

Acacia Miscellany 3. Some new microneurous taxa of Western Australia related to *A. multilineata* (Leguminosae:Mimosoideae: Section *Plurinerves*) from Western Australia

R.S. Cowan and B.R. Maslin

Western Australian Herbarium, Department of Conservation and Land Management,
P.O. Box 104, Como, Western Australia 6152

Abstract

Cowan, R.S. & B.R. Maslin. *Acacia* Miscellany — 3. Some new microneurous taxa of Western Australia related to *A. multilineata* (Leguminosae:Mimosoideae: Section *Plurinerves*, from Western Australia. Nuytsia 7(2): 209-219 (1990). Five new species and one new variety are described (*A. caesariata*, *A. mimica*, *A. mimica* var. *angusta*, *A. patagiata*, *A. torticarpa* and *A. unguicula*) and *A. multilineata* W. Fitzg. is re-described. A key is included to enable users to distinguish the taxa.

Introduction

Acacia multilineata W. Fitzg. is a species of Western Australia with "microneurous" phyllode nervature (cf. Maslin & Pedley 1988 for definition). We use this term to refer informally to groups characterized by phyllodes with numerous, fine, closely parallel, longitudinal nerves, lacking anastomoses between them. Members of the '*Acacia multilineata* group' have persistent stipules and the main longitudinal nerves, as well as usually the lesser nerves, are clearly defined and raised, often strongly so. The closest relative of this group of species is *A. lineolata* and the taxa related to it; the '*A. lineolata* alliance' differs in having phyllode nervature that is less strongly raised, sometimes scarcely visible, and most of the taxa in the group have more or less linear phyllodes. Both groups are native to the south-western region of Western Australia. In the following key, *A. ancistrophylla* and *A. lineolata* are included because of their close relationship to *A. multilineata*, but not described.

This is the third in a series of papers by one or more of the PERTH Wattle Team. The series is designed to give full descriptions and/or notes concerning new or previously described taxa, to present new combinations, lectotypifications, etc. in advance of their more abbreviated treatment in the Flora of Australia. Measurements are from dried material unless otherwise stated. In the text, taxa that are described are arranged alphabetically.

Key to the taxa

1. Stipules spinescent 6. *A. unguicula*
1. Stipules not spinescent
2. Phyllodes with yellow marginal nerves
3. Heads pedunculate; flowers 4-merous; phyllode blade
c. equally thick at centre of phyllode and at marginal nerve 4. *A. patagiata*
3. Heads sessile; flowers 5-merous; phyllode blades about
twice as thick as marginal nerves (2. *A. mimica*)
4. Phyllodes (18-)20-30(-35) mm long, 3-8 times longer than wide.
Seeds mottled, usually light grey-brown on dark tan 2a. *A. mimica* var. *mimica*
4. Phyllodes (25-)40-80(-105) mm long, 12-45 times
longer than wide, \pm compressed. Seeds mottled,
usually dark tan on light grey-brown 2b. *A. mimica* var. *angusta*
2. Phyllodes lacking yellow marginal nerves
5. Stipules subulate or caudate-subulate, 24 mm long
6. Flower heads sessile, bracteate basally;
sepals and petals \pm 2/3 united 5. *A. torticarpa*
6. Flower heads shortly pedunculate, non-bracteate,
sepals and petals free 1. *A. caesariata*
5. Stipules not subulate, much shorter
7. Phyllodes 1.5-2 cm long with stomata obscure or at least not obviously
raised; stipules caducous *A. ancistrophylla*
7. Phyllodes about 3 cm long with raised stomata between
the nerves (x10 magnification)
8. Apex of phyllodes recurved, not at all \pm pungent,
phyllodes straight or shallowly curved *A. lineolata*
8. Apex of phyllodes straight, pungent,
phyllodes mostly strongly incurved 3. *A. multilineata*

1. *Acacia caesariata* Cowan & Maslin, sp. nov. (Figure 1)

Frutices densi rotundato-triangulari vel plano-coronati 0.6-1.3 m alti, ramulis tomentosis. *Stipulae* persistentes, subulatae, 2-4 mm longae, pilosae. *Phyllodia* anguste oblongo-oblancoolata, rotundato-obtusa et mucronata, versus basim attenuata, 20-45 mm longa, 3-10 mm lata, erecta, recta ad leviter incurvata, tomentosa, tandem glabrescentia, 1-3 nervis primariis in quoque superficie et nervis secundariis numerosis, salientibus, glande plus minusve 2 mm super pulvino. *Pedunculi* (1.5-)3-4 mm longi, 2 in quoque axilla, tomentosi. *Capitula* globularia, 4 mm diametro, 18-20-floribus. *Flores* 5-meri. *Sepala* petalis plus minusve dimidia breviora, linearia, discreta. *Petala* discreta, glabra. *Legumina* anguste oblonga, 12-25 mm longa, 2.5-3 mm lata, chartacea, arcuata ad irregulariter flexuosa, pilosa. *Semina* longitudinalia, ovalia, elliptica vel oblonga, 2.5-3 mm longa, 1.2-1.8 mm lata, nitida, nigra; pleurogramma arcuata, 0.3-0.5 mm long; arillo apicali, galeato.

