

***Acacia* miscellany 16. The taxonomy of fifty-five species of *Acacia*,
primarily Western Australian, in section *Phyllodineae*
(Leguminosae: Mimosoideae)**

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Abstract

Maslin, B.R. *Acacia* miscellany 16. The taxonomy of fifty-five species of *Acacia*, primarily Western Australian, in section *Phyllodineae* (Leguminosae: Mimosoideae). *Nuytsia* 12(3): 311–411 (1999). The paper describes 43 new species, 14 new subspecies and two new varieties of *Acacia* Mill. in sect. *Phyllodineae* DC., and discusses their affinities. New names are proposed for two taxa previously recognized at varietal rank. Lectotypes are selected for *A. acanthoclada* F. Muell., *A. ataxiphylla* Benth., *A. auronitens* Lindley, *A. gonophylla* var. *crassifolia* Benth., and *A. iteaphylla* var. *latifolia* F. Muell. (here placed in synonymy under *A. halliana* Maslin).

The following new taxa are described: *A. acanthaster* Maslin, *A. acanthoclada* subsp. *glaucescens*, *A. acoma*, *A. aculeiformis*, *A. adinophylla*, *A. aristulata*, *A. asepala*, *A. ataxiphylla* subsp. *magna*, *A. barbinervis* subsp. *borealis*, *A. blaxellii*, *A. bracteolata*, *A. carnosula*, *A. castanostegia*, *A. concolorans*, *A. congesta* subsp. *wonganensis*, *A. cuneifolia*, *A. deficiens*, *A. diminuta*, *A. ericksoniae*, *A. errabunda*, *A. euthyphylla*, *A. evenulosa*, *A. glaucissima*, *A. graniticola*, *A. hystrix* including subsp. *continua*, *A. imitans*, *A. imparilis*, *A. improcera*, *A. insolita* subsp. *efoliolata*, *A. insolita* subsp. *recurva*, *A. lanceolata*, *A. laricina* var. *crassifolia*, *A. leptalea*, *A. lullfitziorum*, *A. mutabilis* including subsp. *angustifolia*, subsp. *incurva*, subsp. *rhynchophylla* and subsp. *stipulifera*, *A. nigripilosa* subsp. *latifolia*, *A. plautella*, *A. profusa*, *A. puncticulata*, *A. pusilla*, *A. quinquenervia*, *A. rhamphophylla*, *A. rigida*, *A. rostellata*, *A. sabulosa*, *A. scalena*, *A. sedifolia* subsp. *pulvinata*, *A. sphacelata* subsp. *recurva* and subsp. *verticillata*, *A. sphenophylla*, *A. tetraptera*, *A. truculenta*, *A. tuberculata*, and *A. xerophila* var. *brevior*. *Acacia pachyphylla* is described, based on *A. gonophylla* var. *crassifolia* Benth. The new combination *A. congesta* subsp. *cliftoniana* is made, based on *A. cliftoniana* W. Fitzg.

Introduction

This paper continues the series of 'Acacia miscellany' to validate new taxa and record lectotypifications in advance of their inclusion in "Flora of Australia" (Maslin in press). All of the taxa included here are referable to section *Phyllodineae* DC. of *Acacia* Mill. (Leguminosae: Mimosoideae). A number of the new names appear in Grieve (1998).

Methods

Most measurements are from dried herbarium specimens which are also the prime source of data on habitat, distribution, phenology, bark morphology and flower colour. Head diameter is measured, as indicated in the descriptions, from fresh, dried or reconstituted material; it includes the stamens. As I use the term 'pungent' it refers to a phyllode apex that is drawn-out into a hard, spine-like tip; 'sharply pungent' refers to one that readily pierces the skin when touched and 'coarsely pungent' to one that is less sharp.

My approach to typification is discussed elsewhere (Maslin & Cowan 1994b). The taxa are arranged in alphabetical order.

Taxonomy

Acacia acanthaster Maslin, *sp. nov.*

Frutex densus, intricatus, 0.2–0.5 m altus. Ramuli spinescentes, glabri vel parce strigulosi, cinereo-albicantes. Stipulae c. 0.5 mm longae, plerumque caducae. Phyllodia linearia, 3–8 mm longa, 0.5–1 mm lata, glabra vel parce strigulosa; costa obscura; glans obscura, versus medium marginis inserta. Inflorescentia simplex. Pedunculi 1 vel 2 (3) per nodum, glabri; capitula globosa, floribus 18–27. Flores 5-meri, raro 4-meri. Sepala libera, pilosa. Petala glabra vel subglabra, enervia. Legumen arcuatum ad spirale, ± moniliforme, ad 35 mm longum, 2 mm latum, glabrum. Semina in legumine longitudinalia, ellipsoidea, 2 mm longa; arillus rectus, albus.

Typus: 20 km south-east of Sinclair Soak, c. 63 km north-east of Norseman, Western Australia, 9 August 1980, K. Newbey 6986 (*holo*: PERTH 00734950; *iso*: K, PERTH 00734942).

Harsh, rigid, dense, intricate, domed *shrub* 0.2–0.5 m tall, 1–2.5 m across, commonly ± circular in plan view. *Bark* light grey. *Branchlets* dividing near tips into a few short, straight, ± patent, rigid, naked spines that are light brown and somewhat shiny when young but age grey-white; main axis of branchlet terete, not ribbed, glabrous or very sparsely antrorsely strigulose, usually scurfy-white below spines. *Stipules* triangular, c. 0.5 mm long, brittle with age, glabrous, dark brown, subsistent or caducous. *Phyllodes* linear, narrowed at base, 3–8 mm long, 0.5–1 mm wide, l:w 4–15, absent from old branches and branchlets, ascending to erect, straight to shallowly incurved but commonly slightly recurved at the abruptly rounded, excentrically rostellate *apex*, flat, glabrous or sparsely antrorsely strigulose, green, slightly shiny (fresh); *midrib* not prominent, slightly raised (dry), concolorous with lamina; *lateral nerves* absent or few and obscure; *marginal nerves* obscure; *pulvinus* terete, 0.2–0.3 mm long, yellowish. *Gland* insignificant, on upper margin near or above middle of phyllode, commonly absent, circular, c. 0.1 mm diam. *Inflorescence* simple; *peduncles* 1 or 2 (3) per node, 6–11 mm long, slender, glabrous; a new shoot sometimes initiated in axil of peduncle at anthesis; *basal bract* solitary, persistent, c. 1 mm long, ± widely ovate, concave, sessile, dark brown, glabrous but margins fimbriolate (hairs often sparse). *Heads* globular, bright mid-golden, 3–3.5 mm diam., 18–27-flowered; *bracteoles* spatulate, c. 0.8 mm long; claw linear; lamina dark brown. *Flowers* mostly 5-merous, a few 4-merous in some heads; *sepals* 2/5–1/2 length of petals, free, narrowly spatulate, sparsely to moderately hairy, brown; *petals* 1.3–1.5 mm long, glabrous or subglabrous, nerveless. *Pods* strongly arcuate to rather loosely and somewhat irregularly coiled, ± moniliform, to 35 mm long, 2 mm wide, thinly coriaceous, finely rugose over seeds, glabrous, mid-brown; marginal nerves not thickened, yellow. *Seeds*

longitudinal, ellipsoid, narrowed at hilar end, obliquely truncate adjacent to aril, 2 mm long, *c.* 1 mm wide, turgid (*c.* 1 mm thick), periphery slightly ridged, dark brown to black except centre, slightly shiny; *pleurogram* obscure, U-shaped, open at hilar end; *areole* minute, *c.* 0.2 mm long and wide, dull yellowish, the lighter-coloured tissue extending slightly beyond the *pleurogram*; *funicle* straight, filiform, 0.5–1 mm long, reflexed below and abruptly expanded into a straight, \pm clavate, white aril.

Selected specimens examined. WESTERN AUSTRALIA: Tarin Rock, opposite siding, T.E.H. Aplin 6009 (CANB, K, MEL, PERTH); 1 km W of Newdegate, 8 Oct. 1983, E.M. Bennett *s.n.* (PERTH 00146900); 9.8 miles [15.7 km] E of Dumbleyung towards Lake Grace, R. Cumming 2609 (PERTH); Woodline, *c.* 95 km ENE of Norseman, G.J. Keighery 3054 (PERTH); 45 km W of Lake King on road to Perth, F. Lullfitz 5578 (PERTH); *c.* 5 km N of Nyabing on road to Kukerin, B.R. Maslin 5841 (MEL, PERTH); 51 km due ESE of Narembeen, intersection of Anderson Rocks Rd and The Humps Rd, B.R. Maslin 6149 (PERTH); 59 km due S of Hyden, Biddy–Buniche road, 4.5 km E of Aylemore Rd, B.R. Maslin 6358 (PERTH, Z).

Distribution. Discontinuous in south-west Western Australia, most commonly collected in the southern part of the wheatbelt region bordered by Dumbleyung, Lake King and Narembeen, but also occurring north-east of Norseman near Sinclair Soak.

Habitat. Grows in sand, clay and granitic loam in eucalypt woodland or mallee shrubland with *Melaleuca* or *Allocasuarina* scrub.

Phenology. Flowering recorded from August to October; mature pods collected in December.

Conservation status. Not under threat.

Etymology. The specific epithet, from the Greek *akantha* (a thorn) and Latin *aster* (a star), refers to the radiating spines at the ends of the branchlets.

Affinities. Superficially similar to *A. pulviniformis* Maiden & Blakely in its low growth habit, spinescent branchlets, small phyllodes and rather small, globular heads. *Acacia pulviniformis* is readily distinguished from the new species in the following ways: branchlet apices undivided, phyllodes commonly subterete with midrib superficially not visible (less commonly \pm flat with obscure midrib), gland (when present) situated near pulvinus, stipules 1–2 mm long, inflorescence a 1-headed raceme, a single peduncle (2–6 mm long) situated on an extremely reduced axis (peduncles have a solitary basal bract, the axis is subtended by two small bracts), heads 6- or 7-flowered, flowers 4- or 5-merous, sepals united, pods somewhat tightly and irregularly coiled.

Acacia acanthoclada F. Muell., *Fragm.* 3: 127 (1863). *Type:* sand ridges near Kulkyn, Victoria, August 1858, J. Dallachy (*lecto:* MEL 26132, here designated); in the Murray desert especially near Kulkoyne [sphalm. Kulkyn, near Hattah, Victoria, December 1853, F. Mueller *s.n.*] (*paralecto:* MEL 26130, PERTH 04340310 – fragment ex MEL); Australia felix [‘almost certainly the Kulkyn area, far N.W. Vic., leg. F.v. Mueller, Dec. 1853’ – J.H. Willis in sched.] (probable *paralecto:* MEL 26134, ex herb. Sonder); Kulkyn[e] and Moornpool [Mournpall], [F. Mueller *s.n.*] (probable *paralecto:* MEL 26133); Murray Desert, F. Mueller *s.n.* (*paralecto:* K); Murray River [F. Mueller] (probable *paralecto:* K).

Typification. I am indebted to the late J.H. Willis for his assistance in unravelling the typification problems involved. I have concluded that Mueller had in hand all the materials listed above when he described the species and, even though they all represent the same taxon and apparently were all collected in the same general area, lectotypification is advisable to fix the application of the name. I have selected the Dallachy specimen as the lectotype because it is the best of the syntypes.

Key to subspecies of *Acacia acanthoclada*

Phyllodes green or if glaucous then not wider than 1 mm, the phyllodes and branchlets glabrous or hairy; seeds 2–2.5 mm long (widespread) subsp. **acanthoclada**
 Phyllodes glaucous to subglaucous (new shoots green), 2–4 mm wide, the phyllodes and branchlets glabrous; seeds 3.5–4 mm long (Western Australia) subsp. **glaucescens**

Acacia acanthoclada subsp. **glaucescens** Maslin, *subsp. nov.*

Ab *Acacia acanthoclada* subsp. *acanthoclada* ramulis glabris, phyllodiis 2–4(5) mm latis, glaucis vel subglaucis, et seminibus majoribus (3.5–4 mm longis) differt. In Australiam Occidentalem reperta.

Typus: Mt Gibson Station (between Wubin and Paynes Find), Western Australia, 29 August 1976, B.R. Maslin 4232 (*holo:* PERTH 00183768; *iso:* CANB, K, NY).

Shrub 0.8–1.5(2) m tall. *Branches* terete, obscurely ribbed, glabrous, dividing into many, rather short, straight, patent to erect, faintly pruinose, spinescent branchlets. *Stipules* partially or ± wholly united on young new shoots, caducous. *Phyllodes* cuneate to obtriangular with the upper apical angle obtuse and the lower angle mucronulate, 5–10(12) mm long, 2–4(5) mm wide, l:w 1.2–3, thin, erect, smooth, glabrous, glaucous to subglaucous (light green on new shoots); *principal longitudinal nerve* situated rather near lower margin and often obscure; minor nerves few, obscure and subparallel to main longitudinal nerve. *Inflorescence* an extremely reduced 1(2 or 3)-headed raceme, the axis 0.2(0.5) mm long, subtended by 1 or 2 minute, sessile, depressed-ovate, persistent bracts 0.2–0.5 mm long; *peduncles* (5)7–14 mm long, glabrous, subtended at base by a soon-caducous, cleft, scarious brown bract c. 1 mm long. *Heads* globular, bright mid-golden, 17–25-flowered. *Flowers* 5-merous; *bracteoles* spatulate, 1 mm long, fimbriolate; *calyx* 1/3–1/2 length of corolla, gamosepalous, divided for 1/3–2/3 its length into ± oblong, obtuse, ciliolate lobes; tube glabrous, nerveless; *petals* 1.5–2.5 mm long, glabrous, finely 1-nerved. *Pods* coiled, to c. 20 mm long (unexpanded length), 3–4 mm wide, thinly coriaceous, glabrous, black (old dehisced valves). *Seeds* longitudinal, widely ellipsoid to ± ovoid, 3.5–4 mm long, 2 mm wide, dull, mottled with shades of brown; aril thick, subterminal.

Selected specimens examined. WESTERN AUSTRALIA: 16.5 miles [26.5 km] from Three Springs on road to Perenjori, I.B. Armitage 368 (PERTH); Evanston, J.S. Beard 4760 (PERTH); 80 km S of Paynes Find, W.E. Blackall 3849 (PERTH); 96.5 km from Wubin towards Mount Magnet, B.R. Maslin 3547 (AD, BM, BRI, G, MEL, MO, NSW, PERTH); Mount Gibson Station, B.R. Maslin 4222 (PERTH); 5 km NNE of Mt Jackson, K. Newbey 9109 (PERTH); NE of Koolanooka Hills on Mungada Rd, S. Patrick SP 2256 (PERTH); N of Mt Jackson on road to Diemals Station, M.H. Simmons 1237 (PERTH).

Distribution. Infrequent in the south-west of Western Australia from the Koolanooka Hills (about 20 km east of Morawa) east to Evanston (about 110 km north of Koolyanobbing) and near Mt Correll (about 60 km west-north-west of Koolyanobbing).

Habitat. Grows in red to red-brown, sometimes stony, clay or loam in woodland or scrub.

Phenology. Flowering recorded from July to September; mature pods collected in November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. Subspecific epithet from the Latin *glaucus* (glaucous, covered with a fine bloom) with the suffix *-escens* (becoming), in reference to the phyllodes.

Discussion. The combination of broad, glaucous to subglaucous phyllodes and glabrous branchlets serves to distinguish this new subspecies. Although each of these characters may occur in individuals of the typical subspecies, they do not occur in combination. In subsp. *acanthoclada* glaucous phyllodes are rare, and in these specimens the phyllodes do not exceed 1 mm wide. In Western Australia the phyllodes of subsp. *acanthoclada* seldom reach 2 mm wide, but in Victoria they are reported to reach 3 mm (*vide* Costermans 1981: 309) and in South Australia 4 mm (*vide* Whibley rev. Symon 1992: 48). The typical subspecies is widespread in southern Australia from Victoria and New South Wales west through South Australia to the semi-arid areas of south-west Western Australia, whereas subsp. *glaucescens* is restricted to the northern end of the species' range in Western Australia. The two subspecies are not known to be sympatric, although their ranges abut in the Wubin area.

The new subspecies resembles *A. sphenophylla* (see below) which is distinguished most readily by its green, clearly 2- or 3-veined phyllodes.

Acacia acoma* Maslin, *sp. nov.

Frutex 0.5–2.5 m altus. Cortex laevis, vel ad basin asper. Ramuli angulati, demum teretes, glabri. Stipulae 0.5–1 mm longae, caducae. Phyllodia anguste oblongo-elliptica ad oblongo-lanceolata, vel elliptica, vel obovata, acuta vel mucronata, plerumque 15–30 mm longa, 7–12 mm lata, glabra, saepe glauca; costa obscura; glans c. 1–5 mm supra pulvinam inserta. Inflorescentia racemus reductus, (1)2-capitatus. Pedunculi 8–21 mm longi, glabri; capitulum floribus 30–37. Flores 5-meri. Sepala libera. Petala glabra, enervia. Legumen arcuatum vel spirale, ad 15 mm longum, 2–3 mm latum, teres ad semi-teres, glabrum. Semina in legumine longitudinalia, oblongoidea vel ellipsoidea, 2.5–3 mm longa, nitentia; arillus conicus, crassus, albus.

Typus: near Mt Glasse, Bremer Range, Western Australia, 23 September 1983, B.R. Maslin 5428 (*holo:* PERTH 00174750; *iso:* CANB, K, MEL).

Open, somewhat gangling *shrub* 0.5–2.5 m tall, sparingly branched at base, or in open sites (e.g. road verges) rounded to obconic, subdense and much-branched at base. *Bark* smooth, sometimes roughened at base of stems, grey. *New shoots* pale purplish. *Young branchlets* angled, at length terete, obscurely ribbed, glabrous, salmon-pink to orange, orange-pink or dark red, faintly to moderately pruinose; older branchlets roughened by scars of raised leaf bases after phyllodes have fallen. *Stipules* narrowly oblong to triangular, 0.5–1 mm long, caducous. *Phyllodes* variable in shape and size, commonly narrowly oblong-elliptic to narrowly oblong-ob lanceolate or elliptic to obovate, rarely lanceolate, (10)15–30(40) mm long, (5)7–12(15) mm wide, l:w 1.5–3(4.5), infrequently continuous with branchlet but not forming cauline wings (Yorkkrakine variant), often slightly twisted from base, flat to shallowly concave or slightly undulate, sometimes recurved and widely spreading, thickly coriaceous, smooth, glabrous, grey-green to glaucous, brown, sometimes pruinose; *midrib* not

prominent; lateral nerves submerged and not evident on surface or occasionally very few and obscure; marginal nerves rather prominent, yellow; adaxial nerve bifurcating near base of phyllode; *apex* acute to obtusely mucronate, sometimes shortly acuminate, the mucro indurate, coarsely pungent, 0.5–1 mm long, straight to slightly incurved and dark brown; *pulvinus* 1–2 mm long (Yorkrakine variant), otherwise to 0.5 mm long, drying smooth or transversely to obliquely wrinkled, or absent. *Gland* on adaxial margin of phyllode 1–5 mm above pulvinus, commonly in a slight indentation, oblong-elliptic, 0.4–0.8 mm long, drying brown. *Inflorescence* an extremely reduced (1)2-headed raceme; axis 0.5–1(3) mm long, commonly with an apical dormant bud at anthesis; *peduncles* 8–21 mm long, usually \pm patent, greenish yellow to pale red, brownish to almost black when dry; *basal bract* solitary, soon falling, cucullate, 2 mm long, glabrous, dark brown, sometimes pruinose. *Heads* globular, bright mid-golden, 5–6 mm diam. at anthesis, 30–37-flowered; *bracteoles* resembling sepals, seemingly not subtending all flowers. *Flowers* 5-merous; *sepals* 1/2 (or slightly more) length of petals, free, linear or narrowly spatulate, glabrous or subglabrous; *petals* 1.8–2.5 mm long, glabrous, nerveless. *Pods* strongly arcuate to spirally or irregularly coiled, to c. 15 mm long (unexpanded), 2–3 mm wide, thinly coriaceous, terete to semiterete, not or scarcely constricted between seeds, glabrous, green turning purple and faintly to moderately pruinose when young, ageing dark brown to black and not or slightly pruinose, marginal nerve not thickened. *Seeds* longitudinal, obloid to widely ellipsoid, 2.5–3 mm long, 1.5–2 mm wide, shiny, mottled black and yellow-brown; *pleurogram* with a wide opening at hilar end; *areole* 0.3–0.8 x 0.5–0.6 mm; *funicle* filiform, c. 1 mm long, abruptly expanded into a thick, conical, terminal, white aril c. 1 mm long.

Selected specimens examined. WESTERN AUSTRALIA: 26 km due SW of Bodallin, R.J. Cranfield 2358 (PERTH); 24 km S of Mt Hampton, c. 84 km SSW of Southern Cross, M.D. Crisp 1101 (PERTH); Bending Reserve, G.J. Keighery 6268 (PERTH); Bremer Range near Mt Glasse, B.R. Maslin 5523 (PERTH); 1 km S of Yorkrakine, B.R. Maslin 6133 (PERTH); 2 km W of Kellerberrin–Yelbeni road on Yorkrakine West Rd to Yorkrakine, B.R. Maslin 6134 (CANB, PERTH); 45 km due SE of Merredin, 0.5 km E of Della Rd on Antonio Rd, B.R. Maslin 6137 (PERTH); c. 52 km due ESE of Narembeen, 10 km S of Anderson Rocks Rd on The Humps Rd, B.R. Maslin 6150 (CANB, K, MEL, PERTH); 1 mile [1.6 km] N of King Rocks, K. Newbey 3230 (K, PERTH); 30 km SE of Mt Glasse, Bremer Range, K.R. Newbey 5398 (PERTH); 33 km ESE of Sinclair Soak, K. Newbey 7011 (PERTH); just S of Yorkrakine, M. Simmons 366 (PERTH); c. 24 km SSE of Carrabin, A. Strid 20359 (AD, K, MEL, PERTH, Z).

Distribution. Occurs in the south-west of Western Australia in scattered populations extending from Yorkrakine and Bodallin in the north, south to near Hyden and east to the Bremer Range with collections from Sinclair Soak (north-east of Norseman) and near Salmon Gums.

Habitat. Grows in red sand, gritty red, grey or brown loam or grey clay on roadsides, low hills, ridges or flats in Whipstick Mallee or Gimlet woodland.

Phenology. Flowering recorded from July to October; mature pods collected in December.

Conservation status. Not under threat.

Etymology. From the Latin *coma* (a mane, crest) with the prefix *a-* (without), in reference to the lack of indumentum.

Affinities. Similar to *A. merrallii* F. Muell. which has a denser habit, usually minutely puberulous and non-pruinose branchlets, appressed-puberulous phyllodes (at least when young) and seeds with a

bright yellow to orange aril. Also similar to *A. glaucissima* (see below) which has terete, \pm ribbed, non-pruinose branchlets, phyllodes with a conspicuous midrib and marginal veins, persistent stipules, longer pods and a yellow aril.

Variation. Under natural conditions the normal habit of this species is a spindly, open, somewhat gangling plant which is sparingly divided (usually into 2 main stems) near ground level. In open, disturbed sites such as road verges the species becomes a denser shrub which is rounded or obconic in outline and is much-branched near ground level. Such changes in growth habit are not uncommon in Australian species of *Acacia*. Plants from near Yorkrakine at the north-west extremity of the species' geographic range differ from those elsewhere in that their phyllodes (at least when young) are continuous with the branchlets. With age a septum usually develops at the base of the pulvinus which is reduced to *c.* 0.5 mm long.

Acacia aculeiformis* Maslin, *sp. nov.

Frutex diffusus prostratus, tegetem ad 2 m latum formans. Ramuli glabrescentes. Surculi juveniles obscure rubri. Stipulae 2.5–4 mm longae, recurvae, pungentes, persistentes. Phyllodia valde asymmetricae elliptica usque anguste elliptica vel interdum valde asymmetricae obovata ad oblanceolata, margine superiore quam inferiore semper magis convexo, 10–25 mm longa, 5–10 mm lata, subdistantia, glabra ad antrorse puberula, viridia vel subglaucia, cuspidata; costa mediana excentrica. Inflorescentiae eis *A. semicirculari* Maiden et Blakely similes, e racemis valde reductis monocephalis axe 0.5–1 mm longo apice e crescenti compositae; inflorescentiae ceterae simplices secus surculum juvenilem evolutae. Pedunculi 6–17 mm longi. Florum capitula globularia, (20)27–39-flora. Flores 5-meri; gemmae juveniles obscure rubrae. Sepala libera, spathulata. Petala 1.5–2 mm longa, glabra. Legumen et semina non visa.

Typus: 10.5 km north of Three Springs on The Midlands Rd to Mingenew, Western Australia, 22 November 1983, B.R. Maslin 5491 (*holo:* PERTH 00739367; *iso:* CANB, K, MEL, NY, PERTH 00739375).

Diffuse, prostrate *shrub*, intricately branched, usually multistemmed, forming mats to 2 m across; main stems to *c.* 10 mm diam. *Bark* smooth, grey. *New shoots* arising from distal end of the minute raceme axis, red. *Branchlets* terete, rather wiry, finely but distinctly ribbed (ribs yellow to light brown, muriculate–scabridulous), slightly flexuose, scabridulous, glabrescent (hairs to *c.* 0.1 mm long, patent to slightly antrorse, arising from excrescences), normally green on under surface and brownish on upper surface. *Stipules* persistent (at least the indurate basal portions remaining on mature branchlets where phyllodes have fallen), 2.5–4 mm long, spreading, slightly to obviously recurved, rigid, pungent but with maturity the apices rather delicate and brittle and often readily breaking, glabrous to sparsely puberulous. *Phyllodes* very asymmetrically elliptic to narrowly elliptic or sometimes very asymmetrically obovate to oblanceolate, the upper margin distinctly more convex than the lower margin which is straight to shallowly convex, 10–25 mm long (including the apical cusp), 5–10 mm wide, l:w 2–3, thinly coriaceous, frequently (at least when dry) absent from some nodes, subdistant, patent to ascending, straight, slightly undulate, glabrous to antrorsely puberulous (hairs normally confined to the variably muriculate margins), pale to medium dull green or subglaucous; *midrib* evident on each face, situated near lower margin, somewhat raised when dry; *lateral nerves* few, obscure, sometimes sparsely anastomosing, mostly arising from adaxial side of principal nerve and sometimes intersecting the upper margin; *marginal nerves* slightly thickened, variably muriculate–scabridulous, indumentum as on branchlets, yellow to reddish brown; *apex* gradually or rather abruptly narrowed at into a straight, subulate, delicate (distal portion readily breaking when dry), rather pungent

cup 1–2.5 mm long; *pulvinus* to 0.5 mm long, smooth to slightly wrinkled and yellowish to brown when dry. *Gland* obscure, on upper margin of phyllode 1–2 mm above base, circular, *c.* 0.2 mm diam. *Inflorescence* similar to that of *A. semicircularis*, not particularly showy, 1(2) per node, an extremely reduced 1-headed raceme; axis 0.5–1 mm long, growing out at apex; further inflorescences normally arise along the new shoot but these are simple (not racemose); *peduncles* 6–17 mm long, slender (*c.* 0.6 mm diam.), glabrous to moderately antrorsely or patently hirsutellous (hairs minute, fine and white), green or red; bract on distal 1/2 of peduncle, or absent, narrowly triangular, *c.* 0.5 mm long; *basal peduncular bracts* 2, acuminate, *c.* 1 mm long, absent from simple inflorescences which develop on actively growing new shoots. *Heads* globular or slightly obloid, light to medium golden, 6–7 mm diam. when fresh, 27–39-flowered (one head 20-flowered); young buds red. *Flowers* 5-merous; *bracteoles* spatulate, *c.* 1 mm long, glabrous to glabrescent, lamina abruptly and minutely acuminate; *sepals* free, *c.* 1/2 length of corolla, narrowly oblong to spatulate, glabrous to glabrescent, light brown (when dry), apex not thickened; *petals* 1.5–2 mm long, connate for *c.* 1/2 their length, glabrous, scarlet at apex when young, seemingly nerveless. *Gynoecium* glabrous. *Pods* and *seeds* not seen.

Selected specimens examined. WESTERNAUSTRALIA: 5 miles [8 km] E of Three Springs, Oct. 1972, *C. Chapman s.n.* (AD, NSW, PERTH 00104159); W of Koorda, Jan. 1940, *C.A. Gardner s.n.* (PERTH 00104183); *c.* 37 km S of Moora towards Perth [on Great Northern Highway], *B.R. Maslin* 3271 (PERTH); about 5 km due NNE of Mogumber, *B.R. Maslin* 5476 (BM, BRI, CANB, MO, PERTH); about 17 km N of New Norcia towards Moora, *B.R. Maslin* 4349 (PERTH); 10.5 km N of Three Springs on The Midlands Rd, *B.R. Maslin* 7013 (PERTH).

Distribution. Scattered in the south-west of Western Australia, from Mogumber north to near Three Springs. The collection by C.A. Gardner from west of Koorda (Koorda is *c.* 125 km east-north-east of New Norcia) is the most easterly known locality for the species.

Habitat. Grows in loam or yellow sands on laterite hills in Wandoo (*Eucalyptus wandoo*) woodland.

Flowering period. Flowering recorded from August to January.

Conservation status. Not under threat.

Etymology. The specific epithet, from the Latin *aculeus* (a prickle) and the suffix *-formis* (-shaped or -formed), refers to the spinescent, recurved stipules.

Affinities. *Acacia aculeiformis* has often been confounded with the more easterly distributed *A. semicircularis* Maiden & Blakely which is now known to be restricted to the Wongan Hills area. Although these two species share the same flowering period, have somewhat similar phyllodes and very similar inflorescence and calyx structures, *A. aculeiformis* is readily recognized by its persistent, recurved stipules and its phyllodes which are very obviously asymmetric with the principal nerve situated near the lower margin. A description of *A. semicircularis* is given in Maslin (1982).

Acacia aculeiformis is probably related to *A. congesta* which has a more erect habit, and does not have red flower buds, new shoots and peduncles.

Acacia adinophylla* Maslin, *sp. nov.

Frutex intricatus, diffusus, ad 50 cm altus, vel rectus, ad 1.5 m altus. Ramuli teretes, pubescentes vel glabri. Stipulae 0.5–1 mm longae, caducae praeter bases. Phyllodia fasciculata, anguste cuneata

ad oblanceolata, obtusa sed oblique mucronulata, 3–7 mm longa, 1–2 mm lata, crassa, hirtella, raro glabra, costa non prominenti; glans 0.5–1.5 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 6–15 mm longi, hirtelli; capitulum floribus 20–30. Flores 5-meri. Sepala libera, glabra. Petala glabra, enervia. Legumen anguste oblongum, ad 20 mm longum, 5–7 mm latum, minute hirtellum, raro glabrum. Semina sphaerica, c. 3 mm diam., hebeta; arillus convolutus.

Typus: Helena and Aurora Ranges [precise locality withheld for conservation reasons], Western Australia, 3 September 1984, A.P. Brown 112 (*holo*: PERTH 00731250; *iso*: CANB, G, K, MEL, NY, PERTH 00731242).

Dense to moderately dense *shrub*, intricate, multi-stemmed, sprawling and to 50 cm tall, or erect and to 1.5 m tall, to 1.7 m across. *Branchlets* terete, not spinescent, pubescent to hirtellous (hairs short, soft, patent, \pm straight, arising from minute tubercles) but glabrous to subglabrous with age, the erect variant glabrous throughout; ribs scarcely evident. *Stipules* triangular, 0.5–1 mm long, united at their slightly thickened persistent bases, erect, scarious, brittle, brown. *Phyllodes* mostly fasciculate and crowded at mature nodes on short nodose branchlets, narrowly cuneate to oblanceolate, 3–7 mm long, 1–2 mm wide, l:w 3–7, thick but flat, hirtellous (hairs commonly shorter than on branchlets), infrequently glabrous, bright mid-green; solitary on new shoots, straight to shallowly incurved; *midrib* not prominent, submerged, when dry position indicated by a longitudinal ridge along midline; lateral nerves and adaxial marginal nerve absent; nerve on abaxial margin thin, yellowish; *apex* \pm obtuse, obliquely mucronulate, the mucro excentric, minute, thickish; *pulvinus* c. 0.5 mm long, yellow-brown, smooth. *Gland* on adaxial margin of phyllode 0.5–1.5 mm above pulvinus, minute (c. 0.1 mm diam), slightly raised, circular. *Inflorescence* simple, axillary; *peduncles*, 1–4 per nodal cluster, 6–15 mm long, hirtellous, infrequently glabrous, ebracteate at base. *Heads* globular to slightly obloid, dull golden, 5–6 mm diam., 20–30-flowered, infrequently a few heads to 12-flowered; *bracteoles* spatulate, 1 mm long, minutely ciliate or glabrous, brown (dry); claw linear; lamina erect. *Flowers* 5-merous; *sepals* c. 3/4 length of petals, free, linear to narrowly spatulate, glabrous to subglabrous; *petals* 1.6 mm long, glabrous, nerveless. *Pods* (most of those seen are dehisced) narrowly oblong, to 20 mm long, 5–7 mm wide, firmly chartaceous, undulate or twisted upon dehiscence, not or scarcely constricted between seeds although occasional deep constrictions may occur, slightly rounded over seeds, minutely hirtellous, infrequently glabrous, purplish brown. *Seeds* (few seen) \pm spheroid, c. 3 mm diam., 2 mm thick, dark brown, dull; *pleurogram* very obscure, open at hilar end; *areole* c. 0.4 mm long, 0.3 mm wide; *funicle* soon expanded into a large, fleshy, convoluted, cream (dry) aril which curves c. half way around periphery of seed.

Selected specimens examined. WESTERN AUSTRALIA, near Bungalbin Hill [precise localities withheld for conservation reasons]: R.J. Cranfield 8130 (PERTH); R.J. Cranfield 7770 & P.J. Spencer (CANB, PERTH); G.J. Keighery 4432 (PERTH); B.J. Lepschi 2005 (BRI, CANB, MEL, PERTH); B.J. Lepschi 2040 (BRI, CANB, MEL, PERTH); F.H. & M.P. Mollemans 2893 (PERTH); F.H. & M.P. Mollemans 2908 (CANB, PERTH); K. Newbey 5919 (PERTH); K. Newbey 9204 (NSW, PERTH); B.H. Smith 1433 (PERTH).

Distribution. Known from several populations in the south-west of Western Australia, within 10 km of Bungalbin Hill and south-east of Mt Jackson. Future studies in this rather poorly collected area may well show the species to be more common than currently indicated.

Habitat. Grows in well-drained rocky loam and loamy sand or clay, commonly over jasperlite (banded ironstone) in open *Eucalyptus ebbanoensis* and *E. griffithsii* mallee shrubland with *Eremophila*, *Dodonaea*, *Scaevola* and *Triodia* low scrub.

Phenology. It would appear that this species flowers sporadically throughout the second half of the year. Flowering recorded in June and September to December, the main flush occurring in September. Specimens with mature pods are rare with one collection (*Lepschi* 2005, PERTH) made in September, this specimen also with mature buds and flowers.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. The specific epithet, from the Greek *adinos* (close, crowded) and *phyllon* (a leaf), refers to the crowded phyllodes on short lateral branchlets.

Affinities. Similar to *A. nodiflora* Benth. in its fascicled phyllodes with the peduncles arising from the fascicles, but that species has longer, linear phyllodes, spinescent stipules, sometimes bracts on the peduncles, much longer pods and oblong seeds.

Variation. Typically of sprawling habit and pubescent to hirtellous on most parts. A variant, represented by *Mollemans* 2893, *Lepschi* 2042 and *Cranfield* 7770, differs in the erect habit and the lack of indumentum except the minutely ciliate bracteoles. The collection *Cranfield* 8130, described as a compact shrub 50 cm high, has hirtellous stems that become glabrous within a few years, but all other parts are glabrous except the bracteoles.

Acacia aristulata* Maslin, *sp. nov.

Frutex ad 1 m altus et latus. Ramuli teretes, obscure costata, pilosi vel pubescentes. Stipulae 2–3 mm longae, glabrae praeter margines ciliatos. Phyllodia oblique anguste oblonga-oblancoolata vel cuneata, uncinata, 7–10 mm longa, 2–3.5 mm lata, pubescentia vel glabra; costa non prominens; glans obscura, versus medium marginis inserta. Inflorescentia racemus reductus (1)2-capitatus. Pedunculi 10–20 mm longi, pilosi vel pubescentes; capitulum floribus 13–17. Flores 5-meri. Sepala in dimidio inferiore unita, glabra praeter lobis ciliolatis. Petala pubescentia vel hirsutella, obscure nervosa. Legumen lineare, 1-spirale vel tortile, ad 6 cm longum, 4–5 mm latum, moniliforme, glabrum vel parce hirsutellum. Semina longitudinalia, ellipsoidea, 3.5–4 mm longa; arillus plicatus vel extensus.

Typus: 14 km north of Moora, then 1 km east of The Midlands Rd, Western Australia, 1 December 1986, B.R. Maslin 6122 (*holo:* PERTH 00799661; *iso:* AD, CANB, G, K, MEL, NSW, NY).

Shrub to 1 m tall and wide, erect, scrambling or diffusely spreading, domed in exposed, disturbed sites. *Branches* slender, terete, very obscurely ribbed, scurfy white, ageing orange-brown, shortly pilose to antrorsely pubescent. *Stipules* prominent, 2–3 mm long, acuminate, united at base, scarious, light brown, sparsely ciliate, otherwise glabrous, obscurely 1-nerved. *Phyllodes* obliquely narrowly oblong-oblancoolate to cuneate, (5)7–10 mm long, 2–3.5 mm wide, l:w 2.5–4.5, thin, erect, sparsely to moderately pubescent (hairs commonly antrorse) or glabrous, green; *apex* abruptly narrowed to an excentrically rostriform point, ± uncinata; *midrib* central, not overly prominent; *lateral nerves* few, obscure; *pulvinus* 0.5–1 mm long. *Gland* insignificant, commonly absent, situated c. half way along upper margin of phyllode, circular, 0.1–0.2 mm diam. *Inflorescence* 1 per node, an extremely reduced 1(2)-headed raceme, sometimes non-racemose and then peduncle ebracteate at base; raceme axis to 0.5 mm long, subtended at base by 2 small bracts; *peduncles* 10–20 mm long, slender, shortly pilose to pubescent (hairs antrorsely curved), recurved from base and sometimes glabrous when in fruit. *Heads* globular, creamy white, 9–10 mm diam. (fresh), 5–6 mm diam. (dry), 13–17-flowered; *bracteoles* long-exserted in bud, 2–3 mm long, 0.2–0.3 mm wide, narrowly lanceolate to almost linear, acuminate,

scarious, light brown, sparsely ciliolate, otherwise glabrous. *Flowers* 5-merous; *calyx* 1/2–3/4 length of corolla, divided for 1/2–3/4 its length into narrowly triangular, sparsely ciliolate lobes, the 2 lobes adjacent to the bracteoles sometimes shorter than the other 3; *petals* 1.5 mm long, pubescent or sparsely hirsutellous, very obscurely penninerved; midrib obscure or rather obvious (when dry). *Pod* linear, moniliform, loosely once-coiled to irregularly twisted, to 6 cm long, 4–5 mm wide, one margin \pm inrolled, coriaceous to thinly crustaceous, glabrous or sparsely hirsutellous, tan, ageing dark brown. *Seeds* longitudinal with hilum facing apex of pod, ellipsoid, 3.5–4 mm long, 2.5–3 mm wide, turgid (2.5 mm thick), mid-grey except blackish areole and peripheral nerve; *pleurogram* open at hilar end; *areole* 2–2.5 mm long, 1.3–1.5 mm wide; *funicle* minute, c. 0.5 mm long, expanded into a very pale yellow aril (greenish or brown near hilum) which is once or twice folded on top of seed or unfolded and extending 1/4–1/2 way down one side of seed.

Selected specimens examined. WESTERN AUSTRALIA: Watheroo National Park, Jingem Hill, 3 km from entrance, R. Cranfield 8119 & P. Spencer (PERTH); 11 km N of Moora along The Midlands Rd, R. Cranfield 8175 & P. Spencer (PERTH); Jingem Hill, Watheroo National Park, P. Hussey 81 (PERTH); 11 km N of Moora on The Midlands Rd, then 0.5 km E, B.R. Maslin 6215 (BM, PERTH); 15 km N of Moora, D.J.E. Whibley 4875 (AD, PERTH).

Distribution. Occurs in the south-west of Western Australia in the Moora area and also Jingem Hill in the Watheroo National Park, c. 25 km to the north.

Habitat. Restricted to low, chert hills, growing in loamy or clayey sand in low open shrubland.

Phenology. The few specimens to hand have been collected in September, November and December. In September the plants were in bud (few heads at anthesis) and sometimes with immature pods. In November and December both buds and heads at anthesis were present, as well as pods with mature seeds. From this it seems that the main flowering period begins in October and probably extends to about January or February. It is probable that the fruits present during flowering resulted from the previous year's fertilization events.

Conservation status. CALM Conservation Codes for Western Australian Flora: Declared Rare.

Etymology. From the Latin *arista* (a drawn-out point or awn) with the adjectival suffix *-atus* (indicating possession or likeness), in reference to the bracteoles.

Affinities. Similar in several respects to *A. bidentata* Benth. which is most readily distinguished by its obovate to obtriangular-obdeltate phyllodes, caducous or inconspicuous stipules and non-acuminate bracteoles. Superficially similar to *A. rostellata* (see below) which commonly has \pm pungent branchlets, obtriangular to obdeltate, \pm pungently mucronate phyllodes, shorter peduncles, smaller heads lacking bracteoles and black, rugulose seeds.

***Acacia asepala* Maslin, sp. nov.**

Frutex diffusus 0.5–1.5 m altus. Ramuli teretes, obscure costati, glabri. Stipulae c. 0.2 mm longae, caducae. Phyllodia acicularia, crassa, patentia, 10–25 mm longa, c. 1 mm lata, glabra, 5-nervia; glans obscura, 2–4 mm supra pulvinam inserta. Inflorescentia racemus reductus 2-capitatus. Pedunculi 2 mm longi, glabri; capitulum floribus 10. Flores 5-meri, glabri. Sepala absentia. Petala obscura 1-nervia. Legumen anguste oblongum, 1–4 cm longum, 4.5–5.5 mm latum, vadoso sigmoideum vel arcuatum ad circinatum, glabrum. Semina obliqua, obovoid, 3 mm longa, 1.5 mm lata; arillus clavatus.

Typus: Frank Hann National Park, 70 km by road east of Lake King store towards Peak Charles, Western Australia, 13 August 1985, B.R. Maslin 5784 (*holo*: PERTH 00939110; *iso*: CANB, K, MEL, NY).

Diffuse *shrub*, much-branched, mid-dense, single- or multi-stemmed, 0.5–1.5 m tall, 1–1.7 m across. *Bark* light grey. *Branches* terete, very obscurely ribbed, glabrous, red-brown at extremities, soon light grey, with prominent projections where phyllodes have fallen. *Stipules* minute, c. 0.2 mm long, ± scarious, caducous. *Phyllodes* thickly acicular, terete–pentagonal but commonly slightly compressed at base, 10–25 mm long, c. 1 mm wide, rigid, patent, mostly straight, some slightly recurved, smooth, glabrous, subglaucous except nerves; *nerves* 5, yellow, 0.6 mm apart; lamina shallowly concave between nerves upon drying; *apex* narrowed to a straight, brown cusp 1.5–2 mm long; *pulvinus* ± absent, reduced to a narrow rim of yellow tissue < 0.5 mm wide. *Gland* inconspicuous, 0.3 mm long, on upper surface of phyllode 2–4 mm above base. *Inflorescence* an extremely reduced raceme with 2 heads; axis c. 0.1 mm long; *peduncles* 2 mm long, glabrous, patent or recurved from base in fruit; *basal peduncular bracts* caducous, prominent and enclosing heads in bud, 2–3 mm long, scarious, concave, dark brown, glabrous, rounded-obtuse or acute, sometimes cleft with age. *Heads* globular, 4 mm diam. when fresh (3 mm diam. when dry), c. 10-flowered, bright mid-golden; *bracteoles* absent. *Flowers* 5-merous, glabrous; *calyx* absent; *petals* free, 1.2 mm long, membranous, obscurely 1-nerved. *Pods* (slightly immature) narrowly oblong, 1–4 cm long, 5–8 mm wide, flat, shallowly sigmoid or shallowly curved to circinate (i.e. curved within the plane of the suture into a full, open circle), thinly coriaceous–crustaceous, glabrous, greyish, abruptly contracted at both ends; margins thickened, not or only slightly constricted between seeds, yellowish. *Seeds* (slightly immature) oblique, obovoid, 3 mm long, 1.5 mm wide, brown; *pleurogram* U-shaped, open; *areole* c. 0.5 mm long, 0.25 mm wide; *funicle* filiform and reflexed below the long-clavate aril that extends from 1/2 to wholly down one side of the seed.

Selected specimens examined. WESTERN AUSTRALIA: 5 km N of Hyden–Norseman crossroad with Forrestania–Southern Cross road, R. Buehrig 3 (PERTH); uncertain locality, A.J. Hart 3 (PERTH); 2 km SW of Lake Cronin, K.R. Newbey 5816 (PERTH); 6 km SE of Marvel Loch, K. Newbey 5817 (PERTH); South Tetley, Forrestania, A. O'Connor 453 (PERTH).

Distribution. Occurs in the south-west of Western Australia in three disjunct populations – south-east of Marvel Loch, near Forrestania, and east of Lake King in the Frank Hann National Park.

Habitat. Grows in well-drained loam or sandy loam in eucalypt low woodland. The type was collected near a salt lake.

Phenology. Flowering commences around early August but because of the few collections it is not known when it ends. Specimens with mature pods have been collected in early December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. The specific epithet, from the Greek prefix *a-* (without) and the Latin *sepalum* (a sepal), refers to the absence of sepals.

Affinities. The new species is superficially very similar to *A. calcarata* Maiden & Blakely in so far as both possess thickly acicular, 5-nerved phyllodes and globular heads. *Acacia calcarata* can be readily distinguished by its spinescent stipules 1.5–3 mm long, peduncles 3.5–7 mm long, heads 16–22-flowered, bracteoles and calyx present and pods blackish and about 1 cm wide. In phyllode form *A. asepala* also superficially resembles *A. collettioides* A. Cunn. ex Benth., but in that species the

phyllodes are 8-nerved, the sepals are present and free, the pods coiled and the seeds have a conspicuous orange aril.

Notes. The new species is highly unusual in that the flowers lack a calyx and are not subtended by a bracteole. Asepalous flowers are very rare in *Acacia*. Besides *A. asepala* I know of only *A. huegelii* Benth. and *A. forrestiana* E. Pritz. (closely related to each other but not to *A. asepala*), although in *A. blaxellii* Maslin (see below) the calyx is sometimes absent and in *A. intricata* S. Moore it is either absent or reduced to a single linear sepal. Normally in *Acacia* the bracteoles protect the developing flower buds. In *A. asepala*, however, this role is assumed by the rather large basal peduncular bract. Other species of sect. *Phyllodineae* in which bracts functionally replace bracteoles include *A. castanostegia*, *A. flagelliformis* A.B. Court, *A. pachypoda* Maslin and *A. squamata* Lindley.

Acacia ataxiphylla Benth., *Linnaea* 26: 605 (1855). *Type*: Swan River, Western Australia, *J. Drummond* 4:6 (*lecto*: K – left hand specimen on sheet stamped Herbarium Benthamianum, here selected); *isolecto*: BM, FI, G, K, MEL, NSW, OXF, P, PERTH 00741493, TCD).

