

## Synoptic overview of *Acacia* sensu lato (Leguminosae: Mimosoideae) in East and Southeast Asia

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**ABSTRACT.** Recent research shows that the formerly broadly circumscribed, pantropical genus *Acacia* Mill. (Leguminosae: Mimosoideae) is polyphyletic and should be treated as comprising at least five genera, namely, *Acacia* Mill. sensu stricto, *Acaciella* Britton & Rose, *Mariosousa* Seigler & Ebinger, *Senegalia* Raf. and *Vachellia* Wight & Arn. The indigenous flora of *Acacia* sensu lato in East and Southeast Asia comprise 52 species: 32 species (38 taxa) of *Senegalia*, 12 species of *Acacia* sensu stricto and eight species of *Vachellia*. These species are listed and their geographic distributions given, showing that *Acacia* sensu lato is unevenly distributed across the region, with centres of species-richness in Indonesia, Myanmar and Thailand. A summary of the classification history of *Acacia* sensu lato is provided and nomenclatural impacts of the recent retypification of *Acacia* briefly discussed.

**Keywords.** Classification, nomenclature, phylogeny, *Senegalia*, *Vachellia*

### Introduction

Molecular and other evidence has shown that the formerly broadly circumscribed, pantropical genus *Acacia* Mill. (Leguminosae: Mimosoideae) is polyphyletic and should be treated as comprising at least five genera, namely, *Acacia* Mill. sensu stricto, *Acaciella* Britton & Rose, *Mariosousa* Seigler & Ebinger, *Senegalia* Raf. and *Vachellia* Wight & Arn. (Miller & Seigler, 2012). Collectively, these five genera are called *Acacia* sensu lato in the discussion below. The name *Acacia* is now conserved with a new type (McNeill & Turland, 2011), an action which has had global nomenclatural repercussions. Although increasingly understood and adopted, the new classification for *Acacia* sensu lato has not yet been universally adopted, despite the fact that names congruent with the new classification are now available for most currently accepted taxa.

The indigenous species of *Acacia* sensu lato in East and Southeast Asia comprise 52 species, mostly belonging to *Senegalia* (see Appendix 1). These species are unevenly distributed across the region with centres of species-richness in Indonesia, Myanmar and Thailand (see Appendix 2). The term East Asia here refers to China and Taiwan where species of *Acacia* sensu lato occur both naturally and as introductions. The term

Southeast Asia includes the countries from Papua New Guinea through Indonesia, Philippines, Brunei, Vietnam, Laos, Cambodia (Kampuchea), Singapore, Malaysia, Thailand to Myanmar (Burma). Although New Guinea is geographically part of Australasia, it is included here for convenience and because the island is included in the largest Flora project in Southeast Asia, namely, *Flora Malesiana*. The species of *Acacia* sensu lato of this whole region are currently under review (Maslin, in prep.), a work that benefits greatly from the excellent taxonomic foundation provided by the late Ivan Nielsen for Southeast Asian taxa (Nielsen, 1980, 1981, 1985a, 1985b, 1992) and the treatments by Sun & Chen (1990) and Wu & Nielsen (2010) for taxa from China.

The aims of this communication are to summarise the rationale underlying the new classification and updated nomenclature of *Acacia* sensu lato and to show how this structure and these names apply to the indigenous species of East and Southeast Asia. This will provide an introduction to the above mentioned taxonomic review and will facilitate implementation of the new classification and nomenclature for the region.

### **Phylogeny and classification of *Acacia* sensu lato**

As defined until relatively recently, the genus *Acacia* comprised a very large group of about 1350 species distributed throughout tropical and warm temperate areas of the world, occurring on all continents except Antarctica (web. ref. 1). However, during the past decade the genus has undergone fragmentation, a process that has been driven largely by evidence derived from molecular phylogenetic studies.

According to Bentham (1840), during the 80 years following its original description by Miller (1754) *Acacia* had become an “unwieldy, ill-defined, and comparatively unnatural assemblage of plants”. Bentham (1842) remedied this situation by restricting the name *Acacia* (today’s *Acacia* sensu lato) to Mimosoid plants having indefinite, free stamens, a definition that has persisted to modern times. In a series of subsequent publications, culminating in his 1875 *magnum opus*, Bentham did much to clarify not only the definition of *Acacia* but also its internal classification (Bentham, 1875). During the ensuing 60 years 15 new genera were described but these were ultimately treated as congeneric with *Acacia* sensu lato. A discussion of this generic history is outlined in Maslin et al. (web ref. 1).

