

**Acacia Miscellany 10. New taxa and notes on previously described taxa of *Acacia*, mostly section *Juliflorae* (Leguminosae: Mimosoideae), in Western Australia**

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**Abstract**

Cowan, R.S. and B.R. Maslin. *Acacia* Miscellany 10. New taxa and notes on previously described taxa of *Acacia*, mostly section *Juliflorae* (Leguminosae: Mimosoideae), in Western Australia. *Nuytsia* 10 (1): 15-62 (1995). Coincident to clarifying the delimitation of several species described earlier, 20 new Western Australian taxa are proposed and one new combination made: *A. ampliata* Cowan & Maslin (related to *A. jamesiana* Maslin), *A. coolgardiensis* subsp. *effusa* Cowan & Maslin and subsp. *laticus* Cowan & Maslin, *A. cuthbertsonii* subsp. *linearis* Cowan & Maslin, *A. cylindrica* Cowan & Maslin (related to *A. heteroneura* Benth.), *A. demissa* Cowan & Maslin (related to *A. quadrimarginea* F. Muell.), *A. desertorum* subsp. *nudipes* Cowan & Maslin, *A. epedunculata* Cowan & Maslin (related to *A. heteroneura* Benth.), *A. gibbosa* Cowan & Maslin (tenuously related to *A. websteri* Maiden & Blakely), *A. heteroneura* var. *petila* Cowan & Maslin, var. *prolixa* Cowan & Maslin and var. *jutsonii* (Maiden) Cowan & Maslin, *comb. et stat. nov.* (based on *A. jutsonii* Maiden), *A. incongesta* Cowan & Maslin (related to *A. neurophylla* W. Fitzg.), *A. levata* Cowan & Maslin (related to *A. cuthbertsonii* Luehm.), *A. neurophylla* subsp. *erugata* Cowan & Maslin, *A. oncinophylla* subsp. *patulifolia* Cowan & Maslin, *A. repanda* Cowan & Maslin (related to *A. ephedroides* Benth.), *A. singula* Cowan & Maslin (related to *A. multispicata* Benth.), *A. stereophylla* var. *cylindrata* Cowan & Maslin, *A. xanthocarpa* Cowan & Maslin (of unknown affinity), and *A. yorkrakinensis* subsp. *acrita* Cowan & Maslin. In addition, lectotypifications are recorded for the following names: *A. coolgardiensis* Maiden, *A. ephedroides* Benth., *A. jutsonii* Maiden, *A. multispicata* Benth., and *A. sessilispica* Maiden & Blakely.

**Introduction**

This contribution continues our series of papers to validate names and to record selection of lectotypes in advance of their publication in the "Flora of Australia".

## Methods

*Arrangement of the text.* The text is comprised of descriptions of new taxa, discussions and notes on previously described taxa and lectotypifications of names. The binomials representing individual taxa, as well as those used to designate informal groupings of taxa, are arranged in alphabetical order. Taxa within the three informal groups that are recognized here, namely, the *A. heteroneura* group, the *A. multispicata* group and the *A. neurophylla* group, are also ordered alphabetically.

*Taxonomic rank.* It is perhaps useful to comment on our approach to the application of rank to the taxa described here and in forthcoming issues of the journal, as well as in the "Flora of Australia" treatment of *Acacia*. Absolute consistency in this regard is not possible because the assignment of rank is largely a subjective exercise dependent on ones knowledge of the relevant taxa. In a group of such magnitude as the genus *Acacia* the problem is compounded. Our basic premise is that taxa are biological entities with an evolutionary history; they should exhibit geographic integrity and have more or less distinct morphologic discontinuities. Assessment of the importance of these morphologic differences contributes heavily to our determination of rank.

For a population or populations to be accorded species recognition we would wish there to be one or more distinct features in both the vegetative and reproductive systems. However, for practical reasons which are noted below we have not always been able to realize this ideal. We have used the categories of subspecies and variety to call attention to degrees of distinctness of populations within the species. Furthermore, we have attempted to indicate variation within taxa by recognizing informal entities, referred to as variants. The reason for not formally recognizing these variants is the very considerable time and effort, especially in field studies over long distances, that is required to distinguish and rank the entities reliably. Moreover, recognition of informal variants identifies research opportunities for future botanists.

Because the determination of rank has its nomenclatural and bibliographic consequences and because we preferred not to change current nomenclature any more than absolutely necessary, we have taken a conservative approach. This is evinced by: (1) the rank we have accorded new taxa (our taxa might be treated at a level higher by some workers); (2) the fact that we have commonly adopted the rank and names used by earlier authors, particularly for species; and (3) our having recognized variants, rather than giving these a formal rank.

*Typification.* Our approach to typification is discussed elsewhere (Maslin & Cowan, in press).

*Conservation status.* We have assessed conservation status of taxa included in this treatment using the criteria outlined on page 141 of this journal.

*Measurements.* All measurements and observations were made from dried specimens unless stated otherwise.

## Descriptions and notes

### 1. *Acacia ampliata* Cowan & Maslin, *sp. nov.*

Frutex vel arbuscula 2-5 m alta, cortice cinereo longitudinaliter et subtiliter fissurato. Ramuli subteretes, modice flexuosi, appresso-puberuli. Stipulae caducae. Phyllodia lineari-elliptica ad linearia,

acuta, pulvino 2-2.5 mm longo, appresso-puberulo, laminae 8-19 cm longis, 3-6 mm latis, rigidis, ascendentibus, rectis vel plerumque incurvatis, obscure appresso-puberulis sed glabrescentibus, subglaucis, in quoque superficie venis secundariis numerosis, arcte parallelis, nervo medio conspicue elevato, nervo marginali late expanso; glande obscura, laminae prope basem. Pedunculi 1 vel 2 in quoque axilla, 3.5-9 mm longi, appresso-puberuli; capitula lato-ellipsoideae ad oblongoideae, aureae, 9-12 mm longae, 7-8 mm diametro, dense floribus, bracteolis longo-stipitatis, spathulatis, puberulis et pilis rubro-brunneis resinosisque. Flores 5-meri. Sepala longitudine 1/2-3/4 petali partes aequantia, lineari-spathulata, 1/2-connata, puberula et pilis rubro-brunneis dispersis. Petala 2/3-3/4-connata, plus minusve appresso-puberula. Ovarium argenteum appresso-puberulum. Legumina crasso-linearia, elevata supra semina et leviter constricta inter semina, ad 11 cm longa et 5-6 mm lata, duro-crustacea, leviter curvata, longitudinaliter nervata, minute appresso-puberulis cum pilis rubro-brunneis. Semina longitudinalia, lato-elliptica ad elliptico-oblonga, 4.5-6 mm longa, 3-3.5 mm lata, 1-1.5 mm crassitie, nitide atrato-brunneo-nigra, pleurogramma in area subalba, areola pallida, minuta, arillo multi-plicato et voluminoso, terminali, aureo(?).

*Typus*: 5 km S of Mullewa on road to Mingenew, Western Australia, 17 December 1981, *B.R. Maslin* 5079 (holo: PERTH 00162841; iso: CANB, G, K, MEL, NSW, NY).

*Shrub or small tree* 2-5 m tall with grey, longitudinally finely fissured bark. *Branchlets* subterete, slightly ribbed, often somewhat flexuose, appressed puberulous with short, silvery hairs interspersed with scattered patches of red-brown resin-hairs. New growth densely invested with red-brown resin-hairs. *Stipules* caducous. *Phyllodes* linear-elliptic to linear, 8-19 cm long, 3-6 mm wide, rigid, ascending, straight to more often incurved, obscurely appressed puberulous but glabrescent between nerves, subglaucous; apex acute with thickened tip; pulvinus 2-2.5 mm long, appressed puberulous; nerves numerous, closely parallel, the midnerve conspicuously raised, the marginal nerves conspicuous and broader than the thickness of the blade; gland obscure, near base of blade. *Peduncles* 1 or 2 per node, 3.5-9 mm long, appressed puberulous and with patches of red-brown resin-hairs; heads maturing one before the other when paired, widely ellipsoid to oblongoid, golden, 9-12 mm long, 7-8 mm diam., densely flowered; bracteoles spathulate to subpeltate, puberulous, the lamina at right angles to elongate stipe and with scattered red-brown resin-hairs. *Flowers* 5-merous. *Sepals* 1/2-3/4 petal length, 1/2-united, linear with apex somewhat expanded, puberulous with red-brown resin-hairs on tip. *Petals* 2/3-3/4-united, puberulous, at least on nerve, the hairs more or less appressed. *Ovary* silvery appressed-puberulous. *Pods* thick-linear, raised over and slightly constricted between seeds, to 11 cm long, 5-6 mm wide, hard-crustaceous, slightly curved, longitudinally nerved, 1 or 2 main nerves conspicuous, red-brown, minutely appressed-puberulous with red-brown resin-hairs. *Seeds* longitudinally arranged in pods, widely elliptic to elliptic-oblong, 4.5-6 mm long, 3-3.5 mm wide, 1-1.5 mm thick, shiny, dark brown-black; pleurogram U-shaped, located in centre of nearly white area; areole minute; aril large, terminal, much-folded, golden (?).

*Other specimens examined*. WESTERN AUSTRALIA: c. 10 miles [c. 16 km] E of Mullewa towards Pindar, *A.M. Ashby* 4509 (PERTH) and *G. Phillips* for *A.M. Ashby* 4509 (PERTH); S of Coolcalalaya, *J.S. Beard* 7149 (PERTH); 9.8 miles [15.8 km] E of Mullewa, *R.J. Cumming* 1933a and 1933b (both PERTH); 3.2 miles [5.1 km] S of Mullewa towards Mingenew, *R.J. Cumming* 2184 (PERTH); 3 miles [4.8 km] from Mullewa towards Mingenew, *B.R. Maslin* 65 (PERTH); 6.4 km from Mullewa towards Mingenew, *B.R. Maslin* 3641 (PERTH).

*Distribution*. Restricted to the Mullewa area and with one collection from south of Coolcalalaya (c. 100 km north-northwest of Mullewa), southwest Western Australia.

*Habitat.* In mallee scrub on light brown loam, sandy loam and red or orange sand.

*Flowering and fruiting periods.* Flowering specimens have been collected in April, June, August, October and December; mature seeds have been collected in mid-December.

*Affinities.* The new species is most closely related to *A. jamesiana* Maslin which is normally readily distinguished by its mostly narrower (1-1.5 mm wide), tetragonous phyllodes, but has very similar flowers, fruits and seeds. Although flat phyllodes are occasionally interspersed with the tetragonous ones in *A. jamesiana*, they are not above 2 mm wide, except in a specimen from the Carnarvon Range (A.A. Burbidge 11, PERTH) which has consistently  $\pm$  flat phyllodes, a few of which reach 3 mm wide. Compared with *A. ampliata*, the pods of *A. jamesiana* are slightly narrower (4 mm wide) and  $\pm$  woody. *Acacia jamesiana* has a widespread, scattered distribution in the Arid Zone of Western Australia (from near Yalgoo (c. 120 km west-southwest of Mount Magnet) northeast to the Carnarvon Range (c. 270 km northeast of Meekatharra) and east to Leinster, with outliers in the Gibson and Great Victoria Deserts; *A. ampliata* is less common and occurs to the west of this range. There is some relationship, but a more distant one, with *A. heteroneura* Benth. var. *heteroneura* (see 7.4a below) which has much smaller compressed-rhombic phyllodes (5-7 cm long, occasionally 11 cm, 2-4 mm wide), globular heads with less densely arranged flowers, smaller linear pods (to 5.5 cm long, 2 mm wide and smaller (3-3.5 mm long and 1-1.3 mm wide), mottled seeds.

*Conservation status.* A Priority 2 taxon in the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The name is suggested by the fact that the phyllodes of the new species are wider than those of the related *A. jamesiana* and *heteroneura* var. *heteroneura*, from *ampliatum*, Latin for expanded or enlarged.

**2. *Acacia coolgardiensis*** Maiden, J. & Proc. Roy. Soc. New South Wales 53: 211, pl. 15, figs 1-7 (1920)

*Lectotype* (here selected): Coolgardie, Western Australia, 1900, L.C. Webster (NSW; isolecto: K, PERTH 00745731). *Paralectotype*: Coolgardie, Western Australia, 1899, L.C. Webster (NSW).

*A. boorabbinensis* Hochr., Candollea 2: 377 (1925), *synon. nov.* *Typus*: Boorabbin, Western Australia, 15 February 1905, B.P.G. Hochreutiner 2946 (holo: G).

*Shrubs* or *trees* 1-7 m tall, commonly with fluted trunks and main branches. *Bark* fibrous or somewhat fissured near base, usually smooth above, light- to dark-grey, often mottled with pale grey to white. *Branchlets* terete, appressed-puberulous between resinous-ribs, the resin sometimes conspicuous. *Phyllodes* terete, subterete, compressed or flat and linear, narrowly oblanceolate or linear-elliptic, 4.5-15 cm long, 0.7-10 mm wide, coriaceous to rigid, patent to ascending, straight to curved, more or less resinous, grey-green, silvery or light-green, sometimes glaucous, commonly minutely appressed puberulous between nerves; apex acute, the tip straight to uncinatate; nerves numerous, closely parallel, fine, plane or somewhat rounded with resin; gland at base of blade. *Peduncles* 2 per node, 0-8 mm long, appressed puberulous and with red resin-hairs; heads globular, widely ellipsoid, oblongoid, or cylindric, golden, 5-34 mm long, 4-7 mm diam.; bracteoles spatulate, dark, the blade perpendicular to the stipe, puberulous and with few to many red, viscid, resin-hairs. *Flowers* 5-merous. *Sepals* 1/2-2/3 petal-length, free to 1/2-united, oblong to spatulate, puberulous and often with red

resin-hairs. *Petals* 1/2-2/3-united. *Pods* terete, somewhat constricted between seeds, to 10 cm long, 1.3-3 mm wide, patent to pendulous, coriaceous, straight to slightly curved, longitudinally lined or ribbed, appressed-puberulous between ribs, often more or less resinous. *Seeds* longitudinally arranged in pods, oblong to widely elliptic, 2.2-4 mm long, 1-1.5 mm wide, 1 mm thick, glossy, tan, the aril terminal, to 1/2 seed length.

*Distribution.* Often locally common in western-central region of Western Australia from near the Overlander Roadhouse (c. 150 km north-northeast of Kalbarri) and Northampton, east to Barwidgee (c. 85 km southeast of Wiluna) and Menangina Stations (c. 110 km north-northeast of Kalgoorlie) and south to near Holt Rock (c. 100 km northeast of Lake Grace), also occurs northeast and east of Overlander Roadhouse at Carey Downs, Byro and Curbur Stations with a northern outlier near Paraburdoo.

*Typification.* In the protologue, Maiden writes: "Type, Coolgardie, Western Australia (1899-1900)." with no mention of a collector. He goes on to list several collections by various collectors but only the L.C. Webster ones are from Coolgardie. At herb. NSW there are two Coolgardie collections by L.C. Webster made between 1899 and 1900 (and a third dated 26 August 1901 which was not mentioned in the protologue and is here regarded as not being a type); we have chosen as lectotype the most logical specimen, one the author saw, annotated and distributed as this species. It is possible that Maiden's failure to nominate a particular collection as type, which was his usual custom, was an unintentional error. All the collections listed in the protologue are at herb. NSW.

*Hybridity.* In the Mullewa to Yalgoo area (Yalgoo is c. 115 km east-northeast of Mullewa) subspecies *latior* and *effusa* (sessile-head variant) appear to hybridize, judging from the intermediate characters exhibited by such collections as B.R. Maslin 4261 and R.J. Cumming 1952 (both PERTH). These specimens have the phyllodes of subsp. *latior* but sessile heads. Similarly, in the Comet Vale area (c. 100 km north of Kalgoorlie), the two variants of subsp. *effusa* appear to hybridize; specimens of L. Haegi 934 and of A. Strid 20093 (both PERTH) have the elongate, cylindric heads of the pedunculate-head variant but they are nearly sessile as in the other variant.

*Infraspecific taxa.* *Acacia coolgardiensis* is a wide-ranging, variable species which we have treated conservatively by recognizing three subspecies, namely, subsp. *coolgardiensis*, subsp. *effusa* (comprising two variants) and subsp. *latior*; a key to these taxa is presented below. With more extensive study than we can undertake at the moment, the species may undergo further subdivision or some of the subspecific taxa may be separated as distinct species. Most of the variation is in the vegetative system, for flowers and fruits are very similar throughout the species. The typical subspecies differs most obviously by its terete phyllodes, the other two having flat ones; in subsp. *latior* the phyllodes are particularly wide (5-10 mm). Although flower structure is similar throughout the species, peduncle length is of some importance in defining the infraspecific taxa: subsp. *latior* and one variant of subsp. *effusa* have obvious peduncles whereas the typical subspecies and its close relative, the sessile-head variant of subsp. *effusa*, have  $\pm$  sessile heads (except the peduncles are up to 2 mm long in some collections of subsp. *coolgardiensis* from the far north of its range, e.g. A.M. Ashby 4580 and 4630). Geographical ranges of the infraspecific taxa overlap significantly and all occur (often sympatrically) in the area between Yalgoo and Mullewa (cf. A.C. Burns 34, B.R. Maslin 4264, 4265 and 4266).

### Key to infraspecific taxa of *Acacia coolgardiensis*

1. Phyllodes terete, rarely subterete to compressed, filiform, grey-green; heads 5-14 mm long ..... 2a. subsp. *coolgardiensis*
1. Phyllodes flat, linear to oblanceolate
  2. Peduncles 2.5-8 mm long
    3. Phyllodes 5-10 mm wide, narrowly oblanceolate, linear-oblanceolate or linear elliptic, silvery; heads 8-12 mm long ..... 2c. subsp. *latior*
    3. Phyllodes linear, 1-3 mm wide, pale green to grey-green or glaucous; heads 12-34 mm long . 2b. subsp. *effusa* (pedunculate-head variant)
  2. Peduncles 0-1.5 mm long; heads not more than 10 mm long ..... 2b. subsp. *effusa* (sessile-head variant)

#### 2a. *Acacia coolgardiensis* Maiden subsp. *coolgardiensis*

*Illustration.* J.H.Maiden, J. & Proc. Roy. Soc. New South Wales 53: 211, pl. 15, figs. 1-7 (1920).

*Trunks* normally fluted with smooth grey bark, rarely fissured near the base. *Phyllodes* terete, rarely subterete or compressed, filiform, 6-15 cm long, 0.7-1 mm diam., grey-green. *Peduncles* typically lacking, rarely to 2 mm long; heads globular, widely ellipsoid or oblongoid, 5-14 mm long, 5-6 mm diam. *Sepals* free, occasionally to 1/2-united. *Pods* to 10 cm long, 1.5-2 mm diam.

*Selected specimens examined.* WESTERN AUSTRALIA: Railway Reserve 6.5 km N of Beacon, T.E.H. Aplin 5957 (PERTH); 6.2 miles [9.9 km] N of Mullewa, A.M. Ashby 4580 (MEL, NSW, PERTH); [25 km N of Murchison River on North West Coastal Highway], A.M. Ashby 4630 (PERTH, also AD but *n.v.*); 32 km S Paynes Find, J.S. Beard 2634 (PERTH); between Carey Downs and Callytharra, J.S. Beard 6848 (PERTH); 200 km N of Northampton, W.E. Blackall 4559 (PERTH); 1.8 miles [2.9 km] from Kununoppin towards Nungarin, R.J. Cumming 2265 (MELU, PERTH); Dalwallinu side of Nugadong, M. Flynn 19 (PERTH); Coolgardie, C.A. Gardner 1293 (PERTH); 1/2 mile [0.8 km] N of Queen Victoria Rocks, A.S. George 4238 (PERTH); 132 miles [218.8 km] and upwards, Watheroo Rabbit Fence, September 1904, M. Koch 1338a (NSW, PERTH); 1/4 mile [0.4 km] W of Boorabbin Siding, B.R. Maslin 1858 (AD, DNA, PERTH); 16 miles [25.7 km] SW of Kalgoorlie towards Coolgardie, B.R. Maslin 1899 (HO, NY, PERTH); 23 km N of Murchison River on North West Coastal Highway, B.R. Maslin 3338 (CANB, E, PERTH); c. 13 km S of Morawa towards Wubin, B.R. Maslin 3363 (BM, MO, PERTH, SPL); near Modesty Downs Station, c. 21.5 km N of Holt Rock, B.R. Maslin 3938 (PERTH); 59 km W of Yalgoo towards Mullewa, B.R. Maslin 4262 (PERTH); 45 km E of Mullewa towards Yalgoo, B.R. Maslin 4263 (MEL, PERTH); 9 km E of Mullewa on road to Mount Magnet, B.R. Maslin 4503 (PERTH); 97.5 km NNE of Kalgoorlie on road to Eudjulina Station, B.R. Maslin 4849 (PERTH); 70 km E of Merredin on Great Eastern Highway to Southern Cross, B.R. Maslin 6012 (MEL, NSW, PERTH); Curbur Station, A.L. Payne 111 (CANB, K, PERTH); Bruce Rock-Merredin area, F. Stoward 8 and 14 (both NSW); Kununoppin, F. Stoward 75 (NSW) and F.E. Victor 37 (PERTH); Coolgardie, 26 August 1901, L.C. Webster (NSW, PERTH 00609420).

*Distribution.* Occurs principally from Nerren Nerren Station (c. 80 km northeast of Kalbarri) and Northampton, southeast to near Holt Rock (c. 100 km northeast of Lake Grace) and Menangina Station (c. 80 km east of Menzies), but also occurs from near the Overlander Roadhouse (c. 90 km north of Nerren Nerren Station), and also c. 200 km north and northeast of Nerren Nerren Station at Carey Downs, Byro and Curbur Stations.

*Habitat.* Grows in a wide variety of soils from granitic or lateritic gravel to sands of all colours, sandy loam or loam, often on sandplains but also on low hills and granite outcrops in shrubland and "spinifex".

