

Notes and new species of *Acacia* (Mimosaceae) from northern Australia

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Abstract

Leach, G.J. Notes and new species of *Acacia* (Mimosaceae) from northern Australia. Nuytsia 9 (3): 351-362 (1994). *Acacia tolmerensis* G. Leach is described as a new species in the informal *A. platycarpa* group (Sect. *Plurinerves*). The informal *A. plectocarpa* group (Sect. *Juliflorae*) is defined as including *A. plectocarpa* Cunn. ex Benth. subsp. *plectocarpa*, *A. plectocarpa* subsp. *tanumbirinensis* (Maiden) Pedley, *A. armitii* F. Muell. ex Maiden and a new species, *A. echinuliflora* G. Leach. Relationships within the group are discussed, descriptions and a key to all taxa in the group are provided. Distribution maps for all taxa are presented.

Introduction

The "Top End" of the Northern Territory (north of 18°S) still has extensive areas that are botanically poorly known. Within *Acacia* it is known that there are a number of undescribed taxa and many complexes that require further investigation. In preparing an account of the Mimosaceae for the "Flora of the Darwin Region", a new species of *Acacia* from the Litchfield area was discovered and problems in a group of taxa, informally referred to here as the *A. plectocarpa* group, required examination. Findings from this work are published here to clarify treatments of these taxa for the above-mentioned Flora and for the forthcoming volume on *Acacia* in the "Flora of Australia".

The codings for rare or threatened species follows Briggs & Leigh (1988). All measurements are from dry material. Distribution maps show all specimens examined which, unless otherwise stated, are based on collections at DNA and PERTH.

Taxonomy

Acacia tolmerensis G. Leach, sp. nov. (Figure 1)

A. tolmerensis species nova affinis *A. platycarpae* sed ramulis complanatis, nervis phyllodii duobus longitudinalibus inferioribus confluentibus et nervo marginali libero, inflorescentia plerumque racemosa, floribus capitulii circa 80, calyce longiore differt.

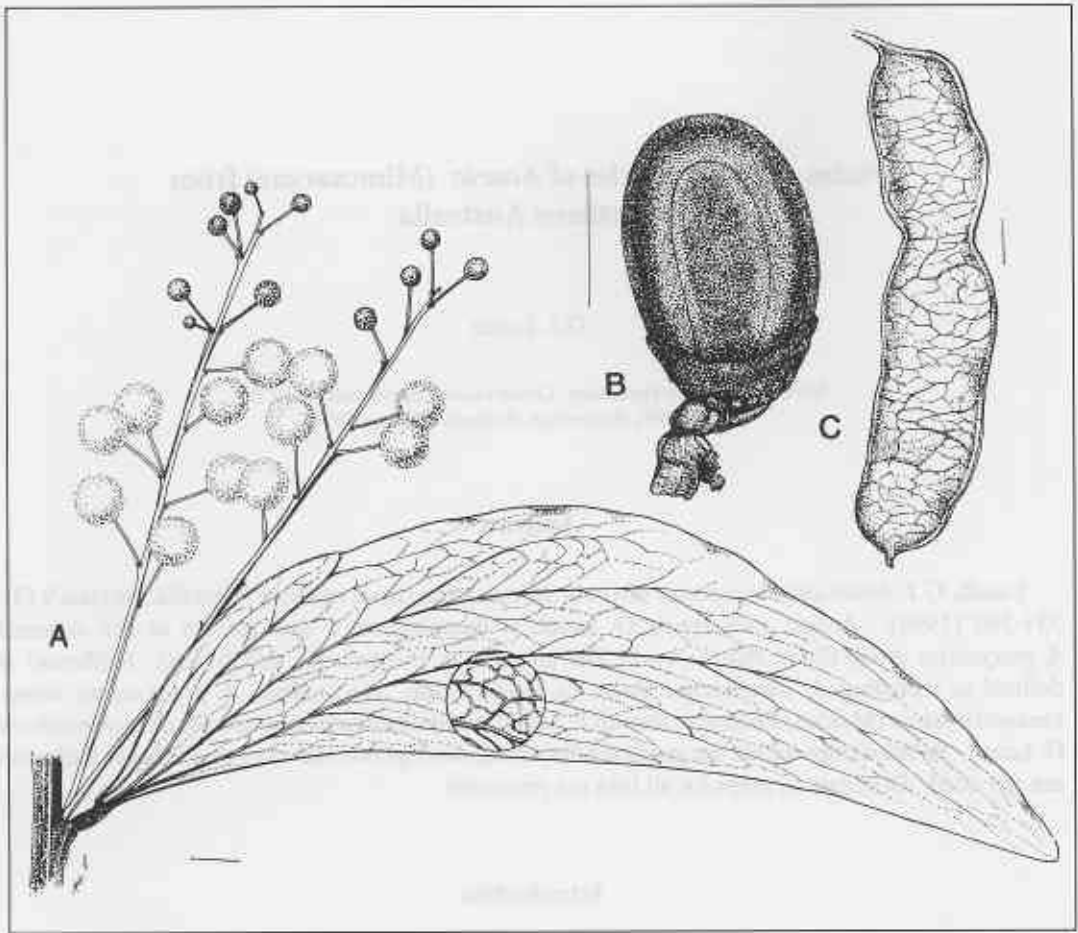


Figure 1. *Acacia tolmerensis* A - flowering branch, B - seed, C - pod. A from I.D. Cowie 1434 & C.R. Dunlop (DNA); B & C from I.D. Cowie 1844 (DNA). (A & C scale bar = 1 cm, B scale bar = 5 mm)

Typus: Litchfield National Park, Northern Territory, 13° 06'S, 130° 51'E, 23 Nov. 1990, I.D. Cowie 1427 & C.R. Dunlop (holo: DNA; iso: BRI, CANB, K, NSW, PERTH 01851829).