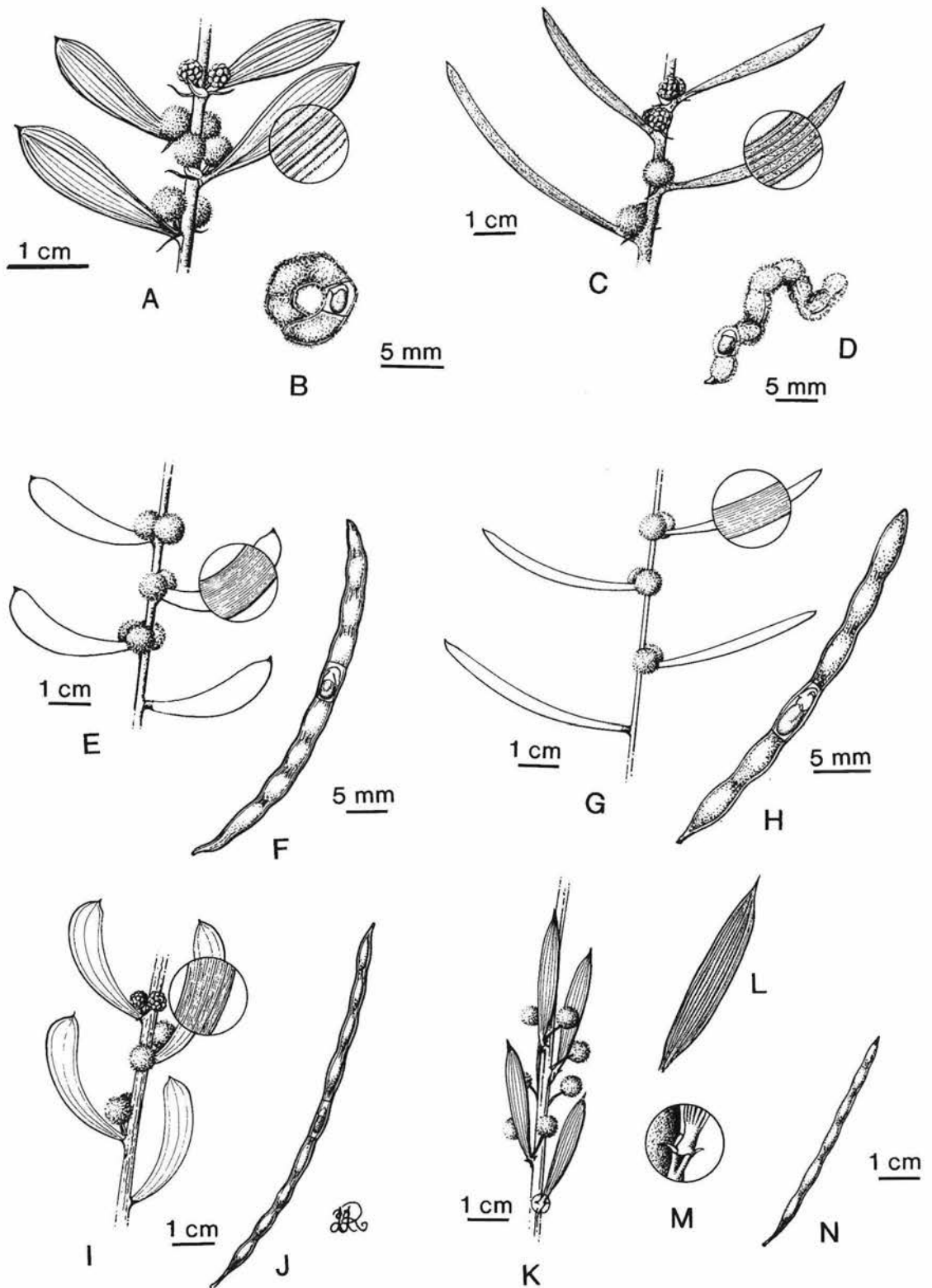


Figure 1. Flowering branchlet, enlarged portion of phyllode to show nervature and fruit of new taxa of *Acacia*. A-B - *A. caesariata*. C-D - *A. torticarpa*. E-F - *A. mimica* var. *mimica*. G-H *A. mimica* var. *angusta*. I-J - *A. patigiata*, K-N - *A. unguicula*. A-B drawn from M.D. Tindale 3720; C-D from C.A. Gardner 7621; E-F from S. Paust 677 (flowering) and B.R. Maslin 4065 (fruiting); G-H from P.G. Wilson 5417 (flowering) and K.R. Newbey 1614 (fruiting); I-J from B.R. Maslin 3460 (flowering) and G. Craig 1675 (fruiting); K-N from B.R. Maslin 4240.

Typus: 30.5 km W of Kununoppin towards Wyalkatchem, Western Australia, 26 August 1973, B.R. Maslin 3405 (holo: PERTH; iso: AD, CANB, K, MEL, NSW, NY).