*Flowering and fruiting periods.* Flowering from July in the north to August and September through most of the range, occasionally in October; fruits with mature seeds collected October-January, mostly December.

*Discussion.* It is necessary to observe mature phyllodes to assess accurately the nervature in this subspecies, for specimens often have 8-nerved phyllodes in the apical portions of the branchlet and the later condition of having numerous nerves becomes evident only in the mature phyllodes farther down the branchlet. There is also a frequent variant that occurs throughout most of the range which has the branchlet ribs strongly resinous, the resin in conspicuous inter-connected globules, and the phyllodes shiny-resinous with the nerves appearing raised because of the overburden of resin. It is not a seasonal phenomenon, for the condition can be found on fruiting and flowering specimens equally.

While fluted main stems and branches with smooth bark is typical for the subspecies, two collections (B.R. Maslin 4262 and 4503) have unfluted or only slightly fluted main stems and the bark is fibrous and stringy. The same sort of variation occurs in subsp. *latior*.

*Conservation status.* Widespread and locally common in many places; not considered rare or endangered.

**2b. *Acacia coolgardiensis* subsp. *effusa* Cowan & Maslin, subsp. nov.**

Trunci convoluti, cortice griseo laevi; phyllodia plana, linearia, 4.5-13.5 cm longa, 1-3 mm lata, pallido-viridia vel cinereo-viridia vel glauca; pedunculi 0 vel ad 8 mm longi, capitulis globularibus ad cylindricis, 5-34 mm longis, 5-6 mm diametro; sepala discreta; legumina ad 8 cm longa et 1.5-2 mm lato.

*Typus:* 17.5 km SE of Mullewa towards Morawa, Western Australia, 22 August 1973, B.R. Maslin 3356 (holo: PERTH 00718580; iso: CANB, K).

*Trunks* fluted with smooth, grey bark. *Phyllodes* flat, linear, 4.5-13.5 cm long, 1-3 mm wide, pale green, grey-green or glaucous. *Peduncles* 0-8 mm long; heads globular to cylindrical, 5-34 mm long, 5-6 mm diam.; sepals free. *Pods* to 8 cm long, 1.5-2 mm diam.

*Selected specimens examined.* WESTERN AUSTRALIA: 58.9 km S of Overlander Roadhouse, M.E. Ballingall 1892 (CANB, PERTH); Emu Fence N of Cleary, J.S. Beard 4716 (PERTH); 1 km E of Bidy Well, Barwidgee Station, R.J. Cranfield 6835 (K, NY, PERTH); Teutonic Townsite, R. Cumming 1100 (PERTH); 32.6 km N of Cleary on road to Paynes Find, J.W. Green 5234 (PERTH); western margin of Lake Goongarrie, c. 8.4 km N of Goongarrie Siding, L. Haegi 2003 (PERTH); near Comet Vale, B.R. Maslin 1944 (CANB, K, PERTH); 25.8 km from Paynes Find towards Wubin, B.R. Maslin 3563 (CANB, PERTH); 38 km E of Mullewa towards Yalgoo, B.R. Maslin 4265 (CANB, PERTH); Sturt Meadows, Leonora district, November 1973, R.F. Maslin (CANB, K, MEL, PERTH 00157503); 3 km S of Rabbit Proof Fence at intersection with Wiluna-Meekatharra road, A.A. Mitchell 1493 (PERTH); 8.5 km E of Davyhurst, K. Newbey 8788 (PERTH); 78 km N of Kalgoorlie towards Menzies, D. Pearson DJP345 (PERTH); 94 km N of Koorda, P.G. Wilson 6094 (BRI, NSW, PERTH); Mount Channar area, P.A.S. Wurm 1522 (PERTH).

*Distribution.* Widespread from near Mullewa and north of Cleary (Cleary is c. 100 km east of Dalwallinu) northeast to near Meekatharra, Barwidgee Station (c. 85 km southeast of Wiluna) and near Lake Goongarrie (which is c. 40 km south of Menzies); a western outlier occurs south of Wannoo (c. 155 km north of Northampton) and a northern outlier at Mount Channar (c. 35 km southeast of Paraburdoo), Western Australia

This distribution encompasses the ranges of the two variants recognized within this subspecies. The pedunculate-head variant (see below) has essentially the distribution of the subspecies; the sessile-head variant is more restricted and occurs predominantly from near Mullewa and near Yalgoo (Yalgoo is c. 115 km east-northeast of Mullewa) southeast to north of Cleary, with a northern outlier south of Wannoo (c. 155 km north of Northampton) and east at Comet Vale (c. 100 km north-northwest of Kalgoorlie).

*Habitat.* Grows mostly in variously coloured sands or loam, often with a high clay content on sandplains or flats, also on low hills and granite outcrops, in "spinifex" grassland with *Eucalyptus gonglyocarpa*, and in shrubland with various *Eucalyptus* and *Acacia* species especially *A. aneura*.

*Flowering and fruiting periods.* Flowering July-September; mature fruits with seeds October-November.

*Variants.* Within subsp. *effusa* two variants are recognized on the basis of the presence or absence of peduncles (see key above). There is also a correlation between presence or absence of peduncles and the length of the heads which gives the impression of different head forms: the pedunculate-head variant has heads 12-34 mm long and those of the sessile-head variant do not exceed 10 mm in length. These two forms of the subspecies may ultimately require more formal recognition but they appear to overlap geographically, as well as morphologically to some extent, and we prefer to treat them as variants, pending more data that will resolve their status more precisely.

*Affinities.* Nearest the typical subspecies, differing primarily in the shape and size of the phyllodes. There is a remarkable resemblance between subsp. *effusa* and *A. ramulosa*, not only superficially but with respect to the floral parts and their union; *A. ramulosa* has very different pods and seeds.

*Conservation status.* Not considered rare or endangered.

*Etymology.* The name refers to the flat, expanded nature of the phyllodes, compared to those of the typical subspecies, from *effusus*, Latin for spread out or expanded.

## 2c. *Acacia coolgardiensis* subsp. *latior* Cowan & Maslin, *subsp. nov.*

Trunci interdum convoluti, cortice fibroso, griseo ad atro; phyllodia anguste oblanceolata, lineari-oblanceolata vel lineari-elliptica, 5.5-11.5 cm longa, 5-10 mm lata, argentea; pedunculi 4-7 mm longi; capitula lato-ellipsoideae ad oblongoideae, 8-12 mm longae, 5-7 mm diametro; bracteolae lineari-spathulatae ad spathulatae, puberulae, aliquando etiam pilis rubris et resinosis; sepala 1/4-1/3-connata; legumina 3-6.5 cm longa, 2-3 mm diametro.

*Typus:* 6.4 km E of Mullewa towards Yalgoo, Western Australia, 2 August 1974, *B.R. Maslin* 3629 (holo: PERTH 00343188; iso: BM, BRI, CANB, G, K, MEL, MO, NSW, NY).



*Trunks* sometimes fluted. *Bark* fibrous, stringy, grey to black. *Phyllodes* narrowly oblanceolate, linear-oblanceolate or linear-elliptic, 5.5-11.5 cm long, 5-10 mm wide, silvery. *Peduncles* 4-7 mm long; heads widely ellipsoid to oblongoid, 8-12 mm long, 5-7 mm diam., bracteoles linear-spathulate to spatulate, puberulous, sometimes also with scattered red resin-hairs. *Sepals* 1/4-1/3-united. *Pods* 3-6.5 cm long, 2-3 mm diam.

*Selected specimens examined.* WESTERN AUSTRALIA: Whitewells Station, 64 km E of Perenjori, *J.S. Beard* 7367 (PERTH); between Cue and Mount Magnet, *W.E. Blackall* 81 (PERTH); East Yuna Reserve, *A.C. Burns* 1A (PERTH); 16.5 miles [24 km] S of Mullewa towards Morawa, *R.J. Cumming* 2189 (PERTH); 60 km W of Yalgoo towards Mullewa, *B.R. Maslin* 3626 (PERTH); Gabyon Station, *A.A. Mitchell* 914 (CANB, K, PERTH); 38 km E of Mullewa towards Yalgoo, *B.R. Maslin* 4266 (PERTH).

*Distribution.* Occurs from Yuna (c. 35 km east of Northampton) northeast to between Cue and Mount Magnet and southeast to Whitewells Station (c. 70 km east of Perenjori), especially frequent in the Mullewa area, Western Australia.

*Habitat.* Grows in red sand, rocky clay or clay-loam and sandy loam on sandplains, granite hills or gravelly rises in shrubland or scrub with mallee-type eucalypts and *Acacia* species.

*Flowering and fruiting periods.* Flowers mostly in July to September; fruits with mature seeds in November and December.

*Discussion.* The much wider, differently shaped phyllodes of subsp. *laticor* give it a quite distinctive appearance and readily separates it from subsp. *effusa*, to which it is most similar. Subspecies *laticor* has silvery phyllodes due to the silvery appressed pubescence on the broader expanse of the blades, as well as shorter heads than those of the pedunculate-head variant of subsp. *effusa* and the pods of subsp. *laticor* tend to be thicker.

*Conservation status.* Not considered rare or endangered.

*Etymology.* The broad phyllodes of this subspecies suggest the name, from the comparative of *latus*, Latin for broad.

### 3. *Acacia cuthbertsonii* Luehm. (as 'Cuthbertsoni'), Victorian Naturalist 13: 117 (1897)

Syntypes: (1) between the Murchison and Gascoyne Rivers, Western Australia, *W. Cuthbertson* (n.v.). (2) Murchison district, 1888, *W. Cuthbertson* (PERTH 00746819-fragment ex B). (3) near Mount Narryer, Western Australia, *I. Tyson* (n.v.)

Bushy, often gnarled, *shrubs* or *trees* 1-4 m tall, spreading to 5 m diam. *Bark* grey, brown or black, fissured, flaking off in brittle pieces. New growth citron- or grey-sericeous. *Branchlets* silvery sericeous. *Phyllodes* flat to compressed or rarely terete, elliptic to narrowly elliptic or linear, 3-11 cm long, 1-20 mm wide, coriaceous, subrigid, patent to erect, straight to gently incurved, light-green to grey-green but with a silvery sheen due to the dense, sericeous indumentum; apex acute and commonly mucronate; pulvinus 0.7-1.5 mm long; nerves rather indistinct but often slightly raised, numerous, distant to sub-distant, sometimes (in subsp. *cuthbertsonii*) sparingly anastomosing; glands 1-3, lowest 3-28 mm above pulvinus. *Peduncles* paired, 2-11 mm long, sericeous; spikes interrupted,

cylindric, golden, 10-34 mm long, 4-5 mm diam.; bracteoles spatulate to oblanceolate, distinctly stipitate. *Flowers* 5-merous. *Sepals* 1/5 as long as the petals, united. *Pods* narrowly oblong to linear, commonly compressed, straight-edged or shallowly constricted between the seeds, 5-14 cm long, 11-22 mm wide, woody, mostly shallowly to markedly curved, glabrous, drying yellowish and with strong longitudinal folds on surface. *Seeds* longitudinally arranged in pods, widely elliptic to sub-circular, 7.5-9 mm long, 7-8 mm wide, dull, brown, the aril a small, terminal, scalloped pad.

*Distribution.* Widespread in arid areas of Western Australia and Northern Territory.

*Variation.* There is considerable variation in the shape and dimensions of the phyllodes but the pods exhibit even greater variability: narrowly oblong or linear, shallowly to strongly curved (rarely straight), raised over the seeds on both sides to rather flat, shallowly constricted between seeds to straight-edged. This variation appears to be independent of other morphologic, geographic or ecologic factors.

*Discussion.* The nearest relatives of *A. cuthbertsonii* are *A. levata* Cowan & Maslin (see 8 below) and *A. wanyu* Tindale. Subspecies *linearis* is similar to *A. wanyu* which differs by its terete phyllodes that are golden sericeous in the new growth, as well as in having moniliform pods. Individuals of subsp. *cuthbertsonii* with large phyllodes are superficially similar to *A. levata* (see under that species below for discussion). The shape and relative proportions of the phyllodes is the basis for the admittedly rather arbitrary separation of the two subspecies comprising *A. cuthbertsonii*: subsp. *cuthbertsonii* has proportionately wider phyllodes than subsp. *linearis* and they are narrowly elliptic to linear-elliptic.

#### Key to subspecies of *Acacia cuthbertsonii*

1. Phyllodes 3-10(20) mm wide, elliptic, narrowly elliptic to linear-elliptic, flat ..... 3a. subsp. *cuthbertsonii*
1. Phyllodes 1-1.5 mm wide, narrowly linear, flat to compressed or rarely terete ..... 3b. subsp. *linearis*

#### 3a. *Acacia cuthbertsonii* Luehm. subsp. *cuthbertsonii*

*Illustration.* B.R. Maslin in J. Jessop (ed.), Fl. Centr. Australia 125, fig. 161H (1981); M. Simmons, Acac. Australia 2: 241 (1988).

*Phyllodes* elliptic to narrowly elliptic or linear-elliptic, 3-8.5 cm long, 3-10(20) mm wide, l:w = 2.5-14, the central nerve of phyllodes the most evident, the other nerves when present longitudinally orientated and sometimes sparingly anastomosing. *Seeds* widely elliptic, 7.5 mm long, 7 mm wide.

*Selected specimens examined.* WESTERN AUSTRALIA: Wiluna Road, 80 km W of Carnegie, U. Johnson 41 (K, NSW, PERTH); Mount James Station, 53 km W of Landor Homestead on track to Mount Augustus Station, B.R. Maslin 5189a (PERTH); 30.5 km N of Gordon Downs Station, R.A. Perry & M. Lazarides 2439 (PERTH).

NORTHERN TERRITORY: 77 km N of Aileron, Stuart Highway, J.R. Maconochie 976 (DNA, PERTH); 270 km N Alice Springs, 16 km S Barrow Creek, J.R. Maconochie 2502 (CANB, DNA, PERTH).

*Distribution.* Widespread from inland of Shark Bay and Kalbarri, Western Australia, eastward to south of Tennant Creek in the central part of Northern Territory.

*Habitat.* Commonly found in stony sand along creeks and drainage lines, often on hillocks but also on plains, mostly with "mulga" and "spinifex".

*Discussion.* There is considerable variation in phyllode width and shape with very narrow phyllode forms approaching subsp. *linearis* whose phyllodes are much longer in relation to their width.

**3b. *Acacia cuthbertsonii* subsp. *linearis* Cowan & Maslin, subsp. nov.**

A var. *cuthbertsonii* phyllodiis linearibus et angustioribus planis ad compressis ad raro teretibus, 5-11 cm longis et 1-1.5 mm latis, nervis haud anastomosantibus, seminibus late ellipticis ad subcircularibus, 8-9 mm longis et 7-8 mm latis differt.

*Typus:* Towrana Station, Western Australia, 8 April 1981, *A.L. Payne* 39 (holo: PERTH 00606162; iso: CANB).

*Phyllodes* narrowly linear, 5-11 cm long, 1-1.5 mm wide, 33-110 times longer than wide, flat to compressed or rarely terete, nerves not anastomosing. *Seeds* widely elliptic to sub-circular, 8-9 mm long, 7-8 mm wide.

*Selected specimens examined.* WESTERN AUSTRALIA: 30 km S of Meekatharra, *C.A. Gardner* 13388 (PERTH); 18 km E of Meekatharra on road to Wiluna, *J.W. Green* 5301 (K, PERTH); Mount Vernon, *B. Kok* 5 (PERTH); Tangadee Station, *B. Kok s.n.* (PERTH 00605905); Dalgety Downs Station, 139 km E of Gascoyne Junction on road to Meekatharra, *B.R. Maslin* 5013 (PERTH); Bulloo Downs on Meekatharra Road, 15 June 1976, *A.A. Mitchell s.n.* (PERTH 00636002); 3.5 km W of Weedarrah Outcamp, Bidgemia Station, *D.G. Wilcox* 163 (PERTH).

*Distribution.* Occurs inland from the southern end of Shark Bay east to Meekatharra and to Bulloo Downs Station (c. 75 km south of Newman), Western Australia; in a few localities it occurs near populations of the typical subspecies.

*Habitat.* Grows commonly along creek lines in often stony sand and clay on gibber plains and stony rises, sometimes in saline conditions, with members of the "*A. aneura* Group".

*Flowering and fruiting periods.* Flowers October to December; fruits with mature seeds in September to October.

*Discussion.* The phyllodes which are commonly sericeous are glabrous in one PERTH collection (*B. Kok*, from Tangadee Station).

*Etymology.* The subspecific epithet refers to the narrowly linear phyllodes, from *linearis*, Latin for linear.

**4. *Acacia demissa* Cowan & Maslin, sp. nov.**

Frutex vel arbor plus minusve torsiva infundibularis expansa 1.5-4 m alta, corona ad 5 m effusa, ramis et ramulis pendentibus, truncorum cortice griseo fibrosoque sed supra levi. Ramuli glabri, in juventute ad extremitates sed in maturitate rubro-brunnei. Stipulae minutae, caducae. Phyllodia linearia ad lineari-elliptica vel anguste elliptica, acuta ad acuminata et arcuata ad uncinata, 5-18 cm longa et

1-6 mm lata, recta ad leviter curvata, tenuiter coriacea, laxa, pendula, olivacea, glabra, nervis numerosis arcte parallelis, subobscuris, non anastomosantibus, nervo marginali brunneo ad rubro-brunneo vel luteo et initio resinoso. Pedunculi 2 vel 3 in quoque axilla, interdum in axem 2.5-4 mm longi, resinosi et glabri vel raro pilis minutis sparsis dispersis; spicae oblongoideae ad cylindricae, aureae, sub-densae, 8-23 mm longae et c. 5.5 mm diametro, bracteolis spathulatis, ciliolatis. Flores pentameri, resinosi. Sepala longitudine 1/3-1/2 petali partes aequantia, ad basem connata, lobis oblongis ciliolatis. Petala c. 1/4-connata. Legumina oblonga ad anguste oblonga, plana et crassa, lignea, 5.5-10 cm longa et 8-17 mm lata, glabra et resinosa, marginibus latis et pallidioribus sed haud alatis. Semina longitudinalia, lato-elliptica ad sub-circularia, 6.5-9 mm longa et 4.5-7 mm lata, hebetato-brunnea ad nigra, pleurogramma obscura, arillo terminali.

*Typus:* Cobra Station, 82.5 km N of Landor Homestead on track to Mount Augustus Station, Western Australia, 8 May 1982, *B.R. Maslin* 5198 (holo: PERTH 00590770; iso: CANB, G, K, NY).

Obconic, weeping *shrubs* or *trees* 1.5-4 m tall, the crown spreading 5 m. *Bark* grey, fibrous on trunks but becoming smooth on branches. *Branches* and *branchlets* pendulous, slender, terete, obscurely nerved, glabrous, red-brown but yellow at extremities. *Stipules* minute, caducous. *Phyllodes* linear to linear-elliptic or narrowly elliptic, 5-18 cm long and 1-6 mm wide but commonly 6.5-15 cm long and 1.5-4 mm wide, straight to shallowly curved, thinly coriaceous, not rigid, pendulous, often crowded in tufts at ends of branchlets, olive-green, glabrous, slightly shiny; apex acute to acuminate, curved to uncinat; nerves numerous, closely parallel, scarcely evident and not anastomosing; marginal nerve discrete, brown to red-brown or yellow, resinous on young phyllodes but resin often lacking on mature phyllodes; gland small, basal. *Peduncles* 2 or 3 per axil, occasionally on a very short axis, 2.5-4 mm long, commonly glabrous and resinous but sometimes with scattered minute hairs; spikes oblongoid to cylindric, golden, 8-23 mm long and c. 5.5 mm diam., sub-densely flowered; bracteoles spathulate, ciliolate. *Flowers* 5-merous, resinous. *Sepals* 1/3-1/2 as long as petals, united only basally, oblong, ciliolate. *Petals* about 1/4-connate. *Pods* oblong to narrowly oblong, 5.5-10 cm long, 8-17 mm wide, straight to shallowly curved, thick and woody, flat, not constricted between seeds, commonly glabrous and slightly resinous, dark brown; margins broad (2 mm wide), unwinged, yellowish. *Seeds* longitudinally arranged in pods, widely elliptic to nearly circular, 6.5-9 mm long, 4.5-7 mm wide, dull, brown to black, minutely and irregularly pitted except for the areole and the tissue immediately surrounding it; pleurogram obscure, continuous or sometimes with a narrow opening at the hilar end; areole 1 mm long, c. 0.4 mm wide; aril terminal and small.

*Selected specimens examined.* WESTERN AUSTRALIA: 65.6 km S of road junction near Woolshed, *A.M. Ashby* 4760 (PERTH); 5 km W of Savory Bore, Innouendy Station, *R.J. Cranfield* 5173 (DNA, PERTH); 3 km NE of Anzac Bore, Koonmarra Station, *R.J. Cranfield* 5931 (PERTH); 120 km W of Meekatharra, *H. Demarz* 3826 (PERTH); floodplain of Murchison River, near Beringarra, *C.A. Gardner* 14487 (PERTH); Beringarra Station, 22 May 1963, *A.J. McComb* (PERTH 00888400); 41 km from Byro Homestead on track to Milly Milly Station, *B.R. Maslin* 5177 (BRI, NSW, PERTH); Erong Station, c. 6 km due NE of homestead, *B.R. Maslin* 5179 (CANB, K, MEL, PERTH); Landor Station, 14.5 km N of homestead on track to Mount Augustus Station, *B.R. Maslin* 5184 (PERTH); Cobra Station, 78 km N of Landor Homestead on track to Mount Augustus Station, *B.R. Maslin* 5194 (PERTH); Gifford Creek Station, 13 km by road SE of homestead towards Cobra Station, *B.R. Maslin* 5208 (AD, DNA, PERTH); Gifford Creek Station, 13 km by road SE of homestead towards Cobra Station, *B.R. Maslin* 5208A (CANB, K, PERTH); Belele Station, *A.A. Mitchell* 799 (PERTH); 20 km S of Koonmarra Homestead, *A.A. Mitchell* 1172 and 1174 (MEL, PERTH); 8 km S of Beringarra, *N.H. Speck* 985 (PERTH); Byro Station, 13 April 1981, *J. Stretch* (PERTH 00587362); Windmara Paddock, Mount Clere Station, c. 4 km E of Jack's Well, 30 October 1986, *J. Stretch* (PERTH

00801275); Mount Clere Station, 23 June 1970, *D.G. Wilcox* (PERTH 00590800); 8 km SE of Moorarie Homestead, 120 km NW of Meekatharra, *P.G. Wilson* 8504 (PERTH).