Erect *shrub* to 1.5 m high, sometimes suckering, sub-pruinose on young phyllodes, branchlets and inflorescences. *Branchlets* flattened or angular, glabrous. *Stipules* early caducous. *Pulvinus* 4-7 mm long, glabrous. *Phyllodes* shallowly recurved, dimidiately narrowly elliptic, 110-245 mm long, 48-88 mm wide, 2.1-4.2 times long as wide, glabrous; main longitudinal nerves 3 to 4 (rarely to 6), distant, basally confluent but remaining free from abaxial marginal nerve, anastomoses numerous and forming a somewhat open and irregular reticulum; base asymmetric; margin rarely indented at the glands; apex acute to obtuse with an obscure mucro. *Glands* ± prominent, 3-4, lowermost at distal end of pulvinus, additional glands scattered along adaxial margin, narrow and elongated, 1-2 mm long. *Inflorescences* typically 1-2 axillary racemes, sometimes forming terminal panicles, 6-12 heads per raceme; raceme axis 55-150 mm long, rather stout, straight, glabrous. *Heads* globular, white to cream or pale yellow, 7-11 mm wide, c. 80-flowered. *Peduncles* 9-26 mm long, glabrous; basal peduncular bracts persistent, 1 or on upper peduncles often 2, glabrous, ciliate; bracteoles peltate, 1.2-1.4 mm long, with a flattened, glabrous or ciliate stipe, laminae sub-circular, evident in young buds, fimbriolate with white or pale golden hairs. *Flowers* 5-merous. *Calyx* 1.2-1.5 mm long, sparsely puberulous at apex and abaxially on prominent midnerve, shallowly lobed, membranous other than midnerve; calyx lobes broadly

triangular, incurved, ciliate at apex. *Corolla* 2-2.5 mm long, 1.5-2.5 times as long as calyx, ciliate at apex, lobed to middle but often also separating at base leaving middle part of tube intact; lobes erect or slightly spreading but inflexed and concave at apex, spatulate to oblanceolate, 1-1.2 mm long, thickened and somewhat resinous, obtuse. Ovary glabrous. *Pods* stipitate, greyish to brown, narrowly oblong, straight, flat, 55-110 mm long, 20-30 mm wide, coriaceous to sub-woody, glabrous, transversely reticulately nerved, margin with obscure wing to 1 mm wide, apiculate. *Seeds* transverse in legume, brown, flattened, ellipsoid, 8-10 mm long, 7-7.5 mm wide; pleurogram open; funicle gradually expanded into an aril, folded 4-5 times, c. 0.4 times as long as the seed.

Other specimens examined. NORTHERN TERRITORY: Tolmer Range, 13°12'S, 130°48'E, 4 Nov. 1984, *D. Bowman* 50 (DNA); Florence Falls track, 13°02'S, 130°45'E, 1 Dec. 1984, *D. Bowman* 130 (DNA); near Survey Creek, Daly River Road, 13°36'S, 130°45'E, 9 Nov. 1990, *I.D. Cowie* 1408 & *C.R. Dunlop* (DNA); track to Lost City, Litchfield National Park, 13°09'S, 130°46'E, 23 Nov. 1990, *I.D. Cowie* 1434 & *C.R. Dunlop* (BRI, CANB, DNA, K, MEL, NSW, PERTH); near Litchfield Road, Finiss River, 12°59'S, 130°45'E, 6 May 1991, *I.D. Cowie* 1884 (AD, BRI, CANB, DNA, K, MEL, NSW, PERTH); 14 miles [22.4 km] from Daly River on Daly River Road, 13°32'S, 130°54'E, 4 Feb. 1964, *C.S. Robinson* 75 (DNA); Daly River, 13°40'S, 130°43'E, 16 Jan. 1992, *L.L.V. Williams* 173 & *N.F. Madrill* (DNA).

Distribution. Endemic in the Northern Territory and recorded from throughout the Tabletop Range, southwards to Daly River. (Figure 5)

Habitat. In open forest on sandy soils.

Flowering and fruiting periods. Flowering has been noted during the wet season from November-February. Legumes with mature seeds have been collected in May.

Affinities. *A. platycarpa* F. Muell. is a widespread variable species across northern Australia and is one taxon of a closely related group which includes *A. sericata* Cunn. ex Benth., *A. dunnii* (Maiden) Turrill and another as yet undescribed species from the sandstone plateau of Arnhem Land. *A. flavescens* Cunn. ex Benth. and *A. leptoloba* Pedley from Queensland are also probably best placed in this group (Pedley 1978). *A. tolmerensis* clearly belongs in this group and is most closely related to *A. platycarpa* from which it can be distinguished by the latter having terete branchlets, the abaxial longitudinal veins being basally confluent at the marginal vein, the fewer number of flowers per head (31-41) and the shorter calyx. There has been past confusion involving application of the name *A. sericata* and although it is reported to occur in the Northern Territory by Pedley (1978) and Wheeler (1992) it is restricted to the Isdell and Drysdale river areas of the Kimberley region of Western Australia. *A. sericata*, although not well known, is distinguished from other taxa in the group principally by the dense minutely stellate-velutinous branchlets and phyllodes. *A. dunnii* is distinguished from *A. tolmerensis* by the basal confluence of the longitudinal veins with the marginal vein, the \pm terete branchlets and larger phyllodes (12-42 x 4-17 cm). Within the Northern Territory the natural occurrence of *A. dunnii* is restricted to the Victoria River region although it is now widely cultivated with occasional escapees becoming established.

Conservation status. Although of restricted distribution it is not considered threatened. *A. tolmerensis* is well represented in Litchfield National Park and appears to recover well after fires. Coding 2RC.

Etymology. The specific epithet derives from the distribution of the species being centred on the Tolmer Range.

***Acacia plectocarpa* Cunn. ex Benth. and allies**

A. plectocarpa is a common, wide-ranging species from the Kimberley region of Western Australia through eastern Arnhem Land, Northern Territory to the Queensland Gulf area and it exhibits some variation which has caused confusion in identification. Specimens with narrow phyllodes have, in the past, generally been attributed to the taxon described as *A. tanumbirinensis* by Maiden (1917) but later reduced to a subspecies of *A. plectocarpa* by Pedley (1990). The geographic and morphological limits of subsp. *tanumbirinensis* were not well known. Pedley (1978) remarked that fruiting material was unknown. In the absence of fruits, specimens of *A. plectocarpa* have often been confused with *A. torulosa* Benth. ex F. Muell.

