 19 miles [30.6 km] SSW. of Curricabark on Tomalla-Upper Bowman road (c. 25 miles [40 km] NW. of Gloucester), shrub 3 m high, in *Eucalyptus* forest in association with *Daviesia ulicifolia* and *Acacia melanoxylon,* alt. 1020 m, *R. Coveny 582 & D. Blaxell,* 9.1968; Tomalla Tableland, 3500 ft [1050 m] alt., small tree up to 20 ft. [6.7 m] high, in alluvial river bed, *H. McDonald NSW 64636,* 9.1954; Gummi River, Tomalla Tableland, 4100 ft [1230 m] alt., shrubs 7–8 ft [2.1–2.4 m] high, only seen along streams or within 50 yards [46 m] of them, sometimes overhanging the water, *R.W. Earp NSW 64634,* 5.1955; Barrington Tops, 3 miles [4.8 km] SSW. of Tubrabucca, shrub 1 m high with several stems from the ground level, in *Eucalyptus pauciflora-E. dalrympleana* woodland on broad ridge, *B.G. Briggs NSW 64631,* 9.1961 (MEL); Tugalo Creek, Barrington Tops, basalt, red loam, rocky surface, well-drained, a shrub 5 ft [1.5 m] high, associates *Eucalyptus pauciflora* and *E. dalrympleana, L.A.S. Johnson & H. McDonald NSW 64635,* 12.1954; Barrington Tops, near Mt Polblue, 1 mile [1.6 km] S. of Manning River, in eucalypt forest, *Salasoo 1783,* 10.1959; Barrington Tops, *L. Fraser NSW 64642,* 8.1930; Barrington Tops, 5100 ft [1530 m] alt., shrub 3–5 ft [0.9–1.5 m] high, in an abundance of moisture and dense undergrowth, much resembling *Acacia rubida, J.L. Boorman NSW 64638,* 12.1915 (K, US, A); Barrington Tops, small plants 2–3 ft [0.6–0.9 m] high, *J.L. Boorman NSW 64630,* 12.1915; Barrington Tops, c. 4500 ft [1350 m] alt., tree 20 ft [6.1 m] high, 4 inches [10 cm] D.B.H., basalt, *H. McDonald NSW 64637,* 11.1953; Barrington Tops, shrub 2 m high, in subalpine woodland at approx. 5000 ft [1500 m] alt., *I.R. Telford 2719,* 2.1971 (CBG); Barrington River, Barrington Tops, c. 4500 ft [1350 m] alt., *R.W. Earp NSW 64747,* 9.1960; Carey's Peak, Barrington Tops, 5064 ft [1520 m] alt., small shrub 4 ft [1.2 m] tall, in rather bushy thickets, in swamp margin, soil rather wet, black sandy loam, *P. Burgess 53,* 8.1961; Gloucester River, Gloucester Tops, ¼ mile [0.4 km] from the river, c. 4000 ft [1200 m] alt., *R.W. Earp NSW 64748,* 4.1956; Gloucester Falls track, Gloucester Tops, shrub 2 m high, in subalpine woodland, *I.R. Telford 2843,* 2.1971 (CBG); Gloucester Tops, c. 2 miles [3.2 km] from Gloucester road on road to Barrington Tops, shrub to 3 m high, in intermediate sclerophyll forest of *Eucalyptus obliqua-E. viminalis*?, granite soil, shallow drainage approx. free, *J. Pickard 415,* 10.1969 (K, L, CANB, BRI, MEL, US, AD); Gloucester Tops, shrub 2–12 ft [0.6–3.6 m] high, on driest hillsides. shrubs sometimes of mallee habit. the bark greyish and peeling, *R. Coveny NSW 95769,* 3.1967; Gloucester Tops, ½ mile [0.8 km] W. of Gloucester Falls, foliage bluish grey, bark grey, erect shrubs 1.5–3 m tall, with several stems from base, on ridge in *Eucalyptus pauciflora* woodland, *B. Briggs NSW 101418,* 4.1965; eastern side of Gloucester River, Gloucester Tops, c. 37 miles [59.2 km] SW. of Gloucester, shrub c. 8 ft [2.4 m] high of mallee-habit, on hillside about 50 yards [46 m] from the river, *R. Coveny NSW 101510,* 9.1967 (wood voucher for phytochemical survey, CANB); Gloucester Tops National Park, shrub 6–8 ft [1.8–2.4 m] high, usually mallee habit, flower-heads deep yellow, end of flowering period, *R. Coveny NSW 101509,* 9.1967 (wood voucher for phytochemical survey, K, L, B, CANB, PERTH, BRI, A).

A. barringtonensis is closely allied to *A. clunies-rossiae* Maiden which occurs in the valleys of the middle and lower Kowmung River and adjacent Cox's River region of New South Wales. As in *A. barringtonensis* there is a short, fine, white, appressed vestiture on the phyllodes, also the young tips of the foliage are greyish white. However *A. clunies-rossiae* is a larger denser tree, the ovaries are glabrous, the calyx is free to the base or almost so, the margins of the phyllodes are only slightly recessed at the gland and there are about 9 flowers in a capitulum.

Acacia caesiella Maiden et Blakely is distinguished from *A. barringtonensis* by the longer legumes (6–8.5 cm long), the more numerous flowers in a capitulum (12–16) and the phyllodes not recessed or very slightly so at the small, narrowly oblong gland (0.3–0.8 mm long) and usually without a lateral vein from the gland.