*Distribution.* Restricted to an area inland from Shark Bay and bounded by Gifford Creek Station (c. 270 km northeast of Carnarvon), Byro Station (c. 270 km southeast of Carnarvon) and Bebele Station (c. 50 km northwest of Meekatharra), Western Australia.

*Habitat.* Grows in a variety of habitats: low quartzite or granite hills, red-brown clay or loam on flats with Mulga, on floodplains or in clayey sand along seasonally dry streams.

*Flowering and fruiting periods.* Flowers primarily from April to June but flowers have been found in November as well; pods with mature seeds collected in August to November.

*Affinities.* The new species is related to *A. quadrimarginea* F. Muell. which is usually readily distinguished by its non-pendulous branchlets, characteristically spreading phyllodes and prominently winged pods. *Acacia quadrimarginea* is widespread in south-central W.A. whereas *A. demissa* is geographically localised; however, the two are occasionally sympatric, e.g. on Cobra Station (*B.R. Maslin* 5195 - *A. quadrimarginea*, *B.R. Maslin* 5194 - *A. demissa*). Collections from Koonmarra Station have the shortest mature phyllodes known for the species.

Some collections from Gifford Creek Station have characters intermediate between *A. demissa* and *A. quadrimarginea*: plants with only the peripheral branches and branchlets pendulous occur along with completely pendulous ones and in the same area other plants with the spreading phyllodes characteristic of *A. quadrimarginea* (e.g., *B.R. Maslin* 5208 and 5208A, both PERTH; these collections also have slightly puberulous peduncles). Another collection (*B.R. Maslin* 5022-PERTH, from Mount Gould Station, between Gascoyne Junction and Meekatharra) is from a low stunted shrub with spreading phyllodes like those of *A. quadrimarginea* but the pods are similar to those of *A. demissa*; further collection from this area may well clarify the identity of this population.

*Conservation status.* Not considered rare or endangered.

*Common names.* Ashburton Willow; Moondyne tree.

*Etymology.* The epithet is derived from the weeping habit of the plant, both branchlets and phyllodes pendulous, from *demissus*, Latin for hanging down or drooping.

##### 5. *Acacia ephedroides* Benth., London J. Bot. 1: 370 (1842)

*Lectotype* (here selected): rocky woodland near Halfwayhouse, Darling Range, Western Australia, 13 September 1839, *L. Preiss* 974 (K, right-hand specimen on Herb. Benth. sheet; isolecto: C, FI, LUND, M, MEL, NAP, NY, P, PERTH 01013823-fragment ex K and 01013815-fragment ex MEL, RO, TCD). Paralectotype: "Cape Portera, New Holland", *C. Fraser* (K, PERTH 00750522-fragment ex K), this specimen is possibly *A. acuminata* Benth. subsp. *burkittii* (F. Muell. ex Benth.) Tindale & Kodala ms.

*Typification.* Bentham cited two collections in the protologue and both are mounted on a single Herb. Bentham sheet at K. The first of these on the left (Fraser from "Cape Portera") is referable to another

species altogether, possibly *A. acuminata* Benth. subsp. *burkittii* (F. Muell. ex Benth.) Tindale & Kodela (ms name); examination of the phyllode fragments at PERTH and of the collection at K leave some doubt as to its identity but it is discordant with the lectotype. The second collection, on the right hand of the type sheet, *Preiss* 974, we have designated as the lectotype.

*Discussion.* Although Bentham (1864) described the flowers as "mostly 4-merous" in "Flora Australiensis", we have very rarely seen other than 5-merous ones.

## 6. *Acacia gibbosa* Cowan & Maslin *sp. nov.*

Frutex vel arbor parva 1-3 m alta, corona rotundata, densa, 1.5-6 m diametro, cortice atro-cinereo, laevi praeter ad basem plus minusve fissurata et fibrosa. Phyllodia cylindrica, compressa vel plana, anguste linearia, acuta ad acuminata et recurvata ad subuncinata, pulvino 0.7-1.3 mm longo, laminis 4-9.5 cm longis, 0.8-1.5(2.3) mm latis, plerumque erectis, rectis, glabris, 8 distantibus nervis impressis ad raro leviter elevatis, brunneis et resinosis, haud anastomosantibus, glande minuta, obscura, laminarum prope basem. Pedunculi binati, 1.5-4 mm longi, glabri vel plus minusve appresso-puberuli; pedunculorum bracteae basales crassae, late ovatae, abaxialiter ad basem gibbosae, ciliolatae, raro plus minusve appresso-puberulae; capitula oblongoideae, aureae, 6-8 mm longae, 4-4.5 mm diametro, 22-27-floribus, bracteolis magnis, subpeltatis, lamina late oblata, concava, ciliolata. Flores 5-meri. Sepala longitudine 1/2-2/3 petali partes aequantia, prope basem connata, anguste oblonga ad spatulato-oblonga, ciliolata. Petala elliptica, discreta, glabra, lobis patentibus. Legumina linearia, supra semina elevata et inter semina leviter constricta, ad 6.5 cm longa, 2-2.5 mm lata, recta, firme chartacea, glabra. Semina longitudinalia, anguste oblongo-ovata, 2.8-3 mm longa, 1.5-2 mm lata, 1-1.5 mm crassitie, nitido-nigra, arillo cristato, inaequilateraliter pileato, terminali.

*Typus:* 4.5 miles [6.1 km] NW of Southern Cross towards Bullfinch, Western Australia, 12 August 1971, *B.R. Maslin* 1953 (holo: PERTH 00155152; iso: CANB, G, K, MEL, NY).

[*A. cyperophylla* auct. non F. Muell.: E. Pritzel, Bot. Jahrb. Syst. 35: 307 (1904), *pro parte*, as to *L. Diels* 5844 00750662-fragment ex B).]

*Shrub* or small *tree* 1-3 m tall with rounded, dense crown 1.5-6 m diam., single-stemmed or branching at or up to 45 cm above ground level into few to many main stems. *Bark* dark grey, smooth except more or less fissured and fibrous near base of main stems. *Branchlets* terete, ribbed, glabrous. *New shoots* pale green, resinous, nerves in young phyllodes brownish. *Stipules* not seen. *Phyllodes* terete, compressed or flat, narrowly linear, 4-9.5 cm long, 0.8-1.5(2.3) mm wide, l:w = 25-85, subrigid, commonly erect, straight, glabrous, green to grey-green; apex acute to acuminate and recurved to subuncinate; pulvinus 0.7-1.3 mm long; nerves 8 in all (3 per face on flat and compressed phyllodes), distant, impressed, rarely slightly raised, brown and resinous, not anastomosing; stomata more or less raised; gland minute, inconspicuous,  $\pm$  0.5 mm above base of blade. *Peduncles* 2 per axil, 1.5-4 mm long, glabrous or sparsely to lightly appressed puberulous with red, minute micro-hairs; basal peduncular bracts persistent to anthesis, thick, broadly ovate, abaxially gibbose at base, glabrous except ciliolate, rarely more or less appressed puberulous; heads oblongoid, golden, 6-8 mm long, 4-4.5 mm diam., 22-27-flowered; bracteoles large, subpeltate, blade broadly oblata, concave, ciliolate, dark-coloured. *Flowers* 5-merous. *Sepals* 1/2-2/3 as long as petals, connate basally to 1/3 their length, narrowly oblong to spatulate-oblong, ciliolate. *Petals* elliptic, free, glabrous, lobes spreading. *Ovary* minutely appressed puberulous. *Pods* linear, raised over and slightly constricted between seeds, to 6.5 cm long, 2-2.5 mm wide, firmly chartaceous, straight, smooth, glabrous, slightly shiny, dark brown, margins paler. *Seeds* longitudinally arranged in pods, narrowly oblongo-ovate, 2.8-3 mm long, 1.5-2

mm wide, 1-1.5 mm thick, glossy, black; pleurogram obscure, U-shaped; areole c. 0.5 mm long; funicle somewhat enlarged, in 2 folds over top of inequilateral cap-like, terminal, crested aril with one lobe extending farther along one side of the seed.

*Selected specimens examined.* WESTERN AUSTRALIA: 22.1 miles [35.6 km] from Coolgardie towards Norseman, *E.M. Canning* WA/68 2357 (PERTH); 0.5 miles [0.8 km] W of Yellowdine toward Duladgin Rock, *R.J. Cumming* 2472 (MELU, NSW, PERTH); Dundas, *L. Diels* 5844 (PERTH); Kurrawang Mission, c. 17 km from Kalgoorlie towards Coolgardie, late September 1985, *E.M. Goble-Garratt s.n.* (PERTH 00612839); 5 miles [8 km] E of Koorda, *J. Goodwin* M28 (PERTH); c. 5 miles [8 km] E of Southern Cross on Great Eastern Highway, *B.R. Maslin* 1833 (CANB, K, MEL, PERTH); 7 km N of Southern Cross towards Bullfinch, *B.R. Maslin* 2379 (CANB, K, MEL, PERTH); 4.8 km E of Karalee on Great Eastern Highway, *B.R. Maslin* 2400 (BRI, NSW, PERTH); about 15 km N of Bruce Rock towards Merredin, *B.R. Maslin* 3417 (AD, CANB, K, MEL, P, PERTH); 46 km by road S of Queen Victoria Rock, *B.R. Maslin* 5413 (BM, BRI, MO); 10 km SW of Coolgardie, *K. Newbey* 5667 (CANB, PERTH); 1.6 km E of Marvel Loch turn-off on Great Eastern Highway, *M.H. Simmons* 1207 (PERTH); 9.5 miles [15.3 km] E of Bruce Rock on main road from Merredin, *M.D. Tindale* 3733 (CANB, K, L, NSW, PERTH, US).

*Distribution.* Occurs from Koorda and Kellerberrin east to the Coolgardie area and Dundas (c. 20 km south of Norseman), southwest Western Australia.

*Habitat.* Grows mostly in loam, both in low lying areas and on rises. Locally common in eucalypt woodland, scrub and shrubland, often associated with other *Acacia* spp., *Melaleuca* spp. and Sheoak.

*Flowering and fruiting periods.* Flowers in August and September; pods with mature seeds collected in December and February.

*Affinities.* Flat-phyllode individuals of the new species with three well-separated nerves on each face remind one in a general way of *A. websteri*. *Acacia websteri*, however, is readily distinguished by its consistently flat, broader phyllodes (2-3.5 mm wide) with raised nerves of  $\pm$  the same green colour as the inter-nerve tissue (nerves not obviously brown as in *A. gibbosa*), its peduncles are commonly longer (2-6 mm long) and are sometimes borne on a short common axis, and its bracteoles are smaller and spatulate (stipe long, blade rounded).

*Conservation status.* Not considered rare or endangered.

*Etymology.* The specific name refers to the basal peduncular bracts which have a basal gibbosity on the abaxial side, from *gibbosus*, Latin for hunch-backed.

## 7. The "Acacia heteroneura Group"

This is a highly diverse group whose complete resolution must be reserved for the future; herein we have delimited those elements which appear to be biological realities but questions such as their appropriate taxonomic rank can be answered adequately only by more detailed studies (see under *A. heteroneura* for further discussion). The "Group" is characterized by: (1) branchlet tips with prominent, resinous ribs and which are sericeous between the ribs; (2) phyllodes that are generally rhombic in cross-section but the form varies to almost terete, compressed-rhombic and flat, each of the four angles of the rhombus in rhombic forms typically with a broader, more prominently raised

nerve and one to five narrower, equally raised or subobscure secondary nerves on the faces; (3) heads globular, pedunculate and borne singly or in pairs (except *A. cylindrica* and *A. pedunculata* which have  $\pm$  sessile spikes and heads respectively); (4) flowers pentamerous with the sepals 1/4-1/2 as long as the petals, the sepals connate 1/3-3/4 or more, and the petals connate 1/2-2/3 their length; (5) pods linear and scarcely raised over the seeds and if constricted at all, only slightly so, the pods margins usually very broad (in some as broad or even broader than the lateral faces so that the pod is roughly quadrangular in cross-section); and (6) seeds arranged longitudinally in the pods, the seeds with an elongate-conic, terminal aril and in all but one species mottled (normally obscurely so).

Species of the "*A. heteroneura* Group" appear to be most closely related to *A. microneura*, *A. resinomarginea*, *A. jamesiana* and related taxa, which have similar phyllodes with many fine, secondary nerves between the main ones but different flowers.

The taxa comprising the "Group" are often separated by seemingly small differences. In the following key it is important to use characteristics of mature phyllodes, for juvenile and mature phyllodes often vary (on the same branchlet) in their transverse sectional shape and their number of nerves.

#### Key to taxa of the *Acacia heteroneura* Group

1. Mature phyllodes terete, semi-terete or slightly rhombic in section
  2. Flowers in cylindric,  $\pm$  sessile spikes; pods flat; seeds not mottled ..... 7.1. *A. cylindrica*
  2. Flowers in globular to oblongoid or widely ellipsoid, pedunculate heads; pods terete to quadrangular; seeds  $\pm$  obscurely mottled
    3. Phyllodes 3-6 cm long, 16-nerved ..... 7.4c. *A. heteroneura* var. *petila*
    3. Phyllodes commonly 7-13 cm long
      4. Phyllodes clearly compressed, 16-nerved ..... 7.4d. *A. heteroneura* var. *prolixa*
      4. Phyllodes terete or almost so
        5. Phyllodes with 8 nerves of equal width ..... 7.2a. *A. desertorum* var. *desertorum*
        5. Phyllodes with 16 nerves of unequal width ..... 7.2b. *A. desertorum* var. *nudipes*
1. Phyllodes flat to distinctly angular-rhombic
  2. Heads sessile; phyllodes compressed-rhombic to flat, c. 4 cm x 1.3-1.6 mm, with 1 nerve between midrib and marginal nerve ..... 7.3. *A. epedunculata*
  2. Heads pedunculate (peduncles 2-8 mm long); phyllodes with >1 nerve between midrib and marginal nerve
    3. Phyllodes flat, commonly 5-7 cm x 2-4 mm ..... 7.4a. *A. heteroneura* var. *heteroneura*
    3. Phyllodes angular-rhombic
      4. Phyllodes 3-6 cm x 0.7-1 mm, somewhat pungent ..... 7.4c. *A. heteroneura* var. *petila*
      4. Phyllodes some or all longer and/or wider
        5. Phyllodes 7-13 cm x 1-1.5 mm; heads widely ellipsoid to oblongoid ..... 7.4d. *A. heteroneura* var. *prolixa*
        5. Phyllodes 4-7 cm x 1-1.7 mm or, if longer, then heads globular ..... 7.4b. *A. heteroneura* var. *jutsonii*



### 7.1. *Acacia cylindrica* Cowan & Maslin, *sp. nov.*

Frutex 1.5-3 m altus, ad 2.5 m diametro effusus, ramulis apicaliter resinoso-costatis, inter costas sericeus. Phyllodia teretia vel quadrangulari-teretia, acicularia, grosse pungentia, 8-13 cm longa, 1-1.2 mm diametro, plus minusve rigida, erecta, inter nervos in sulcis appresso-puberula, 16-nervata nervis arcte parallelis, glande laminarum juxta basem. Pedunculi 1 vel 2 in quoque axilla, 0.5-1.5 mm longi, sericei, pedunculorum bracteis persistentibus lanceolatis ciliolatis; spicae cylindricae, aureae, 10-11 mm longae, 5 mm diametro, bracteolis spatulatis, puberulis, ciliolatis. Flores 5-meri. Sepala longitudine 1/2 petali partes aequantia, 1/2-3/4-connata, puberula. Petala 1/2-connata, glabra. Legumina linearia, plana, supra semina leviter elevata et inter semina constricta, ad 6.5 cm longa, 2-2.5 mm lata, patentia, chartacea, recta, sparse et minute appresso-puberula. Semina longitudinalia, oblongo-elliptica, 3.5-4 mm longa, 1.5 mm lata, 0.8 mm crassitie, nitida, pallido-brunnea, non maculata, arillo longitudine ad 1/2 seminum aequantia.

*Typus*: 23 km NE of Bungalbin Hill, c. 68 km NNE of Koolyanobbing, Western Australia, 8 September 1984, K. Newbey 10826 (holo: PERTH 00652539; iso: CANB).

Spreading *shrub* 1.5-3 m tall, to 2.5 m diam. *Bark* grey and  $\pm$  roughened at base of trunks, smooth and reddish on branchlets. *Branchlets* sericeous between the glabrous, resinous ribs. *Phyllodes* terete or quadrangular-terete, acicular, 8-13 cm long, 1-1.2 mm diam., rather rigid, erect, straight, light- to dark-green, glabrous except minutely sericeous in the shallow longitudinal grooves between the nerves; apex normally straight, coarsely pungent; nerves 16 although sometimes only 8 readily visible, the nerves closely parallel, slightly raised, sub-equally prominent, the broadest ones (c. 0.2 mm wide) on the four slight angles (and in the equivalent positions on terete phyllodes); gland indistinct, near base of blade. *Peduncles* 1 or 2 per axil, 0.5-1.5 mm long, sericeous; basal peduncular bracts persistent to anthesis, lanceolate, ciliolate; spikes cylindric, golden, 10-11 mm long, 5 mm diam., densely flowered; bracteoles spatulate, blade  $\pm$  rhombic, acute, puberulous, ciliolate. *Flowers* 5-merous. *Sepals* 1/2 petal-length, 1/2-3/4-united, puberulous, lobes acute. *Petals* 1/2-united, glabrous, lobes acute and erect. *Ovary* sericeous. *Pods* linear, flat, slightly raised over and slightly constricted between seeds, to 6.5 cm long, 2-2.5 mm wide, patent, chartaceous, straight, light brown, sparsely and minutely appressed-puberulous, the narrow, paler margins with or without appressed, red, resin-hairs. *Seeds* longitudinally arranged in pods, oblong-elliptic, 3.5-4 mm long, 1.5 mm wide, 0.8 mm thick,  $\pm$  shiny, pale brown with a darker peripheral nerve, not mottled; pleurogram U-shaped with the opening at hilar end; areole minute, c. 0.2 mm long; funicle/aril a series of loose loops, the aril to 1/2 as long as seed.

*Other specimens examined*. WESTERN AUSTRALIA: 6.9 miles [11.1 km] N of Southern Cross towards Bullfinch, R. Cumming 2386 (PERTH); 10.5 km N of Southern Cross towards Bullfinch, B.R. Maslin 2383 (PERTH) and 2384 (CANB, K, MEL, NSW, PERTH); 11 km S of Mount Correll, c. 45 km NNW of Bullfinch, K. Newbey 9591 (PERTH); 4 miles [6.4 km] E of Kulja on main road, 17 December 1971, B.H. Smith *s.n.* (PERTH 00657352).

*Distribution*. Most collections have been made between Southern Cross and Bullfinch (c. 35 km northwest of Southern Cross) but also found northwest as far as Kulja (c. 45 km north-northwest of Koorda), north to Mount Correll (c. 50 km north of Bullfinch) and Bungalbin Hill (c. 50 km north of Koolyanobbing), southwest Western Australia.

*Habitat*. In deep yellow sand or gravelly, well-drained sand on flat to gently undulating plains or on the sides of low hills. Locally frequent in *Acacia coolgardiensis* scrub and *Eucalyptus leptopoda* mallee open shrubland.

*Flowering and fruiting periods.* Flowering specimens have been collected in September and early October; pods with mature seeds in mid-December.

*Affinities.* The new species appears to be most closely related to *A. desertorum* Maiden which is most readily distinguished by its globular to oblongoid, sub-densely flowered heads, longer peduncles, narrower,  $\pm$  quadrangular pods and mottled seed. Of the two varieties of *A. desertorum* only var. *nudipes* has 16-nerved phyllodes (the typical variety has 8-nerved phyllodes). There is a superficial resemblance to *A. sibina* Maslin which is distinguished by its indistinctly ribbed branchlets that are glabrous except for being tomentulose in the phyllode axils, its perfectly terete, sharply pungent phyllodes with more numerous, much narrower nerves and a sub-smooth, basally flared pulvinus, its wider (6 mm) pods which are clearly constricted between the seeds.

*Conservation status.* A Priority 3 taxon in the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The name is given in allusion to the cylindrical spikes which distinguishes the species from other members of its group, from *cylindricus*, Latin for cylindrical.

**7.2. *Acacia desertorum*** Maiden & Blakely, J. Roy. Soc. Western Australia 13: 24, pl. 17, figs 1-7 (1928)

*Typus:* Victoria Desert, Elder Exploring Expedition, Camp 54 [lat. 29°S, long. 125°E], Western Australia, 17 September 1891, *R. Helms* 14 (holo: NSW; iso: K, MEL, PERTH 01160494, 00748382 and 00748404-fragments ex ?K).

*Illustrations.* J.H. Maiden & W.F. Blakely, *loc. cit.*; B.R. Maslin, Fl. Centr. Australia, 119 (1981).