The sandstone escarpment of western Arnhem Land has been a particularly difficult area in terms of the variation exhibited within *A. plectocarpa sens lat.* Specimens with somewhat narrow but generally long, curved phyllodes have been considered as subsp. *tanumbirinensis*. Other forms showing differences of corolla indumentum and inflorescence or pod dimensions have been dealt with variously as belonging to *A. plectocarpa* or to undescribed taxa. In preparing to describe one of these segregate taxa it became obvious that some clarification of the complex was required. This task was greatly facilitated following the recent recognition by Tindale and Kodela (pers. comm.) that one of the Northern Territory entities in this complex was *A. armitii* F. Muell. ex Maiden, previously only known from the type collection in Queensland. Based on the immature pods of the type collection, Pedley (1978) considered *A. armitii* as conspecific with *A. torulosa*. However, in recent treatments he has reinstated it as a distinct species (Pedley 1987). The pods of *A. armitii* show no relationship to *A. torulosa* (which are clearly moniliform) but certainly support a close relationship with *A. plectocarpa*.

After further investigation other species may also be found to belong with this group. *A. hammondii* Maiden and the closely related but poorly known *A. malloclada* Maiden & Blakely have *plectocarpa* type pods. *A. hemsleyi* Maiden is also similar but the pods are not undulate, nor are the seeds alternate along the pod which suggests only superficial similarity. The complex in the Northern Territory is considered here to involve 4 closely related taxa namely, *A. plectocarpa* subsp. *plectocarpa* and subsp. *tanumbirinensis*, *A. armitii* and *A. echinuliflora*, with further work possibly establishing other species in the group. The latter species is described below as new. Because some of these taxa have been known from incomplete material or few specimens a key and descriptions are provided.

Key to *A. plectocarpa* and its closest allies

- 1a. Phyllodes linear, <4.5 mm wide, length to width ratio typically >40, rarely as low as 25 2b. *A. plectocarpa* subsp. *tanumbirinensis*
- 1b. Phyllodes narrow-elliptic or oblanceolate, rarely linear, >4.5 mm wide, length to width ratio typically <40 2
- 2a. Pods <4 mm wide; seeds longitudinal in pod; branchlets strongly ribbed or angular 3. *A. armitii*
- 2b. Pods >6 mm wide; seeds oblique to transverse in pod; branchlets terete or slightly angular 3
- 3a. Corolla with dense yellow patent hairs; peduncles (5)7-17 mm long; spikes 50-70 mm long; pods stramineous, venation prominent 1. *A. echinuliflora*

- 3b. Corolla with sparse hyaline hairs on tube; peduncles
 1-6 mm long; spikes 20-55 mm long; pods dark brown,
 venation obscure 2a. *A. plectocarpa* subsp. *plectocarpa*

1. *Acacia echinuliflora* G. Leach sp. nov. (Figure 2)

Ex affinitate *A. plectocarpai* Cunn. ex Benth. et specierum affinium, capitulis et pedunculis longioribus, indumento corollae tomentello flavo, leguminibus stramineis tenuioribus valde nervosis distinguenda.

Typus: Bower Bird Billabong, Kakadu National Park, Northern Territory, 12°43'S, 133°02'E, 12 September 1984, G. Wightman 1704 & C.R. Dunlop (holo: DNA; iso: AD, CANB, K, MEL).

Tree or rarely a shrub, (2.5)4-8 m high. Bark black to brown, fibrous or shaggy. *Branchlets* terete, with narrow, pale yellow rib below pulvinus for c. 10-15 mm, resinous, reddish brown, glabrous. Stipules persistent and prominent, brown, narrow-triangular to triangular, 1.2-2.5 mm long, glabrous, resinous, scarious, striate. Pulvinus 2.5-5.5 mm long, glabrous. *Phyllodes* straight or slightly curved, narrowly elliptic or oblanceolate, 90-185 mm long, 6-14 mm wide, 9-20 times long as wide, glabrous, shiny, punctules numerous; longitudinal nerves numerous, 1-3 more prominent than the rest, close, 4-8 per mm, minor nerves ± translucent, anastomoses absent; base attenuate; apex acute, the mucro short and oblique or rarely straight. *Gland* obscure, 0-4 mm above pulvinus, sunken, narrow and slit-like, c. 0.2 mm long. *Inflorescences* simple, 1-2 per axil, rarely contracted, 1-3 branched racemes to 2(11) mm long. *Spikes* 50-70 mm long, 3.5-5 mm wide, bright yellow to golden, densely flowered. Peduncle (5)7-17 mm long, resinous, glabrous or rarely with a few scattered hairs. Receptacle, calyx, corolla tube and base of lobes tomentose with dense, short, yellow or rarely hyaline, patent hairs. Bracteoles spatulate; stipes flattened, tomentose; laminae inflexed, glabrous. *Flowers* 5-merous. *Calyx* 0.45-0.9 mm long, sepals free, linear to narrow-oblong. *Corolla* 0.9-1.4 mm long, twice as long as calyx, glabrous at apex, lobed to middle; lobes erect, sometimes slightly incurved at apex, triangular, apex acute. Ovary densely sericeous with whitish hairs. *Pods* shortly stipitate, stramineous, linear to oblong, straight, undulate, raised over seeds alternately on each side, 24-54 mm long, 7-9 mm wide, thinly coriaceous to chartaceous, resinous, glabrous or with very sparse hairs on margins, transversely reticulately nerved, apiculate. *Seeds* transverse in legume, brown or black, obloid or ellipsoid, 2.7-3.8 mm long, 1.8-2.5 mm wide, pleurogram closed; funicle white to cream, gradually expanded into an aril, folded 3-6 times, 0.2-0.45 times as long as the seed.

