

***Acacia* Miscellany 12. *Acacia myrtifolia* (Leguminosae: Mimosoideae: section *Phyllodineae*) and its allies in Western Australia**

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Abstract

B.R. Maslin. *Acacia* Miscellany 12. *Acacia myrtifolia* (Leguminosae: Mimosoideae: section *Phyllodineae*) and its allies in Western Australia. *Nuytsia* 10 (1): 85-101 (1995). Five new species and one new subspecies of *Acacia* from Western Australia are described, namely, *A. clydonophora* Maslin, *A. disticha* Maslin, *A. durabilis* Maslin, *A. heterochroa* Maslin (comprising subsp. *heterochroa* and subsp. *robertii* Maslin) and *A. pygmaea* Maslin. These taxa, together with four previously described species, *A. celastrifolia* Benth., *A. myrtifolia*, *A. nervosa* DC. and *A. obovata* Benth. comprise the informal "*Acacia myrtifolia* Group". A key to the species of this Group is presented. Brief notes on the variation in the Western Australian populations of *A. myrtifolia* are given. *Acacia pawlikowskyana* Ohlend. is treated as a synonym of *A. myrtifolia* (this name was formerly treated as a synonym of *A. celastrifolia*). *Acacia acutifolia* Maiden & Blakely is also regarded as conspecific with *A. myrtifolia*; it is likely that the type information published by Maiden and Blakely for this name was erroneous.

Introduction

The main purpose of this paper is to provide names for five new species and one new subspecies of *Acacia* from Western Australia to facilitate their inclusion in the forthcoming "Flora of Australia" treatment of the genus. These taxa, which all belong to *Acacia* section *Phyllodineae* DC., are related to *A. myrtifolia* (Sm.) Willd. and together with three other previously described close relatives comprise the informal, here-defined "*Acacia myrtifolia* Group". Species included in this Group are *A. celastrifolia* Benth., *A. clydonophora* Maslin *sp. nov.*, *A. disticha* Maslin *sp. nov.*, *A. durabilis* Maslin *sp. nov.*, *A. heterochroa* Maslin *sp. nov.* (comprising subsp. *heterochroa* and subsp. *robertii* Maslin *subsp. nov.*), *A. myrtifolia* (Sm.) Willd., *A. nervosa* DC., *A. obovata* Benth. and *A. pygmaea* Maslin *sp. nov.*

Species of the "*Acacia myrtifolia* Group" have a very characteristic floral structure. The relatively large, 4-merous flowers are neither numerous (2-12-flowered) nor densely aggregated in the heads. For the most part the flowers are glabrous, however, in *A. myrtifolia* the ovary is tomentulose. The gamosepalous calyx is truncate or only very slightly dissected (into rounded or broadly triangular lobes and these are separated by wide, very shallow sinuses). The apical rim of the calyx is not thickened and the calyx tube is nerveless and broad-based. In most species the ovary possesses a short yet distinct

gynophore (in *A. clydonophora*, *A. disticha*, *A. durabilis*, *A. heterochroa* and *A. pygmaea* the gynophore is 0.5-1 mm long; in the other species of the Group the gynophore is shorter or absent). To accommodate the very large numbers of stamens (which are among the most numerous of any species in the subgenus) the torus is commonly enlarged and it sometimes is supported on a distinct yet very short gynandrophore (e.g. *A. pygmaea*). Judging from Figures 2-4 in Robbertse (1974) the African species of subgenus *Aculeiferum* possess some of the characters described here for members of the "Acacia myrtifolia Group". Another seemingly unique feature for subgenus *Phyllodineae* is the multiple ovaries which are consistently found in *A. celastrifolia* (very rarely *A. durabilis* and *A. pygmaea* have 2 ovaries in a few flowers of the heads).

As discussed by Guinet *et al.* (1980) *A. gilbertii* Meissner, which is traditionally placed in section *Pulchellae* (Benth.) Taub. on account of its bipinnate foliage, is closely related to *A. myrtifolia* and *A. celastrifolia*. *Acacia urophylla* Benth. and *A. scalpelliformis* Meissner, which also have 4-merous flowers, are not far removed from the Group even though they have prominently 2-4-nerved phyllodes. Indeed, in the classification proposed by Vassal (1972) *A. myrtifolia* and *A. urophylla* were included in the one infrageneric category, namely, section *Pulchelloidea* subsection *Magniscutellae* (this subsection also included the phyllodinous species *A. extensa* Lindley and *A. willdenowiana* H.L.Wendl. (syn. *A. diptera* Lindley) as well as three species of section *Pulchellae*, *A. drummondii* Lindley, *A. pentadenia* Lindley and *A. pulchella* R. Br.).

With the exception of *A. myrtifolia* itself the members of the "Acacia myrtifolia Group" are confined to temperate and semi-arid areas of southwest Western Australia. *Acacia myrtifolia* occurs usually in coastal and near-coastal areas throughout Australia except Northern Territory and the Australian Capital Territory.

Key to taxa of the "Acacia myrtifolia Group"

(Numbered taxa are described in the present work below.)

1. Stipules persistent, 2-10 mm long; pod margins not undulate 2
- 1a. Stipules early caducous OR if persistent then less than 1 mm long;
 - pod margins undulate or not 4
 2. Branchlets not pruinose, often hairy *A. obovata*
 - 2a. Branchlets pruinose, glabrous 3
 3. Phyllodes elliptic, 15-30 mm wide with l:w = 1.5-2; seeds
 - longitudinal in the pods 3. *A. durabilis*
 - 3a. Phyllodes narrowly elliptic, 4-12 mm wide with l:w = 3-6; seeds
 - transverse in the pods *A. nervosa*
 4. Phyllodes 2-nerved (the second nerve commonly less
 - prominent than midrib); pod margins not undulate 5
 - 4a. Phyllodes prominently 1-nerved; pod margins
 - conspicuously undulate 6
 5. Heads 3-4-flowered; peduncles 4-7 mm long; branchlets
 - prominently ribbed (not flattened) 6. *A. pygmaea*
 - 5a. Heads 6-7-flowered; peduncles 7-11 mm long; branchlets
 - clearly flattened with the phyllodes distichously arranged 2. *A. disticha*

6. Ovaries 3-5 per flower, glabrous; phyllode gland prominent (1-2 mm long), 5-20 mm above pulvinus; heads bright light-golden, normally 2-3-flowered; branchlets pruinose *A. celastrifolia*
- 6a. Ovaries 1 per flower (rarely a few flowers with 2), tomentulose or glabrous 7
7. Phyllodes with l:w = 1-2, gland inconspicuous (mostly 0.2-0.3 mm long), 0-10 mm above pulvinus; heads 5-12-flowered, bright lemon yellow; ovary glabrous 8
- 7a. Phyllodes with l:w = 2 or more, gland prominent (1-2 mm long, rarely 0.5 mm in *A. myrtifolia*); heads cream to creamy yellow, rarely bright lemon yellow (in *A. myrtifolia*), 2-12-flowered 9
8. Peduncles all or mostly single within axils of phyllodes; heads 8-12-flowered; phyllodes \pm symmetrically elliptic to almost circular, some tending obovate or ovate 4a. *A. heterochroa* subsp. *heterochroa*
- 8a. Peduncles all or mostly in racemes 1-3.5 cm long; heads 5-6-flowered; phyllodes inaequilaterally obtriangular to obdeltate 4b. *A. heterochroa* subsp. *robertii*
9. Ovary glabrous; heads 5-7-flowered; gland 0-4(8) mm above pulvinus 1. *A. clydonophora*
- 9a. Ovary tomentulose; heads normally 2-5-flowered; gland 5-20 mm above pulvinus 5. *A. myrtifolia*

Taxonomy

1. *Acacia clydonophora* Maslin, *sp. nov.*

Frutex glaber apertus 0.7-1.5 m altus, ramulis manifeste striato-costatis. Phyllodia plus minusve obliqua, elliptica ad anguste elliptica sed aliqua quasi obovata ad oblanceolata et interdum lanceolata, ad basem inaequalia et ad apicem obtuso-mucronata ad acuta mucro indurato, 4-7(12) cm longa, 1.5-3 cm lata, 2-4(5.5)-plo longiora quam latiora, recta vel falcato-recurvata, leviter undulata, glauca ad subglauca, costa prominentia et normaliter cum margine abaxiale ad basem brevi-connivente, nervis marginalibus prominentibus sed nervis lateralibus obscuris, glande prominente et supra pulvinum 0-4(8) mm. Racemi (0.2)0.5-3 cm longi, 3-14 capitulis, pedunculis 5-7 mm longis; capitula globularia, cremea ad cremeo-lutea et sublaxe 5-7-floribus. Flores 4-meri, calyce gamosepalo 1/5-1/3 petalis obtegentia, truncato ad sinuolate lobato. Legumina linearia ad 7 cm longa et 4-5 mm lata, crustacea ad sublignea, erecta, curvata, nervo marginale crasso et undulato. Semina longitudinalia, anguste oblonga, 5-6 mm longa, nitida, atro-brunnea, arillo terminale.