Dense or open *shrubs* 0.6-2 m tall, rarely trees to 4 m. *Bark* grey and  $\pm$  fissured at stem base, smooth and grading to reddish brown on branches. *Branchlets* yellow at extremities, sericeous between the glabrous, resinous ribs. *Phyllodes* terete to rhombic-terete, (5)7-13(15) cm long, 1-1.5 mm diam., rigid, ascending, straight to shallowly incurved, grey-green, glabrous or appressed hairy in grooves between nerves; apex acute to short-acuminate, shallowly curved, coarsely pungent; pulvinus 1.5-2.5 mm long; nerves 8 or 16, the nerves closely parallel, slightly raised (separated by shallow but discernible, often dark-coloured grooves), flat-topped or slightly rounded,  $\pm$  equal or clearly unequal in width (the broadest ones to 0.3 mm wide and located on the slight angles of rhombic phyllodes), often  $\pm$  resinous and slightly shiny; gland inconspicuous, near base of blade. *Peduncles* 1 or 2 per axil, 3-8 mm long, slender to stout (0.4-0.8 mm diam.), smooth or longitudinally ribbed when dry, resinous or not, glabrous or  $\pm$  sparsely sericeous and sometimes with red, resin-hairs intermixed; basal peduncular bracts caducous, ovate, resinous; heads globular to widely ellipsoid or oblongoid, bright golden, 7-9 mm long, 6-8 mm diam., sub-densely flowered; bracteoles spatulate, resinous. *Flowers* 5-merous. Sepals 1/4-1/2 length of petals, 0.5-1.1 mm long, 3/4-united, somewhat puberulous. *Petals* 2/3-united, smooth, glabrous, obscurely 1-nerved to nerveless. *Ovary* villose or appressed puberulous. *Pods* linear,  $\pm$  quadrangular in section with wide margins, neither raised over nor constricted between seeds, to 8.5 cm long, 1.5-2 mm wide, thinly coriaceous, straight to slightly curved, minutely sericeous on the dark brown faces, margins glabrous and paler coloured. *Seeds* (few seen) longitudinally arranged in pods, linear, 4-4.5 mm long, 0.8-1.2 mm wide, shiny, light brown, obscurely mottled darker brown; pleurogram obscure, U-shaped, open at hilar end; areole minute, 0.4-0.5 mm long; funicle/aril white, compressed-conic and  $\pm$  equalling seed-length.

*Distribution.* Disjunct, occurring in the Southern Cross and Coolgardie areas and in the Great Victoria Desert, Western Australia.

*Infraspecific taxa.* Two allopatric varieties are here recognized in *A. desertorum*; however, future studies may indicate the need to treat these as separate species and/or to recognize more entities within this broadly circumscribed species (see discussion under var. *desertorum*). The typical variety which occurs around Coolgardie and in the Great Victoria Desert is recognized by its  $\pm$  uniformly 8-nerved phyllodes; var. *nudipes* occurs further west, around Southern Cross, and has 16-nerved phyllodes with the nerves of unequal width. However, care must be exercised when interpreting this character because on some specimens of var. *nudipes* the young phyllodes at branchlet apices are 8-nerved, the 16-nerved condition only becoming evident on mature phyllodes.

*Affinities.* The chief difference separating *A. desertorum* from *A. heteroneura* is the form of the phyllodes,  $\pm$  terete in *A. desertorum* and angular-rhombic to flat in *A. heteroneura*, with the exception of var. *petila* which has (small) commonly  $\pm$  terete to rhombic-terete phyllodes. *Acacia desertorum* also appears closely related to *A. cylindrica* (see above).

#### 7.2a. *Acacia desertorum* Maiden & Blakely var. *desertorum*

*Phyllodes* 8-nerved, nerves  $\pm$  equal width,  $\pm$  appressed hairy in the shallow, discrete grooves between the nerves. *Peduncles* commonly 2 per axil, sub-stout or rather slender (0.4-0.6 mm diam.), smooth or longitudinally ribbed, resinous or not, sparsely to sub-densely sericeous and with or without varying intermixture of red, resin-hairs. *Sepals* c. 0.5-0.8 mm long, 1/4-2/5 length of petals.

*Selected specimens examined.* WESTERN AUSTRALIA: Doney Lagoon, Adalong Station, R.J. Cranfield 7584 (MEL - distributed as *A. jutsonii*, PERTH); 19 km W of Coolgardie on Great Eastern Highway, B.R. Maslin 4822 (CANB, K, MEL, PERTH); 17 km N of Queen Victoria Rock on the road to Coolgardie, B.R. Maslin 4829 (NSW, PERTH); Great Victoria Desert, c. 60 km NW of Plumridge Lakes, B.R. Maslin 5717 (MO, NSW, PERTH); Great Victoria Desert, c. 2 km SW of Mount Luck on track to Laverton, B.R. Maslin 5732 (PERTH); 35.5 miles [57 km] SW of Kalgoorlie on Great Eastern Highway, M.D. Tindale 27 & E.M. Bennett (PERTH).

*Distribution.* Discontinuous, occurring near Coolgardie, Adalong Station (c. 150 km north of Coolgardie) and in the Great Victoria Desert from Mount Luck west to Plumridge Lakes, Western Australia.

*Habitat.* Populations around Coolgardie grow in yellow sand and red sandy loam in mallee and may form dense roadside communities; eastern populations grow in red sand in open mallee over *Triodia* sp. ("Spinifex").

*Variation.* There appears to be two entities included within var. *desertorum* as defined here on the basis of its 8-nerved phyllodes. Specimens from the Great Victoria Desert (including the type) have peduncles similar to those of var. *nudipes* (see below) in being sub-stout (0.5-0.6 mm diam.), not resinous, sparsely to sub-densely sericeous without resin hairs and slightly to obviously longitudinally ribbed when dry. In comparison the peduncles on specimens from around Coolgardie are rather slender (0.4-0.5 mm diam.), resinous, smooth or very obscurely longitudinally ribbed and sparsely sericeous with varying intermixture of red, resin-hairs; these specimens also have the shortest sepals (i.e. 0.5 mm long and 1/4-1/3 the length of the petals) and the more slender phyllodes. It is probable that future studies will determine that the Coolgardie populations should be afforded formal rank.

*Discussion.* Some specimens from the Queen Victoria Spring Nature Reserve (southwest extremity of the Great Victoria Desert) appear as though they may combine characters of *A. desertorum* var. *desertorum* and *A. heteroneura* var. *jutsonii* (see discussion under var. *jutsonii* below).

*Conservation status.* Probably poorly collected rather than rare or endangered.

**7.2b. *Acacia desertorum* var. *nudipes* Cowan & Maslin, var. nov.**

A var. *desertorum* phyllodiis inaequaliter 16-nervatis, pedunculis plerumque solitariis, glabris, 0.5-0.8 mm diametro, in sicco longitudinaliter porcatis sed non resinosis, sepalis longitudine circa 1/2 petali partes aequantiis differt.

*Typus:* W of Yellowdine towards Southern Cross [precise locality withheld for conservation reasons], Western Australia, 18 September 1982, *R.J. Cumming* 2470 (holo: PERTH 00657824; iso: MELU). Distributed as *A. desertorum* Maiden.

*Phyllodes* 16-nerved but often only 8 nerves visible when young, the nerves of unequal width, glabrous or appressed hairy between nerves. *Peduncles* normally solitary, rather stout (0.5-0.8 mm diam.), longitudinally ribbed when dry, not resinous, glabrous or subglabrous (no resin hairs). *Sepals* 1-1.1 mm long, c. 1/2 length of petals.

*Other specimens examined.* WESTERN AUSTRALIA: between Southern Cross and Boorabbin [precise localities withheld for conservation reasons], *J.S. Beard* 6238 (PERTH), *B.R. Maslin* 2388 (PERTH), *K. Newbey* 6022 (PERTH), *M.H. Simmons* 1203 (PERTH) and *F.G. Smith* 1509 (PERTH).

*Distribution.* Restricted to the area between Southern Cross and Boorabbin (c. 90 km east of Southern Cross), southwest Western Australia.

*Habitat.* Yellow sandplain and occasionally lateritic gravel in heath and tall open shrubland.

*Discussion.* The 16-nerved phyllodes of var. *nudipes* serve to distinguish it from the more easterly distributed typical variety. Future studies may show that var. *nudipes* is more appropriately treated as a distinct species.

*Conservation status.* A Priority 1 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The most obvious difference separating var. *nudipes* is the glabrous condition of its peduncles which gives it its name, from two Latin words, *nudus*, for bare or nude, and *pes*, for feet.

**7.3. *Acacia epedunculata* Cowan & Maslin, sp. nov.**

Frutex 0.5-0.65 m altus, 0.7-0.9 m effusus, ramulis apicaliter resinoso-costatis, inter costas versus apicem sericeis. Phyllodia linearia, compresso-rhomboidea ad plana, acuta et grosso-pungentia, 4-4.5 cm longa, 1.3-1.6 mm lata, ratione horum 25-35, valde patentia sed in sicco ascendentia, leviter incurvata ad fere recta, inter nervos sericea, cano-viridia, nervis 8. Capitula sessilia, solitaria, globularia, atro-aurea, circa 4.5 mm diametro, bracteolis spathulatis, villosis, ciliatis. Flores 5-meri. Sepala longitudine 1/2 petali partes aequantia, 2/3-connata, villosa. Petala 1/2-connata, valde uninervata,

glabra. Legumina linearia, inter semina leviter constricta, ad 6.5 cm longa, 2 mm lata, tenui-crustacea, minute argenteo-sericea, marginibus pallidioribus glabris exceptis. Semina longitudinalia, angustobelliptica, 3.2-3.5 mm longa, 1.5 mm lata, 1 mm crassitie, nitida, pallido-brunnea et atratioribus brunnea maculata; pleurogramma V-formata, arillo terminali, conico, elongato.

*Typus:* near Bulla Bulling [precise locality withheld for conservation reasons], Western Australia, 8 August 1971, B.R. Maslin 1893 (holo: PERTH 00152773; iso: CANB, G, K, MEL, NSW, NY).

Low-spreading but becoming rounded, moderately dense, multistemmed *shrub* 0.5-0.65 m tall, spreading 0.7-0.9 m. *Branchlets* apically resin-ribbed, sericeous between the glabrous ribs. *Stipules* not seen. *Phyllodes* linear, compressed-rhombic to flat, 4-4.5 cm long, 1.3-1.6 mm wide, l:w= 25-35, quite spreading ( $\pm$  ascending when dry), shallowly incurved to almost straight, minutely sericeous in grooves between nerves, grey-green to silvery light green; apex acute, coarsely pungent; pulvinus 1-2 mm long, indistinct; 8-nerved in all, with 3 unequally wide nerves per face, the midnerve the widest (0.4 mm) and the most strongly raised with a weaker nerve on either side of it, marginal nerves broad; gland inconspicuous, c. 1 mm above pulvinus. *Heads* sessile, solitary, globular, dark golden, c. 4.5 mm diam., about 20-flowered; bracteoles spatulate, villose, ciliate, the lamina triangular-ovate, acute. *Flowers* 5-merous. *Sepals* 1/2 as long as petals, 2/3-united, villose. *Petals* 1/2-united, glabrous, strongly uninerved. *Ovary* sparsely puberulous. *Pods* linear, not raised over seeds,  $\pm$  shallowly constricted between the somewhat widely spaced seeds, to 6.5 cm long, 2 mm wide, thin-crustaceous, minutely silvery sericeous on the dark brown faces, the broad, paler margins glabrous. *Seeds* longitudinally arranged in pods, narrowly elliptic, 3.2-3.5 mm long, 1.5 mm wide, 1 mm thick, glossy, light-brown mottled darker brown; pleurogram V-shaped; areole minute; aril terminal, conic, as long as or longer than seed.

*Other specimen examined.* WESTERN AUSTRALIA: near Bulla Bulling [precise locality withheld for conservation reasons], K. Newbey 8705 (PERTH).

*Distribution.* Very geographically restricted to near Bulla Bulling (c. 30 km west of Coolgardie), Western Australia.

*Habitat.* On moderately exposed, gently undulating plains in deep, yellow, well-drained sand in *Eucalyptus leptopoda* Very Open Shrub Mallee.

*Affinities.* The new species is distinguished from all other members of the "A. *heteroneura* Group" by its sessile, globular heads and, with the exception of *A. desertorum* var. *desertorum*, its 8-nerved phyllodes.

*Conservation status.* A Priority 1 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The specific epithet refers to the sessile heads of the taxon, from two Latin words, *e-* for lacking and *pedunculatus*, for pedunculate.

#### 7.4. *Acacia heteroneura* Benth., *Linnaea* 26: 624 (1855)

*Typus:* southwest Western Australia, 1849, J. Drummond 2: 138 (holo: K; iso: MEL, PERTH 01160516-fragment ex K).

*Shrubs* normally 1-2.5 m tall, several-branched at or near base. *Bark* grey, smooth except somewhat fissured at base of main stems. *Branchlets* at first resinous-ribbed, later terete, white-sericeous between ribs. New growth often resinous. *Stipules* minute, caducous. *Phyllodes* linear, tapered to apex and to base, rhombic to compressed-rhombic or flat, sometimes (var. *petila*)  $\pm$  terete, 3-13 cm long, 0.7-3.5 mm wide, rigid, ascending to erect, straight to shallowly incurved, sericeous when young but hairs often restricted to between nerves or sometimes absent with age (youngest phyllodes also invested with often few and obscure, appressed, red or light brown, ultimately caducous, resin hairs), (silvery-) green to grey-green, sometimes glaucous; apex acute, straight or curved, innocuous or coarsely pungent, occasionally sharply pungent (var. *petila*); nerves often resinous, those on the angles (of rhombic phyllodes) or the midrib and margins (of flat phyllodes) prominent and clearly wider (0.2-0.3 mm) than the intervening secondary nerves which are often obscured by pubescence at first; gland at or near base of phyllode-blade, inconspicuous. *Peduncles* 1 or 2 in each axil, 2-8 mm long, sparsely to densely sericeous with scattered, red or light brown resin-hairs variously intermixed, infrequently glabrous; basal peduncular bracts widely elliptic to ovate, minute, caducous; heads globular to widely ellipsoid or oblongoid, bright golden, 5-9 mm long, 5-8 mm diam., sub-densely flowered, often sparse on plants; bracteoles spatulate, more or less appressed-puberulous, lamina about rhombiform, ciliolate. *Flowers* 5-merous. *Sepals* 1/4-1/3 as long as petals, at least 3/4-united in somewhat puberulous cup. *Petals* 1/2-2/3-united, glabrous. *Ovary* appressed-puberulous or villose. *Pods* linear, quadrangular-terete in section, straight-edged or very shallowly constricted between seeds, not raised over seeds, to 10.5 cm long, 1.5-2.5 mm wide, normally  $\pm$  erect, probably spreading to pendulous in var. *prolixa*, crustaceous or occasionally almost woody crustaceous, straight, acute at both ends, the faces minutely sericeous, the margins glabrous or occasionally papillate and narrow or  $\pm$  equalling the valve width. *Seeds* longitudinally arranged in pods, narrowly oblong to narrowly elliptic, 3-5.5 mm long, 1-2 mm wide, 1 mm thick, subnitid, variously obscurely mottled; areole minute (0.2-0.3 mm long), U- or V-shaped; aril terminal, white, 1/3 to as long as seed.

*Distribution.* Widespread but scattered from Wubin (c. 20 km north of Dalwallinu) northeast to Wiluna and southeast to Lake King (c. 115 km east of Lake Grace) and Queen Victoria Spring Nature Reserve area (c. 200 km east-northeast of Kalgoorlie), southwest Western Australia.

*Habitat.* Sandy soils in a variety of vegetation types.

*Infraspecific taxa.* The morphological differences between the four varieties recognized here for *A. heteroneura* are found principally in their phyllode morphology. It could be argued that the recognition of infraspecific taxa is unwise at present, given our current state of knowledge of this very variable species. However, because the varieties have geographic integrity and can be keyed-out with reasonable confidence (see key above), it is considered best to treat them as formal entities to enable our taxonomic hypotheses to be tested and to facilitate the examination of the relationships of this species to other members of the "*A. heteroneura* Group".

*Affinities.* In the past there has been considerable confusion between *A. heteroneura* and *A. desertorum*. Our current treatment of these two species has not entirely resolved the problems, but it does provide a better taxonomic framework for future studies. The two species can normally be separated by the transverse sectional shape of their phyllodes: terete to slightly rhombic in *A. desertorum* and flat to angular-rhombic in *A. heteroneura* (except *A. heteroneura* var. *petila*). In *A. heteroneura* the phyllodes have four, broad, prominent main nerves (located on each angle when rhombic, or replaced by the midnerve and marginal nerves when flat) with the intervening nerves much narrower. *Acacia desertorum* on the other hand has eight broad nerves (of equal or unequal width) with intervening, narrower nerves developing in only var. *nudipes*. Future studies aimed at re-assessing these two species

will need to address the following main issues: (1) the taxonomic rank and position of *A. heteroneura* var. *petila* and *A. desertorum* var. *nudipes*, and (2) elucidation of the patterns of variation within *A. desertorum*. A detailed study of phyllode anatomy may well assist substantially in these studies.

#### 7.4a. *Acacia heteroneura* Benth. var. *heteroneura*

*Phyllodes* flat to compressed-rhombic, 5-7(11) cm long, (1.5)2-4 wide, sericeous between the 3-7 nerves located on either side of the prominent midrib, the hairs sparse or sometimes absent with age. *Peduncles* 4-6 mm long, sparsely to densely sericeous with few reddish resin hairs intermixed; heads globular. *Pods* (few seen) to 5.5 cm long, 2 mm wide, the margins glabrous and narrow (c. 1/3 valve width). *Seeds* (few seen) narrowly oblong, 3-3.5 mm long, 1-1.3 mm wide, mottled yellowish brown and darker brown, aril c. 1/3 seed length.

*Selected specimens examined.* WESTERN AUSTRALIA: Tammin, C.A. Gardner 1140 (PERTH); 4 miles [6.4 km] E of Anketell, J.W. Green 1644 (PERTH); c. 18 miles [29 km] due NW of Bruce Rock, B.R. Maslin 1794 (AD, CANB, K, PERTH); 10.5 km N of Bungalla towards Wyalkatchem, B.R. Maslin 3395 (MEL, NY, PERTH); 13.5 km N of Tammin towards Korrelocking, B.R. Maslin 4424 (CANB, K, PERTH); 6.4 miles [10.5 km] N of Bungalla turn-off on Great Eastern Highway, M.D. Tindale 3714 (PERTH); Westonia, E.H. Wilson & D.A. Herbert 103 (PERTH).

*Distribution.* Mainly confined to the central wheatbelt from Tammin southeast to Bruce Rock and east to Westonia (c. 45 km east-northeast of Merredin), southwest Western Australia. There is a single collection from near Anketell (c. 350 km north of Westonia).

*Habitat.* In yellow sand and sandy loam in mixed scrub and thicket (the Anketell collection in red sand) growing with *Hakea multilineata* and *Eucalyptus leptopoda*.

*Flowering and fruiting periods.* Flowering mainly from August to January (flowers have also been collected in April and May); mature fruits have been collected in August.

*Affinities.* Somewhat arbitrarily separated from var. *jutsonii* which has narrower, clearly rhombic phyllodes. Variety *jutsonii* occurs within the geographic range of var. *heteroneura* but it is not known if the two are ever sympatric. Seemingly also related to *A. ampliata* (see above).

*Conservation status.* Not considered rare or endangered.

#### 7.4b. *Acacia heteroneura* var. *jutsonii* (Maiden) Cowan & Maslin, *comb. et stat. nov.*

*A. jutsonii* Maiden (as 'jutsoni'), J. & Proc. Roy. Soc. New South Wales 51: 262 (1917). Lectotype (here selected): Comet Vale, Western Australia, December 1916, J.T. Jutson 49 (NSW; isolecto: NSW, PERTH 00761591-fragment ex NSW). Paralectotype: Comet Vale, Western Australia, J.T. Jutson 160 (NSW).

Dense *shrubs* 0.5-3 m tall, spreading to 3 m. *Phyllodes* angular-rhombic in section, mostly 4-7 cm long, infrequently to 10 cm, 1-1.7 mm wide, sericeous generally or only between nerves, oldest phyllodes sometimes glabrous, nerve at apex of each angle prominent and clearly wider than the 3 intervening secondary nerves. *Peduncles* 3-6 mm long, sericeous with red resin-hairs variously intermixed; heads globular to widely ellipsoid, 5-8 mm long, 5-7 mm diam. *Pods* to 8.5 cm long,

2-2.5 mm wide, the glabrous margins narrower than valve width. *Seeds* narrowly oblong to narrowly elliptic, 3.5-4.5 mm long, 1.5-2 mm wide, grey-brown or yellow-brown with darker brown mottlings, the aril 1/3 to equalling seed length.

*Selected specimens examined.* WESTERN AUSTRALIA: 9 miles [14.5 km] E of Lake King, 24 May 1955, A.R. Main s.n. (PERTH 00654620); 4.8 km from Hines Hill towards Nungarin, B.R. Maslin 2341 (AD, BRI, CANB, DNA, HO, K, MEL, NSW, PERTH); 8 km W of Bodallin on Great Eastern Highway, B.R. Maslin 2378 (AD, CANB, K, MEL, MO, NSW, PERTH); 37 km N of Mukinbudin towards Wialki, B.R. Maslin 3973 (B, NSW, PERTH); 20 km S of Beacon towards Bencubbin, B.R. Maslin 4141 (CANB, MEL, PERTH); 6 km W of Lake Cronin, c. 77 km E of Hyden, K. Newbey 6625 (PERTH); 8 km SE of Argus Corner, Queen Victoria Spring Nature Reserve, D.J. Pearson 121 (PERTH); Frank Hann National Park, R.D. Royce 10210 (PERTH); 30 km NE of Bandya Homestead, c. 120 km N of Laverton, P.G. Wilson 7352 (BRI, PERTH).

*Distribution.* Widespread but disjunct, occurring from Kalannie (c. 45 km east of Dalwallinu) southeast to Frank Hann National Park (located 30-110 km east-northeast of Lake King) and further inland at Comet Vale (c. 100 km north-northwest of Kalgoorlie), Bandya Station (c. 120 km north of Laverton) and Queen Victoria Spring Nature Reserve area, Western Australia. A 1940 collection by C.A. Gardner (PERTH 00655228), said to have come from the Hill River (c. 200 km west of Kalannie), is probably erroneously labelled.

*Habitat.* Populations in the western part of the range are found in yellow sand and gravelly sand, sometimes on laterite rises, in thickets, heath, open shrubland and woodland; eastern populations grow in red and yellow sand on plains and low dunes in open mallee over spinifex (*Triodia* sp.).