Other specimens examined. NORTHERN TERRITORY: Jim Jim Creek, 12°55'S, 132°32'E, 14 July 1972, N. Byrnes 2729 (BRI, CANB, NSW, NT); Barramundie Gorge, 13°23'S, 132°28'E, 30 Aug. 1984, I. Cowie 141 (DNA); Mt Gilruth area, 12°58'S, 133°10'E, 2 June 1978, C.R. Dunlop 4868 (BRI, CANB, DNA, K, NSW, NT); Deaf Adder Gorge, 13°07'S, 132°56'E, 18 July 1978, C.R. Dunlop 4987 (BRI, CANB, DNA, NT); Jim Jim Falls, 13°17'S, 132°51'E, 31 Jan. 1981, C.R. Dunlop 5707 (BRI, DNA, NSW, PERTH); Jim Jim Falls, 13°16'S, 132°50'E, 3 Dec. 1989, P. Forster 6128 (BRI, DNA, MEL, MEXU); c. 10 km ESE Noranda Mining Camp, 12°52'S, 132°49'E, 12 July 1972, P. Martensz AE123 (CANB, DNA); Deaf Adder Creek basin, 13°03'S, 132°52'E, 18 Aug. 1972, P. Martensz AE281 (CANB, DNA, K); UDP Falls, 13°30'S, 132°31'E, 25 Aug. 1973, J. Mckean 1137 (CANB, DNA); Nixons Gorge, Katherine, 14°30'S, 132°15'E, 22 June 1964, J. Muspratt 647 (DNA); Edith Falls, 14°12'S, 132°11'E, 5 Oct. 1977, J. Must 164 (CANB, DNA, NSW, NT).

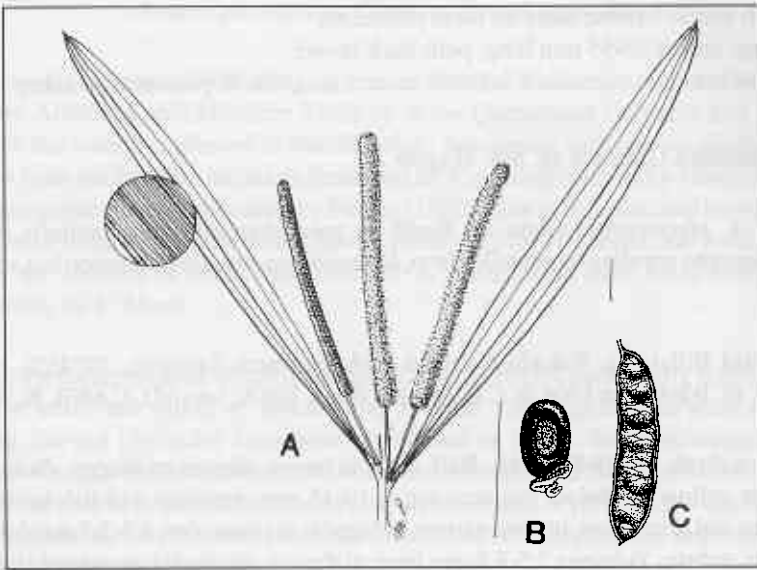


Figure 2. *Acacia echinuliflora* A - flowering branch, B - seed, C - pod. A from C.R. Dunlop 4868 (DNA); B & C from P.I. Forster 6128 (DNA). (A & C scale bar = 1 cm, B scale bar = 5 mm)

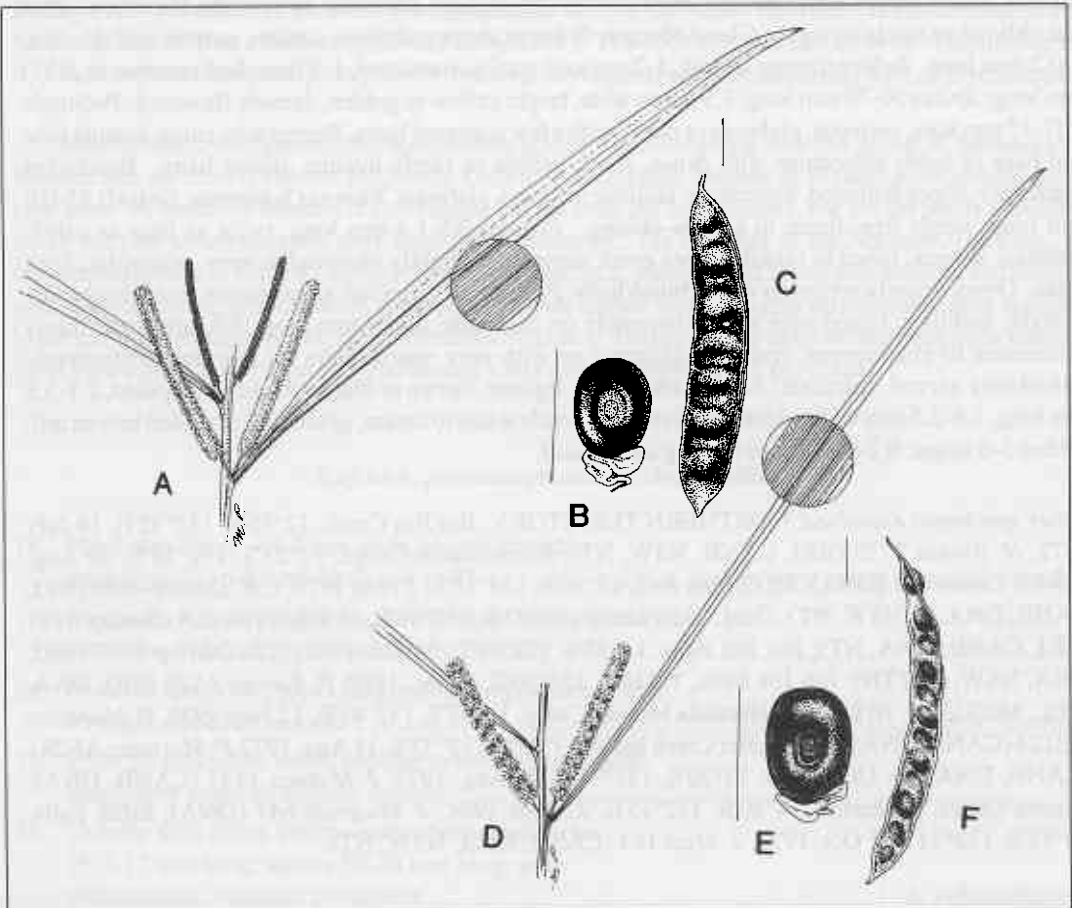


Figure 3. *Acacia plectocarpa* subsp. *plectocarpa* A - flowering branch, B - seed, C - pod. A from K.F. Kenneally 10783 & B.P.M. Hyland (PERTH); B & C from B. Toohill for T. Willing 44 (PERTH). *Acacia plectocarpa* subsp. *tanumbirinensis* D - flowering branch, E - seed, F - pod. D from L. Craven 3922 (PERTH); E & F from G.J. Leach 3321 (PERTH). (A,C,D & F scale bar = 1 cm, B & E scale bar = 5 mm)