Typus: summit of Mount Lesueur, Western Australia, 13 October 1974, A.S. George s.n. (holo: PERTH 00694290; iso: K, PERTH 01469371 - mounted with holotype).

Erect, openly branched, single-stemmed *shrubs* 0.7-1.5 m tall. *Bark* smooth, normally grey at base of stems and reddish brown or sometimes orange on branches and branchlets. *Branches* and *branchlets* terete, striate (ribs prominent and yellow or red brown, extending to old wood), glabrous, occasionally pruinose. *New shoots* red-brown at first but becoming purplish and lightly pruinose. *Stipules* early caducous. *Phyllodes* variable in shape and size, \pm asymmetric with the adaxial margin normally more convex than the abaxial, elliptic to narrowly elliptic with some tending to obovate to oblanceolate, sometimes lanceolate, northern populations 4-7 cm long and 1.5-3 cm wide (to 9.5 x 4 cm on juvenile plants), to 12 cm long on southern populations, length to width ratio 2-4(5.5), straight, sometimes falcately recurved, patent to inclined, \pm thinly coriaceous, slightly undulate when dry, glabrous, glaucous to sub-glaucous; *midrib* prominent, yellow to reddish, normally concurrent with the lower margin for 2-7 mm above the pulvinus; *marginal nerves* prominent, yellow or reddish; lateral nerves openly reticulate, normally obscure when dry (scarcely evident when fresh); *apex* obtuse-mucronate to acute, the mucro *c.* 1 mm long, thickened indurate and very coarsely pungent when dry; base unequal; pulvinus 2-4.5 mm long, terete, sometimes slightly dilated at the base, obscurely longitudinally ridged. *Gland* prominent, situated on the upper margin of the phyllode at distal end of the pulvinus or up to 1-4 mm (rarely to 8 mm) above it, oblong, 1.2-2 mm long, shallowly concave, the lip yellowish or red-brown and sometimes slightly raised, the orifice distinct, dark brown and slit-like. *Inflorescences* glabrous, predominantly racemose, rarely interspersed with a few simple, axillary heads, racemes solitary within phyllode axils towards the ends of the branchlets, (2)5-33 mm long, 3-14-headed, the axes slightly flexuose and prominently ribbed. *Peduncles* 5-7 mm long; basal peduncular bracts absent at anthesis. *Heads* cream to creamy yellow, globular, sub-loosely 5-7-flowered. *Bracteoles* sub-persistent, ovate, *c.* 1 mm long, sessile, concave, glabrous, brown. *Flowers* 4-merous, glabrous, torus slightly expanded; buds obtuse, quite large. *Calyx* 1/5-1/3 the length of the corolla, gamosepalous, \pm truncate to very shallowly divided into broadly triangular lobes separated by sinuses, the lobes not thickened; calyx tube nerveless and broad-based. *Petals* divided almost to the base, elliptic, 3 x 1.5 mm, not reflexed at anthesis, very finely striate (the nerves submerged), apices thickened and bluntly acute. *Ovary* 1 per flower, deflexed at apex of a very short gynophore, glabrous. *Stamens* very numerous. *Pods* linear, to 7 cm long, 4-5 mm wide, sometimes \pm twisted when young, erect, crustaceous to sub-woody, curved, glabrous, not reticulate, scarcely raised over the seeds, not or very slightly constricted between the seeds, thickened, apex acute and slightly uncinately; marginal nerves thick and undulate. *Seeds* longitudinal in the pod, narrowly oblong, 5-6 mm long, 2.5-3 mm wide, shiny, dark brown; areole open, 3.5-4 x 1 mm; funicle *c.* 1 mm long, abruptly expanded into a thick, short, curved aril situated at base of seed.

Selected specimens examined. WESTERN AUSTRALIA: Boonanning Brook (proposed Nature Reserve), off Wannamal W Road, Gingin, *J.J. Alford* 236 (PERTH); Mount Lesueur, *J.S. Beard* 7820 (PERTH); Cataby, Reserve 27995, *D.K. Coughran* 0105(A) (PERTH); NE of Mount Lesueur, *R.J. Cranfield* 1232 (CANB, PERTH); Barletts Spring, 25 km N of Gingin, *G.J. Keighery* 8040 (CANB, PERTH); 4 km E of Brand Highway on Yandan Road, *c.* 2.7 km S of Cataby, *B.R. Maslin* 5358 (PERTH); proposed Mount Lesueur Nature Reserve, *c.* 3 km due NE of Mount Lesueur, *B.R. Maslin* 5361, 5362 and 5362A (all PERTH); 5.9 km E along Cadda Road from junction with Murbine Road, *S. Patrick* and *A. Brown* SP 1317 (30° 23'S, 115° 17'E); [E of] Jurien Bay, *R.D. Royce* 7708 (PERTH).

Distribution. Southwest Western Australia in the Irwin and Darling Botanical Districts (1:250,000 maps H50-9; H50-10,14). Principally found at the northern end of the Gairdner Range in the vicinity of Mount Lesueur (*c.* 105 km due south-southeast of Dongara), also with scattered populations occurring to the southeast from near Cataby (*c.* 45 km due west of Moora) to the vicinity of Gingin, and an occurrence east of Jurien Bay.

Habitat. Laterite, or sand or loam over laterite on ridges or in gullies, in low *Eucalyptus* woodland or high open shrubland with an understorey of low open heath.

Flowering and fruiting periods. Flowers from April to November during which time developing pods are also present. Pods with mature seeds have been collected in October.

Variation. The phyllodes on specimens from the northern end of the range at Mount Lesueur are elliptic to narrowly elliptic with some tending to obovate or oblanceolate, 4-7 cm long, 1.5-3 cm wide (to 9.5 x 4 cm on juvenile plants) and \pm straight. The southern populations, however, may differ slightly in that the phyllodes are commonly longer (to 12 cm) and falcately recurved, and sometimes lanceolate.

Affinities. The new species is most closely related to *A. celastrifolia* and *A. myrtifolia* but is distinguished by a combination of the following characters: shrubs to 1.5 m tall; ovary glabrous and one per flower; heads 5-7-flowered; gland 0-4(8) mm above pulvinus. *Acacia myrtifolia* is a shrub 0.5-3 m tall, its flowers have a single, tomentulose ovary, heads normally 2-5-flowered and glands 5-20 mm above the pulvinus; *A. celastrifolia* is a shrub 1-3 m tall with 3-5, glabrous ovaries per flower, normally 2-3-flowered heads and glands 5-20 mm above the pulvinus, it is further distinguished by its distinctly pruinose branchlets and its racemes which are normally 3-12 cm long with 10-20, bright light-golden heads. Although *A. clydonophora* has similar edaphic preferences to *A. celastrifolia* and is geographically close to this species, it appears to be more closely related to *A. myrtifolia* (especially to the short phyllode forms of *A. myrtifolia* that occur along the south coast of Western Australia to the east of Albany and extending into eastern Australia). Indeed it could be argued that *A. clydonophora* should be treated as an infraspecific taxon under *A. myrtifolia*. However, *A. myrtifolia* as currently defined in Western Australia is very variable and in the light of an analysis of the complex variation patterns the rank attributed to *A. clydonophora* may need to be re-assessed. *Acacia myrtifolia* occurs much further south than *A. clydonophora*.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Four - Rare Taxa. See end of this issue.