Another closely allied species is *A. dorothea* Maiden, although the latter is characterized by shortly oblong inflorescences (5–8 mm long), the phyllodes with more prominently thickened margins and a thicker vestiture of appressed, grey,

overlapping hairs on the branchlets and phyllodes as well as by densely tomentose legumes (constricted between the seeds) and by pubescent ovaries. This species was placed in the Juliflorae Uninerves by Maiden and Betche (1916), but morphologically and chemically I consider that this species should be in the Uninerves Racemosae with *A. caesiella* and its allies. Although the inflorescences are slightly oblong, the phyllodes are l-nerved, unlike other members of the Juliflorae. In addition the flavonoids of the heartwoods in *A. dorothea* and the *A. caesiella* group are of the resorcinol type instead of the pyrogallol type in the Juliflorae (Tindale and Roux 1974).

KEY TO *ACACIA BARRINGTONENSIS* AND ITS ALLIES

1. Inflorescences shortly oblong, 20–24 flowers in a head. Legumes densely tomentose, constricted between the seeds. Ovary pubescent. Phyllodes linear-lanceolate, densely pubescent with overlapping hairs, the thickened margins with a prominent recessed, reniform gland 1–2 mm long ..... *A. dorothea*

1.* Inflorescences globose, c. 5–16 flowers in a head. Legumes glabrous or slightly pubescent, not constricted between the seeds. Ovary glabrous or pubescent. Phyllodes pubescent but the hairs not overlapping.

2. Ovary glabrous. Phyllodes narrow-oblong-elliptic, the margins not prominent, scarcely recessed at the pouch-like gland which is 0.7–1 mm long. c. 9 flowers in a head. Calyx dissected to the base or almost so ..... *A. clunies-rossiae*

2.* Ovary pubescent. Phyllodes linear to linear-lanceolate, obliquely elliptical or sometimes oblong-elliptical, the margins prominent or not prominent, recessed or not recessed at the gland.

3. Phyllodes linear to linear-lanceolate. Margins of the phyllodes not prominent. Gland 0.3–0.8 mm long, not or very slightly recessed, usually without a lateral vein from the gland to the midrib. Legumes 6–8.5 cm long, glabrous. 12–16 flowers in a head. Calyx readily splitting to the base ..... *A. caesiella*

3.* Phyllodes obliquely elliptical or sometimes oblong-elliptical. Margins of the phyllodes prominent. Gland 1–1.5 mm long, often recessed and with a strong lateral vein from the gland to the midrib. Legumes 2–6.5 cm long, glabrous or with a few hairs towards the apex and base. 5–11 flowers in a head. Calyx very shortly 5-lobed ..... *A. barringtonensis*

JULIFLORAE

Rigidulae

Acacia gracillima *Tindale,* **sp. nov.**

Ab *Acacia linarioide* Benth. cortice rubiginoso crispatissimo, phyllodiis non rigide erectis, longioribus (4–6.5 mm longis), laxe dispositis, mucrone phyllodiorum terminali longiore (1.5–2 mm longo), inflorescentiis gracilioribus et quam phyllodia brevioribus, pedunculis inflorescentiarum longioribus (0.8–2.4 mm longis), leguminibus latioribus (4–5 mm latis) et pilis paucis laxis in marginibus latis valvarum vestitis statim diagnoscenda.

Immediately distinguished from *A. linarioides* Benth. by its dark red, very curly bark, its phyllodes which are longer (4–6.5 mm long), not rigidly erect, widely spaced and with the terminal mucro longer (1.5–2 mm long), but its inflorescences more slender and shorter than the phyllodes, by its longer peduncles of the inflorescences (0.8–2.4 cm long) and the fruit being broader (4–5 mm broad) and clothed with a few lax hairs on the broad margins of the valves.

HOLOTYPE: WESTERN AUSTRALIA: Bold Bluff, W. Kimberley, *W.V. Fitzgerald 1131.* 5.1905. NSW. ISOTYPES: K, PERTH.

A shrub or small tree up to 4 m high, the canopy c. 7 m in diam., branching at or near the base, upwards and outwards, the old bark dark red, peeling off readily into curling grey strips (i.e. minni-ritchie bark). *Branchlets* yellowish-green, later brown, angular, granular between the pale fawn, smooth, longitudinal ridges which are clothed with a few lax hairs. *Phyllodes* dark green, usually curved, rather

lax, linear, not stiffly erect as in *A. linarioides,* widely spaced, 4–6.5 cm long, 0.5–1.5 mm broad, the lamina granular, with 1 prominent vein closer to the upper margin, in larger phyllodes also with 1 rather obscure vein on either side of the prominent vein, the base gradually tapered, the apex rounded or slightly constricted below the mucro which is brownish, curved or straight, 1.5–2 mm long, usually not centrally placed, the thickened margins of the phyllodes and the longitudinal veins clothed with yellowish, appressed, rather stiff hairs c. 0.5–1 mm long. *Inflorescences* bright yellow, spicate, delicate, 2–4 cm long, 2.5–6 mm broad, single in the axils of and shorter than the phyllodes, the flowers crowded on the axis, the peduncles much elongated, granular, up to 4/7 of the length of the spike, 0.8–2.4 cm long, c. 0.5 mm in diam., ridged, often slightly viscid. *Bracts* borne between the flowers, brown, ciliolate along the margins, very narrowly lanceolate. *Stipules* in pairs at the base of the phyllodes, ferruginous, 0.5–2.2 mm long, linear, stiffly erect. *Calyx* very insignificant, dissected to about ½ of its length into 5 ± deltoid, fimbriate sepals which are c. 0.2–0.5 mm long and 0.3 mm wide at the base. *Corolla* c. 1.5 mm long, dissected to c. ½ of its length into 5 acute, very glossy, glabrous petals with granulose margins and a central, longitudinal stripe, darker towards the apices, spreading outwards at right angles to the tube. *Stamens* numerous, the filaments free, bright yellow, c. 1.5 mm long. *Anthers* bilocular. *Ovary* subsessile, light brown, later dark brown or black, glossy, broadly oblong, glabrous, c. 0.4–0.5 mm long, 0.3 mm broad, the style fawn, glabrous, 2.5–3 mm long, borne almost centrally on the apex of the ovary, the stigma truncate and slightly broader than the style. *Legumes* brown, lighter brown and constricted between the seeds, viscid and veined, 4–7 cm long, 4–5 mm broad, with up to 9 seeds, the surface and broad margins of the valves clothed with a few, curled hairs. *Seeds* (not fully mature) black, oblong-elliptical, compressed, longitudinal in the legume, the funicle swollen, fawn or light brown.