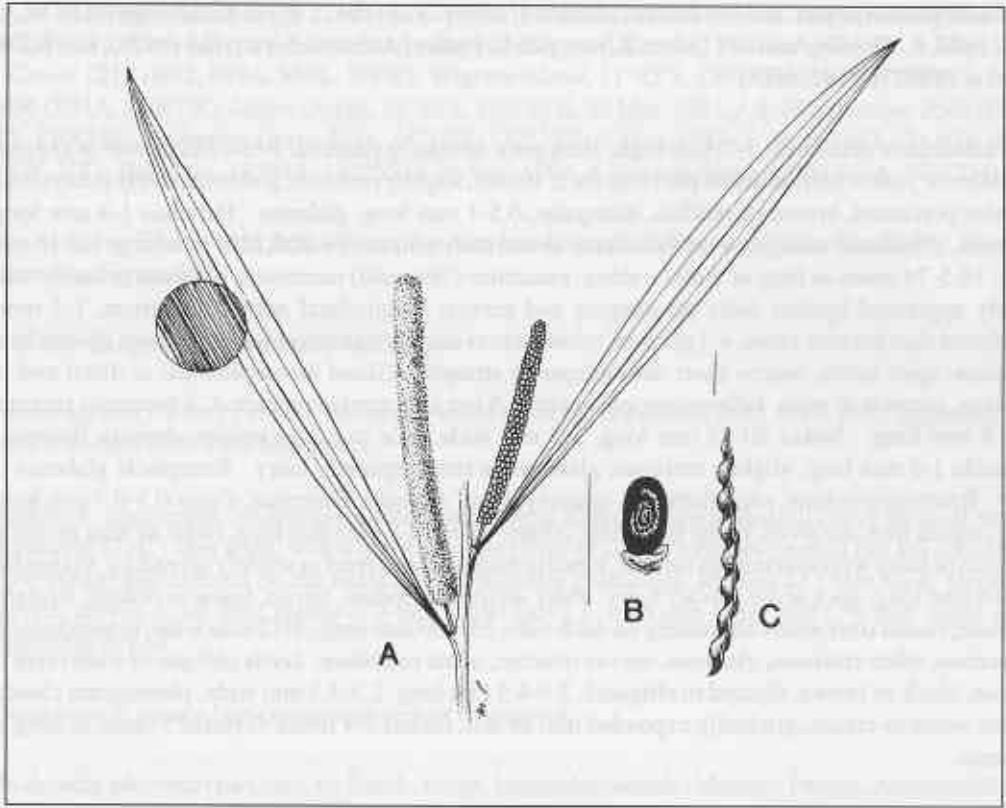


Figure 4. *Acacia armitii* A - flowering branch, B - seed, C - pod. A from *M. Lazarides* 7572 (DNA); B & C from *C.R. Dunlop* 7228 and *P.F. Munns* (DNA). (A & C scale bar = 1 cm, B scale bar = 5 mm)

Distribution. Endemic in the Northern Territory. Occurs along the escarpment of western Arnhem Land in Kakadu National Park with occurrences southwards to Edith Falls in Nitmiluk (Katherine Gorge) National Park. (Figure 5)

Habitat. On sandy soils associated with stream margins draining the sandstone escarpment.

Flowering and fruiting periods. Flowering occurs in the dry season from June-August. Mature legumes have been collected between October-January.

Affinities. *A. echinuliflora* differs from all taxa in the *A. plectocarpa* group by the corolla tube and base of lobes having a dense indumentum of patent yellow hairs. In addition, it differs from *A. plectocarpa* by the longer, more prominent stipules, the longer spikes and peduncles and the pod being thinner, stramineous and having conspicuous venation. It can be distinguished from *A. armitii* by the \pm terete branchlets, broader pods with conspicuous venation and the seeds arranged transversely in the pod.

Conservation status. Although not under any threat and well represented in two National Parks, the species is quite restricted in its distribution and a coding of 3R is recommended.

Etymology. The epithet refers to the bristly appearance of the flowers on account of the indumentum on the corolla.

2. *Acacia plectocarpa* Cunn. ex Benth., London J. Bot. 1: 375 (1842). *Type*: Cambridge Gulf, W.A., Sept. 1819, A. Cunningham 482 (lecto: K, n.v., *vide* L. Pedley, *Austrobaileya* 1:161 (1978); iso: NSW, photo at PERTH 01827650!).