In 1986 Pedley published a reassessment of the classification of *Acacia*, dividing the genus into three, namely, *Acacia* sensu stricto, *Senegalia* and *Racosperma* (DC.) Mart. These genera corresponded to three subgenera of *Acacia* sensu lato that had previously been recognised by Vassal (1972), namely, *Acacia* subgenera *Acacia*, *Aculeiferum* Vassal and *Heterophyllum* Vassal (=subgen. *Phyllodineae* (DC.) Seringe) respectively. At the time, Pedley’s classification was not widely adopted for reasons that are outlined in Maslin (1989) and Maslin et al. (web ref. 1). One of these reasons was that the evidence presented was considered inconclusive and/or incomplete,

especially considering the significant impact to global nomenclature that would flow from such a division.

However, since 1986 a number of broad-based, comparative studies (particularly using chloroplast and nuclear DNA) provided evidence that enabled more robust and informed decisions to be made concerning the phylogeny and classification of *Acacia* (see publications listed in Miller & Seigler, 2012). These studies included not only species of *Acacia* sensu lato and *Faidherbia* A.Chev. (which together comprise tribe Acacieae) but importantly, also included representatives from the related tribes Ingeae and Mimoseae. As summarised in Miller & Seigler (2012) this genetic data has consistently demonstrated that *Acacia* sensu lato is polyphyletic and comprises at least five monophyletic groups, which each warrant recognition as a distinct genus. These genera are shown in Table 1 and comprise (1) two small New World endemic genera, *Acaciella* (resurrected by Rico Arce & Bachman, 2006) and *Mariosousa* (new genus described in Seigler et al., 2006), (2) two relatively large pan-tropical genera, *Senegalia* (resurrected by Pedley, 1986) and *Vachellia* (which contains the original type species of *Acacia*, *A. nilotica* (L.) Willd. ex Del.), and (3) the enormous, predominantly Australian genus, *Acacia* sensu stricto (syn. *Racosperma*). *Vachellia* is taxonomically well-removed from the other genera of *Acacia* sensu lato, being nested within a paraphyletic tribe Mimoseae; as noted by Miller & Seigler (2012) there are two, well-supported subclades within *Vachellia*, one of African species and the other American, to which the type of *Vachellia*, *V. farnesiana* (L.) Wight & Arn., belongs. The other four genera are in a paraphyletic grade with genera of tribe Ingeae (fide Miller & Seigler, 2012). It is this five-genus classification for *Acacia* sensu lato that is generally accepted today. In addition to the phylogenetic evidence based on nucleotide data, a range of morphological, biochemical, palynological and other data help support, define and characterise the five genera (see Pedley, 1986; Chappill & Maslin, 1995; Maslin et al., 2003).

Notwithstanding the above it is possible that further generic segregates will be recognised within *Acacia* sensu lato, particularly as more taxa are added to the genetic datasets. Miller & Seigler (2012) have already suggested a possible new genus in South America, segregated from *Senegalia*, to accommodate species allied to *S. skleroxyla* (Tussac) Seigler & Ebinger. While major generic realignments are not anticipated for East and Southeast Asia (but see note below concerning *Delaportea* Gagnep.), it is noted that scarcely any species from the region has been included in existing comparative genetic studies of *Acacia* sensu lato

### **Nomenclature of *Acacia* sensu lato**

In July 2011 the Nomenclature Section of the XVII International Botanical Congress (IBC) in Melbourne, Australia, voted with a clear majority (68%) to accept the *Vienna Code* (McNeill et al., 2007) that lists *Acacia* Mill. with a conserved type (McNeill & Turland, 2011). This action ended a long debate that began following the publication

of a formal proposal by Orchard & Maslin (2003) to replace the original type of *Acacia*, the African species *A. scorpioides* (L.) W.F.Wight (= *A. nilotica*), with a new type, the Australian species, *A. penninervis* Sieber ex DC. A major consequence of the Melbourne IBC decision is that the name *Acacia* now applies to the large, predominantly Australian group that was formerly called *Acacia* subgen. *Phyllodineae*; this group is referred to here as *Acacia sens. str.* and the name *Racosperma* is a synonym of it. Additionally, the name *Vachellia* is the correct name for the smaller, pan-tropical group that was formerly called *Acacia* subgen. *Acacia*. Further information concerning this nomenclatural issue is provided on the WorldWideWattle website (web ref. 2).

Combinations for almost all the currently recognised species of *Acacia sensu lato* now referable to *Acaciella*, *Mariosousa*, *Senegalia* and *Vachellia* have been made, with only 13 species (10 from Madagascar and three from Africa) outstanding (web ref. 3). The WorldWideWattle website (web ref. 4) provides a list of names under the new classification, and where appropriate, each name is cross-referenced to its analogue in *Acacia* when that group was treated as a single genus.