*Flowering and fruiting periods.* Flowering throughout the year, especially from June to January; collections of mature fruits have been made in May and June and also in December and January.

*Typification.* In the protologue, the authors name two collections by the same collector at the same locality. These collections represent the same taxon but to fix application of the name and bring about as much stability as possible in this difficult species-group, one of the sheets at NSW is chosen as lectotype.

*Discussion.* A number of collections from Queen Victoria Spring Nature Reserve appear as though they may combine characters of *A. heteroneura* var. *jutsonii* and *A. desertorum* var. *desertorum*. However, further studies of these populations are needed in order to ascertain their taxonomic status. Although var. *jutsonii* is recorded for the Queen Victoria Spring Nature Reserve, var. *desertorum* is not (but it is scattered in the Great Victoria Desert further to the northeast). Representative collections include G.J. Keighery and J. Alford 616 (PERTH), D. Pearson 69 & 519 (both PERTH), R.D. Royce 5502 (PERTH), A.S. Weston 14880 (PERTH, Z).

*Conservation status.* Not considered rare or endangered.

#### 7.4c. *Acacia heteroneura* var. *petila* Cowan & Maslin, var. nov.

Ab *Acacia desertorum* var. *nudipes* et *A. heteroneura* var. *jutsonii* phyllodiis brevioribusque angustioribus, capitulis globularibus minoribusque et a var. *nudipes* pedunculis dense sericeis differt.



*Typus*: 5 km SW of Kulja towards Burakin, Western Australia, 9 January 1979, B.R. Maslin 4442 (holo: PERTH 00656216; iso: CANB, G, K, MEL, NY).

*Phyllodes* ± terete to rhombic-terete or sometimes angular-rhombic in section, 3-6 cm long, 0.7-1 mm diam., somewhat pungent, sericeous between the nerves or glabrous, the young phyllodes invested with minute, red resin-hairs (especially on the main nerves), nerve at apex of each (often slight) angle slightly or obviously wider than the 3 intervening nerves. *Peduncles* 2-6 mm long, densely sericeous with varying proportions of red resin-hairs; *heads* globular, golden, 5-6 mm diam. *Pods* to 8 cm long, 1.5-2 mm wide, 2-2.5 mm thick, the glabrous margins c. as broad as valve width. *Seeds* narrowly oblong to oblong-elliptic, 3.5-4 mm long, 1.5-2 mm wide, yellowish brown with ± sparse darker brown mottlings, aril 1/3-1/2 seed length.

*Selected specimens examined*. WESTERN AUSTRALIA: between Maya and Latham, T.E.H. Aplin 427 (PERTH); 6 miles [9.7 km] S of Wubin, T.E.H. Aplin 563 (PERTH-variant); between Pithara and Miling, W.E. Blackall 2889 (PERTH); 8.5 km from Wubin towards Wongan Hills, E.M. Canning WA/68 2920 (PERTH-variant); c. 13 km E of Wyalkatchem towards Trayning, F. Lullfitz L3058 (PERTH); about 10 km W of Cadoux on the road to Bencubbin, B.R. Maslin 5501 (B, MO, PERTH); Morawa, K.W. McLean s.n. (PERTH 00887285); between Wubin and Dalwallinu, N. Perry 322 (PERTH-variant); Korrelocking Nature Reserve, P. Roberts 278 (NSW, PERTH); Lackman Dam, 31° 6'S 117° 29'E, B.H. Smith 215 (PERTH); just W of Ballidu, D.J.E. Whibley 4776 (PERTH).

*Distribution*. Restricted to the area from Miling (c. 30 km southwest of Dalwallinu) southeast to Trayning (c. 60 km northwest of Merredin) with a variant from Morawa and near Wubin, southwest Western Australia.

*Habitat*. In yellow sand and gravelly sand in mixed thicket and scrub.

*Flowering and fruiting periods*. Flowering from May to January; mature fruits with seeds collected in December and January.

*Discussion*. The position of this taxon within the "Acacia heteroneura Group" needs further study because the transverse sectional shape and nervature of the phyllodes appear to combine characters of both *A. heteroneura* and *A. desertorum*. However, because its distinguishing characters (i.e. short, not flat, somewhat pungent phyllodes) do not seem significant enough to warrant species status it has been decided to include it *pro tem.* within *A. heteroneura*. Geographically var. *petila* occurs at the northwest extremity of the range of *A. heteroneura* var. *jutsonii* and at the western extremity of the range of *A. desertorum*.

*Variants*. Plants from Morawa and the Wubin area have slightly coarser phyllodes than those elsewhere (to 1.2 mm diam.).

*Conservation status*. A Priority 3 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology*. The slender phyllodes of this variety are its most conspicuous feature and is the basis for the epithet, from *petilus*, Latin for slender.

**7.4d. *Acacia heteroneura* var. *prolixa* Cowan & Maslin, var. nov.**

A var. *jutsonii* phyllodiis longioribus, pedunculis solitariis, leguminibus lignoso-crustaceis et a var. *heteroneura* phyllodiis angustioribus, pedunculis longioribus, leguminum marginibus latioribus differt.

*Typus*: 17 km due NE of Wiluna, 8.5 km N of "Gunbarrel Highway" on road to Jundee Station, Western Australia, 4 September 1984, *B.R. Maslin* 5591 (holo: PERTH 00656224; iso: BRI, CANB, G, K, MEL, NSW, NY).

*Phyllodes* angular-rhombic in section but sometimes compressed, 7-13 cm long, 1-1.5 mm wide, sericeous generally (especially when young) or only between nerves, nerve at apex of each angle clearly wider than the 3, intervening fine secondary nerves. *Peduncles* commonly solitary, 5-8 mm long, sericeous with few, obscure, light brown resin-hairs intermixed; heads widely ellipsoid to oblongoid, 8-9 mm long, 7-8 mm diam. *Pods* (few seen) to 10.5 cm long, 2.5 mm wide, tapered to stipe, woody-crustaceous, the glabrous or minutely papillate margins about equalling valve width. *Seeds* (few seen) narrowly oblong, 4.5-5.5 mm long, 1 mm wide, tan mottled yellow, aril 1/3-2/5 seed length.

*Other specimens examined*. WESTERN AUSTRALIA: 30 miles [48.3 km] from Paynes Find towards Sandstone, *J.S. Beard* 6470 (PERTH); 11 miles [17.7 km] NW of Wonganoo Station, *J.S. Beard* 6546 (PERTH); Iona Station near Mount Magnet, *J.S. Beard* 6665 (PERTH); 70 miles [112.6 km] E to SE of Sandstone, *Dr Cole* 2/6 (PERTH); 2 km W of Yendang Rock, Walling Rock Station, *R.J. Cranfield* (PERTH, MEL - distributed as *A. jamesiana*); 10 km S of NE corner of Riverina Station, *R.J. Cranfield* 7539 (PERTH); 22 miles [35.4 km] NE of Laverton, *A.S. George* 2821 (PERTH); Wubin-Mullewa Road, 0.3 km N of Wubin, *N. Hoyle* 338 (PERTH); 113.4 km N of Sandstone along the road to Wiluna, *T.D. Macfarlane* 1129 (PERTH); 66 miles [106.2 km] N of Sandstone towards Wiluna, *R.D. Royce* 10386 (CANB, K, PERTH).

*Distribution*. Scattered from Wubin east to near Wiluna and Laverton, Western Australia.

*Habitat*. Red sand in open shrubland with spinifex (*Triodia* sp.) or in sand over laterite in shrubland.

*Flowering and fruiting periods*. Flowering in September and October; submature fruits collected in December.

*Affinities*. Most closely related to var. *jutsonii* which normally has shorter phyllodes (usually 4-7 cm long but occasionally reaching 10 cm) and  $\pm$  globular heads with the flowers less densely arranged. The pods of var. *jutsonii* are often held  $\pm$  erect while those of var. *prolixa* are probably spreading to pendulous and it also has smaller seeds; however, more fruiting samples of var. *prolixa* need to be examined to confirm these observations which are based on limited herbarium material. Variety *prolixa* occurs to the north of the geographic range of var. *jutsonii*.

*Conservation status*. Not considered rare or endangered.

*Etymology*. The long, lax phyllodes of this variety give it a different aspect and is the basis for the epithet, from *prolixus*, Latin for elongate.

## 8. *Acacia levata* Cowan & Maslin, *sp. nov.*

Frutex multicaulis 1-3 m altus, corona ad 5 m diametro, cortice griseo ad nigro, versus basem fissurato et fibroso, ramis levibus vel exasperatis, ramulis ad apicem leviter angularibus, appresso-puberulis sed glabrescentibus. Stipulae minutae, c. 0.75 mm longae, triangulares, sericeae. Phyllodia anguste elliptica vel oblong-elliptica, obtusa ad acuta, pulvino 1.5-3 mm longo, laminis 8-13.5 cm longis, 1-2 cm latis, crasso-coriaceis, subrigidis, minute sericeis (sub lente), 4-6 nervis principalibus distantibus elevatis cum nervis secundariis longitudinaliter anastomosantibus, nervo medio plerumque leviter manifestiore. Pedunculi 5-7 mm longi, glabri, spicis cylindricis, aureis, 20-25 mm longis, 6 mm diametro; bracteolarum unguiculo brevi, lamina concava triangulari acuta et valde uninervata. Flores pentameri, glabri. Sepala petalis 1/4-1/3 breviora, ovata, 1/2-connata; petala 1/3-1/2-connata, acuta. Legumina linearia, ad marginem anguste alata, 7-15 cm longa, 8-12 mm lata, pendentia, lignosa, glabra. Semina longitudinalia, lato-elliptica ad subcircularia, 5-5.5 mm longa, 4.5 mm lata, 1 mm crassitie, hebetato-brunnea, funiculo plano, arillo ornato, cristato, subterminali expanso.

*Typus:* SW of Marble Bar [precise locality withheld for conservation reasons], 20 May 1982, B.R. Maslin 5264 (holo: PERTH 00603279; iso: AD, BRI, CANB, K, MEL, MO, NSW, NY).

Spreading, multistemmed *shrub* 1-3 m tall, the crown to 5 m diam.; habit not unlike that of *A. xiphophylla*. *Bark* grey to black, fissured and fibrous at base of trunks, smooth or rough on branches. New growth pale citron-sericeous with a silvery sheen. *Branchlets* terete but slightly angular at extremities, appressed-puberulous, glabrescent, dark red-brown. *Stipules* minute, c. 0.75 mm long, triangular, sericeous. *Phyllodes* narrowly elliptic to oblong-elliptic, 8-13.5 cm long, 1-2 cm wide, thickly coriaceous, subrigid, patent to slightly ascending, straight to gently curved, minutely sericeous with the hairs not apparent to the unaided eye, subglaucous (green or glaucous on young plants); apex obtuse to acute, the tip sometimes  $\pm$  uncinata; pulvinus 1.5-3 mm long; nerves raised, with 4-6, distant main nerves per face and longitudinally anastomosing secondary nerves between them, the central nerve normally slightly more prominent than the rest; glands 1-3, lowermost 1-4.5 mm above pulvinus. *Peduncles* 1 to several per axil, 5-7 mm long, glabrous; spikes cylindric, golden, 20-25 mm long, 6 mm diam.; bracteoles with a short stipe and more or less triangular, concave, acute, strongly uninerved lamina. *Flowers* 5-merous, glabrous. *Sepals* 1/4-1/3 as long as petals, ovate, 1/2-united. *Petals* 1/3-1/2-united, acute. *Ovary* sericeous. *Pods* linear, narrowly winged at the margins, not raised over or constricted between seeds, 7-15 cm long, 8-12 mm wide, pendent, woody, straight to slightly curved, glabrous, drying yellowish brown. *Seeds* longitudinally arranged in pods, widely elliptic to nearly circular, 5-5.5 mm long, 4.5 mm wide, 1 mm thick, dull, brown; pleurogram U-shaped, open at hilar end; areole darker than rest of seed; funicle ribbon-like, folded over end of seed then expanding into ornate, cristate, subterminal aril extending more than half along one side of seed, yellow(?).

*Other specimens examined.* WESTERN AUSTRALIA: S and SW of Marble Bar [precise localities withheld for conservation reasons], *P. Loeper s.n.*, 23 September 1988 (PERTH 00919713), *P. Ryan s.n.*, 17 October 1983 (PERTH 00606081), *L. Thomson* LXT 1158 (PERTH) and LXT 1161 (PERTH)

*Distribution.* Restricted to a relatively small area south and south-southwest of Marble Bar, northwest Western Australia.

*Habitat.* Grows in sand and sandy loam (pH 7-8.5) on hilltops and slopes with *Acacia hilliana* and *A. translucens*.

*Flowering and fruiting periods.* Flowering in May; fruits with mature seeds collected in October.

*Affinities.* Related to *A. cuthbertsonii* Luehm. (see above); in particular it may resemble subsp. *cuthbertsonii* which is most readily distinguished by its smaller, prominently sericeous phyllodes, smaller bracteoles, different pods and larger seeds with the terminal aril in the form of a scalloped pad of tissue.

*Conservation status.* A Priority 1 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The name refers to the more strongly raised nervature of the phyllodes than is characteristic of related taxa, from *levatus*, Latin for raised or elevated.

## 9. The "Acacia multispicata Group"

*Acacia multispicata* Benth., *A. sessilispica* Maiden & Blakely and *A. singula* Cowan & Maslin form an interrelated species complex whose taxonomy is not yet fully resolved. Although the latter two species are reasonably well demarked, *A. multispicata*, as currently circumscribed, remains perplexingly variable and further studies are needed to elucidate these patterns of variation. The three species are characterized by their glabrous or nearly glabrous branchlets, eight to numerous-nerved phyllodes and tetramerous flowers which are aggregated in sessile or short-pedunculate spikes. *Acacia acuminata* Benth. (which will include *A. burkittii* F. Muell. ex Benth. treated as a subspecies in the forthcoming "Flora of Australia" volumes) and *A. jibberdingensis* Maiden & Blakely appear to be closely related to the *A. multispicata* group.

### Key to *Acacia multispicata* and its closest relatives

1. Sepals  $\pm$  free to base; phyllodes terete, with 8 strongly raised nerves separated by deep furrows as wide or wider than the nerves ..... 9.2. *A. sessilispica*
1. Sepals 1/2-3/4 united; phyllodes terete to flat, normally not deeply furrowed between the nerves when terete
  2. Phyllodes flat, to 4.5 cm long, 1.5-4 mm wide, 1-3-nerved per face 9.3. .... *A. singula*
  2. Phyllodes terete OR if flat then more than 5 cm long or not more than 1.5 mm wide and 3 to many nerves on each face ..... 9.1. *A. multispicata*

#### 9.1. *Acacia multispicata* Benth., Fl. Austral. 2: 400 (1864)

*Lectotype* (here selected): Hill River, Western Australia, *A. Oldfield s.n.* (MEL 719340; isolecto: PERTH 00765821). *Paralectotypes*: (1) Swan River, *J. Drummond s.n.* (K); (2) interior of SW Australia, *J.S. Roe s.n.* (K, PERTH 01027026-fragment ex K) = *A. sessilispica*.

[*A. microneura auct. non* Meissner: E. Pritzel in L. Diels & E. Pritzel, Bot. Jahrb. Syst. 35: 307 (1904).]

[*A. ephedroides auct. non* Meissner: G. Bentham, Fl. Austral. 2: 400 (1864), *pro parte*, as to *J. Drummond* 2: 149 (E, G, K, OXF, P); E. Pritzel in L. Diels & E. Pritzel, Bot. Jahrb. Syst. 35: 307 (1904), as to *E. Pritzel* 585 (B, E, G, K, L, LY, M, P, PR, US).]

[*A. multispicata non* Benth.: Fl. Austral. 2: 400 (1864), not as to lectotype but as to *J.S. Roe s.n.* (K, PERTH 00765821)]

*Illustration.* M. Simmons, *Acac. Australia* 1: 241 (1981).

Low, multi-branched, spreading to erect, more or less domed, dense to wispy *shrubs* 0.2-2.5 m tall, spreading 0.6-3 m diam., with smooth, grey bark. *Branchlets* terete to slightly angled by ribs from base of each phyllode, glabrous or sparingly appressed puberulous, sometimes tomentulose in phyllode-axils, grey or reddish-grey. *New shoots* white to grey, sometimes with golden tips. *Stipules* caducous to persistent, minute, triangular. *Phyllodes* terete to compressed, occasionally flat and linear, typically 2-7 cm long and 0.8-1.5 mm wide with l:w = 13-55, sometimes to 10 cm long with l:w = 40-100, somewhat rigid or only coriaceous, commonly spreading, occasionally erect, slightly curved to straight, glabrous, pale- to dark-green; apex acute to acuminate, straight to uncinata, cuspidate or occasionally obtuse and excentrically apiculate, innocuous; pulvinus 0.7-2.5 mm long, cylindrical or slightly flared basally, glabrous or puberulous on adaxial surface; nerves 8-20, 3-to many-nerved per face when flat, slightly to strongly raised; gland small, inconspicuous, 4-10 mm above base of blade. *Peduncle* 0-2 mm long, 2 per node, glabrous to puberulous; receptacle puberulous; basal peduncular bracts caducous to persistent to anthesis, broadly ovate, acute or acuminate, concave, ciliolate, otherwise glabrous or appressed puberulous; heads loosely oblongoid to cylindrical, light-golden or golden, 8-15(23) mm long, 3.5-5 mm diam.; bracteoles often caducous, broadly fan-shaped, sometimes auriculate, shortly stipitate, those at base of spikes larger and darker, ciliolate, somewhat puberulous. *Flowers* 4-merous. *Sepals* 1/4-1/2 as long as petals, 1/2-3/4-united, lobes broadly rounded, ciliolate, somewhat puberulous. *Petals* widely elliptic to elliptic, free, glabrous. *Ovary* appressed puberulous. *Pods* linear, strongly raised over and constricted between seeds, to 8 cm long, 3-4 mm wide, patent to deflexed, thin-crustaceous, commonly slightly curved, longitudinally wrinkled, glabrous, reddish-brown. *Seeds* longitudinally arranged in pods, elliptic, 3-4 mm long, 1.7-2.5 mm wide, 1.5-2.5 mm thick, dull to sub-nitid, surface smooth, pitted and/or verruculose, black; pleurogram U-shaped; areole small, pitted; aril terminal, c. 1/2 as long as seed, yellow (?), rarely lacking.

*Selected specimens examined.* WESTERN AUSTRALIA: 11 miles [17.7 km] W of Yealering, *E.M. Bennett* 615 (PERTH); 18.5 km due SSE of Peak Eleanora, *M.A. Burgman* 3782 (PERTH); 6.6 km NW of Wongan Hills towards Piawaning, *R. Coveny* 7835 & B.R. Maslin (CANB, K, NSW, PERTH); 6 km S of Kalbarri turn-off on North West Coastal Highway, *R.S. Cowan* A830 & *R.A. Cowan* (CANB, K, MEL, NY, PERTH, US); near Jarrahdale, *R.J. Cumming* 77 (PERTH); E of Mogumber, *L. Diels* 4049 (PERTH); Cranbrook, *L. Diels* 4415 (PERTH); near York, *C.A. Gardner* 13956 (PERTH); E of Carnamah on road to Bunjil, *B.R. Maslin* 736 (AD, BRI, CANB, PERTH); 2 miles [3.2 km] SW of Wongan Hills towards Calingari, *B.R. Maslin* 1655 (K, MEL, NSW, PERTH); c. 9.7 km SE of Mount Hampton, *B.R. Maslin* 1828 (CANB, PERTH); 1.5 km S of Korbel Siding, *B.R. Maslin* 2360 (HO, NSW, NY, PERTH); 12 km S of Wickepin towards Harrismith, *B.R. Maslin* 4796 (CANB, K, MEL, NSW, PERTH); Pony Hill, 18 km due SW of York, *B.R. Maslin* 6181 (MO, NY, PERTH); 18 km due S of Hyden, *B.R. Maslin* 6306 (CANB, K, PERTH); Needilup Hill, *K. Newbey* 392 (PERTH); 15 km SSW of Queen Victoria Rock, *K. Newbey* 5683 (PERTH); Frank Hann National Park, *R.D. Royce* 10206 (PERTH); 33 km E of Lake King at Number 1 Rabbit Proof Fence, *P.G. Wilson* 5747 (MEL, NSW, PERTH).

*Distribution.* Widespread from Ajana (c. 60 km east-southeast of Kalbarri) south to Cranbrook and east to near Queen Victoria Rock (which is c. 45 km south-southwest of Coolgardie) and Frank Hann National Park (located 30-110 km east-northeast of Lake King), southwest Western Australia. A specimen said to have been collected from 40 km south of Carnarvon (*I. Olsen* 584, PERTH) represents the northernmost record of the species. However, as this locality is c. 300 km north of Ajana and as the intervening area has been reasonably intensely collected it is possible that the locality on this specimen is incorrect.

*Habitat.* Mostly on sand especially yellow sandplain; also on gravelly sand and other gravelly soils, sandy loam, sandy clay and loam, rarely on rocky hills and on granitic soils. Mostly in heath, thicket, scrub, open scrub and mallee shrubland.

*Flowering and fruiting periods.* The main flowering season is from August to October, though flowering specimens have been collected in March, April, June and July; pods with mature seeds have been collected from mid-November to mid-January.

*Typification.* Choice of a lectotype is necessitated by Bentham having cited three collections in the protologue, one of which (*J.S. Roe s.n.*) represents *A. sessilispica*. The lectotype of *A. multispicata* is an Oldfield specimen seen by Bentham, located at MEL (there appears to be no duplicate of this collection at K). This specimen has 8-nerved phyllodes and appears to represent the long-phyllode form of the species which is discussed below. The Drummond paralectotype cited by Bentham represents the same entity.

*Affinities.* Closely related to both *A. sessilispica* Maiden & Blakely and *A. singula* Cowan & Maslin which are treated below, including a discussion of differences separating them from the present species.