Spreading, intricate, semi-prostrate, open *shrub* to 0.3 m tall and 0.5 m wide. *Branches* slightly flexuose, terete but apically slightly to prominently flattened and acutely angled, hairy or glabrous. *Stipules* narrowly triangular, 2–3 mm long, not pungent although sometimes rigid. *Phyllodes* continuous with branch but not produced into a cauline wing, narrowly linear, 15–60 mm long, 1–2 mm wide, predominantly shallowly curved to shallowly sigmoid, occasionally straight or serpentine, the apices pungent (sharply or coarsely) and slightly to prominently hooked or sometimes almost circinate, compressed; *nerves* 5; midrib obvious on each face, lower margin 1-nerved, upper margin thick, 2-nerved and 0.5–0.6 mm wide. *Peduncles* solitary, 4–12 mm long (rarely to 18 mm). *Heads* globular to slightly obloid, 15–20-flowered; *bracteoles* 1–2.5 mm long, acuminate, sessile, brown. *Flowers* 5-merous; *sepals* joined on their lower 1/3–1/2, brown, acuminate; *petals* 2–3 mm long, with or without a pronounced midrib, variably striate. *Pods* immature (seen only for subsp. *ataxiphylla*), narrowly oblong, to 20 mm long and 4 mm wide, curved, longitudinally striate, reddish brown.

Distribution. Occurs in the south-west of Western Australia from north of Kojonup south to Albany (subsp. *ataxiphylla*) and near Tammin (subsp. *magna*).

Typification. There are two sheets of *A. ataxiphylla* at Herb. Kew, one stamped Herbarium Benthamianum (and labelled: 'Acacia 6 (4th. colln.) Swan River. Drummond') and the other stamped Herbarium Hookerianum (and labelled: '6 Drummond' and 'Sw. riv. to K.G.S. Drummond ann. 1848.'). Although Bentham annotated both sheets as *A. ataxiphylla*, the specimens show some variation in indumentum density which leads me to believe that they may have been gathered from different plants. The lectotype here selected is the left hand specimen on the Herb. Bentham. sheet. The remaining Kew specimens are regarded as isotypes, as are the specimens of Drummond no. 6 which I have seen at BM, FI, G, K, MEL, NSW, OXF, P, PERTH and TCD.

Discussion. Two subspecies are recognized but future studies may show that these would be better treated as distinct species.

Key to subspecies of *Acacia ataxiphylla*

- Heads c. 5 mm diam. (when dry); peduncles c. 0.4 mm diam., commonly 8–12 mm long; branchlets puberulous or glabrous (summer flowering) subsp. **ataxiphylla**
- Heads 7–9 mm diam. (when dry); peduncles 0.7–0.8 mm diam., 4–7 mm long; branchlets apically tomentose (winter flowering) subsp. **magna**

Acacia ataxiphylla* Benth. subsp. *ataxiphylla

Branchlets glabrous or sparsely antrorsely puberulous (hairs sparser, straighter and coarser than in subsp. *magna*). *Phyllodes* rather slender, mostly 20–35 mm long but ranging from 15–50 mm, 1–1.7 mm wide. *Peduncles* commonly 8–12 mm long but ranging from 6.5–18 mm, slender, c. 0.4 mm diam. (when dry), antrorsely puberulous. *Heads* c. 5 mm diam. (when dry), 15–20-flowered; *bracteoles* 1–1.5 mm long, acute, rusty brown. *Calyx* 1/3–1/2 length of corolla; *petals* c. 2 mm long; midrib normally thick and prominent at petal apices; lateral veins (when present) few, slightly thickened.

Selected specimens examined. WESTERN AUSTRALIA: near King George Sound [Albany], *W.E. Blackall* 1451 (PERTH); S side of Jingalup township, *A.S. George* 14988 (MEL, PERTH); 150 mile peg, Albany Highway [c. 10 km N of Kojonup], *B.R. Maslin* 2614 (CANB, PERTH).

Distribution. Occurs in south-west Western Australia with collections from an area within 30 km north and west of Kojonup. The record from the Albany area may not be precise.

Habitat. Grows in clay-loam with some gravel in *Eucalyptus wandoo* woodland, and in white sand in *Eucalyptus marginata* woodland.

Phenology. Flowering recorded from December, January and perhaps February. Immature pods have been collected in November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Acacia ataxiphylla* subsp. *magna* Maslin, *subsp. nov.

Ab *Acacia* subsp. *ataxiphylla* ramulis angulatis crassioribus tomentosis; phyllodiis crassioribus, longioribus (plerumque 40–60 mm longis); pedunculis brevioribus (4–5 mm longis), crassis, tomentosis; calyce corollam aequanti vel parum brevioris; petalis majoribus (2.5–3 mm longis), subtiliter striatis, differt.

Typus: Tammin area [precise locality withheld for conservation reasons], Western Australia, 20 July 1980, *R.J. Cranfield* 1522a (*holo:* PERTH 00721638).

Differs from the typical subspecies principally in the following ways. *Branchlets* coarser, more obviously acutely angled, apically moderately to densely tomentose (hairs soft, curled, somewhat matted and appressed). *Phyllodes* rather coarse, mostly 40–60 mm long but interspersed with a few that are shorter (25–30 mm), 1.6–2 mm wide. *Peduncles* 4–7 mm long, ± obscured by stamens at anthesis, stout, 0.7–0.8 mm diam. (when dry), tomentose. *Heads* 7–9 mm diam. (when dry), c. 20-flowered; *bracteoles* 2–2.5 mm long, dark brown, long-acuminate. *Calyx* 3/4 to fully the length of

corolla, dark brown, long-acuminate; *petals* 2.5–3 mm long, extremely finely striate, lacking a central nerve.

Other specimens examined. WESTERN AUSTRALIA, near Tammin [precise localities withheld for conservation reasons]: *M.D. Crisp* 6595 (CANB, PERTH, NSW); 1889, *Miss [A.] Eaton s.n.* (MEL, PERTH00721654). *P. Hussey* 12 (PERTH); *D. Papenfus* DP 666 (PERTH); *R.D. Royce* 8350 (PERTH).

Distribution. Occurs in the south-west of Western Australia, apparently restricted to the Tammin area. The only collection of subsp. *magna* possibly from outside this area is Alice Eaton's locality, which is vaguely given as 'between York and Southern Cross' and encompasses the collection area for the other specimens. In the 1890s, Alice Eaton resided at Youndegin (Erickson 1979) which is close to the collection area.

Habitat. Grows in laterite, or sand over laterite, in low heath.

Flowering period. Flowering recorded from June to August. Pods have not been collected.

Conservation status. CALM Conservation Codes for Western Australian Flora: Declared Rare.

Etymology. The subspecific epithet refers to the characteristically large flower heads.

Affinities. This subspecies may resemble some variants of *A. stenoptera* Benth. which is distinguished by its 4-merous flowers and non-acuminate bracteoles and calyx lobes.

Discussion. In view of the differences noted in the diagnoses above and considering the difference in flowering periods and distributions, this new taxon may warrant specific rank. However, I have not seen it in the field, nor have I seen mature pods of either subspecies, hence I consider subspecific rank more appropriate.

Acacia auronitens Lindley, *Sketch Veg. Swan R.* xv (1839). *Type:* Swan River, Western Australia, 1839, *J. Drummond s.n.* (*lecto:* CGE, here selected; *isolecto:* K); Swan River, Western Australia, *Toward* 41 (*paralecto:* CGE).

This name was based on two collections, *viz.* *Drummond s.n.* (branchlets hairy) and *Toward* 41 (branchlets glabrous). Specimens with glabrous branchlets are infrequent in *A. auronitens* and current indications are that these variants do not warrant formal rank. The Drummond specimen with its hairy branchlets has therefore been selected as the lectotype because it typifies the normal condition in this species.

Acacia barbinervis Benth., *London J. Bot.* 1: 326 (1842). *Type:* Swan River, Western Australia, 1839, *J. Drummond s.n.* (*holo:* K – sheet stamped Herb. Benthamianum; *iso:* K – sheet stamped Herb. Hookerianum, PERTH 01193007 – fragment ex K).

Spreading, multi-stemmed *shrub* 0.2–0.4 m tall. *Branchlets* yellow-ribbed, sometimes (subsp. *barbinervis*) acutely angled towards apex, glabrous or pubescent to puberulous, the hairs often minutely tubercle-based. *Stipules* narrowly triangular to setaceous, 1.5–4.5 mm long, inclined to erect, straight or shallowly recurved, scarious but thickened towards base, rather persistent, but commonly the distal portion breaking and only bases remaining at older nodes, reddish brown. *Phyllodes* linear

to narrowly oblong or narrowly oblanceolate, 10–30 mm long, 1–2(2.5) mm wide, l:w 6–22(28), rigid, erect to inclined, straight or shallowly incurved or shallowly recurved, flat but when very narrow appearing angular (especially in subsp. *borealis*) due to the pronounced, raised nerves, glabrous or (especially when young) indumentum as on branchlets, green; *nerves* 5, prominent, 1 abaxial, 2 lateral (the midrib) – these prominently raised when dry and central (subsp. *borealis*) or situated near lower margin (subsp. *barbinervis*), 2 adaxial—extending wholly from base to apex and together forming a prominent nerve-like upper margin; minor secondary nerves usually not apparent; *apex* obliquely narrowed to a straight, rigid, subulate cusp 0.5–2 mm long, the cusp yellow (when young), ageing brown; *pulvinus* present or absent. *Gland* absent or (subsp. *borealis*) situated on flattened upper margin of phyllode 2–12 mm above base, circular or sometimes oblong, 0.3–0.6 mm long; central orifice shallow; lip sometimes raised. *Inflorescences* simple or extremely reduced 1-headed racemes; axis less than 0.5 mm long, 1(2) per node; *peduncles* 5–14 mm long, glabrous or indumentum as on branchlets; basal bract persistent, solitary, 0.5–1 mm long, oblong to triangular, very shallowly concave, gradually or abruptly acute, apically ciliate, rather obscurely 1-nerved. *Heads* globular, golden or creamy yellow, 12–22-flowered, flowers densely or subdensely arranged; *bracteoles* 1.5–3.5 mm long; claw minute; lamina slightly inflexed, prominently acuminate (exserted in buds). *Flowers* 5-merous; unexpanded buds apiculate or rounded-obtuse; *calyx* 1/4–1/2 length of corolla, gamosepalous, dissected for 1/4–1/2 its length into triangular, non-thickened lobes; calyx tube brown, nerveless or obscurely 5-nerved when dry; *petals* 2–2.5 mm long, striate but often obscurely so, glabrous or sparsely hairy. *Pods* terete to subterete, scarcely constricted between seeds, but occasional random, moderately deep constrictions occur, arcuate, to 7 cm long, c. 4 mm wide, coriaceous to thinly crustaceous, red-brown, glabrous or minutely puberulous, tapering towards base and rather abruptly narrowed at apex, prominently longitudinally nerved; nerves openly anastomosing; marginal nerves not thickened. *Seeds* (subsp. *borealis*) longitudinal and facing apex of pod, obloid, 5.5–6 mm long, 2.5–3 mm wide, turgid, medium brown, dull; *pleurogram* obscure, open at hilar end, bordered by a diffuse band of yellowish tissue (at least when almost mature); *areole* 3 x 1 mm; *funicle* filiform, 1 mm long, light brown when dry, abruptly expanded into a thick, conical, yellowish aril.

Distribution. Occurs in the south-west of Western Australia from near Eneabba south to Waroona.

Affinities. Closely related to *A. costata* Benth. which is distinguished by its narrowly lanceolate, normally shorter phyllodes (6–15 mm long). Two subspecies are recognized.

Key to subspecies of *Acacia barbinervis*

- Some or all phyllodes shallowly recurved; branchlets acutely angled towards tip; heads golden subsp. **barbinervis**
 Phyllodes straight to shallowly incurved; branchlets scarcely angled; heads creamy yellow subsp. **borealis**

Acacia barbinervis Benth. subsp. **barbinervis**

Branchlets acutely angled at apex; indumentum of spreading, straight to slightly crisped hairs, confined to ribs. *Stipules* 1.5–3 mm long, inclined to ascending, straight or shallowly recurved. *Phyllodes* inclined to ascending, mostly shallowly recurved (curving uniformly throughout or only the upper 1/3), sometimes a few straight or sigmoid, flat, with a nerve-like upper margin; *midrib* near lower margin; cusp 1–2 mm long; *pulvinus* ± absent. *Gland* normally absent. *Peduncles* 5–9 mm long. *Heads* golden. *Flower* buds apiculate; *calyx* cupular, 1/4–1/3 length of corolla, shallowly dissected for c. 1/4 its length into broadly triangular lobes.

Selected specimens examined. WESTERN AUSTRALIA: John Forrest National Park, *P. Armstrong* 84/318 (PERTH); 8 km NE of Coolup on road to Dwellingup, 16 June 1980, *R.J. Cranfield s.n.* (PERTH 00454435); Waroona, *L. Diels & E. Pritzel* 154 (PERTH); 3 miles [4.8 km] E of North Bannister on road to Wandering, *A.S. George* 10615 (PERTH); Kalamunda plateau, *R. & M. Hamilton* 90 (BRI, MEL, PERTH); Lake Leschenaultia, *D.P. Johnson* LL017 (PERTH); Wooroloo, Darling Range, *M. Koch* 1894 (PERTH); E of Bullsbrook East, *B.R. Maslin* 4801 (CANB, K, PERTH); Julimar Rd, Toodyay, 5 Jan. 1992, *P.A. Phillips s.n.* (PERTH 02116227); Helena Valley, *J. Seabrook* 523 (PERTH).

Distribution. Occurs in the south-west of Western Australia, scattered but locally common in the Darling Range from near Bindoon and Toodyay south to Waroona.

Habitat. Grows in lateritic soils in Jarrah-Marri woodland and forest.

Phenology. The main flowering flush is December–February, but specimens collected in June bear a few flowers; mature pods have been collected in December.

Conservation status. Not under threat.

***Acacia barbinervis* subsp. *borealis* Maslin, sp. nov.**

Ab *Acacia* subsp. *barbinervi* ramulis ad apices vix angulatis, indumento ubi praesenti non ad costas limitato; stipulis longioribus (2–4.5 mm longis); phyllodiis plerumque rectis, costa \pm mediana, mucrone brevioribus (0.5–1 mm longo), pulvino 0.5–1 mm longo, glande praesenti; pedunculis ad 14 mm longis; floribus cremeis; calycis lobis anguste triangularibus, differt.

Typus: near Victoria location 10212, 22 km north of Eneabba, Western Australia, 2 January 1979, *E.A. Griffin* 1802 (*holo:* PERTH 00179515).

Branchlets scarcely angled; hairs of indumentum not confined to ribs, spreading to antrorse and variably crisped. *Stipules* 2–4.5 mm long, ascending to erect, straight. *Phyllodes* 10–30 mm long, 1–2 mm wide, ascending to erect, straight to shallowly incurved, sometimes very shallowly recurved at apex, flat with a nerve-like upper margin but appearing angular in section when narrow due to pronounced nerves; *midrib* \pm central; *cuspid* 0.5–1 mm long; *pulvinus* not prominent, 0.5–1 mm long, yellow to light brown when dry. *Gland* 2–12 mm above base. *Peduncles* 6–14 mm long. *Heads* creamy yellow. *Flower buds* rounded-obtuse; *calyx* narrowly turbinate, *c.* 1/2 length of corolla, somewhat variably dissected for *c.* 1/2 its length into narrowly triangular lobes.

Selected specimens examined. WESTERN AUSTRALIA: 1.5 miles [2.5 km] SSW of Yeal Swamp, Wanneroo Forest Reserve, *Y. Chadwick* 2527 (PERTH); 7.5 km E of Rose Thompson Rd along Coorow–Greenhead road, Alexander Morrison National Park, *R.J. Cranfield & P.J. Spencer* 8008 (PERTH); Perry Rd, N of Gnangara, *J. Dodd* 21 (PERTH); Moore River National Park, *J. Dodd* 45 (PERTH); Hill River, Jan. 1931, *C.A. Gardner s.n.* (CANB, MEL, PERTH 0179485); 8 km S of Eneabba, *E.A. Griffin* 796 (K, PERTH); Clover Rd, Wanneroo–Yanchep, *J. Havel* 215 (PERTH); Moore River bridge, *J. Havel* 259 (PERTH).

Distribution. Occurs in south-west Western Australia in coastal or near-coastal areas from Wanneroo (Yeal Swamp) north to the Eneabba area.

Habitat. Grows in sand and sometimes gravel in open heath and low *Banksia* woodland.

Phenology. Flowering recorded from November to February; mature pods collected in November and March.

Conservation status. Not under threat.

Etymology. The subspecific epithet, the Latin *borealis* (northern), refers to the distribution compared to that of the typical subspecies.

Affinities. The phyllodes of subsp. *borealis* resemble those of *A. laricina* but they are not continuous with the branchlets as in the latter; also its petals are striate, whereas *A. laricina* has smooth petals. Superficially this subspecies resembles the variant of *A. auronitens* with quadrangular 4-nerved phyllodes, thickly crustaceous to woody pods and smaller, mottled seeds.

***Acacia blaxellii* Maslin, sp. nov.**

Frutex ad 1.2 m altus. Ramuli teretes, obscure costati, tomentulosi vel puberuli. Stipulae caducae, c. 1 mm longae. Phyllodia anguste oblonga ad oblongo-elliptica, obtusa, plerumque 10–20 mm longa, 3–5 mm lata, laevia, glabra vel parum pubescentia, costa non prominenti; glans obscura, proxime supra pulvinam inserta. Pedunculi binati, plerumque 10–22 mm longi, glabri; capitulum floribus 17–31. Flores 5-meri. Sepala libera, glabra. Petala enervia. Legumen undulatum vel circinatum vel sigmoideum, ad 20 mm longum, 3.5 mm latum, glabrum. Semina longitudinalia ad transverse obliqua, ovoidea, 2–2.2 mm longa, parum nitentia; arillus anguste clavatus.

Typus: 106 km south of Queen Victoria Rock on the road to Hyden, Western Australia, 22 September 1983, B.R. Maslin 5418 (*holo:* PERTH 00171778; *iso:* CANB, K, MEL, NSW).

Spreading *shrub*, dense to mid-dense, rounded to obconic, 0.3–1.2 m tall, to 1.5 m across, multi-stemmed or branching just above ground level. *Bark* slightly rough, grey. *Branchlets* terete, obscurely ribbed, tomentulose to densely puberulous (hairs patent to \pm appressed), marked by persistent raised leaf bases where phyllodes have fallen. *New shoots* initiated at anthesis, arising in axil of peduncle, the stems densely puberulous to tomentulose with silvery white hairs, the phyllodes either glabrous to subglabrous and (at least at initiation) dull purple-red and faintly pruinose, or with a dense, appressed silvery white indumentum. *Stipules* triangular to narrowly triangular, c. 1 mm long, scarious, caducous. *Phyllodes* narrowly oblong to oblong-elliptic or slightly oblanceolate, 10–20 mm long, rarely a few 25–28 mm, 3–5 mm wide, l:w (3)4–6, slightly thick and fleshy, smooth, ascending to erect, straight, glabrous or (when new shoots are hairy) the terminal ones with sparse to moderate fine appressed hairs, light green to dark green when mature; stomata minute, numerous (observe at $\times 10$ mag.); *midrib* not prominent (not or only slightly raised when dry), central or slightly excentric; *lateral nerves* absent or very obscure; *apex* \pm obtuse, with a minute, brown mucro; *pulvinus* terete, c. 1 mm long, densely puberulous to tomentulose with hairs sometimes restricted to adaxial surface. *Gland* not prominent, on upper margin of phyllode at distal end of pulvinus, narrowly oblong, sometimes circular, (0.3)0.4–0.6 mm long. *Inflorescence* a 2-headed raceme; axis less than 0.5 mm long; *peduncles* (7)10–22 mm long, glabrous, yellow to light green, light brownish when dry, recurved in fruit; *basal peduncular bracts* caducous, rostriform, c. 2 mm long, puberulous abaxially, dark brown. *Heads* globular, light- to mid-golden, 5–6 mm diam. at anthesis, 17–31-flowered; *bracteoles* few or absent, linear, c. 0.5 mm long. *Flowers* 5-merous; *sepals* free, linear to narrowly spatulate, 1/4–2/5 length

of petals, membranous, glabrous or subglabrous, sometimes absent; *petals* 1.5–2 mm long, glabrous, nerveless. *Pods* to 20 mm long, 3.5 mm wide, variably undulate to circinate or irregularly sigmoid, thinly coriaceous, not constricted between seeds, glabrous, dark purplish brown and slightly pruinose, ageing dark brown; marginal nerve narrow. *Seeds* longitudinal to transversely oblique, ovoid, 2–2.2 mm long, 1.2–1.5 mm wide, somewhat compressed (0.8–0.9 mm thick), slightly shiny, dark grey-brown to black; *pleurogram* very obscure, U-shaped, open at hilar end; *areole* c. 0.3 mm long, 0.2 mm wide; *funicle* filiform, to c. 1 mm long; *aril* sublaterally attached to seed, narrowly clavate, 2/3–3/4 length of seed, white.

Selected specimens examined. WESTERN AUSTRALIA: 159 km E of Hyden towards Norseman, D.F. Blaxell W75/48 (PERTH); 42.2 miles [67.8 km] W of Kumarl towards Lake King, R. Cumming 2557 (PERTH); between Bremer Range and Lake King–Kumarl road, B.R. Maslin 5431 (G, MO, PERTH); 106 km S of Queen Victoria Rock on road to Hyden, B.R. Maslin 5516 (K, PERTH); c. 4 km N of Maggie Hay Hill, between Lake Johnston and Lake Hope, B.R. Maslin 5518 (PERTH); 25 km ESE of Tadpole Lake, Frank Hann National Park, K. Newbey 5537 (AD, NY, PERTH); 4.8 km E of Graham Rock turnoff on Hyden–Newdegate road, M.H. Simmons 1327 (PERTH).

Distribution. Occurs in the south-west of Western Australia, largely confined to an area between Frank Hann National Park and McDermid Rock (c. 100 km west of Norseman). Also collected near Hyden (c. 150 km west of the principal collecting area) and near Norseman (c. 90 km east of principal collecting area).

Habitat. Grows in red-brown clay on flat land or in loam on low rocky hills, in mallee scrub or eucalypt woodland.

Phenology. Flowering recorded from August to early October; mature pods collected in December.

Conservation status. Not under threat.

Etymology. It is a pleasure to name this species in honour of its discoverer, Don Blaxell (formerly of the Royal Botanic Gardens, Sydney). Don has made major contributions to Australian botany through his publications on orchids and eucalypts and his administrative role at Sydney.

Affinities. Most closely allied to *A. evenulosa* (see below) and *A. saxatilis* S. Moore. Some of the important characters shared by these three species include: phyllodes narrowly oblong to linear, short (to 4 cm), obtuse, inconspicuously mucronulate, midrib not prominent, lateral nerves absent or obscure; peduncles twinned on extremely reduced raceme axes, basal bracts rostriform, caducous; bracteoles few or absent; sepals free; aril narrowly clavate and sublaterally attached to seed. *Acacia blaxellii* is readily distinguished from *A. evenulosa* and *A. saxatilis* by its densely puberulous to tomentulose branchlets (glabrous in *A. saxatilis*, hairs appressed, obscure and commonly confined to phyllode axils in *A. evenulosa*) and its phyllodes which are frequently shorter with the gland situated at the distal end of the pulvinus (1–4 mm above the pulvinus in the other two species). *Acacia saxatilis* occurs to the north of both *A. blaxellii* and *A. evenulosa*.

***Acacia bracteolata* Maslin, sp. nov.**

Frutex effusus ad 0.6 m altus. Ramuli teretes, subtiliter costati, villosi ad tomentulosi, glabrescentes. Stipulae 3–4 mm longae, persistentes. Phyllodia parum asymmetrica, plerumque anguste elliptica ad

oblanceolata, obtusa vel subacuta, minute mucronata, 15–25 mm longa, 5–10 mm lata, recta, parce byssacea; costa non prominens; glans 2.5–5 mm supra pulvinam inserta. Inflorescentia racemus reductus, (1)2(3)-capitatus. Pedunculi 4–6 mm longi, pilosi; capitula floribus 19–25; bracteolae prominentes, exsertae, ovatae, acuminatae, 1.5–2 mm longae, parce pilosae. Flores 4-meri. Sepala unita, glabra. Petala glabra, enervia. Legumen anguste oblongum, ad 6 cm longum, 6–7 mm latum, ± planum, chartaceum, subvelutinum. Semina longitudinalia, oblongoideo-ellipsoidea, 3.5–4 mm longa, hebetia praeter marginem pleurogrami; arillus clavatus.

Typus: Scaddan (Scaddan Rd, 11.2 km east of Esperance–Norseman highway), Western Australia, 2 July 1984, *P. van der Moezel* 373 (*holo:* PERTH 00345520; *iso:* K, MEL).

Spreading *shrub*, moderately dense to moderately open, to 0.6 m tall and 1.2 m wide. *Branchlets* terete, very finely ribbed, ascending, sparingly divided, straight to slightly flexuose, villous to tomentulose, glabrous with age, dark red-brown. *Stipules* narrowly triangular to linear-triangular, (2)3–4(5) mm long, scarious, slightly thickened at base, hairy abaxially, glabrous with age, persistent. *Phyllodes* slightly asymmetric, the upper margin normally slightly more convex than the lower, usually narrowly elliptic to oblanceolate, sometimes elliptic, (13)15–25(30) mm long, (4)5–10 mm wide, l:w 2–4(5), coriaceous, slightly thickened, sometimes finely rugose when dry, mostly inclined to ascending, straight, sometimes slightly undulate or twisted, with sparse to moderate fine, weak, appressed hairs (i.e. cottony to cobwebby), sometimes glabrous with age, green; *midrib* ± central on each face of phyllode, not prominent (only very slightly raised and the same colour as rest of lamina when dry), terminating before apical mucro, sometimes with an indistinct longitudinal nerve arising from adaxial side of midrib in region of pulvinus and terminating about middle of phyllode; *lateral nerves* obscure, diverging from midrib at c. 45°, anastomosing; marginal nerves not thickened, yellowish to light brown; *apex* obtuse or sometimes subacute, excentrically mucronulate, the mucro minute (c. 0.5 mm long), slightly pungent, straight or occasionally slightly hooked; *pulvinus* 1–2 mm long, yellowish to brown, finely transversely wrinkled, glabrous to moderately tomentulose. *Gland* not prominent, on upper margin of phyllode 2.5–5 mm above pulvinus, circular or oblong, 0.3–0.5 mm long, yellowish to dark brown when dry, lip not raised. *Inflorescence* shorter than phyllodes, an extremely reduced (1)2(3)-headed raceme; axis less than 0.5 mm long, sometimes growing out after flowering; *peduncles* 4–6 mm long (sometimes to 9 mm in fruit), antrorsely hairy, mostly recurved when in fruit; *basal peduncular bracts* solitary, ovate, acute to subacute, 2–3 mm long, 1–2 mm wide, concave, sessile, hairy abaxially, brown, persistent. *Heads* globular to very slightly obloid, 4.5–5.5 mm diam. (dry), 7 mm diam. (fresh), bright lemon-yellow, 19–25-flowered; *bracteoles* prominent, exserted in bud, minutely stipitate; lamina ovate, acuminate (point straight or slightly recurved), 1.5–2 mm long, shallowly concave, brown, sparsely hairy abaxially especially at apex, faintly 1-nerved. *Flowers* 4-merous; *calyx* gamosepalous, 1/2 length of corolla, dissected for 1/4–1/3 its length into broadly triangular, non-thickened lobes; calyx tube nerveless, glabrous to subglabrous; *petals* 1.8–2 mm long, elliptic to obovate, connate for c. 1/2 their length but readily splitting to base upon dissection, glabrous, not obviously nerved, obtuse to bluntly acute. *Pods* narrowly oblong, to 6 cm long, 6–7 mm wide, with up to 10 seeds, flat but rounded over seeds, scarcely constricted although very occasional random deep constrictions occur, firmly chartaceous, distinctly arcuate, not reticulate, subvelutinous, abruptly constricted at both ends, greyish brown; stipe thick, c. 0.5 mm long; marginal nerve slightly thickened, yellow or light brown. *Seeds* longitudinal, facing apex of pod, obloid-ellipsoid but obliquely truncate along edge adjacent to aril, 3.5–4 mm long, 2.5–2.8 mm wide, somewhat compressed (1.5 mm thick), dull except a narrow band of glossy tissue bordering pleurogram, black; *pleurogram* U-shaped, open at hilar end; *areole* c. 1.5 x 1 mm; *funicle* filiform, c. 1 mm long, reflexed below and expanded into a relatively large, cream, clavate aril which extends 1/2 way down one side of seed.

Selected specimens examined. WESTERNAUSTRALIA: 51 miles [c. 82 km] S of Nanambinia Station, S of Balladonia, T.E.H. Aplin 2585 (PERTH); between Mt Ragged and [Queen] Victoria Spring, 1886, Miss S. Brooke s.n. (PERTH 00169897); Scaddan Rd, 11.2 km from Coolgardie–Esperance road turnoff, G. Craig 1473 & P. van der Moezel (PERTH); Junana Rock, 10 km N of Mt Ragged on Balladonia track, Cape Arid National Park, D. Edinger 205 (MEL, PERTH); Pine Hill, A.S. George 16110 (PERTH); Parmango Rd adjacent to Clyde Hill, B.R. Maslin 5830 (CANB, PERTH); 50 km W of Grass Patch, K. Newbey 9683 (PERTH); c. 100 km S of Balladonia, P. Wilson 2877 (PERTH).

Distribution. Occurs in the south-west of Western Australia, confined to an area from c. 50 km west of Grass Patch east to Pine Hill at the north end of Cape Arid National Park and c. 50 km north towards Balladonia.

Habitat. Sand over clay or calcareous (infrequently granitic) loam on flat plains or in shallow depressions (sometimes near salt lakes) in mallee woodland or shrubland.

Phenology. Flowering recorded from July to September; mature pods collected in November and December.

Conservation status. Not under threat.

Etymology. From the Latin *bracteolatus* (bracteolate), in reference to the prominently exerted bracteoles of the flower head.

Affinities. Problematic. Superficially resembles *A. merrallii* F. Muell. which is similar in phyllode shape and size but differs significantly in its 5-merous flowers with free sepals; semi-terete, commonly coiled pods 2–3 mm wide; conspicuous, bright orange aril; smaller, usually caducous stipules; and much shorter indumentum.

***Acacia carnosula* Maslin, sp. nov.**

Frutex effusus 0.5–1.5 m altus. Ramuli teretes, obscure costati, glabri. Stipulae inconspicuae. Phyllodia obovata ad oblanceolata, ± recta, obtusa, non mucronata, 5–10 mm longa, 1–2.5 mm lata, crassa, glabra, costa immersa; glans 2–4.5 mm supra pulvinam inserta. Inflorescentia racemus reductus, 1(2)-capitatus. Pedunculi 4–6 mm longi, glabri; capitula floribus 9–11. Flores 5-meri. Sepala libera, fimbriolata. Petala glabra, enervia. Legumen lineare, ad 4 cm longa, 2.5–3.5 mm latum, chartaceum, glabrum. Semina longitudinalia.

Typus: 19.6 km south of Caiguna on Baxter Memorial track, Western Australia, 27 August 1983, M.J. Fitzgerald B68 (*holo:* PERTH 00199664; *iso:* CANB, K).

Spreading *shrub*, domed or ± straggly, much branched, 0.5–1.5 m tall, to 3.5 m wide; stems 10–15 mm diam. at base. *Branchlets* terete, obscurely nerved, glabrous, roughened by bark breaking into irregular or ± rectangular flakes. *Stipules* inconspicuous. *Phyllodes* obovate to oblanceolate with almost straight edges, obtuse, ± without mucro, 5–10 mm long, 1–2.5 mm wide, l:w 3–6.5, flat, thick, subfleshy, finely longitudinally rugose when dry, ascending to erect, a few inclined, straight to very shallowly incurved, glabrous, green; *midrib* submerged, not or scarcely observable when dry (drying same colour as rest of lamina), usually slightly excentric being situated towards upper margin; nerve on abaxial margin distinct (x10 mag.), drying brownish; adaxial nerve submerged, superficially absent

except sometimes near phyllode apex where it resembles the abaxial nerve; lateral nerves superficially absent; *pulvinus* terete, 0.4–0.7 mm long, drying brownish and very slightly rugose. *Gland* situated 1/3–2/3 along upper margin of phyllode 2–4.5 mm above pulvinus, not prominent, circular to shortly oblong, 0.2–0.3 mm long, 0.1–0.2 mm wide. *Inflorescence* an extremely reduced raceme; axis *c.* 0.1 mm long; *peduncles* 1 or 2 per node, 4–6(8) mm long, glabrous, recurved in fruit; *basal peduncular bract* solitary, persistent, cymbiform–cucullate (concave, slightly curved, obtuse to subacute, sometimes cleft, sessile), 0.5–1 mm long, minutely white-fimbriolate, otherwise glabrous, dark brown. *Heads* globular, light golden, 3–3.5 mm diam. (dry), 9–11-flowered; *bracteoles* peltate; claw linear, 0.1–0.2 mm long, lamina \pm circular, *c.* 0.5 mm diam., white-fimbriolate, brown. *Flowers* 5-merous; *sepals* *c.* 1/3 length of petals, free, broadly spatulate; claw *c.* 0.2 mm long, lamina shallowly concave, *c.* 0.4 mm long, slightly thickened abaxially, acute to subacute, white-fimbriolate; *petals* 1.5 mm long, glabrous, nerveless. *Pod* (only dehisced valves seen) linear, to 4 cm long, 2.5–3.5 mm wide, chartaceous, not or scarcely constricted between seeds, flat but slightly raised over seeds, dehiscing along length of one suture with the split valves commonly remaining attached along opposite suture, glabrous, dark red-brown, the seemingly vernicose marginal nerve very narrow. *Seeds* (very immature, one seen) longitudinal.

Selected specimens examined. WESTERN AUSTRALIA: 19.6 km S of Caiguna on Baxter Memorial track, *M.J. Fitzgerald* B4 (PERTH), B26, B32, B57, B66 and B69 (all PERTH), B89 (BM, CANB, G, PERTH) and B99 (CANB, PERTH); 9 km S of Cocklebiddy, *A.S. George* 11838 (AD, BRI, PERTH); 36 km SE of Mt Ragged [near Israelite Bay], *A.S. George* 16027 (PERTH); 12 km NNW of Eyre, *S.D. Hopper* 3017 (K, MEL, PERTH); 25 km SSE of Cocklebiddy towards Eyre, *G.J. Keighery* 7570 (MO, PERTH); Twilight Cove, 9 Aug. 1982, *A. Tapper s.n.* (PERTH 00704822); Cocklebiddy Bird Sanctuary, 15 Aug. 1982, *A. Tapper s.n.* (PERTH 00177148).

Distribution. Occurs in the south-east of Western Australia, confined to the Caiguna–Eyre–Cocklebiddy area except one collection from near Israelite Bay, *c.* 200 km south-west of Caiguna.

Habitat. Grows in calcareous sand, loamy sand or clay-loam over limestone pavement at shallow depth, in open shrub or tree mallee.

Flowering period. Flowering recorded from July to October. Fruiting period not known.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. Specific epithet from the Latin *carnosus* (fleshy) with the diminutive adjectival suffix *-ulus*, in reference to the phyllodes.

Affinities. The 3-nerved phyllodes are similar to those of *A. profusa* (see below), though shorter, wider, and rounded at the apex; *A. carnosula* also has peduncular bracteoles and longitudinal seeds.

Acacia castanostegia* Maslin, *sp. nov.

Frutex compactus, intricatus, glaber, normaliter ad 0.5 m altus. Stipulae caducae, in surculis valde juvenilibus tantum obviae, spatulatae, ad 5 mm longi; lamina elliptica, *c.* 2 mm longa; unguis linearis. Phyllodia linearia, quadrangularia (in sicco quidem), quadrinervia, 11–29 mm longa, 1–1.5 mm lata, rigida, normaliter recta, pungentia, pulvino nullo. Inflorescentia racemus 1- vel 2-capitatus; alabastra bracteis conspicuis, imbricatis, atrobrunneis inclusa. Florum capitula globularia, cremea, 6–8-flora;

bracteolae nullae. Flores 5-meri. Sepala libera vel 2 pro 1/4–1/2 longitudinis unita. Petala elliptica, 2–2.5 mm longa, 1.3–1.5 mm lata. Legumen lineare, ad 6 cm longum, 3.5 mm latum. Semina longitudinalia, obloidea ad ellipsoidea, 3–3.5 mm longa, 2 mm lata, ± nitentia, atro-brunnea

Typus: 18 km north of Mt Holland, c. 92 km south-south-east of Southern Cross, Western Australia, 23 August 1979, K. Newbey 5820 (*holo*: PERTH 00743631; *iso*: CANB, G, K, MEL, NY, PERTH 00743658, 00743666, 00743674 and 00908975).

Harsh, spreading *shrub*, moderately dense, much-branched, intricate, glabrous, normally to 0.5 m tall and 0.6 m wide but sometimes to 1 m tall and 1.5 m wide. *Bark* light grey. *New shoots* initiated at anthesis from distal end of raceme axis, red with age. *Branchlets* terete, apically with rather obvious yellow ribs and brownish to light green interstices, covered with a variably pronounced, white, exfoliating epidermis. *Stipules* present only on extremely young new shoots, falling by the time the inflorescence bracts have dropped, spatulate, to 5 mm long; lamina elliptic, c. 2 mm long; claw linear. *Phyllodes* linear, quadrangular (at least when dry), 11–29 mm long, 1–1.5 mm wide, l:w 11–30, rigid, subdistant, patent to slightly inclined, normally straight but sometimes very shallowly arcuate (either incurved or recurved), light greyish green, sometimes very slightly dilated at base, with a yellowish nerve along each angle, the adaxial nerve bifurcating in the region of the gland; apical cusp 1.5–2.5 mm long, straight, rigid, dark brown; *pulvinus* absent. *Gland* on adaxial surface of phyllode at or to 1 mm above base, not prominent, circular, 0.3–0.4 mm diam. *Inflorescence* usually a 1-headed raceme, very occasionally 2-headed; axis 1–1.5 mm long, enclosed in bud by conspicuous, dark brown, scarious, very finely striate, imbricate, glabrous (margins fimbriate) bracts that decrease in size basipetally (the largest to c. 5 mm long) and are normally shed by anthesis; *peduncles* 3–4.5 mm long at anthesis, 8–15 mm long in fruit. *Heads* globular, 4–5 mm diam. when dry, cream, 6–8-flowered; *bracteoles* absent. *Flowers* 5-merous; *sepals* c. 1/3 length of petals, free or occasionally 2 united for 1/4–1/2 their length, diaphanous, narrowly oblong; *petals* elliptic, 2–2.5 mm long, 1.3–1.5 mm wide, very obscurely 1-nerved. *Pod* terete to compressed, not or scarcely constricted between seeds, 3–8 cm long, 3–3.5 mm wide, pendulous, thinly coriaceous to thinly crustaceous, ± straight to shallowly curved, not reticulate, dark greyish brown (red when very young), abruptly narrowed at both ends, acute; margins not thickened; *stipe* terete, c. 1 mm long. *Seeds* longitudinal, obloid to obloid-ellipsoid, obliquely truncate along edge adjacent to aril, 3–3.5 mm long, 2 mm wide, ± shiny, dark brown, sparingly mottled; *pleurogram* open towards hilum; *areole* c. 1 mm long, 0.5 mm wide; *aril* clavate, c. 1/2 as long as seed, creamy white tinged brown (when dry).

Selected specimens examined. WESTERN AUSTRALIA: 1.4 km W of Hyden–Norseman crossroads with Southern Cross–Forrestania road, R.M. Buehrig 93.12.10.7 (PERTH); Dundas Coach Rd–Heritage Trail, 6.3 km SSE of Norseman, G.F. Craig 2465 (PERTH); 6 miles [9.6 km] NNW of Mt Holland, A.S. George 9437 (BRI, NSW, PERTH); E of North Ironcap on Forrestania–Southern Cross road, J.W. Green 5556 (PERTH); 31 km E of Vermin Proof Fence No. 1 on Norseman–Hyden road, B.R. Maslin 3943 (PERTH); Forrestania area, 25 July 1979, R.F. Maslin s.n. (PERTH 00189960); Forrestania–Hatter Hill, 27 July 1979, R.F. Maslin s.n. (PERTH 00189979); South Ironcap, K. Newbey 5226 (PERTH); 6.5 km S of Lake Seabrook, c. 38 km NE of Southern Cross, K. Newbey 5860 (PERTH); 1 km W of Lake Cronin, c. 83 km E of Hyden, K. Newbey 6262 (PERTH).

Distribution. Occurs in the south-west of Western Australia, restricted along the eastern margin of the south-central wheatbelt, with scattered populations at Lake Seabrook (north of Southern Cross), south of Marvel Loch, between Mt Holland and Hatter Hill, west of Lake King and a population near Norseman.

Habitat. Grows in well-drained sand, loam or laterite in eucalypt woodland, open scrub or heath.

Phenology. Flowering recorded from June to October; mature pods collected in November.

Conservation status. Not under threat.

Etymology. The specific epithet is derived from the Latin *castaneus* (chestnut brown) and the Greek *stēge* (a shelter or cover), and refers to the very conspicuous brown bracts that completely enclose the young inflorescences.

Affinities. *Acacia castanostegia* is most closely allied to *A. pachypoda* Maslin. Both species have pungent phyllodes, reduced racemes enclosed by conspicuous bracts when in bud, cream flower heads which lack bracteoles, and similar carpological features. Additionally, both species have the same, highly unusual stipule morphology. The principal distinguishing features between the two species are given in the key below.

Phyllodes prominently dilated at base, terete, nerveless; racemes mostly 2- or 3-headed; petals narrowly linear (c. 0.2 mm wide); calyx cupular	A. pachypoda
Phyllodes not (or only very slightly) dilated at base, quadrangular, with a rather obvious nerve along crest of each angle; racemes mostly 1-headed; petals elliptic (1.3–1.5 mm wide); calyx of ± free, narrowly oblong sepals	A. castanostegia

Although both species occur in the wheatbelt–goldfields region of Western Australia in an area roughly bounded by Southern Cross, Coolgardie, Salmon Gums and Lake King, *A. castanostegia* is the more westerly distributed of the two. The most westerly known locality for *A. pachypoda* is the Frank Hann National Park (27 km south of Tadpole Lake), which is about 30 km east of Hatter Hill. It is quite possible that future work in this relatively poorly collected region will show the two species to have overlapping ranges.

Acacia concolorans* Maslin, *sp. nov.

Frutex intricatus ad 0.4 m altus, 1–2 m latus. Rami et phyllodia mediocriter ad atro- viridia et variabiliter scabridula. Stipulae c. 2 mm longae, spinosae, basi incrassatae, persistentes. Phyllodia oblonga ad anguste oblonga, compressa sed crassa, 4–10 mm longa, 1.5–2 mm lata, versus apicem ramuli decrescentia, pungentia; nervi 5, 2 in margine adaxiali interdum secus phyllodium coalescentes. Inflorescentia normaliter racemus valde reductus binatus, axe ad 0.5 mm longo. Pedunculi 1.5–3 mm longi, fructiferi recurvi. Florum capitula globularia, in vivo 6 mm diametro. Flores 5-meri. Sepala libera. Legumen anguste oblongum, ad 5 cm longum, 4–5 mm latum, ptyxis variabilis (sigmoidea, reclinata, curvata vel ± circinata). Semina obliqua, subirregulariter ovoideo–ellipsoidea, 2.5–3 mm longa, 2 mm lata, compressa (1 mm crassa), atrobrunnea; funiculus filiformis, 2 mm longus; arillus albus, ± curvatus et clavatus et unilateraliter dimidiam usque totam longitudinem seminis attingens.

Typus: north-east end of Parker Range, 47.5 km south-south-east of Southern Cross, Western Australia, 6 August 1983, *B.R. Maslin* 5353 (*holo:* PERTH 00745243; *iso:* CANB, G, K, MEL, NSW, NY).

Sprawling, harsh, intricate *shrub* to 0.4 m tall and 1–2 m wide, with many slender, medium to dark green (sometimes tinged purplish) stems arising from ground level. *New shoots* arising at distal end of minute raceme axis from axils of peduncles, initiated at anthesis. *Branchlets* terete, finely nerved

(the nerves yellowish or light brown), slightly flexuose, very slightly viscid, variably scabridulous. *Stipules* spinescent, c. 2 mm long, thick (0.6–0.7 mm diam.) and green at base, distally brown, widely spreading, straight, smooth or variably scabridulous, persistent. *Phyllodes* oblong to narrowly oblong, decreasing in size towards branchlet apex, 4–10 mm long (including cusp) and 1.5–2 mm wide at maturity, l:w 2.5–5.5, distant, falling early from some nodes, patent to very slightly reflexed, straight, very rigid, compressed but thickened (i.e. an orthopachyphyllode, cf. Vassal & Maslin 1979), when dry, sometimes appearing quadrangular due to the pronounced midrib on each face; *apex* somewhat abruptly narrowed into a rigid, normally straight, brown cusp 1–1.5 mm long; *nerves* 5, yellowish or light brown; *midrib* central on each face (or sometimes slightly excentric), prominently raised when dry; abaxial margin with a single nerve; adaxial margin with 2 nerves which normally extend wholly from phyllode base to apical cusp (interstices between adaxial nerves flat, 0.5–0.8 mm wide) but sometimes these nerves coalescing about half-way along phyllode; secondary nerves absent; indumentum and colour as on branchlets; *pulvinus* not apparent. *Gland* not prominent, on adaxial margin of phyllode 1–2 mm above base, circular, 0.3–0.4 mm diam., with a shallow central depression. *Inflorescence* an extremely reduced 2 (rarely 1)-headed raceme; axis < 0.5 mm long, frequently with a new shoot arising at its distal end in axil of peduncle; flowering confined to extremities of branchlets; *peduncles* 1.5–3 mm long, glabrous; *basal peduncular bract* solitary, c. 1.5 mm long, sessile, concave, curved, dark brown, minutely ciliolate, otherwise glabrous, usually falling early. *Heads* globular, 6 mm diam. when fresh, 3–4 mm diam. when dry, mid-golden, 7–8-flowered; *bracteoles* oblong to narrowly oblong, c. 0.5 mm long, inflexed at apex, ciliolate. *Flowers* 5-merous; *calyx* 1/4–1/3 length of corolla; *sepals* free, narrowly oblong to narrowly spatulate, brown in upper half, yellowish in lower half, minutely fimbriate, especially in upper half, apically shallowly concave; *petals* 1.5–1.7 mm long, elliptic, free, glabrous, sometimes apically brownish, very obscurely 1-nerved but normally superficially nerveless. *Gynoecium* sessile. *Pod* narrowly oblong, compressed, very slightly raised over seeds, rarely constricted between, to 5 cm long (expanded length), 4–5 mm wide, declinate due to recurved fruiting peduncle, thinly coriaceous to somewhat crustaceous, ptyxis variable (sigmoid, reclinate, curved or \pm circinate), not reticulate, glabrous, greyish dark brown, rather abruptly narrowed at both ends, mucronulate; basal stipe minute; margins slightly thickened. *Seeds* oblique with aril facing adaxial margin and directed towards apex of pod, slightly irregularly ovoid-ellipsoid, obliquely narrowed at hilar end, 2.5–3 mm long, 2 mm wide, compressed (1 mm thick), somewhat shiny, dark brown; *pleurogram* very obscure, shallowly U-shaped, open at hilar end; *areole* 0.2–0.3 mm long, 0.3 mm wide; *funicle* filiform, c. 2 mm long, reflexed below and expanded into a rather conspicuous, \pm curved, clavate, white aril which extends from half to wholly down one side of seed.

Selected specimens examined. WESTERN AUSTRALIA: 0.5 miles [0.8 km] W of Marvel Loch town centre, *R.J. Cumming* 2396 (BM, PERTH); Parker Range, *A.S. George* 9434 (CANB, PERTH); NE end of Parker Range, 47.5 km due SSE of Southern Cross, *B.R. Maslin* 5354 (AD, BRI, PERTH); about 1 km W of Marvel Loch on the road to Southern Cross, *B.R. Maslin* 5355 (PERTH, TLF); 1 km from Marvel Loch on road to Southern Cross, *B.R. Maslin* 5510 (PERTH); Karlgarin, 16 km by road SW of Hyden, *B.R. Maslin* 5773 (MEXU, PERTH); c. 500 m SW of Parker Range Tank, 50.5 km SE of Southern Cross, *F. & M. Mollemans* 2864 (PERTH).