Tall *shrub* or small tree, 3-7(9) m high. Bark grey, fibrous or fissured. *Branchlets* terete or angular, with narrow yellowish ribs below pulvinus for c. 10 mm, slightly resinous, glabrous, rarely puberulous. Stipules persistent, brown or reddish, triangular, 0.5-1 mm long, glabrous. Pulvinus 1-4 mm long, glabrous. *Phyllodes* straight or curved, linear to narrowly elliptic, 90-200(260) mm long, 1.8-16 mm wide, 10.5-74 times as long as wide, \pm shiny, punctules (?stomata) numerous, glabrous or rarely with closely appressed hyaline hairs on margins and nerves; longitudinal nerves numerous, 1-3 more prominent than the rest, close, 4-7 per mm, minor nerves usually translucent, anastomoses absent; base attenuate; apex acute, mucro short and oblique or straight. *Gland* inconspicuous, at distal end of pulvinus, circular or oval. *Inflorescences* simple, 1-5 per axil, rarely contracted, 2-branched racemes to c. 6 mm long. *Spikes* 20-55 mm long, 3-5 mm wide, pale to bright yellow, densely flowered. Peduncle 1-6 mm long, slightly resinous, glabrous or rarely sparsely hairy. Receptacle glabrous or hairy. Bracteoles peltate, stipe flattened, sparsely hairy. *Flowers* 5-merous. *Calyx* 0.3-0.7 mm long, hairy; sepals free, incurved, linear to oblong, ciliate. *Corolla* 1-1.25 mm long, twice as long as calyx, glabrous or hairy with sparse hairs on tube, lobed to middle; lobes erect or slightly spreading, triangular, 0.4-0.6 mm long, apex acute. *Ovary* hairy. *Pods* sessile or stipitate, brown, linear to oblong, straight, undulate, raised over seeds alternately on each side, 35-100 mm long, 5-12 mm wide, crustaceous to coriaceous, often resinous, glabrous, nerves obscure, acute or obtuse. *Seeds* oblique or transverse in legume, black or brown, discoid to ellipsoid, 2.9-4.5 mm long, 2.3-3.7 mm wide, pleurogram closed; funicle white to cream, gradually expanded into an aril, folded 2-4 times, 0.16-0.25 times as long as the seed.

2a. *Acacia plectocarpa* Cunn. ex Benth. subsp. ***plectocarpa*** (Figure 3)

A. numerosa Maiden & Blakely, J. Roy. Soc. W. Australia 13: 27, pl. 19, figs 5-9 (1928). *Type*: Napier Broome Bay, W.A., 1910, G.F. Hill per A.J. Campbell 148 (holo: NSW, fragment & photo at PERTH 01825658!; iso: MEL, fragment & photo at PERTH 01825623!).

Tall *shrub* or small tree, 3-7(9) m high. Stipules 0.6-1 mm long. Pulvinus 1.5-4 mm long. *Phyllodes* straight or curved, linear to narrowly elliptic, 98-200(260) mm long, 4.5-14 mm wide, 10.5-35(43) times as long as wide, 1-3 longitudinal nerves more prominent than the rest, 4-6 per mm. *Inflorescences* simple, 1-5 per axil, rarely contracted, 2-branched racemes to c. 6 mm long. *Spikes* bright yellow, 3-4 mm wide. Receptacle glabrous or hairy. *Calyx* 0.3-0.5 mm long. *Corolla* lobes erect or slightly spreading. *Pods* stipitate, 6-12 mm wide. *Seeds* transverse in legume, discoid to ellipsoid, funicle folded 4 times.

Selected specimens examined. WESTERN AUSTRALIA: Bull Creek, Bungle Bungle N.P., 17°19'S, 128°27'E, 16 June 1988, I. Cowie 962 (DNA, PERTH); 27.3 km NW of Doongan Station, 15°16'S, 126°12'E, 6 June 1987, D.J. Edinger 287 (DNA, PERTH); 3.5 km W of Cape St Lambert, 14°18'10"S, 127°43'10"E, 10 June 1987, K.F. Kenneally 10323 (DNA, PERTH); 6 km E of Mt Talbot, Walcott Inlet, 16°27'S, 124°50'E, K.F. Kenneally 10783 & B.P.M. Hyland (PERTH); 1.5 miles [2.4 km] W of Tableland Station, 17°16'S, 126°51'E, 20 Apr. 1955, M. Lazarides 5125 (CANB, DNA); Cockburn Range, 15°45'S, 127°59'E, 16 Mar. 1978, M. Lazarides 8597 (DNA, CANB); Smoke Creek, 16°45'S, 128°30'E, 28 Apr. 1980, A.S. Weston 12130 (DNA, PERTH); Weaver Creek, c. 3.5 km S of Kununurra, B. Toohill for T. Willing 44 (PERTH).

NORTHERN TERRITORY: Jabiru, 12°40'S, 132°50'E, 16 June 1984, *W. Bishop* 240 (BRI, DNA, MO, NSW); East Alligator River, headwaters of Hayward Creek, 13°36'S, 130°45'E, 4 May 1990, *I. Cowie* 1217 (BRI, DNA, MEL, NSW); Wigram Island, 11°45'S, 136°37'E, 24 July 1992, *G. Leach* 3056 (DNA, PERTH); Jasper Gorge, 16°02'S, 130°35'E, 30 Mar. 1981, *J.R. Maconochie* 2649 (DNA, NT, PERTH); Katherine Gorge N.P., 14°19'S, 132°25'E, 5 May 1977, *J. Must* 1497 (CANB, DNA, NSW, NT); Banmala, 12°30'S, 135°55'E, 26 Sep. 1992, *J. Russell-Smith* 8930 (DNA, PERTH).

Distribution. Widespread from eastern Arnhem Land, Northern Territory to the Kimberley, Western Australia (Figure 6)

Habitat. In open forest on sandy soils.

Flowering and fruiting periods. Flowering occurs over the dry season from April-July. Legumes have been collected from July-November.

Variation. Specimens of *Gardner* (1460) from Lawley River, Western Australia have atypical narrow phyllodes, (2)4-5 mm wide, which are within the range of subsp. *tanumbirinensis* but are considered to be subsp. *plectocarpa* on the basis of the following characters: stipules c. 1 mm long; phyllodes curved, nerves 4 per mm; spikes c. 3 mm wide; calyx c. 0.45 mm long; pod c. 8 mm wide; seeds transverse in pod.

Conservation status. Not considered rare or threatened.

2b. *Acacia plectocarpa* Cunn. ex Benth. subsp. *tanumbirinensis* (Maiden) Pedley, *Austrobaileya* 3: 216 (1990) (Figure 3)

A. tanumbirinensis (as *A. tanumbirinense*) Maiden in Ewart & Davies, Fl. N. Territory: 338 (1917). *Type:* Sandstone country near Tanumbirini, N.T., 26 Mar. 1911, *G.F. Hill* 802 (holo: NSW, photo!; iso: K, n.v., MEL, fragment and photo at PERTH 01827847, 02221039!).