Etymology. The epithet is derived from the Greek *klydon* - wave, and *phoras* - bearing or fruitful, and alludes to the characteristic undulate margins of the pods.

2. *Acacia disticha* Maslin, *sp. nov.*

Frutices glabri, 1(2) m alti. Ramuli superiores applanati, phylodiis distichis, demum spiraliter dispositis, ellipticis, leviter asymmetricis, 15-27(33) x 4-11(15) mm, in ramulis superioribus usque 43 x 22 mm, non pungentia, 1-nervia, nero secundario minus distincto; glans non prominens. Inflorescentiae normaliter racemosae, raro simplices. Pedunculi 7-11 mm longi. Florum capitula globularia, cremea, 6-7-flora. Flores 4-meri. Calyx c. 1/4 corollae longitudinis attingens, gamosepalus. Petala elliptica, c. 3 mm longa. Ovarium singulum, glabrum. Legumen anguste oblongum, ad 40 x 5 mm, subnutans, margine incrassatum, non undulatum. Semina (submatura) in legumine longitudinalia, obloidea, 4 x 2.5 mm, brunnea.

Typus: N end of Middle Mount Barren, Fitzgerald River National Park, 34° 03'S, 119° 40'E, Western Australia, 20 December 1970, A.S. George 10588(A) (holo: PERTH 00195715; iso: CANB, K, NY).

Shrubs normally to c. 1 m tall but reaching 2 m in sheltered situations, spreading, medium-dense, dividing just above ground level into 3-5 principal, rigid branches, phyllodes concentrated towards the ends of the branches and normally shed with age leaving the branches marked with scars on raised leaf bases. *Bark* on old wood light grey, more or less smooth. *Branchlets* flattened towards their apices but becoming terete with age, finely nerved, glabrous, apically greenish, not pruinose. *Stipules* frequently early caducous and leaving a dark brown scar at the base of the phyllode, depressed ovate to shallowly triangular, 0.5-0.7 mm long, c. 1 mm wide, glabrous, dark brown. *Phyllodes* distichous on the flattened, terminal portion of the branchlets but spirally arranged with age as the branchlet becomes terete, elliptic, slightly asymmetric, size variable even on a single specimen, 15-27(33) mm long and 4-11(15) mm wide with length to width ratio 2-4 on upper part of branchlets, seemingly normally shed with age but if persistent can reach 43 mm long and 22 mm wide lower down, not or very slightly undulate, thinly coriaceous, glabrous, bright medium green; *midrib* sometimes concurrent with the lower margin for a short distance above the pulvinus, curved upwards at about 1/3 the distance from the base, a minor second longitudinal nerve arising from the pulvinus on the adaxial side of the midrib and trending towards the apex but not reaching it, lateral nerves openly reticulate but not readily seen on small phyllodes; *apex* obtuse, minutely mucronulate; base slightly unequal; pulvinus c. 1 mm long, light brown. Gland not prominent, situated on upper margin of phyllode 2-5 mm above the pulvinus, rarely absent, concave, not raised, oblong, 0.4-1(1.7) mm long, 0.2-0.5 mm wide. *Inflorescences* glabrous, racemose but the racemes interspersed with a few simple heads, rarely the entire plant possessing simple inflorescences; raceme axes normally c. 4 mm long, 2(3)-headed, growing out as a leafy shoot with simple inflorescences sometimes arising within the axils of the young phyllodes. *Peduncles* 7-11 mm long; basal peduncular bracts deciduous or sometimes persistent, triangular, concave, c. 1 mm long, sessile, glabrous, brown. *Heads* globular, bright cream, loosely 6-7-flowered. *Bracteoles* triangular to elliptic, acute, c. 1 mm long, concave, sessile, glabrous. *Flowers* 4-merous, glabrous, stamens and ovaries situated on a swollen torus; flower buds ellipsoid, obtuse. *Calyx* c. 1/4 the length of the corolla, gamosepalous, \pm truncate to very shallowly divided into broadly triangular lobes separated by sinuses, the lobes not thickened; calyx tube nerveless and broad-based. *Petals* elliptic, c. 3 mm long and 1.5 mm wide, free to base and not prominently reflexed at anthesis, very slightly thickened at apex, greenish yellow. *Ovary* 1 per flower, glabrous, deflexed at apex of a slender gynophore c. 1 mm long. *Stamens* very numerous. *Pods* (few seen) narrowly oblong, to 4 cm long, 5 mm wide, sub-nutant (the basal stipe \pm deflexed), crustaceous to sub-woody, very slightly curved, glabrous, dark brown, not reticulate, very slightly twisted, very slightly raised over but not constricted between seeds, apex acute; margins not undulate, thickened. *Seeds* (almost mature) longitudinal in the pod within shallow depressions separated by transverse partitions, oblongoid but truncate along edge adjacent to the aril, 4 mm long, 2.5 mm wide, rather compressed (1.5 mm thick), slightly shiny, medium brown, with an obscure, dull, dark brown peripheral band; pleurogram very obscure, with a narrow opening towards the hilum; areole c. 3 mm long and 1.3 mm wide; funicle filiform, 1.5 mm long, scarcely dilated at the attachment to the pod, expanded into a once folded, yellowish (when dry dark brown near the hilum) aril.

Other specimens examined. WESTERN AUSTRALIA: Corackerup Creek, February 1934, *E.T. Bailey* s.n. (PERTH 00195642); creek line in tributary of Steere River, c. halfway between Kundip Mine and Elverdton Mine, Ravensthorpe Range, *G. Craig* 2011 (PERTH); Ravensthorpe district, November 1944, *C.A. Gardner* s.n. (PERTH 00195693, 00195707); 1 km N of Twin Bay, from SW slopes of Thumb Peak, Fitzgerald River National Park, *B.R. Maslin* 5553 (CANB, K, MO, PERTH); Thumb Peak, Fitzgerald River National Park, *K. Newbey* 2726 (PERTH) and 3419 (BRI, CANB, K, MEL, NY, PERTH); 2 km SW of Thumb Peak, *K. Newbey* 4894 (AD, CBG, NSW, PERTH).

Distribution. Southwest Western Australia in the Eyre Botanical District (1:250,000 maps I50-12; I51-5). Principally confined to the Fitzgerald River National Park (southwest of Ravensthorpe) in the

vicinity of Thumb Peak and Mid Mount Barren. Only two gatherings are known outside the Park, from Corackerup Creek (c. 34° 11'S, 118° 44'E), some 100 km to the west-southwest and from between Kundip Mine and Elverdton Mine, Ravensthorpe Range (c. 33° 50'S, 120° 09'E) some 40 km to the northeast.

Habitat. Grows along watercourses in well drained loamy clay or variably drained sand and silt. Sometimes occurs in rocky loam or limestone soil. Common in tall shrubland where it dominates the low shrub stratum, also frequent in patches of *Eucalyptus eremophila* closed scrub but is very rare in *E. lehmanii* low open forest.

Flowering and fruiting periods. Flowers from September to February during which time very young pods may also be present on the plants. It is uncertain whether one or two flowering flushes occur within this period. Pods with near-mature seeds have been collected in early November.

Variation. The phyllodes vary considerably in size, even on a single specimen. On upper branchlets they are generally 15-27 mm long and 4-11 mm wide, whereas lower down they may reach 43 mm long and 22 mm wide. These largest phyllodes are seemingly readily shed because they are often not present on herbarium specimens.