DISTRIBUTION: WESTERN AUSTRALIA: Kimberleys especially in the King Leopold Ranges, in savannah grassland, occasional on steep rocky hillsides.

FLOWERING PERIOD: Late May to July.

FRUITING PERIOD: May and June.

SPECIMENS EXAMINED: WESTERN AUSTRALIA: near junction of Hann and Barnett Rivers, 16° 50′ S, 126° 06′ E, *W.V. Fitzgerald 1131,* 6.1905; Inglis Gap on Gibb River road, King Leopold Range, West Kimberley, in savannah grassland, occasional on steep rocky hillside on western face of range, in light brown sand, quartz and red stone pebbles, granite, flowerheads bright yellow, a large bush branching at or near the ground, less than 4 m high, canopy less than 7 m in diam., diam. of stems less than 6 cm at origin, all phyllodes dark green, slightly glaucous when old, young stems yellowish becoming brown, old bark deep red, curling off as narrow grey strips at an early stage, *I.V. Newman 638,* 6.1973 (NSW 107246, wood voucher for phytochemical survey); Inglis Gap, King Leopold Ranges, c. 17° 07′ S, 125° 11′ E, bushy shrub to 4 m high, growing on side of road at base of hill slope, *J.R. Maconochie 1190,* 5.1971 (NT, NSW); southern foot of Bold Bluff, Kimberley, 17° 15′ S, 125° 26′ E, small tree with fibrous bark, springside habitat, *C.H. Gittins 1441,* 7.1967 (NSW 101525, wood voucher for phytochemical survey).

It differs from *Acacia linarioides* in having a minni-ritchie bark (a dark red bark which curls off in narrow strips). The terminal mucro of the phyllodes is much longer than in *A. linarioides* being 1.5–2 mm in length instead of 0.5–1 mm. The phyllodes are also longer and not stiffly erect. In addition the peduncles of the inflorescences are very elongated (1.2–2.4 cm long) and glabrous or with a few, soft, lax hairs. Both species are members of the Juliflorae Rigidulae according to Bentham's classification in Fl. Austral. 2: (1864).

The specific epithet *"gracillima"* refers to the very slender phyllodes of this species.

Acacia linarioides Benth.

Acacia linarioides Benth. in Hook. J. Bot. 1: 371 (1842); Benth., Fl. Austral. 2: 393 (1864); Ewart & Davies, Fl. N. Territory: 325 (1917).

Viscid shrub up to 1.5 m high, c. 60 cm in diam.; bark dark grey and ± smooth. *Branchlets* somewhat angular, viscid, green at first, then dark reddish grey, clothed with sparse to numerous, white, appressed, rather stiff hairs, the surface somewhat scurfy between the ridges. *Phyllodes* dark green, straight or almost so, rather stiffly erect, very numerous and crowded on the branchlets, 1–3.5 cm long, 0.8–2 mm wide, the apical mucro thick, straight or curved, centrally or obliquely placed, 0.5–1 mm long, the apex ± obtuse, the base slightly tapered, with 1 central or almost central main vein and sometimes with 2 additional, longitudinal, obscure nerves, almost glabrous or with scattered, stiff, white, appressed hairs mostly along the margins and larger veins, the lenticels prominent, with a minute round gland on the margin c. 1.5–4 mm above the pulvinus. *Inflorescences* golden, spicate, exceeding the phyllodes in length, often twice as long, 2–3.7 cm long, 2.5–5 mm broad, the peduncles 6–8 mm long, viscid, slightly tuberculate, clothed with scattered, white, often appressed hairs, the flowers crowded to loosely arranged in the bud stages. *Bracts* borne amongst the flowers on the axis which is sparsely clothed with short, white, appressed or spreading, ± stiff hairs; viscid and ferruginous, narrowly lanceolate to linear. *Stipules* in pairs, c. 0.3–1 mm long, dark brown. *Calyx* with small, free, slender, glabrous sepals c. 0.2–0.3 mm long. *Corolla* c. 1.2 mm long, with 5 petals united over the basal ½–⅔ of their length, swollen at their apices, with a central longitudinal stripe, glabrous except for some hairs on the abaxial surface near the apices, margins granulose. *Stamens* numerous, yellow, free, 1.5–2 mm long. *Anthers* bilocular. *Ovary* black, glabrous, ± oblong, 0.5–0.6 mm long. *Style* fawn, glabrous, 2 mm long, the stigma slightly expanded. *Legumes* falcate or coiled, dark brown or dark red-brown, with paler brown margins, viscid, obscurely striate, constricted between the seeds, 4–5 cm long, 1–3.5 mm broad, the valves convex and bordered along the margins. *Seeds* black, compressed, narrowly oblong-elliptical, longitudinal in the legume, 5–12 in each fruit, 3.5–4 mm long, 1–1.2 mm broad, the pleurogram closed, the areole dark brown, ± narrowly oblong, the funicle cream-coloured, thread-like, convoluted, c. 2 mm long, expanded into a cream-coloured cupuliform aril.