After the Vienna IBC, the 'new' generic names replacing *Acacia sensu lato* had begun to appear in a range of publications and web databases, and the trend continues today; however, there seems to have been a lesser uptake of these names by herbaria. As summarised by Maslin (2011), even prior to the Melbourne IBC the name *Vachellia* had been adopted, in lieu of *Acacia*, in many publications including Flora treatments, field guides, scientific research papers and books. One particularly important publication to adopt the new nomenclature early was *Mabberley's Plant-book* 3<sup>rd</sup> ed. (Mabberley, 2008), which is a primary reference source for the correct names of vascular plant genera and families of the world. The new nomenclature has now been adopted in some large web databases such as the National Center for Biotechnology Information (web ref. 5) and will be incorporated into the Catalogue of Life database and available online by mid 2015 (Y. Roskov, pers. comm.). Other web resources such as *Tropicos* (web ref. 6) and *The Plant List* (web ref. 7) currently adopt a half-way approach by listing many names as accepted under both *Acacia* and *Vachellia/Senegalia*. Some important legume-centric databases on the web still maintain the old nomenclature, e.g. the online version of *Legumes of the World* (web ref. 8) and the *International Legume Database & Information Service* (ILDIS) (web ref. 9). Furthermore, the online version of *Index Nominum Genericorum* (web ref. 10) still lists *A. scorpioides* as the type of *Acacia*. There are of course many possible reasons why the uptake of the new generic nomenclature has been slow, erratic or has not occurred at all. Resource and time limitations are two of the more obvious reasons, but some databases may simply not have the capacity to be changed (ILDIS is presently in this latter category).

In East and Southeast Asia the new names have begun to appear on the web with *Senegalia* being listed for both the Philippines (web ref. 11) and for the Hengduan Mountains region of south-central China (web ref. 12). Also, the new generic nomenclature has been adopted in the checklist of plants of China that is expected to be soon published and in the checklist of the plants of India that is currently in preparation and which is expected to appear online during 2015, and published in hard copy about a year thereafter. Australia has adopted the new nomenclature in its

national names database (web ref. 13) and Australian herbaria have by and large done likewise with their specimen records (web ref. 14). However, this was a relatively easy achievement for Australia because so few name and specimen records had to be changed, with just 11 indigenous species being affected (see Table 1).

It is recognised that it often takes a long time for taxonomic and nomenclatural changes to be accepted and implemented. For herbaria the adoption of such changes can be especially troublesome not only because of the large amount of work and resources needed to redetermine specimens and (often) modify database records, but also because of the disruption caused by having to re-arrange specimen storage systems. In the case of *Acacia* sensu lato these problems are compounded due to its very many species and global distribution (thus many herbaria are affected), and also because of the drawn-out debate over the application of the name *Acacia* itself. While some people may still wish that change had not occurred (a sentiment that is understandable) the fact remains that the international botanical nomenclatural community has voted in favour of *Acacia* retypification. It is therefore appropriate that the new nomenclature for *Acacia* sensu lato be adopted universally so that stability can be provided for this important group of legumes. There is now a particular imperative to achieve this nomenclatural stability because the global legume community is discussing ways to produce a new phylogenetic classification for the Leguminosae, one that will incorporate morphological data into the phylogeny (Bruneau et al., 2013). One of the basic starting points for this project will be the development of a core list of taxa; *Acacia* sensu lato, whose species constitute about a third of the total number for subfamily Mimosoideae, will be a significant component of that list.

### **The indigenous species of *Acacia* sensu lato in East and Southeast Asia**

Current evidence shows *Acacia* sensu lato to be represented in the East and Southeast Asia by 52 native species accommodated in three genera, namely, *Acacia* sens. str., *Senegalia* and *Vachellia*. The species are listed, together with their geographic distributions, in Appendices 1 and 2. However, it should be noted that some modification to these data can be expected to occur within the context of the review of *Acacia* sensu lato for East and Southeast that is currently in progress (Maslin, in prep.).

### ***Acacia* sensu stricto**

*Acacia* sensu stricto (1073 species in total) is largely restricted to Australia where 1063 species occur (Table 1), making it the largest genus of vascular plants on that continent. Only 19 taxa (representing 18 species) occur naturally outside Australia (Brown et al., 2012), 12 in Asia and seven on islands of the Pacific.

All 12 Asian species are geographically restricted, one occurring in East Asia (*Acacia confusa* Merr. from Taiwan and the Philippines) and 11 in Southeast Asia. There are four endemic taxa, three in the south of the region, where *Acacia* sp. (Wetar)

and *A. wetarensis* Pedley are restricted to the small Indonesian island of Wetar and *A. peregrinalis* M.W.McDonald & Maslin which is confined to New Guinea, and one in the northeast (the above mentioned *A. confusa*). All eight species that extend beyond the region occur also in Australia. There are no indigenous species of *Acacia* sensu stricto in mainland China but a few are cultivated there (fide Wu & Nielsen, 2010).