Affinites. The new species is perhaps most closely related to *A. pygmaea* which is restricted to the Wongan Hills, some 450 km to the north of the range of *A. disticha*. These species have very similar phyllodes (except that they are not distichously arranged in *A. pygmaea*) and similar carpological features. *Acacia pygmaea*, however, is a dwarf sub-shrub 0.3-0.5(0.7) m tall with ribbed, non-flattened branchlets, normally non-racemose inflorescences and 3-4-flowered, white heads on peduncles 4-7 mm long. *Acacia disticha* is sometimes sympatric with *A. myrtifolia* which is readily distinguished by its prominently ribbed, angular branchlets (not clearly flattened as in *A. disticha*), non-distichous, thicker, prominently 1-nerved phyllodes with a more prominent gland, and longer pods with clearly undulate margins.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two - Poorly Known Taxa. See end of this issue.

Etymology. The epithet is derived from the Latin *distichus*, arranged in two opposite rows, and refers to the phyllotaxy. The upper portion of the branchlets are flattened with the phyllodes arranged in two vertical ranks along each margin. With age the branchlets become terete and the phyllodes spirally arranged. This distichous arrangement is otherwise unknown in *Acacia* except for some members of section *Alatae* eg. *A. alata* R. Br. and *A. glaucoptera* Benth.

3. *Acacia durabilis* Maslin, *sp. nov.*

Frutices glabri, 0.7-2 m alti. Ramuli teretes, prominenter costati, pruinosi. Stipulae persistentes, (5)7-10(12) mm longi. Phyllodia elliptica, leviter asymmetrica, 1.5-4 cm longa, 1.5-3 cm lata, ± undulata, prominenter uninervia; glans prominens. Inflorescentia plerumque simplex. Pedunculi (12)17-25(27) mm longi. Florum capitula globularia, 6-9-flora. Flores 4-meri. Calyx 1/4-1/3 corollae longitudinis attingens, gamosepalus, ± truncatus. Petala c. 4 mm longa. Ovarium solitarium, glabrum. Legumina anguste oblonga, ad 6 cm longa, 6-8 mm lata, torta, margine non undulata. Semina in legumina longitudinalia, c. 4 mm longa, 2.5-3 mm lata, nitentia, atrobrunnea; funiculus ad insertionem leguminis dilatatus.

Typus: near Mount Desmond, c. 11 km S of Ravensthorpe, Western Australia, 20 December 1971, B.R. Maslin 2566 (holo: PERTH 00693669; iso: CANB, K, MEL, NY, PERTH 00150703).

Spreading, moderately open, single-stemmed *shrubs* 0.7-2 m tall. *Bark* smooth, green or brownish, striate. *Branchlets* terete, pruinose between the prominent reddish brown ribs, glabrous. *Stipules* persistent, prominent, (5)7-10(12) mm long, indurate, coarsely pungent, basally thickened, patent to ascending, \pm straight. *Phyllodes* elliptic, slightly asymmetric, size variable, normally 1.5-4 cm long and 1.5-3 cm wide with length to width ratio 1.5-2, rather coriaceous, \pm crowded towards ends of branches, slightly to moderately undulate, glabrous, olive green; *midrib* prominent, raised when dry, yellowish, marginal nerves thickened and pale red but turning yellowish with age; lateral nerves openly anastomosing, evident on large phyllodes but less so on smaller ones, diverging at an angle of c. 60° from the midrib but the lowermost one on the adaxial side of the midrib often diverging at c. 30°; *apex* obtuse, with a distinct yet minute, deflexed, subulate, coarsely pungent, apical mucro c. 1 mm long. *Gland* prominent, situated on the adaxial margin of the phyllode 2-4 mm above the base, circular or oblong, 1-1.9 mm long, lip surrounding a prominent but shallow orifice. *Inflorescences* simple, axillary, 1(2) per node, very rarely interspersed with 1-2-headed racemes having axes 1-3 mm long. *Peduncles* (12)17-25(27) mm long, glabrous, often light red when young but turning yellow with age, slightly dilated into a sub-capitate receptacle; basal peduncular bracts absent. *Heads* globular, cream to pale yellow, 6-9-flowered, flowers not densely arranged. *Bracteoles* somewhat deciduous, ovate, concave, c. 1 mm long, sessile, glabrous, light brown. *Flowers* 4-merous, glabrous, stamens and ovaries situated on a swollen hemispherical torus; flower buds obtuse, obtusely quadrangular. *Calyx* 1/4-1/3 the length of the corolla, gamosepalous, \pm truncate to very shallowly divided into rounded or broadly triangular lobes separated by wide sinuses, the lobes not thickened; calyx tube nerveless and broad-based. *Petals* elliptic, acute, c. 4 mm long, 2 mm wide, free to base at anthesis, thickened towards the apex, very obscurely 1-nerved. *Ovary* 1 (very rarely 2) per flower, glabrous, slightly deflexed at apex of a gynophore c. 1 mm long. *Stamens* very numerous. *Pods* narrowly oblong, to 6 cm long and 6-8 mm wide, with up to 9 seeds, crustaceous to sub-woody, wholly or partially spirally twisted once or twice, glabrous, dark reddish brown, not reticulate, very slightly raised over the seeds, insignificantly constricted between the seeds, apex abruptly acute and \pm uncinat, basal stipe to 3 mm long; margins not undulate, thickened. *Seeds* longitudinal in the pod, in distinct depressions separated by transverse partitions, ellipsoid but truncate along edge adjacent to aril, c. 4 mm long, 2.5-3 mm wide, slightly compressed (c. 2 mm thick), glossy, brown; pleurogram obscure, narrowed and open towards the hilum; areole c. 2.5 x 1.5 mm; funicle c. 1 mm long, filiform and yellowish but flattened, dark brown and dilated at attachment to pod, this flattened portion often remaining attached at pod valve following dehiscence, distally expanded into a small yellowish aril which is dark brownish near the hilum.

Selected specimens examined. WESTERN AUSTRALIA: Ravensthorpe Range, behind Elverdtion mine on lower track to Kundip, 1 December 1981, E.M. Bennett s.n. (PERTH 00150274); 11 km ESE of Ravensthorpe, 0.5 km E of Mount Desmond, M.D. Crisp 4954 (CBG, PERTH); Marra crossing over Pallinup River on Highway No. 1, October 1971, Superintendent Daniels s.n. (PERTH 00150649); Jerdacuttup River, C.A. Gardner 13755 (PERTH); E side of Mount Desmond, c. 7 miles [11.2 km] ESE of Ravensthorpe, A.S. George 3659 (NSW, PERTH); Mount Desmond, 10 km S of Ravensthorpe, B.R. Maslin 4050 (PERTH); Kundip, K. Newbey 2494 (K, PERTH); Ravensthorpe Range, 7 km NE of Ravensthorpe, K.R. Newbey 11799 (PERTH).

Distribution. Southwest Western Australia in the Eyre Botanical District (1:250,000 maps I50-I2; I51-5). Most common in the Ravensthorpe Range from Mount Desmond south to Kundip also with a collection 7 km northeast of Ravensthorpe (c. 12 km northwest of Mount Desmond). A single collection has been made from the Jerdacuttup River (c. 10 km east of Ravensthorpe Range) and also

from the Pallinup River (c. 150 km due southwest of Ravensthorpe Range). The provenance of this last collection needs confirmation.

Habitat. Moderately exposed ridges or hillsides or occasionally near creeks in rocky or lateritic clay or sandy clay in open mallee scrub or low woodland.

Flowering and fruiting periods. Flowers from October to April at which time developing pods are sometimes present. It is not known whether there are one or two flowering flushes within this period. Mature pods have been collected in November and December.

Characteristic features. The species is recognized by its prominently ribbed, terete branchlets (the ribs remaining as obvious reddish brown striae on the old stems), prominent, persistent, indurate stipules, large, cream heads on long axillary peduncles, twisted pods with non-undulate margins and its funicle which is dilated at the point of attachment to the pod.