Dense, rounded-triangular- or flat-crowned *shrubs* 0.6-1.3 m tall, spreading 2-3 m diam. *Bark* grey, rough at stem bases, smooth on branches. *Branchlets* \pm terete, slightly ribbed, tomentose. *New growth* white-tomentose. *Stipules* persistent, subulate, 2-4 mm long, straight, chartaceous, pilose or puberulous. *Phyllodes* narrowly oblong-oblancoate, rounded-obtuse, mucronate, mucro short, straight or slightly curved, brown, hard, \pm coarsely pungent, base attenuate, pulvinus 0.5-1 mm long, blades 20-45 mm long, 3-10 mm wide, coriaceous, ascending to erect, straight to slightly incurved, tomentose, tardily glabrescent, dark green or grey-green; 1-3 main nerves on each face strongly salient, light-coloured, distant, the inter-nerve spaces 5 or more times wider than width of main nerves, occasionally a few anastomoses evident, stomata not visible, numerous secondary nerves less raised or all nerves about equally raised. *Gland* one, situated on upper margin of phyllode \pm 2 mm above pulvinus. *Peduncles* (1.5-)3-4 mm long, 2 per axil, tomentose; basal peduncular bracts ovate, acute, scarious, c. 2 mm long, brown, glabrous except sometimes lightly appressed puberulous on abaxial surface along midnerve. *Flower-heads* globular, dark lemon-yellow, 4 mm diam., 18-20-flowered. *Bracteoles* linear-fusiform to narrowly oblong. *Flowers* 5-merous. *Sepals* c. 1/2 petal length, linear, slightly expanded at apex, free. *Petals* free, glabrous. *Legumes* narrowly oblong, 12-25 mm long, 2.5-3 mm wide, scarcely raised over and not constricted between seeds, chartaceous, arcuate to irregularly flexuose (old valves coiled), pilose, light brown. *Seeds* longitudinal, oval, elliptic or oblong, 2.5-3 mm long, 1.2-1.8 mm wide, compressed, glossy black; pleurogram arcuate, 0.3-0.5 mm long; aril apical, 1/2 as long as seed, galeate, white.

Other specimens examined. WESTERN AUSTRALIA: 16.5 km E of Korrelocking on road to Kununoppin, R.S. Cowan A738 & B.R. Maslin (PERTH); N of Bungulla towards Wyalkatchem, B.R. Maslin 3399 (AD, BRI, CANB, G, K, MEL, NSW, PERTH); E of Korrelocking, B.R. Maslin 4453 (PERTH); W of Kununoppin towards Wyalkatchem, M.D. Tindale 100 and E.M. Bennett (PERTH); 3.2 km SW of Yelbini on Wyalkatchem-Kununoppin road, M.D. Tindale 3720 (AD, B, BRI, CANB, L, MEL, MO, NSW, PERTH, US).

Distribution. South-west Western Australia in Avon Botanical District (1:250,000 map H50-15). Geographically restricted and poorly collected species of the Bungulla-Kununoppin area.

Habitat. In mallee scrub and eucalypt woodland on hard gritty loam or clay.

Flowering and fruiting periods. Flowers in August—September; mature legumes with seed collected in January.

Affinities. Most closely allied to *A. torticarpa* which has partly united sepals and pubescent petals, sessile flower heads, spathulate bracteoles, and usually narrower, differently shaped phyllodes; the different shape may well be only a function of the width. Superficially, *A. caesariata* resembles *A. multilineata* but the tomentose branchlets and phyllodes of the new species readily separate the two taxa. There is a very superficial similarity to *A. consobrina* but phyllodes of the latter have conspicuous anastomoses between the primary nerves, in addition to other differences.

Conservation status. 2E [K], using the criteria of Briggs & Leigh (1988).

Etymology. The specific name refers to the general "hairiness" of the plant (from *caesariatus*, Latin for covered with hair or long-haired).

2. *Acacia mimica* Cowan & Maslin, sp. nov.

Frutices 0.3-2.5 m alti, 0.6-3 m diametro extendentia, ramulis appresso-puberulis, glabrescentibus, saepe nodosis. *Phyllodia* anguste elliptica usque ad oblanceolato-oblonga vel linearia usque ad oblanceolato-linearia, acuta, obtusa vel rotundato-obtusa, plerumque mucronulata,

mucrone atro-brunneo crasso et obtuso, ad basem acuta, pulvino 1-1.5 mm longo, puberulo, lamina 2-10 cm longa, 2-7 mm lata, coriacea vel rigido-coriacea, patentia usque ad erecta, leviter ad valde incurvata, plus minusve glauca, subtiliter et uniformiter multinervia, nervis salientibus, leviter pravis, lucidis, nervo marginali luteo, prominenti, glande basali. *Capitula* sessilia, globularia vel subglobularia, 7-8 mm diametro in vivo, pedunculi bractea basalis ovata ad triangulari-ovata, abaxialiter puberula, (9-)15-20(-27)-floribus, bracteolis unilaterale peltatis, abaxialiter puberulis, cum pilis glandularibus rubris. *Flores* 5-meri. *Sepala* petalis 1/2-2/3 breviora, saltem 3/4-connata, lobis rotundatis vel truncatis, rubro-ciliolatis. *Petala* discreta, glabra. *Legumina* linearia, 25-65 mm longa, 2-4 mm lata, recta usque ad valde curvata, glabra. *Semina* longitudinalia, ovalia, elliptica vel oblongo-elliptica, 2-3.5 mm longa, 1.5-2 mm lata, nitida, maculata, pleurogramma oblonga, 0.5 mm longa; areola cinerea; arillus apicalis.

Typus: 11.2 km SW of Dowerin towards Goomalling, Western Australia, 13 August 1971, B.R. Maslin 2015 (holo: PERTH; iso: CANB, K, MEL, NSW, NY).