*Discussion.* *Acacia multispicata* is a variable species and is broadly circumscribed here. Attempts to define meaningful groupings based on the very considerable variation in phyllode length, correlated with length of the spikes or any other combination of characters have thus far been unproductive. Specimens with the longer phyllodes seem to have slightly longer pulvini and the young branchlets more often appressed puberulous but these are only tendencies which overlap with the more common short-phyllode forms. In flower parts, bracteoles, fruit dimensions and in details of the phyllodes one finds the same degree of variability. Although seed characters suggest a basis for subdividing the species into two entities the number of available fruiting samples are insufficient to permit us to derive conclusive results. Although all seeds are pitted in the region of the areole, some are verruculose as well. The number of nerves characterizing *A. multispicata* is unusually variable; although the basic number is eight, secondary nerves often develop equally strongly to produce a multinerved condition. Specimens of *A. multispicata* with long phyllodes could be confused with *A. sessilispica*; the characters separating these two species are discussed below under *A. sessilispica*.

**9.2. *Acacia sessilispica* Maiden & Blakely, J. Roy. Soc. Western Australia 13: 23, pl. 16, figs 5-10 (1928)**

*Lectotype* (here selected): Bruce Rock, Western Australia, August 1917, *F. Stoward* 163 (NSW; isolecto: MEL, NSW - both incorrectly labelled "Kununoppin Jan. 1917", and PERTH 01027050-fragment ex ?MEL), see discussion below. *Paralectotype*: Kununoppin, Western Australia, January 1917, *F. Stoward* 69 (NSW).

*A. multispicata* Benth., Fl. Austral. 2: 400 (1864), *pro parte*, not as to lectotype, as to paralectotype, interior of Southwest Australia, *J.S. Roe s.n.* (K, PERTH 01027026-fragment ex K).

*A. aciphylla* var. *leptostachys* E. Pritzel, Bot. Jahrb. Syst. 35: 306 (1904), *syn. nov.* *Typus*: Jacup Creek, Western Australia, 8 October 1901, *L. Diels* 4759 (iso: PERTH 00738891-fragment ex B).

*Typification.* Two collections were cited in the protologue, *F. Stoward* 163 (flowering, August), the other *F. Stoward* 69 (fruiting, January). There are three relevant Stoward sheets at NSW, labelled:

(1) "Kunonoppin/ Dr. F. Stoward 69, 1-17"; (2) "Kunonoppin/ Dr. F. Stoward 63, 1-17"; and (3) Bruce Rock, Merredin Distr., Dr. F. Stoward 163, 8/1917". The first sheet is in fruit and January would be about correct for the fruiting date; the second sheet may be a duplicate of the third sheet, *Stoward* 163, in flower, but with the date and locality of the first sheet; the third sheet is in flower and the date of August is probably correct for the flowering period. Although all specimens of the type collection represent the same species, we have selected a lectotype because two collections were cited by Maiden and Blakely without indicating either as type.

*Discussion.* Some collections from the southern end of the distribution, especially from the Ravensthorpe/Fitzgerald River region (e.g. 14 km SE of Mount Gibbs, *K. Newbey* 6577 (CANB, K, MEL) and Fitzgerald River Crossing, 34 km E of Jerramungup towards Ravensthorpe, *B.R. Maslin* 2582A, at PERTH) have pods somewhat constricted between the seeds but otherwise apparently this species.

*Affinities.* There is a close relationship between this species and *A. multispicata* Benth. with which it has been confused, even by Bentham (1864) in the protologue. Individuals of *A. multispicata* with long phyllodes especially resemble *A. sessilispica*, but the latter species is recognized by its terete, 8-nerved phyllodes (the nerves separated by deep grooves which are as wide or wider than the nerves), young spikes (in bud) which are discernibly tapered towards their apices (spikes not narrowed in *A. multispicata*), peltate bracteoles, glabrous receptacles, free (or basally connate) sepals and smooth seeds (not pitted or verruculose). *Acacia sessilispica* is also related to *A. jibberdingensis* Maiden & Blakely which is readily distinguished by its normally flat, much longer (15-32 cm) phyllodes and its spikes on peduncles 6-11 mm long. Although the phyllodes of *A. sessilispica* often have a superficial resemblance to those of *A. ephedroides* the two species are not closely related; *A. ephedroides* is readily distinguished by its  $\pm$  pubescent phyllode-nerves, 5-merous flowers (not 4-merous as described by Bentham 1864: 399) and densely hairy pods.

### 9.3. *Acacia singula* Cowan & Maslin, *sp. nov.*

Frutex 0.35-2 m altus, cortice cano laevi, ramulis leviter angulatis, glabris praeter phyllodiorum axillas puberulas. Phyllodia plana, linearia ad lineari-oblongata, acuta ad subobtusata et excentricae arcuato-mucronata, aliquando plus minusve uncinata, pulvino 1-2 mm longo, cylindrico, luteo, super paginam adaxilem plus minusve minute puberulo, laminis 2.5-4.5 cm longis, 1.5-4 mm latis, ratione horum 7-23, semi-rigidis, ascendentibus vel interdum patentibus, rectis ad leviter incurvatis, glabris, 1-3 nervis in quoque pagina  $\pm$  elevatis et distantibus, nervis marginalibus haud prominentibus, glande 2.5-7 mm supra pulvinam. Pedunculi solitarii, nulli vel usque ad 0.5 mm longi, receptaculo puberulo, capitulis lato-ellipsoideis vel oblongoideis, aureis, 6-9 mm longis, 4-4.5 mm diametro, bracteolis late oblato-ovatis, interdum auriculatis, sessilibus vel brevi-stipitatis, concavis, puberulis, ciliolatis. Flores tetrameri. Sepala longitudine 1/3-1/2 petali partes aequantia, 1/2-2/3-connata, plus minusve puberula, lobis rotundatis, plus minusve puberula concava, ciliolata. Petala elliptica, ad basim 1/4-1/3 cohaerentia, glabra. Legumina linearia, submoniliformia, supra semina valde elevata et inter semina valde constricta, ad 6.5 cm longa et 3.5 mm lata, crustacea, recta ad leviter curvata, glabra. Semina longitudinalia, lato-elliptica, 3 mm longa, 2 mm lata, 1.5 mm crassitie, hebetato-nigra, alveolato-verruculosa, arillo terminali.

*Typus:* Hatter Hill, c. 40 km NE of Lake King, Western Australia, 8 August 1979, *K.R. Newbey* 5442 (holo: PERTH 00154636; iso: CANB, G, K, MEL, NY.).

*Shrub* 0.35-2 m tall with smooth, grey bark lightly fissured at base of stems. *Stipules* persistent, triangular, minute. *Branchlets* slightly angled, glabrous except minutely puberulous in phyllode-axils. *Phyllodes* linear to linear-oblongate, 2.5-4.5 cm long, 1.5-4 mm wide, l:w = 7-23, semi-rigid, ascending or sometimes widely spreading at unequal angles, straight to slightly incurved, glabrous, light green, slightly shiny; apex acute to subobtusate, excentrically arcuate-mucronate, sometimes  $\pm$  uncinata; pulvinus 1-2 mm long, cylindrical, somewhat puberulous on adaxial surface, yellow; nerves 1-3 per face, clearly distant when more than one, slightly to strongly raised, the marginal nerves not prominent; gland one, 2.5-7 mm above blade-base. *Peduncles* solitary in phyllode-axils, 0-0.5 mm long, puberulous; receptacle puberulous; basal peduncular bracts persistent to anthesis, semicircular, concave, thick, ciliolate; heads widely ellipsoid to oblongoid, golden, 6-9 mm long, 4-4.5 mm diam.; bracteoles broadly oblate-ovate, sometimes auriculate, sessile or with short stipe, concave, puberulous, ciliolate. *Flowers* 4-merous. *Sepals* 1/3-1/2 as long as petals, 1/2-2/3-united, more or less puberulous, lobes rounded, concave, ciliolate. *Petals* elliptic, coherent in basal 1/4-1/3, glabrous. *Ovary* appressed puberulous. *Pods* linear, strongly raised over and constricted between seeds, submoniliform, to 6.5 cm long and 3.5 mm wide, crustaceous, straight to slightly curved, longitudinally wrinkled, glabrous, reddish-brown. *Seeds* longitudinally arranged in pods, widely elliptic, 3 mm long, 2 mm wide, 1.5 mm thick, dull, black, the surface alveolate-verruculose; pleurogram semi-circular; aril terminal, 2/3 as long as seed, yellow (?).

*Other specimens examined.* WESTERN AUSTRALIA: Varley Cross Roads, S of South Iron Cap, K. Bradby 28 (PERTH); 27.9 km S of Varley Cross Roads and 11.6 km N of Hatter Hill Townsite on main track, K. Bradby KLB 29 (PERTH); 42.7 km ENE of Muckinwobert Rock, M.A. Burgman 2185 & S. McNee (PERTH); 17 miles [27.4 km] W of Lake King, J. Goodwin 216 (PERTH); 13 miles [20.9 km] E of Lake Grace, J.W. Green 4442 (PERTH); Reserve No. 29023, 20 km SW of Newdegate, J.M. Koch N130 (PERTH); c. 2 km N of Lake King, R.H. Kuchel 1866 (PERTH); 0.5 mile [0.8 km] S of Lake King, F. Lullfitz L5527 (PERTH); 17.5 km E of Lake Grace towards Newdegate, B.R. Maslin 3428 (PERTH); Hatter Hill, K. Newbey 3482 (PERTH) and 6562 (PERTH); Lake Grace-Lake King road, N. Perry for I. Armitage 708 (PERTH); about 16 km from Lake Grace on road to Lake King, N. Perry 708 (PERTH); 10.8 miles [17.5 km] E of Lake Grace on the main road towards Newdegate, M.D. Tindale 3753A (NSW, PERTH) and 3754 (CANB, K, NSW, PERTH).

*Distribution.* Occurs from Lake Grace to near Hatter Hill (which is c. 145 km east-northeast of Lake Grace) and east to the Lake King area (which is c. 115 km east of Lake Grace), with one collection from near Muckinwobert Rock which is c. 100 km southeast of Lake King, southwest Western Australia.

*Habitat.* Grows mostly in gravelly sand over laterite, sometimes on rises and hilltops, in heath, scrub and mallee shrubland.

*Flowering and fruiting periods.* Flowers late August to early October; pods with mature seeds have been collected in December and January.

*Affinities.* *Acacia singula* is characterized, and distinguished from its close relative, *A. multispicata*, by its short, flat, 1-3-nerved, slightly shiny phyllodes. As discussed above *A. multispicata* is highly variable with respect to phyllode morphology and, although there are individuals with short, flat or few-nerved phyllodes, these characters do not occur in the combination which characterizes *A. singula*. For example, plants of *A. multispicata* with short phyllodes within the size range of *A. singula*, have terete to subterete, many-nerved phyllodes. In some respects the separation of these two species can be viewed as somewhat arbitrary. However, as the new species can be reliably distinguished from



*A. multispicata* and has geographical integrity we consider that species status is warranted. Furthermore, because some individuals of *A. singula* have 1-nerved phyllodes (a rare character for a species of section *Juliflorae*) it seems best not to conceal this characteristic by subsuming the taxon within the highly variable *A. multispicata*. Specimen records at herb. PERTH show *A. singula* as occurring within the geographic range of *A. multispicata*; however, it is not known with certainty whether they are sympatric. The following two specimens collected from "13 miles [20.9 km] east of Lake Grace" demonstrate that the two must grow very close to one another: *J. Goodwin* 206 (*A. multispicata*, collected on 11/9/1964) and *J.W. Green* 4442 (*A. singula*, collected on 27/9/1975). Field studies are needed to ascertain whether they are sympatric, parapatric or allopatric.

*Conservation status.* A Priority 3 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The specific epithet was chosen to call attention to one of the chief differences separating the species from its nearest relative, that is, the sometimes single nerve in the phyllodes, from *singulus*, Latin for one.

## 10. The "Acacia neurophylla Group"

This small group consists of three taxa that share the following characteristics: glabrous branchlets, phyllode nervature with widely spaced nerves generally without anastomoses, the gland near the junction of pulvinus and blade, more or less sessile spikes with a solitary basal peduncular bract, tetramerous flowers with free sepals, sub-peltate bracteoles and linear, firmly chartaceous pods.

### Key to species of the *Acacia neurophylla* Group

1. Phyllodes 3-nerved on each face with the midnerve most prominent; spikes with loosely arranged, cream-coloured flowers; sepals 1/4 as long as 1/2-united petals; pods strongly raised over each seed on both sides, seeds with the areole  $\pm$  1/3 length of seed ..... 10.1 *A. incongesta*
1. Phyllodes 5-7-nerved on each face, nerves all equal or 3 more prominent; spikes with densely congested, golden flowers; sepals 2/3 as long as free petals; pods raised over seeds on alternate sides, seeds with minute areole
  2. Pulvinus strongly flared at base, smooth or scarcely transversely wrinkled, glabrous, 3-5 mm long; phyllodes commonly 10-18.5 cm long and with midnerve and two laterals more strongly raised than secondary nerves; peduncles (1)3-5 mm long ..... 10.2b. *A. neurophylla* subsp. *erugata*
  2. Pulvinus cylindrical or scarcely flared at base, strongly wrinkled transversely, glabrescent, 1-2(3.5) mm long; phyllodes mostly 4.5-9(13) cm long, with the nerves equally prominent; spikes sessile, rarely with peduncles to 2 mm long ..... 10.2a. *A. neurophylla* subsp. *neurophylla*

### 10.1. *Acacia incongesta* Cowan & Maslin, *sp. nov.*

Frutex densus rotundatus 0.6-4 m altus, ramulis teretibus, initio plus minusve resinosis et resinosis pilis dispersis, glabrescentibus; stipulae caducae ad persistentes, triangulares, 0.5 mm longae. Phyllodia angusto-elliptica, acuta, acute ad grosse pungentia, pulvino 1-1.5 mm longo, cylindrico, minute puberulo cum resinoso-pilis, glabrescenti, lamina 4-7 cm longis, 3-4.5 mm latis, ratione horum 11-18, semi-rigidis, ascendentibus ad erectis, leviter incurvatis; nervis 3, elevatis cum nervis marginalibus incrassatis et plus minusve resinosis; glande inconspicua, laminarum prope basem. Pedunculi binati 1-3 mm longi, minute puberuli; spicae cylindricae, cremeae, 15-25 mm longae, 3-4.5 mm diametro, laxe floribus; bracteolis subpeltatis. Flores 4-meri. Sepala longitudine 1/4 petali partes aequantia, discreta, spatulata, puberula. Petala 1/2-connata, glabra. Ovarium sericeum. Legumina linearia, supra semina valde elevata et inter semina leviter constricta, ad 10.5 cm longa, 4 mm lata, pendentia, tenui-coriacea, arcuata, laevia, resinoso-pilis dispersis, stipite ad 8 mm longo. Semina longitudinalia, lato-elliptica, 3-4 mm longa, 2-2.5 mm lata, 1.5 mm crassitie, subnitida, nigra, arillo terminali.

*Typus:* Peak Charles, Western Australia, 10 April 1971, A.S. George 10621 (holo: PERTH 0154601; iso: CANB).

Dense, rounded *shrub* 0.6-4 m tall. *Branchlets* terete, somewhat ribbed, glabrous or tips resinous and with scattered resin-hairs at first, glabrescent. New growth medium dark-green, resinous, shiny. *Stipules* caducous to persistent, triangular, 0.5 mm long, glabrous. *Phyllodes* narrowly elliptic, 4-7 cm long, 3-4.5 mm wide, l:w= 11-18, semi-rigid, ascending to erect, slightly incurved, at first somewhat appressed puberulous on midnerve and marginal nerves with minute, red resin-hairs, these sometimes persistent on midnerve; apex acute, sharply to coarsely pungent; pulvinus 1-1.5 mm long, cylindrical, transversely wrinkled, minutely puberulous with red resin-hairs, glabrescent; midnerve and two weaker lateral nerves on each face strongly raised and more or less resinous, the marginal nerves obvious, thickened and rather resinous; gland small, inconspicuous, near base of blade. *Peduncles* binate, 1-3 mm long, minutely puberulous with red resin-hairs; basal peduncular bracts solitary, persistent, broad-ovate, concave, glabrous; spikes cylindrical, cream-coloured, 15-25 mm long, 3-4.5 mm diam., loosely flowered; bracteoles subpeltate, the lamina widely elliptic, ciliolate, the stipe puberulous. *Flowers* 4-merous. *Sepals* 1/4 as long as petals, free, spatulate, puberulous. *Petals* 1/2-united, glabrous. *Ovary* sericeous. *Pods* linear, strongly raised over seeds on each side and slightly constricted between seeds, to 10.5 cm long, 4 mm wide, pendent, thin-coriaceous, distinctly curved, smooth, with numerous, scattered resin-hairs or glabrous, brown, darker over seeds, with stipe to c. 8 mm long. *Seeds* longitudinally arranged in pods, widely elliptic, 3-4 mm long, 2-2.5 mm wide, 1.5 mm thick, sub-glossy, black; pleurogram U-shaped; areole c. 1/3 as long as seed; funicle-aril terminal, yellow (?).

*Other specimens examined.* WESTERN AUSTRALIA: Peak Charles, J.S. Beard 5852 (PERTH); just E of Peak Charles, N. Browne 3 (PERTH); Peak Charles, H. Demarz 11988 (PERTH); base of E side of Peak Charles, B.R. Maslin 5435 (PERTH); Peak Charles, K. Newbey 6310 (CANB, PERTH); Peak Eleanor, Peak Charles National Park, K. Newbey 6338 (PERTH); Fitzgerald Peaks, 15 June 1929, G.L. Throssell & C.A. Gardner (PERTH 00154628).

*Distribution.* Restricted to Peak Charles National Park (c. 100 km southwest of Norseman), southwest Western Australia.

*Habitat.* Lower granitic mountain slopes and occasionally on nearby sandy clay flats; also locally frequent in patches in granite heath.

*Flowering and fruiting periods.* Flowering March to June; fruits with mature seeds collected in November.

*Affinities.* The new species is most similar in overall appearance to the southern element of the typical subspecies of *A. neurophylla* which differs by its 5-7-nerved phyllodes, dense golden spikes, longer sepals (relative to the length of the petals), free petals and seeds with a minute areole.

*Conservation status.* A Priority 2 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Eymology.* The specific epithet refers to the more or less loosely flowered spikes of this species, one of the characters separating it from its close relative, *A. neurophylla*; derived from the Latin word *incongestus*, meaning not congested.

## 10.2 *Acacia neurophylla* W. Fitzg., J. W. Austral. Nat. Hist. Soc. No. 1: 13 (1904)

Lectotype (*vide* Maslin & Cowan, 1994): Cunderdin, Western Australia, August 1903, *W.V. Fitzgerald s.n.* (NSW, flowering specimen; isolecto: NSW, PERTH 01116673 & 0116762). Paralectotype: Cunderdin, Western Australia, November 1903, *W.V. Fitzgerald s.n.* (NSW, PERTH 00765767 & 00765759, fruiting specimen).

Erect or low spreading *shrubs* or sometimes small *trees* 0.5-5 m tall. *Bark* light grey, smooth or fissured, dark-grey and rough at base. *Branchlets* terete, often with few low ribs, glabrous or with scattered, minute, dark resin-hairs, dark reddish-brown. New growth dark green, young phyllodes tinged brownish, slightly viscid, sometimes glaucous. *Stipules* caducous, c. 1 mm long, triangular or oblong-lanceolate, glabrous. *Phyllodes* narrowly oblong-elliptic, (4.5)10-16(18.5) cm long, (3.5)7-10(13) mm wide, l:w = (6)10-44, rigid, erect, straight to incurved, flat, glabrous or with minute, red resin-hairs on nerves, at least on new growth, pale to dark green, commonly bright green; apex acute, innocuous to coarsely pungent; pulvinus 1-5 mm long, cylindrical or tapered to dilated base, erugose to rugose, glabrous to minutely puberulous; 5-7 nerves on each face coarse to fine and raised, the nerves all equally prominent or midnerve and 2 laterals more prominent, the marginal nerves thickened, anastomoses occasional to rare; gland small, inconspicuous, at or near base of blade. *Peduncles* 0-5 mm long, glabrous or somewhat puberulous; basal peduncular bracts caducous to persistent, broadly ovate, sometimes more or less gibbose, glabrous; spikes cylindrical, golden, 2-5 cm long, 5-6 mm diam., the flowers densely congested; bracteoles dark-coloured, unilaterally subpeltate, the lamina elliptic, the stipe puberulous. *Flowers* 4-merous. *Sepals* 2/3 as long as petals, free or to 1/3-connate, spatulate to spatulate-linear, more or less villosulose. *Petals* elliptic, free, somewhat puberulous near base. *Ovary* white-strigulose. *Pods* linear, strongly raised over seeds on alternate sides, not regularly constricted, to 8 cm long, 2.5-6 mm wide, thin-coriaceous, straight, smooth, glabrous or with scattered, minute, dark resin-hairs, reddish-brown, darker over seeds, the stipe slender, 3.5-5 mm long. *Seeds* longitudinally arranged in pods, commonly widely elliptic to ovate, sometimes nearly circular, 2.5-3.5 mm long, 1.5-2 mm wide, 1-1.5 mm thick, glossy, dark-brown or black; pleurogram semicircular to U-shaped; areole minute, paler than rest of seed; funicle/aril subterminal, conspicuous, galeate, (?) white.

*Distribution.* Occurs from Cooloomia Homestead (c. 90 km north of Kalbarri) southeast to the Norseman-Moir Rock area (Moir Rock is c. 60 km south-southwest of Norseman), southwest Western Australia.

*Infraspecific taxa.* Two subspecies comprise this species: the typical subspecies is rather variable and as currently circumscribed may include more than one taxon; further study both in the field and laboratory are needed to elucidate the complex patterns of variation characterizing the species.