Affinities. Resembling *A. heterochroa* subsp. *heterochroa* with which it is sympatric in the Ravensthorpe Range. The distinguishing features of these two species are given below under subsp. *heterochroa*.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three - Poorly Known Taxa. See end of this issue.

Etymology. The epithet is derived from the Latin *durabilis* - lasting or enduring, and refers to the persistent stipules which are prominent on the plant, especially where phyllodes have shed.

4. *Acacia heterochroa* Maslin, *sp. nov.*

Frutices glabri, 0.5-1.5(2) m alti. Cortex pallide griseus. Surculi juveniles pallide rubri. Ramuli teretes. Phyllodia 10-35 mm longa, (8)10-25(29) mm lata, \pm undulata, 1-nervia, \pm pungentia; glans obsoleta. Inflorescentiae simplices vel racemosae. Pedunculi 5-25 mm longi, basi ebracteati. Florum capitula globularia, citrina, 5-12-flora. Flos 4-merus; alabastra magna. Calyx 1/5-1/4 corollae longitudinis attingens, gamosepalus, \pm truncatus. Petala 5 mm longa. Ovarium singulum, glabrum. Legumina linearia, ad 6.5 cm longa, 3-4 mm lata, erecta, margine manifeste undulata. Semina (subsp. *heterochroa*) in legumine longitudinalia, obloidea, 3.5-4 mm longa, 1.8-2.2 mm lata, nitida, pallide brunnea.

Typus: northern end of Ravensthorpe Range SE of Mount Short, Western Australia, 30 August 1980, B.R. Maslin 4766 (holo: PERTH 00196150; iso: CANB, K, PERTH 00196169).

Shrubs 0.5-1.5(2) m tall, spindly and open or sometimes dense. *Bark* light grey, slightly roughened. *Branchlets* glabrous, normally \pm lightly pruinose, terete, ribbed, the ribs most evident immediately below insertion of the phyllodes. *New shoots* light red, frequently present at anthesis. *Stipules* early caducous, present only on youngest new shoots. *Phyllodes* elliptic with some tending obovate or ovate, sometimes broadly elliptic or almost circular (subsp. *heterochroa*), or inaequilaterally obtriangular to obdelatate (subsp. *robertii*), 10-35 mm long, (8)10-25(29) mm wide, length to width ratio (1)1.2-1.8, \pm coriaceous, \pm undulate (especially when dry), glabrous, grey-green to sub-glaucous; *midrib* prominent, yellow, frequently intersecting the adaxial margin and contiguous with it for about up to 3 mm below the apex, marginal nerves prominent and yellow (red when young), lateral nerves

seemingly absent or few and very obscure (more apparent on large phyllodes); apical point subulate, \pm pungent, 1-3 mm long, straight or slightly curved, brown; pulvinar area c. 0.5 mm long, yellowish, a clearly differentiated and wrinkled pulvinus not developed. *Gland* insignificant, situated on the upper margin of the phyllode 0-10 mm above the base, not raised, oblong, 0.2-0.3(0.4)mm long, 0.1-0.2(0.3) mm wide. *Inflorescences* simple or racemose. *Racemes* 5-35 mm long and 2-8-headed. *Peduncles* 5-25 mm long, 1(2) per node, glabrous, reddish when young, finely longitudinally sulcate when dry; basal peduncular bracts absent at anthesis. *Heads* globular, bright lemon yellow, 7-10 mm diam., 5-12-flowered, flowers not densely arranged. *Bracteoles* \pm persistent, oblong to ovate, shallowly concave, c. 1 mm long, dark brown. *Flowers* 4-merous, glabrous; buds ovoid to narrowly ovoid, obtuse, reddish when young. *Calyx* 1/5-1/4 the length of the corolla, gamosepalous, \pm truncate to very shallowly divided into rounded or broadly triangular lobes separated by wide sinuses, the lobes not thickened; calyx tube nerveless and broad-based. *Petals* narrowly ovate, acuminate, apex thickened, c. 5 mm long and 2 mm wide, free to base and spreading but not reflexed at anthesis. *Ovary* 1 per flower, glabrous, slightly deflexed at apex of a thick, terete gynophore which is c. 0.6 mm long. *Pods* linear, to 6.5 cm long, 3-4 mm wide with 7-8 seeds, erect, coriaceous-crustaceous to sub-woody, curved, glabrous, purplish red and slightly pruinose when young (drying black), not reticulate, apex shortly and abruptly uncinately, neither constricted between nor obviously raised over seeds, dehiscing at first along the dorsal suture but the valves completely separating by splitting from the base; margins prominently undulate and sometimes thus giving the pod a twisted appearance, thickened, yellowish to light brown. *Seeds* (subsp. *heterochroa*) longitudinal in the pod, oblongoid, 3.5-4 mm long, 1.8-2.2 mm wide, somewhat compressed (1.3 mm thick), glossy, brown, greyish brown just prior to maturity, with a very obscure, dark brown peripheral line; pleurogram very obscure, narrowed and open towards the hilum; areole c. 2.5 mm long and 1 mm wide; funicle minute and filiform, abruptly expanded into a thick, curved, yellowish aril 2 mm long.

Distribution. Occurs in the Ravensthorpe and Holt Rock districts, southwest Western Australia.

Two allopatric subspecies are recognized (see key above).

4a. *A. heterochroa* Maslin subsp. *heterochroa*

Phyllodes elliptic with some tending obovate or ovate, sometimes broadly elliptic or almost circular, apical point \pm pungent, 15-35 mm long, 10-25 mm wide. *Inflorescences* mostly simple and initiated on developing new shoots within axils of diminutive phyllodes, the subtending phyllodes commonly not fully expanded by anthesis, sometimes interspersed with a few short axillary racemes (5-17 mm long and 2-7-headed), occasionally falsely racemose at ends of branchlets apparently due to suppression of the subtending phyllodes. *Peduncles* 10-25 mm long, normally single in axils of reduced phyllodes at ends of branchlets, sometimes a few in short racemes 5-17 mm long; heads 8-12-flowered.

Selected specimens examined. WESTERN AUSTRALIA: 40 km due N of Ravensthorpe, *K.L. Bradby* 90 (PERTH); 21.25 km S of Coujinup Hill, *M.A. Burgman* and *S. McNee* MAB 2009 (PERTH); Ravensthorpe, *J. Goodwin* 231 (PERTH); Mount Desmond, c. 11 km S of Ravensthorpe, *B.R. Maslin* 2568 (K, PERTH); 0.5 miles [0.8 km] E of Elverdton Mine, *K.R. Newbey* 938 (K, PERTH); road to Mount Short, east of Lake King - Ravensthorpe road, *R.A. Saffrey* 375 (AD, BRI, MEL, NY, PERTH); 4 km SE of Ravensthorpe on hill 1 km E of main road to Hopetoun, *P.G. Wilson* 5519 (NSW, PERTH); Ravensthorpe Range, c. 8 km N of Ravensthorpe, *P.G. Wilson* 7975 (CBG, MO, PERTH).

Distribution. Southwest Western Australia in the Eyre Botanical District (1:250,000 maps I50-8, I51-5). Occurring predominantly in the Ravensthorpe Range from Mount Short southeast to the vicinity

of Elverdton Mine (c. 15 km southeast of Ravensthorpe) with two occurrences outside the Range, one about 20-30 km east of Ravensthorpe in the vicinity of the Rabbit Proof Fence north of Highway No. 1 (c. 33° 30'S, 120° 15'E) and another approximately 40 km north of Ravensthorpe (33° 07'S, 120° 05'E). Much of the land between the Range and the Fence has been cleared and it is likely that the species could have occurred in parts of this area prior to clearing (J. Lewis, pers. comm.). The species is common throughout its present range.