HOLOTYPE: Australia, *Bauer* (K). I have examined photographs of this specimen which is labelled "Division of Plant Industry, C.S.I.R.O., Neg. No. 387, 21.VII.1953".

DISTRIBUTION: NORTHERN TERRITORY: Islands of the Gulf of Carpentaria (Groote Eylandt and Cavern Island), also the northern region of the Northern Territory.

FLOWERING SEASON: late January to July.

FRUITING PERIOD: May-July.

SPECIMENS EXAMINED: NORTHERN TERRITORY: Hemple Bay, Groote Eylandt, in the Gulf of Carpentaria, bush 30 cm tall, 60 cm in diam., *R.L. Specht 382,* 5.1948 (MEL); Gulf of Carpentaria, Cavern Island, *R. Brown 4282* (MEL); c. 90 miles [144 km] S. of Maningrida, 12° 51′ S, 134° 32′ E, *J.R. Maconochie 1584,* 6.1972, shrub to 1.5 m high with flowers, growing in sandstone outcrop (NT, NSW); 2 miles [3.2 km] W. of South Alligator River, Moline Road, 12° 39′ S, 132° 30′ E, along sandstone rocks, shrub to 5 ft [1.5 m] high, *N. Byrnes 1330,* 1.1969 (NT, NSW); near U.D.P. Falls, *C. H. Gittins 2634,* 7.1973 (NSW).

During her term as Australian Botanical Liaison Officer at the Royal Botanic Gardens, Kew, England, Miss Helen Aston kindly compared a specimen collected by N. Byrnes 1330 with the holotype of *A. linarioides*, stating that the former specimen was more glabrous, a little more viscid (probably partly due to its newness) and slightly smaller in foliage and in inflorescence than the holotype.

According to Mr. N. Byrnes (pers. comm.) this very floriferous species usually blooms in the middle of the wet season in the Northern Territory and is common in the Moline-South Alligator region.

Acacia dacrydioides *Tindale,* **sp. nov.**

A. kelleri F. Muell. arcte affinis sed phyllodiis brevioribus angustioribus (0.6–1.3 cm longis, 0.2–0.5 mm latis), vena singulari mediana canaliculata, leguminibus glabris submoniliformibus cristis rubiginosis tenuibus longitudinalibus in paginis valvarum ornatis, seminibus in leguminibus longitudinaliter dispositis differt.

Closely allied to *A. kelleri* F. Muell. but differing in the smaller narrower phyllodes (0.6–1.3 cm long, 0.2–0.5 mm broad), the single, median, groove-like vein, the glabrous submoniliform legumes ornamented with dark red, fine, longitudinal ridges on the surface of the valves, the seeds longitudinally placed in the legumes.

HOLOTYPE: WESTERN AUSTRALIA: King Edward River Crossing, Kalumburu Mission, 14° 19′ S, 126° 38′ E, bushy shrub to 2.5 m, growing in deep sand on side of river, *J.R. Maconochie 1258,* 30.v.1971 (NT 31252), located in the National Herbarium of New South Wales, Sydney, Australia. ISOTYPE: NT.

Graceful, arching, spreading shrub up to 2.5 m high. *Branchlets* fawn to red-brown, often with grey markings on the older parts, terete, clothed densely to sparsely with weak, white, soft hairs 1–1.2 mm long. *Phyllodes* bright green, with minute white tubercles on the surface, 0.6–1.3 cm long, 0.2–0.5 mm broad, sub-erect to spreading, with a median groove-like midrib, bearing few to numerous, weak, white hairs up to 1 mm long, the pulvinus yellowish, 0.6–0.8 mm long, the apical mucro 1–2 mm long, fine and often bent. *Stipules* light ferruginous, rather persistent on the branchlets, borne in pairs at the base of the phyllodes, conspicuous, scarious, lanceolate-linear, bearing a few white hairs near the attenuated apex, closely overtopping the young phyllodes. *Bract* at base of inflorescence, bright ferruginous, ribbed, slightly viscid, ciliate along the margin, 4–5 mm long and 2 mm broad. *Inflorescences* spicate with densely crowded flowers, yellow, 0.8–2.2 cm long, c. 0.8 cm wide (when mature), borne singly or occasionally in pairs in the axils of the comparatively large bracts, the peduncles pilose with soft white hairs, 5–6 mm long, the axial bracts ferruginous, scarious, ribbed, projecting beyond the buds, with an apical tuft of hairs and a few scattered white hairs on the margins. *Calyx* dissected ½ way to near the base into 5 long narrow sepals c. 1.5 mm long and 0.2–0.3 mm broad, with a median longitudinal stripe, the tube glabrous but apices of the sepals clothed with a few, long, white, curly hairs. *Corolla* deeply dissected into 5 long narrow petals 1–2 mm long and 0.2–0.3 mm broad, bearing a median longitudinal rib and a few, curly, white hairs towards the apex. *Stamens* numerous, free, 2.5–3 mm long. *Anthers* bilocular. *Ovary* light brown, oblong, c. 0.7 mm long, c. 0.3 mm broad, clothed towards the upper portion with a few, long, white hairs. *Style* fawn, glabrous, 3 mm long, the stigma slightly expanded. *Legumes* submoniliform, dark brown, glabrous, 6–8 cm long, 3.5–5 mm broad, ornamented with closely spaced, longitudinal, dark red ribs on the surface of the valves. *Seeds* longitudinally placed in the legumes.