Dense, rounded, obconic, erect or semi-prostrate *shrubs* 0.3-2.5 m tall, spreading 0.6-3 m diam. *Branches* often gnarled, peripheral ones horizontal, central ones erect. *Bark* on young branchlets red-brown, becoming light-grey, smooth except lightly fissured or fibrous from main branches to base. *Branchlets* appressed puberulous, glabrescent. *Phyllodes* flat but blades thicker than at the marginal nerve, narrowly elliptic to oblanceolate-oblong, or linear to oblanceolate-linear, acute to obtuse to rounded-obtuse, mucronulate, mucro dark-brown, thick and blunt, base acute, pulvinus 1-1.5 mm long, blades 2-10 cm long, 2-7 mm wide, coriaceous to rigid-coriaceous, patent to erect, glabrous except puberulous at least on upper surface of pulvinus, slightly to strongly incurved, usually subglaucous to glaucous, or only green, finely and uniformly multinerved, nerves salient, not straight, occasionally anastomosing, \pm shiny on surface, inter-nerve spaces about 3 times as wide as nerves, marginal nerve narrow, prominent, yellow, especially towards apex. *Gland* one, situated on upper margin of phyllode at distal end of pulvinus. *Flower-heads* sessile, globular to subglobular, light- to mid-golden, 8 mm long, 7 mm diam. (fresh), subtended by a series of bract-like bracteoles and the larger basal peduncular bract, this ovate to triangular-ovate, puberulous abaxially, ciliolate with at least some glandular, red micro-hairs, (9-)15-20(-27)-flowered. *Bracteoles* unilaterally peltate, stipitate, blade obovate, ciliolate, puberulous abaxially with glandular, red micro-hairs. *Flowers* 5-merous. *Sepals* 1/3-2/3 petal length, 3/4 to completely united, lobes rounded or truncate, often puberulous on central nerve, ciliolate, mostly with red micro-hairs. *Petals* free, glabrous. *Ovary* papillate-puberulous. *Legumes* linear, only slightly raised over and weakly constricted between seeds, 25-65 mm long, 2-4 mm wide, suberect, crustose, straight to weakly curved, glabrous. *Seeds* longitudinal, sometimes somewhat obliquely, oval to elliptic or oblong-elliptic, 2-3.5 mm long, 1.5-2 mm wide, 1.5 mm thick, glossy, mottled with small, paler markings on dark-tan, or darker markings on lighter background; pleurogram U-shaped, 0.5 mm long; areole grey; funicle/aril in two loose loops over apex of seed.

Affinities. This wide-ranging species (Avon, Roe and Eyre Botanical Districts) has yellow marginal nerves on the phyllodes, a character shared with the closely related *A. patagiata* which has impressed nerves and tetramerous flowers.

Variation. The two varieties comprising *A. mimica* are most obviously different in their phyllode proportions. The northern, broad-phyllode form (var. *mimica*) extends south and actually into the range of var. *angusta* which follows an east/west line just N of Albany to Mt Burdett, east of Esperance. The seed difference noted is interesting but may not be sustained by additional fruiting collections.

Etymology. The specific name refers to the considerable similarity in phyllode morphology of this species and *A. patagiata*: i.e., *A. mimica* mimics its relative in respect to several morphological character states (from *mimicus*, latinized form of Greek *mimikos*, for imitative).

2a. *Acacia mimica* var. *mimica* (Figure 1)

Phyllodes narrowly elliptic to oblanceolate-oblong, usually obtuse to rounded-obtuse, (18-)20-30(-35) mm long, (3-)4-6(-7) mm wide, 3-8 times longer than wide. *Seeds* oval to elliptic, 2-3 mm long, mottled light grey-brown on dark tan.

Selected specimens examined. WESTERN AUSTRALIA: Bruce Rock, Sept. 1933, *E.T. Bailey* s.n. (PERTH 00188093); North Bungalla Reserve, 11 km N of Bungalla on road to Yorkrakine, *R.S. Cowan* A743 & *B.R. Maslin* (PERTH); Kukerin, Sept. 1934, *C.A. Gardner* s.n. (PERTH 00188107); about 29 km due NW of Bruce Rock, *B.R. Maslin* 2365 (K, PERTH); 4 mi [6.4 km] E of Nyabing, *K. Newbey* 414 (PERTH); 10 mi [16 km] E of Jerramungup, *K. Newbey* 783 (CANB, PERTH); 1 mi [1.6 km] N of Bending, *K. Newbey* 3224 (BM, PERTH); between Lake Grace and Lake Bidy near Buniche, *N. Perry* 539 (PERTH); 7.7 km E of Goomalling, *P. Roberts* 112A (PERTH).

Distribution. South-west Western Australia in Avon, Roe and Eyre Botanical Districts (1:250,000 maps H50-14, 15; I50-3, 7, 8). Occurs sporadically from near Goomalling SSE to near Jerramungup.

Habitat. Yellow to brown sand and sandy loam, gravel or pale brown clay on hillsides and sand plains.

Flowering and fruiting periods. Flowers in August—September. The only mature legumes with seeds collected in December.

Conservation status. 3C, using criteria of Briggs & Leigh (1988).

2n3b. *Acacia mimica* var. *angusta* Cowan & Maslin, var. nov. (Figure 1)

A var. *mimica* phyllodiis linearibus ad oblanceolato-linearibus, (25-)40-80(-105) mm longis, 2-3.5(-4.5) mm latis, 12-45-plo longioribus quam latioribus, seminibus oblong-ellipticis, 3-3.5 mm longis differt.

Typus: 8 km S of Ravensthorpe on road to Hopetoun, Western Australia, 13 August 1968, *P.G. Wilson* 7060 (holo: PERTH; iso: CANB, K, NSW, NY).

Phyllodes linear to oblanceolate-linear, usually acute, (25-)40-80(-105) mm long, 2-3.5(-4.5) mm wide, 12-45 times longer than wide. *Seeds* oblong-elliptic, 3-3.5 mm long, mottled dark-tan on pale grey-brown.