Distribution. Occurs in the south-west of Western Australia, known only from a small area south of Southern Cross from near Marvel Loch to the Parker Range with a single collection from Karlgarin (c. 135 km south-west of Marvel Loch).

Habitat. Grows in rocky clay or loam in eucalypt woodland or mallee shrubland. Up to half the specimens collected occur in disturbed areas such as a road verge, cleared area or an old digging.

Phenology. Flowering recorded from June to September; mature pods collected in late December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. The specific epithet (Latin *concolorans*, of uniform colour) is in allusion to the branchlets and phyllodes which are of the same green colour.

Affinities. *Acacia concolorans* is readily recognized by a combination of its harsh, intricate, low habit, its spinescent stipules that are prominently thickened at the base, its small, patent, thick, 5-nerved, pungent phyllodes which are the same colour as the branchlets, its small heads on short peduncles, and its relatively small pods that are declinate due to curvature of the fruiting peduncles. The new species appears to be most closely related to the more easterly distributed *A. inamabilis* E. Pritz. on account of its pungent stipules and its pungent, 5-nerved phyllodes which lack pulvini, but it is readily distinguished by its scabridulous branchlets, shorter phyllodes and pods, its smaller fewer-flowered heads and its free sepals. *Acacia inamabilis* has glabrous branchlets, phyllodes 15–45 mm long, pods to 8.5 cm long, heads with c. 25 flowers, and a gamosepalous calyx; it is distributed from near Norseman east to the Fraser Range and south-east to Peak Charles.

Acacia acutata W. Fitzg. bears a superficial resemblance to *A. concolorans* in its striate branchlets, its small, patent, pungent, 5-nerved phyllodes and its small heads on short peduncles, but Fitzgerald's species is readily distinguished by its caducous stipules. *Acacia acutata* is widespread in the Western Australian wheatbelt and adjacent goldfield regions and has been recorded from about 30 km north of Parker Range (the type locality for *A. concolorans*). The new species is distantly related to *A. hystrix* (see below for discussion).

Acacia congesta Benth., *London J. Bot.* 1: 327 (1842). *Type:* Swan River, Western Australia, *J. Drummond s.n.* (*holo:* K – Herb. Bentham. sheet annotated 'with [Drummond] 161'; *iso:* K – Herb. Hooker. sheet).

Acacia collina E. Pritz., *Bot. Jahrb. Syst.* 35: 291 (1904), *synon. nov.* *Type:* east of Mogumber, Western Australia, 31 August 1901, *L. Diels* 4043 (*iso:* PERTH 00745197 – fragment ex B).

Intricate, spreading *shrub* 0.5–2.5 m tall. *Bark* dark grey. *Branchlets* glabrous or hairy, with a grey-white epidermis, fissured with age. *Stipules* spinose, sometimes only the hardened bases persisting. *Phyllodes* variable, dimidiate, pungent, 5–30 mm long, 3–7 mm wide, glabrous or hairy, dark green; abaxial margin \pm straight; adaxial margin shallowly or markedly convex; *midrib* prominent, normally situated towards lower margin; lateral nerves obscure or pronounced. *Inflorescences* simple or in short terminal or axillary racemes; *peduncles* 5–20 mm long, glabrous or hairy, bract sometimes above middle. *Heads* globular to obloid, golden, 30–70-flowered. *Flowers* 5-merous; *sepals* free; *petals* nerveless. *Pod* moniliform or submoniliform, to 6 cm long, 4–5 mm wide, thinly coriaceous-crustaceous to firmly chartaceous, curved to openly once-coiled, glabrous, brown to yellow. *Seeds* longitudinal, obloid to ovoid or ellipsoid, 3–5 mm long, dark brown, commonly minutely rugulose at centre, arillate.

Distribution. Discontinuous in the south-west of Western Australia from near Geraldton south to Mogumber and Wongan Hills.

Affinities. A variable species, especially with respect to phyllode shape, size and indumentum, and inflorescence morphology. The circumscription of *A. congesta* is here amended by including *A. cliftoniana* as a subspecies and removing two elements as the new species *A. cuneifolia* and *A. puncticulata* (see below). *Acacia aculeiformis* (see above) is seemingly related to this group and *A. lullfitziorum* (see below) is sometimes confused with *A. congesta*.

Sometimes similar to *A. idiomorpha* A. Cunn. ex Benth. which has more undulate phyllodes with a convex abaxial margin, united sepals, uni-nerved petals, and densely pilose to villous undulate pods. Similar to *A. paradoxa* R. Br. which has innocuous phyllodes and more prominent stipules. Three subspecies are recognized.

Key to subspecies of *Acacia congesta*

- 1 Phyllodes 10–30 mm long, (glabrous or margins and midrib sparsely hirsutellous; heads 35–65-flowered, on axillary peduncles or in racemes) subsp. **congesta**
1. Phyllodes 5–10 long
 - 2 Phyllodes glabrous, sometimes margins sparsely hairy; heads 50–70-flowered, racemously arranged subsp. **wonganensis**
 2. Phyllodes hairy (hairs not restricted to margins or midrib); heads 30–40-flowered, not in racemes subsp. **cliftoniana**

Acacia congesta Benth. subsp. **congesta**

Shrub 0.5–2.5 m tall. *Branchlets* glabrous or sparsely ± hirsutellous, the hairs patent to retrorsely appressed. *Phyllodes* 10–30 mm long, l:w = 2–5, glabrous or margins and midrib sparsely hirsutellous, slightly shiny; adaxial margin commonly slightly angled at the gland. *Peduncles* 5–20 mm long, 1 per axil or in short racemes, glabrous or sparsely hairy. *Heads* globular or obloid, 35–65-flowered. *Pod* 5 mm wide. *Seeds* 4–5 mm long.

Selected specimens examined. WESTERN AUSTRALIA: White Peak, N of Geraldton, A.M. Ashby 2514 (BRI, PERTH); Swan River, J. Drummond 293 (BM, G, K, OXF, P); Mogumber townsite 0.9 km at 100 degrees Bridge over Moore River, E.A. Griffin 6096 (PERTH); 1.6 km NE of Nabawa, B.R. Maslin 719 (CANB, MEL, NSW, PERTH); 14 km N of Moora then 1 km E of The Midlands Rd, B.R. Maslin 6121 (PERTH); 11 km N from Miling on Great Northern Highway to Pithara, B.R. Maslin 6210 (PERTH); 24.5 km E of Mingenew on road to Moora, B.R. Maslin 6243 (PERTH).

Distribution. Occurs in disjunct populations in the south-west of Western Australia from Northampton and Geraldton south-east to Mingenew and Morawa and south to Pithara, Moora and Mogumber.

Habitat. Grows in red-brown loam and gravel on rocky hills, in scrub or heath.

Phenology. Flowering recorded from June to October; mature pods collected in November and December.

Conservation status. Not under threat.

Acacia congesta subsp. **cliftoniana** (W. Fitzg.) Maslin, *comb. et stat. nov.*

Acacia cliftoniana W. Fitzg., *J. W. Austral. Nat. Hist. Soc.* 1: 10 (1904). *Type*: Arrino, Western Australia, September 1903, *W.V. Fitzgerald s.n.* (*lecto*: NSW 167229, *fide* B.R. Maslin & R.S. Cowan (1994c: 390); *isolecto*: NSW 167228, PERTH 00744735, 00744743 & 00744727).

Shrub 0.5–1 m tall. *Branchlets* usually hirsutellous or shortly pilose, the hairs patent. *Phyllodes* 5–10 mm long, l:w = 1.2–2.5, hirsutellous to hirtellous, the hairs not restricted to midribs and margins; lateral nerves commonly pronounced when dry. *Peduncles* 1–3 per axil, 5–12 mm long, hirsute-hirsutellous. *Heads* globular to shortly obloid, 30–40-flowered. *Pod* 4–5 mm wide. *Seeds* 3 mm long.

Selected specimens examined. WESTERN AUSTRALIA: c. 13.8 km N of Three Springs towards Mingenew, *R.J. Cumming* 2157 (MELU, PERTH); c. 6.4 km S of Arrino on Geraldton Highway, *B.R. Maslin* 734 (PERTH); 11 km N of Three Springs on The Midlands Rd, *B.R. Maslin* 5488 (PERTH); Yandanooka, 14 Sept. 1904, *A. Morrison s.n.* (NSW, PERTH); 11 km N of Three Springs on The Midlands Rd, *D. Papenfus* DP 514 (PERTH).

Distribution. Occurs in the south-west of Western Australia from Yandanooka south to near Three Springs.

Habitat. Grows on rocky or lateritic loam in mallee woodland with open scrub.

Phenology. Flowering recorded in August and September; mature pods collected in November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Acacia congesta subsp. **wonganensis** Maslin, *subsp. nov.*

Frutex 1–2 m altus. *Ramuli* hirsutelli vel scabriduli. *Phyllodia* 5–9 mm, glabri vel marginibus parce ciliolatis. *Inflorescentia* racemiformis. *Pedunculi* 5–7 mm longi, glabri vel parce hirsutelli. *Capitula* oblongoidea, *floribus* 50–70. *Legumen* 4 mm latum. *Semina* 3.5–4 mm longa.

Typus: 'Fowlers Gully' in the Wongan Hills, Western Australia, 9 September 1975, *B.R. Maslin* 3807 (*holo*: PERTH 00106909; *iso*: CANB).

Shrub 1–2 m tall. *Branchlets* hirsutellous to scabridulous, the hairs reflexed. *Phyllodes* 5–9 mm long, l:w = 1.5–3, glabrous or margins sometimes sparsely ciliolate. *Peduncles* 5–7 mm long, arranged in short racemes, glabrous, infrequently sparsely hirsutellous. *Heads* obloid, 50–70-flowered. *Pods* 4 mm wide. *Seeds* 3.5–4 mm long.

Selected specimens examined. WESTERN AUSTRALIA: Monk's Well Gully, 1.5 km E of Mt Rupert, Wongan Hills, *K.F. Kenneally* 5831 (PERTH); 12.8 km NW of Wongan Hills towards Piawaning, *B.R. Maslin* 1637 (MEL, NSW, PERTH); the Wongan Hills, c. 12.5 km NW of Wongan Hills townsite, *B.R. Maslin* 4426 (PERTH); 11.3 km NW of Wongan Hills on road to Piawaning, *M.D. Tindale* 2791 (PERTH).

Distribution. Known only in and around the Wongan Hills, in the south-west of Western Australia.

Habitat. Grows in rocky or lateritic clay or loam in mallee communities.

Phenology. Flowering recorded in August and September; mature pods collected in January.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. The subspecific epithet is derived from the name of the Wongan Hills, with the Latin suffix *-ensis* indicating place of origin.

Acacia cuneifolia* Maslin, *sp. nov.

Frutex rectus 1.5–3 m altus. Ramuli teretes, non vel obscure costati, glabri ad pilosi. Stipulae spinescentes, 1–3 mm longae, caducae praeter basem induratum. Phyllodia cuneata, dimidiata, acuta ad obtusa, 8–20 mm longa, 3–6 mm lata, coriacea, interdum fasciculata, glabra, costa tenui; glans 3–13 mm supra pulvinam inserta. Inflorescentia racemus reductus, capitulis 1–multis, plerumque fasciculatis. Pedunculi 5–20 mm longi, glabri vel hirsutelli; capitula floribus 23–30. Flores 5-meri. Sepala unita, plerumque glabra. Petala glabra, obscure 1-nervosa. Legumen valde curvatum, inter semina constrictum, ad 5 cm longum, 4.5–5.5 mm latum, coriaceum vel crustaceum, glabrum. Semina longitudinalia, obloidea vel ellipsoidea, 4–5 mm longa, 1.5–2 mm lata, hebeta vel aliquantum nitentia; arillus complicatus.

Typus: Pony Hill, 18 km due south-west of York, Western Australia, 8 September 1987, *B.R. Maslin* 6176 (*holo:* PERTH 00865850; *iso:* CANB, K).

Erect *shrub* 1.5–3 m tall, 2–7-branched at ground level. *Bark* smooth, dark grey; transverse lenticels prominent on main trunks and branches. *Branchlets* terete, ribless or very obscurely ribbed, not spinescent, glabrous or hirtellous to hirsutellous or pilose (hairs short, straight, patent, commonly slightly coarse); epidermis grey-white, longitudinally fissured with age. *Stipules* not prominent, ± spinescent with age but usually brittle so that only the hardened base remains, forming tooth-like projections, 1–3 mm long, glabrous, brown, straight or recurved. *Phyllodes* variable in shape but commonly dimidiately cuneate, the lower margin ± straight, upper margin rounded or obtusely angled, (5)8–20(25) mm long, (2)3–6(8) mm wide, l:w (1)2–3(4), thinly to moderately coriaceous, sometimes fasciculate (on extremely congested branchlets) at a few nodes, erect to gently recurved, slightly undulate, glabrous, rarely margins sparsely hirtellous, dark green (young growth bright green), slightly shiny; *midrib* fine but evident, ± central or situated towards lower margin; lateral nerves obscure; *apex* acute to obtuse; *muco* excentric, 0.5–1(1.5) mm long, pungent or almost so, straight, slender, brown; *pulvinus* to c. 0.5 mm long. *Gland* on upper margin of phyllode 3–13 mm above pulvinus; infrequently 2 glands present. *Inflorescences* complex, comprising reduced, 1–many-headed racemes initiated in axils of mature phyllodes, at initiation the heads commonly appearing in clusters of up to 6 or more, with maturity the raceme axis frequently growing out and simultaneously a phyllode developing at base of each peduncle, infrequently these phyllodes failing to develop; *raceme axis* subtended by 2 brown bracts; *peduncles* 5–20 mm long, glabrous or minutely hirtellous, ebracteate at base but a small triangular bract commonly present near or above middle. *Heads* globular to slightly obloid, yellow, 3.5–4.5 mm diam., 23–26-flowered; *bracteoles* 0.6–0.7 mm long, ± spatulate, sparsely and minutely hairy; claw linear; lamina longer than claw, triangular to ovate, acute to subacute, not exerted in mature buds. *Flowers* 5-merous; *calyx* gamosepalous, 1/4–1/3 length of corolla, dissected for 1/4–1/3 its length into broadly triangular or oblong, rounded lobes, glabrous or sparsely hairy; *petals* 2–2.2 mm long (reconstituted), joined for c. 2/3 their length, very obscurely 1-nerved, glabrous; apical margin granulate. *Pod* strongly curved (± circular) to loosely and slightly irregularly coiled, slightly raised

over seeds, slightly to deeply constricted between seeds, to 5 cm long, 4.5–5.5 mm wide, thinly coriaceous to slightly crustaceous, glabrous, light brown to yellow-brown. *Seeds* longitudinal, obloid to slightly ellipsoid, 4–5 mm long, 3–4 mm wide, 1.5–2 mm thick, dull or slightly shiny, dark brown to blackish; *pleurogram* obscure, continuous or open at hilar end; *areole* 0.7–1(1.4) mm long, 0.5–0.9 mm wide; *funicle* filiform, minute (0.5 mm long), gradually expanded into a thick, cream, folded aril situated at end of seed.

Selected specimens examined. WESTERN AUSTRALIA: Boyagin Rock Reserve, J.S. Beard 8124 (PERTH); Tarwonga Hill, V. Crowley 2 (PERTH); Boyagin Reserve, H. Demarz 10375 (PERTH); Boyagin Reserve, SW of Brookton, A.S. George 9811 (PERTH); Boyagin Rock, A.S. George 10903 (BRI, PERTH); Boyagin Rock, B.R. Maslin 4857 & 6164 (PERTH); c. 8 km SSE of Beverley, 7 Sep. 1998, M. Golding s.n. (K, PERTH); Pony Hill, 18 km due SW of York, B.R. Maslin 6178 (MEL, PERTH); Surrey Rd, 2 km SSE of Deefer Rd, c. 41 km due ESE of Lesmurdie, B.R. Maslin 6188 (G, K, PERTH); Pony Hill, L. Talbot B (PERTH).

Distribution. Occurs in the south-west of Western Australia, known from disjunct localities at Pony Hill (and c. 20 km south-west of Pony Hill), Boyagin Rock Reserve (south-west of Brookton), near Beverley and Tarwonga Hill (north of Arthur River).

Habitat. Grows in dark brown clay and coarse sand in runoff channels on granite rocks.

Phenology. Flowering recorded in September and October; mature pods collected in December and January.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Four.

Etymology. From the Latin *cuneatus* (wedge-shaped) and *folium* (a leaf), in reference to the phyllode shape.

Affinities. *Acacia cuneifolia* is most closely related to *A. congesta* (syn. *A. collina* E. Pritz.). These two species share the following significant characters: stipules spinescent; phyllodes 1-nerved, dimidiate, cuspidate; a small bract sometimes present near or above middle of peduncle; very similar inflorescence development and carpological characters. The most important character separating these two species is their calyx: gamosepalous and 1/4–1/3 length of corolla in *A. cuneifolia*; ± free, narrowly spatulate sepals c. 1/2 the length of the petals in *A. congesta*. Judging from experience with a large number of *Acacia* species I would find it impossible to include within a single species entities with such different calyces. Other characters distinguishing the more northerly distributed *A. congesta* include the following: phyllodes never fasciculate, inaequilaterally lanceolate to narrowly elliptic (thus broadest near or below their middle; although narrowly elliptic phyllodes occasionally occur in *A. cuneifolia* they are always accompanied by ones that are obviously broadest above their middle) and heads 30–70-flowered and more obviously and consistently obloid.

***Acacia deficiens* Maslin, sp. nov.**

Frutex prostratus vel effusus, plerumque ad 0.5 m altus, interdum ad 1.7 m altus. Ramuli spinescentes, teretes, recti, laevi, glabri. Stipulae c. 0.5 mm longae, caducae. Phyllodia pauca ad basin ramulorum, supra absentia, lanceolata ad anguste oblongo-elliptica, plerumque parum asymmetrica, obtusa vel acuta, mucronulata, 10–20 mm longa, 1.5–4 mm lata, coriacea, glabra, costa obscura; glans

0.5–3.5 mm supra pulvinam inserta. Inflorescentia racemus redactus capitulis 1 vel 2. Pedunculi 4–9 mm longi, glabri; capitula floribus 20–30(40). Flores 5-meri. Sepala libera, glabra vel abaxialiter puberula. Petala glabra, 1-nervosa. Legumen anguste oblongum, raro lineare, ad 4 cm longum, 4–6 mm latum, rectum vel parum curvatum, chartaceum, interdum vernicosum. Semina transversa, raro longitudinalia, ovoidea vel oblongoidea, 3–4 mm longa, nitentia; arillus nullus.

Typus: 36 km by Rd south of Queen Victoria Rock, Western Australia, 22 September 1983, *B.R. Maslin* 5412 (*holo*: PERTH 00106461; *iso*: CANB, G, K, MEL, NY).

Acacia nodiflora var. *ferox* E. Pritz., *Bot. Jahrb. Syst.* 35: 299 (1904). *Type*: near Grasspatch [Grass Patch], Western Australia, November [1901], *L. Diels* 5310 (*n.v.*).

Acacia nodiflora var. *scoparia* E. Pritz., *loc. cit.* *Type*: Tammin, Western Australia, October 1901, *E. Pritzel* 764 (*iso*: A, G, K, M, MO, PERTH 00734969 – fragment ex B, PR, Z.)

Prostrate, domed or spreading *shrub*, dense to mid-dense, commonly to c. 0.5 m tall and 1 m across, sometimes to 1 m tall, one specimen (*K.R. Newbey* 6030) 1.7 m tall and 2 m across. *Branches* glabrous, light grey, sometimes tinged dull orange-pink at base. *Branchlets* rigid, spinescent, ascending to erect, ± straight, smooth, obscurely longitudinally rugose when dry, glabrous, green or subglaucous, terete, rarely angled at extremities due to narrow wings; ribs absent or very obscure. *Stipules* insignificant, c. 0.5 mm long, caducous. *Phyllodes* few at base of branchlets, absent from upper (inflorescence-bearing) nodes, usually lanceolate to narrowly oblong-elliptic, infrequently linear, commonly slightly asymmetric, mostly 10–20 mm long but sometimes interspersed with some shorter (to 6 mm) or longer (to 40 mm), 1.5–4(5) mm wide, l:w 4–8(11), thinly coriaceous, smooth, distant, patent to erect, straight to shallowly incurved, glabrous, green to subglaucous; *apex* obtuse to acute, mucronulate; *midrib* obscure; *lateral nerves* absent; *pulvinus* c. 0.5 mm long, yellowish, not or scarcely wrinkled when dry. *Gland* on upper margin of phyllode 0.5–3.5 mm above pulvinus, not prominent, ± circular to oblong, 0.3–0.4 mm long, 0.15–0.25 mm wide, drying yellowish or light reddish brown. *Inflorescences* 1(2) per node, comprising extremely reduced 1(2)-branched racemes; axis 0.5–1 mm long; base ebracteate; *peduncles* 4–9 mm long, recurved in fruit, glabrous, commonly reddish, commonly faintly pruinose; base rimmed by a row of minute, glandular papillae; basal bracts 1 or 2, c. 0.5 mm long. *Heads* globular, rarely obloid in bud, mid-golden, 10 mm diam. at anthesis (drying 4–5 mm diam.), 20–30(40)-flowered; *bracteoles* spatulate, as long as sepals; claw linear or narrowly oblong, 0.2–0.5 mm long; lamina ± widely ovate, 0.4–0.5 mm wide. *Flowers* 5-merous; *sepals* 2/5 to almost 1/2 length of petals, free, spatulate or sometimes narrowly oblong, glabrous or puberulous abaxially; *petals* 1.5–2 mm long, glabrous, light orange in young bud, ageing yellow, 1-nerved but nerve not apparent when dry. *Pod* narrowly oblong, rarely linear, to 4 cm long, (3)4–6 mm wide, prominently raised over seeds and straight-edged or slightly constricted between them, straight or shallowly curved, thinly chartaceous and very brittle, sometimes vernicose, sometimes dull and faintly pruinose, dark brown or purplish brown; margins narrow, reddish when immature. *Seeds* transverse, rarely longitudinal, ovoid to obloid or slightly ellipsoid, 3–4 mm long, 2 mm wide, compressed (1–1.5 mm thick), black or dark brown, shiny or dull; *pleurogram* very obscure with a wide opening at hilar end; *areole* 0.3–0.4 mm long, 0.3–0.5 mm wide; *funicle* filiform, non-arillate.

Selected specimens examined. WESTERN AUSTRALIA: Bruce Rock, Sep. 1933, *E.T. Bailey* s.n. (PERTH 00103098); 18.8 km from Southern Cross towards Bullfinch, *E.M. Canning* WA/68 2510 (PERTH); 4.8 miles [7.7 km] E of Burakin towards Beacon, *R. Cumming* 2336 (PERTH); 5.9 miles [9.5 km] W of Bullabulling towards Southern Cross, *R. Cumming* 2484 (PERTH); Westonia, *C.A. Gardner* 1850 (PERTH); 'West' [W of] Westonia, *F. Lullfitz* L3133 (PERTH); 0.8 km N of Salmon

Gums towards Norseman, *B.R. Maslin* 2443 (CANB, PERTH); 10.5 km S of Lake King towards Ravensthorpe, *B.R. Maslin* 3439 (K, PERTH); 32 km SE of Kulin towards Lake Grace, *B.R. Maslin* 3842 (AD, BRI, CANB, K, MEL, NY, PERTH); 23 km N of Lake Grace towards Kulin, *B.R. Maslin* 4069 (PERTH); 1.5 km from Peak Charles campsite on track to Hyden–Kumarl road, *B.R. Maslin* 5438 (PERTH); Frank Hann National Park, *D. Monk* 414 (PERTH); 7 km N of Mt Andrew, c. 116 km SE of Norseman, *K. Newbey* 7776 (PERTH).

Distribution. Scattered in the south-west of Western Australia from between Burakin in the north, south to near Lake Grace and east to near Mount Andrew (south-west of Balladonia).

Habitat. Grows in various soil types including loam, clay and sand in open shrub mallee and woodland with various eucalypt species on flat or gently undulating plains.

Phenology. Flowering recorded from September to November; mature pods collected in December.

Conservation status. Widespread, not under threat.

Etymology. The specific epithet (Latin, *deficiens*, lacking), refers to the lack of phyllodes on flowering branchlets.

Affinities. *Acacia deficiens* is sometimes confused with the more northerly distributed *A. exocarpoides* W. Fitzg. on account of its \pm spinescent branchlets with few small phyllodes, but that species is a larger, coarser shrub with terete phyllodes, long, submoniliform, thinly coriaceous pods and arillate seeds. *Acacia erinacea* Benth. is another species with spinescent branchlets, few phyllodes and prostrate habit, but is not close to *A. deficiens*; it is a more intricately branched shrub with shorter, more pungent branchlets, smaller, differently-shaped phyllodes, united sepals, usually crustaceous, narrowly to broadly oblong pods, and arillate seeds.

Variation. The above description encompasses a few atypical specimens.

1. Branchlets are usually \pm straight and terete but are sometimes angled due to the development of a narrow wing-like extension (e.g. *Gardner* 1850, *Lullfitz* L3133) and additionally, slightly flexuose (*Monk* 414).
2. Phyllodes are usually 10–20 mm long but reach 30–40 mm in *Bailey s.n.*, *Cumming* 2336 and *Maslin* 5438.
3. The most extreme variation is seen in the pods of *Maslin* 3842 and 4069 (collected from the same population). These are c. 3 mm wide and have longitudinal seeds. Elsewhere the pods are 4–6 mm wide with transverse seeds. The presence of both longitudinal and transverse seeds in the same species is rare in *Acacia*.

Acacia diminuta Maslin, *sp. nov.*

Frutex effusus ad 20 cm altus. Ramuli teretes, non costati, pungentes, glabri. Stipulae c. 0.5 mm longae, caducae. Phyllodia vulgo reflexa, linearia vel oblonga, mucronulata, 3–5 mm longa, incurva, c. 1 mm lata, crassa, glabra, costa obscura, margine adaxiali binervoso; glans versus medium marginis inserta. Inflorescentia simplex. Pedunculi 2.5–4 mm longi, glabri; capitula floribus c. 15. Flores

5-meri. Sepala libera, glabra. Petala enervia. Legumen lineare, c. 20 mm longum, 4–5 mm latum, glabrum. Semina longitudinalia, obloideo–ellipsoidea, c. 5 mm longa.

Typus: west of Ravensthorpe [precise locality withheld for conservation reasons], Western Australia, 30 October 1965, A.S. George 7069 (*holo*: PERTH 00175188; *iso*: CANB, K, PERTH 00729604).

Intricate, spreading, dwarf *shrub* to 0.2 m tall. *Branchlets* terete, ribless, coarsely pungent, glabrous, light grey. *Stipules* triangular, c. 0.5 mm long, commonly caducous. *Phyllodes* ± linear to oblong, 3–5(6) mm long, c. 1 mm wide, flat but thick and sometimes appearing ± subterete, sometimes a few fasciculate on nodose branchlets, mostly reflexed, commonly shallowly incurved, sometimes straight, glabrous, green, finely longitudinally wrinkled (dry), the upper margin ± flat and c. 0.5 mm wide, with 2 yellowish nerves, usually sparsely asperulate, other nerves obscure or absent; *apex* excentrically mucronulate, the mucro slightly upturned as in *Acacia brunioides*; *pulvinus* distinct, 0.3–0.4 mm long, terete. *Gland* not prominent, commonly absent, on upper margin near middle of phyllode, circular, 0.1–0.2 mm diam. *Inflorescence* simple; *peduncle* 1 per node, (1.5)2.5–4 mm long; basal bract solitary, triangular–ovate, c. 0.5 mm long, shallowly concave, glabrous. *Heads* globular, cream or yellow, 4 mm diam. (reconstituted, 2 mm diam. when dry), c. 15-flowered; *bracteoles* c. 1 mm long, very sparsely hairy; claws linear, c. 0.5 mm long; lamina triangular–ovate, acute, 0.5 mm long, 0.4 mm wide, slightly inflexed. *Flowers* 5-merous, very brittle when dry; *sepals* 1/2–3/4 length of petals, free, spatulate, subglabrous; *petals* c. 1 mm long, nerveless. *Pod* (immature) linear, to c. 20 mm long, 4–5 mm wide, slightly constricted between seeds and slightly rounded over them, glabrous. *Seed* (1 seen, immature) longitudinal, obloid–ellipsoid, 5 mm long, 3 mm wide, dull brown.

Other specimens examined. WESTERN AUSTRALIA [precise localities withheld for conservation reasons]: W of Scaddan, M.A. Burgman 4562 (PERTH); between Esperance and Norseman, J.W. Wrigley WA/68 5318 (PERTH).

Distribution. Occurs in the south-west of Western Australia, known from only a few scattered localities between Jerramungup and Scaddan.

Habitat. Grows in sandy clay in shrub mallee.

Phenology. Flowering recorded in October and November; mature pods not seen, but a pod with an immature seed was collected in November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. The specific epithet, from the Latin *diminutus* (made small, diminished), refers to the small stature, phyllodes, flowers and heads.

Affinities. Relationships uncertain.

Acacia ericksoniae Maslin, *sp. nov.*

Frutex effusus 20–60 cm altus. Ramuli ± pungentes, teretes, hirsutelli, glabrescentes. Stipulae 1–1.5 mm longae, persistentes. Phyllodia inaequaliter obtriangularia, mucronata, 2–5 mm longa, 1.5–4 mm lata, hirsutella, nervi 1 (vel 2), obscuri; glans 1–3 mm supra pulvinam inserta. Inflorescentia racemus reductus 1-capitatus. Pedunculi 2–5 mm longi, hirsutelli; capitula floribus 10–17. Flores

5-meri. Sepala unita, glabra vel ciliolata. Petala glabra, enervia. Legumen circinatum, ad c. 8 mm 'diam.', 2–2.5 mm latum, chartaceum, glabrum vel hirtellum. Semina longitudinalia, ovoidea vel oblongoidea, 2–3 mm longa, nitentia; arillus crassus.

Typus: 5.5 km north-west of Wongan Hills towards Piawaning, Western Australia, 27 August 1976, B.R. Maslin 4202 (*holo*: PERTH 00182826; *iso*: CANB, K, MEL, NY).

[*Acacia bidentata* auct. non Benth.: E. Pritz., *Bot. Jahrb. Syst.* 35: 298 (1904), as to E. Pritzel 563 – K, LY, M, MO; also L. Diels 3966, *n.v.*].

Much-branched *shrub*, somewhat spreading, 0.2–0.6 m tall, single-stemmed or few-branched at ground level, the smooth or slightly roughened light grey bark extending to upper branches, branchlet extremities green or light brown. *Branchlets* rather slender, ± straight, patent to erect, somewhat pungent, terete, very obscurely nerved, moderately to densely hirsutellous to hirtellous (hairs short, straight, patent or slightly reflexed, sometimes seemingly stellate, usually soon glabrous). *Stipules* persistent on upper branches, triangular to narrowly triangular, 1–1.5 mm long, 0.2–0.4 mm wide, erect, dark brown, not joined when young as in *A. acanthoclada*. *Phyllodes* unequally obtriangular with the upper margin forming a prominent rounded angle and the lower margin shallowly convex, mucronate and sometimes pungent, 2–5 mm long, 1.5–4 mm wide, l:w 1.3–2, flat, slightly thickened, slightly wrinkled when dry, sparsely to moderately hirsutellous to hirtellous (hairs not confined to margins), green; ± obscurely 1- or 2-nerved; *main longitudinal nerve* situated towards adaxial margin and terminating in the mucro; *secondary longitudinal nerve* (when developed) subparallel to main and intersecting distal margin near mucro; diverging lateral nerves few or absent; pulvinus terete, c. 0.3 mm long. *Gland* insignificant, on upper margin of phyllode 1–3 mm above pulvinus, commonly absent, circular, <0.1–0.2 mm diam. *Inflorescence* 1 per node, an extremely reduced 1-headed raceme; raceme axis 0.2–0.3 mm long, subtended by a pair of minute lateral bracts which are depressed-ovate, c. 0.3 mm long, sessile, ciliolate, otherwise glabrous; *peduncles* 2–5 mm long, sparsely to moderately hirsutellous to hirtellous; *basal bracts* subtending abaxial side of peduncle, depressed-ovate, c. 0.5 mm long, shallowly cleft, concave, brown, ciliolate, otherwise glabrous. *Heads* globular, light-to mid-golden, 3–4 mm diam. (dry), 10–17-flowered; *bracteoles* c. 0.5 mm long, ± oblong, shallowly concave towards apex, obtuse to abruptly acute, fimbriolate at apex. *Flowers* 5-merous; *calyx* 1/4 to 1/3 length of corolla, membranous, divided for 1/3–2/3 its length into oblong or triangular glabrous or ciliolate lobes; *petals* 1–1.5 mm long, glabrous, nerveless. *Pod* coiled as in *Medicago*, to c. 8 mm long (unexpanded), 2–2.5 mm wide, firmly chartaceous to very thinly coriaceous, slightly shiny, red-brown, glabrous or hirtellous. *Seeds* longitudinal, ovoid to obloid, 2–3 mm long, 1.3–1.5 mm wide, 0.8–1 mm thick, glossy, brown mottled black; *pleurogram* obscure, open at hilar end; *areole* c. 0.3 mm long and 0.2 mm wide; *funicle* filiform, abruptly expanded into a thick, sublateral aril.

Selected specimens examined. WESTERN AUSTRALIA: 6.4 km S of Walebing, R. Cumming 1334 (PERTH); 5.7 km W of Moora–Mogumber road at Barberton on Barberton West Rd, R. Cumming 3578 (PERTH); 5 miles [8 km] N of Wongan Hills, R.T. Lange 58 (PERTH); 3 km E of Waddington towards Piawaning, B.R. Maslin 3252 (CANB, PERTH); 11 km N of Three Springs on The Midlands Rd, B.R. Maslin 5489 (CANB, PERTH); Chiddarcooping Nature Reserve, B.R. Maslin 6386 (PERTH, Z); 2 miles [3.2 km] S of Tammin, K. Newbey 1951 (PERTH); 7.7 km E of Goomalling township, S along Robert Rd, P. Roberts 104 (PERTH); Wyalkatchem, S.B. Rosier 351 (PERTH); 1 mile [1.6 km] SW of Manmanning, B.H. Smith 386 (PERTH, also BRI, CANB, HO, MEL, NSW, but *n.v.*); 48.1 km N of New Norcia on Great Northern Highway, M.D. Tindale 2649 (PERTH, also CANB, K, NSW, but *n.v.*).

Distribution. Occurs in the south-west of Western Australia discontinuously from near Mingenew south-east to near Three Springs and Watheroo, south-south-east to near Tammin, and at the Chiddarcooping Nature Reserve.

Habitat. Grows in rocky or lateritic loam or sand, usually in low hilly country with *Melaleuca* heath or eucalypt woodland.

Phenology. Flowering recorded from June to September; mature pods collected in November.

Conservation status. Not under threat.

Etymology. I have great pleasure in naming this species for Mrs Frederika (Rica) Erickson, who has made a significant contribution to our knowledge of the Western Australian flora, including books on James Drummond, orchids, carnivorous plants and triggerplants (George 1998).

Affinities. The new species is most closely related to *A. acanthoclada* on account of its terete, obscurely nerved, spinescent branchlets, its very reduced, 1-headed racemes with their axes subtended by two minute bracts and their peduncles subtended by a larger cleft bract, its gamosepalous calyx, its coiled pods and its mottled seeds with relatively large, sublateral arils. *Acacia acanthoclada* is most readily distinguished by its glabrous and longer peduncles, 1-nerved petals and its stipules which are connate when young and less persistent; also its branchlets are more rigid and less sharply pungent, and its phyllodes are usually more elongate. These differences may not seem great, but when taken in combination justify specific rank.

In Western Australia, *A. acanthoclada* subsp. *acanthoclada* usually has glabrous, narrow, elongate phyllodes (commonly 0.6–2 mm wide, l:w 3–6) rendering the species easily distinguishable from *A. ericksoniae*. On a few specimens, however, particularly from Wongan Hills and some from the Cosmo Newbery area (c. 85 km north-east of Laverton), the phyllodes of *A. acanthoclada* are hairy and broader (2–3 mm wide, l:w 2–3) and in these characters it approaches the new species.

Acacia ericksoniae was formerly confused with *A. bidentata* Benth. which has non-spinescent, scurfy-white branchlets, creamy white to pale yellow heads, arcuate to 1 1/2-coiled pods and non-mottled seeds. It also resembles the Western Australian variant of *A. pravifolia* F. Muell. which is distinguished by its prominent main longitudinal phyllode nerve, normally glabrous peduncles, 1-nerved petals and non-mottled seeds.

Variation. Specimens from Wongan Hills east through Manmanning (c. 40 km east of Wongan Hills) and south to Tammin have very small phyllodes (2–3 x 1.5–2 mm) whereas those from Goomalling, Moora and Three Springs are commonly slightly larger (2–5 x 2–4 mm). Specimens from the Yerecoin–Walebing area (near New Norcia) are unusual in their seemingly stellate branchlet and phyllode indumentum (hairs simple elsewhere).

***Acacia errabunda* Maslin, sp. nov.**

Frutex effusus 1–2.5 m altus. Ramuli teretes, subtiliter costati, interdum farinosi. Stipulae c. 0.5 mm longi, persistentes vel caducae. Phyllodia oblanceolata ad anguste oblanceolata, obtusa vel acuta, mucronata, 2–5 cm longa, 3–8 mm lata, coriacea, costa excentrica, vel centrali, margine adaxiali binervoso; glans 0–2 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi c. 2 mm longi,

glabri; capitula floribus 17–22. Flores 5-meri. Sepala unita, lobis obscure 1-nervosis. Petala obscure 1-nervosa. Legumen lineare, leviter curvatum, ad 9 cm longum, 3.5 mm latum, chartaceum, glabrum. Semina longitudinalia, obloidea, 4 mm longa; arillus conspicuus.

Typus: 4 km east of Needilup, Western Australia, 27 August 1975, *K. Newbey* 4765 (*holo*: PERTH 00703834; *iso*: CANB, K, MEL).

Dense or moderately dense *shrub*, spreading, sometimes rounded, 1–2.5 m tall, to 3 m wide; main stem much-branched at ground level. *Bark* smooth or slightly roughened, grey or blackish grey. *New shoots* farinose or covered with yellowish resin. *Branchlets* terete, slightly angled at extremities, finely ribbed, the ribs sometimes farinose. *Stipules* inconspicuous, *c.* 0.5 mm long, persistent or caducous. *Phyllodes* oblanceolate to narrowly oblanceolate, obtuse–mucronulate or \pm acute, 2–5(9) cm long, 3–8 mm wide, l:w 5–12(16), thinly coriaceous, inclined to erect, straight to shallowly incurved, glabrous, green or subglaucous; *midrib* commonly towards lower margin, sometimes \pm central, the 2 adaxial nerves commonly intramarginal giving phyllodes the appearance of 2 nerves per face; nerves resinous (not viscid) or farinose; *minor nerves* longitudinally anastomosing and forming an open reticulum with elongated nerve islands; *pulvinus* 1–2 mm long, finely transversely wrinkled, yellowish. *Gland* on upper margin of phyllode 0–2(4) mm above pulvinus, not prominent, *c.* 0.4 mm diam. *Inflorescences* simple, normally 2 per axil and with a dormant vegetative bud in the axil at anthesis; *peduncles* *c.* 2 mm long, \pm obscured by stamens at anthesis, glabrous; *basal peduncular bract* solitary, persistent, widely ovate, shallowly concave, 0.5–1 mm long, glabrous, sometimes farinose. *Heads* globular, 4–5 mm diam. (dry), 17–22-flowered, light golden; *bracteoles* spatulate, 1 mm long, glabrous; *claw* linear; *lamina* *c.* 0.5 mm wide, shallowly concave, light brown, sometimes farinose. *Flowers* 5-merous, glabrous; *calyx* 1/2–2/3 length of corolla, gamosepalous, very shallowly divided into \pm widely triangular, slightly inflexed lobes that are sometimes farinose abaxially; *calyx tube* obscurely 5-nerved; *petals* *c.* 1.5 mm long, obscurely 1-nerved. *Pod* linear, to 9 cm long, 3.5 mm wide, with up to 8 seeds, firmly chartaceous, shallowly arcuate, \pm straight-edged, rounded over seeds, glabrous, light brown, slightly pruinose. *Seeds* longitudinal, obloid, 4 mm long, 2 mm wide, *c.* 1.2 mm thick, dark brown, shiny; *pleurogram* obscure, oblong, open at hilar end; *areole* 3 mm long, 1 mm wide; *funicle* filiform, 2 mm long; *aril* terminal, rather conspicuous, orange-brown and wrinkled when dry.

Selected specimens examined. WESTERN AUSTRALIA: 1 km W of Moir Rd on Quagitups northern boundary, *K. Bradby* KLB56 (PERTH); E of Needilup, on corner of Brown Rd, *G. Craig* 1565 (AD, BRI, PERTH); 8 km S of Ravensthorpe towards Hopetoun, *B.R. Maslin* 2565 (CANB, K, MEL, NY, PERTH); 2 miles [3.2 km] SE of Ravensthorpe, *K. Newbey* 940 (PERTH); 11 miles [17.7 km] SE of Jerramungup, *K. Newbey* 1299 (BRI, NSW, NY, PERTH); 1 mile [1.6 km] E of Broomehill, *K. Newbey* 3434 (G, PERTH).

Distribution. Occurs in the south-west of Western Australia known only from the Broomehill, Jerramungup and Ravensthorpe areas.

Habitat. Grows in loam and clay, in woodland, mallee communities and *Acacia* shrubland.

Phenology. Flowering recorded in August and September; mature pods collected in late November and December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The specific epithet is derived from the Latin *erro* (to wander) and *-bundus* (continuance, augmentation), in reference to the two fine adaxial nerves on the phyllodes. These nerves are located either along the upper edge of the phyllode or become displaced a few millimetres below the edge, i.e. have diverged from the normal central position. In the latter case the phyllodes appear 2-nerved per face.

Affinities. It seems that *A. errabunda* is related to the widespread eastern Australian species *A. stricta* (Andr.) Willd. The more important characters shared by these two species include the following: (1) phyllodes with anastomosing minor nerves; (2) inflorescences simple (peduncles very rarely arranged on short racemes in *A. stricta*); (3) basal peduncular bract solitary, persistent; (4) calyx gamosepalous, very shortly lobed; (5) pods long, linear, firmly chartaceous; (6) seeds longitudinal, with a terminal aril. The two species are readily distinguished by their phyllodes which in *A. stricta* are commonly larger (3.5–14 cm long and 3–15 mm wide), are only 1-nerved along their adaxial margin, and have more numerous minor nerves that diverge from the midrib at an acute angle and form a close reticulum. Other characters distinguishing *A. stricta* include the following: branchlets prominently angled, basal gland rather prominent, peduncles 2–5 mm long and normally 2–4 per axil, heads creamy yellow to lemon yellow and flowers 20–38 per head.

Variation. In *Newbey* 940 from south of Ravensthorpe the phyllodes are atypically long (to 9 cm with the gland 4 mm above the pulvinus). Other specimens from this locality have phyllodes within the normal range of variation (i.e. 2–5 cm long, gland 0–2 mm above the pulvinus).

Acacia euthyphylla* Maslin, *sp. nov.

Frutex rotundatus vel infundibularis, 1–2 m altus. Ramuli teretes, subtiliter costati, glabri. Stipulae c. 0.5 mm longae, caducae. Phyllodia linearia, obtusa et mucronata vel acuta, 4–9 cm longa, 2–3 mm lata, glabra, costa non prominenti; glans c. 10 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis (1)2(3). Pedunculi 5–8 mm longi, glabri; capitula floribus 18–21. Flores 5-meri. Sepala libera, sparsim puberula. Petala glabra, enervia. Legumen lineare, ad 6 cm longum, 3.5 mm latum, coriaceum, glabrum. Semina (immatura) longitudinalia.

Typus: Truslove Reserve (near water reserve c. 0.5 km south of northern boundary of Reserve), c. 11 km due north-north-east of Scaddan, Western Australia, 15 August 1985, *B.R. Maslin* 5804 (*holo:* PERTH 00758361; *iso:* CANB, K, PERTH 00758914).

Dense to mid-dense *shrub*, rounded to obconic, 1–2 m tall, multi-stemmed or if single-stemmed then branching close to ground level. *Bark* smooth, light grey to mid-grey. *Branchlets* terete, slightly angled at extremities, finely ribbed, slightly flexuose, glabrous, light brown to pale reddish brown, sometimes slightly pruinose. *Stipules* triangular, c. 0.5 mm long, scarious, caducous. *Phyllodes* linear, narrowed at base, 4–9 cm long, 2–3(4) mm wide, l:w 15–30, very slightly thickened, erect, straight to shallowly incurved, flat, glabrous, dull, light green; *midrib* and *marginal nerves* not prominent, commonly drying yellowish; nerve on adaxial margin not bifurcating; *lateral nerves* trending longitudinally, submerged and obscure (upon drying tissue between nerves collapses to produce a very fine rugose effect); *apex* obtuse, mucronulate to acute; mucro c. 0.5 mm long, straight and erect or occasionally slightly undulate, dark brown, hard, coarsely pungent when dry; *pulvinus* c. 1 mm long, yellow to brown, finely transversely rugose when dry. *Gland* not prominent, on adaxial margin near or below middle of phyllode 10 mm or more above pulvinus, oblong, 0.4–0.7 mm long, usually impressed. *Inflorescence* a reduced raceme; axis 1–2 mm long with (1)2(3) heads, commonly growing out in late anthesis, thus fruiting peduncle commonly situated at base of new shoot, glabrous; *peduncles* 5–8 mm long, glabrous;

basal peduncular bract solitary, very early caducous, \pm rostriform, c. 1 mm long, glabrous but minutely ciliolate towards apex, dark brown. *Heads* globular, golden, 7–8 mm diam. (fresh), 4–5 mm diam. (dry), 18–21-flowered; *bracteoles* narrowly spatulate, 1 mm long, obtuse, light brown. *Flowers* 5-merous; *sepals* 1/2 length of petals, free, sparsely puberulous; claws linear, expanded into narrow, slightly inflexed, slightly thickened, obtuse to acute, brown lamina; *petals* 2 mm long, glabrous, nerveless. *Pod* (immature pods and old dehiscent valves seen), linear, to 6 cm long, 3.5 mm wide, straight to shallowly curved, slightly undulate, scarcely constricted between seeds and slightly rounded over them, seemingly thinly coriaceous, glabrous, dark brown; marginal nerve narrow, red-brown. *Seeds* (very immature) longitudinal.

Selected specimens examined. WESTERN AUSTRALIA: 15 km SW of Mt Ney, 5 km NE of Burdett Rd on Mt Ney Rd, M.A. Burgman 1652 & S. McNee (PERTH); 9 km SW of Mt Ridley, 16.9 km N of Scaddan Rd on Dempster Rd, M.A. Burgman 2310 & S. McNee (PERTH); Truslove Rd, 2.3 km E of junction with Cox Rd (near Scaddan), G. Craig 1459 (PERTH); E of Scaddan, on Dempster Rd (N of Norwood Rd intersection), G. Craig 1672 (PERTH); Truslove Reserve, Cox Rd, 1.5 km S of Truslove Rd intersection (c. 13 km due NE of Scaddan), B.R. Maslin 5805 (G, MEL, NY, PERTH).

Distribution. Occurs in the south-west of Western Australia, of restricted occurrence from Truslove (north of Esperance) east to near Clyde Hill (c. 110 km east of Truslove).

Habitat. Grows in sand or clay-loam in seasonal swamps or around periphery of salt lakes and marshes in tall myrtaceous shrubland and mallee woodland.