Subspecies *neurophylla* has short, cylindric (or only slightly flared basally) pulvini, equally prominent nerves and generally sessile spikes. Subspecies *erugata* occurs farther north but the two subspecies overlap in the middle of the overall species range on yellow sand, gravel or laterite in tall shrubby sandplains. At least the southernmost element of the typical subspecies seems to be on granite and granitic sands. The new subspecies has phyllodes with the nerves "coarser"-appearing than in the typical subspecies but this is a very subjective evaluation; it results at least in part by the fact that very often three of the nerves are more raised than the other four, making the greater distances between nerves more apparent than real.

*Affinities.* *Acacia neurophylla* is most nearly related to *A. incongesta*.

### 10.2a. *Acacia neurophylla* W. Fitzg. subsp. *neurophylla*

Diffuse, low spreading, domed or flat-topped *shrubs* 0.5-2 m tall and 1-3 m across. *Stipules* triangular. New growth often with minute, appressed, red resin-hairs on nerves. *Phyllodes* 4.5-9(13) cm long; pulvinus 1-2(3.5) mm long, cylindric or slightly flaring basally, strongly rugose transversely, 1-2 (3.5) mm long, at least at first minutely puberulous with red resin-hairs; nerves 5-7, equally prominent. *Spikes* sessile, rarely with glabrous or appressed-puberulous peduncle to 2 mm long.

*Selected specimens examined.* WESTERN AUSTRALIA: Swan River Colony, *J. Drummond* 16 (G, OXF, P, PERTH); Wongan Hills, 5 September 1924, *C.A. Gardner s.n.* (PERTH 00465135); Bonnie Rock-Wialki, 11 September 1957, *A.R. Main* (PERTH 00465011:southern variant); 5 miles [8 km] E of Coorow towards Latham, *B.R. Maslin* 94 (PERTH); Moir Rock, c. 60 km due SW of Norseman, *B.R. Maslin* 2488 (CANB, NY, PERTH:southern variant); 5.5 km N of Watheroo towards Three Springs, *B.R. Maslin* 3293 (PERTH); 11 km N of Watheroo on Geraldton Highway, *B.R. Maslin* 4493 (PERTH); Manners Valley, 15 km SE of Morawa, *B.R. Maslin* 6592 (PERTH); McDermid Rock, c. 100 km W of Norseman, *K. Newbey* 5263 (PERTH:southern variant); 6 km SSE of Mount Glasse, Bremer Range, *K. Newbey* 5596 (PERTH:southern variant); 12 km NW of Norseman, *K. Newbey* 8570 (MEL, PERTH:southern variant); Yorkrakine, *M.H. Simmons* 1264 (PERTH).

*Distribution.* Disjunct, occurring from near Morawa southeast to Cunderdin, with a southern variant occurring east of Beacon (which is c. 55 km northeast of Koorda), also from the Lake Johnston area (which is c. 100 km west of Norseman) east to Norseman-Moir Rock area, southwest Western Australia.

*Habitat.* From very limited data it appears that northern populations grow on sand and laterite and southern populations on sandy loam, often near granite, in thicket and scrub.

*Flowering and fruiting periods.* Flowers from July to September; pods with mature seeds have been collected in November and December.

*Discussion.* The typical subspecies varies considerably in several characteristics and the variation suggests that it may include two poorly defined entities; however, on the basis of currently available data, formal recognition of them is not warranted. One of these entities occurs in the southern part of the species range and the other one thoroughly overlaps with the new subspecies farther north. The

tendencies we have noted is for the northern element to have phyllodes with the tips often curved and the new shoots normally lack red resin-hairs. The southern element has phyllodes with straight tips and resin-hairs on new growth.

*Conservation status.* Not considered rare or endangered.

**10.2b. *Acacia neurophylla* subsp. *erugata* Cowan & Maslin, *subsp. nov.***

Frutex erectus vel arbor parva; stipulae oblongo-lanceolatae; pulvinus versus basem attenuatus sed dilatatus ad basem, plus minusve transversaliter erugosus, 3-5 mm longus, glaber; laminae (7.5)10-18.5 cm longae, vulgo 3 nervis elevatioribus et 4 minoribus elevatioribus; spicae pedunculis glabris (1)3-5 mm longis.

*Typus:* 18.5 miles [29.6 km] E of Carnamah on road to Bunjil, Western Australia, 9 August 1970, *B.R. Maslin* 737 (holo: PERTH 00455814; iso: AD, BRI, CANB). Distributed as *A. neurophylla* W. Fitzg.

Erect *shrub* (or small *tree*) 1-5 m tall, branching from near base. *Stipules* oblong-lanceolate. *Phyllodes* (7.5)10-18.5 cm long; pulvinus flared at base, erugose to slightly rugose transversely, 3-5 mm long, glabrous; nerves commonly with 3 more prominent and 4 finer and less raised. *Spikes* on glabrous peduncles (1)3-5 mm long.

*Selected specimens examined.* WESTERN AUSTRALIA: Indarra, *G. Phillips* for *A.M. Ashby* 3851 (AD, BH, CANB, K, PERTH, S); 49 km SW of Coolgardie towards Southern Cross, *E.M. Canning* WA/68 2459 (PERTH); 24 km S of Mount Hampton, c. 85 km SSW of Southern Cross, *M.D. Crisp* 1102 (PERTH); Cooloomia Nature Reserve, *S.D. Hopper* 1397 (PERTH); Caron Railway Siding, *N. Hoyle* 264 (AD, PERTH); 0.5 miles [0.8 km] N of Ballidu towards Pithara, *B.R. Maslin* 1656 (MEL, NSW, PERTH); 5 miles [8 km] due W of Merredin, *B.R. Maslin* 1748 (K, PERTH); 67.5 km S of Billabong Roadhouse on North West Coastal Highway, *B.R. Maslin* 2784 (AD, B, HO, PERTH, SP); 18 km S of Mukinbudin on the road to Kununoppin, *B.R. Maslin* 6390 (PERTH, Z); 7 miles [11.3 km] N of Bending, *K. Newbey* 3239 (PERTH); c. 16 km W of Lake Deborah, *P.G. Wilson* 6188 (PERTH).

*Distribution.* Occurs from Cooloomia Homestead southeast to Kondinin and Bulla Bulling (c. 30 km east of Coolgardie), southwest Western Australia.

*Habitat.* Yellow sand and laterite in thicket and scrub.

*Flowering and fruiting periods.* Flowers from May to November, but especially in August and September; pods with mature seeds have been collected in December and January.

*Conservation status.* Not considered rare or endangered.

**11. *Acacia oncinophylla* Lindley, Edwards' Bot. Reg. 23: Swan Riv. Append. xv (1839)**

*Typus:* Swan River, Western Australia, *J. Drummond* s.n. (holo: CGE; iso: K, PERTH 01021729 ex CGE and 01021737-fragment ex K).

*Illustration.* W.J. Hooker, Bot. Mag. 74: pl. 4353 (1848).

*Shrubs* 1-2.5 m tall with red-grey "minnie-ritchie" bark. *Branchlets* flattened and angular towards apex, becoming angular-terete and ribbed, glabrous or with few appressed hairs mainly on ribs, sometimes pruinose or resinous-viscid. *Stipules* early caducous, lanceolate-linear, minute. *Phyllodes* linear or linear-oblongate, 4-13 cm long, 1-6 mm wide, thin-coriaceous to semi-rigid, ascending, straight to more or less incurved, glabrous or with few appressed hairs on nerves, resinous-viscid, dark green; apex acute to acuminate or rounded and mucronate or apiculate, abruptly separated from the blade or not, more or less curved; nerves 3, strongly raised and resinous with 3-4 less prominent, parallel secondary nerves; gland prominent, 1.5-5 mm above base of blade, somewhat raised. *Peduncles* (1)2(3) per axil, (2)3-8 mm long, sericeous; basal peduncular bracts persistent to anthesis, 1-2 mm long, broadly ovate, sericeous or only sparsely appressed puberulous; spikes golden, 11-25 mm long, 5-6 mm diam., 50-97-flowered; bracteoles spatulate, sericeous, ciliolate, the lamina obovate, widely elliptic or triangular-ovate, the stipe short. *Flowers* 5-merous. *Sepals* 1/2-2/3 as long as the petals, 2/3-3/4-united, appressed puberulous, the lobes oblong, obtuse, ciliolate. *Petals* 1/2-2/3-united, glabrous. *Ovary* long-pilose. *Pods* linear, raised over but not constricted between seeds, to 6 cm long and 6 mm wide, crustaceous, straight to slightly curved, velvety with silvery or golden, erect hairs. *Seeds* (of subsp. *patulifolia*) oblique, widely elliptic, 3-3.5 mm long, 2 mm wide, 1.5 mm thick, glossy, brown-black; pleurogram double, continuous; areole widely elliptic, paler than rest of seed; aril terminal.

*Distribution.* Occurs along the Darling Range from Mogumber (c. 100 km north of Perth) south to Wagerup (c. 110 km south of Perth), southwest Western Australia.

*Affinities.* *Acacia oncinophylla* is closely related to *A. fauntleroyi* which, besides occurring farther inland, is distinguished by its obviously appressed hairy branchlets and phyllodes, often longer peduncles bearing shorter and broader oblongoid heads, caducous peduncular bracts, more completely united, sparingly puberulous petals and longer, subappressed pilose pods with the hairs more or less silvery.

*Infraspecific taxa.* *Acacia oncinophylla* is comprised of two subspecies which differ most markedly in the shape and dimensions of the phyllodes and length of the spikes.

#### Key to subspecies of *Acacia oncinophylla*

1. Phyllodes mostly 8-13 cm long and 1-2 mm wide, thinly coriaceous, tapering into acute to acuminate tip; branchlets not pruinose; spikes 11-13 mm long, 50-60-flowered ..... 11a. subsp. *oncinophylla*
1. Phyllodes 4-9 cm long and 3-6 mm wide, semi-rigid, abruptly rounded-obtuse and apiculate to mucronate; branchlets often  $\pm$  lightly pruinose; spikes 15-25 mm long, 75-97-flowered ..... 11b. subsp. *patulifolia*

#### 11a. *Acacia oncinophylla* Lindley subsp. *oncinophylla*

*Branchlets* glabrous or with  $\pm$  sparse appressed hair mainly confined to ribs, not pruinose. *Phyllodes* linear, (6)8-13 cm long, 1-2(4) mm wide, 40-65 times longer than wide, thinly coriaceous; apex tapering, more or less curved, acute to acuminate. *Peduncles* 3-5 mm long; basal peduncular bract appressed-puberulous; spikes 11-13 mm long, 5-6 mm diam., 50-60-flowered.

*Selected specimens examined.* WESTERN AUSTRALIA: Hovea Falls, John Forrest National Park, *P. Armstrong* 84/171 (PERTH); Red Hill, *F.M. Bennett* 253 (PERTH); c. 34 km from Perth towards Toodyay, *E.M. Canning* WA/68 2795 (PERTH); Swan View, *L. Diels* 4519 (PERTH); Mogumber, August 1901, *L. Diels & E. Pritzel s.n.* (PERTH 00611832); Mogumber, September 1901, *L. Diels & E. Pritzel s.n.* (PERTH 00607568); Darlington, October 1939, *C.A. Gardner s.n.* (PERTH 00607495); Red Hill, Toodyay road, *A.S. George* 3041 (PERTH); Serpentine, Spring Valley Road, *B.R. Maslin* 4177 (PERTH); Wannamal, mid November 1984, *A. Popplewell s.n.* (PERTH 00607525); Darling Range, *E. Pritzel* 714 (K, M, P, Z); Helena Valley, *J. Seabrook* 275 (CANB, PERTH).

*Distribution.* Restricted to the Darling Range from Mogumber south to Serpentine (c. 50 km south of Perth), southwest Western Australia.

*Habitat.* Granitic soil in heath and open woodland.

*Flowering and fruiting periods.* Flowers from August to October. Immature pods have been collected in mid-November.

*Conservation status.* A Priority 3 taxon on the Department of Conservation and Land Management's Declared Flora and Priority Flora List. See end of this issue.

**11b. *Acacia oncinophylla* subsp. *patulifolia* Cowan & Maslin, *subsp. nov.***

A var. *oncinophylla* ramulis saepe leviter pruinosis, phyllodiis lineari-oblongeolatis ad apicem obtusis et abrupte contractis apiculatis vel mucronatis, 4-9 cm longis, 3-6 mm latis, ratione horum 10-27, semi-rigidis, pedunculo (2)4-8 mm longo, spicis 15-25 mm longis, 75-97-floribus differt.

*Typus:* Barrington Quarry, Darling Range near Perth, Western Australia, 10 September 1972, *B.R. Maslin* 2827 (holo: PERTH 00611905; iso: AD, BRI, CANB, G, K, MEL, MO, NSW, NY, W, Z).

*Branchlets* often  $\pm$  lightly pruinose. *Phyllodes* linear-oblongeolate, 4-9 cm long, 3-6 mm wide, 10-27 times longer than wide, semi-rigid; apex abruptly contracted to rounded tip, apiculate to mucronate. *Peduncles* (2)4-8 mm long; basal peduncular bract glabrous or sparsely appressed puberulous; spikes 15-25 mm long, 75-97-flowered.

*Selected specimens examined.* WESTERN AUSTRALIA: end of Rushton Road, Martin, Gosnells, *R.S. Cowan* A.860 and *R.A. Cowan* (AD, BM, BRI, CANB, G, K, MEL, MO, NSW, P, US); Mills Road, Gosnells, *R.J. Cranfield* 518 (PERTH, TLF) and 1003/79 (PERTH); Barrington Quarry, *H. Demarz* 1716 (PERTH), 1951 (KP, PERTH-fragment ex KP) and 7479 (CANB, PERTH); Crystal Brook, *S. Paust* 47 (PERTH); North Dandalup, Darling Range, *N. Perry* for *I. Armitage* 704 (PERTH); Wagerup, *E. & S. Pignatti* 483 (PERTH); Bickley Reserve, *E. Wittwer* W2294 (PERTH).

*Distribution.* Restricted to the Darling Scarp near Perth and from near Pinjarra south to Wagerup, southwest Western Australia.

*Habitat.* Grows mostly in granitic soil in open woodland.

*Flowering and fruiting periods.* Flowers from August to September with one collection in December; mature pods with seeds have been collected in November.

*Conservation status.* A Priority 2 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The name of the new subspecies is derived from two Latin words, *patulus* for spread out or broad, and *folium* for leaf, in reference to the broader phyllodes of this taxon.

## 12. *Acacia repanda* Cowan & Maslin, *sp. nov.*

Frutex rotundatus vel infundibularis 0.5-2 m altus, cortice in cirratis angustatis lemniscis cadentibus. Ramuli teretes plus minusve costati puberuli vel hirsutuli et puberuli. Stipulae caducae vel persistentes, subulatae, 2-3 mm longae, puberulae. Phyllodia teretia vel compressa ad plana, linearia ad lineari-oblancoolata, apice curvato vel recto et acuto vel rotundato et mucronato, lamina 3.5-6 cm longis, 1-3 mm latis, horum ratione 15-45(60), plus minusve incurvatis, plus minusve rigidis, in nervis appresso-pubescentibus et initio cum resinoso-pilis rubris sed mox glabrescentibus, ubi teretibus 8-nervatis sed ubi planis 3 nervis longitudinalibus valde elevatis saepe resinosis et a sulcis profundis separatis, glande inconspicua, 1-4.5 mm supra pulvinum. Pedunculi nulli. Capitula subglobularia ad lato-ellipsoidea, binata, 5-8 mm longa, 4.5-5 mm diametro, 20-25-floribus; bracteolis anguste ad late obrullato-obovatis, adaxialiter subappresso-villosis, ciliatis. Flores 5-meri. Sepala longitudine 1/2-3/4 petali partes aequantia, 1/2-3/4-connata, subappresso-puberula, lobis etiam rubris resinosis pilis, ciliatis. Petala 1/2-2/3-connata, plus minusve sericea. Legumina anguste oblonga, supra semina elevata, ad 3 cm longa, 4 mm lata, coriacea, valde undulata, villosa et plerumque pilis rubris et resinosis. Semina longitudinalia, lato-elliptica ad oblongo-ovata, 2.5-3 mm longa, 1.8 mm lata, 1.5 mm crassitie, nitida, atrate brunneo-nigra vel obscure maculata, funiculo carnosio in plica supra arillum subterminalem.

*Typus:* Lake Hurlstone Nature Reserve, 9 km NW of Holt Rock on road to Hyden, Western Australia, 22 July 1989, B.R. Maslin 6375 (holo: PERTH 00999881; iso: K). Distributed as *A. ephedroides* Benth.

Rounded to obconic *shrub* 0.5-2 m tall, single-stemmed or much-branched at ground level. *Bark* "minni ritchie", the outer, exfoliating shavings grey, underbark dark red. *Branchlets* terete, somewhat ribbed, puberulous or puberulous and hirsutulous. *Stipules* caducous or persistent, subulate, 2-3 mm long, puberulous. *Phyllodes* terete to flat, linear to linear-oblancoolate, 3.5-6 cm long, 1-3 mm wide, l:w= 15-45(60), rather rigid, patent to ascending, shallowly to moderately incurved, uncommonly almost straight, grey-green, sparsely appressed pubescent on nerves but soon glabrous, young phyllodes often with minute red resin-hairs intermixed with the normal indumentum; apex curved or straight, acute or rounded and mucronate; pulvinus c. 1 mm long, puberulous; 8-nerved in all, 3 nerves on each face when phyllodes compressed or flat, the nerves strongly raised, separated by deep furrows and often ± resinous; gland 1-4.5 mm above base of blade, small, inconspicuous. *Peduncles* absent; basal bracts persistent to anthesis, oblong to broadly ovate, concave, puberulous to sericeous, ciliate. *Heads* subglobular to widely ellipsoid, 2 per axil, light- to mid-golden, 5-8 mm long, 4.5-5 mm diam., 20-25-flowered; bracteoles narrowly to broadly obrullate-obovate, evident in buds, acute to subacute, subappressed villose adaxially, ciliate. *Flowers* 5-merous. *Sepals* 1/2-3/4 as long as the petals, 1/2-3/4-united, subappressed puberulous, the lobes with red resin-hairs, ciliate. *Petals* 1/2-2/3-united, more or less sericeous. *Pods* narrowly oblong, raised over seeds, to 3 cm long, 4 mm wide, coriaceous, strongly undulate, light golden or white villose and usually also with minute red resin-hairs intermixed, dark brown. *Seeds* longitudinally arranged in pods, widely elliptic to oblong-ovate, 2.5-3 mm long, 1.8 mm wide, 1.5 mm thick, flat on the lateral surfaces, glossy, dark brown-black and obscurely mottled yellow; pleurogram semicircular to shortly U-shaped; areole somewhat depressed; funicle fleshy, forming a large fold over the subterminal aril.



*Other specimens examined.* WESTERN AUSTRALIA: Reserve no. 29027, c. 1 km N of The Pimple, Nature Reserve 29027, c. 43 km due ESE of Hyden, 10 June 1986, *K. Atkins s.n.* (PERTH 00727539); The Pimple, Nature Reserve 29027, 40 km E of Hyden, *K.J. Atkins* 1582 (PERTH); 5 km S of Lake Carnody, *W.E. Blackall* 1387 (PERTH); 300 m E of Rabbit Proof Fence, 30 km S of Hyden-Norseman road, *K. Bradby* KLB51 (PERTH); Wongan Hills, August 1935, *E.H. Ising* (PERTH 00607703); 51 km due SE of Hyden, Pingaring Varley Road north, 1.5 km E of Kruppa Road, *B.R. Maslin* 6371 (CANB, PERTH, Z); 54 km due SE of Hyden, Pingaring Varley Road north, 4.5 km E of Kruppa Road, *B.R. Maslin* 6373 (PERTH).

*Distribution.* Disjunct, occurring in the Holt Rock area (Holt Rock is c. 100 km east-northeast of Lake Grace) with one collection from Wongan Hills (c. 300 km to the northwest), southwest Western Australia. This sort of disjunction is somewhat unusual but has been recorded for some other wheatbelt species of *Acacia*, e.g. *A. drewiana* subsp. *minor* Maslin (which occurs near Wongan Hills township and from Kukerin, c. 35 km northwest of Dumbleyung to Lake King, *vide* Maslin 1975) and *A. sulcata* var. *platyphylla* Maiden & Blakely (is known from one collection from near Wongan Hills township with all the other collections from much farther south, *vide* Cowan & Maslin 1993). The record of *A. repanda* at Wongan Hills is based on a 1935 collection by E.H. Ising who is known to have collected in that area; although this region has been rather thoroughly collected by many botanists in recent years (Kenneally 1977), the species has not been recollected, so it may have become extinct.

*Habitat.* Usually in loam or sandy loam near granite outcrops; in heath, scrub and shrubland.

*Flowering and fruiting periods.* Flowering in June-August; fruiting November-December.

*Affinities.* Closely related to *A. ephedroides* from which it is distinguished on the basis of a number of differences, the most obvious being its appressed pubescent branchlets, its longer and thinner phyllodes (6-16 cm long and 0.7-1 mm diam.) which are less rigid and terete to compressed, its non-undulate, longer pods (to 8 cm long) and its non-mottled, larger seeds (3-3.5 mm long).

*Conservation status.* A Priority 3 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The strongly undulate pods of *A. repanda* are the source of its name, from *repandus*, Latin for wavy.

### 13. *Acacia stereophylla* Meissner in J.G.C. Lehmann, Pl. Preiss. 2: 203 (1848)

*Typus:* Swan River, Western Australia, *J. Drummond* 2: 100 (holo: BM-Shuttleworth herb.; iso: CGE, MEL, OXF, P, PERTH 01026984-fragment ex MEL, W; see Maslin & Cowan 1994a).