Selected specimens examined. WESTERN AUSTRALIA: 28 mi [45 km] NW of Fitzgerald River Inlet, *K.M. Allan* 329 (BM, BRI, PERTH); 31.25 km SE of Mt Burdett, *M.A. Burgman* 1690 and *S. McNee* (K, PERTH); 5 km S of Borden, *P.E. Conrick* 1661 (PERTH); 0.4 km E of Ravensthorpe-Hopetoun road on Elvertton Rd., *R.S. Cowan* A758 & *B.R. Maslin* (PERTH); Susetta River above junction with Fitzgerald River, 34° 00' S, 119° 27' E, *A.S. George* 10007 (K, PERTH); Esperance Location 1762 near Scaddan, *H.E. Knox* 13 (PERTH); 4 km S of Ravensthorpe towards Hopetoun, *B.R. Maslin* 2562 (AD, BRI, CANB, NY, PERTH); near West River crossing, 37 km W of Ravensthorpe towards Jerramungup, *B.R. Maslin* 2579A (PERTH); 21 km W of Ravensthorpe towards Jerramungup, *B.R. Maslin* 3468 (AD, BRI, MEL, NSW, NY, PERTH); 12 mi [19 km] SE of Ongerup, *K. Newbey* 1295 (CANB, PERTH); 16 km SW of Ravensthorpe, *K. Newbey* 9458 (B, G, MELU, MO, PERTH, Z).

Distribution. South-west Western Australia in Roe and Eyre Botanical Districts (1:250,000 maps I50-8, 11, 12; I51-5, 6). Variety *angusta* occurs to the south of the typical variety (except for one population of var. *mimica* from near Jerramungup). Most of the collections are from the Borden-Ravensthorpe area but there are two from farther east, near Scaddan and near Mt Burdett (c. 100 km and 140 km east of Ravensthorpe respectively).

Habitat. Often on clay, sandy clay or gravelly clay but also on sandy or stony loam, in open areas in low shrub mallee or tall shrubland.

Flowering and fruiting periods. Flowering July—September (early October); legumes with mature seeds collected in December.

Conservation status. 3C, using the criteria of Briggs & Leigh (1988).

3. *Acacia multilineata* W. Fitzg., J. Western Australian Nat. Hist. Soc. 1: 13 (1904). *Type:* Arrino, Western Australia, September 1903, *W.V. Fitzgerald* s.n. (holo: NSW 216915; iso: PERTH).

Dense, rounded or obconic *shrubs* 1-1.7 m tall. *Branchlets* appressed puberulous. *New shoots* silvery grey sericeous, arising within axil of paired peduncles at anthesis. *Stipules* persistent, minute, triangular. *Phyllodes* narrowly to broadly oblong-oblongate to oblong-elliptic, acute, mucronate, the mucro hard and sub-pungent or pungent, base attenuate, pulvinus 1-2.5 mm long and appressed puberulous adaxially, blades 30-65 mm long, 3-5 mm wide, rigid-coriaceous, ascending, usually \pm incurved to nearly straight, appressed puberulous, glabrescent, olive-green; nerves numerous, yellowish, strongly salient, inter-nerve spaces about twice as wide as nerves and with raised stomata clearly evident. *Gland* 1-3, situated on upper margin of phyllode, the lowest in the basal 1/3 of phyllode. *Peduncles* 5-6.5 mm long, rarely to 11 mm long, 2 per axil, glabrous to appressed puberulous; basal peduncular bract cucullate, caducous, appressed-puberulous. *Flower-heads* globular to slightly oblongoid, 4.5-6 mm diam., 25-35-flowered, rarely fewer. *Bracteoles* linear, ciliolate. *Flowers* 5-merous. *Sepals* c. 1/2 petal length, free, linear, ciliolate. *Petals* free, glabrous. *Legumes* linear, raised over and slightly constricted between seeds, 55-80 mm long, 2-3 mm wide, thin-coriaceous, straight to slightly curved, appressed puberulous. *Seeds* longitudinal, oblong-elliptic, 3-3.5 mm long, 1.7-2 mm wide, glossy brown; pleurogram small, c. 0.8 mm long, U-shaped, somewhat raised, paler coloured than rest of seed; aril and funicle yellow, apical, 2/3 as long as seed.

Other specimens examined. WESTERN AUSTRALIA: On Mullewa road, *I.B. Armitage* 276 (PERTH); half-way between Pindar and Mullewa, *A.M. Ashby* 1571 (PERTH); east of Yuna on Tenindewa road, *A.M. Ashby* 4515 (PERTH), 4516 (CANB, PERTH) and 4645 (PERTH); 4 mi [6.4 km] W of Mullewa, *A.M. Ashby* 4646 (PERTH); Dartmoor turnoff on road from Yuna to Tenindewa, *G. Phillips* GP42 (PERTH); 12.8 km E of Mullewa towards Yalgoo, *B.R. Maslin* 3637 (K, MEL, PERTH); 13 km E of Mullewa towards Yalgoo, *B.R. Maslin* 5077 (PERTH).

Distribution. South-west Western Australia in Irwin and Avon Botanical Districts (1:250,000 maps H50-1,2,6). Known only from a few localities between Yuna and Arrino.; the type collection was made in the vicinity of Arrino which is considerably south and west of most of the other collection localities.

Habitat. On sandplains or on rocky clay.

Flowering and fruiting periods. Flowering June—August; mature legumes with seeds in November and December.