Phenology. Flowering recorded from July to September; immature fruit collected in early November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The specific epithet, from the Greek *euthys* (straight) and *phyllon* (a leaf), refers to the \pm erect phyllodes.

Affinities. *Acacia euthyphylla* closely resembles *A. crassiuscula* H.L. Wendl. in phyllode shape and size, inflorescence structure and in its linear pods with longitudinal seeds. *Acacia crassiuscula* is distinguished from *A. euthyphylla* by its thicker, dark green phyllodes (more coarsely wrinkled when dry), with prominent midribs, gland 2–8 mm above pulvinus, cream heads, gamosepalous calyx and racemes 1–6 cm long. With the collection of mature pods and seeds, additional distinguishing features may come to light. *Acacia crassiuscula* is commonly a spindly open shrub and occurs in coastal and near-coastal habitats south of the known range of the new species; it is commonly associated with granite outcrops.

***Acacia evenulosa* Maslin, sp. nov.**

Frutex densus 0.5–1.7 m altus. Ramuli teretes, juvenes et axilla minute puberula, cetera glabri. Stipulae 1.5–3 mm longae, vulgo persistentes. Phyllodia anguste oblonga ad linearia, obtusa, minute mucronata, 15–40 mm longa, 2.5–3.5 mm lata, laevia, glabra; costa inconspicua; nervi laterales superficiares, absentes vel obscurissima; glans marginalis, 1–4 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis (1)2. Pedunculi 4–10 mm longi, glabri; capitula globularia, 5–6 mm diam. (viva), floribus 15–22. Flores 5-meri. Sepala libera, parce puberula. Petala glabra, enervia. Legumen anguste oblongum, circinatum, ad 30 mm longum, 4–4.5 mm latum, coriaceo-crustatum, glabrum. Semina longitudinalia, ovoidea, 2.5 mm longa, nitentia; arillus lineari-clavatus, albus.

Typus: 1 km north of Salmon Gums on Coolgardie–Esperance highway, Western Australia, 25 September 1983, B.R. Maslin 5449 (*holo*: PERTH 00199710; *iso*: CANB, K, MEL, NY)

Dense, spreading *shrub* with rounded crown, 0.5–1.7 m tall, 0.6–2(3) m wide, multi-stemmed, infrequently single-stemmed or sparingly branched at ground level. *Bark* grey, sometimes fissured at base of stems, otherwise smooth. *Branchlets* terete, very finely ribbed, glabrous or more frequently with minute, appressed, straight, white hairs in phyllode axils and commonly towards branchlet apices. *Stipules* narrowly triangular, 1.5–3 mm long; shallowly incurved, brown, glabrous, brittle but persisting at base of most phyllodes, at old nodes where phyllodes have fallen the slightly thickened stipule bases frequently forming minute, tooth-like projections. *Phyllodes* narrowly oblong to linear, narrowed at base, 15–40 mm long, 2–3.5(4) mm wide, l:w 5–15, coriaceous, commonly slightly thickened, smooth (fresh), commonly faintly wrinkled when dry, dull or sometimes \pm shiny, erect, straight to shallowly incurved, flat or semi-terete to shallowly rhombic in cross-section, glabrous (except pulvinus), light green to dark green, occasionally a few subglaucous; *apex* obtuse, the mucro minute (c. 0.2 mm long), hard, brown, \pm straight, erect; *midrib* and *marginal nerves* usually not prominent; nerve on upper margin bifurcating near pulvinus but nerves obscure and frequently submerged; *lateral nerves* absent (submerged) or very obscure; *pulvinus* terete, 1–1.5 mm long, finely transversely wrinkled and yellow, orange or brown when dry, glabrous or more commonly minutely hairy on upper surface. *Gland* not prominent, on upper margin 1–4 mm above pulvinus, occasionally absent, circular to oblong, 0.3–0.5 mm long. *Inflorescence* a rudimentary raceme (axis to 1 mm long) with (1)2 heads, sometimes growing out at anthesis; *peduncles* (3)4–10(13) mm long, glabrous, recurved from base in fruit; *basal peduncular bract* solitary, caducous, \pm rostriform, 1.5–2 mm long, hairy abaxially, light brown. *Heads* globular, mid-golden, 5–6 mm diam. (fresh), 4–4.5 mm diam. (dry), 15–22-flowered; *bracteoles* absent or if few present then subtending flower(s), 0.6 mm long, narrowly spatulate. *Flowers* 5-merous; *sepals* c. 1/2 length of petals, free, narrowly linear, sparsely puberulous; *petals* c. 1.5 mm long, glabrous, nerveless. *Pod* narrowly oblong, semi-circinate to circinate, sometimes irregularly sigmoid or shallowly undulate, to 30 mm long, 4–4.5 mm wide, thinly coriaceous–crustaceous, straight-edged or slightly constricted between seeds, slightly rounded over seeds, nerveless, brown to purplish brown, glabrous; marginal nerve narrow. *Seeds* longitudinal, ovoid, 2.5 mm long, 1.5 mm wide, compressed (0.8 mm thick), shiny, greyish brown, becoming dark brown; *pleurogram* very obscure, U-shaped, open at hilar end; *areole* 0.3 mm long, 0.2 mm wide; *funicle* filiform, c. 1 mm long; aril sublaterally attached to seed, linear-clavate, extending 3/4 to wholly down side of seed, creamy white.

Selected specimens examined. WESTERN AUSTRALIA: 30.5 km N of Mt Ney, M.A. Burgman 1281 & S. McNee (PERTH); Salmon Gums, P.E. Conrick 1702 (MO, PERTH, also AD but *n.v.*); 0.5 km E on Holts Rd from Esperance–Norseman highway, G.F. Craig 2441 (PERTH); 14 km S of Mt Holland, B.R. Maslin 3949 (PERTH); between 10 and 40 km W of Peak Charles turn-off on Lake King–Kumarl road, B.R. Maslin 5432 (BRI, CANB, G, PERTH); 24 km SSW of Mt Malcolm, Fraser Range, K. Newbey 7637 (PERTH); 37 km W of Balladonia on Eyre Highway, M.H. Simmons 1163 (PERTH); 40 km E of Lake King on road to Daniell, P.G. Wilson 5738 (AD, PERTH).

Distribution. Occurs in the south-west of Western Australia in an area bounded by Mt Holland, Lake King, Clyde Hill and Balladonia, with most collections from the Peak Charles–Salmon Gums–Grass Patch area (north of Esperance).

Habitat. Grows in red-brown clay to sandy loam (occasionally sand), sometimes with stony inclusions on flat or gently undulating plains, in low eucalypt woodland or open to very open scrub mallee, commonly over low to dwarf scrub, occasionally in low *Allocasuarina* scrub.

Phenology. Flowering recorded from August to October; mature pods collected in November and December.

Conservation status. Widespread, not under threat.

Etymology. The specific epithet, from the Latin *venulosus* (veined) with the prefix *ex-* (lacking), alludes to the lateral venation which is superficially absent or very obscure. This characteristic occurs in a number of species where the nerves are submerged in a relatively thick lamina.

Affinities. Closely allied to the more northerly distributed *A. saxatilis* S. Moore which differs most obviously in the following ways: branchlets and pulvinus consistently glabrous; phyllodes 4–7 mm wide, pruinose; heads 27–35-flowered; pods *c.* 3 mm wide, curved in same plane as suture (in *A. evenulosa* the curvature is at right angles to the plane of the suture). Also allied to *A. blaxellii* (see above).

Acacia glaucissima* Maslin, *sp. nov.

Frutex infundibularis, 0.6–1.5 m altus. Ramuli teretes, glabri. Stipulae 3–4 mm longae, atrobrunneae, caducae praeter bases crassos. Phyllodia anguste elliptica ad oblongo-elliptica vel oblanceolata, obtusa vel acute mucronata, 2–4 cm longa, 5–15 mm lata, glabra, crasse coriacea, glaucissima, pulvinata; costa prominens; nervi laterales absentes vel obscurissimi; glans marginalis, 3–7 mm supra pulvinam inserta. Inflorescentia racemus reductus, capitulis 2. Pedunculi 10–20 mm longi, glabri; capitula globularia, floribus 20–35. Flores 5-meri. Sepala libera, glabra vel parce puberula. Petala glabra, enervia. Legumen irregulariter contortum vel spirale, teres, ad 6.5 mm longum, 2–3 mm latum, tenuiter coriaceum ad crustaceum, plerumque glabrum. Semina longitudinalia, obloidea, *c.* 3 mm longa; arillus conspicuus, flavus.

Typus: 20 km south of Salmon Gums on the Coolgardie–Esperance highway, Western Australia, 25 September 1983, B.R. Maslin 5454 (*holo:* PERTH 00178039; *iso:* CANB, K).

Obconic or somewhat rounded *shrub*, spreading, dense or openly branched, 0.6–1.5 m tall and to 2 m diam., few–6-branched at ground level. *Bark* light grey, smooth. *New shoots* glabrous, slightly shiny, dull red to red-brown (drying blackish). *Branchlets* terete, finely to moderately ribbed, glabrous, light brown to light red-brown or yellow-brown at extremities, sometimes greenish on undersurface. *Stipules* narrowly triangular to linear-triangular, (2)3–4(5) mm long, brittle with sometimes only the thickened bases remaining, glabrous, dark brown to blackish. *Phyllodes* slightly asymmetric, narrowly elliptic to oblong-elliptic or oblanceolate, infrequently elliptic or obovate, (1.5)2–4(5.5) cm long, (4)5–15 mm wide, l:w (2)3–6, thickly coriaceous, smooth, not or scarcely wrinkled when dry, \pm straight, commonly very slightly undulate or twisted, glabrous, dull, very glaucous (\pm light blue); *midrib* and *marginal nerves* prominent, slightly shiny, greenish yellow, sometimes drying light brown, nerve on adaxial margin bifurcating near gland; *lateral nerves* absent or very obscure; *apex* obtuse to acute, mucronate; *mucro* 1–2 mm long, indurate, coarsely to somewhat sharply pungent, dark brown and straight to slightly inflexed; *pulvinus* 1–2 mm long, dull orange, commonly drying dark brown. *Gland* on upper margin of phyllode 3–7(10) mm above pulvinus, not prominent, usually oblong and 0.4–0.6 mm long, infrequently circular and *c.* 0.3 mm diam. *Inflorescence* an extremely reduced 2-branched raceme 1–2 mm long, the axis sometimes growing out at anthesis; *peduncles* 10–20 mm long, glabrous, light greenish yellow or light red-brown (fresh), usually darkening upon drying, ascending to inclined at anthesis, patent (rarely recurved) when in fruit; *basal peduncular bract* caducous, *c.* 1.5 mm long, semi-cucullate, oblong, concave especially at the slightly curved, obtuse

to subacute apex, sessile, glabrous, dark brown. *Heads* globular, bright light- to mid-golden, 7–8 mm diam. (reconstituted), 5–6 mm diam. when dry, to 11 mm diam. when fresh, 20–35-flowered; *bracteoles* not subtending all flowers, narrowly spatulate or resembling sepals. *Flowers* 5-merous; *sepals* 1/3 to almost 1/2 length of petals, free, linear to narrowly oblong, commonly slightly thickened and inflexed at apex, sparsely puberulous to glabrous; *petals* c. 2 mm long, united for 1/2 to 2/3 their length, glabrous, commonly tinged brownish to black when dry, nerveless. *Pod* irregularly twisted to loosely coiled, to 6.5 cm long, 2–3 mm wide, thinly coriaceous to slightly crustaceous, terete to semi-terete, scarcely constricted between seeds, glabrous or sprinkled with minute, straight, appressed hairs, black. *Seeds* longitudinal, obloid, 3 mm long, 1.5–2 mm wide, somewhat shiny, dark brown to blackish, sometimes obscurely mottled; *pleurogram* U-shaped, open at hilar end; *areole* 0.6–0.7 mm long, 0.5–0.6 mm wide; *funicle* filiform, c. 1 mm long, abruptly expanded into a conspicuous, conical to galeate, yellow, fleshy, terminal aril 2–3 mm long.

Selected specimens examined. WESTERN AUSTRALIA: near Mt Heywood, *J.S. Beard* 6389 (PERTH); 2.6 km N of Rolland Rd on Fields Rd [c. 45 km due W of Red Lake], *M.A. Burgman* 3010 (PERTH); 31.6 km NNE of Mt Heywood, 12.4 km NW of Mt Ney Rd on Clyde Rd, *M.A. Burgman* 3052 & *C. Layman* (PERTH); 25 km NNE of Mt Ney, *M.A. Burgman* 1256 & *S. McNee* (PERTH); 2.5 km S of Salmon Gums towards Esperance, *B.R. Maslin* 2492 (MEL, PERTH); 20 km S of Salmon Gums on Coolgardie–Esperance highway towards Esperance, *B.R. Maslin* 5532 (PERTH).

Distribution. Occurs in the south-west of Western Australia, scattered in an area from near Mt Madden (north of Ravensthorpe) east to near Mt Heywood (north-east of Esperance). Most collections are from the area around Salmon Gums, south to Grass Patch and east to near Mt Heywood.

Habitat. Grows in sand and on greyish clay flats, in open low or mallee woodland with low open dwarf scrub or low heath.

Phenology. Flowering recorded in August and September; mature pods collected in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The specific epithet is derived from the superlative of the Latin *glaucus* (blue-tinged), in reference to the characteristic colour of the phyllodes.

Affinities. *Acacia glaucissima* is related to *A. merrallii* F. Muell. which differs in its usually puberulous branchlets, caducous stipules and generally shorter (8–25 mm long), less glaucous phyllodes. It also resembles, and is sometimes sympatric with, *A. dermatophylla* Benth., which is most easily distinguished by its persistent, longer (4–8 mm) stipules, its phyllodes which are green to subglaucous (glaucous when young), finely wrinkled when dry and lacking a clearly defined pulvinus, its peduncles surrounded at base by a tuft of hairs and its hard-bony, narrowly oblong pods 8–10 mm wide with oblique, larger seeds (c. 5 mm long, 4–4.5 mm wide). Also allied to *A. acoma* (see above).

***Acacia graniticola* Maslin, sp. nov.**

Frutex intricatus, effusus, 2–3 m altus. Ramuli teretes, glabri. Stipulae 1–2 mm longae, caducae sed bases induratae interdum persistentes. Phyllodia linearia, acuta, 9–15 cm longa, 1–3 mm lata, coriacea, glabra praeter margines pilis minutis tuberculatis caducis instructos; costa conspicua, elevata; glans marginalis, 5–8 mm supra pulvinam inserta, interdum absens. Inflorescentiae simplices,

binatae. Pedunculi 6–20 mm longi, glabri; capitula globularia vel ellipsoidea, floribus 35–40. Flores 5-meri. Sepala libera vel breviter unita, parce puberula. Petala glabra, enervia. Legumen late lineare, ad 8 cm longum, 3–4 mm latum, inter semina constrictum, chartaceum vel tenuiter coriaceum, glabrum. Semina longitudinalia, ellipsoidea, 3–3.5 mm longa; arillus crassus, albus.

Typus: 3 miles [4.8 km] north of Mukinbudin–Bencubbin road on Barbalin North Rd, Western Australia, 6 September 1982, *R.J. Cumming* 2365 (*holo*: PERTH 00168335; *iso*: MELU).

Much-branched, intricate spreading *shrub* 1–3 m tall, to 4 m wide, dividing at ground level into 2–4 rather crooked main stems. *Bark* grey, rough or smooth, lenticellular. *Branchlets* terete, finely ribbed, shallowly to obviously flexuose, glabrous; lenticels obvious; young branchlets, phyllodes and peduncles invested with minute, scattered, brown, \pm circular resin secretions, sometimes persisting as golden papillae on phyllode nerves. *Stipules* on new shoots narrowly oblong to triangular, 1–2 mm long, scarious, with mature bases sometimes hardening and persistent. *Phyllodes* linear, (6)9–15(20, rarely 28) cm long, 1–3 mm wide, moderately coriaceous, sessile (i.e. *pulvinus* absent), not continuous with the branchlets but not easily separated from them, shallowly curved to sinuous, flat or (when very narrow) subquadrangular due to pronounced midrib, green, glabrous except margins and sometimes midrib with minute, scattered tubercle-based, caducous, antrorsely appressed hairs; nerves 4 or 5 (2 lateral, 1 abaxial, 1 adaxial but bifurcating near phyllode base); *midrib* prominent on each face; margins and sometimes midrib sparsely tuberculate; *apex* acute, innocuous or sometimes almost coarsely pungent. *Gland* not prominent, (2)5–8 mm above base, sometimes absent. *Inflorescences* 7–12-branched racemes 1–5.5 cm long, the raceme axis often growing out as a ‘leafy’ shoot before flowering has finished with the subsequent pedunculate heads occurring in 2s or 3s in axils of young phyllodes; *peduncles* 6–25 mm long, slender, glabrous, base ebracteate; *bract* near or above middle of peduncle persistent or subpersistent to anthesis, rarely caducous on all peduncles except when in fruit, \pm lanceolate, shallowly concave, 1–2 mm long, scarious, light brown, glabrous except sparsely ciliate margins. *Heads* globular to widely ellipsoid, golden, c. 8 mm diam. (fresh), 4.5–5 mm diam. (dry), densely 35–40-flowered; *bracteoles* spatulate, c. 1.5 mm long, sparsely puberulous; *claw* linear; *lamina* ovate, c. 0.5 mm wide, acute, slightly inflexed. *Flowers* 5-merous; *calyx* divided to base or frequently some sepals irregularly united for usually 1/4–1/3 their length, sparsely puberulous; *petals* 1.5–2 mm long, glabrous, nerveless. *Pod* linear, shallowly raised over seeds and moderately to deeply constricted between them, shallowly undulate, 6–8(9.5) cm long, 2.5–4 mm wide, chartaceous to thinly coriaceous, glabrous, light brown, nerveless. *Seeds* longitudinal, with aril facing base of pod, widely ellipsoid, 2.5–3.5 mm long, 2.5–2.8 mm wide, sub-glossy, tan with black mottlings (when fresh) but drying yellowish grey-brown mottled black, or uniformly yellowish brown; *areole* dark, surrounded by a narrow band of yellowish tissue that extends in a line to the hilum; *pleurogram* obscure, open at hilar end; *areole* 0.2–0.4 mm long, 0.2–0.3 mm wide; *funicle* filiform, 0.5–1 mm long, gradually expanded into a thick, creamy white, folded aril.

Selected specimens examined. WESTERN AUSTRALIA: Bruce Rock, Sep. 1933, *E.T. Bailey* (PERTH 00166871); near summit of Mt Churchman, *B.J. Conn* 2280 (MEL, NSW, PERTH, TL); Twine Reserve, 21 km ESE of Mt Walker, *S.D. Hopper* 7858 (PERTH); Muntadgin Rock, *B.R. Maslin* 1819 (AD, BRI, NSW, PERTH); Nungarin Hill, *B.R. Maslin* 2348 (NY, PERTH); Barbalin Rock, 12 km due SW of Mukinbudin, *B.R. Maslin* 6448 (BRI, CANB, PERTH); Billyacatting Hill Reserve, 17746, 11 km NE of Kununoppin, *B.G. Muir* 97(3.7) (PERTH); Yorkrakine Rock Reserve, 23586, 24 km N of Tammin, *B.G. Muir* 173(3.7) (PERTH); Walyahmoning Rock, c. 60 km NW of Bullfinch, *K. Newbey* 9558 (MO, PERTH); White Elephant Hill, *P. de Rebeira* 176 (PERTH); Roe Dam, just N of Mt Walker (N of Hyden), *J.G. & M.H. Simmons* 1311 (PERTH).

Distribution. Occurs in the south-west of Western Australia confined to the central wheatbelt from near Kalannie and Mt Churchman (north of Beacon) east to Walyahmoning Rock (north-west of Southern Cross) and south to Mt Walker (east of Narembeen).

Habitat. Grows in sand, sandy-clay or loam on soil aprons on and at the base of granite outcrops, sometimes in scrub or shrubland in semi-arid areas.

Phenology. Flowering recorded from August to October; mature pods collected in December.

Conservation status. Widespread, not under threat.

Etymology. The specific epithet is derived from the Latin *graniticus* (granitic) with the ending *-cola* (a dweller) and reflects the species' preference for granite rocks.

Affinities. *Acacia granitica* is most closely allied to *A. dentifera* Benth. which is distinguished by its branchlets being non-flexuose, phyllodes distinctly pulvinate (and easily removed from the branchlets), generally wider (2–5 mm) and without tuberculate margins, peduncular bracts less persistent (usually absent at anthesis) and pods tending to be more terete in section. The two species are allopatric, *A. dentifera* being confined principally to the temperate forests and woodlands of the Darling Range and *A. granitica* occurring inland in the semi-arid Transitional Rainfall Zone (Hopper 1979) of the wheatbelt; both species are associated with granite rocks. A similar distribution pattern exists for the *A. oncinophylla* Lindley–*A. fauntleroyi* (Maiden) Maiden & Blakely species pair in sect. *Juliflorae* (Benth.) C. Moore & Betche.

Acacia halliana Maslin, *Nuytsia* 6: 36, fig. 1 (1987). *Type:* 10 km N of Bute on the road to Port Broughton, South Australia, 22 September 1985, B.R. Maslin 6003 (*holo:* PERTH; *iso:* AD, CANB, G, K, MEL, NSW, NY).

Acacia iteaphylla var. *latifolia* F. Muell., *J. Proc. Linn. Soc., Bot.* 3: 125 (1859), *synon. nov.* *Type:* Poonindie [sphalm. 'Ponindi'], South Australia, C. *Wilhelmi* (*lecto:* NSW 180828, here selected; *isolecto:* MEL [sphalm. 'Ponindy']).

Typification. The NSW type sheet of the name *Acacia iteaphylla* var. *latifolia* bears two collections, both labelled by Mueller: (1) '*Acacia iteaphylla* fer Mul. β latifolia. Frutex altior. Ponindi. W[ilhelmi]'; there is a duplicate of this fruiting specimen (annotated 'Ponindy') at MEL. (2) '*Acacia iteaphylla*. In fruticetis fl. Murray haud procul a Wellington. Wuerth. 1 Mai 1849'; this is a sterile specimen of the small-headed variant of *A. halliana* Maslin, *fide* B.R. Maslin, *loc. cit.* The specimen at NSW of the former collection is selected as lectotype as it is representative of the more common variant of the species and is better material than that on the sheet at MEL.

Acacia hystrix Maslin, *sp. nov.*

Frutex 0.3–1 (1.8) m altus. Ramuli glabri, ad apices extremos costis flavis vernicosis provisi. Stipulae inconspicuae. Phyllodia crasse acicularia, in sectione transversali pentagonalia, 2–6(6.5) cm longa, 1–1.7 mm lata, versus apices ramorum subconferta, rigida, erecta, pungentia, articulata (subsp. *hystrix*), vel ramulis continua sine pulvina (subsp. *continua*). Inflorescentia racemus eximie reductus binatus; axis glaber, quam 0.5 mm brevior. Pedunculi 5–15 mm longi; bractae basales pedunculares caducae (subsp. *hystrix*) vel persistentes (subsp. *continua*). Florum capitula globularia, 10–13 floribus; bracteolae anguste spatulatae. Sepala libera. Petala 1.5 mm longa. Legumen oblongum ad anguste

oblongum, ad 25(30) mm longum, 3–5 mm latum, deflexum, compressum sed supra semina leviter convexum. Semina longitudinalia ad obliqua, obloideo-ellipsoidea, 2.2–2.7 mm longa, 1.2–1.5 mm lata, sublucida, atrobrunnea; arillus albus, unilateraliter dimidium usque totam seminis longitudinem attingens.

Typus: 1.5 miles [2.4 km] north of Kulin, Western Australia, 3 August 1970, K. Newbey 3226 (*holo*: PERTH 00760552; *iso*: CANB, K, MEL, PERTH 00760560).

Dense to mid-dense *shrub*, rounded to obconic, multi-stemmed, 0.3–1(1.8) m tall, normally as broad as or broader than tall, with up to 6 main stems arising from ground level. *Bark* medium grey. *New shoots* arising at distal end of minute raceme axis from axil of peduncles. *Branchlets* terete, greenish to light brown; with yellow, vernicose ribs (resin commonly not present on dry specimens) at extreme apex but soon red-brown, then grey and very obscurely ribbed or ribless, glabrous, marked with slightly raised leaf bases where phyllodes have fallen. *Stipules* inconspicuous, 0.5–0.7 mm long, commonly slightly thickened and yellowish at base, the dark brown, rather scarious, distal portions normally soon caducous. *Phyllodes* pentagonal in cross section, 2–6(6.5) cm long, 1–1.7 mm diam., rather crowded towards ends of branches, articulate and falling upon death in subsp. *hystrix*, continuous with branches and somewhat persistent following death in subsp. *continua*, erect, rigid, straight to very slightly curved, frequently slightly kinked in the region of the gland, glabrous, glaucous to subglaucous between nerves; prominently 5-nerved, the nerves raised, yellowish to yellowish green and vernicose on young phyllodes, resin commonly drying whitish on mature phyllodes; narrowed into a rigid, straight, dark brown, subulate cusp 1–2 mm long; *pulvinus* present (subsp. *hystrix*) or absent (subsp. *continua*), c. 1 mm long, slightly depressed, dilated at the base, broadly channelled above (when dry), not prominently wrinkled, yellowish orange but commonly drying light brown. *Gland* not prominent, situated on adaxial surface of the phyllode between the two adaxial nerves, about or above middle of phyllode (phyllode frequently slightly kinked in the region of the gland), circular to oblong, 0.2–0.5 mm long, the lip yellowish or brown and not raised, the orifice shallow, indistinct. *Inflorescence* an extremely reduced binate raceme; axis less than 0.5 mm long, glabrous, growing out at apex; *peduncles* 5–15 mm long, rather slender, glabrous; *basal peduncular bracts* solitary, caducous (subsp. *hystrix*) or persistent (subsp. *continua*), 1.5–3 mm long, dark brown, curved, concave, ± auricled on lower half, cleft at apex in subsp. *continua*. *Heads* globular, 5–6 mm diam. when fresh, 3–4 mm diam. when dry, bright light golden, 10–13-flowered; *bracteoles* spatulate, 1–1.5 mm long, variably hairy abaxially (hairs white, glistening); lamina dark brown, observable between flowers in mature unexpanded buds, as long as or longer than the claw. *Flowers* 5-merous; *sepals* c. 1/2 length of petals, free to base, narrowly spatulate, glabrescent to moderately villous abaxially, brown; *petals* 1.5 mm long, free, abruptly acute, glabrous, very obscurely 1-nerved but nerve not apparent when dry; *ovary* glabrous. *Pod* oblong to narrowly oblong, to 25(30) mm long, 3–5 mm wide, with up to 9 seeds per pod, declinate due to abrupt curving of the very short basal stipe, compressed but slightly raised over seeds, normally not constricted between seeds although on some pods a random deep constriction occurs, firmly chartaceous to slightly coriaceous, straight or sometimes very shallowly falcate, variably slightly curved, very obscurely openly reticulate, glabrous, brown and sometimes with a very faint bloom, abruptly narrowed at both ends, apically mucronulate (muero c. 0.5 mm long, central or excentric); margins narrow, slightly thickened, yellowish to light brown. *Seeds* longitudinal to oblique, the aril facing adaxial margin (when seeds oblique) or apex of pod (when seeds longitudinal), obloid-ellipsoid to obloid-obovoid, slightly narrowed at hilar end, 2.2–2.7 mm long, 1.2–1.5 mm wide, somewhat compressed (c. 0.7 mm thick), somewhat glossy, brown; *pleurogram* very obscure, U-shaped, open at hilar end; *areole* 0.4–0.5 mm long, 0.2–0.3 mm wide; *funicle* filiform, 1–1.5 mm long, reflexed below and expanded into a ± clavate, white aril which is 2–3 mm long and extends from half to wholly down one side of seed.

Distribution. Occurs in south-west Western Australia from near Kulin east to near Lake Gilmore (south-south-west of Norseman), and as far north as Mt Holland (north-east of Hyden).

Etymology. The specific epithet is the Greek word for hedgehog and is in allusion to the straight, rigid, erect, pungent phyllodes which are rather crowded towards the ends of the branchlets.

Affinities. *Acacia hystrix* is a very distinctive species on account of its pungent, rigid, prominently 5-nerved, pentagonal phyllodes, its small heads borne on extremely reduced binate racemes and its small, deflexed pods. According to Ph. Guinet (pers. comm.), the pollen characters clearly place the species in sect. *Phyllodineae* DC., but within this section I am unable to ascertain a definite close relative. It possibly has some affinities to *A. tetanophylla* Maslin which differs most obviously in having 7-nerved phyllodes and pods which are not declinate.

Key to the subspecies of *Acacia hystrix*

Phyllodes articulate at junction with branchlet; pulvinus yellowish orange (commonly drying brown), dilated at base subsp. **hystrix**
 Phyllodes not articulate on branches, decurrent; pulvinus absent subsp. **continua**

Acacia hystrix Maslin subsp. **hystrix**

Shrub 0.3–0.6 m tall (*Royce* 6674 given as *c.* 1.8 m tall). *Phyllodes* 2–4.5 cm long, articulate on branches and caducous upon death; *pulvinus* present, dilated at base, yellowish orange but commonly drying light brown. *Peduncles* 5–10 mm long; *basal peduncular bracts* falling early, not cleft.

Selected specimens examined. WESTERN AUSTRALIA: Pingaring Nature Reserve 23993, 45 km NNE of Lake Grace, *K. Atkins* 1583 (PERTH); 42.2 miles [67.8 km] W of Kumarl towards Lake King, *R. Cumming* 2558 (AD, BRI, PERTH); 10.3 km E of Shed Tank (32°42'S, 120°51'E), *R. Hnatiuk* 760882 (PERTH); 6.5 km S of Kulin, *B.R. Maslin* 3425 (AD, BRI, NY, PERTH); Bremer Range, *c.* 32°31'S, 120°44'E, *B.R. Maslin* 5427 and 5427A (BM, CANB, MEL, MO, NSW, PERTH); 8.5 km E of Bending on Bending East Rd, *B.R. Maslin* 5764A (PERTH); 66 km S of Southern Cross on road to Hyden, *B.R. Maslin* 6726 (PERTH); 13 km S of Mt Glasse, Bremer Range, *K. Newbey* 5396 (PERTH); 21 km NNW of Mt Holland, *c.* 85 km SSE of Southern Cross, *K. Newbey* 5805 (PERTH); 9 km SSE of Mt Gibbs, *c.* 36 km ENE of Lake King, *K. Newbey* 6585 (CANB, K, PERTH); Frank Hann National Park, *R.D. Royce* 10188 (PERTH).

Distribution. Occurs in the south-west of Western Australia scattered in an area from near Kulin eastwards through the Frank Hann National Park (east-north-east of Lake King) to the area of Mt Glasse in the Bremer Range (east of Hyden), and north to between Mt Holland and Southern Cross.

Habitat. Grows in sand, clay or loam, sometimes with lateritic or quartz nodules in gently undulating country in open scrub or open low woodland with mallee eucalypts.

Phenology. Flowering recorded from July to October; mature pods collected in December.

Conservation status. Not under threat.

Acacia hystrix subsp. **continua** Maslin *subsp. nov.*

Frutex ad 1 m altus et ad 3 m latus. Phyllodia (2.5)3–6(6.5) cm longa, cum ramis continua, emarcida aliquantum persistentia; pulvinus nullus. Pedunculi 7–15 mm longi; bractea pedunculares basales persistentes, fissae.

Typus: north of Salmon Gums [precise locality withheld for conservation reasons], Western Australia, 24 September 1983, B.R. Maslin 5439 (*holo*: PERTH 00760544; *iso*: CANB, K).

Shrub to c. 1 m tall and 3 m wide. *Phyllodes* (2.5)3–6(6.5) cm long, continuous with branches, somewhat persistent following death; *pulvinus* absent. *Peduncles* 7–15 mm long; *basal peduncular bracts* persistent, cleft.

Other specimens examined. WESTERN AUSTRALIA, N of Salmon Gums [precise localities withheld for conservation reasons]: B.R. Maslin 2462 (CANB, K, MEL, NY, PERTH); B.R. Maslin 5439A (MEL, PERTH).

Distribution. Occurs in the south-west of Western Australia known only from north of Salmon Gums (where it is reasonably abundant) which is about 60 km east of the closest known occurrence of subsp. *hystrix*.

Habitat. Grows in red-brown clayey loam along a diffuse watercourse, in eucalypt woodland with a dense myrtaceous understorey.

Phenology. Flowering recorded in September; mature pods collected in December but the full phenological range has not yet been determined.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. The subspecific epithet is from the Latin *continuus* and refers to the phyllodes which are continuous with the branches (a diagnostic character).

Acacia imitans Maslin, *sp. nov.*

Frutex semi-prostratus, 0.3–1 m altus. Ramuli divaricati, spinescentes, teretes, glabri. Stipulae c. 0.5 mm longae, caducae. Phyllodia asymmetrica, oblonga vel late elliptica, mucronulata, 3.5–7 mm longa, 1.5–2.5 mm lata, glabra; nervi non prominentes; glans marginalis, 0.3–0.5 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 3–4 mm longi, appresso-puberuli; spica breviter cylindrica, floribus 25–30. Flores 5-meri. Sepala unita, parce puberula. Petala glabra, enervia. Legumen arcte spirale, ad c. 7 mm 'diam.', 3 mm latum, chartaceum, glabrum. Semina longitudinalia, obloideo-ellipsoidea vel ovoidea, c. 3 mm longa; arillus parvus.

Typus: Ninghan Station [precise locality withheld for conservation reasons], Western Australia, 21 August 1985, B.H. Smith 613 (*holo*: PERTH 00632341).

Dense, intricate, low-domed, semi-prostrate, spreading *shrub* 0.3–1 m tall, to 3 m wide. *Bark* grey, smooth or slightly roughened. *Branches* terete, ribless, glabrous, dividing into numerous, divaricate, short, straight, rigid, spinescent branchlets which (especially with age) are commonly devoid of

phyllodes. *Stipules* united, c. 0.5 mm long, ciliolate, otherwise glabrous, early caducous. *Phyllodes* asymmetric, arcuate-oblong or widely elliptic, upper margin straight to shallowly concave, lower margin markedly convex, 3.5–7 mm long, 1.5–2.5 mm wide, l:w 2–3, thin, not fasciculate, patent to slightly or prominently reflexed, glabrous, subglaucous; *midrib* not prominent, excentric (slightly towards upper margin), nerve on adaxial margin bifurcating near gland; *lateral nerves* not prominent, ascending and anastomosing near margins; excentrically mucronulate, mucro 0.2–0.3 mm long, brown, upturned; base unequal; *pulvinus* terete, 0.5 mm long, yellow, finely transversely wrinkled when dry. *Gland* situated on adaxial margin 0.3–0.5 mm above pulvinus, circular, minute, 0.1–0.2 mm diam. *Inflorescences* 1 per node, sometimes inserted with vegetative bud on a minute common axis <0.5 mm long; *peduncles* 3–4 mm long, antrorsely appressed-puberulous; *basal bract* solitary, widely ovate, c. 0.5 mm long, thickened at base. *Spikes* obloid to shortly cylindrical, 6–8 mm long and 4–5 mm wide at anthesis (dry), probably golden, 25–30-flowered; *bracteoles* peltate, those at base of spike ± sessile, otherwise claws linear and c. 0.5 mm long; lamina circular to reniform, 0.5–0.7 mm wide, ciliolate otherwise glabrous. *Flowers* 5-merous; *calyx* c. 1/2 length of corolla, divided to 1/4–1/2 its length into broadly triangular or oblong lobes, sparsely puberulous; *petals* 1–1.2 mm long, free almost to base, glabrous, nerveless. *Pod* tightly coiled as in *Medicago*, to c. 7 mm long (unexpanded), 3 mm wide, firmly chartaceous; glabrous, dark red–brown. *Seeds* (old crop retained in pod), longitudinal, obloid-ellipsoid to ovoid, 3 mm long, 2 mm wide, 1 mm thick, dull, dark brown; *funicle* filiform; aril 0.6–0.8 mm long, obliquely placed at end of seed.

Selected specimens examined. WESTERN AUSTRALIA [precise localities withheld for conservation reasons]: SW of Paynes Find, R. Coveny 7911 & B.R. Maslin (PERTH; also CANB, K, NSW, US but *n.v.*, distributed as *A. kochii*); Ninghan Station, B.R. Maslin 4239 (CANB, K, MEL, PERTH); Mt Gibson Station, B.R. Maslin 6654 (CANB, K, MEL, PERTH); Ninghan Station, K. Newbey 2010 (PERTH).

Distribution. Occurs in the south-west of Western Australia on Ninghan and Mt Gibson Stations, south of Paynes Find. The area has not been well surveyed botanically, and the species is likely to be more widely distributed than current collections indicate.

Habitat. Grows on slopes in rocky red loam derived from dolerite, in tall shrubland.

Flowering period. Flowering recorded in August and September. Only old pods seen.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. The specific epithet refers to its superficial resemblance to *A. kochii*.

Affinities. Until now the new species has usually been confused with *A. kochii* W. Fitzg. ex A.J. Ewart & Jean White which is recorded from the type locality and resembles the new species superficially in its spinescent branchlets, cylindrical spikes and 1-nerved phyllodes with fine, anastomosing lateral veins. Other characters shared by these two species include their ± ribless, commonly glabrous branchlets, their united sepals and peltate bracteoles. *Acacia kochii* can be distinguished easily from *A. imitans* in the following ways: mature phyllodes 10–20 mm long and fasciculate in groups of 2–8, a patent thorn (modified branchlet) 10–20 mm long associated with most fascicles; peduncles 10–20 mm long; spikes 7–15 mm long (at anthesis, dry); petals c. 2 mm long; pods torulose, to 9 cm long, not tightly spirally coiled; seeds 5 x 3.5 mm; aril ± conical and conspicuous. Patrick 1850 from NNW of Mt Gibson (PERTH) is more openly branched and has phyllodes 5–9 mm long and peduncles 3–4 mm long, giving it some resemblance to *A. kochii*.

Acacia erinacea Benth. also occurs near the type locality and superficially resembles the new species in its habit, spinescent branchlets and small phyllodes. This species is readily distinguished from *A. imitans* by its globular heads and short, straight, flat oblong pods 7–10 mm wide.

Species such as *A. imitans* and *A. kochii* which combine 1-nerved phyllodes and spicate inflorescences are rare in *Acacia*. Such a combination of characters is known in *A. dorothea* Maiden (New South Wales), *A. lucasii* Blakely (New South Wales, Victoria) and *A. anomala* Court (Western Australia) but these taxa are not closely related to the new species.

Notes. The stipules are minute and present only on very young new shoots. They form a subtending sheath on the abaxial side of pulvinus, as in *A. leptospermoides* (see Maslin 1978: Figure 4F).

***Acacia imparilis* Maslin, sp. nov.**

Frutex effusus ad c. 0.7 m altus. Ramuli teretes, puberuli. Stipulae 2–4 mm longae, plerumque persistentes. Phyllodia inaequaliter obovata ad anguste oblonga, obtusa, subuncinata, 6–13 mm longa, 2–4.5 mm lata, pubescentia vel puberula; costa prominens; nervi laterales absentes; glans marginalis, 2–3 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 7–10 mm longi, glabri; capitula globularia, cremea, floribus 12–15. Flores 4-meri. Sepala libera, ciliolata, cetera glabra. Petala glabra, enervia. Legumen (immaturum) angustum, rectum, ad 5 cm longum. Semina longitudinalia, obloidea, c. 5 mm longa; arillus conicus.

Typus: Hamilla Hill, 15 km due east of Cranbrook, Western Australia, 8 October 1989, *B.R. Maslin* 6396 (*holo:* PERTH 01012673; *iso:* CANB, K, MEL, PERTH 01012681).

Sprawling, spindly shrub to c. 0.7 m tall. Branchlets terete, finely ribbed, puberulous, hairs patent to slightly antrorse. Stipules linear to narrowly triangular, 2–4 mm long, erect, brown, usually persistent. Phyllodes unequally obovate to narrowly oblong, 6–16 mm long, 2–4.5 mm wide, l:w 2–4, inclined to erect, shallowly sigmoid, moderately pubescent to sparsely puberulous, hairs \pm antrorse and tubercle-based, sparsely to densely verruculose; midrib rather prominent, central or situated near lower margin; lateral nerves absent; apex subuncinate, rounded or obliquely narrowed to an excentric mucro, the mucro 0.5–1 mm long, straight, rigid and pungent; pulvinus not prominent, c. 0.5 mm long. Gland on upper margin of phyllode 2–3 mm above pulvinus, inconspicuous, circular, c. 0.2 mm diam. Inflorescences simple, 1 per axil; peduncles 7–10 mm long, slender, glabrous; basal peduncular bract solitary, persistent, oblong-triangular, concave, c. 0.5 mm long, ciliolate, otherwise glabrous or puberulous abaxially, dark brown. Heads globular, 12–15-flowered, cream to pale yellow; bracteoles 0.7 mm long, resembling sepals. Flowers 4-merous; sepals c. 1/2 length of petals, free, spatulate to narrowly spatulate, ciliolate at apex, otherwise glabrous, brown at least at apex (when dry); petals c. 1.5 mm long, glabrous, nerveless. Pod (immature) linear, to 5 cm long, 2.5 mm wide, straight to slightly curved, compressed, straight-edged or shallowly constricted between seeds, appressed-puberulous, red-brown, longitudinally nerved. Seeds (immature) longitudinal, obloid, c. 5 mm long; funicle filiform, c. 1 mm long, abruptly expanded into a terminal, conical aril c. 1.5 mm high.

Other specimens examined. WESTERN AUSTRALIA: Mt Hamilla [Hamilla Hill], 14.5 km from Cranbrook along Salt River Rd, *E.M. Canning* WA/68 6156 (PERTH, also CBG *n.v.*); ?Talyuberlup Peak, Stirling Range, *R.J. Cumming* 955 (PERTH); SW slope of Talyuberlup Peak, *R.J. Cumming* 1015 (PERTH); Hamilla Hill, 15 km due E of Cranbrook, *B.R. Maslin* 6395 (PERTH).

Distribution. Occurs in the south-west of Western Australia, on Hamilla Hill and Talyuberlup Peak in the Stirling Range National Park.

Habitat. Grows on rocky hills in open or closed mallee scrub.

Phenology. Flowering recorded in early October and late November; mature pods not seen. The paucity of collections makes the determination of flowering and fruiting phenology difficult to assess.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. The specific epithet is from the Latin *imparilis* (unequal), in reference to the inaequilateral phyllode margins which produce an asymmetric phyllode shape.

Affinities. The precise affinities of this new species are unknown. Its phyllodes resemble some variants of *A. ferocior* Maiden (which also occurs in the Stirling Range), a species readily distinguished from *A. imparilis* by its numerous spinescent branchlets, 5-merous flowers, gamosepalous calyx and strongly arcuate to few-coiled pods. Furthermore, the inflorescence structure in *A. ferocior* sets it apart from *A. imparilis*. In *A. ferocior* the solitary peduncles are inserted on a minute raceme axis, the axis is subtended by two small bracts and the peduncle by a larger (commonly cleft) bract. In *A. imparilis* no raceme axis develops. These inflorescence structures, although small, are considered taxonomically important in subg. *Phyllodineae*.

The phyllodes of *A. imparilis* sometimes resemble those of *A. huegelii* Benth. Furthermore, both species have globular, cream heads, axillary peduncles with a solitary basal bract, long stipules, longitudinally nerved pods and longitudinal seeds with a terminal, conical aril. However, *A. huegelii* differs significantly from the new species in its 5-merous flowers which lack a calyx (asepalous flowers are most unusual in *Acacia*). It is further distinguished by its 20–30 flowers per head, 1-nerved petals and phyllodes with the midrib intersecting the upper margin below the prominent cusp (not running into the cusp as in *A. imparilis*).

Acacia improcera* Maslin, *sp. nov.

Frutex effusus 15–40 cm altus. Ramuli teretes, spinescentes, striati, hirtelli. Stipulae 0.5–1 mm longae, persistentes. Phyllodia oblique ovata ad elliptica vel obovata, acuta, apiculata, 3–6 mm longa, 1.5–3.5 mm lata, hirtella; costa vix prominens; nervi laterales absentes vel pauci, obscuri; glans obscura, marginalis, 0.2–0.6 mm supra pulvinam inserta. Inflorescentia racemus reductus, capitulo 1. Pedunculi 2.5–4 mm longi, glabri; capitula globularia, aurea, floribus 9–11. Flores 5-meri. Sepala unita, lobis ciliolatis, cetera glabra. Petala glabra, enervia. Legumen curvatum, inter semina constrictum, ad 3 cm longum, c. 4 mm latum, chartaceum ad coriaceum, glabrum. Semina longitudinalia, ovoidea, c. 3 mm longa, nitentia; arillus porcatus.

Typus: Fields Rd, 11 km north of Rolland Rd, c. 50 km due east-north-east of Grass Patch, Western Australia, 14 August 1985, B.R. Maslin 5794 (*holo:* PERTH 00776890; *iso:* K).

Spreading, mid-dense *shrub* 15–40 cm tall, to 80 cm wide, dividing at ground level into c. 6 spreading to erect main stems. *Branches* terete, striate, white-waxy between the fine ribs, hirtellous, dividing into numerous, short, straight, rigid, patent to inclined, spinescent branchlets. *Stipules* triangular, 0.5–1 mm long, very dark brown, ± persistent. *Phyllodes* obliquely ovate to elliptic or

obovate, 3–6 mm long, 1.5–3.5 mm wide, l:w 1.5–2.5, slightly thickened, hirtellous, green (purplish when young); *midrib* commonly scarcely prominent, central or slightly towards lower margin, extending from pulvinus to apiculum, sometimes a second, less prominent, longitudinal nerve diverging from the pulvinus; lateral nerves absent or few and obscure; *apex* obliquely narrowed into a short, acute, slightly recurved apiculum; *pulvinus* c. 0.5 mm long, terete. *Gland* insignificant, on upper margin of phyllode 0.2–0.6 mm above pulvinus, circular or oblong, c. 0.2 mm wide. *Inflorescence* 1 per node, an extremely reduced 1-headed raceme; axis less than 0.5 mm long, subtended by 2 ± triangular, sessile brown bracts 0.2–0.3 mm long and 0.3–0.5 mm wide; *peduncles* 2.5–4 mm long, glabrous, recurved at base when in fruit; *basal peduncular bract* solitary, c. 1 mm long and 0.5 mm wide, concave, cleft, fimbriolate otherwise glabrous, dark brown, persistent. *Heads* globular, light golden, 5–6 mm diam. (fresh), c. 4 mm diam (dry), 9–11-flowered; *bracteoles* c. 1 mm long, concave, ciliolate, otherwise glabrous or sparsely hairy towards the ± acute apex, brown, subsessile. *Flowers* 5-merous; *calyx* 1/4–1/3 length of corolla, irregularly dissected to c. 1/2 its length into triangular, ciliolate lobes, the 2 lobes enclosed by the bracteole shorter and less deeply dissected than the 3 on opposite side; tube brown, glabrous; *petals* c. 1.5 mm long, glabrous, nerveless. *Pod* curved, to 3 cm long, 4 mm wide, rounded over seeds and slightly to prominently constricted between them, firmly chartaceous to thinly coriaceous, glabrous, dark purple-brown, margins inrolled on one side. *Seeds* longitudinal, widely ovoid but obliquely truncate on edge adjacent to aril, 3 mm long, c. 2.5 mm wide, turgid (c. 2 mm thick), shiny, dark brown except yellow-brown tissue enveloping areole and extending to hilum; *pleurogram* obscure, U-shaped, open at hilar end; *areole* c. 0.5 mm long, c. 0.3 mm wide; *funicle* filiform, c. 1.5 mm long, straight, reflexed below the flattened, medially ridged aril which extends c. 3/4 down one side of seed.