Tree or rarely a shrub, 3-6 m high. Stipules 0.5-0.6 mm long. Pulvinus 1-1.5 mm long. Phyllodes straight, linear, 95-190 mm long, 1.8-3.5(4.5) mm wide, (28)40-74 times as long as wide, midnerve more prominent than the rest, 6-7 per mm. Inflorescences simple, 1-2 per axil. Spikes pale yellow or yellow, 3.5-5 mm wide. Receptacle hairy with dense hyaline hairs. Calyx 0.5-0.7 mm long. Corolla lobes erect or slightly spreading to strongly reflexed. Pods sessile or shortly stipitate, 5-7 mm wide. Seeds oblique in legume, ellipsoid, funicle folded twice.

Selected specimens examined. NORTHERN TERRITORY: McArthur River area, 16°27'S, 136°10'E, *L. Craven* 3922 (PERTH); McArthur River area, 16°40'S, 135°51'E, 30 May 1976, *L. Craven* 3981 (CANB, DNA); 1 mile NE Borroloola, 16°02'S, 136°16'E, 9 June 1971, *N. Henry* 163 (BRI, DNA, MEL, NSW, PERTH); Cox River Station, 15°43'S, 134°32'E, 4 July 1977, *P.K. Latz* 7247 (BRI, CANB, DNA, PERTH); 40 km SSW of Nathan River Homestead, 15°56'S, 135°20'E, 27 Aug. 1985, *P.K. Latz* 10100 (CBG, DNA, PERTH); Cox River crossing, 15°20'S, 135°21'E, 30 Sep. 1992, *G. Leach* 3321 (BRI, DNA, NSW, PERTH); Nicholson River, 17°46'S, 137°42'E, 13 June 1974, *J.R. Maconochie* 2030 (DNA); 60 miles [96 km] N of Wollgorang, 16°35'S, 137°36'E, 3 June 1948, *R.A. Perry* 1231 (CANB, DNA); Bessie Spring, 16°40'S, 135°51'E, 27 Oct. 1988, *J. Russell-Smith* 6223 (DNA); Abner Range, 15°51'S, 135°48'E, 29 Jan. 1989, *J. Russell-Smith* 7029 (DNA, PERTH); Burktown crossing, 16°06'S, 134°54'E, 29 June 1988, *N. Smith* 1240 (DNA).

Additional specimen cited by Pedley (1978): QUEENSLAND: 22 km from Westmoreland Station on road to Corinda Station, 17°30'S, 138°24'E, May 1976, *Simon & Farrell* 3109 (BRI *n.v.*).

Distribution. The southern part of the Gulf of Carpentaria, predominantly in the Northern Territory but also recorded in the Burke District of Queensland. (Figure 6)

Habitat. On edges of watercourses or in seasonally dry creek beds on sandy soil; also recorded from stabilised sand dunes.

Flowering and fruiting periods. Flowering in the dry season from May-July with mature legumes recorded in October.

Conservation status. Not considered rare or threatened.

3. *Acacia armitii* F. Muell. ex Maiden, J. & Proc. Roy. Soc. New South Wales 51:84 (1917). *Type:* Near the Einasleigh River, Qld, *W. Armit* 1014 (holo: NSW, *n.v.*; iso: MEL, fragment & photo at PERTH 03452336!). (Figure 4)

Slender tree or shrub, 2.5-7.5 m high. Bark grey, fissured. *Branchlets* strongly ribbed, resinous, yellowish, glabrous. *Stipules* caducous, brown, triangular, 1.5 mm long, glabrous, resinous. *Pulvinus* 3-4.5 mm long, glabrous. *Phyllodes* straight, narrowly elliptic, 78-135 mm long, 7-14 mm wide, 7-14 times as long as wide, slightly shiny, punctules numerous, glabrous or with sparse hyaline hairs on margins; longitudinal nerves numerous, close, 4-6 per mm, midrib more evident than the rest and slightly excentric by displacement towards the lower margin, anastomoses absent; base attenuate, apex obtuse, mucro straight. *Gland* prominent, 1-2.5 mm above pulvinus, circular orifice on raised swelling. *Inflorescences* simple, 1-2 per axil, rarely racemose. *Spikes* cylindrical, yellow, 55-75 mm long, 5.5-6.5 mm wide, densely flowered. *Peduncle* (4)6-13 mm long, resinous, glabrous or sparsely hairy. *Receptacle* hairy. *Bracteoles* peltate with flattened sparsely hairy stipe. *Flowers* 5-merous. *Calyx* 0.4-0.8 mm long, hairy; sepals free, linear to oblong, ciliate. *Corolla* 1.3-1.5 mm long, twice as long as calyx, hairy on tube, lobed to middle; lobes glabrous and highly viscid, erect or slightly spreading, triangular, 0.5-0.6 mm long, apex acute. *Ovary* hairy. *Pods* sessile, yellowish to brown, linear to oblong, straight, undulate, raised over seeds alternately on each side, 27-52 mm long, c. 4 mm wide, coriaceous, resinous, sparsely hairy on margin and surface, nerves obscure, acute. *Seeds* longitudinal in legume, black, ellipsoid, 2.75-3 mm long, 1.75 mm wide, pleurogram closed; funicle white to cream, expanded towards the seed, folded 4 times, 0.4 times as long as the seed.

Specimens examined. NORTHERN TERRITORY: 24 miles SE of OenPELLII, 12°32'S, 133°19'E, 7 July 1972, *L.G. Adams* 2761 (BRI, CANB!, K); Upper Goomadeer River, 12°36'S, 133°26'E, 29 Oct. 1987, *C.R. Dunlop* 7228 & *P.F. Munns* (BRI, DNA, NSW, PERTH); Coopers Creek, Nabalek, 12°19'S, 133°19'E, 24 Sep. 1989, *R. Hinz* 596 (DNA); Arnhem Land, 12°36'S, 133°19'E, 8 July 1972, *M. Lazarides* 7572 (CANB, DNA).

Additional specimen cited by Tindale & Kodela (pers. comm.): QUEENSLAND: 10 km S of the Einasleigh-Forsyth road on track to Robinhood Station, 18°20'S, 144°04'E, *J.R. Clarkson* 2576 & *N. Byrnes* (BRI).