Affinities. Related to the widespread, variable *A. lineolata*, the taxonomy of which is currently under review; *A. multilineata* is most readily distinguished by the straight, rather than recurved, apex of its strongly incurved phyllodes. It is not inconceivable that the two species will in the final analysis prove to be best treated as infraspecific taxa of one species.

Conservation status. 2K, using criteria of Briggs & Leigh (1988).

4. *Acacia patagiata* Cowan & Maslin, sp. nov. (Figure 1)

Frutices 0.5-2.5 m alti, cortice cinerea, laevi versus basim aspri excepta, ramulis glabris vel subglabris, rubro-brunneis. *Phyllodia* anguste elliptica ad anguste oblongo-oblanccolata, acuta vel obtusa et oblique mucronata, versus basim attenuata, pulvino 1-1.5 mm longo, glabro, lamina 25-55 mm longa, 3-8 mm lata, plus minusve valde incurvata, glabra, subglauca ad glauca, nervis totis pariter distinctis vel 1-3 elevatioribus in quoque superficie, venulis pravis, tenuibus, incompletis, nervo marginale valido, luteo, glandibus 2 vel 3 phyllodiorum juxta basem, medium et apicem. *Pedunculi* (2-)3-6(-7) mm longi, plerumque glabri et glauci, 2-4 in quoque axilla. *Capitula* globularia, 3-5 mm diametro, 16-24-floribus. *Flores* tetameri. *Sepala* petalis minus quam dimidia breviora, 1/4-3/4-connata, lobis plus minusve ovalibus. *Petala* discreta, glabra. *Ovarium* dense appresso-puberulum. *Legumina* linearia, 40-95 mm longa, 2-3.5 mm lata, pendentia, subrecta ad valde curvata, saepe glauca, suturis anguste incrassatis, luteis ad diluto-brunneis. *Semina* longitudinalia, oblonga ad elliptico-oblonga, 3.5-4.5 mm longa, 2-2.5 mm lata, nitide atro-brunnea ad nigra; pleurogramma 2-2.5 mm longa, peranguste; arillo pallido, apicali, galcato.

Typus: 7 km S of Mount Madden towards Ravensthorpe, Western Australia, 28 August 1973, B.R. Maslin 3446 (holo: PERTH; iso: AD, B, BM, BRI, CANB, G, K, MEL, MO, NSW, NY, W).

Rounded *shrubs* 0.5-2.5 m tall, spreading 1-2 m diam. *Bark* grey, smooth, except more or less roughened at extreme base of main trunks. *Branchlets* slightly angled at tips, soon terete, glabrous or sparingly appressed-puberulous, glabrescent, red-brown. *Stipules* caducous. *Phyllodes* narrowly elliptic to narrowly oblong-oblanccolata, acute to obtuse, more or less excentrically mucronate, the mucro straight or curved, dark brown, hard, coarsely pungent, tapering to pulvino 1-1.5 mm long, glabrous, blades 25-55 mm long, 3-8 mm wide, rigid-coriaceous, ascending to erect, rather strongly incurved, glabrous, subglauca to glaucous; all nerves equally distinct but most often one mid-nerve or 3 main longitudinal nerves more strongly raised, yellowish, numerous finer venules appearing as irregularly parallel, commonly incomplete, dark lines in the blade, inter-nerve spaces many times wider than the main nerves, strong marginal nerves yellow, about equally thick as the blade. *Glands* 2 or 3, situated near base, middle and apex on upper margin of phyllode. *Peduncles* (2-)3-6(-7) mm long, 2(-4) per axil, glabrous or occasionally with few appressed hairs, sometimes more or less glaucous; basal peduncular bract caducous, cucullate, broadly ovate, glabrous except ciliolate. *Flower-heads* globular, golden, (3-)4-5 mm diam., 16-24-flowered. *Bracteoles* spatulate-obovate, ciliolate. *Flowers* 4-merous. *Sepals* less than 1/2 length of petals, 1/4-3/4-united, lobes \pm oval, ciliolate. *Petals* free, glabrous. *Ovary* densely appressed puberulous. *Legumes* linear, somewhat raised over and constricted between seeds, 40-95 mm long, 2-3.5 mm wide, pendent, crustose, nearly straight to curved (old valves coiled and twisted), glabrous, sometimes slightly glaucous, dark-brown with narrow, yellow to light brown marginal nerves. *Seeds* longitudinal, oblong to elliptic-oblong, 3.5-4.5 mm long, 2-2.5 mm wide, compressed, glossy, dark brown to black; pleurogram 2-2.5 mm long, very narrowly U-shaped; areole more or less depressed; aril apical, about 1/3 as long as seed, galcate.

Selected specimens examined. WESTERN AUSTRALIA: Jerramungup, 40.3 km E of Ongerup, T.E.H. Aplin, I. Lethbridge and R. Coveny 3330 (PERTH); Pingrup, W.E. Blackall 3082 (PERTH); 37.5 km NNW of Mt Ney, M.A. Burgman 1848 and S. McNee (PERTH); 19.5 km due SE of Muckinwobert Rock, M.A. Burgman 4030 (PERTH); near Carracarrup Creek, 15 km S of Ravensthorpe, G. Craig 1526C (MEL, PERTH); approx. 9 km E of Scaddan on Scaddan Road, G. Craig 1675 (PERTH); 31.6 mi [50.6 km] E of Lake King towards Norseman, R. Cumming 2588 (AD, BRI, PERTH); Phillips River crossing, 17 km W of Ravensthorpe towards Jerramungup, B.R. Maslin 3460 (AD, B, BM, BRI, CANB, G, K, MEL, NSW, PERTH); Munglinup area, east of Ravensthorpe, B.R. Maslin 4480 (MEL, PERTH); 6 km NW of Boxwood Hill, K. Newbey 4267 (PERTH); 25 km ESE of Mt Gibbs, Frank Hann National Park, K. Newbey 5421 (PERTH); gate at rabbit-proof fence, Mt Madden, R.A. Saffrey 316 (BM, NSW, NY, PERTH, W); Phillips River Crossing, Ravensthorpe-Jerramungup road, M.D. Tindale 3820 (BRI, CANB, K, MEL, MO, US).