Selected specimens examined. WESTERN AUSTRALIA: E of Ravensthorpe, *K.L. Bradby* 88 (PERTH); Dempster Rd, 1 km S of Bronzewing Rd, c. 5 km SW of Mt Ridley, *B.R. Maslin* 5814 (AD, MEL, MEXU, PERTH); Frank Hann National Park, *D. Monk* 054 (PERTH); 3 miles [4.8 km] SE of Ravensthorpe, *K. Newbey* 1615 (PERTH); 20 km WSW of Mt Glasse, Bremer Range, *K. Newbey* 5566 (PERTH); 23 km E of Grass Patch on Logan's Rd, *P. van der Moezel* PGV 296 (PERTH).

Distribution. Occurs in the south-west of Western Australia in discontinuous areas from near Lake King, north-east through Frank Hann National Park to the Bremer Range, east to near Grass Patch and towards Sheoak Hill, and south to near Ravensthorpe.

Habitat. Grows in clay, rocky loam or sand, in transition between heath and shrub mallee.

Phenology. Flowering recorded in July and August; mature pods collected in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The specific epithet is from the Latin *procerus* (very tall) with the prefix *im-* (contrary), and refers to the species' small stature.

Affinities. Inflorescence and flower characters suggest that *A. improcera* is related to *A. bidentata* Benth. and its allies, differing in its phyllode shape (phyllodes of *A. bidentata* are inequilaterally obovate to obtriangular-obdeltate). Other useful distinguishing characters are its striate, white-waxy branchlets, light-golden, few-flowered heads, curved legumes and bi-coloured seeds. *Acacia erinacea* Benth. is similar to *A. improcera*, especially in its spinose branchlets and phyllode shape and size, but is distinguished most readily by its glabrous branchlets and phyllodes, 12–22-flowered heads and legume morphology. Although *A. improcera* superficially resembles *A. brachyclada* W. Fitzg. in

phyllode shape and size the two are not closely related. *Acacia brachyclada* differs significantly from *A. improcera* in its resinous branchlets, ebracteate peduncle bases, free sepals, coiled pods and black seeds with aril folded at one end.

Acacia insolita E. Pritz., *Bot. Jahrb. Syst.* 35: 310, fig. 36 (1904). *Type*: Darling Range, Western Australia, August 1901, E. Pritzel 1013 (*lecto*: K, *fide* B.R. Maslin, *Nuytsia* 2: 362 (1979); *isolecto*: A, AD, E, G-DC, K, LY, M, MO, NSW, PR, US, W, Z); near Greenbushes, Western Australia, [1901], L. Diels 3835 (*paralecto*: n.v.).

Affinities. The taxonomic position of this dwarf species from the forest region of south-west Western Australia is somewhat obscure. It was originally placed in series *Pulchellae* Benth. and retained there even though it has no close relatives in the group (Maslin 1975). Subsequent work by Guinet (1986) on its pollen, seed and seedling characters suggested its retention in this series.

Morphology. *Acacia insolita* is an unusual species in that, except for subsp. *efoliolata*, the mature plants retain their juvenile bipinnate foliage. The inflorescences commonly occur singly in the axils of phyllodes towards the ends of the branchlets; only infrequently do they arise in the axils of the uppermost bipinnate leaves. Occasionally, typical axillary racemes develop, but false, terminal racemes (resulting from phyllode suppression) are more frequent.

Variation. Since my 1975 revision of the *Pulchellae* (Maslin 1975), specimens of two new taxa from the wheatbelt region have come to my attention. One of these has foliage very similar to *A. insolita* as originally defined (except that its pinnules are involute and recurved) while the other commonly lacks the basal bipinnate foliage on mature plants. Based on their phyllode, inflorescence and pod characters these two taxa are regarded as subspecies of *A. insolita*.

Key to subspecies of *Acacia insolita*

- 1 Bipinnate leaves conspicuous, persistent on mature plants; phyllodes 1–6 cm long
 - 2 Pinnules flat, green to grey-green subsp. **insolita**
 2. Pinnules concave, often conduplicate when dry, recurved, \pm glaucous subsp. **recurva**
1. Bipinnate leaves absent or very few at base of stems on mature plants; phyllodes (2)3–9(15) cm long subsp. **efoliolata**

Acacia insolita E. Pritz. subsp. **insolita**

Shrub 0.3–0.6 m high. *Stems* glabrous or pilose, or sometimes the ribs minutely hairy when very young. *Bipinnate leaves* persistent and conspicuous on mature plants; pinna rachis 2–3 cm long; *pinnules* 5–12 pairs, flat, green to grey-green. *Phyllodes* 2–6 cm long, 0.5–2 mm wide, flat; midrib prominent. *Flower heads* creamy yellow to golden. *Pods* 6–7 mm wide, the reticulum obvious (x10 mag.). *Seeds* transverse to oblique, spherical to ellipsoid or obloid.

Selected specimens examined. WESTERN AUSTRALIA: Contine Hill, Dryandra State Forest, G.J. Keighery 9326 (PERTH); 11.2 km E of Donnybrook on road to Collie, B.R. Maslin 615 (AD, MEL, NSW, PERTH); Nannup, G.S. McCutcheon 593 (PERTH).

Distribution. Occurs in the Darling Range from Dwellingup and Marradong south to Nannup and north of Tonebridge, also in the Popanyinning–Narrogin area in the adjacent wheatbelt.

Habitat. Grows in laterite, mainly in eucalypt forest or woodland.

Conservation status. Not under threat.

Acacia insolita subsp. ***efoliolata*** Maslin, *subsp. nov.*

Folia bipinnata absentia vel pauca ad basin ramulorum; pinnae 5–10 mm longae; para pinnulorum 2 vel 3, subglaucous. Phyllodia 3–9 cm longa, 1–4 mm lata, plana; costa prominens. Legumen 4–7 mm latum, nervatione obscura. Semina longitudinalia.

Typus: Pingelly Microwave Repeater Station, Western Australia, 6 August 1981, *B.R. Maslin* 5044 (*holo:* PERTH 00168920; *iso:* CANB, K, NY, PERTH 00616249).

Multi-stemmed *subshrub* 0.4–0.7 m tall with slender, green or dark reddish stems, usually erect but sometimes scrambling through associated low vegetation. Differs from subsp. *insolita* chiefly as follows. *Stems* glabrous or occasionally sparsely appressed-puberulous towards base. *Bipinnate leaves* (on mature plants) absent or rarely a few at base of stems; pinnae 5–10 mm long; *pinnules* 2 or 3 pairs, subglaucous. *Phyllodes* (2)3–9(15) cm long, 1–4 mm wide (rarely to 9 mm); lower phyllodes usually longer than upper ones, flat with a prominent midrib, sometimes \pm quadrangular when very narrow. *Heads* mid-golden. *Pod* 4–7 mm wide; reticulum obscure. *Seeds* longitudinal, cubical to obloid or obloid-ellipsoid.

Selected specimens examined. WESTERN AUSTRALIA: Tuttaning Reserve, SE of Pingelly, *A.S. George* 7371 (PERTH); Pingelly Microwave Repeater Station, *A.S. George* 14611 (AD, PERTH); Wandoo Conservation Park, Aug. 1988, *D. Lamont s.n.* (PERTH 00921270); Horne Nature Reserve, 14 km SE of Brookton, *B.J. Lepschi* BJJL2873 & *T.R. Lally* (AD, CANB, MEL, NSW, PERTH); Pingelly Microwave Repeater Station, *B.R. Maslin* 5044A (K, PERTH) and 5044B (PERTH); Pingelly Microwave Repeater Station Reserve, *D. Papenfus* DP 104 (PERTH); Pingelly Microwave Repeater Station, N of Pingelly, 7 & 8 Aug. 1980, *K. Wallace s.n.* (BRI, MEL, NSW, PERTH 00168475).

Distribution. Occurs in the south-west of Western Australia, restricted to the western wheatbelt at Wandoo Reserve (c. 65 km north-west of Brookton) through Brookton and south to Tuttaning Reserve (c. 25 km south-east of Pingelly).

Habitat. Grows in loam or clay on laterite hills in dense sandplain scrub or Wandoo woodland.

Phenology. Flowering recorded in July and August; mature pods collected in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The subspecific epithet is derived from the Latin *foliatus* (provided with leaves) with the prefix *e-* (without, lacking), in reference to the typical absence of bipinnate leaves in the subspecies.

Variation. One specimen from Tuttaning Reserve (*J. Kelsall* 45, PERTH), is atypical in having the lower phyllodes up to 9 mm wide.

Notes. Because of its non-persistent bipinnate foliage this subspecies is often not readily recognized as belonging to *A. insolita*. It is sometimes confused with *A. flagelliformis* Court which has racemose inflorescences, 6–9-flowered heads, a nerveless corolla and no bracteoles.

Acacia insolita* subsp. *recurva* Maslin, *subsp. nov.

Foliorum bipinnatorum pinnulae vadosae concavae (exsiccatae conduplicatae), recurvae, glaucae. Phyllodia 10–30 mm longa, 1–1.5 mm lata, crassa; costa non prominens. Legumen 5–6 mm latum. Semina transversalia.

Typus: East Yornaning Nature Reserve, Western Australia [precise locality withheld for conservation reasons], 4 September 1986, *K.J. Atkins* 86091 (*holo:* PERTH 00775991; *iso:* CANB, K).

Shrub 0.6–1.2 m tall, dividing at ground level into many slender, spreading to erect branches. Differs from subsp. *insolita* chiefly in the following ways. *Stems* pubescent, glabrescent. *Pinnules* shallowly concave but commonly conduplicate when dry, recurved, \pm glaucous. *Phyllodes* 10–30 mm long, 1–1.5 mm wide, flat to compressed, thick, midrib not prominent (seemingly absent on very narrow phyllodes which instead have a shallow medial groove running their entire length). *Heads* apparently golden. *Pod* 5–6 mm wide. *Seeds* transverse, cubic to obloid.

Other specimens examined. WESTERN AUSTRALIA, all from East Yornaning Nature Reserve [precise localities withheld for conservation reasons]: *K. Atkins* 98404 (PERTH); 15 Nov. 1986, *K. Atkins s.n.* (CANB, PERTH 00798134); 17 Dec. 1986, *K. Atkins s.n.* (K, PERTH 00798126); *B.R. Maslin* 6322 (G, MEL, NSW, PERTH); *D. Papenfus* DP 160 (PERTH).

Distribution. Occurs in the south-west of Western Australia, known only from East Yornaning Nature Reserve.

Habitat. Grows in stony sandy clay on laterite ridge in low *Eucalyptus wandoo* woodland with tall *Dryandra sessilis*.

Phenology. The few specimens to hand show the flowering period as ending in early September and pods with mature seeds present in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Declared Rare.

Etymology. The subspecific epithet is derived from the Latin *recurvus*, in reference to the pinnules.

Acacia lanceolata* Maslin, *sp. nov.

Frutex aculeatus ad 1 m altus. Ramuli divaricati, teretes, spinescentes, hirtelli vel pilosi. Stipulae 1.5–2 mm longae, caducae vel persistentes. Phyllodia inaequaliter vel dimidiata lanceolata vel anguste elliptica, pungentia, 7–13 mm longa, 1.5–4 mm lata, glabra vel parce hirsutella; costa centralis vel versus marginem abaxialem inserta; glans absens, vel marginalis, 4–7 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulo 1. Pedunculi 3–8 mm longi, glabri; capitula globularia vel oblongoidea, aurea, floribus 20–23. Flores 5-meri. Sepala unita, lobis ciliolatis, cetera glabra. Petala glabra, tenuiter 1-nervia. Legumen spiralia, moniliformia, ad 17 mm longum, c. 10 mm latum, chartacea, glabra. Semina longitudinalia, obloideo-ellipsoidea, c. 4 mm longa; arillus clavatus.

Typus: Three Springs, Western Australia, September 1940, W.E. Blackall 4881 (*holo*: PERTH 01167162; *iso*: PERTH 00106941).

Harsh *shrub* to 1 m tall, open or sub-open, craggy, spreading, single-stemmed or with 2 or 3 main stems arising from ground level, much-branched in upper 1/2 of plant; branches ending in numerous short, straight, divaricate, somewhat spinescent branchlets. *Bark* medium grey, smooth or slightly roughened extending to branchlets. *New shoots* commonly initiated at anthesis, brick red when young. *Branchlets* terete, apically obscurely ribbed, moderately hirtellous to densely shortly pilose (hairs soft, patent, \pm straight, 0.2–0.5 mm long, normally tubercle-based), slightly to moderately pruinose at extremities (pruinosity commonly obscured when the indumentum is dense), indumentum commonly sparser and pruinosity absent on mature branchlets. *Stipules* caducous or persistent, narrowly triangular to linear-triangular, 1.5–2 mm long, scarios, glabrous or sparsely ciliolate, dark brown, conspicuous on very young new shoots where those at the base are connate. *Phyllodes* inaequilateral and commonly dimidiate, 7–15 mm long, 1.5–4 mm wide, l:w 2–6, (upper margin slightly angled at the gland and more convex than the straight to very shallowly sigmoid or very shallowly convex lower margin), lanceolate to sometimes narrowly elliptic, acuminate, broadest at or below middle and tapering to a straight, rigid, subulate, slender, dark brown cusp which is 1–1.5 mm long, rigid, patent to inclined, straight to very slightly recurved-arcuate, flat, glabrous to sparsely hirsutellous (indumentum as on branchlets but hairs shorter, sparser and frequently somewhat antrorse), medium to dark green, base unequal; *principal nerve* central or slightly closer to lower margin, extending from pulvinus to cusp, slightly raised when dry, either pale yellow or more normally the same colour as the lamina and sometimes with a few minor lateral nerves diverging from it; *minor nerves* (arising at pulvinus) obscure to very obscure and commonly slightly anastomosing, normally with 1 minor nerve on lower side of principal nerve and extending almost to the cusp, normally 2 minor nerves on upper side of principal nerve with 1 extending to the gland and the other almost to the cusp; margins not thickened; *pulvinus* 0.3–0.5 mm long, yellow, slightly dilated at base. *Gland* sometimes absent from some phyllodes, obliquely situated on upper margin (which is usually slightly angled at the gland) near middle of phyllode (4–7 mm above pulvinus), circular, 0.2–0.3 mm diam. *Inflorescence* 1 per node, an extremely reduced 1-headed raceme; axis less than 0.5 mm long, commonly growing out at anthesis, 2 bracts at base of axis persistent, very widely ovate, *c.* 0.8 mm long, concave, thickened and yellowish on lower 1/2, dark brown on upper 1/2, minutely fimbriate otherwise glabrous; *peduncles* 3–8 mm long, glabrous to glabrescent, recurved in fruit; *basal peduncular bracts* persistent, 2, free or occasionally joined for *c.* 1/4 their length, asymmetrically triangular, *c.* 1.5 mm long (clearly exceeding the 2 smaller inflorescence bracts), dark brown, scarios, shallowly concave, minutely fimbriate in part, otherwise glabrous, sessile. *Heads* globular to shortly obloid, 5–6 mm long (when dry), 20–23-flowered, golden; *bracteoles* scarios, the claw *c.* 0.5 mm long and wide, expanded into ovate to very widely ovate, concave, inflexed, brown, rounded or sometimes very shortly acuminate lamina 1–1.5 mm long, 1–1.3 mm wide, glabrous or glabrescent except minutely fimbriate margins. *Flowers* 5-merous; *calyx* *c.* 1/2 length of corolla, gamosepalous, membranous, divided for 1/5–1/4 its length into oblong and rounded or broadly triangular, moderately inflexed, minutely ciliolate lobes; calyx tube glabrous to glabrescent; *petals* 1.5–2 mm long, connate for *c.* 1/2 their length, oblanceolate, abruptly narrowed and inflexed at apex, glabrous, rather finely 1-nerved. *Pod* rather tightly and a little irregularly coiled and \pm moniliform, to 17 mm long and 10 mm wide in contorted state, valves 4 mm wide across seeds, with up to 10 seeds per pod, declinate due to fruiting peduncles recurved at base, firmly chartaceous, not reticulate, glabrous, light brown, abruptly narrowed at both ends; margins hardly thickened. *Seeds* (spirit material) longitudinal and facing apex of pod, obloid–ellipsoid but obliquely truncate along margin adjacent to aril, *c.* 4 mm long and 2.5 mm wide, turgid (2 mm thick); *pleurogram* U-shaped, open at hilar end; *areole* *c.* 0.5 mm long and 0.3 mm wide; *funicle* *c.* 2 mm long and \pm filiform, reflexed below and expanded into a clavate aril which is laterally positioned (facing adaxial suture) and extending *c.* 2/3 down one side of the seed.

Selected specimens examined. WESTERNAUSTRALIA: 15.5 miles [24.8 km] from Mingenew on road to Morawa, *I.B. Armitage* 344 (PERTH); 6.9 miles [11 km] N of Three Springs towards Mingenew, *R. Cumming* 2158 (PERTH); 6 miles [9.6 km] N of Three Springs, *B.R. Maslin* 55 (PERTH); 11 km N of Three Springs on The Midlands Rd, *B.R. Maslin* 5487 (BRI, K, PERTH); about 24 km E of Mingenew, on 'Ebano' farm, *B.R. Maslin* 6242 (PERTH) 26.5 km E of Mingenew on road to Morawa, *B.R. Maslin* 6244 (PERTH); 6 km due NE of Arrino, Simpson Rd, 1.6 km E of Dudawa Rd, *B.R. Maslin* 6589 (PERTH); Mingenew–Morawa road at 4.9 km E of intersection with road from Yandanooka, *S. Patrick* SP 1916 & *A. Brown* (PERTH).

Distribution. Occurs in the south-west of Western Australia, restricted in the northern central wheatbelt to the Three Springs–Mingenew area.

Habitat. Grows in loam on low, lateritic hills in eucalypt woodland or *Allocasuarina* tall shrubland with sclerophyllous understorey.

Phenology. Flowering recorded in August and September; mature pods collected in late November.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. From the Latin *lanceolatus* (lance-shaped) in reference to the typical phyllode shape.

Affinities. *Acacia lanceolata* is member of the *A. pravifolia* group (*vide* Maslin, in press) and is closely related to *A. amblygona* A. Cunn. ex Benth., which has non-spinose, non-pruinose branchlets, phyllodes with the midrib near the lower margin and the gland closer to the base, and curved to openly coiled pods.

Note. Judging from an un-numbered specimen collected by W.V. Fitzgerald from Arrino which is lodged at herb. NSW, it is probable that the taxon described as *A. scabra* Benth. by Fitzgerald (1904: 47) is in fact *A. lanceolata*.

Acacia loricina Meisn. in J.G.C. Lehmann, Pl. Preiss. 1: 6 (1844). *Type:* interior of south-west Western Australia, October 1840, *L. Preiss* 973 (*lecto:* NY, *vide* B.R. Maslin & R.S. Cowan 1994a: 407; *isolecto:* C, FI, G, GOET, HBG, L, LD, M, MEL, P, PERTH 02484595 – fragment ex MEL, STR).

Dense, spreading, \pm domed *shrub*, normally to *c.* 0.5 m tall and 0.6–0.9 m wide, the peripheral branches prostrate or almost so. *Branches* sparingly divided, slender or thick, terete, apically densely antrorsely pubescent to tomentose, variably pruinose. *Stipules* narrowly triangular to setaceous, erect, 3–6 mm long, ultimately falling. *Phyllodes* continuous with branch but not forming a cauline wing, linear, 5-gonous (i.e. pentagonal with a prominent nerve along each angle but sulcate between nerves when dry), 1.5–4(5) cm long, 0.7–1.7 mm wide, rather rigid and crowded, ascending, straight to shallowly incurved or recurved, glabrous to sparsely puberulous, asymmetrically narrowed (either gradually or abruptly) into a rigid cusp. *Inflorescence* simple; *peduncles* solitary, (3)7–20 mm long, antrorsely pubescent. *Heads* globular, very pale yellow, 17–30-flowered. *Flowers* 5-merous; *sepals* united for 1/3–1/2 their length; *petals* 1-nerved or nerveless. *Pod* terete to subterete, constricted or not between seeds, to 4.5 cm long, 2–4 mm wide, thinly coriaceous, coarsely striate, red-brown. *Seeds* (seen only for var. *loricina*) longitudinal, obloid to obloid-ellipsoid, 3.5–4 mm long, 2.3–2.7 mm wide, brown, subshiny, pusticulate; aril \pm conical.

Distribution. Occurs in the south-west of Western Australia between Dumbleyung, Frankland (c. 60 km north-west of Mount Barker) and near the Oldfield River (c. 40 km east of Ravensthorpe).

Affinities. *Acacia laricina* is closely related to *A. cedroides* Heward ex Benth. which is readily distinguished by its verticillate phyllodes. It is also related to *A. rhamnophylla*, and its phyllodes sometimes resemble those of *A. barbinervis* subsp. *borealis* and *A. ataxiphylla* subsp. *ataxiphylla* (see under these three taxa elsewhere in this paper for discussion of differences).

Varieties. Because individuals from the Ravensthorpe Range area, compared to those found elsewhere, are somewhat larger and coarser in vegetative features but diminutive in certain floral and pod attributes, it seems appropriate to recognise two varieties within the species. Two specimens collected from the area between the ranges of the two varieties seem intermediate in some characters. The two specimens are: 2.5 km NNW of Pabelup Lake, Fitzgerald River National Park, *K. Newbey* 3882 (PERTH); between Lake Magenta and the Jerramungup–Ravensthorpe road, *M.H. Simmons* 660 (PERTH).

Key to varieties of *Acacia laricina*

- Phyllodes smooth, shallowly recurved; peduncle 10–20 mm long;
 pods c. 4 mm wide var. **laricina**
 Phyllodes scabridulous, straight to shallowly incurved; peduncles
 mostly 3–10 mm long; pods c. 2 mm wide var. **crassifolia**

Acacia laricina Meisn. var. *laricina*

Branches rather slender. *Phyllodes* rather slender, 15–35(50) mm long, 0.7–1(1.5) mm wide, mostly shallowly recurved, smooth, glabrous or with a sprinkling of hairs, abruptly narrowed into a slender cusp. *Peduncles* 10–20 mm long. *Heads* 20–30-flowered. *Petals* 1-nerved. *Pod* to 4.5 cm long, c. 4 mm wide, normally constricted between seeds. *Seeds* as in species description.

Selected specimens examined. WESTERN AUSTRALIA: Pingrup–Borden road, 130 km N of Albany, *A.M. Ashby* 5090 (AD, PERTH); between Dumbleyung and Lake Grace, *W.E. Blackall* 3161 (PERTH); 22.7 km due SE of Muckinwobert Rock, *M.A. Burgman* MAB2707 & *S. McNee* (PERTH); 57 km from Albany towards Borden on Chester Pass Rd, *E.M. Canning* WA/68 6826 (CANB, PERTH); E side of Cranbrook, *R.J. Cumming* 1036 (PERTH); S of Red Gum Pass, *A.S. George* 6473 (PERTH); 46 km S of Kojonup towards Rocky Gully, *B.R. Maslin* 3994 (MEL, PERTH); 13 miles [20.8 km] NW of Ongerup, *K. Newbey* 3016 (PERTH); 10 miles [16 km] S of Tunney, *R.D. Royce* 8062 (PERTH); Cranbrook, *J. Slater* 54 (K, PERTH).

Distribution. Occurs in the south-west of Western Australia scattered throughout the south-central wheatbelt from near Dumbleyung south to Frankland and east to near Ravensthorpe including the Stirling Range and Fitzgerald River National Parks and Dunn Rock Nature Reserve.

Habitat. Usually grows on gravelly sand in eucalypt woodland or low shrubland.

Phenology. Flowering recorded from September to December; mature pods collected in October and also in December when the specimen has been in flower.

Conservation status. Not under threat.

Variation. A variant from near the Oldfield River, c. 40 km east of Ravensthorpe, is characterized by rather thick phyllodes (1.5 mm wide) and up to 5 cm long, e.g. 22.7 km due SE of Muckinwobert Rock, *M.A. Burgman* 2707 & *S. McNee* (PERTH).

***Acacia loricina* var. *crassifolia* Maslin, var. nov.**

A varietate typica imprimis characteribus sequentibus differt: Rami principales crassi. Phyllodia crassa, grossa, 2.8–4.2 cm longa, 1–1.7 mm lata, recta ad levissime incurva, laevia vel scabridula, in cuspidem rigidam subsensim attenuata. Pedunculi 7–10 mm, raro 3 mm, longi. Capitula 17–21-flora. Petala enervia. Legumen (valvae delapsae tantum visae) ad 3 cm longum, 2 mm latum, inter semina non constrictum. Semina non visa.

Typus: Mt Desmond, 9.8 km south [east] of Ravensthorpe, Western Australia, 9 October 1975, *B.R. Maslin* 3902 (*holo:* PERTH 00762121; *iso:* CANB).

Differs from the typical variety principally in the following ways. Main branches thick. Phyllodes thick, coarse, 28–42 mm long, 1–1.7 mm wide, straight to very shallowly incurved, scabridulous, glabrous to sparsely puberulous, rather gradually narrowed into a rigid cusp. Peduncles 7–10 mm long, rarely 3 mm. Heads 17–21-flowered. Petals nerveless. Pod (only dehisced valves seen) to 3 cm long, 2 mm wide, not constricted between seeds. Seeds not seen.

Selected specimens examined. WESTERN AUSTRALIA: E of Kundip, *K.L. Bradby* 87 (PERTH); Mt Desmond, *C.A. Gardner* 13693 (PERTH); Mt Short, N of Ravensthorpe, *A.S. George* 5713 (PERTH); Ravensthorpe Range, near Kundip, c. 18 km S of Ravensthorpe, *B.R. Maslin* 4783 (PERTH); Ravensthorpe Range, 2 km NE of Kundip, *K. Newbey* 9525A-1 (MELU, PERTH); Kundip mine Rd, (S of Ravensthorpe), *M.H. Simmons* 1374 (PERTH).

Distribution. Occurs in the south-west of Western Australia, restricted to the Ravensthorpe Range where it occurs from Mt Short south to Kundip.

Habitat. Grows in well-drained loamy sand or sand over clay on rocky ridges in open shrub mallee or very open shrub mallee.

Phenology. Flowering recorded from September to November; dehisced pods have been collected early December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. The varietal epithet is derived from the Latin *crassus* (thick) and *folium* (a leaf), in reference to the coarse phyllodes which distinguish the variety from var. *loricina*.

***Acacia leptalea* Maslin, sp. nov.**

Frutex ad 2 m altus. Ramuli teretes, pilosi. Stipulae 0. Phyllodia conferta, teretia vel parum compressa, oblique obtusa sed minute mucronata, 5–8 mm longa, 0.3–0.4 mm lata, parce pilosa; nervation obscura; glans ut videtur absens. Inflorescentia racemus reductus capitulis 1 vel 2. Pedunculi

3–4 mm longi, puberuli; capitula globularia, floribus c. 25. Flores 5-meri. Sepala unita, puberula. Petala appresso-puberula, enervia. Legumen anguste oblongum, ad 25 mm longum, 4–5 mm latum, chartaceum vel coriaceum, pilosum, parum viscidum. Semina longitudinalia, ovoidea, 3–3.5 mm longa, ± nitentia; arillus clavatus.

Typus: Nyabing area [precise locality withheld for conservation reasons], Western Australia, 21 July 1989, B.R. Maslin 6349 & V. Maslin (*holo:* PERTH01001027; *iso:* BM, BRI, CANB, G, K, MEL, MO, NSW, NY, Z).

Dense, rounded *shrub* 0.5–2 m tall, to about 2 m across, branching at ground level *Bark* dark grey, roughened towards base of main stems, otherwise smooth. *Branchlets* terete, very obscurely ribbed, shortly pilose, the raised leaf bases prominent on older parts where phyllodes have fallen. *Stipules* absent. *Phyllodes* terete or slightly compressed, 5–8 mm long, 0.3–0.4 mm wide, rather crowded, some sub-verticillate (although commonly obliquely so), some scattered, patent (except erect on new shoots), ± straight or sometimes slightly recurved, slender, very finely wrinkled when dry, glabrous or sparsely pilose; *nervature* superficially not discernable; *apex* obliquely narrowed to a minute yet distinct excentric mucro; *pulvinus* minute (c. 0.3 mm long) yet distinct (at × 10 mag.). *Gland* seemingly absent. *Inflorescence* an extremely reduced, 1(2)-headed raceme; axis 0.5–1 mm long, ebracteate at base, terminated by a vegetative bud; *peduncles* 3–4 mm long, densely puberulous, hairs pale yellow; *basal peduncular bract* solitary, persistent, scarious, c. 1 mm long, glabrous, light brown. *Heads* globular to very slightly obloid, 4 mm diam. (dry), 25-flowered, golden; *bracteoles* c. 2 mm long, acuminate and slightly exerted in mature buds; base auriculate, puberulous, otherwise ± glabrous; claw c. 0.5 mm long. *Flowers* 5-merous; *calyx* 3/5 length of corolla, gamosepalous, dissected for 1/4–1/2 its length, densely puberulous; hairs pale yellow except silvery at apices of lobes; *petals* 1.5–2 mm long, free, nerves not evident, appressed-puberulous on upper 1/3–1/2 with pale yellow hairs, or glabrous. *Pod* narrowly oblong, to 25 mm long, 4–5 mm wide, firmly chartaceous to thinly coriaceous, sparsely to moderately pilose with pale yellow or white hairs, slightly viscid, brown; dehiscent valves curved to sigmoid. *Seeds* longitudinal, ovoid, 3–3.5 mm long, 2 mm wide, compressed (1 mm thick), brown, moderately shiny; *pleurogram* very obscure, open at hilar end; *areole* c. 1 mm long, 0.5 mm wide; *funicle* not seen; aril subterminal, ± clavate, c. 2 mm long, extending 1/3–1/2 down one side of seed.

Other specimens examined. WESTERN AUSTRALIA, Nyabing area [precise localities withheld for conservation reasons]: M.S. Graham 245 (PERTH); B.R. Maslin 6350 (PERTH); K. Newbey 3399 (PERTH).

Distribution. Occurs in the south-west of Western Australia, known only from the Nyabing area.

Habitat. Grows in sand or sandy loam in open mallee woodland with a dense understorey.

Phenology. Flowering recorded for June and July, possibly extending to August. The single fruiting specimen to hand is undated.

Conservation status. CALM Conservation Codes for Western Australian Flora: Declared Rare.

Etymology. The specific epithet is taken from the Greek *leptaleos* (thin, delicate), in reference to the phyllodes.

Common name. Chinocup Wattle.

Affinities. Appears most closely related to *A. viscifolia* Maiden & Blakely, a member of the *A. wilhelmiana* group (see Maslin 1990), which is distinguished most readily by its sparse, appressed peduncle indumentum, small bracteoles that are not acuminate or exerted in buds and narrower, glabrous pods; *A. viscifolia* also normally has appressed branchlet hairs.

***Acacia lullfitziorum* Maslin, sp. nov.**

Frutex effusus vel prostratus, 0.2–0.7 m altus, ad 2 m latus. Ramuli divaricati, teretes, spinescentes, glabri vel minute pubescentes. Stipulae 1–2.5 mm longae, persistentes. Phyllodia interdum ± fasciculata, oblonga ad elliptica, interdum ovata vel obovata, obtusa, minute mucronulata, 5–10 mm longa, 2–4 mm lata, tenuia; nervi obscuri; glans 1–2 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 5–10 mm longi, glabri; capitula globularia vel obloidea, aurea, floribus 15–20. Flores 4- vel 5-meri. Sepala libera, membranacea. Petala enervia. Legumen teres, curvatum, ad 30 mm longum, c. 2 mm latum, coriaceum vel crustaceum, longitudinaliter reticulatum, glabrum. Semina longitudinalia, 2.5–3 mm longa; arillus crassus, flavescens.

Typus: near Arthur River crossing, Narrogin–Katanning road, Western Australia, 27 August 1975, B.R. Maslin 3761 (*holo:* PERTH 00174688; *iso:* CANB, K, MEL, NSW, NY).

Spreading *shrub* 0.2–0.7 m tall and to 2 m wide, commonly forming low-domed, ± prostrate mats. *Bark* light grey. *Branches* terete, ribs absent or obscure, glabrous or minutely hairy (hairs spreading to subappressed, 0.1–0.3(0.4) mm long, usually antrorsely shallowly curved or hooked), the grey-white epidermis commonly longitudinally fissured with age, dark red-brown beneath, dividing into numerous, short, ± straight, divaricate, rigid, spinescent branchlets which are sometimes devoid of phyllodes. *Stipules* narrowly triangular to linear-triangular, 1–2.5 mm long, scarious, straight, brown, persistent. *Phyllodes* sometimes occurring in ± nodose fascicles of 2–5, commonly oblong to elliptic, sometimes ovate or obovate, commonly some asymmetric with upper margin ± straight and lower margin convex, 5–10(13) mm long, 2–4(6.5) mm wide, l:w 2–3.5(4.5), thin, commonly at least a few deflexed, ± straight, glabrous or (especially when young) minutely appressed-hairy on margins, green; *midrib* not prominent; lateral nerves obscure; *apex* obtuse, often minutely mucronulate, mucro central or excentric; *pulvinus* c. 0.5 mm long. *Gland* insignificant, 1–2 mm above pulvinus, 0.2–0.3 mm long. *Inflorescence* simple; *peduncles* 1 or 2 per node, (3)5–10 mm long, glabrous, infrequently with sparse, antrorsely hooked hairs; base ebracteate; *bract* 1/3–2/3 along peduncle, subsistent, ovate to triangular, 0.5–1 mm long, erect, shallowly concave, glabrous. *Heads* globular to shortly obloid, golden, 3–4.5 mm diam., 15–20-flowered; *bracteoles* membranous, usually spatulate, c. 1 mm long, glabrous; lamina ovate, concave, acute or obtuse, longer than or equalling the narrowly oblong claws, not or scarcely evident between flowers in young buds. *Flowers* 4- or 5-merous, glabrous; *sepals* 1/2–2/5 length of petals, free, infrequently some irregularly united, narrowly spatulate or narrowly oblong, membranous, diaphanous; *petals* 1.5–1.7 mm long, nerveless. *Pod* terete, scarcely constricted between seeds, to 30 mm long, 2 mm wide, arcuate, thinly coriaceous–crustaceous, longitudinally reticulate, glabrous, red-brown; interior of valve with a pale stripe (c. 0.7 mm wide) along midline, marginal nerves narrow, not thickened. *Seeds* longitudinal, obloid to slightly ellipsoid or ovoid, 2.5–3 mm long, c. 2 mm wide, c. 1 mm thick, dark brown to black and shiny except centre which is yellowish and dull; *pleurogram* obscure, U-shaped, open at hilar end; *areole* 0.2–0.4 mm long and c. 0.3 mm wide; *funicle* filiform; aril thick, terminal, yellowish and somewhat convoluted when dry.

Selected specimens examined. WESTERN AUSTRALIA: near Cranbrook golf course, A.M. Ashby 4609 (AD, K, PERTH); c. 14 miles [22.5 km] N of Badgingarra, A.S. George 6728 (PERTH); near Mortlock River, 9 km SW of Goomalling, A.S. George 15742 (PERTH); 3 km W of Kojaneerup Springs Rd from

Quarderwarderup Lake, Stirling Range, *G.J. Keighery* 8385 (PERTH); 12 miles [19 km] W of Ongerup, *K. Newbey* 864 (PERTH); 4 km NE of Moir Hill, *K. Newbey* 4233 (BRI, CANB, NY, PERTH); Red Gum Pass, Stirling Range, 17 Sep. 1960, *L. Steenbohm s.n.* (PERTH 00174726); Beaufort River, *E. Wittwer* W1548 (PERTH).

Distribution. Occurs in the south-west of Western Australia, mainly from south-west of Arthur River south to near Cranbrook, and east to the eastern boundary of the Stirling Range National Park and Ongerup. Also two populations to the north from near the Mortlock River south-west of Geomalling, and north of Badgingarra.

Habitat. Grows in clay, sand or gravelly loam, usually in Wandoo woodland, but also in *Acacia acuminata*-*Allocasuarina* tall shrubland.

Phenology. Flowering recorded from August to October, one flowering specimen collected in June. The date of collection for the single fruiting specimen seen is unknown.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The species is named for Fred Lullfitz (1914–1983) and his nephew George Lullfitz, both of whom have been instrumental in popularising the cultivation of Western Australia's native flora.

Cultivation. Recently introduced [as *A. congesta*] into cultivation by George Lullfitz. Although the species has potential as a ground cover it does not survive well on the deep sandy soil of the Perth metropolitan area.

Affinities. This species has until now often been erroneously called *A. congesta* Benth. This confusion seems to have arisen from the mistaken belief that the unnumbered Drummond collection cited above was the type of *A. congesta*. The new species is readily distinguished from *A. congesta* which is a taller shrub (to 2.5 m) with pungent phyllodes and 30–70 flowers per head.

Variation. A number of specimens at the southern end of the geographic range of *A. lullfitziorum* are tentatively referred to this species, but this assemblage requires further study for its full resolution. These specimens are not encompassed by the above description; they differ most obviously from typical representatives of the species in having very few or no short, divaricate spinescent branchlets. Other differences include the following:

1. Peduncles 10–20 mm long, bracteoles slightly exerted in young buds, phyllodes sometimes obviously incurved. Specimens examined (all flowering): south-west Australia, *J. Drummond s.n.* (K, annotated *A. scabra* by Bentham) and 34 (MEL); cultivated, Furner, South Australia, *W.R. Elliot* 1618 (PERTH); 21 km N of Frankland on Kojonup Rd, *A.S. George* 15255 (PERTH).
2. Peduncles 35–45 mm long, bracteoles slightly exerted in young buds, phyllodes 15–30 mm long. Specimen examined (in flower): Fairfield Rd, SSW of Katanning, *A.S. George* 11063 (PERTH).
3. Phyllodes 3–6 x 1.5–2 mm, pods (few seen, slightly immature) rounded over and moderately constricted between seeds, not longitudinally reticulate. Specimens examined: 7 miles [11 km] S of Toompup, *K. Newbey* 930 (PERTH, in flower); 11 miles [17.5 km] SE of Ongerup, *K. Newbey* 1508 (PERTH, in fruit) and 1794 (PERTH in flower); 25 km SE of Ongerup, *K. Newbey* 4319 (PERTH, in flower).

Acacia mutabilis* Maslin, *sp. nov.

Frutex ad 2 m altus et 2.5 m latus. Ramuli teretes, parum flexuosi, glabri vel axillis incanis. Stipulae 0.5–5 mm longae, caducae vel persistentes. Phyllodia plerumque linearia ad oblanceolata, interdum obovata vel anguste oblonga vel elliptica, interdum subteretia vel pentagona, acuta ad obtusa, mucronata, 1.5–6 cm longa, 1–8 mm lata, coriacea, laevia; costa prominens; glans marginalis, 1–15 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis (1)2(3). Pedunculi 3–18 mm longi, glabri, raro strigulosi; capitula globularia, aurea, floribus 16–32. Flores 5-meri. Sepala libera, glabra vel puberula. Petala glabra, plerumque enervia. Legumen teres, vulgo parum moniliforme, ad 7 cm longum, 2–3 mm latum, coriaceum, glabrum vel parum strigulosum. Semina longitudinalia, obloidea, 3–4 mm longa; arillus conicus.

Typus: east of Scaddan, Western Australia, 7 August 1970, *K.M. Allan* 355 (*holo:* PERTH 05168511; *iso:* CANB, K, PERTH 00162264).

Shrub 0.3–2 m tall, spreading or domed and to 2.5(4.5) m across, single- or multi-stemmed. *Bark* grey to brownish grey, smooth but sometimes roughened at base of stems. *New shoots* usually glabrous to subglabrous, sometimes densely appressed-hairy when young (hairs pale yellow and white). *Branchlets* terete, slightly angled at extremities, obscurely ribbed, usually slightly flexuose, glabrous or more commonly hoary in phyllode axils, rarely sparsely strigulose towards branchlet apices, with short, white, straight, appressed hairs, commonly light brownish at apices but with maturity often invested with a white-grey cortex. *Stipules* usually triangular to narrowly triangular, 0.5–5 mm long, 0.2–0.7 mm wide, caducous or persistent. *Phyllodes* variable in shape and size, frequently linear to oblanceolate but ranging to obovate or narrowly oblong to narrowly elliptic, (1)1.5–5.5(6) cm long, 1–8 mm wide (larger on regrowth specimens), l:w 3–30(35), coriaceous, commonly rather thick and somewhat rigid, smooth, rather spreading to erect, straight to incurved or shallowly recurved, flat, infrequently subterete to obtusely pentagonal in T.S., glabrous (except pulvinus), dull or slightly shiny, green or grey-green, sometimes glaucous in subsp. *angustifolia*; *midrib* prominent when dry, very rarely 1 or 2 minor nerves arising near pulvinus and subparallel to midrib; abaxial margin 1-nerved; adaxial margin 2-nerved but not thick as in *A. barbinervis*, *A. unifissilis* etc., the nerves frequently coalescing above gland but in subsp. *angustifolia* remaining separate to apex, rarely joined; 1-nerved on each lateral face; secondary nerves (diverging from lateral nerves i.e. midrib) absent or obscure; *apex* acute to obtuse, mucronate, the mucro short, hard (commonly coarsely pungent), straight to shallowly incurved and central or excentric (occasionally lateral to sublateral); *pulvinus* 0.5–1 mm long, usually appressed-hairy adaxially. *Gland* rarely absent, situated 1–15 mm above pulvinus on adaxial margin of phyllode between the 2 nerves and commonly not far below their coalescence, (circular) oblong-elliptic, 0.4–1 mm long, 0.2–0.5 mm wide, margin sometimes slightly indented. *Inflorescences* usually extremely reduced racemes with (1)2(3) head; axis < 0.5–1 mm long, commonly terminated by a vegetative bud which occasionally grows out at anthesis, sometimes absent; *peduncles* 3–14(18) mm long, glabrous, occasionally sparsely strigulose, \pm patent (sometimes ascending or reclined) in fruit; *basal peduncular bract* navicular, cucullate, 1–2 mm long, usually caducous, occasionally persisting to anthesis. *Heads* globular, bright light- to mid-golden, 5–9 mm diam. at anthesis (fresh), 4–5 mm diam. (dry), 16–32-flowered; *bracteoles* present or absent, linear to narrowly spatulate and resembling sepals, occasionally (subsp. *rhynchophylla*) spatulate; lamina c. 0.5 mm wide. *Flowers* 5-merous; *sepals* free, 1/2–2/5 length of petals, linear to narrowly oblong but usually slightly expanded at apex, subglabrous to moderately puberulous; *apex* slightly inflexed, acute, sometimes brown; *petals* 1.2–2 mm long, glabrous, margins sometimes granulose towards apex, nerveless or obscurely 1-nerved. *Pod* (not seen for subsp. *rhynchophylla*) to 7 cm long, 2–3 mm wide, thinly coriaceous, curved to once coiled, terete to subterete, commonly slightly constricted between seeds especially along internal suture, sometimes very obscurely longitudinally nerved, glabrous or sparsely strigulose, black,

infrequently dark grey-brown, marginal nerve not thickened. *Seeds* (not seen for subsp. *angustifolia* or *rhynchophylla*) longitudinal in pod, obloid, infrequently ellipsoid, 3–4(5) mm long, 1.5–2 mm wide, black, shiny; *pleurogram* obscure, open at hilar end; *areole* 1–2(3) mm long, c. 0.5 mm wide; *funicle* filiform, c. 1 mm long, abruptly expanded into a conical, non-convoluted, terminal aril 1.5–3 mm long that dries white or dull yellow.

Distribution. Occurs in south-west and southern Western Australia from Gnowangerup east to the western extremity of South Australia near Eucla.

Affinities. Allied most closely with *A. halliana*, *A. merrallii* F. Muell. and *A. nitidula* Benth. in the *A. sulcata* group (see Cowan & Maslin 1993).

Subspecies. Very variable in phyllode morphology with five subspecies recognized, based mostly on phyllode shape and proportions, stipule persistence and peduncle length.

Key to subspecies of *Acacia mutabilis*

- 1 Phyllodes 1–2 mm wide, subterete to obtusely pentagonal, rarely flat subsp. **angustifolia**
1. Phyllodes 3–8 mm wide, flat
 - 2 Phyllodes obtuse, excentrically rostriform (mucro lateral to sublateral) subsp. **rhynchophylla**
 2. Phyllodes acute or obtuse, often excentrically narrowed at apex but mucro not lateral or sublateral
 - 3 Phyllodes distinctly incurved; gland 1–5 mm above pulvinus; peduncles 3–6 mm long subsp. **incurva**
 3. Phyllodes straight to shallowly recurved, or if shallowly incurved then gland further from pulvinus and/or peduncles longer
 - 4 Stipules persistent, 2–3 mm long, 0.5–0.7 mm wide subsp. **stipulifera**
 4. Stipules caducous or if persistent (rare), then c. 1 mm long and 0.2–0.3 mm wide subsp. **mutabilis**

Acacia mutabilis Maslin subsp. **mutabilis**

Dense to mid-dense *shrub*, ± rounded to somewhat obconic, spreading, 0.3–1.2(2) m tall, 0.4–2 m wide, multi-stemmed or sparingly branched near ground level, rarely single-stemmed. *Stipules* narrowly triangular, c. 1 mm long, 0.2–0.3 mm wide, caducous or rarely persistent. *Phyllodes* usually linear-oblong-elliptic, acute to obtuse, mucro straight or slightly incurved, (1)1.5–5(5.5) cm long, (2)3–5(7) mm wide, l:w (3)5–14, straight to shallowly incurved or shallowly recurved. *Gland* (3)5–15 mm above pulvinus. *Peduncles* 5–10(15) mm long.

Selected specimens examined. WESTERN AUSTRALIA: Nature Reserve A24435, [near] Lake King townsite, *K.J. Atkins* 1534 (PERTH); 36.7 km ENE of Muckinwobert Rock, *M.A. Burgman* 2182 & *S. McNee* (PERTH); 12 km NE of Scaddan, Cox Rd, 3.5 km from junction with Truslove Rd, *G. Craig* 1650B (PERTH); 1.8 km N of Fisheries Rd on Point Malcolm Rd, 0.4 km N of Tooklejenna Rock, Nuytsland Nature Reserve, *G.F. Craig* 2530 (PERTH); near Scaddan, *H.E. Knox* 22 (PERTH); c. 20 km due SW of Scaddan, *B.R. Maslin* 2529 (NY, PERTH); 8 km S of Lake King towards Ravensthorpe,

B.R. Maslin 3437 (MEL, PERTH); Truslove Reserve (near water reserve c. 0.5 km S of northern boundary of Reserve), c. 11 km due NNE of Scaddan, *B.R. Maslin* 5802 (CANB, PERTH); Dempster Rd, 1 km S of Bronzewing Rd, c. 5 km due SW of Mt Ridley, *B.R. Maslin* 5815 (AD, BRI, PERTH); Frank Hann National Park, *D. Monk* 234 (PERTH); 2 miles [3.2 km] E of Pingrup, *K.R. Newbey* 1356D (PERTH); 2 km E of Gnowangerup, *K. Newbey* 3903 (PERTH); 36 km E of Lake King, *K.R. Newbey* 9477-1 (MELU, PERTH); 26 km NE of Ongerup, *K.R. Newbey* 9512 (MELU, PERTH).

Distribution. Scattered in the south-west of Western Australia in a large area from Kondinin and Kulin south to Gnowangerup, east to just beyond Cape Arid National Park and north to Mt Ridley (east of Grass Patch).

Habitat. Grows in sand, clay or loam in heath, open shrub or tree mallee and as understorey in open eucalypt woodland, commonly close to salt lakes or marshes, mostly on flat land.

Phenology. Flowering recorded from August to October, with one specimen (*H.E. Knox* 22) collected with flowers in December; mature pods collected in December.

Conservation status. Not under threat.

Variation. Phyllodes are very variable in shape and size. Normally they are straight to shallowly incurved, but specimens with shallowly recurved phyllodes occur near Truslove (c. 60 km due north of Esperance) and specimens with unusually short phyllodes occur east of Ravensthorpe and in the Mt Madden–Lake King area (north of Ravensthorpe). Specimens with shallowly incurved phyllodes differ from subsp. *incurva* in having longer peduncles and/or the gland farther removed from the pulvinus.