The indigenous species of *Acacia* sensu stricto in East and Southeast Asia are shrubs or trees with phyllodinous foliage (bipinnate foliage occurs on a few introduced species in Asia). Like species of *Vachellia* they are generally found in drier habitats than those of *Senegalia*.

Some taxa of this genus form a significant component of the plantation forestry industry in parts of Southeast Asia, most notably in Indonesia and Vietnam, where *Acacia crassicarpa* A.Cunn. ex Benth., *A. mangium* Willd. and *A. auriculiformis* A.Cunn. ex Benth. × *mangium* are the main ones grown for pulp and solid wood products (see Griffin et al., 2011 for overview).

### *Senegalia*

*Senegalia* (201 species in total) has a pantropical distribution and is represented by 45 species in Asia as a whole (19 in India), 68 in Africa, 102 in the Americas and 2 taxa in Australia (see Table 1).

There are 38 indigenous taxa of *Senegalia* (representing 32 species) in East and Southeast Asia, making it by far the largest group of *Acacia* sensu lato within the region. Thirteen taxa occur in East Asia with four, *Senegalia delavayi* (Franch.) Maslin et al. (var. *delavayi* and var. *kunmingensis* (C.Chen & H.Sun) Maslin et al.), *S. teniana* (Harms) Maslin et al. and *S. yunnanensis* (Franch.) Maslin et al., endemic in China. Thirty three taxa occur in Southeast Asia with almost half of them endemic to the sub-region, namely, *Senegalia borneensis* (I.C.Nielsen) Maslin et al., *S. comosa* (Gagnep.) Maslin et al., *S. donnaiensis* (Gagnep.) Maslin et al., *S. kekapur* (I.C.Nielsen) Maslin et al., *S. kostermansii* (I.C.Nielsen) Maslin et al., *S. meeboldii* (Craib) Maslin et al., *S. merrillii* (I.C.Nielsen) Maslin et al., *S. palawanensis* (I.C.Nielsen) Maslin et al., *S. pluricapitata* (Steud. ex Benth.) Maslin et al., *S. pluriglandulosa* (Verdc.) Maslin et al., *S. pseudointsia* (Miq.) Maslin et al., *S. sulitii* (I.C.Nielsen) Maslin et al., *S. tawitawiensis* (I.C.Nielsen) Maslin et al., *S. thailandica* (I.C.Nielsen) Maslin et al. and *S. verheijensii* (I.C.Nielsen) Maslin et al. These endemic taxa are scattered generally throughout the sub-region, occurring in all countries except Brunei (which has no indigenous *Acacia* sensu lato recorded). Indonesia has the highest concentration of sub-regional endemics with nine species recorded, but only *Senegalia kostermansii* and *S. verheijensii* are restricted to that country. Almost all of the 16 species of *Senegalia* that extend beyond the region range westward to India and nearby countries, with 10 also ranging north to China. Only one taxon, *Senegalia pennata* subsp. *kerrii* (I.C.Nielsen) Maslin et al., extends to Australia, which has a very poor representation of indigenous species of *Senegalia* (just two taxa, the endemic *S. albizioides* (Pedley) Pedley and *S. pennata* subsp. *kerrii*).

Species of *Senegalia* are characterised by having bipinnate leaves and cauline prickles. Most of the indigenous species of East and Southeast Asian are woody lianes with only the widespread *Senegalia catechu* (L.f.) P.J.H.Hurter & Mabb., *S. chundra* (Roxb. ex Rottler) Maslin and *S. ferruginea* (DC.) Pedley (all of which have prickles at the nodes) and the geographically restricted, endemic *S. kostermansii* from Indonesia and *S. teniana* from China (both of which have scattered prickles) seemingly obligate shrubs or trees which lack scandent branches. Most species have broad, flat, ±chartaceous and straight pods but in *Senegalia thailandica* the pods are slightly inflated and tightly curled. These species can be arranged in four sub-groups (defined principally by prickle distribution and leaflet characteristics) centred on *Senegalia pennata*, *S. caesia*, *S. andamanica* (I.C.Nielsen) Maslin et al. and *S. catechu* respectively. The one species with very different carpological features is the widespread and variable *Senegalia rugata* (Lam.) Britton & Rose (syn. *Acacia concinna* (Willd.) DC.). In this species the pods are smooth, thick and fleshy when fresh but they dry characteristically wrinkled, blackish and with a very hard texture. This species name has about 10 heterotypic synonyms and further study is needed to reassess the taxonomic status of *Senegalia rugata*. *Senegalia albizioides* (restricted to Australia) is currently the only recognised close relative of *S. rugata*.