Habitat. The following notes are taken mostly from an unpublished report prepared by J. Lewis in 1982. The species is not highly specific for a particular vegetation and soil type. It occurs in tall dense to low open mallee scrub (e.g. *Eucalyptus conglobata*, *E. eremophila*, *E. falcata*, *E. goniantha*, *E. incrassata*, *E. platypus*, *E. tetragona*, and *E. transcontinentalis*) with a dense sclerophyllous understorey comprising species such as *Banksia laevigata*, *Allocasuarina humilis*, *Daviesia uniflora*, *Dryandra conferta* and *Grevillea concinna*. The preferred soil types range from grey-white to orange-brown gravelly sand to rocky laterite and ironstone on ridgelines or moderately exposed gentle slopes of hillsides.

Flowering and fruiting periods. Flower buds have been recorded from April to December and are probably present for most of the year. The main flowering flush is from July to December during which time new shoots and developing pods are frequently present, the latter particularly from August to October. Mature pods have been collected in December.

Affinities. Resembling *A. durabilis* with which it is often sympatric in the Ravensthorpe Range but *A. durabilis* is recognized by its more prominently ribbed branchlets, prominent, persistent stipules, phyllodes with a prominent basal gland and a shorter, deflexed, less pungent tip, cream to pale yellow heads, ± spirally twisted pods which do not have undulate margins and seeds with funicles that are dilated at the point of attachment to the pod.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three - Poorly Known Taxa. See end of this issue.

Etymology. The epithet is derived from the Greek *hetero* - different, and *-chrous* - coloured, and refers to the contrasting colours of the stems, phyllodes, new shoots, heads and young pods.

4b. *A. heterochroa* subsp. *robertii* Maslin, subsp. nov.

A subsp. *heterochroa* phyllodiis inaequilateraliter obtriangularibus ad obdeltatis, margine adaxiale supra medium cum conspicuo angulo rotundato et puncto acute pungente, 10-25 mm longis et 10-15 mm latis, 0.8-1.5-plo longioribus quam latioribus, inflorescentiis praecipue racemosis sed interdum aliquot simplicibus capitulis in axillis, racemis 10-35 mm longis, 2-8 capitulis et plerumque aggregatis ramulorum versus apicem, pedunculo 5-10 mm longo, capitulis 5-6-floribus, seminibus maturis non visus differt

Typus: Digger Rock area, Western Australia, 24 July 1979, R.F. Maslin s.n. (holo: PERTH 00160830).

Differs from subsp *heterochroa* primarily in the following ways. Phyllodes inaequilaterally obtriangular to obdeltate, adaxial margin with a conspicuous rounded angle above the middle, apical point sharply pungent, 10-25 mm long, 10-15 mm wide, length to width ratio 0.8-1.5. Inflorescences predominantly racemose but sometimes interspersed with a few simple axillary heads, the racemes

10-35 mm long, 2-8-headed and mostly aggregated towards the ends of the branchlets; peduncles 5-10 mm long. Heads 5-6-flowered. Mature seed *n.v.*

Other specimens examined. WESTERN AUSTRALIA: Timber Reserve n. 20342, 32° 39'S, 119° 14'E, K.J. Atkins 1820 (CANB, K, PERTH); Varley, 8 km E of Rabbit Proof Fence on Carstairs Road, B. & B. Backhouse H/30 (PERTH) and M. Pieroni 90/2 (PERTH); Holt Rock, A. Dirusse 2 (PERTH); South Ironcap, K.R. Newbey 3356 (PERTH).

Distribution. Southwest Western Australia in the Roe Botanical District (1:250,000 map I50-4). Known only from the few localities listed above in the Holt Rock district, some 100 km north of the typical subspecies.

Habitat. Grows mostly on lateritic gravel occasionally with sand, or in rocky loam, appearing to favour hilltops or ridges in woodland or heath.

Flowering and fruiting periods. Flowering specimens recorded for July and September. Mature sterile pods have been collected in December.

Discussion. The superficial differences, particularly phyllode shape, between subsp. *robertii* and the typical subspecies seem quite large. However, in the absence of having seen pods of subsp. *robertii* it seems best that it not be afforded species rank at the present time.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two - Poorly Known Taxa. See end of this issue.

Etymology. Named in honour of Robert Frederick Maslin, my brother, who discovered the subspecies and collected the type.

5. *Acacia myrtifolia* (Smith) Willd., Sp. Pl. 4th edn, 4: 1054 (1806)

Mimosa myrtifolia Smith, Trans. Linn. Soc. London 1: 252 (1791); *Phyllodoce myrtifolia* (Smith) Link, Handbuch 2: 133 (1831); *Cuparilla myrtifolia* (Smith) Raf., Sylva Tellur. 120 (1838). *Typus:* cultivated at Sion Gardens, seed from New South Wales, flowered 1790, T. Hoy (*n.v.*). Note: A specimen at Kew, ex herb. Bishop Goodenough, labelled "Mimosa myrtifolia. Botany Bay - 1794" was cited as isotype by Pedley (1980: 258), however, this was seemingly collected three years after the publication of the name.

A. marginata R. Br. in W.T. Aiton, Hortus Kew. 2nd edn, 5: 462 (1813); *Mimosa marginata* (R. Br.) Poirlet, Encycl. Meth. (Bot.) Suppl. 5: 530 (1817), *nom. inval.* (combination not actually made); *A. myrtifolia* f. *angustifolia* Benth., Fl. Austral. 2: 377 (1864); *A. myrtifolia* var. *angustifolia* (Benth.) Benth., Trans. Linn. Soc. London 30: 475 (1875). Lectotype (*vide* Maslin & Cowan,): "Mimosa." King George III Sound [Albany, Western Australia], Dec. 1801, R. Brown (BM - upper left hand fruiting specimen on sheet titled "Iter Australiense, 1802-5" and bearing [Britten no.] 4336).

A. trigona A.DC., Huitieme Not. Pl. Rar. Geneve 20 (1840); Mem. Soc. Phys. Geneve 9: 94 (1841). *Typus:* "Culta in hortis Genevensibus. Floret Maio." (*n.v.*). Note: The following specimen at G, collected one year after the original publication of this name, and annotated "trigona" by A.P. de Candolle, was likely to have come from the type plant "Acacia trigona Alph. DC.! h. genev. notii. Cult. Genev. 1841".

A. marginata var. *angustata* Meissner in J.G.C. Lehmann, Pl. Preiss. 1: 14 (1844). Lectotype (*vide* Maslin & Cowan, 1994): Mount Clarence [Albany], Western Australia, 30 September 1840, L. Preiss 927, *ex parte* (LD; isolecto: A, C, FI, G, GOET, HBG, K, M, MEL, NY, P, STR, W.)

A. pawlikowskyana Ohlend., Neue Allg. Deutsche Garten-Blumenzeitung 1: 369 (1845), *synon. nov.* *Typus*: between Cape Riche and Bald Head [Albany], Western Australia, collector not given (*n.v.*). See discussion below.

A. myrtifolia var. *major* Meissner in J.G.C. Lehmann, Pl. Preiss. 2: 203 (1848), *synon. nov.* *Typus*: Cape Riche, Western Australia, L. Preiss 2641 (*n.v.*). See discussion below.

A. marginata var. *brevifolia* Regel, Gartenflora 2: 196, t. 57 (1853), *synon. nov.* *Typus*: Cultivated in Hort. A.N. Baumann, Bollwiller, flowers in March-April (*n.v.*).

A. myrtifolia f. *normalis* Benth., Fl. Austral. 2: 377 (1864), *nom. inval.*

A. acutifolia Maiden & Blakely, J. Roy. Soc. W. Australia 13: 14, pl. 11, figs 1-4 (1928), *synon. nov.* *Typus*: Bruce Rock-Merredin district, Western Australia, December 1916, F. Stoward 14 [locality and other collecting details probably erroneous, see discussion below] (holo: NSW; iso: MEL - Fragment ex NSW).