***Acacia mutabilis* subsp. *angustifolia* Maslin, subsp. nov.**

Frutex ad 1.3 m altus. Stipulae plerumque caducae. Phyllodia anguste linearia, interdum subteretia vel pentagona, 2–4.5 cm longa, 1–2 mm lata, mucrone recto vel vadose inflexo; glans 7–15 mm supra pulvinam inserta. Pedunculi 5–18 mm longi.

Typus: Parmango Rd adjacent to Clyde Hill (which is c. 120 km due north-east of Esperance), Western Australia, 16 August 1985, *B.R. Maslin* 5824 (*holo:* PERTH 00756830).

Spreading, open to moderately dense *shrub* 0.3–1.3 m tall and to 2.5 m diam., single-stemmed or up to c. 6-branched at ground level. *Stipules* caducous or persistent, narrowly triangular to linear-triangular and 3–5 mm long. *Phyllodes* narrowly linear, 2–4.5(6) cm long, 1–2 mm wide, l:w 12–30(35), flat to subterete or obtusely pentagonal in T.S., straight to shallowly incurved, green or glaucescent; adaxial nerves free to apex, rarely coalescing; gland 7–15 mm above pulvinus. *Peduncles* 5–18 mm long.

Selected specimens examined. WESTERN AUSTRALIA: about 100 m inside Western Australia–South Australia border, near Eucla, *N. Beattie* 32 (K, PERTH); 9 km SE of Cascades, *M.A. Burgman* MAB4536 (PERTH); Twilight Cove, Great Australian Bight, *A.S. George* 8566 (PERTH); 2.6 km N of Eyre, *G.J. Keighery* 7922 (K, MEL, PERTH); c. 14 km E of Eucla at Western Australia–South Australia border, Eyre Highway, *B.R. Maslin* 4814 (PERTH); Parmango Rd adjacent to Clyde Hill, *B.R. Maslin* 5823 (CANB, MEL, PERTH) and 5825 (PERTH); 24 km NNE of Jerramungup, *K. Newbey* 4818 (G, K, NSW, NY, PERTH); 31 km W of Ponier Rock, c. 80 km SW of Balladonia Motel, *K. Newbey* 7624 (PERTH);

1 km N of Eyre (Nuytsland), *K.R. Newbey* 11482 (PERTH); 11 km from Mt Ragged towards Esperance, Cape Arid National Park, *J. Taylor* 1582 & *P. Ollerenshaw* (AD, MEL, PERTH).

SOUTH AUSTRALIA: 3.5 km E of Western Australia–South Australia border [on the Eyre Highway], *R.J. Chinnock* 3346 (AD, PERTH); 4 km E of Western Australia–South Australia border on the Eyre Highway, *M.H. Simmons* 1147 (AD, PERTH).

Distribution. Scattered in the far south-east of Western Australia and the south-west of South Australia from near Jerramungup (Western Australia) east to Eucla (at the South Australian–Western Australian border) and east into South Australia.

Habitat. Grows in calcareous loam or sand with clay, sometimes with limestone nodules, in open low woodland or open shrub mallee.

Phenology. Flowering recorded mainly from August to October with single flowering collections also recorded for May and November; mature pods collected in December.

Conservation status. Not under threat.

Etymology. Subspecific epithet from the Latin *angustus* (narrow) and *folium* (a leaf), in reference to the phyllodes.

Affinities. In phyllode morphology subsp. *angustifolia* often resembles species such as *A. binata* Maslin, *A. gonophylla*, *A. maxwellii* Maiden & Blakely, *A. pachyphylla* Maslin, *A. poliochroa* E. Pritz. and *A. sulcata* R. Br. The new subspecies is distinguished from these species by a combination of the following characters: mature branchlets and phyllodes glabrous or if hoary then indumentum confined to phyllode axils; phyllodes 2–4.5 cm long, 5-nerved (but the adaxial 2 sometimes coalescing near middle of phyllode); heads golden; sepals free; pods to 5 cm long, c. 2 mm wide, curved, not undulate. *Acacia quinquenervia* (see below) also has similar phyllodes (but obviously hairy, at least when young) and normally has densely hairy branchlets, simple inflorescences and mottled seeds. *Acacia pinguifolia* J.M. Black (South Australia) superficially resembles this subspecies but is distinguished by its thick, fleshy 10–15-nerved phyllodes that are conspicuously wrinkled when dry.

Variation. Two variants are recognized that may, upon further study, be shown to be distinct taxa; adequate fruiting material has not been seen for these variants. In the western part of the range most specimens have persistent stipules and heads (6)7–8 mm diam. at anthesis; this variant includes the type and is especially common around Clyde Hill, c. 110 km north-east of Esperance. Specimens from farther east have mostly caducous stipules and slightly smaller heads (5–6 mm diam. at anthesis); this variant is common near Eucla. The specimen *K.R. Newbey* 4818 from 24 km north-north-east of Jerramungup is unusual in that it has caducous stipules and heads 6–7 mm diam.; this locality represents the western extremity of the known range of subsp. *angustifolia*.

Acacia mutabilis* subsp. *incurva* Maslin, *subsp. nov.

Frutec ad 2 m altus. Stipulae caducae vel interdum persistentes. Phyllodia lineari-oblongata, 30–55 mm longa, 3–4 mm lata, mucrone recto vel vadose inflexo; glans 1–5 mm supra pulvinam inserta. Pedunculi 3–6 mm longi.

Typus: Pingrup area [precise locality withheld for conservation reasons], Western Australia, 1 September 1975, K. Newbey 4774 (*holo*: PERTH 00175633; *iso*: CANB, K).

Spreading or domed, dense to mid-dense *shrub* 1.6–2 m tall, 1.5–2.5 m wide. *Stipules* c. 2 mm long and 0.3 mm wide, occasionally persistent. *Phyllodes* linear-oblongate, the mucro straight or shallowly inflexed, (25)30–55 mm long, 3–4 mm wide, l:w 8–13, subdistant, incurved, bright deep green. *Gland* 1–5 mm above pulvinus. *Peduncles* 3–6 mm long.

Selected specimens examined. WESTERN AUSTRALIA, Ongerup area [precise localities withheld for conservation reasons]: K.R. Newbey 373 (PERTH); K.R. Newbey 3010 (MEL, NSW, PERTH); K.R. Newbey 3010D (PERTH); K.R. Newbey 3803 (AD, BM, BRI, CANB, MEL, MO, NSW, P); D. Papenfus DP 682 (PERTH); D. Papenfus DP 684 (PERTH); D. Papenfus DP 690 & L. Strahan (PERTH); D. Papenfus DP 691 & L. Strahan (PERTH); N. Stevens KRN9513-1 (MELU, PERTH).

Distribution. Occurs in the south-west of Western Australia, known only from the Pingrup to Ongerup area.

Habitat. Grows on gentle undulating plain in sand, loam or clay in eucalypt low woodland or open shrub mallee.

Phenology. Flowering recorded from August to October; mature pods collected in early December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. From the Latin *incurvus* (curved inwards), in reference to the phyllodes.

Note. This subspecies is the tallest member of *A. mutabilis*.

***Acacia mutabilis* subsp. *rhynchophylla* Maslin, subsp. nov.**

Frutex ad 1 m altus. Stipulae subsistentes. Phyllodia oblanceolata, 20–30 mm longa, 4–8 mm lata, mucrone laterali rostriformi; glans 4–6 mm supra pulvinam inserta. Pedunculi 3–7 mm longi.

Typus: 8.5 miles [14.1 km] south-east of Nyabing on the road to Pingrup, Western Australia, 29 September 1970, B.R. Maslin 796 (*holo*: PERTH 00176664; *iso*: K, MEL, NSW, PERTH 00730130).

Spreading, moderately open *shrub* 0.5–1 m tall. *New shoots* densely appressed-puberulous (hairs pale yellow and white). *Stipules* triangular, 0.5–1.5 mm long, c. 0.7 mm wide, subsistent. *Phyllodes* oblanceolate, obtuse and excentrically rostriform (mucro lateral to sublateral), (16)20–30 mm long, 4–8 mm wide, l:w 3–7, straight to shallowly recurved, rarely 1 or 2 minor nerves subparallel to midrib. *Gland* 4–6 mm above pulvinus. *Peduncles* 3–7 mm long, glabrous or sparsely strigulose. *Bracteoles* spatulate c. 0.5 mm diam. *Pods* and *seeds* not seen.

Selected specimens examined. WESTERN AUSTRALIA: about 106 miles [170 km] from Albany on Borden–Pingrup road, A.M. Ashby 4680 (AD, CANB, G, K, MEL, NSW, NY, PERTH); Pingrup, W.E. Blackall 3111 (PERTH); E of Tambellup, C.A. Gardner 2078 (PERTH); near Gnowangerup, 30 Sep. 1928, C.A. Gardner s.n. (PERTH 00176656); 10 miles [16 km] SW of Borden, K. Newbey 1442

(PERTH); 14 miles [22.5 km] NE of Gnowangerup, *K. Newbey* 3436 (PERTH); Reserve No. 18803, 13 km WSW of Pingrup, 29 Aug. 1984, *K.J. Wallace s.n.* (PERTH 00610321).

Distribution. Occurs in the south-west of Western Australia, known only from the Nyabing to Pingrup area and south to near Borden.

Habitat. Grows in gravelly sand or loam in open shrub mallee.

Phenology. Flowering recorded from August to October; fruiting period not known.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The subspecific epithet is derived from the Greek *rhynchos* (a beak) and *phyllon* (a leaf), in reference to the characteristic phyllode apex which resembles a bird's head (e.g. cuckoo-shrike) in side view. The phyllode apex is rounded and the beak-like mucro is lateral to sublateral.

Note. Subspecies *rhynchophylla* is most readily distinguished from other subspecies of *A. mutabilis* by its obtuse phyllodes with a lateral to sublateral mucro, although *Ashby* 4680 is slightly atypical in that the mucro is less lateral than normal.

Acacia mutabilis* subsp. *stipulifera* Maslin, *subsp. nov.

Frutex ad 1 m altus. Ramuli strigulosi vel glabri. Stipulae persistentes, robustae. Phyllodia anguste elliptica ad anguste oblongo-elliptica vel oblanceolata, 2–5 cm longa, 4–8 mm lata, mucrone recto; glans 5–10 mm supra pulvinam inserta. Pedunculi 4–12 mm longi.

Typus: Lake Cobham area [precise locality withheld for conservation reasons], Western Australia, 17 August 1970, *K.R. Newbey* 3263 (*holo:* PERTH00176168; *iso:* CANB, K, MEL, PERTH00730114, 00908967).

Dense to mid-dense, domed *shrub* 0.3–1 m tall and 1–4.5 m diam. *Branchlets* white-strigulose to glabrous. *Stipules* stout, triangular to oblong-triangular, 2–3 mm long, 0.5–0.7 mm wide, persistent. *Phyllodes* narrowly elliptic to narrowly oblong-elliptic or oblanceolate, acute to obtuse, mucro usually straight and excentric, 2–5 cm long, 4–8 mm wide (larger on regrowth specimens), l:w 4–10, rather rigid, ascending to erect, straight, dark green. *Gland* (3)5–10 mm above pulvinus. *Peduncles* variable, 4–12 mm long.

Selected specimens examined. WESTERN AUSTRALIA, S of Newdegate [precise localities withheld for conservation reasons]: *G. Craig* 1494 (PERTH); *G. Craig* 1494C (PERTH); *G. Craig* 1553 (PERTH); *G. Craig* 1659 (K, PERTH); *B.R. Maslin* 3861 (PERTH); *K. Newbey* 3263A (PERTH); *M.H. Simmons* 1349 (PERTH).

Distribution. Localised in the south-west of Western Australia south of Newdegate near Lake Bryde and Lake Cobham.

Habitat. Grows in loamy sand and clay, usually slightly saline, in salt lake systems in low woodland of *Eucalyptus kondininensis* and *E. occidentalis*.

Phenology. Flowering recorded from August to October; mature pods collected in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. The subspecific epithet refers to the prominent stipules. In the other subspecies (except subsp. *angustifolia*) the stipules are caducous, or if persistent then smaller than in subsp. *stipulifera*. Subspecies *angustifolia* has narrower phyllodes than all other subspecies of *A. mutabilis*.

Acacia nigripilosa Maiden, *J. & Proc. Roy. Soc. New South Wales* 53: 172; pl. 10, figs 1–8 (1920) [*as nigripilosus*]. *Type:* Cowcowing, Western Australia, August 1904, *M. Koch* 1030 *pro parte*; (*holo:* NSW; *iso:* A, P, PERTH).

[*Acacia inaequiloba auct. non* W. Fitzg.: J.H. Maiden, *J. & Proc. Roy. Soc. New South Wales* 51: 240 (1917).]

Shrub 0.5–2 m high. *Branchlets* ash-grey, glabrous. *Phyllodes* usually ascending to erect, variable, linear to narrowly oblong-elliptic or oblanceolate, flat to terete, 2–7 cm long, 1–8 mm wide, narrowed at base, ± pungent, subrigid, smooth, dull or somewhat shiny, green or glaucous, glabrous; *nerves* 4 in all, 1 per face when flat; *lateral nerves* absent or obscure; *pulvinus* dilated at base. *Gland* 0–4 mm above pulvinus. *Inflorescence* a 1- or 2-headed raceme, enclosed when young by conspicuous, brown, imbricate bracts; axis 1–3 mm long, growing out at anthesis; *peduncles* usually 4–10 mm long, glabrous; heads slightly obloid, 18–34-flowered, golden. *Flowers* 5-merous; *sepals* united at base; *petals* with ± sparse, brown to black, appressed hairs. *Pods* ± moniliform, sometimes straight-edged, 4–9 cm long, 4–7 mm wide, thinly coriaceous–crustaceous, glabrous. *Seeds* longitudinal, obloid-ellipsoid to ovoid, *c.* 4 mm long, shiny, dark brown; aril thick.

Distribution. Occurs from Yuna south to near Goomalling and east to Mt Holland and near Queen Victoria Rock, south-western Western Australia.

Affinities. Probably related to *A. inaequiloba* W. Fitzg. and *A. ashbyae* Maslin, but readily distinguished from both, and from all other species of *Acacia*, by its petals having appressed, scattered, brown to black hairs. Two subspecies are recognized.

Key to subspecies of *Acacia nigripilosa*

- Phyllodes 1–5 mm wide, green, somewhat shiny subsp. **nigripilosa**
 Phyllodes 5–8 mm wide, glaucous to subglaucous, dull subsp. **latifolia**

Acacia nigripilosa Maiden subsp. **nigripilosa**

Phyllodes flat to terete, 2.5–7 cm long, 1–5 mm wide, l:w = 7–50, somewhat shiny, green, normally gradually narrowed to a straight or delicately curved, pungent or subpungent point.

Selected specimens examined. WESTERN AUSTRALIA: 34.5 km NE of Wubin on Paynes Find road, *R. Coveny* 7876 & *B.R. Maslin* (CANB *n.v.*, Kn.v., NSW, PERTH); 30 km E of Morawa on road through Koolanooka Hills, *R.J. Cumming* 1916 (PERTH); 7 km S of Mullewa on road to Mingenew, *B.R. Maslin* 5080 (CANB, K, MEL, PERTH); 19 km SSW of Queen Victoria Rock, *c.* 63 km SW of Coolgardie, *K. Newbey* 6098 (PERTH).

Distribution. Occurs throughout the species' distribution as described above.

Habitat. Grows in yellow or light brown sand in closed- or open-scrub.

Variation. Very variable and may comprise more than one taxon. Typical subsp. *nigripilosa* occurs from Ballidu east to Mt Holland and near Queen Victoria Rock. Its phyllodes are flat (rhombic in section when very narrow) with a prominent midrib and a delicately curved, subpungent mucro, the new shoots are glabrous and the peduncles normally 4–10 mm long. Variants with \pm terete phyllodes occur between Wubin and Perenjori (e.g. *R. Coveny* 7876 & *B.R. Maslin*). Their phyllodes have straight to curved, often very pungent points and often obscure midribs, the new shoots are glabrous or tomentose. On some specimens from near Wongan Hills and in the Mullewa–Yuna area, the phyllodes are broad (to 5 mm wide) and have straight, very pungent points; plants from the latter area may also have peduncles 10–20 mm long and occasionally hairy new shoots (e.g. *B.R. Maslin* 5080). Plants from the Koolanooka Hills often have atypically \pm patent phyllodes (e.g. *R.J. Cumming* 1916).

***Acacia nigripilosa* subsp. *latifolia* Maslin, subsp. nov.**

Ab *A. nigripilosa* subsp. *nigripilosa* phyllodiis latioribus, 20–35 mm longis, 5–8 mm latis, plerumque hebetibus, glaucis, differt.

Typus: between Caron and Maya [precise locality details withheld for conservation reasons], Western Australia, 23 August 1973, *B.R. Maslin* 3367 (*holo:* PERTH 00186120; *iso:* AD, BM, CANB, G, K, MEL, MO, NSW).

Differs from *A. nigripilosa* subsp. *nigripilosa* in phyllodes broader and usually dull (not shiny), subglaucous to glaucous. *Phyllodes* slightly asymmetric, narrowly oblong-elliptic to oblanceolate, (15)20–35 mm long, (4)5–8(10) mm wide, l:w 3–6; lower margin \pm straight; upper margin usually slightly convex; *apex* abruptly narrowing to a rigid, \pm pungent point; mostly dull and subglaucous to glaucous, a few sometimes slightly shiny and dark green.

Selected specimens examined. WESTERN AUSTRALIA, all between Caron and Maya unless otherwise indicated [precise localities withheld for conservation reasons]: *W.E. Blackall* 761 (PERTH); *C.A. Gardner* 14342 (PERTH); *J. Goodwin* 181 (PERTH); *B.R. Maslin* 742 (K, MEL, PERTH, S); *B.R. Maslin* 5066 (PERTH); NE of Geraldton, *P.C. Ryan* PCR 165 (PERTH); *M.H. Simmons* 423 (PERTH); *M.D. Tindale* 2777 (CANB, K, L, MEL, NSW, PERTH, US).

Distribution. Occurs in two disjunct areas in the south-west of Western Australia, between Caron and Maya, and c. 100 km north-east of Geraldton.

Habitat. Grows in stony yellow sand, sometimes in loam, in tall dense scrub and heath.

Phenology. Flowering recorded in August and September; mature pods collected in mid-December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One.

Etymology. From the Latin *latus* (broad) and *folium* (a leaf), in reference to the phyllodes.

Notes. Variants of subsp. *nigripilosa* with terete phyllodes occur in the same general region as the new subspecies.

Acacia pachyphylla Maslin, *stat. et nom. nov.*

Based on *Acacia gonophylla* var. *crassifolia* Benth., Fl. Austral. 2: 340 (1864). *Type*: towards the Great Bight, south-western Australia, [*G. Maxwell s.n.*] (*lecto*: K – right hand specimen on Herb. Hooker sheet, here selected; *isolecto*: K, MEL 27237 – see discussion below).

Low, spreading, moderately open *shrub* with up to *c.* 6 main stems at ground level arising from a woody rootstock, normally to 0.3 m tall, occasionally to *c.* 0.5 m tall, to 0.6 m wide. *Bark* commonly very slightly roughened. *New shoots* reddish. *Branchlets* terete, light grey (due to an epidermal layer which commonly exfoliates longitudinally) and not evidently ribbed except at extreme apex which is normally reddish and finely nerved, glabrous. *Stipules* persistent on upper branchlets but caducous or only the slightly thickened basal portion remaining on old wood where phyllodes have fallen, linear to narrowly triangular, 1.5–3 mm long, slightly thickened (especially towards base), the apical portions readily breaking off with age, rather slender and not particularly rigid, not pungent, normally erect and incurved. *Phyllodes* 2–6.5 cm long, dimorphic; upper phyllodes usually linear to narrowly linear, terete or subterete to quadrangular, 1–2 mm wide, l:w 10–20(25) (sometimes compressed, narrowly to very narrowly oblanceolate and 2–3 mm wide); lower phyllodes distinctly compressed, oblanceolate to very narrowly oblanceolate, 4–6(7.5) mm wide, l:w normally 5–10, frequently falling early; thickly coriaceous, finely longitudinally wrinkled when dry, rather crowded towards ends of branches, rather rigid, ascending to erect, straight to slightly curved, glabrous, glaucous or dull medium green; 4-nerved (one on each face and 2 marginal); *midrib* variably pronounced, central to very slightly excentric, situated at apex of angles when phyllodes are \pm quadrangular, usually yellowish; *secondary nerves* absent or very obscure; margins not thickened; *abaxial marginal nerve* normally superficially absent (being submerged) in the region between the gland and the pulvinus; *apex* abruptly and asymmetrically (rarely symmetrically) narrowed into a slender, rigid, sharply or coarsely pungent point 0.5–1 mm long and which is normally straight (not prominently inflexed as frequently occurs in *A. dermatophylla*); *pulvinar region* 0.5–1.5 mm long, slightly dilated at base, smooth or slightly wrinkled. *Gland* not prominent, on upper margin of phyllode 6–7 mm above pulvinus, *c.* 0.4 mm long and 0.2 mm wide or smaller. *Inflorescence* 1 per node, an extremely reduced 1-headed raceme; axis *c.* 0.5 mm long, glabrous (except a sparse tuft of hairs surrounding peduncle base), normally growing out at apex; *peduncles* 12–22(30) mm long, rather thick (0.8–1 mm diam. and finely longitudinally wrinkled when dry), glabrous. *Heads* globular, bright medium to deep golden yellow, with 36–53 (rarely 24) densely arranged flowers; *bracteoles* caducous. *Flowers* 5-merous; *calyx* *c.* 1/2 length of corolla; sepals free, narrowly oblanceolate to \pm narrowly oblong, glabrous to glabrescent, apically slightly thickened; *petals* 2.3–3 mm long, connate for *c.* 1/2 their length, glabrous, obscurely 1-nerved, apically somewhat thickened and abruptly acute. *Gynoecium* glabrous. *Pod* linear, terete to subterete, not constricted between seeds, to 8.5 cm long, 6–8 mm wide, firmly crustaceous, hard and bony when dry, normally curved but sometimes straight, glabrous, dark purplish brown, moderately pruinose, finely longitudinally wrinkled when dry, not reticulate, basal stipe thick and *c.* 2 mm long, apex abruptly acute; margins not thickened, yellowish. *Seeds* longitudinal, facing apex of pod, embedded in spongy tissue which disappears as pods mature, obloid, 4.5–5 mm long, 3.5–4 mm wide, *c.* 2 mm thick, not shiny, dark brown to black; *pleurogram* open at hilar end, bordered by a narrow band of yellowish tissue; *areole* 2–3.5 x 1–2 mm; *funicle* filiform, 1–3 mm long abruptly expanded into a thick, terminal, yellowish, pileiform aril.

Selected specimens examined. WESTERN AUSTRALIA: 52 km WSW of Israelite Bay along road to Esperance, *B. Barnsley* 368 (CANB, PERTH, NSW); *c.* 30 km NNE of Young River Crossing on Ravensthorpe–Esperance main road, *N.N. Donner* 3045 (AD, PERTH, Z); S of Mt Ragged towards Point Malcolm, *C.A. Gardner* 2908 (BM, K, PERTH); 82 km E of Esperance on Merivale Rd between

Alexander Rd & Daniels Rd, *J. W. Green* 5171 (PERTH); 9 km WNW of Wittenoorn Hills Nature Reserve on Norwood Rd, 50 km NNE of Esperance, *S.D. Hopper* 1944 (PERTH); c. 8 km NNW of Young River Crossing on Ravensthorpe–Esperance main road, *E.N.S. Jackson* 1461 (AD, PERTH); 18.5 km N of Gibson towards Norseman, *B.R. Maslin* 2533 (PERTH); 12 km SW of Buraminy, c. 38 km W of Mt Ragged, *K. Newbey* 8006 (PERTH); Cape Arid National Park, *R.D. Royce* 10052 (PERTH); 10 km due S of Clyde Hill, *H. Smolinski s.n.* (PERTH); Cape Arid National Park, W part, by the track S and SE of Mt Baring, *A. Strid* 21242 (PERTH)

Distribution. Occurs in coastal and near-coastal areas in the south-west of Western Australia from the vicinity of the Young River east to Israelite Bay and extending inland to near Truslove and Mt Buraminy. If the localities given on the following two herb. MEL sheets are correct then this species has a much wider distribution than I have indicated above. One sheet is annotated by Mueller 'Near K.G.S. [King George Sound, Albany] 1888'; the collector is not given. Albany is about 350 km south-west of the Young River. The second sheet is annotated 'Norseman, 1897, J.D. Batt'. This locality is c. 200 km north of Esperance.

Habitat. Grows in sand (sometimes gravelly and commonly with clay at a shallow depth), loam or clay, in open heath or open shrub mallee over heath, in flat or gently undulating topography.

Phenology. Flowering recorded from September to January; mature pods collected in November and December.

Conservation status. Not under threat.

Etymology. The specific epithet, from the Greek *pachy-* (thick-) and *-phyllus* (-leaved), refers to the characteristically thick phyllodes and reflects Bentham's varietal epithet (*crassifolia* being already occupied at species rank).

Typification. The type citation of *A. gonophylla* var. *crassifolia* Benth. is 'Towards the Great Bight, Maxwell'. The only sheet at herb. Kew of type significance is one stamped Herbarium Hookerianum and annotated '*Acacia gonophylla* var. S.W. Australia towards the Great Bight.' This writing is Mueller's except for '*gonophylla* var.' which is Bentham's. Neither the varietal name nor the collector's name appear on this label but the locality is almost identical to that given in the protologue. The three flowering specimens mounted on this sheet agree with Bentham's brief description of var. *crassifolia*. There is a duplicate of this gathering at herb. MEL annotated by Mueller but there is no indication that Bentham saw this sheet. I regard the Kew collection as the type and assume that Bentham neglected to annotate the sheet with the varietal name. The right hand specimen on the Kew sheet has been selected as the lectotype; the other Kew specimen plus the ones at MEL are regarded as isolectotypes.

Affinities. Although Bentham described this taxon as a variety of *A. gonophylla*, the two are not particularly closely related. *Acacia pachyphylla* differs significantly from *A. gonophylla* in its semi-persistent (not caducous) stipules, 4(not 5)-nerved, dimorphic phyllodes, larger, golden (not creamy white) heads and much larger, harder, terete to subterete pods. *Acacia pachyphylla* is closely related to *A. dermatophylla* Benth. on account of its thickly coriaceous, 1-nerved phyllodes, its globular heads arranged in extremely reduced racemes and its general carpological characters. *Acacia dermatophylla* is distinguished from the new species in the following ways. Shrub normally single-stemmed; stipules thicker, more prominent, 4–8 mm long; phyllodes not dimorphic, although commonly decreasing in size towards the branchlet apices, never linear or terete, the basal ones reaching 23 mm in width, their apical points are thicker, commonly less pungent and frequently inflexed, the nerve on the adaxial

margin obviously bifurcating on the lower 1/3–1/2 of the phyllode which does not happen in *A. pachyphylla*; racemes 2-headed; peduncles commonly shorter (normally 5.5–15 mm long), thinner; heads generally fewer-flowered (20–40); pods broader (8–10 mm wide), with oblique seeds. Although both species occur in south coastal areas (*A. dermatophylla* ranges from near Ravensthorpe to near Balladonia), it is not known whether they grow sympatrically.

The new species is also similar superficially to *A. maxwellii* Maiden & Blakely which has uniformly shaped phyllodes, mostly 1–3-headed reduced racemes, pale yellow to cream, smaller heads with many fewer flowers, a gamosepalous calyx and smaller, crustaceous pods enclosing ± spherical seeds. The phyllodes of *A. pachyphylla* are generally similar to those of a South Australian species, *A. pinguifolia* J.M. Black, but in that species the phyllodes are 10–15-veined, the peduncles are shorter (mostly 4–10 mm long) and the heads are smaller and fewer-flowered (18–20-flowered). *Acacia pachyphylla* is also superficially similar to *A. mutabilis* subsp. *angustifolia* (see above).

***Acacia plautella* Maslin, sp. nov.**

Frutex 0.7–1 m altus. Ramuli teretes, subtiliter costati, glabri. Stipulae 1–1.5 mm longae, caducae. Phyllodia sessilia, patentia, anguste triangularia, ad apicem angustata, cuspidata, 8–15 mm longa, 1.5–2 mm lata, glabra; costa parum excentrica; glans marginalis, 1–3 mm supra basin inserta. Inflorescentia racemus reductus capitulis 1(2). Pedunculi 5–10 mm longi, glabri; capitula globularia, aurea, floribus 15–20. Flores 5-meri. Sepala unita, glabra. Petala glabra, obscure nervosa. Legumen moniliforme, ad 7.5 cm longum, 3.5–4 mm latum, coriaceum vel crustaceum, glabrum. Semina longitudinalia, obloidea vel ellipsoidea, 3–4 mm longa; arillus conicus.

Typus: 48 km north of Murchison River on North West Coastal Highway, Western Australia, 25 August 1984, B.R. Maslin 5580 (*holo*: PERTH 00171387; *iso*: CANB, K, MEL).

Spreading *shrub* 0.7–1 m tall, rarely to 1.2 m, single-stemmed or sparingly divided at ground level, main stems somewhat crooked. *Bark* rough and longitudinally fissured towards base of old stems, otherwise smooth, medium grey to dark grey (except branchlets). *Branchlets* terete, very finely ribbed, straight, somewhat coarsely pungent, glabrous, occasionally green but more commonly covered (either wholly or sometimes only on upper surface which is exposed to direct sunlight) with a white, punctulate epidermal layer which exfoliates with age. *Stipules* present only on extremely young new shoots, narrowly oblong to narrowly triangular, 1–1.5 mm long, scarious, light brown, 1-nerved. *Phyllodes* narrowly triangular, tapering from a broad, sessile base into a straight, rigid, brown cusp 1–2 mm long, (5)8–15 mm long, 1.5–2 mm wide, l:w (4)6–9, rigid, patent to very slightly inclined, straight to very slightly recurved, flat, glabrous, green; stomata numerous, just visible at x10 mag.; *midrib* slightly excentric (situated nearer upper margin), yellowish to light brown, slightly raised when dry, commonly a very fine submerged nerve parallel to midrib on its abaxial side; *marginal nerves* not raised, yellowish to light brown, on upper margin the nerve bifurcating at the gland and submerged between the gland and the phyllode base. *Gland* on upper margin of phyllode (commonly on a very slight angle) 1–3 mm above base, normally shallowly recessed within margin, normally circular, 0.2–0.3 mm diam. *Inflorescence* an extremely reduced 1(2)-headed raceme; raceme axis 0.5–1 mm long, commonly growing out at anthesis, subtended at base by c. 4, early caducous, unequal, scarious, brown bracts to c. 1 mm long; bract scars persistent; *peduncles* 5–10 mm long at anthesis, to 14 mm long in fruit, glabrous, yellow or pale red; *basal peduncular bracts* absent, as racemes grow out a secondary phyllode commonly develops at the base of the peduncles. *Heads* globular, 7–9 mm diam. (fresh), 5–6 mm diam. (dry), 15–20-flowered, golden; *bracteoles* absent but flowers rimmed at base by minute (c. 0.1 mm long) brown papillae which arise from the receptacle. *Flowers* 5-merous, glabrous;

calyx c. 1/3 length of corolla, gamosepalous, variably dissected for 1/5 to c. 1/2 its length into oblong to broadly triangular lobes which are very slightly keeled abaxially; *petals* oblanceolate, 2–2.3 mm long, connate for 1/3–1/2 their length but readily splitting upon dissection, acute, very obscurely 1-nerved (superficially nerveless when dry). *Pod* ± moniliform, to 7.5 cm long, 3.5–4 mm wide, with up to 9 seeds per pod, thinly coriaceous to slightly crustaceous, normally shallowly curved, finely longitudinally reticulate, glabrous, reddish brown; marginal nerves not thickened, yellowish to light brown. *Seeds* longitudinal with hilum facing apex of pod, obloid or ellipsoid to obovoid, obliquely truncate along one margin at top of seed near hilum, 3–4 mm long, 2–2.7 mm wide, somewhat compressed (1.4 mm thick) but areolar area very slightly raised, very slightly shiny, black with cream mottlings; *pleurogram* very fine, narrowly elliptic, continuous; areole 1–1.2 mm long, 0.3–0.4 mm wide; *funicle* filiform, appressed against and distally expanded into a narrowly conical aril which asymmetrically sheaths the top of the seed.

Selected specimens examined. WESTERN AUSTRALIA: 30 miles [48 km] N of Ajana, *W.E. Blackall* 577 (PERTH); 60 km N of Ajana, 28 Aug. 1931, *C.A. Gardner s.n.* (PERTH 00171360); near 413 mile peg, North West Coastal Highway [c. 50 km N of the Murchison River crossing], *A.S. George* 11225 (PERTH); 44.5 km N of Murchison River on North West Coastal Highway, *B.R. Maslin* 7033 (PERTH).

Distribution. Occurs in the south-west of Western Australia, between Ajana and Billabong Roadhouse on the North West Coastal Highway.

Habitat. Grows in yellow sand in dense mallee scrub. Associated taxa include *Acacia coolgardiensis*, *A. longispinea*, *Melaleuca*, and *Persoonia*.

Phenology. Flowering recorded in August; mature pods collected in December and January.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. From the Latin *plautus* (flat, broad), used for the Umbrians in the sense 'flat-footed', here with the diminutive suffix *-ellus*, alluding to the relatively broad phyllode base.

Affinities. Similar to the more southerly distributed *A. ingrata* Benth. which differs most obviously in its cream to white, 5–7-flowered heads, pods 4–5.5 mm wide, seeds not mottled, gland (minute) at extreme base of phyllode, epidermis not punctulate and stipule bases commonly thickened with age and persisting at many nodes. Members of the *A. horridula* Meisn. group (see Maslin 1978) are superficially similar to *A. plautella* in having somewhat similar phyllode and carpological features. They are readily distinguished, however, by their 4-merous flowers, non-racemose inflorescences, obvious gland angles on upper margin of phyllodes, terete pods not constricted between seeds, and their more southerly distribution.

Variation. In August 1967, C.H. Gittins collected two flowering specimens from 66 km S of Billabong Roadhouse on North West Coastal Highway. One of these (no. 1554) is typical *A. plautella*, but the other (no. 1556), while resembling this species in many respects, differs most obviously in its poorly developed, non-punctulate epidermis and its linear, much longer (4–6 cm), inclined to ascending, shortly pulvinate phyllodes. In the absence of pods it is not possible to assess the status of *Gittins* 1556 and it is therefore not included in *A. plautella*. Its general facies is reminiscent of some forms of *A. prainii* Maiden and *A. scleroclada* Maslin but it is readily distinguished from both by its gamosepalous, ± truncate calyx.

Acacia profusa* Maslin, *sp. nov.

Frutex ad 0.9 m altus. Ramuli teretes, glabri, interdum resinosi. Stipulae c. 0.2 mm longae, plerumque caducae. Phyllodia conferta, linearia, acuta, pungentia, 7–17 mm longa, 1–1.5 mm lata, plerumque parum sulcata (in sicco), glabra, ± glauca, nervis 3 (1 in margine abaxiali, 1 in quoque pagina laterali); costa immersa; glans 0.2–1.5 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis 1 vel 2. Pedunculi 9–16 mm longi, glabri; capitula floribus 10–17. Flores 5-meri. Sepala libera vel ad basin unita, sub-glabra. Petala glabra, enervia. Legumen oblongum vel anguste oblongum, ad 25 mm longum, 10–12 mm latum, chartaceum, glabrum. Semina transversa, late ellipsoidea, c. 5 mm longa; arillus plicatus.

Typus: 7.5 km west of Grass Patch on Grass Patch Rd, Western Australia, 24 September 1983, *B.R. Maslin* 5442 (*holo*: PERTH 00170364; *iso*: CANB, G, K, MEL, MO, NSW, NY, PERTH 00750530).

Compact to moderately open, erect *shrub* 0.3–0.9 m tall, multi-stemmed, or sparingly branched at ground level. *Bark* grey except orange-brown branchlets. *Old wood* somewhat roughened by scars of raised leaf bases where phyllodes have fallen. *New shoots* light purplish. *Branchlets* terete, ribbed immediately below raised leaf bases, glabrous, sometimes resinous and subverniceous, the resin sometimes drying white. *Stipules* setaceous, inconspicuous, c. 0.2 mm long, commonly falling early. *Phyllodes* linear, narrowed at base, (5)7–17 mm long, 1–1.5 mm wide, l:w (5)7–16, crowded, erect or (with age) sometimes ascending, straight or shallowly incurved, flat, slightly thickened, usually slightly sulcate when dry, glabrous, glaucous (young) to subglaucous (mature); stomata minute, numerous; *nerves* 3 (1 on abaxial margin, 1 on each lateral face); abaxial nerve impressed and yellow to brown (when dry), lateral nerves (i.e. *midrib*) submerged and not or scarcely evident when fresh but surface usually slightly wrinkled when dry; adaxial marginal nerve absent; *apex* obliquely narrowed to a straight, brown, hard, acute, slightly pungent point 0.3–0.5 mm long; *pulvinus* terete, 0.5–0.7 mm long. *Gland* inconspicuous, 0.2–1.5 mm above pulvinus, slightly impressed, circular to oblong, 0.2 mm long, 0.1–0.2 mm wide. *Inflorescence* an extremely reduced raceme, 1 per node, normally terminal; *peduncles* 1(2), 9–16 mm long, equalling or longer than phyllodes, glabrous, sometimes red; *axis* 0.5–1 mm long, glabrous, ± pruinose, usually with a dormant vegetative bud near apex; bract at base of axis c. 0.3 mm long; *basal peduncular bract* solitary, persistent, 0.5–1 mm long, concave, sessile. *Heads* globular, 8 mm diam. at anthesis when fresh (4–5 mm diam. when dry), light to mid-golden, 10–17-flowered; *bracteoles* absent. *Flowers* 5-merous; *sepals* c. 2/5 length of petals, free or united near base, narrowly oblong, subglabrous with microscopic hairs; *petals* 2 mm long, free at anthesis, glabrous, nerveless. *Ovary* glabrous; *gynophore* c. 0.2 mm long. *Pods* oblong to narrowly oblong, to 25 mm long, 10–12 mm wide, prominently raised over the seeds alternately on each side, not constricted between seeds, chartaceous, glabrous, pruinose when young. *Seeds* (slightly immature) transverse, widely ellipsoid, c. 5 mm long and 2.5 mm wide; *pleurogram* U-shaped, open at hilar end; *areole* minute; *funicle* filiform, 2–3 mm long, gradually thickened to a once-folded subterminal aril.

Selected specimens examined. WESTERN AUSTRALIA: 4 miles [6.4 km] SW of Mt Ridley, *T.E.H. Aplin* 4003 (AD, PERTH); between Salmon Gums and Grass Patch, *W.E. Blackall* 1014 (PERTH); 17 km due SSE of Peak Eleanor, intersection of Rolland and Cups Rds, *M.A. Burgman* 3858 (PERTH); c. 30 km E of Truslove, on track between Dempster and Burdett Rds, *G. Craig* 1575 (BRI, PERTH); 7.8 km W of Salmon Gums on Salmon Gums West Rd, *G.F. Craig* 2437 (PERTH); near Kumarl, Oct. 1934, *C.A. Gardner s.n.* (PERTH 00170402); 7.5 km W of Grass Patch on Grass Patch Rd, *B.R. Maslin* 5442A (PERTH); 26 km NNE of Swallow Rock, Frank Hann National Park, *K. Newbey* 6857 (PERTH); 4 km W along Rolland Rd from Fields Rd, c. 50 km W of Grass Patch, *J. Taylor* 1654 & *P. Ollerenshaw* (CANB, K, PERTH).

Distribution. Occurs in the south-west of Western Australia from Frank Hann National Park, east to Kumarl and south-east to Mt Ridley and Mt Burdett.

Habitat. Grows in clay, sand or loam on flats in open shrub mallee, open dwarf scrub or low heath.

Phenology. Flowering recorded in September and October; immature pods collected in late December.

Conservation status. Not under threat.

Etymology. Named from the Latin *profusus* (profuse), in reference to the crowded phyllodes.

Affinities. The new species is distinctive on account of its crowded, 3-nerved phyllodes (midrib submerged), rudimentary racemes and short, broad pods. It is possibly related to *A. carnosula* (see above) which has a similar phyllode nervation, but in that species the phyllodes are obovate to oblanceolate and 1–2.5 mm wide, the flowers are subtended by small bracteoles, and the seeds are longitudinally arranged in the pods. Glabrous variants of *A. lachnophylla* F. Muell., another possible relative, may superficially resemble the new species but are distinguished by their narrow (c. 1.5 mm wide), coiled pods and phyllodes with a discernible midrib on each face and a gland (when present) more than 4 mm above the pulvinus.

Acacia puncticulata* Maslin, *sp. nov.

Frutex expansus, 0.6–1.3(2) m altus. Ramuli teretes, pubescentes ad hirsutelli. Stipulae 2–4 mm longae, spinescentes, basibus persistentibus. Phyllodia ovata ad elliptica, acuta vel obtusa, mucronata, 15–25 mm longa, 7–15 mm lata, parum undulata, glabra praeter margines et costam hirtellam; costa prominens; glans 4–13 mm supra pulvinam inserta. Inflorescentia simplex, axillaris sed sub anthesi phyllodiis plerumque immaturis. Pedunculi 8–20 mm longi, hirtelli, 1-bracteati; capitula floribus 35–60. Flores 5-meri. Sepala libera, parce pilosa. Petala glabra, enervia. Legumen circinatum (spira c. 1–1.5 cm diam.), c. 2.5 cm longum, 4.5–5.5 mm latum, intersemina constrictum, coriaceum, glabrum. Semina longitudinalia, obloidea vel ellipsoidea vel ovoidea, c. 3.5 mm longa; arillus curvus.

Typus: about 1 km south of Murchison River along eastern boundary of Kalbarri National Park, Western Australia, 18 July 1987, *D. Bellairs s.n.* (*holo:* PERTH 01129236; *iso:* CANB, G, K, MEL, NSW, NY).

Dense *shrub*, spreading, domed or flat-topped, much-branched, 0.6–1.3(2) m tall, to c. 2 m across. *Bark* smooth, mid-grey, dark grey-brown, grey-black or red-grey. *Branches* with prominent lenticels. *Branchlets* terete, ribless or ribs very obscure, \pm pubescent to hirsutellous or hirtellous, the indumentum arising from epidermis which soon becomes grey-white and with age is longitudinally fissured to reveal a glabrous, reddish undersurface. *Stipules* 2–4 mm long, spreading, straight to shallowly recurved, sharp and rigid but somewhat brittle so that at old nodes commonly only the hardened basal portions remain. *Phyllodes* slightly oblique, ovate to elliptic but commonly widely so, both upper and lower margins convex, (10)15–25(30) mm long, (5)7–15(20) mm wide, l:w 1.5–2.5, coriaceous, patent to inclined, slightly undulate, glabrous or margins and midrib hirtellous to hirsutellous (hairs commonly sparse, usually tubercle-based but commonly wearing away with age so that only tubercles remain), dark green, punctulate with minute, brown (ageing black) circular scales which are commonly sparse or absent on old phyllodes; *midrib* prominent; lateral nerves visible but not prominent; nerve on upper margin bifurcating below the gland; *apex* acute to obtuse but mucronate; mucro 1–3 mm long, straight, slender, rigid, brown; *pulvinus* not prominent, to c. 0.5 mm long. *Gland* situated on upper margin of

phyllode 4–13 mm above pulvinus. *Inflorescences* initiated on developing new shoots with 1(2) peduncles in axils of immature phyllodes; subtending phyllodes may or may not be fully expanded by anthesis; *peduncles* 8–20(30) mm long, hirtellous to hirsutellous, *basal bract* absent but a solitary, narrowly triangular to lanceolate, \pm caducous bract 1.5–3 mm long, frequently present near or above middle of peduncle. *Heads* globular to obloid, golden, densely 35–60(70)-flowered; *bracteoles* 1.5–2 mm long; claw linear, \pm as long as lamina, sparsely hairy; lamina narrowly ovate, acuminate, slightly exerted in young buds, brown, ciliolate. *Flowers* 5-merous; *sepals* $3/5$ length of petals, free, linear to narrowly spatulate, sparsely hairy; *petals* 2(–2.5) mm long, glabrous, margins minutely papillate towards the apex, nerveless. *Pods* circinate in a coil c. 1–1.5 cm diam. (curving at 90° to plane of suture), sometimes a few irregularly sigmoid, c. 2.5 cm long (expanded length), 4.5–5.5 mm wide, rounded over seeds on inner face of curves or spirals, continuously convex on outer face, not or scarcely constricted between seeds, coriaceous, glabrous, brown to yellow-brown, sometimes with a few very obscure transverse veins most visible near the narrow, marginal nerves. *Seeds* longitudinal, obloid to slightly ellipsoid or ovoid, 3.5 mm long, 3 mm wide, dull to slightly shiny, dark brown to blackish, sometimes yellowish, surrounding areole and extending to hilar area; *pleurogram* obscure, open at hilar end; *areole* c. 0.5 mm long, 0.4–0.5 mm wide; aril curved over top of seed.

Selected specimens examined. WESTERN AUSTRALIA: between Coorow and Arrino, W.E. Blackall 2615 (PERTH); 6 km S of Kalbarri turnoff on North West Coastal Highway, R.S. Cowan A831 (AD, BRI, CANB, G, K, MO, PERTH); Murchison River gorge, A.S. George 7906 (K, PERTH); 16 km from North West Coastal Highway towards Kalbarri, B.R. Maslin 3330 (CANB, PERTH); 4.8 km E of Mullewa towards Yalgoo, B.R. Maslin 3627 (NY, PERTH); about 32 km from Mingenew on the road to Morawa, B.R. Maslin 6247 (PERTH); about 2 km S of Murchison River along eastern boundary of Kalbarri National Park, B.R. Maslin 6260 (K, PERTH); 18 miles [29 km] N of Caron, K. Newbey 2090 (PERTH).

Distribution. Scattered in the south-west of Western Australia from Kalbarri National Park to near Perenjori and Three Springs.

Habitat. Grows normally on rocky red loam, sometimes yellow sand or red clay, commonly in *Acacia acuminata* tall shrubland.

Phenology. Flowering recorded in August and September; mature pods collected in November.

Conservation status. Not under threat.

Etymology. The specific epithet is derived from the Latin *puncticulatus* (minutely dotted), in reference to the many small punctae on young phyllodes.

Affinities. Until now, *A. puncticulata* has been included in *A. congesta* (see above). The two species are closely related and resemble one another most obviously in the following ways. Stipules spinescent (although they are somewhat brittle and with age are commonly broken so that only their bases remain, forming hardened, slightly spinescent projections at the base of the phyllodes); phyllodes with a slender pungent mucro, midrib prominent, lateral veins obscure or pronounced; peduncle sometimes with a small bract near or above the middle; heads commonly slightly obloid; sepals \pm free, linear or narrowly spatulate, $1/2$ – $3/5$ length of petals. Were it not for the marked differences in the pods it would be reasonable to treat *A. puncticulata* as a subspecies of *A. congesta* which is distinguished by its narrower phyllodes (3–7 mm wide), dimidiately inaequilateral and not, or scarcely, punctulate. In *A. congesta*, the pods curve in the plane of the suture whereas in *A. puncticulata* they curve at right angles to the plane of the suture. Furthermore, in *A. congesta* the pods are usually more obviously constricted between the seeds.

Acacia pusilla Maslin, *sp. nov.*

Frutex decumbens vel tholiformis ad 30 cm altus. Ramuli teretes, minute pubescentes. Stipulae 1.5–3.5 mm longae, persistentes. Phyllodia conferta, linearia ad subteretia, incurva, oblique mucronulata, 5–10 mm longa, c. 1 mm lata, glabra vel minute pubescentia, nervis 3 immersis (1 in margine abaxiali, 1 in quoque pagina laterali); glans 0.5–2 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 6–8 mm longi, glabri; capitula floribus 8–12. Flores 5-meri. Sepala libera, parce ciliolata. Petala glabra, enervia. Legumen lineare, spirale, ad c. 10 mm longum (non expansum), c. 2 mm latum, crustaceum, glabrum. Semina longitudinalia, obloidea ad ellipsoidea, 2.4–2.7 mm longa; arillus pileiformis.