DISTRIBUTION: WESTERN AUSTRALIA: near Kalumburu Mission, King Edward River district, on quartzite ridges amongst boulders in mixed woodland, also occurring on sandstone.

FLOWERING PERIOD: May.

FRUITING PERIOD: May and June.

SPECIMENS EXAMINED: WESTERN AUSTRALIA: 2 miles [3.2 km] N. of Kalumburu Mission, spreading shrub to 2 m high, among sandstone rocks, *N. Byrnes 2301,* 5.1971; Longeny landing, Kalumburu Mission, graceful arching shrub to 2 m high, with yellow cylindrical inflorescences and moniliform pods, growing on quartzite ridge amongst boulders in mixed woodland, *J.R. Maconochie 1256,* 5.1971 (NT 31250, wood sample for phytochemical survey, NT, NSW).

This species is a member of the Juliflorae being closely allied to *Acacia kelleri* F. Muell. which is also native to north-western Western Australia.

I have named this species *A. dacrydioides* because of its superficial resemblance to members of the genus *Dacrydium*.

Acacia kelleri F. Muell.

Acacia kelleri F. Muell. in Proc. Linn. Soc. New South Wales, Ser. 2, 6: 468 (1892); Maiden in Ewart & Davies, Fl. Northern Territory: 337 (1917).

HOLOTYPE: Durack River, *W.T. Allen* (not examined).

DISTRIBUTION: This species ranges from the Kimberley region of north Western Australia to the lower Victoria district in the Northern Territory. In addition to the localities cited below, there is a note on *C.A. Gardner 1534* recording that *A. kelleri* grows "on sandstone hills south of Napier, Broome Bay and Carson River". It usually occurs in sandy alluvium beside watercourses in eucalypt-savannah, in sandy soil amongst sandstone rocks and on quartzite ledges close to river gorges.

FLOWERING PERIOD: May to August.

FRUITING PERIOD: Mature fruit occur on the plants in August.

SPECIMENS EXAMINED: NORTHERN TERRITORY: Lower part of Victoria River, c. 17° 47′ S, 130° 18′ E, *R.J. Winters NSW 106946,* 8.1913. WESTERN AUSTRALIA: Wade Creek, Vansittart Bay, c. 14° 14′ S, 126° 18′ E, in sandy soil among sandstone rocks, in open spaces on rising ground, *C.A. Gardner 1534,* 8.1921; Upper Moran River, near F.B. 61, 15° 43′ S, 125° 49′ E, in sandy soil in scanty soil on ledges of quartzite rock, close to the river gorge, a shrub or small tree of 10 to 20 ft [3 to 6 m], branching from the base, the branches slender and virgate, spreading; bark grey, fibrous and rough, *C.A. Gardner 1449,* 6.1921; Prince Regent River, c. 15° 42′ S, 125° 23′ E, *W.T. Allen NSW 106947;* 32 miles [51.2 km] NE. of "Karunjie" Station, Kimberleys, small shrub 4 ft [1.2 m] high with many slender, sparsely branched stems from base, phyllodes pressed to stems, with *Eucalyptus grandifolia* and annual sorghum in deep grey sandy soil, *R.A. Perry & M. Lazarides 3089,* 7.1952 (CANB, NSW); 21 miles [33.6 km] N. of "Gibb River" Homestead, Kimberleys, c. 16° 09′ S, 126° 30′ E, erect spindly shrub to 1½ m, growing on side of banks in eucalypt-savannah, *J.R. Maconochie 1216,* 5.1971 (NT 31209, wood sample for phytochemical survey, NT, NSW), *J.R. Maconochie 1295,* 6.1971 (NT 31290, wood voucher for phytochemical survey, NT, NSW), *J.R. Maconochie 1294,* 6.1971 (NT, NSW), *N. Byrnes 2273,* 5.1971 (NT, NSW).

Since the original publication of this species by F. Mueller in 1892 references to *A. kelleri* have been few. Recently wood samples of this little-known species have been obtained by Messrs. J.R. Maconochie and N. Byrnes for my joint phytochemical survey with Prof. D.G. Roux. It is closely allied to *A. dacrydioides* with which it has been sometimes confused. However it may be readily distinguished from the latter by the longer and broader phyllodes (0.8–3.5 cm long and 1.2–3 mm wide) as well as the broader legumes (0.5–1 cm broad) clothed with a dense citron-green pilosity in the young condition. The fruit range from 4–6 cm long and 0.8–1 cm broad in the specimens from "Gibb River" Station to 7–8 cm long and 0.5–0.6 cm wide in the material from Vansittart Bay. The pilosity of white hairs on the phyllodes in *A. kelleri* varies from very dense in *Perry & Lazarides 3089* and *NSW 106946* to much sparser in *Gardner 1534*.

JULIFLORAE

Stenophyllae

Acacia clivicola Pedley

Acacia clivicola Pedley in Contr. Queensland Herb. No. 15: 7–8, 23, fig. 5 (1974).

This species has a wide geographic range from the Northern Territory to Western Queensland and the Far Western Plains of New South Wales. Pedley, l.c. 8, did not record *A. clivicola* from the latter State but in the past three years

a number of collections of this species have been made, so that it was considered appropriate to list them. *A. clivicola* is a member of the Juliflorae, belonging to the *A. kempeana-A. aprepta* group.