Distribution. A disjunct distribution from the Cook Pastoral District of Queensland and Arnhem Land in the Northern Territory. (Figure 5)

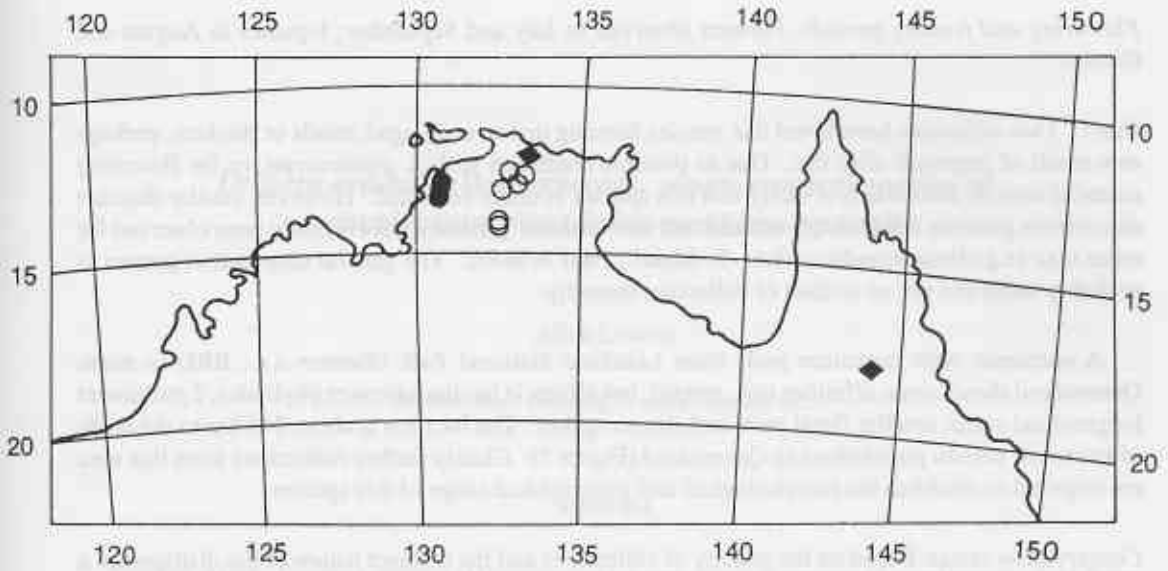


Figure 5. Distribution map of *Acacia echinuliflora* (○), *Acacia armitii* (◆) and *Acacia tolmerensis* (●).

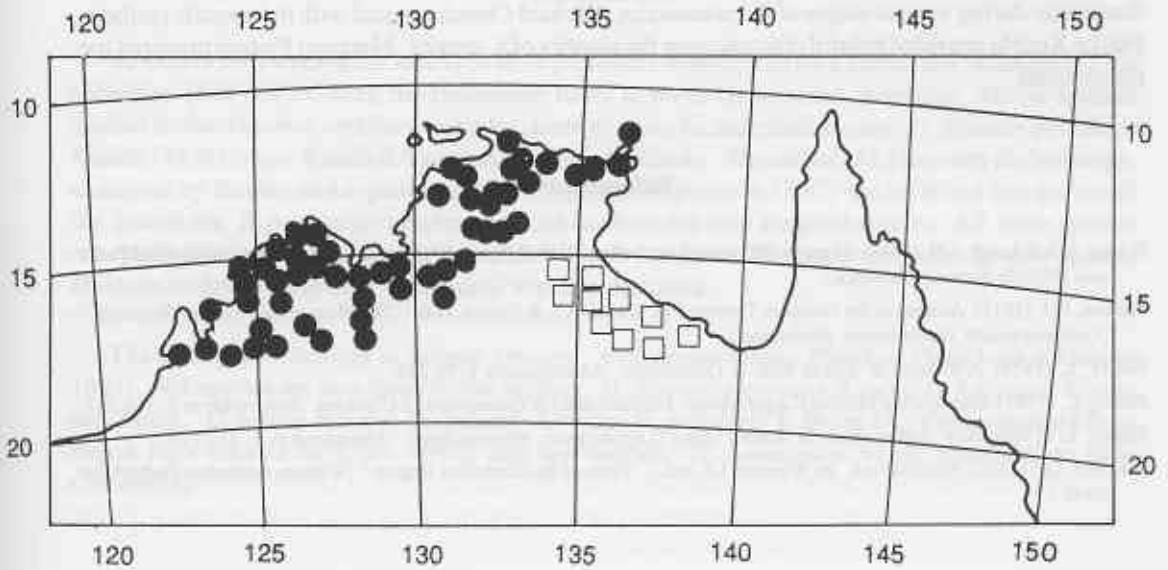


Figure 6. Distribution map of *Acacia plectocarpa* subsp. *plectocarpa* (●) and *Acacia plectocarpa* subsp. *tanumbirinis* (□).

Habitat. Sand flats on sandstone plateau or permanently wet flats. Apparently associated with watercourses.

Flowering and fruiting periods. Flowers observed in July and September; legumes in August and October.

Notes. Two collectors have noted this species forming dense, even-aged stands or thickets; perhaps as a result of regrowth after fire. Due to possible confusion with *A. plectocarpa*, or for flowering material with *A. torulosa*, it is likely that this species is under collected. However, similar disjunct distribution patterns between Queensland and the Northern Territory have recently been observed for other taxa (e.g. *Drummondita calida* (F. Muell.) Paul Wilson). The general distribution pattern is probably valid and not an artifact of collection intensity.

A specimen with immature pods from Lakefield National Park (*Stanton s.n.*, BRI) in north Queensland shows some affinities to *A. armitii*, but differs in having narrower phyllodes, 2 prominent longitudinal veins, smaller floral parts and shorter spikes. The location is about 240 km to the north of known *A. armitii* populations in Queensland (Figure 5). Clearly further collections from this area are required to establish the morphological and geographical range of this species.

Conservation status. Based on the paucity of collections and the disjunct nature of the distribution a coding of 3K is recommended.

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