Typus: near base of east side of Ravensthorpe Range, about 10 km south-east of Ravensthorpe township, Western Australia, 27 September 1983, *B.R. Maslin* 5462 (*holo*: PERTH 00173274; *iso*: CANB, G, K, MEL, NY, PERTH 00760498).

Decumbent to erect, multi-stemmed *shrub*, forming circular, domed bushes to 20–30 cm tall and 1 m wide. *Old wood* roughened by scars of raised leaf bases. *Stems* slender, dark grey but frequently light orange towards apices. *Branchlets* terete, nerveless, minutely pubescent. *Stipules* setaceous, 1.5–3.5 mm long, recurved, glabrous, dark brown to black, persistent. *Phyllodes* linear, narrowed at base, 5–10(13) mm long, c. 1 mm wide, l:w 5–10(12), crowded, patent to erect, incurved from near base, subterete, commonly \pm flat when dry, smooth, slightly longitudinally sulcate when dry, glabrous to subglabrous, hairs minute and appressed, dull, green to subglaucous; nerves 3 (1 on abaxial margin, 1 on each lateral face) but submerged and not or scarcely evident; *apex* obliquely mucronulate, the mucro 0.1–0.3 mm long, thick, acute, brown to black; *pulvinus* terete, c. 0.5 mm long, sparsely puberulous adaxially. *Gland* inconspicuous, 0.5–2 mm above pulvinus, occasionally at distal end of pulvinus, commonly slightly impressed and sometimes connected to pulvinus by a shallow groove (when dry), circular to oblong, 0.1–0.2 mm long. *Inflorescence* simple; *peduncles* 6–8 mm long, 1 per axil, slender, erect at anthesis, strongly recurved from base in fruit, glabrous; *basal peduncular bract* subpersistent, cucullate, 1–2 mm long, dark brown to black, sparsely puberulous abaxially. *Heads* globular, bright light golden, 3 mm diam. at anthesis (fresh), 8–12-flowered; *bracteoles* absent. *Flowers* 5-merous; *sepals* c. 1/3 length of petals, free, narrowly oblong, sparsely ciliolate; *petals* c. 1 mm long, free at anthesis, glabrous, nerveless. *Ovary* glabrous. *Pods* linear, tightly irregularly coiled, to c. 10 mm long (unexpanded), 2 mm wide, turgid, very slightly constricted between seeds, thinly crustaceous, glabrous, very slightly shiny, \pm resinous, black, very finely wrinkled. *Seeds* longitudinal, obloid to ellipsoid, 2.4–2.7 mm long, 1.5 mm wide, slightly depressed (1 mm thick), black, shiny; *pleurogram* very obscure, open at hilar end; *areole* c. 1 mm long, 0.5 mm wide; *funicle* filiform, c. 1 mm long, abruptly expanded into a fleshy, pileiform, white, terminal aril.

Selected specimens examined. WESTERN AUSTRALIA: lower slopes of Ravensthorpe Range, *E.M. Bennett* 2398 (PERTH); 9.8 miles [15.6 km] W of Bendalup Creek, just E of Ravensthorpe, *F. Lullfitz* L5497 (PERTH); near Mt Desmond, c. 13 km due SE of Ravensthorpe, *B.R. Maslin* 3905 (AD, BRI, MO, NSW, PERTH); Ravensthorpe Range near Mt Desmond, Elverdton Rd 0.5 km from Highway No. 1, *B.R. Maslin* 4795 (PERTH); E side of Ravensthorpe Range about 10 km SE of Ravensthorpe township, *B.R. Maslin* 5548 (PERTH); 5 km E of Ravensthorpe, *P.G. Wilson* 5536 (AD, MEL, NSW, PERTH); Mt Desmond, *E. Wittwer* W1887 (PERTH).

Distribution. Occurs in the south-west of Western Australia, endemic to the Ravensthorpe Range. The label details of the collection by *C.F. Davies* 111 (PERTH) appear to be incorrect, with the collector querying the locality of Holt Rock, which is c. 120 km north-east of Ravensthorpe. It is also recorded as being collected in flower in December. All other collections of *A. pusilla* were flowering between August and October.

Habitat. Grows in rocky clay on lower slopes, favours watercourses in dense shrub mallee woodland.

Phenology. Flowering recorded from August to October (but see note below); mature pods collected in December.

Conservation status. Not under threat.

Etymology. The specific epithet, from the Latin *pusillus* (very small), refers to the diminutive habit and phyllodes.

Affinities. *Acacia pusilla* is allied to *A. rhamphophylla*, another new species endemic in the Ravensthorpe Range (see discussion below under *A. rhamphophylla*). It also superficially resembles *A. lachnophylla* F. Muell. (syn. *A. cometes* C.P.R. Andrews) which also grows near Ravensthorpe but which can be distinguished in the following ways: stipules caducous, phyllodes longer (1–2 cm) and with at least the midvein on each face normally evident, gland commonly 4–12 mm above the pulvinus, heads larger with more flowers (20–32) and seeds mottled. In the Norseman–Grass Patch area there occurs a variant of *A. lachnophylla* with glabrous phyllodes 7–14 mm long whose midribs are submerged and thus superficially absent. Besides the characters already given, this variant is distinguished from *A. pusilla* by its phyllodes which have a 1-nerved abaxial margin.

Acacia quinquenervia* Maslin, *sp. nov.

Frutex patens plerumque ad 1.5 m altus, interdum ad 0.5 m. Ramuli teretes, subtiliter costati, antrorse pubescentes. Stipulae 1–2 mm longae, caducae. Phyllodia anguste linearia, interdum teretia, acuta, mucronata, 2–7 cm longa, 1–2 mm lata, antrorse pubescentia, glabrescentia, 5-nervia; glans 5–15 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis 2. Pedunculi 3–15 mm longi, glabri; capitula floribus 15–20. Flores 5-meri. Sepala libera vel brevissime unita, glabra vel pubescentia. Petala glabra, enervia. Legumen lineare, ± teres, arcuatum, ad c. 5.5 cm longum, 1.5–3 mm latum, coriaceum–crustaceum, glabrum. Semina longitudinalia, obloidea, 2.5–3 mm longa; arillus conicus.

Typus: 19 km east of Lake King, Western Australia, 20 August 1982, K. Newbey 9480–1 (*holo:* PERTH 00139386; *iso:* CANB, K, MEL, MELU, NY).

Spreading *shrub*, rather dense or moderately open, commonly 0.5–1.5 m tall, in eastern part of range commonly 0.2–0.5 m tall, 0.5–3 m wide. *Bark* grey. *New shoots* densely appressed-pubescent (hairs very pale yellow at initiation, soon turning white). *Branchlets* terete, finely ribbed, pubescent (hairs dense, soft, white, short, straight, antrorse, commonly appressed or almost so, sparse or absent on mature branches), rarely glabrous. *Stipules* narrowly oblong to narrowly triangular, 1–2 mm long, c. 0.2 mm wide, scarious, brown, pubescent abaxially, caducous. *Phyllodes* narrowly linear, narrowed at base, rarely narrowly oblanceolate, (1.5)2–7 cm long, 1–2 mm wide, 5–7 mm wide in one young regrowth specimen, ascending to erect, straight to shallowly incurved, flat to almost terete, indumentum as on branchlets but hairs sparse or absent with age, rarely glabrous when young, mid-green to glaucous, frequently greyish when dry; *nerves* 5 (i.e. 2 on adaxial margin (these nerves infrequently coalescing near or above middle of phyllode), 1 on adaxial margin, 1 on each lateral face); minor lateral nerves absent; *apex* excentrically acute to subacute, straight or sometimes subuncinate, the mucro 0.5–1 mm long and coarsely or sometimes sharply pungent; *pulvinus* c. 1 mm long, obscurely transversely wrinkled, pubescent, yellow-brown. *Gland* situated on adaxial margin of phyllode between the two

nerves 5–15 mm above pulvinus, oblong, rarely circular, 0.4–0.8 mm long, 0.2–0.4 mm wide. *Inflorescence* a simple or rudimentary 2-branched raceme, axis 0.3–0.5 mm long; *peduncles* 3–15 mm long, glabrous, commonly deflexed from base in fruit; *basal peduncular bract* rostriform, c. 2 mm long, sessile, pubescent abaxially, brown, caducous. *Heads* globular, light golden, 6–7 mm diam. (reconstituted), 3.5–4 mm diam. (dry), 15–20-flowered; *bracteoles* few or absent, resembling sepals. *Flowers* 5-merous; *sepals* 1/3–1/2 length of petals, free or very shortly united at base, narrowly spatulate or sometimes narrowly oblong, glabrous or pubescent; *petals* 1.5 mm long, united for 1/4 to 1/3, nerveless, glabrous, infrequently subglabrous. *Pods* linear, shallowly to moderately arcuate, to 5.5 cm long, 1.5–3 mm wide, thinly coriaceous–crustaceous, ± terete, not or scarcely constricted between seeds, glabrous to puberulous (hairs sometimes appressed), dark brown to black. *Seeds* longitudinal, obloid, 2.5–3 mm long, 1.2–1.6 mm wide, mottled although sometimes obscurely so; *pleurogram* U-shaped, open at hilar end; *areole* 0.4–0.7 mm long, 0.2–0.5 mm wide; *funicle* filiform, c. 1.5 mm long, abruptly expanded into a ± conical, creamy white or light yellow-brown (dry), terminal aril 1.5–2 mm long.

Selected specimens examined. WESTERN AUSTRALIA: 48.2 km due E of Lake King on the Rabbit Proof Fence, *K. Bradby* 38 (PERTH); 19 miles [30.5 km] E of Newdegate, *A.S. George* 5689 (PERTH); 5.5 miles [8.8 km] W of Nyabing on the road to Katanning, *B.R. Maslin* 793 (K, MEL, PERTH); 14 km from Ravensthorpe towards Lake King, *B.R. Maslin* 2575 (K, PERTH); Hatters Hill, *K.R. Newbey* 3292 (CBG, G, PERTH); 23 km SW of Peak Charles, c. 66 km W of Salmon Gums, *K. Newbey* 6466 (CANB, PERTH); 34 km SW of 90 Mile Tank, Frank Hann National Park, Norseman–Lake King road, *K.R. Newbey* 6507 (CANB, MEL, PERTH); 0.3 km N of Hatters Hill, c. 41 km NE of Lake King, *K. Newbey* 6563 (CANB, PERTH).

Distribution. Scattered in the south-west of Western Australia from near Nyabing east to Peak Charles National Park.

Habitat. Grows in moderate to well-drained loam, sand or clay on plains and alluvial flats in eucalypt low woodland or open shrub mallee.

Phenology. Flowering recorded in August and September; mature pods collected in November and December.

Conservation status. Not under threat.

Etymology. The specific epithet is derived from the Latin *quinque* (five) and *-nervis* (-nerved), in reference to the phyllodes.

Affinities. The new species appears most closely related to *A. poliochroa* E. Pritz. on account of its branchlet and phyllode indumentum, very reduced binate racemes, rostriform (caducous) basal peduncular bracts, free sepals, ± terete pods and longitudinal seeds with terminal, ± conical arils. *Acacia poliochroa* is most reliably distinguished from *A. quinquenervia* by its 4-nerved phyllodes, its strongly curved to once-coiled pods which reach c. 2 cm long (c. 1 cm diam. when coiled) and its non-mottled seeds 2 x 1.3 mm. Furthermore, *A. poliochroa* is a frequently smaller shrub (0.1–0.5 m tall) with shorter phyllodes (1–2.5 cm long). However, some specimens of *A. quinquenervia* from the Frank Hann National Park (located 30–110 km east-north-east of Lake King) to Bremer Range area (about 100 km west-south-west of Norseman) are low shrubs 0.2–0.5 m tall (elsewhere they are commonly 0.5–1.5 m tall). The phyllodes of *A. quinquenervia* may superficially resemble those of *A. mutabilis* subsp. *angustifolia* (see above).

Variation. A young regrowth specimen (*viz.* K. Newbey 5458, PERTH, in flower) from Hatters Hill has phyllodes 5–7 mm wide which is much wider than those of adult plants. The Nyabing specimen listed above is at the western extremity of the range for this species. It is atypical in having short glabrous phyllodes (*c.* 15 mm long) and glabrous branchlets. This variant may ultimately be shown to warrant formal rank, but pods are required before a sound taxonomic judgement can be made (*B.R. Maslin* 793 is in flower).

Notes. As implied by the specific epithet the phyllodes have 5 longitudinal nerves which extend from the pulvinus to the mucro. Infrequently it happens that the nerves on the adaxial margin coalesce near or above the middle of the phyllode. In these cases the phyllode is 4-nerved distal to the coalescence and 5-nerved below it. When the phyllodes are distinctly compressed (*i.e.* flat), the adaxial margin is 2-nerved and *c.* 0.5 mm wide, the abaxial margin is formed by the single nerve which runs along it, and the midrib on each face represents the remaining 2 nerves. When the phyllodes are thick and narrow they are described above as almost terete. In fact, they are obtusely pentagonal in T.S. with a nerve at the apex of each angle. This type of nervation pattern is not uncommon in species of section *Phyllodineae* in south-western Western Australia.

Acacia rhamphophylla* Maslin, *sp. nov.

Frutex effusus, 0.2–0.4 m altus. Ramuli teretes, pubescentes. Stipulae setaceae, 5–7 mm longae, persistentes. Phyllodia conferta, linearia, parum uncinata, 11–17 mm longa, 1–1.5 mm lata, glabra, margine abaxiali 1-nervi, adaxiali 2-nervi; costa prominens; glans ad 0.5 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 8–13 mm longi, glabri; capitula floribus 12–16. Flores 5-meri. Sepala libera, ciliata. Petala glabra, enervia. Legumen subteres, leniter moniliforme, 10–15 mm longum, *c.* 2 mm latum, crustaceum, glabrum vel parce strigillosum. Semina longitudinalia, obloidea ad ovoidea, 2–2.5 mm longa; arillus pileiformis.

Typus: Ravensthorpe Range [precise locality withheld for conservation reasons], Western Australia, 31 August 1980, *B.R. Maslin* 4785 (*holo:* PERTH 00174203; *iso:* CANB, G, K, MEL, NSW, NY).

Spreading, openly branched *shrub*, 0.2–0.4 m tall, 0.4–1.1 m wide, sparingly divided at ground level into slender, dark grey stems. *Branchlets* terete, very obscurely nerved, densely pubescent (hairs short, straight and soft). *Stipules* setaceous, 5–7 mm long, recurved, glabrous, dark red-brown but ageing blackish, persistent. *Phyllodes* linear, narrowed at base, 11–17 mm long, 1–1.5 mm wide, l:w 8–13, crowded, patent to inclined, sometimes ascending at ends of branchlets, straight to shallowly curved, glabrous (except pulvinus), dark green; *apex* excentrically rostellate, commonly slightly uncinata; *midrib* prominently raised and situated near the 1-nerved abaxial margin, the 2-nerved adaxial margin thick and nerve-like, *c.* 0.5 mm wide; lateral nerves absent; *pulvinus* 0.5–1 mm long, adaxially pubescent, drying yellow or orange. *Gland* situated on adaxial margin at distal end of pulvinus or to 0.5 mm above it, sometimes absent, circular, *c.* 0.1 mm diam. *Inflorescence* simple; *peduncles* 1 per axil, 8–13 mm long, recurved in fruit, glabrous, situated on an extremely reduced raceme axis less than 0.5 mm long; *basal peduncular bract* somewhat persistent, *c.* 2 mm long, navicular, cucullate, shallowly curved, concave, puberulous abaxially, brown. *Heads* globular, bright light golden, *c.* 3 mm diam. (dry), 12–16-flowered; *bracteoles* absent. *Flowers* 5-merous; *sepals* *c.* 1/3 length of petals, free, narrowly oblong to slightly spatulate, membranous, ciliate; petals *c.* 1 mm long, connate in lower 1/2, nerveless, glabrous. *Pods* commonly 10–15 mm long, occasionally 20 mm, *c.* 2.5 mm wide, thinly crustaceous, curved but sometimes only slightly so, subterete, commonly slightly constricted between seeds, finely rugose-striate (dry), glabrous or very sparsely strigillose, blackish; marginal nerves yellow to light brown, not thickened. *Seeds* longitudinal, obloid–ellipsoid

to ovoid, shape a little irregular, 2–2.5 mm long, c. 1.5 mm wide, compressed (c. 1 mm thick), dark brown to blackish, shiny; *pleurogram* obscure, open at hilar end; *areole* 0.5–1 mm long, c. 0.5 mm wide; *funicle* filiform, c. 1 mm long, abruptly expanded into a small, white, pileiform, terminal aril.

Other specimens examined. WESTERN AUSTRALIA, Ravensthorpe Range [precise localities withheld for conservation reasons]: *G.F. Craig* 1952 (CANB, PERTH); *K.R. Newbey* 9523A (MELU, PERTH); *K.R. Newbey* 9523A-1 (MELU, PERTH); *K.R. Newbey* 9692 (PERTH); *D. Papenfus* DP 157 (PERTH).

Distribution. Occurs in the south-west of Western Australia, endemic in the Ravensthorpe Range.

Habitat. Grows in rocky clay or sand on upper slopes of lower part of the Range in open shrub mallee.

Phenology. Flowering recorded in August and September; mature pods collected in early December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Declared Rare.

Etymology. The specific epithet is taken from the Greek *rhamphos* (a curving bill or beak) and *phyllon* (a leaf), in reference to the phyllode apex which is beaked.

Affinities. *Acacia rhamphophylla* appears most closely related to *A. laricina* and *A. cedroides* Heward ex Benth. *Acacia laricina* has often longer, pungent phyllodes that are continuous on the branchlets, appressed-pubescent peduncles, cream to pale yellow heads with fewer flowers, gamosepalous calyx and larger pods and seeds. *Acacia cedroides* has finely striate-ribbed branchlets, verticillate phyllodes, shorter, linear-triangular stipules, gamosepalous calyx and much larger seeds. The new species is also allied to *A. pusilla* (see above), another Ravensthorpe Range endemic, which has smaller, subterete, nearly veinless phyllodes, shorter stipules, shorter peduncles bearing heads with fewer flowers and coiled pods (the pods of *A. rhamphophylla* are curved and sometimes only slightly so).

***Acacia rigida* Maslin, sp. nov.**

Frutex ad 1.5 m altus et 3.5 m latus, aut compactus (in locis expositis) aut decumbens et diffusus (in fruticetis densis). Rami rubelli ad aurantiaci. Ramuli dense pubescentes pilis retrorsis. Stipulae pubescentes, 2.5–3.5 mm longae, basi induratae, non pungentes. Phyllodia normaliter assymetrica anguste lanceolata, 9–14 mm longa, 1.2–2 mm lata, interdum linearia usque anguste linearia et tunc 20 mm longa et 0.7–1 mm lata, patentia, rigida, cuspidata, margine superiore crassa et nerviformi, pulvino basi dilatato. Inflorescentiae in nodis plerumque singulae. Pedunculi 5–9 mm longi (3–4 mm in forma phyllodiis linearibus), glabri ad moderate puberuli. Florum capitula globularia, 8–12-flora. Flores 4-meri. Calyx gamosepalus, 1/5–1/4 longitudine corollae. Petala 1.6–1.8 mm longa, sparse ad moderate puberula. Legumen teres, ad 6 cm longum et 4.5 mm diametro, modice coriaceum, indistincte longitudinaliter striatum, minute puberulum. Semina (subimmatura) in legumine longitudinalia, obloidea, 5–5.5 mm longa, 2.5–2.8 mm lata, turgida; funiculus c. 1 mm longus, in arillum crassum conicum abrupte expansus.

Typus: 7.5 km east of Corrigin towards Bending, Western Australia, 13 June 1976, *B.R. Maslin* 4174 (*holo:* PERTH 00769479; *iso:* CANB, K, MEL, NY).

Harsh *shrub*, either dense, compact, intricately branched, to 1.5 m tall and 3.5 m wide (in exposed situations) or sprawling and diffuse (in dense scrub). *Bark* grey at base of stems, reddish to orange on branches. *Branches* reddish orange. *Branchlets* rather sparingly divided and sometimes arching downwards, terete, very finely ribbed, not flexuose, densely puberulous (hairs white and retrorse), scars evident on older branches where phyllodes have fallen. *Stipules* obvious and persistent but normally only base remaining on old wood, narrowly linear-triangular, thickened and indurate towards the base but rather scariosus and brittle on distal half, 2.5–3.5 mm long, straight, somewhat rigid, not pungent, glabrescent, reddish brown. *Phyllodes* normally asymmetrically lanceolate to asymmetrically narrowly lanceolate with the upper margin more curved than the lower margin, occasionally (when phyllodes very narrow) linear to narrowly linear, 9–14 mm long (to 20 mm on linear phyllodes), 1.2–2 mm wide (0.7–1 mm on linear phyllodes), l:w 5–10 (15–27 on linear phyllodes), somewhat crowded, patent, straight or sometimes (especially on linear phyllodes) very slightly recurved, rigid, compressed but not obviously so when phyllodes very narrow (appearing somewhat angular), glabrous or with a sprinkling of hairs near the base, dark green; 5-nerved, nerves prominent and yellowish; *midrib* central or more normally near lower margin; upper margin 1 mm wide, flat to very shallowly channelled, thick, nerve-like due to 2 prominent nerves which extend from base to apex; *apex* narrowed into a straight, rigid, subulate, orange to red-brown cusp *c.* 1.5 mm long; *pulvinus* to 0.5 mm long, dilated at base, \pm smooth, yellow to orange when dry. *Gland* not prominent, situated on the \pm flattened upper margin, 2.5–4 mm above the pulvinus, \pm circular, 0.3 mm diam., lip yellowish and not raised, central orifice shallow and brownish. *Inflorescences* simple, normally 1 per node, sometimes 2 at a few nodes, normally about as long as phyllodes; *peduncles* 5–9 mm long (3–4 mm on linear phyllode variant), patent to inclined, glabrous to moderately puberulous (hairs short, soft, white, straight to slightly hooked, patent to slightly reflexed or antrorse); *basal peduncular bracts* persistent, inconspicuous, *c.* 0.5 mm long, solitary, subtending adaxial side of peduncle, \pm deltate to shallowly triangular but apex normally rounded, scariosus, puberulous abaxially, dark brown. *Heads* globular, light to medium golden, 8–12-flowered, the flowers not densely arranged; *bracteoles* oblong or narrowly spatulate, *c.* 0.5 mm long, scariosus, puberulous abaxially, dark brown. *Flowers* 4-merous; *calyx* gamosepalous, 1/5–1/4 length of petals, commonly drying brownish, divided for 1/3–1/2 its length into triangular to deltate, non-thickened, ciliolate lobes; calyx tube turbinate, nerveless, glabrous to glabrescent; *petals* 1.6–1.8 mm long, connate for about 1/2 their length, sparsely to moderately puberulous, obscurely 1-nerved but normally appearing superficially nerveless. *Pods* terete, hardly constricted between seeds, to 6 cm long and 4.5 mm diam., with up to 7 seeds, moderately coriaceous, shallowly curved, obscurely longitudinally striate, densely minutely puberulous, red-brown, somewhat abruptly narrowed at both ends, margins not thickened. *Seeds* (slightly immature) longitudinal with hilum facing apex of pod, obloid, 5–5.5 mm long, 2.5–2.8 mm wide, turgid, minutely tuberculate at hilar end, otherwise smooth, probably dull and dark brown at maturity; *pleurogram* open at hilar end; *areole* *c.* 3 x 1.5 mm; *funicle* *c.* 1 mm long, abruptly expanded into a thick yellowish conical aril 2.5 mm wide, 2.3 mm high and situated on top of seed.

Selected specimens examined. WESTERN AUSTRALIA: in area between Narembeen and Kondinin, A.M. Ashby 5323 (AD, PERTH); *c.* 14 km N of Kellerberrin, L. Atkins HLA62 (PERTH); 10 km E of Cuballing (N of Narrogin) towards Wardering Brook then 1 km S along road towards the Narrogin–Wickepin road, A.S. George 10610 (AD, BRI, CANB, PERTH); 5 km NE of Jitarning, R. Hnatiuk 780060 (PERTH); Monkepin, 4 Mar. 1960, R.T. Lange *s.n.* (PERTH 00122424); *c.* 7 km due NE of Bendinger, B.R. Maslin 4173 (NSW, PERTH); 7.5 km E of Corrigin towards Bendinger, B.R. Maslin 4371 (PERTH); Dryandra State Forest, D.M. Rose 551 (PERTH); E of Mundaring on West Talbot Rd, 6 Dec. 1976, A. Selkirk *s.n.* (PERTH 00122386).

Distribution. Scattered in the south-west of Western Australia from Mundaring east to near Kellerberrin and south to between Dryandra State Forest and Kondinin.

Habitat. Grows in deep sand or gravelly loam or clay in high shrubland or woodland.

Phenology. Flowering concentrated in May and June, but also seems to flower sporadically throughout the year. Pods with slightly immature seeds collected in June and December.

Conservation status. Not under threat.

Etymology. The specific epithet is taken from the Latin *rigidus* (rigid, stiff), in reference to the phyllodes.

Affinities. *Acacia rigida* is recognized by a combination of the following characters: phyllodes pungent, 5-nerved, upper margin thick and nerve-like; peduncles axillary; flowers 4-merous; petals 1-nerved; pods terete, striate, red-brown. On account of its phyllode and pod morphology *A. costata* Benth. is related to *A. rigida* but is readily distinguished by its more numerous-flowered heads (13–19-flowered), 5-merous flowers and striate petals. The new species also resembles members of the *A. horridula* group (Maslin 1978) in inflorescence and carpological features but is readily distinguished by its phyllodes having a thick, vein-like upper margin.

Variation. Most collections of *A. rigida* are from the Corrigin–Kondinin area in the central wheatbelt and these specimens have peduncles 5–9 mm long and phyllodes which are asymmetrically lanceolate to narrowly lanceolate, 9–14 mm long, 1.2–2 mm wide and with a l:w of 5–10. Two collections (*George* 10610 and *Selkirk s.n.*) from along the western margin of the range (near Narrogin and east of Mundaring Weir), differ in their shorter peduncles (3–4 mm long) and linear phyllodes (15–20 mm long, 0.7–1 mm wide, l:w 15–27).

Acacia rostellata* Maslin, *sp. nov.

Frutex effusus plerumque ad 50 cm altus. Ramuli pungentes, teretes, hirtelli ad pubescentes. Stipulae 0.7–1.5 mm longae, persistentes vel caducae. Phyllodia inaequilateraliter obtriangularia, acuta, mucronata, angulo supero rotundato, 3–6 mm longa, 2–4 mm lata, hirtella; nervus principalis medianus vel ad marginem inferum positus; glans 1–3 mm supra pulvinam inserta. Inflorescentia racemus reductus, capitulo 1. Pedunculi 4–10 mm longi, hirtelli vel pubescentes, raro glabri; capitula floribus 8–15. Flores 5-meri, raro 4-meri. Sepala unita, hirtella. Petala hirtella, raro glabra, enervia. Legumen curvatum ad circinatum, ad 30 mm longum, 3–3.5 mm latum, parum moniliforme, coriaceum, glabrum, pubescens vel hirtellum, atro-brunneum. Semina longitudinalia, ovoidea vel ellipsoidea, 2.5–3 mm longa.

Typus: 18 km from Lake King towards Ravensthorpe, Western Australia, 6 October 1975, *B.R. Maslin* 3868 (*holo:* PERTH 00183288; *iso:* CANB, K, MEL, NY).

Spreading *shrub*, commonly domed, ± dense, 10–50 cm tall (50–100 cm, *Strid* 21069). *Branches* much divided and ending in short, commonly ± pungent, terete, obscurely ribbed green branchlets which are densely hirtellous to pubescent (hairs usually patent and straight to slightly curved, infrequently prominently curved and/or antrorsely ± appressed). *Stipules* triangular to narrowly triangular, 0.7–1.5 mm long, scarious, dark brown, not connate when young, persistent or caducous. *Phyllodes* inaequilateraliter obtriangular to obdeltate, the upper apical angle rounded and the lower angle acute and distinctly mucronate (mucro 0.3–0.8 mm long, straight or shallowly recurved, ± pungent, dark brown), upper margin below the rounded angle commonly partially or wholly parallel

to and abutting the branchlet, distal edge of upper margin with a shallow sinus near where main nerve intersects this margin, 3–6 mm long, 2–4 mm wide, l:w 1–2, inclined to ascending, slightly undulate, moderately to densely hirtellous (hairs straight and patent) or occasionally sparsely antrorsely hairy with indumentum commonly confined to margins, green; *midrib* almost central or clearly near lower margin, obscure or somewhat prominent, shortly concurrent with upper margin near the mucro, rarely a few phyllodes with a second minor nerve diverging from pulvinus; lateral nerves absent or very few and obscure; *pulvinus* 0.1–0.5 mm long, dull yellow or gold, transversely wrinkled. *Gland* 1–3 mm above base. *Inflorescence* an extremely reduced 1-headed raceme, the axis to *c.* 1 mm long and supporting 3 bracts; *peduncles* 4–10 mm long, slender, hirtellous or pubescent, occasionally glabrous, basal bracts 2 or 3, brown, larger than raceme bracts. *Heads* globular, lemon-yellow or golden, 8–15-flowered, 3–4 mm diam.; *bracteoles* absent. *Flowers* 5-merous, a few occasionally 4-merous in some heads; *calyx* gamosepalous, divided for 1/4–1/2 its length into \pm triangular lobes, hirtellous; *petals* 1–1.5 mm long, hirtellous to hirsutellous, infrequently glabrous, nerveless. *Pods* curved to openly 1-coiled, to 30 mm long, 3–3.5 mm wide, prominently rounded over seeds alternately on each face, slightly to moderately constricted between seeds, thinly coriaceous, glabrous, pubescent or hirtellous, dark brown to blackish. *Seeds* longitudinal, \pm plano-convex, ovoid to ellipsoid or obloid, 2.5–3 mm long, 1.8–2 mm wide, rugulose, black, dull; *pleurogram* obscure, open at hilar end; *areole* 1.2–1.5 mm long, 0.5–0.8 mm wide; *funicle* gradually expanded into an aril which is little-folded on top of seed.

Selected specimens examined. WESTERN AUSTRALIA: Bruce Rock, Sep. 1933, *E.T. Bailey s.n.* (PERTH 00183318); W of Ravensthorpe, *A.S. George* 7067 (PERTH); 6 km S of Harrismith towards Dumbleyung, *G.J. Keighery* 6765 (PERTH); 20 miles [32 km] NE of Ongerup, *K. Newbey* 3667 (PERTH); 16–19 km from Lake King along road to Lake Grace, *A. Strid* 21069 (AD, BRI, NSW, PERTH, W, Z); 33 km E of Lake King at No. 1 Rabbit Proof Fence, *P.G. Wilson* 5751 (K, PERTH); 34 km ENE of Corrigin, *P.G. Wilson* 11889 (PERTH); *c.* 13 km from Lake Grace towards Kukerin, *J.W. Wrigley* WA/68 5741 (CBG, PERTH).

Distribution. Scattered in the south-west of Western Australia from Bruce Rock south to near Ongerup and east to Speddingup (north of Esperance).

Habitat. Grows in sand, gravel and clay in heath under open eucalypt scrub or woodland.

Phenology. Flowering recorded from September to November; mature pods collected in December.

Conservation status. Not under threat.

Etymology. The specific epithet *rostellatus* (somewhat beaked), in reference to the phyllode apex which has the form of a small beak.

Affinities. Uncertain. Possibly having some relationship to *A. spinosissima* Benth. which also lacks bracteoles but is readily distinguished by its glabrous, \pm pruinose branchlets and narrowly oblong, glabrous, innocuous phyllodes which are sometimes sub-fasciculate on short branchlets. This new species has some superficial resemblance to *A. aristulata* (see above).

Acacia sabulosa Maslin, *sp. nov.*

Frutex effusus 1–3 m altus. Ramuli juvenes angulati resinosi, mox teretes, subtiliter costati, raro farinacei. Stipulae 0.5–1 mm longae, persistentes. Phyllodia anguste linearia, obtusa vel rotundata,

obtuse mucronulata, 6–10 cm longa, 1–3.5 mm lata, tenuia, glabra, juvenia resinosa; costa non prominens; nervi laterales pauci, anastomosantes; glans plerumque 1–2 mm supra pulvinam inserta, et glans minor juxta mucronem inserta. Inflorescentia simplex, phyllodiis simul effecta. Pedunculi 6–20 mm longi, resinosi, ebracteati; capitula floribus 35–50. Flores 5-meri. Sepala unita, glabra. Petala connata, glabra, obscure 1-nervata. Legumen anguste oblongum, ad 6 cm longum, c. 10 mm latum, chartaceum, resinosum, tranverse reticulatum. Semina transversa ad parum obliqua, obloidea vel ellipsoidea, 4–4.5 mm longa; arillus membranaceus, angustus.

Typus: near Cossack cemetery, Cossack, Western Australia, 16 May 1982, B.R. Maslin 5249 (*holo*: PERTH 00167037; *iso*: BRI, CANB, G, K, MEL, NSW, NY).

Glabrous, spreading, bushy *shrub*, 1–3(5) m tall, to 3 m across, several-stemmed at or near base, rarely single-stemmed and branching 1 m or more above base. *Bark* dark grey, smooth, fissured with age. *Branchlets* rather slender, angled at extremities, soon terete, finely ribbed, ribs most obvious immediately below stem projections which support phyllodes, sometimes sparsely tuberculate, light brown to reddish brown, occasionally farinose, resinous when young. *Stipules* narrowly triangular, 0.5–1 mm long, erect, yellow to light brown, persistent. *Phyllodes* narrowly linear, narrowed at base, 6–10 cm long, 1–3.5 mm wide, one specimen to 6 mm, l:w 20–100, flat, thin, obscurely longitudinally wrinkled when dry, not rigid, patent to erect, straight, resinous at least when young, green, sometimes scurfy especially over nerves, very sparsely tuberculate, stomata numerous (observe at mag. x10 or more); *midrib* not prominent, yellowish and slightly raised when dry, occasionally on some phyllodes a faint second nerve arising from pulvinar region and running parallel to midrib; *lateral nerves* few, obscure (commonly not visible on narrowest phyllodes), anastomosing and trending longitudinal marginal nerves narrow and yellow; *apex* mucronulate, mucro short, thick and central or excentric; *pulvinus* terete, c. 1 mm long, yellow to light brown, finely transversely wrinkled when dry. *Gland* on upper margin of phyllode 1–2(5) mm above pulvinus, not prominent although sometimes raised, circular to oblong-elliptic, 0.2–0.5 mm long, yellow, commonly with an indistinct shallow central orifice; a second smaller gland adjacent to the mucro. *Inflorescences* initiated synchronously with phyllodes on terminal and axillary new shoots, the subtending phyllodes mature or semi-mature by the time the heads reach anthesis, the shoot seemingly continuing to grow after inflorescence production has ceased; *peduncles* 1 or 2 per axil, slender, 6–20 mm long, resinous, base ebracteate, rarely a small solitary bract on upper 1/3 near the head. *Heads* globular, densely 35–50-flowered, resinous, bright light golden; *bracteoles* narrowly spatulate, 1–1.5 mm long; laminae ovate, abruptly acute, thickened abaxially. *Flowers* 5-merous; *calyx* 2/3–3/4 length of corolla, diaphanous, gamosepalous, dissected for 1/6–1/4 its length into broadly triangular, abaxially thickened lobes; *petals* 1.5–2 mm long, connate for c. 2/3 their length, very obscurely 1-nerved. *Pods* narrowly oblong, to 6 cm long, c. 10 mm wide, chartaceous, resinous, flat, raised over seeds alternately on each side, usually not constricted between seeds although occasional deep constrictions occur, light brown, transversely reticulate, stipe slender and c. 5 mm long. *Seeds* transverse to slightly oblique, obloid to ellipsoid, 4–4.5 mm long, 2.5–3.5 mm wide, narrowed towards the periphery, brown; *pleurogram* open at hilar end; *areole* 1.5–2.5 x c. 1 mm; funicle and aril membranous and creamy white, *funicle* flattened and irregularly folded at the end where it expands into a narrow, oblique aril.

Selected specimens examined. WESTERN AUSTRALIA: 5 miles [8 km] W of Wickham, 31 Mar. 1982, G. Craig s.n. (CANB, K, PERTH 00347868); Lake Auld, A.S. George 15667 (CANB, K, MEL, NY, PERTH); Telfer Mining Centre, E.M. Goble-Garratt 93 (BRI, PERTH, short/broad phyllode variant); 60 miles [96 km] NE of Callawa Station, M. House & P. Smith 116 (PERTH); 26 km due ESE of Sandfire Roadhouse, between Port Hedland and Broome, B.R. Maslin 4878 (NSW, PERTH); 9.7 km from North West Coastal Highway at Roebourne on road to Wickham, B.R. Maslin 5751 (CANB, PERTH); Macroy

Station, *L. Merrit* R2 (PERTH); Kearthland district, Durba Hills, *G.J. Morse* 186 (CANB, PERTH); Kearthland district, 90 km E of Calvert Range, *G.J. Morse* 210 (CBG, PERTH, short/broad phyllode variant); 10 km S of Mandora turnoff on the Great Northern Highway, *T. Willing* 95 (PERTH). NORTHERN TERRITORY: c. 16 km SSE of Fiddlers Lake, Sangster Bore area, *D.E. Albrecht* 6176 (Alice Springs, PERTH); 21 km SSE of Sangster Bore, Tanami Desert, *P.K. Latz* 11977 (Alice Springs, PERTH).

Distribution. Occurs in northern Western Australia, discontinuous from Karratha east to the south-eastern corner of the Great Sandy Desert and south to the Calvert Range in the Little Sandy Desert. Also recorded for the Northern Territory near Sangster Bore in the Tanami Desert.

Habitat. Grows on deep red or brown sand, commonly on dunes and associated with spinifex.

Phenology. Flowering recorded from late March to July; mature pods collected in October.

Conservation status. Not under threat.

Etymology. The specific epithet is from the Latin *sabulosus* (sandy), in reference to the soil in which the species grows.

Affinities. *Acacia sabulosa* is most closely related to two other sand-loving Arid Zone species: *A. dictyophleba* F. Muell. and *A. jensenii* Maiden. Besides being resinous, glabrous shrubs, these three species share the following important characters: glands present at both base and apex of phyllodes; stipules persistent; inflorescences initiated synchronously with phyllodes on new shoots; peduncles ebracteate at base; calyx gamosepalous. The carpological features of *A. sabulosa* are very similar to those of *A. dictyophleba* but mature pods and seeds are unknown for *A. jensenii*. The new species is most readily distinguished from the other two by its long, linear, 1-nerved phyllodes (see key below). The available data show *A. jensenii* to be a spindly, open shrub or tree with one or two thin main stems and foliage confined to the slender upper branches. *Acacia sabulosa*, on the other hand, is a dense bushy shrub which is usually several-stemmed from near the base.

It is with some reservation that *A. sabulosa* is recognized at the rank of species. It could equally be treated as a subspecies of *A. jensenii*, or alternatively, these two taxa could be treated as subspecies of a single variable species, *A. dictyophleba*. To adopt the latter approach would only compound the confusing range of variation already known to exist within *A. dictyophleba* (see Maslin 1980). To treat *A. sabulosa* as a subspecies of *A. jensenii* is difficult because so little is known about *A. jensenii*. Therefore, to avoid making unwarranted assumptions based on inadequate data it seems prudent to treat *A. sabulosa* as a distinct species.

- | | | |
|----|--|------------------------|
| 1 | Phyllodes with 1 main longitudinal nerve on each face; gland 0.3–1 mm long | |
| 2 | Phyllodes 6–10 cm long, 1–3.5(6) mm wide, l:w 20–100; bushy shrub | A. sabulosa |
| 2. | Phyllodes 2.5–6 cm long, 3–6 mm wide, l:w 7–13; spindly open shrub or tree | A. jensenii |
| 1. | Phyllodes with 2 or 3 main longitudinal nerves on each face with the
minor nerves forming a prominent reticulum between them; gland
1–2(3) mm long | A. dictyophleba |

Vegetatively *A. sabulosa* resembles the Queensland species *A. hockingsii* Pedley which is distinguished by its shorter peduncles (3–5 mm long), heads with fewer flowers (about 30) and narrower pods (5–7 mm wide) with longitudinal seeds.

Variation. A few specimens have atypically short/broad phyllodes, 5–7 cm long, 5–6 mm wide, $l:w = 10-15$ (e.g. *Goble-Garratt* 93 and *Morse* 210, see specimens cited above). The typical variant grows in the same region as these specimens.

Acacia scalena* Maslin, *sp. nov.

Frutex rigidus, ramosissimus, ad 1.3 m altus. Ramuli aliquantum spinescentes, saepe leviter pruinosi. Stipulae plerumque caducae. Phyllodia \pm cuneata vel obovata, 5–10 mm longa cuspede excluso, 3–10 mm lata, evidenter asymmetrica, margine superiore conspicue rotundata, margine proximali ramo parallelo, cuspede 1.5–3 mm longa, glabra, glauca ad subglauca, costa mediana excentrica margini inferiori approximata, nervis lateralibus bifurcatis a latere adaxiali costae medianae ascendentibus partem crenulatam marginis superioris secantibus. Glans non prominens. Racemi valde reducti, monocephali; bracteae ad basin axis racemi persistentes. Pedunculi 4–7 mm longi, glabri. Florum capitula globularia, 18–22-flora. Bracteae in gemmis conspicuae. Flores 5-meri. Sepala unita, $1/2-3/3$ longitudinis corollae. Petala c. 2 mm longa. Legumina anguste oblonga, ad 4 cm longa, 4–6 mm lata, undulata, supra semina manifeste convexa, glabra, atrobrunnea, leviter pruinosa. Semina in leguminibus longitudinalia, ellipsoidea, 2.7–3 mm longa, 2–2.5 mm lata, turgida, griseo-brunnea, nigro-maculata; pleurogramma continuum; funiculus c. 2 mm longus, inferne reflex et in arillum subapplanatum, flavum cerinum expansus.

Typus: 1.5 km north-east of Wubin towards Paynes Find, Great Northern Highway, Western Australia, 5 July 1980, *B.R. Maslin* 4553 (*holo:* PERTH 00771619; *iso:* CANB, K, MEL, NY).

Harsh, rigid, commonly straggly *shrub* to 1.3 m tall, much-branched and ending in numerous, short, straight, rigid, somewhat spinescent, patent to ascending branchlets. *Bark* smooth, grey except the pinkish brown or green branch apices. *New shoots* red. *Branches* terete, very finely ribbed (ribs yellow to light brown), commonly faintly pruinose at extremities, glabrous, marked with raised leaf scars where phyllodes have fallen. *Stipules* linear-triangular, 1–1.5 mm long, scarious, mostly caducous but sometimes persistent at a few nodes. *Phyllodes* 5–10 mm long (excluding the cusp), 3–10 mm wide, $l:w 0.6-1.4$, \pm cuneate or obovate, markedly asymmetric, the lower margin straight to shallowly convex, the upper margin conspicuously rounded with its proximal edge \pm parallel to the branch and its distal edge variably crenulate-erose, somewhat crowded towards ends of branches, patent to slightly inclined, commonly very slightly undulate (at least when dry), glabrous, glaucous to subglaucous; *midrib* evident on each face of phyllode, close to and \pm parallel with its lower margin; *lateral nerves* very fine, ascending from adaxial side of midrib, normally bifurcating and commonly openly anastomosing, ultimately intersecting crenulate portion of upper margin; nerves on abaxial side of midrib absent or very obscure; margins not thickened; *apex* narrowed to a straight, rigid, subulate, dark brown cusp 1.5–3 mm long; *pulvinus* not clearly developed, sometimes apparently absent, comprising a narrow rim (c. 0.1–0.2 mm wide) of yellowish brown tissue which is slightly dilated at the base. *Gland* not prominent, situated on proximal portion of upper margin of phyllode (below its widest part) 1.5–4 mm above the base, circular, 0.2–0.3 mm diam. *Inflorescence* an extremely reduced 1-headed raceme, 1 per node; raceme axis to 0.5 mm long, provided at base with 2, small (c. 0.8 mm long and 0.9 mm wide), very widely ovate, sessile, minutely fimbriate (otherwise glabrous), slightly thickened bracts which persist to anthesis, vegetative bud at distal end of axis dormant at anthesis and provided at its base with a very widely ovate to shallowly triangular, scarious, obscurely striate, minutely fimbriate, light brown bract c. 1 mm long and 1.3 mm wide; *peduncles* 4–7 mm long, glabrous; *basal peduncular bracts* caducous but sometimes persisting to anthesis, 2, fused but readily splitting with age, obliquely rounded-triangular to ovate, 1.5–2 mm long (obviously exceeding raceme bracts), concave, dark brown, minutely fimbriate otherwise glabrous. *Heads* globular, 5–6 mm diam. when dry,

light to mid-golden, 18–22-flowered; *bracteoles* obvious in buds where they overtop the flowers, persistent, spatulate, *c.* 2 mm long, glabrous or abaxially strigillose; claws 0.5–0.7 mm long, expanded into broad (0.8–1 mm), obtuse, concave, very obscurely striate, scarious, brown laminae. *Flowers* 5-merous; *calyx* 1/2–2/3 length of corolla, divided for *c.* 1/3 its length into oblong, slightly inflexed, rounded to broadly triangular, fimbriate lobes, the tube glabrous to glabrescent and not obviously nerved; *petals* *c.* 2 mm long, connate for *c.* 1/2 their length, glabrous, midrib slightly pronounced. *Pods* narrowly oblong, to 4 cm long, 4–6 mm wide, with up to 11 seeds per pod, undulate, markedly raised over one side of the seeds with adjacent pronounced convexities occurring on opposite side of the pod over its entire length, very finely chartaceous to slightly coriaceous, straight to shallowly curve, very finely wrinkled over the seeds, glabrous, dark brown (tinged purple), faintly pruinose, abruptly constricted at apex, tapered at base into a stipe *c.* 2 mm long. *Seeds* longitudinal, ellipsoid but obliquely truncate along edge adjacent to the aril, 2.7–3 mm long, 2–2.5 mm wide, turgid (2–2.5 mm thick), hilum obliquely positioned on top of seed and facing the adaxial suture, greyish brown with black mottlings; *pleurogram* circular to oblong, continuous; *areole* 0.4–0.5 mm long, 0.3–0.4 mm wide; *funicle* *c.* 2 mm long, reflexed below and expanded into a somewhat flattened, ridged, waxy-looking, dull yellow, slightly shiny aril which extends wholly down one side of the seed.

Selected specimens examined. WESTERN AUSTRALIA: 3 miles [5 km] E of Wubin, *T.E.H. Aplin* 553 (PERTH); 31.2 km E of Coorow Hall, *C. Chapman* (13)77 (NSW, PERTH); 12 miles [19 km] S of Latham, *J. Goodwin* 185 (PERTH); 5 km S of Wubin towards Dalwallinu, *B.R. Maslin* 3369 (PERTH); 8 km from Wubin towards Mount Magnet, *B.R. Maslin* 3530 (PERTH); 1.5 km NE of Wubin off Great Northern Highway, *B.R. Maslin* 5059 (PERTH); Manuel Rd, NNE of Wubin, *B.R. Maslin* 7606 (PERTH); 1.5 km NE of Wubin on Paynes Find road, *S. Patrick* 2243 (PERTH); 2.8 miles [3.4 km] SSE of Wubin on the highway to Dalwallinu, *M.D. Tindale* 2778 (K, NSW, PERTH, US).

Distribution. Restricted along the western edge of the north-central wheatbelt of south-west Western Australia, from Ballidu northwards to near Latham with the principal collecting area around Wubin (*c.* 55 km north of Ballidu).