NEW SOUTH WALES: **Far Western Plains:** near Tibooburra, 29° 26′ S, 142° 01′ E, in sandy loam soil, scattered trees up to 4 m high, *W.E. Mulham W635,* 5.1973; 20 km W. of Wanaaring on Milparinka road, 29° 43′ S, 143° 56′ E, locally frequent on ridge-top, in gravelly red soil with silcrete outcropping, *Acacia aneura* predominant, shrubs to c. 2 m high, with wide-spreading branches, *A. Rodd 1927,* 11.1971; Cooturaundee Range, 12 km E. of "Wertago", 30° 51′ S, 142° 37′ E, dominant spreading shrub to 2 m high forming low shrubland, in skeletal soil on quartzitic sandstone on rocky scarp face and summit of range, *J. Pickard 2382,* 7.1973 (NSW 107549, wood voucher for phytochemical survey, K, CANB); Mootwingie Historic Site, 31° 10′ S, 142° 17′ E, unknown collector, 11.1971; "Mulga Downs", 31° 29′ S, 145° 09′ E, on rocky hill, a bushy shrub, *P.J. Walker 75 & D.R. Green* 11.1973; 60 km W. of Cobar on Mt Gap road, 31° 29′ S, 145° 15′ E, mulga-like in appearance but somewhat smaller c. 5 m high, *K.F. Wells 91,* 2.1974.

Acacia curranii Maiden

Acacia curranii Maiden in J. Roy. Soc. New South Wales 49: 492–3 (1916); L. Pedley in Proc. Roy. Soc. Queensland 74: 53 (1964).

HOLOTYPE: Cobar, New South Wales, Rev. *Milne Curran,* 1887 (MEL). ISOTYPE: NSW.

NEW SOUTH WALES: **Western Plains:** Shepherd's Hill, 14 km W. of Euabalong West, locally abundant "broombush" shrub to 3 m high, bark curling off in thin strips (minni-ritchie) in skeletal soil on toe-slope of igneous hill, shrubland, *J. Pickard 2407 & D. Benson,* 11.1973 (NSW 107383, wood voucher for phytochemical survey).

QUEENSLAND: **Darling Downs District:** 3 miles [4.8 km] N. of Gurulmundi on Dividing Range, on shallow, light brown loam, shrub to 8 ft [2.4 m] high, branched from the base, *L. Pedley 877,* 9.1961 (BRI, NSW); cultivated at Glenmorgan (collected originally at Gurulmundi by D.M. Gordon), small tree to 5 ft [1.5 m] with loose fibrous bark curling at the tips, "leaves" erect on stems and pale green, *R.V. Gordon 610,* 11.1958 (NSW, BRI).

The specimen obtained at Shepherd's Hill by Pickard and Benson appears to be the first record of this species from New South Wales since Father Curran's original collection at Cobar in 1887. It would be of interest to know whether it does occur in the latter locality, as Maiden considered it doubtful in J. Roy. Soc. New South Wales 49: 492–3 (1916). He states that 'I . . . wrote to the Ven. Archdeacon Haviland, now of Cobar, formerly of Bourke, and an authority on the plants of both places. He replied, "I am at a loss to know where he (Father Curran) could have got it; I am pretty well certain it was not in either Bourke or Cobar districts".'

In the Euabalong West district *A. curranii* occurs on an igneous hill which has a different type of vegetation from the surrounding plains. (Pickard and Benson, pers. comm.).

JULIFLORAE

Falcatae

Acacia diphylla *Tindale,* **sp. nov.**

A. cheelii Blakely affinis sed cortice minus exfolianti, laminas elongatas non efficienti, ramulis minus angularibus, inflorescentiis brevioribus (plerumque 2.3–3.3 cm longis), leguminibus brevioribus angustioribus, 2.5–6 cm longis, 0.2–0.3 cm latis, calycibus pilis albis tantum dense vestitis et phyllodiis intermediis pro rata latis ellipticis differt.

Allied to *A. cheelii Blakely* but differs in its less flaky bark which does not form strips, less angular branchlets, shorter inflorescences (usually 2.3–3.3 cm long), shorter and narrower legumes (2.5–6 cm long and 0.2–0.3 cm broad), the

calyx densely clothed only with white hairs and the intermediate phyllodes comparatively broad and elliptical.

HOLOTYPE: NEW SOUTH WALES: Bakers Creek Falls, c. 3 miles [4.8 km] NW. of Hillgrove (off the Armidale-Grafton road), 30° 33′ S., 151° 53′ E., *R. Coveny 2288,* 6.x.1969, located in the National Herbarium of New South Wales, Sydney, Australia. ISOTYPES: CANB, B, CHR, NE, U, UC, L, A, PERTH, BRI, AD, K, MEL, Z.