### *Vachellia*

*Vachellia* (163 species in total) has a pantropical distribution and is represented by 30 species in Asia as a whole (11 in India), 84 in Africa, 57 in the Americas and 8 in Australia (see Table 1).

There are just eight indigenous species of *Vachellia* in Southeast Asia (none occurs in East Asia), making it the least well-represented of the three genera within the region. There are five endemic species, all of which occur in northern areas, three restricted to Myanmar (*Vachellia inopinata* (Prain) Maslin et al., *V. kingii* (Prain) Maslin et al. and *V. myaingii* (Lace) Maslin et al.: all these species are poorly known and require study to reassess their taxonomic status), one to Thailand (*V. siamensis* (Craib) Maslin et al.) and one widespread (*V. harmandiana* (Pierre) Maslin et al. which occurs in Cambodia, Laos, Thailand, Vietnam). The three species that extend beyond the region, namely, *Vachellia nilotica* subsp. *indica* (Benth.) Kyal. & Boatwr., *V. leucophloea* (Roxb.) Maslin et al. and *V. tomentosa* (Rottler) Maslin et al., range westward to India with *V. nilotica* subsp. *indica* extending to the Middle East. Excluding *Vachellia harmandiana* and *V. leucophloea*, the only indigenous species of *Vachellia* that is widespread in Southeast Asia is *V. tomentosa*.

Gagnepain (1911, 1952) and Craib (1927) described species under new generic names, *Delaportea* and *Nimiria* Prain ex Craib respectively. At present these species are treated as conspecific with *Vachellia harmandiana*, *V. leucophloea* and *V. siamensis*. They appear to form a natural group that is recognised by an unusual combination of characters, namely, stipules spinescent (characteristic of *Vachellia*) and heads arranged in open, terminal panicles (characteristic of many species of *Senegalia*). Further field,

morphological and genetic study is needed to reassess the taxonomic status of this group and to determine if it is appropriate to resurrect the genus *Delaportea* (with *Nimiria* as a synonym).

*Vachellia farnesiana* (L.) Wight & Arn. has been recorded as an introduction (sometimes naturalised) in a number of countries of East and Southeast Asia (see Nielsen, 1981, 1985b, 1992; Wu & Nielsen, 2010). It is a native of tropical America and comprises three varieties (Seigler & Ebinger, 2005). Although it is not known what varieties occur in Asia it is most likely the typical one (D. Seigler, pers. comm.).

The indigenous species of *Vachellia* in Southeast Asia are shrubs or trees characterised by having bipinnate foliage subtended by spiny stipules. Like species of *Acacia sens. str.* they are generally found in drier sites than those of *Senegalia*.

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**Appendix 1.** Indigenous taxa of *Acacia* sensu lato currently recognised for East and Southeast Asia.

See Introduction for definition of the terms East and Southeast Asia. Only selected synonyms are given in this list.

**ACACIA** Mill., Gard. Dict. Abr., ed. 4, [25] (1754), *nom. cons.* TYPE: *Acacia penninervis* Sieber ex DC. (*typ. cons.*, vide Regnum Veg. 146: App. III, 286. 2006).

*Racosperma* (DC.) Mart., Hort. Reg. Monac. Semin. 4 (1835). LECTOTYPE: *Racosperma penninerve* (Sieber ex DC.) Pedley, Bot. J. Linn. Soc. 92: 239 (1986). Based on *Acacia* sect. *Phyllodineae* DC., Prodr. 2: 448 (1825).

*Acacia auriculiformis* A.Cunn. ex Benth., London J. Bot. 1: 377 (1842).

*Distribution.* **Southeast Asia:** Indonesia (Moluccas), Papua New Guinea. **Australia:** Northern Territory & Queensland.

*Introduced/cultivated/naturalised.* Americas (Florida, Panama), Africa, Bangladesh, Brunei, China, India (incl. Andaman Is.), Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Vietnam.

*Acacia confusa* Merr., J. Sci. (Bot.) 5: 27 (1910).

*Distribution.* **East Asia:** Taiwan. **Southeast Asia:** Philippines.

*Cultivated/introduced.* China, Hawaiian Islands, India, Indonesia, Japan (southern Ryukyu Islands), Mauritius, Malaysia, Northern Marianas, Seychelles, Vietnam.

*Acacia crassicarpa* A.Cunn. ex Benth., London J. Bot. 1: 379 (1842).

*Distribution.* **Southeast Asia:** Papua New Guinea. **Australia:** Queensland.

*Cultivated.* Australia (Northern Territory), Vietnam.

*Acacia leptocarpa* A.Cunn. ex Benth., London J. Bot. 1: 376 (1842).

*Distribution.* **Southeast Asia:** Papua New Guinea. **Australia:** Northern Territory, Queensland, Western Australia.