[*A. amoena* *auct. non* H.L. Wendl.: F.M. Bailey, Queensland Fl. 2: 489 (1900), *vide* L. Pedley, Austrobaileya 1: 258 (1980)]

Illustrations: J.E. Smith, Spec. Bot. New Holland 53, t. 15 (1795); J.H. Maiden & W.F. Blakely, *loc. cit.*, as *A. acutifolia*; E.R. Rotherham *et al.*, Fl. Pl. New South Wales and S. Queensland 71 (1975); D.J.E. Whibley, Acac. S. Australia 121 (1980); L. Costermans Native Trees Shrubs S.E. Australia 314 (1981); B.A. Lebler, Wildfl. S.E. Queensland 2: 58 (1981); M. Simmons, Acac. Australia 1: 131, pl. 12 (1981); T. Tame, Acac. S.E. Australia 143, fig. 154, pl. 154 (1992).

Glabrous, bushy *shrubs* 0.5-3 m tall. *New shoots* often red. *Branchlets* angled, prominently ribbed, normally red. *Stipules* early caducous. *Phyllodes* \pm oblique, commonly narrowly elliptic to oblanceolate, sometimes linear to linear-elliptic, acute or obtuse-mucronate, sometimes coarsely pungent, normally 2-13 cm long, 0.4-3(3.5) cm wide, usually thick and coriaceous, smooth, erect, green, midrib and marginal nerves prominent, lateral nerves absent or obscure. *Gland* prominent, mostly 5-20 mm above pulvinus. *Racemes* 1-6 cm long, rarely to 12 cm, 3-20-headed; *peduncles* 3-12 mm long, stout; heads \pm globular, creamy yellow, less commonly bright lemon yellow, 2-5-flowered, sometimes to 8-flowered. *Flowers* 4-merous, large; calyx gamosepalous, truncate to very shallowly sinuately lobed; ovary tomentulose. *Pods* linear, to 9 cm long, 3-5 mm wide, crustaceous to sub-woody, erect, curved, marginal nerve thick and undulate. *Seeds* longitudinal, narrowly oblong, 3.5-4.5 mm long, shiny, brown or greyish brown, aril terminal.

Selected specimens examined. WESTERN AUSTRALIA: 9 miles [14.4 km] NW of Fitzgerald River Mouth, NE of Bremer Bay, K.M. Allan 315 (B, K, PERTH); Shannon Rock, 1 km W of Shannon River, Manjimup-Walpole road, B.G. Briggs 6535 (CANB, NSW, PERTH); 2 km east of Yallingup, R.J. Cumming 891 (PERTH); Margaret River, C.A. Gardner 5595 (PERTH); 43 miles [68.8 km] east of Esperance, J. Goodwin 249 (PERTH); 5 km west of Cape Riche, G.J. Keighery 8337 (PERTH); 25 km S of Hyden on the road to Newdegate, B.R. Maslin 5776 (BRI, CBG, NSW, PERTH); 5 miles [8

km] SE of Boyup Brook on the road to Cranbrook, *B.R. Maslin* 636 (MEL, NSW, PERTH); Bending Reserve, c. 18 km due ENE of Bending Siding, *B.R. Maslin* 5765 (CANB, K, MEL, NY, PERTH); 10 km SW of Ongerup, *K. Newbey* 9494 (PERTH); on road between Gairdner River and Bremer Bay Road, *S. Paust* 592 (PERTH); near Spencer's house [Strawberry Hill Farm, Albany], *L. Preiss* 920 (G, LD, MO, NY, P, STRAS); creek behind S end of Mylies Beach, near East Mount Barren, *A.N. Rodd* 5085 and *J. McCarthy* (NSW, PERTH); Warren, *F.M.C. Schock* 58 (PERTH); N and E of Brockmans stockyards, Warren district, 18 October 1916, *F.M. Schock s.n.* (PERTH 00191949); Torbay Inlet, adjacent to Mutton Bird Island, *P.S. Short* 2630, with *M. Amerena* and *B.A. Fuhrer* (MEL, PERTH); eastern base of Flinders Peak, Middle Island, *A.S. Weston* 8881 (PERTH).

SOUTH AUSTRALIA: Willunga, c. 50 km south of Adelaide, Mine road to Victor Harbour, c. 5 km S of Willunga, *J.Z. Weber* 560 (AD, PERTH); Manning Reserve near MacLaren Flat, *D.J.E. Whibley* 1331 (AD); Menglers Hill, near Tanunda, c. 60 km northeast of Adelaide, *D.J.E. Whibley* 3806 (AD, PERTH).

QUEENSLAND: Mount Ernest, McPherson Range, *P.I. Forster* and *G. Leiper*, *L.H. Bird* (BRI, CBG, K, NSW, PERTH); Kroombit Tops, c. 65 km SSW of Gladstone, *W.J.F. McDonald* 1014 (BRI). NEW SOUTH WALES: Bahai Temple, Ingleside, *R. Coveny* 11084 and *P. Hind* (NSW, PERTH); Blue Mountains, 0.3 km S along track which intersects Bells Line of Road, 4.6 km E of Bilpin, *B.R. Maslin* 5878 (NSW, PERTH); Belmont North, *T. Tame* 2039 (PERTH).

VICTORIA: Western Little Desert National Park, *A.C. Beaglehole* ACB 87701 and *L.W. Heubner* (MEL, PERTH); East Gippsland, Genoa Peak, *S. Forbes* 2911 (MEL, PERTH); Melbourne suburban area, Croyden, reserve between Exeter Road and Holloway Road, west of Neuparth Road, *B.R. Maslin* 5864 (AD, K, MEL); Dandenongs, Menzies Creek area, *J.H. Ross* 2791 (AD, BRI, CBG, HO, MEL, PERTH).

TASMANIA: Clarkes Island, Furneaux Group, *J.S. Whinray* 1692 (MEL).

Distribution. Widespread and common in temperate southern Australia, occurring in all states. Grows on sand or sand over laterite or granite, in forest, woodland, scrub or heath, often in coastal and near-coastal areas.

Flowering and fruiting periods. Flower buds have been recorded from May to November however the main flush of flowering is from August to October. Developing pods are present from September and reach maturation in November and December.

Variation. In Western Australia this is a somewhat variable species and is here broadly circumscribed because detailed analyses of variation patterns are needed to ascertain appropriate ranks for the variants noted below. Specimens from forest regions at the western end of the range (roughly west of Albany; also some specimens from Kangaroo Island, South Australia) have long, linear to very narrowly elliptic phyllodes with length to width ratio mostly >10 (elsewhere length to width ratio is <10). This variant has been described as *A. marginata*, *A. myrtifolia* var. *angustifolia* and *A. acutifolia* (see below). A specimen with especially large phyllodes (to 13 x 3.5 cm), collected from Cape Riche (i.e. *K. Newbey* 4466, PERTH), presumably corresponds to the entity described as *A. myrtifolia* var. *major* (however, the type of this name has not been seen). The most inland specimens in Western Australia have bright lemon yellow heads (e.g. *B.R. Maslin* 5765) but elsewhere in Western Australia the heads are creamy yellow; in eastern Australia the heads are also sometimes bright lemon yellow.

Typification and synonymy. Although the type of *A. myrtifolia* might be expected to be at The Herbarium of the Linnean Society in London (LINN; *vide* Stafleu and Cowan 1985) I was unable to locate it there in 1975. According to Stafleu and Cowan there is material from Smith's herbarium at

a number of other herbaria. Of those listed by them I have searched at BM, DBN, OXF and P without success; I have refrained from neotypifying the name without having searched the remaining herbaria.

The type of *A. pawlikowskyana* has not been seen, however, given that it was collected from between Cape Riche and Albany it is more likely that this name is synonymous with *A. myrtifolia* than with *A. celastrifolia* as was given by Seemann (1852: 28). On the same page of this work Seeman also included "A. Ludwigi Ohlendorf. Verz. 1844. p. 74." as a synonym of *A. celastrifolia*. However, I have not seen the Ohlendorf reference or type and am therefore following Seeman in treating this name as a synonym of *A. celastrifolia*.