Tree 6–11 m high, with dark grey, rough, hard, fissured bark, the young stems slightly glaucous. *Branchlets* light green, light brown or brown, glaucous, rounded except flattened-triquetrous towards their apices, in the intermediate foliage the branchlets red-brown and more triquetrous. *Intermediate phyllodes* rather glossy, glabrous, elliptical, slightly oblique, 5–8 (–9.5) cm long and 1.5–3 (–3.5) cm broad, with 3–5 ± prominent veins, the minor veins parallel and fine, the apex with a short hard mucro. *Mature phyllodes* green or slightly glaucous, glabrous, falcate, thinly coriaceous, with 3 prominent main veins and usually 2 semi-prominent veins with fine, parallel minor veins between them, 5–13 cm long, 0.5–1.8 (rarely 2.2) cm broad, broadest at the middle, very narrowly elliptical, the apex attenuated and with a small terminal knob (c. 0.5–1 mm in diam.), the base attenuated, a small orbicular or oval gland about 1–3 mm above the dark red-brown, black or brown pulvinus. *Inflorescences* pale yellow, fragrant, spicate, occurring along axes borne singly or more usually in short panicles in the axils of the phyllodes, 2.3–3.3 cm long, 0.5–0.8 cm broad, composed of numerous, fairly closely spaced, later widely spaced, 5-merous, sessile flowers, the peduncles c. 3–4 mm long and c. 0.4–0.6 mm broad, furfuraceous and with a minute vestiture of erect white hairs, each inflorescence subtended by 1 or 2 deltoid bracts. *Calyx* 5-merous or sometimes 4-merous, 0.5–0.8 mm long, cupular, scarcely dissected into very short lobes, with tube and lobes densely clothed with comparatively long, white, matted hairs. *Corolla* 5-merous or sometimes 4-merous, yellow, dissected to c. $\frac{1}{3}$–$\frac{1}{2}$ its length into acute glabrous petals with markedly papillose margins. *Stamens* free, numerous, pale yellow, the filaments 3–4.5 mm long; anthers bilocular. *Ovary* subsessile, black, ± oblong, clothed with long, white hairs especially near the apex and base. *Style* pale yellow, glabrous, c. 3.5–4.5 mm long, the stigma scarcely expanded. *Legumes* shortly stipitate, slightly constricted between the seeds, thinly coriaceous, dark grey, dull, 2.5–6 cm long, 0.2–0.3 cm broad, linear, the margins fawn and thickened, the surface furfuraceous. *Seeds* longitudinal in the legume, 3.5–5 mm in length, 1.5–2 mm in breadth, oblong, black, glossy, the pleurogram fairly prominent, the areole 2–3 mm long, the funicle white, filiform, tightly folded on top of the seed where it broadens into a fawn or white, fleshy, cupuliform aril; seeds pendulous from the legume when it opens.

DISTRIBUTION: NEW SOUTH WALES: Northern Tablelands from Hillgrove and Wollomombi Falls; also on the North Coast NNW. of Gloucester S. of the junction of the Manning and Barnard Rivers on the road to Nowendoc. This species usually occurs on shale or slate, common in woodland fringing the tops of gorges along the tributaries of the upper Macleay River and on hillsides NNW. of Gloucester, growing in association with *Eucalyptus tereticornis, E. melliodora* and a form of *E. cypellocarpa, Acacia implexa* and *A. filicifolia* as well as *Melia azedarach.*

FLOWERING PERIOD: September to November.

FRUITING PERIOD: Mature legumes are borne on the trees in December.

SPECIMENS EXAMINED: NEW SOUTH WALES: **Northern Tablelands:** Edge of Hillgrove Gorge, c. 17 miles [27.2 km] NE. of Armidale, *J.B. Williams NSW 106923,* 10.1964; Bakers Creek Falls, *R. Coveny 3927 & K. Thurtell,* 12.1971 (NSW 106921, wood voucher for phytochemical survey, K, BRI, U, A, MEL, UC, AD, US, RSA, LE, CANB, L, PERTH); Wollomombi Falls, 23 miles [36.8 km] E. of Armidale, *R. Coveny 3926 & K. Thurtell,* 12.1971; Wollomombi Falls, *R. Coveny 3925 & K. Thurtell,* 12.1971 (K, US, BRI, S, L, UC, MEL, A, AD, B, PERTH), *E.N. McKie B163,* 3.1932, *J.B. Williams NSW 106927,* 3.1965, *J.B. Williams NSW 106928,* 10.1959; Wollomombi Falls, common in woodland fringing the top of the gorge, growing with *Eucalyptus melliodora* and a form of *E. cypellocarpa, J.B. Williams NSW 106926,* 11.1966. **North Coast:** 14.5 miles [23.2 km] NNW. of

Gloucester on the "Giro" road, 31° 53′ S, 151° 49′ E, *R. Coveny 3809 & K. Thurtell,* 12.1971 (NSW 106903, wood voucher for phytochemical survey, K, US, L, BRI, AD, MEL, CANB, S, CHR, TNS); 14.5 miles [23.2 km] NNW. of Gloucester on the "Giro" road, *R. Coveny 3810 & K. Thurtell,* 12.1971 (NSW 106904, wood voucher for phytochemical survey, K, US, L, BRI, AD, MEL, CANB, S, CHR, TNS); 13.3 miles [21.3 km] NNW. of Gloucester on the Nowendoc Road, 31° 52′ S, 151° 52′ E, small tree 10–12 m high with grey, slightly corrugated bark, yellow flower-heads and slightly greyish phyllodes on slopes above stream, on shale, with *Acacia implexa, Backhousia myrtifolia, R. Coveny 4608,* 9.1972 (K, NA, FRI, Z, P, LE, U, B, CANB, MEL, RSA).

According to the classification of Bentham (1864) *A. diphylla* would be placed in the Juliflorae Falcatae which is well represented in New South Wales.