Distribution. South-west Western Australia in Roe and Eyre Botanical Districts (1:250,000 maps 150-8, 12; 151-1, 5, 6). Common throughout its range, from Pingrup E to near Mt Ney with a northern limit in the Frank Hann National Park, 60 km N of Ravensthorpe.

Habitat. Usually along salt creeks and rivers, as well as at margin of salt pans and salt lakes, often on small rises above *Holosarcia/Arthrocnemum* zone, on soils of fine or coarse sands to clay and loam. (Much of the habitat information is based on Gill Craig's study of salt-tolerant plants and we are indeed grateful for this use of her data.)

Flowering and fruiting periods. Flowering in July-September; fruiting November to January.

Affinities. The new species resembles *A. multilineata* especially and to a lesser extent *A. unguicula* but it is very distinct from both by virtue of its tetramerous flowers and by features of the phyllode nervature: the main nerves (when they are identifiable as such) are continuous from base to apex, yellowish and broader than the irregularly parallel venules; and the marginal nerves are strongly developed and yellow. In addition, the phyllodes are subglaucous to strongly glaucous and lack obvious stomata. *Acacia mimica* is also a close relative but it has 5-merous flowers, uniformly distinct nerves in the phyllodes, sessile flower heads and mottled seeds.

Conservation status. 3C, using the criteria of Briggs & Leigh (1988).

Etymology. The specific epithet refers to the yellow border of the phyllodes (a *patagium* was the golden border around the hem of the robe of Roman ladies, hence, *patagiatus* or bordered).

5. *Acacia torticarpa* C. Gardner ex Cowan & Maslin, sp. nov. (Figure 1)

Arbuscula (?). *Ramuli* villosotomentosi, valde sulcati. *Stipulae* persistentes, caudato-subulatae, 3-4 mm longae, tomentosae. *Phyllodia* anguste linearia, oblanceolato-linearita vel elliptico-linearita, obtuso-mucronulata, pulvino 1 mm longo, tomentoso, lamina 37-55 mm longa, 2-3.5 mm lata, incurvata, villosotomentosa, nervis principalibus 3 vel 4 in quoque superficie, valde salientibus, nervis secundariis 3 vel 4, fere quam salientibus. *Pedunculi* deficientes vel perbreves, 2 in quoque axilla. *Capitulae* involuatae, pedunculari bractea basali ovata usque ad elliptica, globulares, circa 5 mm diametro, 17- vel 18-floribus; bracteolae plus minusve spatulatae, laminis ellipticis vel ovatis. *Flores* 5-meri. *Sepala* petalaeque 1/2-2/3-connata, puberula ciliolataque, sepala petalis dimidia breviora. *Legumina* flexuoso-linearita, plus minusve 20 mm longa, 2 mm lata, villosotomentosa. *Semina* longitudinalia, ovalia vel elliptica, 1.5-2 mm longa, 1.2 mm lata; pleurogramma parva, arco-formata, arillo apicali, elongato.

Typus: Yorkkrakine, Western Australia, 19 July 1946, C.A. Gardner 8043 (holo: PERTH; iso: AD, BM, BRI, CANB, G, K, MEL, NSW, NY, PERTH, W, Z).

Shrubs (?). *Branchlets* villose-tomentose, strongly sulcate. *New growth* pale golden at tips, becoming grey. *Stipules* persistent, caudate-subulate, 3-4 mm long, tomentose. *Phyllodes* narrowly linear to oblanceolate-linear or elliptic-linear, acute, mucronate, often bluntly mucronulate later by loss of mucro apex, mucro brown, straight, hard, \pm coarsely pungent, base attenuate, blades 37-55 mm long, 2-3.5 mm wide, coriaceous, patent to inclined, slightly to moderately incurved, villose-tomentose at first, somewhat glabrescent; 3 or 4 main nerves per face strongly salient, 3 or 4 secondary nerves nearly as raised, inter-nerve spaces much wider than nerves, stomata not evident. *Gland* one, slightly raised, situated on upper margin of phyllode 1-3.5 mm above the very short (1 mm) pulvinus. *Peduncles* absent or very short, 2 per axil, tomentose; basal peduncular bract narrowly ovate, acute, puberulous, ciliate, this and 4 bract-like bracteoles encircling base of head. *Flower-heads* globular, \pm 5 mm diam., 17- or 18-flowered. *Bracteoles* \pm spatulate, the blade elliptic to ovate, acute, puberulous, ciliate, exserted in bud. *Flowers* 5-merous. *Sepals* half as long as petals, both sepals and petals 1/2-2/3-united, puberulous, ciliate. *Ovary* densely villose, principally on margins, hairs directed antorsely. *Legumes* flexuose-linear, c. 20 mm long, 2 mm wide, coriaceous, villose-tomentose. *Seeds* longitudinal in the legumes, oval to elliptic, 1.5-2 mm long, 1.2 mm wide, glossy tan, compressed; pleurogram a small arc, c. 0.5 mm long and wide; areole in shallow depression, pale brown; aril apical, extending down one side more than half seed length.