Although the type of *A. marginata* var. *brevifolia* has not been seen, the protologue contains a good illustration enabling the identification of Regel's plant. It represents the common form of *A. myrtifolia* which occurs in eastern Australia and extends westward to near Albany in Western Australia.

Acacia acutifolia was described by Maiden & Blakely based on material supposedly collected by F. Stoward in 1916 from the Bruce Rock-Merredin district. However, nothing resembling the type has ever been located in that area despite a number of extensive surveys of the region by the author and others (the area is now extensively cleared for agriculture). Nevertheless there are two PERTH specimens which are excellent matches for the type of *A. acutifolia*. These were collected in 1916 by F.M.C. Schock from the Warren district which is a region about 400 km southwest of Bruce Rock and centred around Manjimup and Pemberton (well within the range of *A. myrtifolia*). As it is very unlikely that an *Acacia* species would have a natural distribution extending from the semi-arid, shrubland/woodland Bruce Rock-Merredin district to the mesic, densely forested Warren district, it seems that the locality (and probably also the other collecting details) given on the type of *A. acutifolia* are erroneous. Whether or not the material that Maiden & Blakely used in their description of *A. acutifolia* was indeed collected by Schock from the Warren district cannot be ascertained with certainty at the present time. The Schock specimens and the type of *A. acutifolia* all represent the long phyllode variant of *A. myrtifolia* from west of Albany.

Affinities. *Acacia myrtifolia* appears to be most closely related to *A. celastrifolia*, *A. clydonophora* and *A. heterochroa*. The most significant characters separating these species from the other members of the "Acacia myrtifolia Group" are their early caducous stipules and their long, linear pods with characteristically undulate margins.

Cultivation. *Acacia myrtifolia* is a fast growing and attractive ornamental and was one of the earliest Australian plants brought into cultivation in Europe.

Common names. Myrtle Wattle, Red Stem Wattle.

Conservation status. Widespread, not under threat.

6. *Acacia pygmaea* Maslin, *sp. nov.*

Suffrutex nanus 0.3-0.5(0.7) m altus. Ramuli teretes, costati. Stipulae c. 0.5 mm longae. Phyllodia elliptica usque obovata, 20-30 mm longa, 9-13 mm lata, glabra, 1-nervia, nervus secundus minus distinctus, nervi laterales obscuri; glans non prominens. Inflorescentiae simplices, axillares. Pedunculi 4-7 mm longi, glabri. Florum capitula globularia, alba, 3-4-flora. Flores 4-meri, glabri. Calyx 1/5 corollae longitudinis attingens, gamosepalus, truncatus. Petala enervia. Gynandrophorum 0.5 mm

longum, capitatum. Gynoecium 1(2) per florem, deflexum. Legumina anguste oblonga, ad 30 mm longa, 3-4 mm lata, glabra, margine incrassata, non undulata. Semina in legumine longitudinalia, obloidea, 4-5 mm longa, 2.5-2.8 mm lata, atrobrunnea.

Typus: Wongan Hills area, 200 km northeast of Perth [precise locality withheld for conservation reasons], Western Australia, 27 October 1980, *K.F. Kenneally* 7496 (holo: PERTH 00197602; iso: CANB, K).

Dwarf, erect single-stemmed *sub-shrubs* 0.3-0.5(0.7) m tall. *Bark* grey at base of stems, light brown at ends of branchlets. *Branchlets* prominently ribbed, ribs yellow, glabrous. *Stipules* shallowly triangular, c. 0.5 mm long, dark brown. *Phyllodes* elliptic to obovate, slightly asymmetric, 20-30 mm long, 9-13 mm wide, length to width ratio 2.1-2.5, not significantly undulate, thin, erect, crowded towards ends of branchlets, shed with age, glabrous, green; *midrib* prominent on each face, often slightly eccentric, normally a minor second longitudinal nerve arising from the adaxial side of the midrib near the pulvinus and extending for about 1/2 the length of the phyllode; marginal nerves yellow (pale red when young); lateral nerves few and obscure; apex obtuse, minutely apiculate; pulvinus c. 0.5 mm long, yellow, not rugose. *Gland* not prominent, situated on upper margin of phyllode 4-7 mm above the base, elliptic, 0.3-0.5 mm long, 0.2-0.3 mm wide. *Inflorescences* simple, axillary, 1(2) per node. *Peduncles* 4-7 mm long, glabrous; basal peduncular bracts absent. *Heads* globular, filaments white but turning orange with age, 3-4-flowered. *Bracteoles* persistent, sessile, ovate, concave, c. 0.6 mm long, yellowish but turning brown with age. *Flowers* 4-merous, glabrous; mature buds large, 3.5 x 1.5 mm, ovoid-ellipsoid, bluntly acute, \pm 4-angled. *Calyx* 1/5 the length of the corolla, gamosepalous, truncate to very shallowly divided into broadly triangular lobes separated by wide sinuses, the lobes not thickened; calyx tube nerveless and broad-based. *Petals* elliptic, 3.3-3.5 mm long, 1.8-2 mm wide, free to base at anthesis, greenish. *Gynandrophore* 0.5 mm long, capitate. *Ovary* 1 (very rarely 2) per flower, prominently deflexed on a terete gynophore 0.5-1 mm long. *Pods* narrowly oblong, acute, to 30 mm long, 3-4 mm wide, (1)2-4-seeded, retrorse by a strongly recurved stipe, crustaceous, light reddish brown, glabrous, normally not constricted between seeds, very slightly raised over the seeds, dehiscing at first along the dorsal suture with the seeds remaining attached for some time, valves recurved following their complete separation; margins not undulate, marginal nerves prominently thickened. *Seeds* longitudinal in the pod, oblongoid to ellipsoid but narrowed towards the hilum, 4-5 mm long, 2.5-2.8 mm wide, turgid (2 mm thick), shiny, dark brown except for the areolar area which is grey-brown, with a very shallowly concave peripheral band; pleurogram fine, open towards the hilum, often bordered by a narrow band of yellow tissue; areole c. 3 mm long, 1 mm wide; funicle filiform, c. 1 mm long, expanded into a normally once folded, yellowish aril which is brown near the hilum.

Other specimens examined. WESTERN AUSTRALIA: all from the one population at the type locality, *K.F. Kenneally* 5891 (BRI, MEL, NSW, NY, PERTH) and 7194 (PERTH); *B.R. Maslin* 4804, 4550 and 4550A (all PERTH).

Distribution. Southwest Western Australia in the Avon Botanical District (1:250,000 map H50-10). Known only from the type locality where less than 50 plants are known to occur.

Habitat. The species is confined to three adjacent ridges composed of massive laterite; it does not extend down the lateritic scree slopes. It grows in association with *Eucalyptus ebbanoensis*, *Dryandra comosa*, *D. hewardiana*, *D. pulchella*, *Allocasuarina campestris* and *Persoonia divergens*.

Flowering and fruiting periods. Flowering from about November to March. Pods take nearly a year to mature. Seed has been collected in late October at which time mature buds were present.

Affinities. The new species is perhaps most closely allied to *A. disticha* (see above). It appears also related to *A. obovata* Benth. which is also a dwarf sub-shrub with phyllodes similar to those of *A. pygmaea* in shape and size; furthermore, both species have pale-coloured, 4-merous flowers, reduced calyces and pods which dehisce by first splitting along their dorsal suture. However, besides being more widespread and occurring further west (i.e. Jurien Bay area south to Augusta), *A. obovata* is distinguished from *A. pygmaea* by its multi-stemmed growth habit, narrowly triangular stipules which are 1.5-4 mm long, frequently hairy branchlets and phyllodes, undulate phyllodes with conspicuous lateral veins and a raised marginal gland, heads (5)7-9-flowered, extremely reduced racemose inflorescences and its pods which reach 110 mm long and 5-6 mm wide.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority R - Declared Rare Flora - Extant Taxa. See end of this issue.

Etymology. The name is derived from the Latin *pygmaeus* - dwarf, and refers to the diminutive height of this species.

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