It is closely allied to *Acacia cheelii* Blakely which has more angular branchlets, longer inflorescences (usually 4–5 cm long), larger legumes (8–15 cm long and c. 4–5 mm broad), the calyx clothed with a tomentum of white and golden hairs with a band of dark red glandular hairs at the apex, and a more flaky bark which is inclined to form ribbons. *A. cheelii* occurs in drier regions than *A. diphylla* usually on stony hillsides chiefly on the North Western Slopes and N.E. Western Plains of New South Wales. The mature foliage of these two species is very similar, as both are characterized by falcate phyllodes which are thinly coriaceous, attenuated at both ends with a somewhat prominent apical knob, 3–6 more or less prominent main veins with numerous fine parallel veins between them and a more or less basal gland on the margins of each phyllode.

The specific epithet *"diphylla"* refers to the two types of foliage occurring in this species.

BIPINNATAE

BOTRYOCEPHALEAE

The Identity of *Mimosa terminalis* Salisb.

Acacia terminalis (Salisb.) Macbride in Contr. Gray Herb. Harv. New Series 59: 7 (1919).

SYNONYMS: *Mimosa terminalis* Salisb., Prodr. Stirp.: 325 (1796). *Mimosa botrycephala* Vent., Descr. Plant. Nouv., t. 1: (1800). *Acacia botrycephala* (Vent.) Desf. in Cat. Hort. Par., ed. III: 300 (1829).

In 1919 Macbride synonymized *Acacia elata* A. Cunn. ex Benth. with *A. terminalis* but many authors did not follow him, since Salisbury's type specimen could not be located. Following my request to Mr G. Chippendale, when he was Australian Botanical Liaison Officer at the Royal Botanic Gardens, Kew, a copy of Salisbury's lengthy manuscript Latin description of *Mimosa terminalis* was forwarded to me by Miss P. Edwards of the British Museum (Natural History). When I translated the description, I realized that this species was probably the plant known as *Acacia botrycephala* in Eastern Australia. Fortunately Dr. Robson, a member of the staff at the British Museum (Natural History), was able to find the holotype of *M. terminalis* which was collected by David Burton. Mr Chippendale made comparisons of several specimens of *A. botrycephala* with this holotype, the best match being *E.F. Constable NSW 107075* collected at South Coogee, N.S.W., in November 1957.

GUMMIFERAE

Acacia pallidifolia *Tindale,* nom. nov.

Acacia pallidifolia *Tindale,* **nom. nov.** based on *Acacia pallida* F. Muell. in J. Linn. Soc., Bot. 3: 147 (1859), partim, non Humb. et Bonpl. ex Willd. (1806).

LECTOTYPE: NORTHERN TERRITORY: Fitzmaurice River, arbuscula in campis apricis, *F. Mueller 76, 75,* 10.1855 (MEL 52465), flowering. ISOLECTOTYPE: NSW.

PARATYPE: NORTHERN TERRITORY: McAdam Range, *F. Mueller 75* (K).

A new name is required for this species, since *A. pallida* F. Muell. is a later homonym. This taxon which is native to tropical Australia, is one of the few native members of the Gummiferae. The specific epithet *"pallidifolia"* refers to the pale-coloured leaves.

There are two distinct taxa included under the original description of *A. pallida* F. Muell., a fact which G. Bentham recognized in his published comments on Mueller's text in J. Linn. Soc. Bot. 3: 148 (1859). Bentham remarked that "the specimens marked 76, from Victoria River, are nearly allied to *A. bidwillii,* but differ in the longer leaflets, the shorter pods and some other points . . . Dr. Mueller's specimens, No. 76, are also without spines, and have much more numerous pinnae than he describes (15 to 20 pairs with leaflets barely 2 lines long)." At a later date in Fl. Austral. 2: 420 (1864) Bentham referred this material to *A. bidwillii* var. (?) *major.* The latter is distinguished from the taxon (known for about a century as *A. pallida* F. Muell.) by its smaller leaflets (c. 2.5–4.5 mm long and c. 0.7–1.0 mm broad) and its absent or smaller spines (c. 1 mm long).

Although in 1859 Bentham l.c. 148, cited "McAdam Range, *F. Mueller* 75" (K) as representing the other species included by Mueller under *A. pallida,* I have chosen a specimen obtained by *Mueller 76, 75* "in campis apricis, Fitzmaurice River, 10.1855" (MEL) as the lectotype of *A. pallidifolia,* since reference is made to No. 76. In J. Linn. Soc. Bot. 3: 147 (1859) Mueller made only the following citation of specimens under *A. pallida*:- "In locis minus fertilibus praesertim campis apricis Australiae intratropicae non rara, No. 76". No mention is made of No. 75. However in Fl. Austral. 2: 421 (1864) Bentham included both the specimens from the McAdam Range and Fitzmaurice River under *A. pallida* F. Muell. partim. I would agree that these two specimens with leaflets (c. 6–9 mm long and 1.5–2.5 mm broad) are conspecific.

Typical specimens of *A. pallidifolia* are as follows:- NORTHERN TERRITORY: c. 60 miles [c. 97 km] NE. of Maranboy Police Station, patchy in a broad alluvial depression near river levee, with *Eucalyptus patellaris, E. papuana* and *Themeda australis,* a small erect tree 25–30 ft [7.6–9.1 m] high but often much shorter, trunk 4 inches [c. 10 cm] in diam., 20 ft [6 m] high, bark corky, deeply fissured, pale grey, *Lazarides & Adams 99,* 3.1965 (NSW, CANB), fruiting; near Gerowie Creek, 15° 27′ S., 132° 17.5′ E., on drainage flat with *Eucalyptus papuana,* 55 m, tree to 9 m high; grey, rather hard, ± tessellately furrowed bark; subglaucous leaves, cream flowers, *S.T. Blake 17166,* 10.1946 (BRI 144013), flowering and fruiting.

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