*Shrubs* or *trees* 1.5-4 m tall, sometimes to 6 m, crown to 6 m diam. *Bark* fibrous, greyish-brown on surface, cinnamon-brown beneath. *Branchlets* terete, often reddish or red-purplish, glabrous except tomentulose in phyllode-axils, often floccose-resinous. *Stipules* commonly caducous, triangular. *Phyllodes* flat and linear or terete to sub-terete, (8)10-18 cm long, 1.3-6.5 mm wide, rigid, ascending to erect, straight to incurved, light green or grey-green; apex acute; pulvinus c. 2 mm long, flaring at base, smooth, with or without a distinct low rib on abaxial side (rib most obvious in var. *stereophylla* and often continuous with the branchlet rib), orange, densely puberulous on adaxial surface; nerves numerous, closely parallel, plane or slightly raised with the mid-nerve more prominent or all nerves

equally prominent, the marginal nerves (flat phyllodes) broad, yellow; gland 1, near apex of pulvinus. *Peduncles* 2 per node, 2-5(8) mm long, puberulous, rust-coloured resin-hairs sometimes present; basal peduncular bracts caducous; spikes cylindrical, golden, (12)18-35 mm long, 6 mm diam., with loosely arranged flowers; bracteoles linear-oblongate or linear-spathulate, villosulose, curved or inflexed at junction of the blade and stipe. *Flowers* 5-merous. *Sepals* 2/3 as long as petals, 1/4-1/2-united, villosulose, especially basally, lobes linear or slightly expanded apically. *Petals* 1/-2/3-united, glabrous. *Pods* narrowly oblong, raised over and irregularly constricted between seeds, to 4 cm long, 4-5 mm wide, pendent, papery, straight, slightly reticulate-nerved, glabrous, pale grey-brown. *Seeds* longitudinally arranged in pods to slightly oblique, widely elliptic to elliptic, 2.8-3.2 mm long, 1-2 mm wide, 1 mm thick, glossy, tan; areole minute, c. semicircular, darker than rest of seed; aril subterminal.

*Distribution.* The species occurs from the Kalbarri National Park and Nerren Nerren Station (c. 90 km north-northwest of Kalbarri) southeast to Tammin and Boorabbin (c. 90 km east of Southern Cross), southwest Western Australia. Although the two varieties recognized within the species occur in the Murchison River district, they are not known to be sympatric.

*Infraspecific taxa.* The two varieties comprising the species are similar in most respects except that the widespread var. *stereophylla* has flat phyllodes whereas var. *cylindrata* (restricted to Kalbarri National Park) have terete or subterete phyllodes. Duplicates of var. *cylindrata* have been distributed in the past as *Acacia stereophylla*.

#### Key to varieties of *Acacia stereophylla*

1. Phyllodes flat, 3.5-6.5 mm wide ..... 13a. var. *stereophylla*  
 1. Phyllodes terete to subterete, 1.3-2 mm diam. .... 13b. var. *cylindrata*

#### 13a. *Acacia stereophylla* Meissner var. *stereophylla*

*Phyllodes* flat, linear, (8-)10-17 cm long, 3.5-6.5 mm wide, marginal nerves distinct; *pulvinus* commonly with abaxial rib.

*Selected specimens examined.* WESTERN AUSTRALIA: near Wyalkatchem, W.E. Blackall 3535 (PERTH); 8.5 km from Wubin towards Wongan Hills, E.M. Canning WA/68 2918 (PERTH); 30 km S of Billabong, P.E. Conrick 1620 (PERTH); 6.3 miles [10.1 km] S of Mullewa town centre towards Mingenew, R. Cumming 2178 (MEL, PERTH); 40 miles [64 km] from mouth of Irwin River, 1871, J. Forrest s.n. (PERTH 00470058); near Rock Well, c. 6.5 km W of Yuna towards Geraldton, B.R. Maslin 3098 (B, MO, PERTH); 16 km N of Murchison River on North West Coastal Highway, B.R. Maslin 3147 (BM, PERTH); 10 km N of Southern Cross towards Bullfinch, B.R. Maslin 3958 (PERTH); 13.5 km N of Tammin towards Korrelocking, B.R. Maslin 4423 (PERTH); 8 km N of Perenjori on the road to Morawa, B.R. Maslin 5068 (PERTH); Ebbano near Yandanooka, 26 September 1904, A. Morrison s.n. (PERTH 00469866); 2 km W of Yacke Yackine Dam, c. 75 km NNW of Bullfinch, K. Newbey 9129 (PERTH); between Tenindewa and Ardingly, c. 52 miles [83.7 km] E of Geraldton, G. Phillips for A.M. Ashby 4832 (CANB, K, PERTH); c. 89 km from Southern Cross towards Coolgardie, M.E. Phillips WA/68 677 (PERTH); 72.4-75.6 km S of Wannoo, M.E. Phillips WA/68 1169 (PERTH); Cullimbin Reserve, 13.3 km E of Manmanning, J.H. Ross 2903 (PERTH); 11.3 km SE of Morawa towards Perenjori, M.D. Tindale 2768 (K, NSW, PERTH).

*Distribution.* A widespread variety occurring from Nerren Nerren Station, southeast to Tammin and Boorabbin, Western Australia.

*Habitat.* Grows in sand, gravelly sand and loam, mostly on plains, in shrubland (where it is often common), thicket and woodland.

*Flowering and fruiting periods.* Flowering specimens have been collected from mid-August to October, with single collections in June and December; pods with mature seeds have been collected from late November to January.

*Conservation status.* Not considered rare or endangered.

**13b. *Acacia stereophylla* var. *cylindrata* Cowan & Maslin, var. nov.**

A var. *stereophylla* phyllodiis teretibus vel subteretibus, 1.3-2 mm diametro, nervis pariter distinctis, pulvino plerumque sine crista abaxiali differt.

*Typus:* Murchison River area, Western Australia, 31 August 1966, *A.C. Burns* 1003 (holo: PERTH 01026992; iso: CANB, G, K, MEL, NSW, NY, PERTH 00590460 and 00590452).

*Phyllodes* terete or subterete, 11-18 cm long, 1.3-2 mm diam., nerves equally distinct; *pulvinus* normally lacking abaxial rib.

*Other specimens examined.* WESTERN AUSTRALIA: Loop Gorge, Murchison River, *D.R. & B. Bellairs* 1629 (PERTH) and 18 January 1982, *s.n.* (PERTH 00470120); The Loop, *A.J. Cough* 217 (PERTH); Gorge Road from junction with Ajana-Kalbarri road to The Loop carpark, 26.7 km from Gorge Road turn-off, *R.S. Cowan* A817 & *R.A. Cowan* (NY, PERTH, US); "Z" bend Lookout, Kalbarri National Park, *N. Hoyle* 598 (PERTH); The Loop Lookout, Kalbarri National Park, *N. Hoyle* 619 (CANB, PERTH); Kalbarri, along the Murchison River near The Loop, *E. & S. Pignatti* 122 (PERTH); Kalbarri to the North West Coastal Highway, *M.H. Simmons* 458 (PERTH).

*Distribution.* Restricted to the Kalbarri National Park on the Murchison River, southwest Western Australia; the type collection was very likely collected in the Park which was not established until 1968 and consequently the label gives only "Murchison River area".

*Habitat.* Grows on sandstone cliffs and sand over sandstone in *Acacia* shrubland.

*Flowering and fruiting periods.* Flowering specimens have been collected from mid-August through September and pods with mature seeds have been collected in January.

*Conservation status.* A Priority 2 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The terete phyllodes are the basis for the epithet of the new variety, from *cylindratus*, a Latin word meaning in the shape of a cylinder.

#### 14. *Acacia xanthocarpa* Cowan & Maslin, *sp. nov.*

Frutex rotundatus vel infundibularis, 2-3 m altus, truncis et ramis plus minusve contortis, ramulis teretibus sed ad apicem leviter angulatis, initio appresso-puberulis sed mox glabrescentibus, rubro-brunneis et nitidis. Phyllodia teretia, acuta, ad apicem saepe curvata, ad 1.5 mm longum versus basem expansum pulvinum attenuata, lamina 6-9.5 cm longis, 0.9-1 mm diametro, rectis ad leviter incurvatis, nervis numerosis, arcte parallelis. Pedunculi in quoque axilla solitarii vel binati, 2-7 mm longi, plus minusve appresso-puberuli; capitula subglobularia ad oblongoidea, aurea, circa 6 mm longa et 5 mm diametro, 18-20-floribus; bracteolis spatulatis, lamina concava, fimbriato-ciliolata. Flores pentameri. Sepala longitudine 1/3 petali partes aequantia, 1/4-1/2-connata, lobis oblongis, ad apicem rotundatis, fimbriato-ciliatis. Petala 1.8 mm longa, erecta, circa 2/3-connata, lobis ovatis, acutis. Ovarium papillato-puberulum. Legumina oblonga, undulata, supra semina elevata, 6-8 cm longa, 8-15 mm lata, crustaceo-coriacea, interdum plus minusve curvata, dense velutina, pilis longis, erectis, initio atro-aureis sed demum albis. Semina obliqua ad transversa, lato-elliptica ad circularia, ad centrum depressa, 6.5-9 mm longa, 6.5-8 mm lata, 3.5 mm crassitie, hebetate atro-brunnea, pleurogramma elliptica, continua, arillo terminali.

*Typus:* Norie Station, Western Australia, 2 August 1982, A.A. Mitchell 980 (holo: PERTH 00154164 and 02054515; iso: CANB, G, K, MEL, NY, PERTH 00153702).

Rounded or obconic *shrub* 2-3 m tall, the trunks and main branches somewhat contorted. *Bark* grey, fibrous, fissured on main trunks, slightly rough on branchlets. *Branchlets* terete, slightly angled at extremities, appressed puberulous at first but soon glabrescent, red-brown, shiny. *Phyllodes* terete, 6-9.5 cm long, 0.9-1 mm diam., erect, straight to slightly incurved, tapering basally, appressed puberulous at first but soon glabrescent or some hairs persisting in longitudinal grooves, green (somewhat glaucous when young); apex acute, the tip straight or more commonly curved to almost uncinatate and to 1.5 mm long; pulvinus *c.* 1.5 mm long, flaring towards base; nerves numerous, closely parallel, slightly raised; gland near base of blade, small, inconspicuous. *Peduncles* solitary or paired, 2-7 mm long,  $\pm$  appressed puberulous; heads (few seen) subglobular to oblongoid, golden, *c.* 6 mm long and 5 mm diam., 18-20-flowered; bracteoles spatulate, the blade concave, fimbriate-ciliate. *Flowers* 5-merous. *Sepals* 1/3 as long as petals, 1/4-1/2-united, the lobes oblong, rounded apically, fimbriate-ciliate. *Petals* 1.8 mm long, erect, *c.* 2/3-united, the lobes ovate, acute. *Ovary* papillate-puberulous. *Pods* oblong, undulate, raised over seeds but not constricted between them, 6-8 cm long, 8-15 mm wide, crustaceous-coriaceous, sometimes somewhat curved, densely velvety, the  $\pm$  long, erect hairs light golden on young pods but whitish on mature pods. *Seeds* oblique to transverse in pod, widely elliptic to circular, depressed in centre, 6.5-9 mm long, 6.5-8 mm wide, 3.5 mm thick, dull, dark brown; pleurogram continuous, elliptic, surrounded by band of light brown tissue sometimes extending to the areole; aril terminal, consisting of a small mound of (yellow?) tissue.

*Other specimens examined.* WESTERN AUSTRALIA: 60 miles [*c.* 96 km] SW of Wiluna, J.S. Beard 4775 (PERTH); Norie Station, J. Bell 846 (PERTH); Norie Station, 0.5 km W of homestead, *c.* 25 km due SW of Meekatharra, B.R. Maslin 5385 (CANB, K, PERTH); 42 km S of Neds Creek Station turn-off on Wiluna-Great Northern Highway road, B.R. Maslin 5389 (PERTH); Polelle Station near Shearing Shed, A.A. Mitchell 1044 (MEL, PERTH); Belele Station, A.L. Payne 82 (PERTH); S of Karalundi, N.H. Speck 1096 (PERTH).

*Distribution.* Restricted to a small area just west and south of Meekatharra from the Belele, Norie and Polelle Stations, extending to *c.* 120 km northeast to Doolgunna Station and Neds Creek Station, also to an area *c.* 120 km southeast of Meekatharra, west-central Western Australia.

*Habitat.* On rocky basalt hills and plains, commonly along drainage lines.

*Flowering and fruiting periods.* Flowers in July-August; one mature fruit with mature seeds collected in December.

*Affinities.* Resembles some of the "A. *aneura* Group" vegetatively but its true relationships are not known to us.

*Conservation status.* A Priority 2 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

*Etymology.* The specific epithet is chosen to call attention to the golden velvety pods, from the latinization of two Greek words, *xanthos*, yellow or golden, and *karpos*, fruit.

**15. *Acacia yorkrakinensis*** C. Gardner, J. Roy. Soc. Western Australia 27: 174 (1942)

*Typus:* Yorkrakine, Western Australia, August 1920, C.A. Gardner s.n. (holo: PERTH 00776831).

Spreading, often rounded, dense to  $\pm$  open *shrubs* or *trees* 1-4 m tall, branching from near ground level. *Bark* grey, becoming fissured at base of trunks. *Branchlets* terete, pruinose, glabrous. *Phyllodes* linear to linear-elliptic or narrowly elliptic to narrowly oblong-elliptic, 3-16 cm long, 3-13 mm wide, l:w = (3)4-40, more or less coriaceous, not rigid, ascending, straight to somewhat incurved or slightly recurved, glabrous, grey-green to glaucous; apices acute to acuminate or caudate-acuminate, rarely obtuse, commonly curved; pulvinus 1.5-3(4) mm long; nerves numerous, fine, closely parallel, rarely a few anastomosing, the midnerve slightly raised and more evident than the rest, margins red to light brown. *Racemes* 2-30 mm long, commonly 2-18 mm long, 1-4-headed, glabrous, somewhat pruinose; peduncles 5-13 mm long; spikes dense, 10-22 mm long, 5-7 mm diam., golden; bracteoles peltate with a stipe c. 1 mm long, villose. *Flowers* 5-merous. *Sepals* c. 1/3 as long as the petals, 1/2-3/4-united in a puberulous cup, the lobes rounded-obtuse. *Petals* 1/4-2/3-united, glabrous. *Pods* linear, raised over seeds but not constricted between them, 6.5-11 cm long, 4-5.5 mm wide, crustaceous-coriaceous, straight, glabrous, more or less pruinose. *Seeds* longitudinally arranged in pods, oblong-elliptic, 4-5 mm long, 3 mm wide, glossy to sub-glossy, dark brown to  $\pm$  black; pleurogram U-shaped, open at hilar end; aril terminal and folded.

*Distribution.* Extending from Perenjori and Wubin (c. 20 km north of Dalwallinu) southeast to near Coolgardie, Lake King (c. 115 km east of Lake Grace) and Peak Charles (c. 95 km south-southwest of Norseman), Western Australia. The typical subspecies is restricted to a small area near Yorkrakine; subsp. *acrita* has a much wider distribution (including a record of it from Yorkrakine).

*Infraspecific taxa.* Comprised of two closely related subspecies which differ principally in phyllode form (see key below). The new subspecies described here is the taxon that has been conventionally referred to as *A. signata*.

*Affinities.* Closely related to *A. signata* which differs largely by its commonly spindly habit, yellow-margined phyllodes and by its geographic distribution; although the ranges of the two species overlap in the Perenjori-Wubin area, the range of *A. signata* continues north to near Shark Bay in more coastal and near-coastal situations than *A. yorkrakinensis*.

### Key to subspecies of *Acacia yorkrakinensis*

1. Phyllodes 3-9.5 cm long, (5)6-13 mm wide, l:w = (3)4-12, narrowly elliptic to narrowly oblong-elliptic, acute to obtuse ..... 15a. subsp. *yorkrakinensis*
1. Phyllodes 8-16 cm long, 3-6(7) mm wide, l:w = 15-40, linear to linear-elliptic, acuminate to caudate-acuminate ..... 15b. subsp. *acrita*

#### 15a. *Acacia yorkrakinensis* C. Gardner subsp. *yorkrakinensis*

*Phyllodes* narrowly elliptic to narrowly oblong-elliptic, 3-9.5 cm long, (5)6-13 mm wide, l:w = (3)4-12, acute or sometimes obtuse, the tip straight to slightly curved.

*Other specimens examined.* WESTERN AUSTRALIA: 10 km N of Bungalla, *E.E. Conn* 2-82 (PERTH); 17.6 km N of Bungalla, 2 September 1936, *C.A. Gardner* (PERTH 00583359); 1.6 km S of Yorkrakine on road to Bungalla, *B.R. Maslin* 598 (PERTH); 10.5 km N of Bungalla towards Wyalkatchem, *B.R. Maslin* 3393 (CANB, K, PERTH); North Bungalla Reserve A17732, 17 km NW of Kellerberrin Townsite, *B.G. Muir* 297(3.3) (PERTH); Bruce Rock to Yorkrakine, *J.G. & M.H. Simmons* 365 (PERTH); just S of Yorkrakine, *M. Simmons* 374 (PERTH); Yorkrakine, *M.H. Simmons* 1266 (PERTH); 6.4 miles [10.5 km] N of Bungalla turn-off on Great Eastern Highway, *M.D. Tindale* 3711 (PERTH).

*Distribution.* Narrowly restricted to the Yorkrakine-Bungalla area (c. 30 km north to c. 10 km east of Tammin), southwest Western Australia. Subspecies *acrita* has a much wider distribution but there is one record of it occurring within the range of subsp. *yorkrakinensis* (see below).

*Habitat.* Grows in red or yellow sand or sandy clay in sandplain heath with *Eucalyptus* spp. and in *Acacia stereophylla* shrubland.

*Flowering and fruiting periods.* Flowers from July to September; data on fruiting times is unavailable due to the lack of fruiting collections.

*Conservation status.* A Priority 2 taxon on the Department of Conservation and Land Management's Declared Rare and Priority Flora List. See end of this issue.

#### 15b. *Acacia yorkrakinensis* subsp. *acrita* Cowan & Maslin, *subsp. nov.*

A var. *yorkrakinensis* phyllodiis 8-16 cm longis et 3-6(7) mm latis, versus basem gradatim attenuatis, apice acuminato ad caudato-acuminato plerumque plus minusve curvato differt.

*Typus:* 10 km S of Merredin towards Bruce Rock, Western Australia, 27 August 1973, *B.R. Maslin* 3410 (holo: PERTH 00583707; iso: BH, BRI, DNA). Distributed as *A. signata* F. Muell.

*A. acuminata* var. *glaucescens* E. Pritzel, Bot. Jahrb. Syst. 35: 308 (1904). T: near Karalee, Western Australia, *L. Diels* 5579; *n.v.*

[*A. acuminata* auct. non Benth.: G. Bentham, Fl. Austral. 2: 404 (1864), *pro parte*, as to *J. Drummond* (?4:) 135 (K).]

[*A. signata* auct. non F. Muell.: J.H. Maiden, J. & Proc. Roy. Soc. New South Wales 51: 265 (1917).]

*Illustration.* M. Simmons (as *A. signata*), *Acac. Australia* 2: 249 (1988).

*Phyllodes* linear to linear-elliptic, 8-16 cm long, 3-6(7) mm wide, l:w = 15-40, attenuate towards base, acuminate to caudate-acuminate, the tip normally curved.

*Selected specimens examined.* WESTERN AUSTRALIA: 20 km E of Damboring, *T.E.H. Aplin* (NSW, PERTH); 1.6 km W of Bodallin, *N.T. Burbidge* 4930 (PERTH); 6.8 km E of Carrabin by road, *R. Coveny* 8355 & *B. Haberley* (CANB, K, L, NSW, PERTH, UC, US); 15.5 km W of Mukinbudin towards Bencubbin, *R.J. Cumming* 2288 (MELU, PERTH); Wubin, *H. Demarz* 6882 (PERTH, TLF); Yorkrakine, 27 July 1948, *C.A. Gardner s.n.* (PERTH 00584363); 4.8 km S of Perenjori, *J. Goodwin* 174 (PERTH); 33.6 km W of Coolgardie, *J. Goodwin* 280 (PERTH); Merredin, *M. Koch* 3014 (PERTH); 4.8 km W of Hines Hill on Great Eastern Highway, *B.R. Maslin* 588 (MEL, PERTH); c. 8 km due W of Merredin, *B.R. Maslin* 1747 (AD, PERTH); c. 4.8 km due W of Merredin, *B.R. Maslin* 1751 (CANB, NSW, PERTH); 52.4 km from Wubin towards Mount Magnet, *B.R. Maslin* 3536A (PERTH); 11 km WSW of Boorabbin, *K. Newbey* 5723 (BRI, PERTH); 20 km NE of Peak Charles, c. 40 km NW of Salmon Gums, *K. Newbey* 6485 (PERTH); Hines Hill, *F. Stoward* 504 (PERTH); 2.7 km W of Merredin, *M.D. Tindale* 3727 (BRI, CANB, K, MEL, PERTH, US); 150 km W of Kalgoorlie on Great Eastern Highway, *T. & J. Whaite* 4076 (CANB, K, PERTH).

*Distribution.* Widespread from the area around Perenjori and Wubin southeast to near Coolgardie, Lake King and Peak Charles, southwest Western Australia. If the locality given on the *Gardner s.n.* specimen cited above is correct then it is possible that subsp. *acrita* and subsp. *yorkrakinensis* are sympatric in the Yorkrakine area.

*Habitat.* Grows commonly in yellow sand but also in gravelly sand, gravel, sandy clay and sandy loam in mallee heath, open shrubland and mallee-wattle open scrub on flat-lands, gently undulating sandplains and gravelly or rocky rises.

*Flowering and fruiting periods.* Flowering mainly from August through September but some collections have been made as early as July and as late as December; pods with mature seeds are found from November to January.

*Typification.* The type of *A. acuminata* var. *glaucescens* has not been seen. However, because the type locality is within the range of subsp. *acrita* and because the (albeit very brief) original description is not at variance with the new subspecies, it seems reasonable to treat Pritzel's name in synonymy here.

*Conservation status.* Widely distributed, not known to be under threat.

*Etymology.* The name for the subspecies derives from the confusion that has existed between *A. signata* and this subspecies of *A. yorkrakinensis*, from a latinized Greek word for confused or mixed, *akritos*.

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