Habitat. Grows in sand or laterite, in open heath or eucalypt (mallees or trees) low woodland.

Phenology. The main flush of flowering is recorded from July to September, but also occurs as early as May; mature pods collected in December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The epithet is derived from the Latin *scalenus* (unequal), in reference to the very asymmetric phyllodes.

Affinities. The pungent, asymmetric phyllodes with their peculiar nervature, spinescent branchlets, inflorescence structure and bracteole morphology relate the new species to *A. fiabellifolia* W. Fitzg. from which it is readily distinguished in the following ways: branchlets glabrous (not hirtellous); phyllodes subglaucous to glaucous (not green); pods not spirally coiled; seeds mottled (not uniformly dark brown). *Acacia flabellifolia* is restricted to the Yandanooka–Watheroo area which is about 30 km W of the known range of *A. scalena*. Species related to the above two include *A. amblygona* A. Cunn. ex Benth. (Queensland and New South Wales), *A. pravifolia* F. Muell. (Queensland, New South Wales and South Australia) and *A. lanceolata* (see above) and *A. sphenophylla* (see below) from Western Australia. These six species comprise the *A. pravifolia* group (see Maslin, in press). The new species superficially resembles *A. rendlei* Maiden which is readily recognized by its prominent, spiny stipules.

Acacia sedifolia Maiden & Blakely, *J. Roy. Soc. W. Australia* 13: 3; pl. 1, figs 13–18 (1928). *Type*: Bending, Western Australia, 26 August 1923, C.A. Gardner 2006 (*holo*: NSW; *iso*: K, PERTH).

Resinous, glabrous, dense, rounded *shrub* to *c.* 1.5 m high and *c.* 3 m wide. *Branchlets* aromatic when crushed. *Phyllodes* crowded, sometimes on raised stem projections, ascending to erect, \pm oblong to asymmetrically cuneate, recurved at least at apex, terete to flat, 2–5 mm long, 0.5–1.5 mm wide, $l:w = 2-5$, obliquely narrowed to a distinct, acute point, thick, green, nerveless, medially sulcate when dry; *pulvinus* present or absent. *Inflorescences* simple, 1-headed in upper axils; *peduncles* 1–7 mm long, somewhat stout. *Heads* globular, 20–26-flowered, light- to mid-golden. *Flowers* 5-merous; *sepals* united. *Pods* linear, flat, to 5 cm long, 4.5–5.5 mm wide, crustaceous to coriaceous, openly reticulate. *Seeds* longitudinal, obloid to ellipsoid, 3.5–5 mm long, brown-black mottled yellow; aril thick.

Distribution. Occurs from Muntadgin south to Newdegate, Lake King and Mt Gibbs, south-western Western Australia.

Affinities. Perhaps related to *A. handonis* Pedley from Queensland, which is readily distinguished by its longer phyllodes. Two subspecies are recognized.

Key to subspecies of *Acacia sedifolia*

- Pulvinus absent; raised stem projections absent subsp. **sedifolia**
 Pulvinus present; phyllodes seated on raised stem projections subsp. **pulvinata**

Acacia sedifolia Maiden & Blakely subsp. **sedifolia**

Phyllodes not on raised stem projections, sessile, 1.5–2.5 mm long, usually 0.5–1 mm wide and terete to subterete. *Peduncles* usually 1–4 mm long. *Seeds* 3.5–4 mm long.

Selected specimens examined. WESTERN AUSTRALIA: Bending Reserve, G.J. Keighery 7023 (PERTH); Kittler's property, 35 km due NE of Corrigin, B.R. Maslin 5759 (BRI, CANB, G, K, MEL, NY, PERTH); near Muntadgin, K. Newbey s.n. (PERTH 00125040).

Distribution. Occurs from Muntadgin south to Bending and Hyden, Western Australia.

Habitat. Grows in lateritic sand or loam, in closed heath or open scrub.

Note. Plants from north of Hyden are characterized by flat phyllodes 1–2 mm wide and peduncles 5–10 mm long. They may be worthy of separate infraspecific rank.

Acacia sedifolia subsp. **pulvinata** Maslin, *subsp. nov.*

Ab *Acacia sedifolia* subsp. *sedifolia* ramulis basibus foliorum elevatis persistentibus asperis; phyllodiis 2–5 mm longis, 0.8–1.5 mm latis, planis sed crassis, pulvino distincto; pedunculis 4–7 mm longis; seminibus 4.5–5 mm longis, 2.5–3 mm latis; differt.

Typus: 5 miles [8 km] south of Mt Gibbs, Western Australia, 31 July 1969, A.S. George 9457 (*holo*: PERTH 00169420; *iso*: CANB, K, PERTH 00738379).

Differs from subsp. *sedifolia* in the following ways. *Branchlets* rough with raised projections where phyllodes have fallen. *Phyllodes* 2–5 mm long, 0.8–1.5 mm wide, flat but thick; *pulvinus* distinct, 0.3–0.5 mm long, yellow. *Peduncles* 4–7 mm long. *Seeds* 4.5–5 mm long, 2.5–3 mm wide.

Selected specimens examined. WESTERN AUSTRALIA: 15 km W [of] Newdegate, *H. Demarz* 11081 (PERTH); 3 km E by road of former Pederah Siding, *B.R. Maslin* 5775 (BRI, CANB, K, MEL, NSW, PERTH); Dragon Rocks Nature Reserve, Buettner Rd, 1.5 km S of Pingaring Varley Rd North, *B.R. Maslin* 6310 (PERTH); 2 miles [3.2 km] S of Mt Gibbs, *K. Newbey* 3279 (PERTH); 11 km E of Lake King, *K. Newbey* 9482–1 (MELU, PERTH); SE of Lake King and E of Lake King–Ravensthorpe road at 288 mile peg, *R.A. Saffrey* 404 (CANB, NY, PERTH).

Distribution. Confined to the central wheatbelt in the south-west of Western Australia, from Karlgarin, south to near Newdegate and east to Mt Gibbs (north-east of Lake King).

Habitat. Grows in sand or clay on lateritic hilltops or ridges in open shrub mallee.

Phenology. Flowering recorded from late June to early September; mature pods collected in late November to December.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. Epithet from the Latin *pulvinatus* (cushion-shaped), in reference to the pulvinus always present at the phyllode base in the subspecies.

Acacia sphacelata Benth., *London J. Bot.* 1: 338 (1842) and *Fl. Austral.* 2: 331 (1864). *Type:* Swan River, Western Australia, *J. Drummond s.n. (holo: K; iso: G).*

Acacia tamminensis E. Pritz., *Bot. Jahrb. Syst.* 35: 290 (1904), *synon. nov.* *Type:* near Tammin, Western Australia, 21 May 1901, *L. Diels* 2879 (*iso:* PERTH 00774278 – fragment ex B).

[*Acacia striatula auct. non* Benth.; *in sched.*, as to: in fruticetis arenosis inter flumina Moore et Murchison, *E. Pritzel* 375 (B, BM, E, G, K, L, M, US, Z).]

Harsh *shrub* 0.2–1.5 m high. *Bark* light grey to mid-grey. *Branchlets* rigid, glabrous or minutely hairy. *Stipules* persistent or caducous, 1–2 mm long. *Phyllodes* ± sessile, scattered, verticillate or subverticillate, ± patent, linear or linear-lanceolate, straight to shallowly curved, terete, quadrangular or flat, 6–25 mm long, 0.6–2 mm wide, pungent, rigid, green, smooth, glabrous or nerves ± sparsely puberulous; *nerves* 5 but the 2 adaxial nerves coalescing at the ± obscure gland, 1-nerved per face when flat. *Inflorescences* simple, mostly 1 per axil; *peduncles* 3–13 mm long, glabrous; *heads* showy, globular, 13–50-flowered, bright golden. *Flowers* 5-merous; *sepals* free, spatulate, dark brown at apex. *Pods* narrowly oblong to linear, to 4 cm long, 2.5–7 mm wide, firmly chartaceous to somewhat crustaceous, glabrous. *Seeds* longitudinal, 2.5–5 mm long, dark brown to black, arillate.

Distribution. Common in south-west Western Australia from near Port Gregory south to near the Stirling Range and east to near Scaddan.

Typification. The type sheet of *A. sphacelata* at Kew supports two Drummond collections, one unnumbered (the holotype) and the other annotated no. 299. Comparing the photograph and notes

I made in 1975 of the holotype with the herb. PERTH isotype of *A. tamminensis*, it is evident that the two specimens represent the same taxon. Although the name *A. tamminensis* has been in common use for this widespread Western Australian wheatbelt species, it must now be replaced by the earlier name *A. sphacelata*. Pritzel seems to have been confused about the identity of *A. sphacelata*. Although he described this species [as *A. tamminensis*] based on a Diels specimen collected near Tammin, he also collected it between the Moore and Murchison Rivers. This gathering, *Pritzel 375*, is represented in numerous herbaria (B, BM, E, K, M, MO, P, US) where it is labelled either *A. sphacelata* or *A. striatula*.

Variation. *Acacia sphacelata* is a variable species but can be recognized by its \pm sessile, pungent, 4- or 5-nerved phyllodes which are not inserted on raised leaf bases, its showy, globular flower heads, its 5-merous flowers and its free, linear-spathulate sepals which are dark brown towards their apices (thus the specific epithet, *sphacelata*).

Notes. Until now the name *A. sphacelata* has generally been misapplied to *A. sessilis* Benth. For example, the distribution given in Maslin & Pedley (1982) as *A. sphacelata* is that of *A. sessilis*; the distribution of *A. tamminensis* given there is that of *A. sphacelata*.

Subspecies. Two new subspecies are recognized here, one along the north-western and one on the southern margin of the species' range.

Key to subspecies of *Acacia sphacelata*

1. Phyllodes all or mostly verticillate, subverticillate or in groups of 2 or 3 per node subsp. **verticillata**
1. Phyllodes scattered (rarely 2 or 3 together at a few nodes)
 2. Phyllodes mostly straight, linear, terete or quadrangular; gland situated near or above middle of phyllode 3–8 mm above base subsp. **sphacelata**
 2. Phyllodes mostly shallowly recurved, compressed or sometimes quadrangular; gland situated on lower half of phyllode (1)2–3(5) mm above base subsp. **recurva**

Acacia sphacelata Benth. subsp. **sphacelata**

Harsh, rigid *shrub* normally to *c.* 1.5 m tall. *Branchlets* normally glabrous or (towards their apices) minutely hirsutellous to antrorsely puberulous. *Stipules* normally soon caducous. *Phyllodes* mostly scattered, very rarely interspersed with some that are clustered (2 together) or whorled (2 or 3 together), terete to quadrangular, 6–25 mm long, 0.6–1.3 mm wide, straight or sometimes shallowly incurved or recurved, normally glabrous; nerves 4 or 5, the 2 adaxial nerves coalescing at the gland. *Gland* near or above middle of phyllode, 3–8 mm above the base. *Peduncles* normally 5–10 (rarely 3–4) mm long. *Flowers* 22–50 per head. *Pods* 3–5 mm wide. *Seeds* 2.5–4 mm long, 2–2.5 mm wide.

Selected specimens examined. WESTERN AUSTRALIA: 88 miles [*c.* 141 km] from Albany on Borden-Pingrup road, *A.M. Ashby* 4732 (PERTH); 23.5 km SSE of Peak Charles, *M.A. Burgman* 1481 & *S. McNee* (PERTH); near Pithara, *C.A. Gardner* 2204 (PERTH); about 16 km SE of Kulin, *R.J. Hnatiuk* 770165 (PERTH); 2 miles [3.2 km] W of Quairading on road to York, *B.R. Maslin* 490 (CANB, K, PERTH); 13 miles [*c.* 21 km] E of Karalee on Great Eastern Highway, *B.R. Maslin* 1853 (AD, PERTH); Charles Gardner Flora Reserve, 19 km S of Tammin, *B.R. Maslin* 4079 (PERTH); about 35 km due WNW of Arrino, *B.R. Maslin* 4800 (PERTH); Deelfor Rd, *c.* 6 km ESE of Yarra Rd, 38 km E of Lesmurdie,

B.R. Maslin 6189 (PERTH); 25 km WNW of Barker Lake, c. 70 km SE of Southern Cross, *K. Newbey* 5290 (MEL, PERTH); Ravensthorpe, 26 June 1924, *Ralp & Stamford s.n.* (PERTH 00125601); 15 miles [24 km] S of Tammin, *R.D. Royce* 9315 (PERTH).

Distribution. Common in the wheatbelt area of the south-west of Western Australia, from near Port Gregory, south to Ongerup and Ravensthorpe and east to near Southern Cross and Peak Charles (south-west of Norseman).

Habitat. Grows on sand or laterite, sometimes with loam or clay, commonly in heath, shrubland or mallee woodland. In the Darling Range, east of Perth, it sometimes occurs in loam on granite outcrops.

Phenology. Flowering recorded from May to August, the main flush in June and July; mature pods collected in December.

Conservation status. Widespread, not under threat.

Acacia sphacelata* subsp. *recurva* Maslin, *subsp. nov.

Ab *Acacia sphacelata* subsp. *sphacelata* characteribus sequentibus differt: Phyllodia 10–18 mm longa, 1.2–2 mm lata, compressa sed crassa et in utraque facie costa mediana prominente provisiva; phyllodia angusta, in sicco quadrangularia, leviter recurva, interdum autem phyllodiis nonnullis rectis interspersa, margine superiore recto ad leviter concavo, glans (1)2–3(5) mm supra basin phyllodii sita. Pedunculi 3–5 mm longi. Capitula 13–23-flora.

Typus: 5 miles [8 km] north of Chillinup Pool, Pallinup River, Western Australia, 19 July 1971, *K. Newbey* 3398 (*holo:* PERTH 00773670; *iso:* K).

Distinguished from subsp. *sphacelata* in the following ways. *Phyllodes* 10–18(24) mm long, 1.2–2 mm wide, compressed but thick and with a prominent midrib on each face, narrow phyllodes quadrangular when dry, shallowly recurved but commonly interspersed with some which are straight; upper margin convex; lower margin straight to shallowly concave. *Gland* (1)2–3(5) mm above base. *Peduncles* 3–5(8) mm long. *Flowers* 13–23(25) per head.

Selected specimens examined. WESTERN AUSTRALIA: Yate Swamp, 2 miles [3.2 km] SW of Quoin Head Rd turnoff, *T.E.H. Aplin* 4749 (PERTH); c. 46 km due SE of Hyden, *B.R. Maslin* 6368 (PERTH, Z); Tambellup, *A. Meebold* 11624 (M); cultivated, Melbourne Botanic Garden, Sep. 1868, *F. Mueller s.n.* (MEL 92053); 11 km W of Gnowangerup, *K. Newbey* 3407 (PERTH); 25 km ESE of Mt Gibbs, Frank Hann National Park, *K. Newbey* 5422 (PERTH); East Boundary Rd, S of Chillinup, *M.H. Simmons* 593 (PERTH); 8 km SW of Ongerup, *N. Stevens* KRN9495-1 (MELU, PERTH); Scaddan, *P. van der Moezel* 372 (CANB, K, MEL, PERTH).

Distribution. Scattered in the south-west of Western Australia, principally from Gnowangerup and Ongerup, east to near Scaddan and north to near Hyden.

Habitat. Grows in well-drained sites, on sand, sometimes loam or clay in open shrub mallee or eucalypt woodland over heath. Although subsp. *recurva* usually occurs as scattered, solitary plants, it does regenerate prolifically in cleared areas following summer rain. It is a fast-growing species with a single tap root and has an extensive lateral root system. Its life-span is 8–10 years. These data were supplied by K.R. Newbey (pers. comm.).

Phenology. Flowering recorded from July to September; immature pods collected in October.

Conservation status. Not under threat.

Etymology. The subspecific epithet, from the Latin *recurvus* (curved backwards), refers to the phyllode shape.

Discussion. Subspecies *recurva* is generally recognized by its shallowly recurved, commonly slightly compressed phyllodes and its short peduncles. It is distinguished from the more widely distributed typical subspecies in characters given in the diagnosis above. Although the ranges of the two subspecies come together near Ongerup they are not known to grow sympatrically.

Some specimens of subsp. *recurva* with broad phyllodes superficially resemble the eastern Australian species *A. siculiformis* A. Cunn. ex Benth, but the latter is readily recognized by its branchlets which have prominent lenticels or bark breaking into \pm rectangular flakes, 4-nerved phyllodes (adaxial nerve not bifurcating at the gland as in subsp. *recurva*), 30–40 flowers per head and its filiform, non-arillate funicles.

Acacia sphacelata* subsp. *verticillata* Maslin, *subsp. nov.

Frutex rigidus, ad 0.5 m altus, ab *Acacia sphacelata* subsp. *sphacelata* characteribus sequentibus diversa: Ramuli imprimis apicem versus hispiduli ad puberuli vel interdum fere glabri. Stipulae plerumque ad basin phyllodiorum plurimorum persistentes, interdum caducae. Phyllodia regulariter (vel interdum irregulariter) verticillata, in quoque verticillo ad 6–8, sed saepe nonnulla solitaria vel (in plerumque 2 vel 3) fasciculata interspersa, (4–6)8–19 mm longa, 0.8–1.8 mm lata, normaliter secus nervos sparse antrorse puberula. Pedunculi 6–13 mm longi. Capitula 22–32-flora. Legumina 5–7 mm lata. Semina 4.5–5 mm longa, 3.2–3.8 mm lata.

Typus: 1.5 km north of Mt Lesueur, north-east of Jurien, Western Australia, 20 July 1979, E.A. Griffin 1965 (*holo:* PERTH 00773778; *iso:* PERTH 00773689).

Harsh, rigid *shrub* to 0.5 m tall distinguished from subsp. *sphacelata* in the following ways. *Branchlets* (especially towards their apices) hirsutellous to puberulous or sometimes almost glabrous. *Stipules* normally persistent at base of most phyllodes but sometimes falling. *Phyllodes* in regular (or sometimes irregular) whorls of up to 6–8 but frequently interspersed with some which are solitary or clustered (usually 2 or 3 together), normally 8–19 mm long (rarely 4–6 mm), 0.8–1.8 mm wide, normally sparsely antrorsely puberulous along nerves. *Peduncles* 6–13 mm long. *Flowers* 22–32 per head. *Pods* 5–7 mm wide. *Seeds* 4.5–5 mm long, 3.2–3.8 mm wide.

Selected specimens examined. WESTERN AUSTRALIA: 2 miles [c. 3.2 km] N of Regans Ford on Brand Highway, R.J. Cranfield 211 (PERTH); 2 miles [c. 3.2 km] E of Brand Highway along McNamara Rd, R.J. Cranfield 245 (PERTH); 3.3 miles [c. 5.3 km] N of Cataby Roadhouse on Brand Highway, R. Cumming 1698 (PERTH); Moore River National Park, c. 26 km N of Gingin on Brand Highway, D.G. Fell 0240 (PERTH); Hill River, June 1943, C.A. Gardner s.n. (PERTH 00127078); 1.5 km N of Mt Lesueur, NE of Jurien, E.A. Griffin 1965 (PERTH); 5 km N of Cataby Roadhouse on Brand Highway, B.R. Maslin 5481 (PERTH); 2.7 km NE from Brand Highway on McNamara Rd (which intersects the Highway c. 8 km S of Badgingarra, B.R. Maslin 5485 (PERTH).

Distribution. Occurs in the south-west of Western Australia, common from Mt Lesueur east to Badgingarra and south to the Moore River National Park.

Habitat. Grows in sand or lateritic sand in low open shrubland or open heath.

Phenology. Flowering recorded from May to July; mature pods collected in November.

Conservation status. Not under threat.

Etymology. Specific epithet from the Latin *verticillatus* (whorled), in reference to the arrangement of the phyllodes.

Acacia sphenophylla* Maslin, *sp. nov.

Frutex intricatus effusus 0.3–1.3 m altus. Ramuli teretes, subtiliter costati, pungentes, pubescentes ad hirsutelli vel glabri. Stipulae 1.5–2 longae, persistentes vel caducae. Phyllodia inaequilatere obtriangularia ad cuneata, mucronata, angulo supero obtuso, plerumque 3.5–8 mm longa, 1.5–4 mm lata, glabra vel parce hirtella, nervis 2 vel 3; glans obscura. Inflorescentia racemus reductus capitulis 1 vel 2. Pedunculi 4–8 mm longi, glabri, raro pubescentes; capitula floribus 15–30. Flores 5-meri. Sepala unita, lobis ciliatis, cetera glabra. Petala glabra, 1-nervosa. Legumen aperte circinatum, parum moniliforme, ad 15 mm longum, 2–3 mm latum, chartaceum ad coriaceum, glabrum vel parce hirsutellum, atro-brunneum. Semina longitudinalia, ovoidea ad ellipsoidea, 2 mm longa; arillus clavatus.

Typus: near 413 mile peg [48 km north of Murchison River crossing], North West Coastal Highway, Western Australia, 2 January 1972, A.S. George 11226 (*holo:* PERTH 00705322).

Intricate, \pm rounded, spreading *shrub* 0.3–1.3 m tall and to 2 m across, dividing at or near ground level into a few main stems, upper branches much divided. *Bark* light to mid-grey, smooth. *Branchlets* terete, finely ribbed, patent to erect, sharply or sometimes coarsely pungent, pubescent to hirsutellous (hairs short, soft or slightly coarse, straight, patent to slightly reflexed) or glabrous, commonly pruinose at extremities, the pruinosity sometimes occurring only on the upper exposed surface (green beneath). *Stipules* persistent or caducous, narrowly triangular to linear-triangular, 1.5–2 mm long, light brown and connate upon initiation on the very young new shoots. *Phyllodes* inequilateral, variable in shape and size, obtriangular to cuneate with the upper apical angle obtuse and the lower angle mucronate (mucro rigid, \pm pungent, to 0.5 mm long, dark brown), distal margin (between mucro and upper angle) \pm obliquely truncate and commonly shallowly concave, infrequently some sublunate, (3)3.5–8(11) mm long, 1.5–4(5) mm wide, l:w 1.5–3.5, ascending to erect, glabrous or sparsely hirtellous (hairs usually restricted to margins and main nerves), dark green, slightly shiny; with 2 or 3 rather obvious (at least when dry) *longitudinal nerves*, the lowermost nerve situated near and \pm parallel with lower margin and terminating in the mucro, this nerve commonly the most pronounced, other nerves sparingly divided and mostly running into distal margin. *Gland* insignificant, on adaxial margin between pulvinus and upper angle, 0.1–0.2 mm diam. *Inflorescence* an extremely reduced 1 (very rarely 2)-headed raceme; raceme axis less than 0.5 mm long and subtended by 2, unequal, usually persistent, sessile, brown, glabrous or fimbriolate bracts 0.5–0.8 mm long; a vegetative bud commonly arising from axis and growing out during anthesis; *peduncles* 4–8(15) mm long, glabrous, infrequently pubescent; *basal peduncular bracts* subpersistent, 1.5–2 mm long, deeply cleft with age, brown, obscurely striate, glabrous or fimbriolate. *Heads* globular or obloid, golden, 7 mm diam. at anthesis

(fresh), 15–30-flowered; *bracteoles* spatulate, *c.* 1 mm long, claws shorter than the scarious lamina which is 0.5–0.7 mm wide, concave, acute to sub-acute, brown, fimbriolate. *Flowers* 5-merous; *calyx* *c.* 1/2 length of corolla, gamosepalous, irregularly lobed, the 2 lobes enclosed by the bracteole smaller than the 3 on opposite side, the lobes ciliate, otherwise glabrous; *petals* 1.5–2 mm long, glabrous, 1-nerved, the nerve commonly slightly thickened. *Pods* openly 1–1 1/2 coiled, rounded over seeds and moderately constricted between them, to 15 mm long (unexpanded), 2–3 mm wide, firmly chartaceous to very thinly coriaceous–crustaceous, glabrous or sparsely hirsutellous, slightly shiny, dark brown to black. *Seeds* longitudinal, ovoid or ellipsoid but obliquely truncate along edge adjacent to aril, 2 mm long, *c.* 1.5 mm wide, turgid (1.3 mm thick), brown to almost black, not mottled, shiny; *pleurogram* very obscure, open at hilar end, bordered by an obscure rim of yellowish tissue; *areole* 0.5 mm long, 0.2 mm wide; *funicle* filiform, *c.* 1.5 mm long, reflexed below the \pm clavate aril which is ridged adaxially, extends wholly or more down one side of seed.

Selected specimens examined. WESTERN AUSTRALIA: Ajana plains, N of Geraldton, *W.E. Blackall* 612 (PERTH); Wandalong Rd, [N of] Yuna, *A.C. Burns* 84 (PERTH); 24.1 km from Kalbarri Coast Rd towards Ajana, *R.S. Cowan* 813 (PERTH); 13 km N of Murchison River bridge, *H. Demarz* D7645 (PERTH); 30.5 km from Kalbarri towards Ajana, *B.R. Maslin* 3327 (PERTH); 48 km N of Murchison River on North West Coastal Highway, *B.R. Maslin* 3343 (AD, BM, BRI, CANB, G, MEL, NSW, PERTH); 21 km from Nabawa towards Yuna, *B.R. Maslin* 3351 (K, MO, NY, PERTH); 21.2 km SW of Nabawa, *M.D. Tindale* 2756 (CANB, K, NSW, PERTH, US); *c.* 20 km N of Junga Dam, *P.G. Wilson* 6697 (PERTH).

Distribution. Occurs in the south-west of Western Australia from near Geraldton north to the 100 Mile Tank, *c.* 50 km north of the Murchison River crossing on the North West Coastal Highway.

Habitat. Grows in sand or loam, sometimes over laterite, in mixed open scrub, tall shrubland or open heath.

Phenology. Flowering recorded from late June to September; mature pods collected in late October and December to January.

Conservation status. Not under threat.

Etymology. From the Greek *sphenos* (a wedge) and *phylon* (a leaf), in reference to the phyllode shape.

Affinities. *Acacia sphenophylla* is a member of the *A. pravifolia* group (see Maslin, in press), and is closely related to *A. pravifolia* F. Muell. itself, a species with a wide, discontinuous distribution in Australia, i.e. south-east Queensland, the western slopes and plains of New South Wales between Cobar, Narrabri and Temora, the Flinders and Lofty Ranges, South Australia and in Western Australia from Israelite Bay west to Boxwood Hill and north to near Wubin. These two species have the same basic inflorescence structure and somewhat similar phyllodes and seeds. Besides normally being distinguished by differences in phyllode shape and size (*A. pravifolia* usually has obtriangular to obdeltate phyllodes with *l:w* not above 2), the two species are distinguished by their pods. In *A. pravifolia* the pods are rather tightly coiled and irregularly twisted and the aril is 1/2–2/3 the length of the seed. Furthermore, except for the Western Australian representatives of the species (which occur further south than *A. sphenophylla*), *A. pravifolia* has broader pods (*c.* 5 mm wide) with larger seeds (3–4.5 mm long and *c.* 3 mm wide). In Western Australia the pods of *A. pravifolia* are *c.* 3 mm wide with seeds 2–2.5 mm long but, in addition to the characters given above, these plants are readily distinguished from *A. sphenophylla* by their very short peduncles (1–3 mm long), smaller heads, and small (2–4 mm long), obtriangular to obdeltate phyllodes which are about as long as wide.

Acacia sphenophylla is also related to *A. acanthoclada* F. Muell. on account of its spinescent branchlets, connate stipules (when young), and phyllode shape and size. Individual character differences between the two species are not great but, when taken in combination, the attributes discussed below justify specific rank for the new taxon. The geographical ranges of the two species do not overlap, *A. sphenophylla* being distributed to the north-west of *A. acanthoclada*. The pods are the most obvious character distinguishing the two species. In *A. acanthoclada* they are tightly many-coiled with the valves scarcely constricted between the obscurely mottled seeds. In *A. sphenophylla* the pods are loosely coiled once to 1½ times and moderately constricted between the non-mottled seeds. Additionally *A. acanthoclada* has innocuous, 1-nerved phyllodes (although the nerves are often obscure) which are sometimes glaucous.

***Acacia tetraptera* Maslin, sp. nov.**

Frutex effusus 0.2–0.7 m altus. Ramuli divaricati, teretes, puberuli, glabrescentes. Stipulae c. 0.5 mm longae, caducae. Phyllodia conferta, asymmetrica ovata ad depresso-ovata vel oblata, abrupte vel gradatim in apicem grosse pungentem contracta, 2.5–4 mm longa, 2.2–4 mm lata, costa in porca prominenti paginae utraeque posita, et marginibus etiam nervosis; glans obscura, 1–2 mm supra pulvinam inserta. Inflorescentia racemus reductus capitulis 1 vel 2. Pedunculi 4–8 mm longi, glabri; capitula floribus 20–30. Flores 5-meri. Sepala libera, glabra vel parce puberula. Petala glabra, obscure 1-nervosa. Legumen subteres, curvatum ad subcircinatum, ad 20 mm longum, c. 2 mm latum, coriaceum ad crustaceum, glabrum. Semina longitudinalia, obloidea, c. 2 mm longa; arillus conicus, flavus.

Typus: Fields Rd, 11 km north of Rolland Rd, c. 50 km due east-north-east of Grass Patch, Western Australia, 14 August 1985, B.R. Maslin 5793 (*holo*: PERTH 00729167; *iso*: CANB, G, K, MEL, NY).

Spreading to low-spreading *shrub*, open to moderately open, divaricately branched, 0.2–0.7 m tall and the same or wider across, single-stemmed or up to 6-branched at ground level, stems and branches slender. *Bark* grey, finely roughened. *New shoots* dull red, initiated at anthesis and arising at distal end of raceme axes within axil of peduncle. *Branchlets* terete, finely nerved towards apex (nerves yellow or light brown and most evident immediately below insertion of phyllodes), moderately to densely puberulous to somewhat tomentulose (hairs patent to antrorse); mature branchlets glabrescent and with a longitudinally fissured, light grey epidermal layer which exfoliates to reveal a finely roughened undersurface (this surface breaking into ± irregular rectangular plates). *Stipules* linear-triangular, 0.5 mm long, rather spreading, scarious, dark brown, falling with age. *Phyllodes* asymmetric, widely ovate to widely depressed-ovate or oblate, 2.5–4 mm long, 2.2–4 mm wide, l:w 0.7–1.2, thick, smooth and turgid when fresh, prominently ridged on each face when dry (ridge central or excentric, very shallowly sinuous, extending from base to apex), rather crowded towards ends of branchlets but falling with age, patent to slightly inclined or rarely slightly reclined, glabrous, green; *nerves* 5, 1 along adaxial margin, 1 on each face along crest of the prominent ridge, and 2 very fine and obscure on adaxial margin which coalesce above the gland and extend to the apex as a single, broad, yellow or brown nerve; *lateral nerves* submerged and not readily apparent; *apex* abruptly or ± gradually narrowed into a short (c. 0.5 mm long) thick, indurate, subulate, coarsely pungent, straight to uncinat point which is dark brown at its tip; *pulvinus* 0.2–0.4 mm long, yellowish brown and finely transversely wrinkled when dry, glabrous or adaxially puberulous. *Gland* inconspicuous, on upper margin of phyllode (between the 2 fine adaxial nerves) 1–2 mm above pulvinus, normally circular and c. 0.2 mm diam., lip not raised, brown when dry. *Inflorescences* showy, usually concentrated towards ends of branches, extremely reduced 2(1)-headed racemes with axes less than 0.5 mm long; new shoots sometimes initiated at anthesis from distal end of axis; *peduncle* 4–8 mm long, glabrous; *basal peduncular bracts* caducous,

solitary, broadest at base and narrowed towards apex, 1–1.5 mm long, curved, concave, sessile, puberulous abaxially, dark brown. *Heads* prolific, globular, bright light- to mid-golden, 7 mm diam. at anthesis (fresh), 4–5 mm diam. (dry), 20–30-flowered; young buds pale orange, ageing yellow; *bracteoles* insignificant, linear, c. 0.7 mm long. *Flowers* 5-merous; *sepals* c. 1/2 the length of the petals, free, either linear spatulate or oblong but slightly dilated at the apex, glabrous or sparsely puberulous abaxially; *petals* 1.5 mm long, oblanceolate, free at anthesis, glabrous, very obscurely 1-nerved. *Pods* strongly arcuate to subcoiled, subterete, barely constricted between seeds, to 20 mm long, c. 2 mm wide, slightly coriaceous to thinly crustaceous, not reticulate, glabrous, black when dry, abruptly constricted at base; marginal nerve not thickened, light brown. *Seeds* longitudinal with hilum facing apex of pod, obloid, abruptly narrowed at hilar end, rounded at base, c. 2 mm long and 1.5 mm wide, turgid (c. 1 mm thick), shiny, grey with black mottlings, marked with a non-raised, black peripheral nerve; *pleurogram* obscure, slightly excentric, open at hilar end; *areole* 0.3–0.4 mm long, 0.2 mm wide; *funicle* filiform, c. 1 mm long, expanded into a yellow conical aril situated on top of the seed.

Selected specimens examined. WESTERN AUSTRALIA: 10.2–10.5 km N of Rolland Rd on Fields Rd, *G.F. Craig* 2109 (PERTH); 61.8 km along Lake King–Norseman road from Vermin Proof Fence, *G.F. Craig* 3300A (PERTH); 7 km S of Mt Holland, *H. Demarz* 11663 (PERTH); Peak Charles turnoff on Lake King–Kumarl road, *B.R. Maslin* 5792 (AD, BRI, CANB, G, MEL, MO, NSW, PERTH); 20 km NE of Peak Charles, c. 41 km NW of Salmon Gums, *K. Newbey* 6484 (K, PERTH); 22 km WNW of Roberts Swamp, c. 53 km W of Grass Patch, *K. Newbey* 8138 (PERTH); Frank Hann National Park, *R.D. Royce* 10219 (PERTH).

Distribution. Occurs in the south-west of Western Australia, extending from Mt Holland in the north and The Pimple (c. 40 km east of Hyden) in the west, south to Muckinwobert Rock (north-east of Ravensthorpe) and east to near Grass Patch. Most collections are from and near the Frank Hann and Peak Charles National Parks.

Habitat. Grows in well-drained loam or shallow sand over clayey loam on almost flat to gently undulating plains or low granite rises in open shrub mallee or low woodland.

Phenology. Flowering recorded in August and September; mature pods collected in November and December.

Conservation status. Not under threat.

Etymology. Named from the Greek *tetra-* (four-) and *-pterus* (-winged), in reference to the phyllodes which appear so in transverse section.

Hybrids. One collection (W of Peak Eleanora, *M.A. Burgman* & *S. McNee* 2231, PERTH) appears to represent a possible hybrid with *A. merrallii* F. Muell.

Discussion. *Acacia tetraptera* has very characteristic phyllodes. Apart from being among the smallest in the genus they are thick, smooth and turgid when fresh, however, upon drying the tissue on either side of the midrib collapses to produce a prominently raised ridge on each face of the phyllodes. Other characters useful in recognising this new species include its small, thick, rather crowded, apiculate phyllodes (apiculum straight or recurved), its small heads on short peduncles and its circinate pods.

***Acacia truculenta* Maslin, sp. nov.**

Frutex echinatus, effusus, 0.7–2.2 m altus. Ramuli teretes, rigidi, costati, glabri. Stipulae 2–4 mm longae, rigidae, persistentes. Phyllodia parum inaequaliter lanceolata ad anguste triangularia, interdum ovata, attenuata, cuspidata, 7–13 mm longa, 1.8–3.6 mm lata, glabra; costa mediana vel parum excentrica; glans 1–3.5 mm supra pulvinam inserta. Inflorescentia simplex. Pedunculi 6–8 mm longi, glabri, bracteis 2 lateralibus basalibus; capitula floribus c. 23, sine bracteolis. Flores 5-meri. Sepala libera, glabra vel lamina parce pubescenti. Petala glabra, obscure 1-nervosa. Legumen teres, curvatum, 3–5 cm longum, 2–4 mm latum, coriaceum ad crustaceum, glabrum. Semina longitudinalia, obloideo-ellipsoidea, 3–3.5 mm longa; arillus terminalia.

Typus: Frank Hann National Park, 68 km by road east of Lake King store towards Peak Charles, Western Australia, 13 August 1985, B.R. Maslin 5783 (*holo*: PERTH 00758469; *iso*: CANB, G, K, MEL, NY).

Harsh *shrub*, spreading to spreading to erect, moderately open, 0.7–2.2 m tall, 0.8–1.5 m diam. *Bark* rough, dark grey to black. *Branchlets* rather sparingly divided, ± straight, rigid, when young terete and green but marked with rather obvious yellow ribs, glabrous, later splitting to reveal rough dark bark. *Stipules* 2–4 mm long, slender (0.3–0.4 mm diam. at base), widely spreading, straight, rigid, pungent, glabrous, light brown but sometimes yellowish at base, persistent. *Phyllodes* slightly asymmetric, sessile, lanceolate to narrowly triangular, sometimes ovate, broadest below middle, the upper margin obviously more convex than the lower and frequently narrowed to intersect the midrib 1/2–2/3 along the phyllode, 7–13 mm long (including cusp), 1.8–3.6 mm wide, l:w 2–6, somewhat crowded (and frequently smaller) at base of branchlet but terminally rather distant, patent to very slightly reclined, straight, rigid, compressed, glabrous, dull medium to darkish green; *midrib* central or sometimes slightly excentric, frequently prominently raised when dry, green to yellow; *lateral nerves* not evident; *marginal nerves* yellowish, neither thickened nor prominent, adaxial marginal nerve bifurcating 1–4.5 mm above base of phyllode; *apex* gradually tapered to a straight, rigid, light brown cusp 1–2 mm long. *Gland* not prominent, sometimes absent, situated 1–3.5 mm above the base of phyllode below the bifurcation of the adaxial nerve, circular or oblong, 0.3–0.5 mm long, brown. *Inflorescences* simple, 1 per axil; *peduncles* 6–8 mm long, rather slender, glabrous, commonly reddish brown when dry; *basal peduncular bracts* 2, persistent, laterally positioned, scarious, brown, glabrous, sessile, concave, c. 1 mm long, of unequal width, the narrower c. 0.5 mm wide, the broader c. 1 mm wide. *Heads* globular, c. 5 mm diam. when dry, deep golden yellow, c. 23-flowered; *bracteoles* absent. *Flowers* 5-merous; *sepals* c. 1/2 length of petals, free to base, very narrowly linear-spathulate, claws yellow and glabrous; lamina slightly expanded, light brown, glabrous or with a sprinkling of hairs; *petals* to 2 mm long, connate for c. 1/2 their length, very obscurely 1-nerved but superficially appearing nerveless, glabrous, the apex acute, slightly thickened. *Gynoecium* glabrous. *Pods* ± terete, 3–5 cm long, 2–4 mm wide, coriaceous-crustaceous, curved, red-brown, not striate, glabrous. *Seeds* longitudinal, obloid-ellipsoid, 3–3.5 mm long, mottled; aril terminal.

Selected specimens examined. WESTERNAUSTRALIA: 35.4 km E of Vermin Proof Fence along Lake King–Norseman road, Frank Hann National Park, G.F. Craig 2909B (CANB, PERTH); 35 km W of Mt Glasse, Bremer Range, K. Newbey 5574 (PERTH); 20 km NNE of Swallow Rock, Frank Hann National Park, K. Newbey 6858 (PERTH); 19 km NNE of Swallow Rock, Frank Hann National Park, K. Newbey 7223 (PERTH); 35.6 km NE of Ninety Mile Tank (which is between Lake King and Salmon Gums), M. Trudgen 1716 (PERTH).

Distribution. Restricted to a small area in the south-west of Western Australia, from between Swallow Rock (east of Lake King) and Mt Glasse in the Bremer Range including the Frank Hann National Park.

Habitat. Grows on sand or loam in low woodland or open mallee scrub.

Phenology. Flowering recorded from July to September; mature pods collected in January.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. Named from the Latin *truculentus* (savage, harsh), in reference to the prickly nature of the plant due to its pungent phyllodes and stipules.

Affinities. Uncertain. This is a harsh, glabrous species, recognized by its pungent stipules, its widely spreading, ovate to lanceolate, rigid, sessile, pungent phyllodes, its solitary peduncles with two laterally positioned bracts at their base, its lack of bracteoles and its 5-merous flowers with free sepals.

Acacia tuberculata Maslin, *sp. nov.*

Frutex diffusus 0.5–2.0 altus, ramulis phyllodiis et pedunculis resino-papillosis. Ramuli teretes, subtiliter costati, puberuli. Stipulae 1–2 mm longae, basibus persistentibus. Phyllodia anguste elliptica ad oblongo-elliptica, obtusa vel acuta, mucronulata, 10–30 mm longa, 2–5 mm lata, costa marginibusque puberulis pilis tubercularibus, pilis demum cadentibus praeter bases tuberculiformes; costa prominens; glans 3–6 mm supra pulvinam inserta. Inflorescentia racemus, capitulis 2–5 sphaericis ad obloideis. Pedunculi 6–20 mm longi, glabri vel parce puberuli; capitula floribus 30–60. Flores 5-meri. Sepala ± libera, subglabra. Petala glabra, enervia. Legumen non visum.

Typus: base of Mt Vernon, southern side, Western Australia, 10 September 1988, B.R. Maslin 6317 (*holo:* PERTH 00862274; *iso:* CANB, G, K, MEL, NSW, NY, PERTH 00862827).

Diffuse *shrub* 0.5–2 m tall. *Bark* smooth, dark grey. *New shoots* light green, phyllode margins red. *Branchlets* terete, ± straight, lenticels scattered, finely ribbed, light grey cuticle persisting in region of ribs, inter-rib area red-brown where cuticle has exfoliated, puberulous with the commonly tubercle-based hairs mostly confined to ribs. Young *branchlets*, phyllodes and commonly the peduncles punctulate with minute, brown to black, ± circular, flat, resin papillae. *Stipules* narrowly triangular, 1–2 mm long, at mature nodes normally only the hardened bases persisting as blunt tooth-like projections by loss of stipule apex. *Phyllodes* narrowly elliptic to narrowly oblong-elliptic, 10–30 mm long, occasionally a few to 4.5 cm, 2–5 mm wide, l:w 4–10(13), moderately coriaceous, subsessile, not easily separated from stem, ± straight, flat or margins slightly to prominently undulate, dark green, slightly shiny, margins and midribs antrorsely puberulous, hairs tubercle-based and wearing away with age leaving prominent, yellow tubercles; *midrib* prominent, slightly curved towards adaxial margin at base of phyllode, adaxial margin 2-nerved below gland and ± flat, 1-nerved above; *lateral nerves* few, very obscure; *apex* obtuse to acute, mucronulate; *pulvinus* reduced to a very narrow, dilated rim of yellow-brown tissue. *Gland* 3–6 mm above base, sometimes absent, 0.2–0.4 mm long, circular to oblong. *Inflorescences* arising at base of axillary new shoots, the lowermost peduncle inserted at extreme base of shoot and subtended by a broadly oblong-ovate, slightly concave bract c. 0.5 mm long, subsequent peduncles usually with a phyllode arising at base and flanked by a pair of stipules. *Inflorescence* a 2–5-headed raceme, the axis 4–7 mm long and sometimes growing out, the subsequent inflorescences produced as single axillary heads; *peduncles* 6–20 mm long, slender, glabrous to sparsely puberulous; *bract* near or above middle of peduncle; semi-persistent, oblong to ovate, 1 mm long, erect, subglabrous. *Heads* globular to obloid, interspersed with a few shortly cylindrical spikes in occasional specimens, mid-golden, 5.5–7 mm long, 4–5.5 mm diam.,

30–60-flowered; *bracteoles* narrowly spatulate, *c.* 1 mm long; claws linear, subglabrous; laminae \pm ovate, shallowly incurved, acute, subglabrous. *Flowers* 5-merous; *sepals* *c.* 3/4 length of petals, membranous, mostly divided to base, rarely a few irregularly united, spatulate, occasionally linear, subglabrous; *petals* 1.7–2 mm long, glabrous, nerveless. *Pods* and *seeds* not seen.

Selected specimens examined. WESTERN AUSTRALIA: 300 m W from Wave Rock turnoff to Hyden, R. Buehrig 385 (PERTH); Mt Vernon, M. Graham s.n. (CANB, PERTH 00866822); base of Mt Vernon, southern side, B.R. Maslin 6317A (PERTH); 11 miles [17.7 km] NE of Hyden, K. Newbey 1081 (CANB, MEL, PERTH); E of Hyden near turnoff to Wave Rock, M. Simmons 354 (PERTH); *c.* 6 km N of Hyden on the road to The Humps, M.H. Simmons 1317 (PERTH); Camel Peaks, due N of Hyden, K. Wallace 1819 (PERTH).

Distribution. Occurs in the south-west of Western Australia, known only from Mt Vernon (*c.* 50 km south-east of Hyden) and localities close to Hyden (i.e. near Wave Rock, The Humps and Camel Peaks).

Habitat. Seemingly confined to soils associated with large granite outcrops.

Phenology. Flowering recorded from late August to early October. Fruiting not known.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Two.

Etymology. From the Latin *tuberculatus* (covered with small swellings), in reference to the tubercles at the base of the hairs on the phyllode margins and midrib. After the hairs have dropped, the margins and midrib are obviously warty.

Affinities. This new species is most closely allied to *A. dentifera* Benth. and *A. graniticola* (see above). These three species commonly share the following important characters: (1) mature stipules commonly thick and hardened at base and persisting as small, blunt, tooth-like projections by loss of stipule apex (this character is infrequent in *A. graniticola*); (2) peduncles with a solitary, persistent or caducous bract near or above their middle; (3) inflorescences arising towards base of new shoots; (4) heads varying from globular to obloid (or sometimes, in *A. tuberculata*, shortly cylindrical); (5) sepals \pm free; (6) phyllodes, branchlets and peduncles (at least when young) possessing minute, scattered resin secretions which are \pm circular, flat and brown. In the absence of pods the most reliable characters for distinguishing *A. dentifera* and *A. graniticola* from *A. tuberculata* are their longer (commonly 7–15 cm), non-undulate phyllodes and peduncles which occur in twos or threes in the phyllode axils or along the raceme axes. As discussed under *A. graniticola* above, this is also a granite rock, wheatbelt species, but is distributed to the north of *A. tuberculata*. *Acacia dentifera* occurs further west, mainly in the temperate forests and woodlands of the Darling Range (where it commonly occurs around granite rocks).

Variation. Heads vary in shape from globular to shortly cylindrical, but commonly they are obloid. All three shapes may occur on a single plant. Phyllode undulation is also a variable character. On plants from around Hyden the margins are not, or only slightly, undulate. However, at Mt Vernon (the type locality) the margins are very undulate; these plants were collected from a regrowth population (following fire). I have not inspected plants in the field from the Hyden area.

Acacia xerophila W. Fitzg. var. **brevior** (E. Pritz.) Maslin, *comb. nov.*

Acacia fitzgeraldii var. *brevior* E. Pritz., *Bot. Jahrb. Syst.* 35: 291 (1904). *Type*: near Coolgardie, Western Australia, 1898, C.L. Webster s.n. (*iso*: Z).

Discussion. Pritzel (*loc. cit.*) and Fitzgerald (1904) independently described the taxon known today as *A. xerophila* in 1904, basing their respective names on different specimens of the same collection (see Cowan & Maslin 1994). I am here following Pritzel (1904) in recognizing two varieties within *A. xerophila* (which was treated by him under the name *A. fitzgeraldii* E. Pritz.). However, because of the paucity of collections and especially the lack of adequate carpological material for var. *xerophila*, it is not possible to accurately assess the range of morphological variation and consequently the degree of character overlap between the two varieties. The principal distinguishing features of the varieties are given in the key below. Variety *xerophila* occurs north and east of Kalgoorlie (from Bardoc east to Kanandah) while var. *brevior* has a more restricted range, between Kalgoorlie and Widgiemooltha.

Key to varieties of *Acacia xerophila*

Branchlets and phyllodes glabrous; phyllodes 20–30 mm long;
 sepals 1/4–1/2 united var. **xerophila**
 Branchlets and phyllodes usually puberulous; phyllodes 10–20 mm;
 sepals free var. **brevior**

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