*Acacia mangium* Willd., Sp. Pl., ed. 4, 4(2): 1053 (1806).

*Distribution.* **Southeast Asia:** Indonesia (New Guinea, Moluccas), Papua New Guinea. **Australia:** Queensland.

*Introduced/naturalised.* Americas (Nicaragua), Australia (Northern Territory), Bangladesh, Brunei, China, Central America (Nicaragua), India, Philippines, Singapore, Vietnam.

*Acacia oraria* F.Muell., Fragm. 11: 66 (1879).

*Distribution.* **Southeast Asia:** Indonesia (Flores, Timor). **Australia:** Queensland.

*Acacia peregrinalis* M.W.McDonald & Maslin, Nuytsia 14(3): 455 (2002).

*Distribution.* **Southeast Asia:** Indonesia (New Guinea), Papua New Guinea.

*Acacia pubirhachis* Pedley, Contr. Queensland Herb. 15: 15 (1974).

*Distribution.* **Southeast Asia:** Papua New Guinea. **Australia:** Queensland.

*Acacia simsii* A.Cunn. ex Benth., London J. Bot. 1: 368 (1842).

*Distribution.* **Southeast Asia:** Indonesia (New Guinea), Papua New Guinea. **Australia:** Northern Territory, Queensland.

*Acacia spirorbis* subsp. *solandri* (Benth.) Pedley, Austrobaileya 3: 216 (1990).

*Distribution.* **Southeast Asia:** Papua New Guinea. **Australia:** Queensland.

*Acacia wetarensis* Pedley, Contr. Queensland Herb. 18: 18 (1975).

*Distribution.* **Southeast Asia:** Indonesia (Wetar).

*Acacia* sp. (Wetar).

*Distribution.* **Southeast Asia:** Indonesia (Wetar).

*Note.* This entity is noted by Nielsen (1992: 59) under *Acacia leptocarpa*. It appears close to the glabrous variant of *A. elachantha* M.W.McDonald & Maslin (McDonald & Maslin, 1997), and preliminary studies suggest that it may represent a distinct taxon.

**SENEGALIA** Raf., Sylva Tell. 119 (1838). LECTOTYPE: *Mimosa senegal* L. (vide Britton & Rose, N. Amer. Fl. 23: 106. 1928) (*Senegalia senegal* (L.) Britton [*Senegalia triacantha* Raf., nom. illeg.]

*Senegalia andamanica* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia andamanica* I.C.Nielsen, *Adansonia* ser 2, 19: 354 (1980).

*Distribution*. **Southeast Asia**: Thailand. **South Asia**: Andaman Islands, Nicobar Islands.

*Senegalia borneensis* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia borneensis* I.C.Nielsen, Opera Bot. 81: 20, fig. 9 (7–13) (1985).

*Distribution*. **Southeast Asia**: Indonesia (Kalimantan), Malaysia (Sabah).

*Senegalia caesia* (L.) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Mimosa caesia* L., Sp. Pl. 1: 522 (1753). – *Acacia caesia* (L.) Willd., Sp. Pl., ed. 4, 4(2): 1090 (1806).

*Distribution*. **East Asia**: China (Guangdong, Hainan, Sichuan, Yunnan), Taiwan. **Southeast Asia**: Cambodia, Laos, Myanmar, Thailand, Vietnam. **South Asia**: Bangladesh, Bhutan, India, Sri Lanka.

*Note*. Although *Acacia caesia* var. *subnuda* (Craib) I.C.Nielsen is recognised by Nielsen (1981: 53) and Sanjappa (1992: 37), it is regarded as conspecific with *A. caesia* by Chakrabarty & Gangopadhyay (1996: 604) and Wu & Nielsen (2010: 57). Maslin et al. (2013) did not recognise the variety in *Senegalia*. Further study is required to reassess the taxonomic status of this variety.

*Senegalia catechu* (L.f.) P.J.H.Hurter & Mabb. in Mabblerley's Plant-book ed. 3, 1021 (2008). – *Mimosa catechu* L.f., Suppl. Pl. 439 (1782 [1781 publ. Apr. 1782]). – *Acacia catechu* (L.f.) Willd., Sp. Pl., ed. 4, 4(2): 1079 (1806).

*Distribution*. **East Asia**: China (Yunnan). **Southeast Asia**: Myanmar, Thailand (uncertain, fide Lock & Heald 1994: 33). **South Asia**: Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka. *Cultivated/introduced*. China (Fujian, Guangdong, Guangxi, Hainan, Yunnan, Zhejiang), Indonesia (Java), Japan (southern Ryukyu Islands), Mauritius, Philippines, Taiwan, Vietnam.