Other specimens examined. WESTERN AUSTRALIA: N of Yorkkrakine, C.A. Gardner 7621 (PERTH); E of South Kumminin, C.A. Gardner 9485 (PERTH).

Distribution. South-west Western Australia in Avon Botanical District (1:250,000 maps H50-15; I50-3). Only three collections are known of this species, all from near Yorkkrakine and South Kumminin. Numerous attempts to re-collect the species in any of the localities have been in vain.

Habitat. No details available.

Flowering and fruiting periods. Flowers collected in July; legumes with mature seeds collected in September.

Affinities. The new species is part of the '*A. multilineata* group' and is most similar to *A. caesariata*, differing in having sessile flower heads with a subtending row of bract-like bracteoles, partly connate perianth parts, sulcate branchlets and flexuose legumes.

Conservation status. 3E[K], using the criteria of Briggs & Leigh (1988).

Etymology. C.A. Gardner coined the specific epithet in allusion to the strongly flexuose fruits, but never published it. We have adopted his herbarium name, rather than another, to avoid any possible confusion with duplicates the collector may have distributed bearing this name.

6. *Acacia unguicula* Cowan & Maslin, sp. nov. (Figure 1)

Frutices 1-2 m alti vel arbores usque ad 3 m altae, cortice cinereo, fibroso et truncorum versus basem plus minusve fissurato, ramulis angularibus, glabris appresso-puberulis in phyllodiorum axillas exceptis. *Stipulae* persistentes, spinoscentes, recurvatae, 0.7-1.2 mm longae. *Phyllodia* anguste oblonga ad oblongo-oblancoolata vel elliptica, abrupte et breve angusto-cuspidata, attenuata versus basem, (14-)20-40 mm longa, 3-4 mm lata, rigida, recta vel leviter curvata, glabra, 14-16 nervis principalibus valdissime salientibus; glande 1 vel 2. *Pedunculi* 7-11 mm longi, binati, glabri; pedunculi bractea basalis cucullata, rostrata. *Capitulae* globulares, atro-aureae, 5-6 mm diametro, 24-34-floribus; bracteolis linearibus vel lineari-spathulatis. *Flores* 5-meri. *Sepala* petala minus quam 1/2 breviora, discreta, linearia ad lineari-spathulata. *Petala* discreta, glabra. *Legumen* lineare, ad 60 mm longum, 2 mm latum, parce appresso-puberulum. *Semina* non vidi.

Typus: Mount Singleton, Ninghan Station, Western Australia, 6 August 1969, R.A. Saffrey 829 (holo: PERTH; iso: CANB, K, MEL, NY).

Openly branched *shrubs* 1-2 m or tree (?) to 3 m tall. *Bark* grey, fibrous and somewhat fissured at base of trunks, smooth on branches. *New shoots* sparsely appressed puberulous, hairs white, shoots arising from within axil of paired peduncles at anthesis. *Branchlets* with several low ridges, glabrous except appressed puberulous in axils of phyllodes. *Stipules* persistent, spinose, more or less recurved, 0.7-1.2 mm long. *Phyllodes* narrowly oblong to oblong-oblancoolate or elliptic, abruptly and often excentrically short-cuspidate, pungent, (14-)20-40 mm long, 3-4 mm wide, rigid, erect, straight or slightly curved, glabrous except appressed puberulous basally on adaxial surface, olive-green; 14-16 main nerves strongly salient, few strong anastomoses evident, stomata distinct, not strongly raised. *Glands* 1 or 2 on upper margin of phyllode, lowest one in basal half of phyllode, upper one (when present) near apex. *Peduncles* 7-11 mm long, 2 per axil, glabrous; basal peduncular bract caducous, cucullate, rostrate. *Flower-heads* globular, deep golden, 5-6 mm diam., 24-34-flowered. *Bracteoles* linear or linear-spathulate. *Flowers* 5-merous. *Sepals* less than 1/2 petal length, free, linear-spathulate. *Petals* free, glabrous. *Legumes* (immature) linear, to 60 mm long, 2 mm wide, slightly raised over and scarcely constricted between seeds, old valves coiled, sparsely appressed puberulous. *Seeds* not seen.

Other specimens examined. WESTERN AUSTRALIA: Mt Singleton, *J.S. Beard* 6454 (PERTH), *C.A. Gardner* 12012 (PERTH), *B.R. Maslin* 4240 (CANB, K, MEL, PERTH), and *B.H. Smith* 614 (BRI, MEL, PERTH).

Distribution. South-west Western Australia in Austin Botanical District (1:250,000 map H50-7). Known only from Mt Singleton between Wubin and Paynes Find.

Habitat. Rocky clay or loam in open scrub on upper slopes and summit of mountain.

Flowering and fruiting periods. Flowering August—September; no mature legumes seen.

Affinities. Related to *A. multilineata* but differing most obviously in its persistent, more or less recurved, spinescent stipules and very strongly salient nerves; its peduncles are also longer. The new species is restricted to Mt Singleton, W.A.

Conservation status. 2V, using the criteria of Briggs & Leigh (1988).

Etymology. The specific epithet, refers to the stipules as small claws (the diminutive of *unguis*, Latin for nail, claw or talon).

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