*Senegalia chundra* (Roxb. ex Rottler) Maslin, Nuytsia 22(6): 466 (2012). – *Mimosa chundra* Roxb. ex Rottler, Neue Schriften Ges. Naturf. Freunde Berlin 4: 207 (1803). – *Acacia chundra* (Roxb. ex Rottler) Willd., Sp. Pl. ed. 4, 4(2): 1078 (1806).

*Acacia sundra* (Roxb.) DC., Prodr. 2: 458 (1825). – *Mimosa sundra* Roxb., Pl. Corom. 3: 19, tab. 225 (1811).

*Distribution*. **Southeast Asia**: Myanmar. **South Asia**: India, Sri Lanka.

*Introduced/naturalised*. Australia: Northern Territory, Reunion Island.

*Note*. Despite their similar-sounding epithets, *Mimosa chundra* and *M. sundra* were independent descriptions based on different types, fide Maslin et al. (2013: 466). The complex nomenclatural history involving these names is discussed by Kshirsagar (web ref. 15).

*Senegalia comosa* (Gagnep.) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia comosa* Gagnep., Notul. Syst. (Paris) 2: 113 (1911).

*Distribution*. **Southeast Asia**: Cambodia, Laos, Thailand, Vietnam.

*Senegalia delavayi* (Franch.) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia delavayi* Franch., Pl. Delavay. 194 (1890).

*Note*. Two varieties recognised; both endemic to China.

*Senegalia delavayi* (Franch.) Maslin, Seigler & Ebinger var. **delavayi** – *Acacia delavayi* Franch. var. *delavayi* established by publication of *A. delavayi* var. *kunmingensis* C.Chen & H.Sun, Acta Bot. Yunnan. 12: 262 (1990).

*Distribution.* **East Asia:** China (Yunnan).

*Senegalia delavayi* var. *kunmingensis* (C.Chen & H.Sun) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia delavayi* var. *kunmingensis* C.Chen & H.Sun, Acta Bot. Yunnan. 12: 262 (1990).

*Distribution.* **East Asia:** China (Guizhou, Yunnan).

*Senegalia donnaiensis* (Gagnep.) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia donnaiensis* Gagnep., Not. Syst. (Paris) 2: 114 (1911).

*Distribution.* **Southeast Asia:** Cambodia, Indonesia (Kalimantan), Malaysia (Sabah), Vietnam.

*Senegalia ferruginea* (DC.) Pedley, Bot. J. Linn. Soc. 92: 250 (1986). – *Acacia ferruginea* DC., Prodr. 2: 458 (1825).

*Distribution.* **Southeast Asia:** Myanmar. **South Asia:** India, Sri Lanka.

*Senegalia gageana* (Craib) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia gageana* Craib, Bull. Misc. Inform. Kew 1915: 409 (1915).

*Distribution.* **Southeast Asia:** Myanmar. **South Asia:** Bangladesh, Bhutan, India, Nepal, Pakistan.

*Senegalia intsia* (L.) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Mimosa intsia* L., Sp. Pl. 1: 522 (1753). – *Acacia intsia* (L.) Willd., Sp. Pl., ed. 4, 4(2): 1091 (1806).

*Distribution.* **Southeast Asia:** Myanmar. **South Asia:** Bangladesh, India, Nepal, Sri Lanka.

*Senegalia kekapur* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia kekapur* I.C.Nielsen, Opera Bot. 81: 13, fig. 5 (1–8) (1985).

*Distribution.* **Southeast Asia:** Indonesia (Java, Sumatra), Singapore.

*Note.* Nielsen (1985a) noted that plants from NE Sumatra and Singapore may be taxonomically different from *S. kekapur sens. typ.* from Java and southern Sumatra; this matter is currently under investigation.

*Senegalia kostermansii* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia kostermansii* I.C.Nielsen, Opera Bot. 81: 15 (1985).

*Distribution.* **Southeast Asia:** Indonesia (Alor Island, Sumbawa, Flores).

*Senegalia meeboldii* (Craib) Maslin, Seigler & Ebinger, Blumea 58: 40 (2013). – *Acacia meeboldii* Craib, Bull. Misc. Inform. 1928: 66 (1928).

*Distribution.* **Southeast Asia:** Myanmar, Thailand.

*Senegalia megaladena* (Desv.) Maslin, Seigler & Ebinger, Blumea 58: 41 (2013). – *Acacia megaladena* Desv., J. Bot. Agric. 3: 69 (1814).

*Note.* Three varieties recognised.

*Senegalia megaladena* (Desv.) Maslin, Seigler & Ebinger var. *megaladena* – *Acacia megaladena* Desv. var. *megaladena* established by publication of *A. megaladena* var. *garrettii* I.C. Nielsen and var. *indo-chinensis* I.C. Nielsen, Adansonia sér. 2, 19: 351 (1980).

*Distribution.* **East Asia:** China (Guangxi, Yunnan). **Southeast Asia:** Indonesia (Java), Laos, Myanmar, Thailand, Vietnam. **South Asia:** Bangladesh, India, Nepal.

*Senegalia megaladena* var. *indochinensis* (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia megaladena* var. *indochinensis* I.C.Nielsen, *Adansonia* sér. 2, 19: 351 (1980).

*Distribution*. **Southeast Asia**: Cambodia, Indonesia (Java, but probably introduced according to Nielsen 1985a: 26), Laos, ?Malaysia (recorded for northern Peninsular Malaysia by Nielsen 1985a: 26 & 1992: 51, but not listed in Turner 1997: 290), Thailand, Vietnam.

*Senegalia megaladena* var. *garrettii* (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia megaladena* var. *garrettii* I.C.Nielsen, *Adansonia* sér. 2, 19: 351 (1980).

*Distribution*. **East Asia**: China (Guangxi, Yunnan). **Southeast Asia**: Thailand.

*Senegalia merrillii* (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia merrillii* I.C.Nielsen, *Opera Bot.* 81: 9, fig. 2 (1985).

*Distribution*. **Southeast Asia**: Indonesia (Moluccas, Sulawesi), Philippines.

*Senegalia palawanensis* (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia palawanensis* I.C.Nielsen, *Opera Bot.* 81: 16, fig. 6 (7–11) (1985).

*Distribution*. **Southeast Asia**: Philippines.

*Senegalia pennata* (L.) Maslin, *Nuytsia* 22(6): 466 (2012). – *Mimosa pennata* L., *Sp. Pl.* 1: 522 (1753). – *Acacia pennata* (L.) Willd., *Sp. Pl.*, ed. 4, 4(2): 1090 (1806).

*Note*. Four subspecies recognised.

*Senegalia pennata* subsp. *pennata*. – *Acacia pennata* (L.) Willd. subsp. *pennata* established by publication of *A. pennata* subsp. *hainanensis* (Hayata) I.C. Nielsen, *insuavis* (Lace) I.C.Nielsen and *kerri* I.C.Nielsen, *Adansonia* ser. 2, 19(3): 352–353 (1980).

*Distribution*. **Southeast Asia**: Myanmar, Thailand (probably introduced). **South Asia**: Bangladesh, Bhutan, India, Nepal, Sri Lanka.

*Senegalia pennata* subsp. *hainanensis* (Hayata) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia hainanensis* Hayata,  *Ic. Pl. Formos.* 3: 86 (1913). – *Acacia pennata* subsp. *hainanensis* (Hayata) I.C. Nielsen, *Adansonia* sér. 2, 19(3): 352 (1980).

*Distribution*. **East Asia**: China (Fujian, Guangdong, Guangxi, Hainan, Yunnan). **Southeast Asia**: Myanmar, Vietnam. **South Asia**: India.

*Senegalia pennata* subsp. *insuavis* (Lace) Maslin, Seigler & Ebinger, *Blumea* 58: 41 (2013). – *Acacia insuavis* Lace, *Bull. Misc. Inform.* 1915: 401 (1915). – *Acacia pennata* subsp. *insuavis* (Lace) I.C.Nielsen, *Adansonia* ser. 2, 19(3): 353 (1980).

*Distribution*. **Southeast Asia**: Cambodia, Laos, Myanmar. **South Asia**: India.

*Introduced/cultivated*. USA (Florida), Australia (Northern Territory, Queensland), Singapore, Thailand.

*Note*. Pedley (2014) treated this entity as *S. insuavis* (Lace) Pedley; however, its taxonomic status is currently under investigation by the present author.

*Senegalia pennata* subsp. *kerrii* (I.C.Nielsen) Maslin, *Nuytsia* 22(6): 467 (2012).

*Acacia pennata* subsp. *kerrii* I.C.Nielsen, *Adansonia* ser. 2, 19(3): 353 (1980).

*Distribution*. **Australia**: Queensland. **East Asia**: China (Yunnan). **Southeast Asia**: Cambodia, East Timor, Indonesia (Java, Sulawesi, Flores, Komodo, Lombok, Sumbawa), Laos, Malaysia (Peninsular Malaysia), Myanmar, Thailand, Vietnam. **South Asia**: Bhutan, India, Nepal, Sri Lanka.

*Senegalia pluricapitata* (Steud. ex Benth.) Maslin, Seigler & Ebinger, Blumea 58: 41 (2013). *Acacia pluricapitata* Steud. ex Benth., London. J. Bot. 1: 516 (1842).

*Distribution.* **Southeast Asia:** Indonesia (Sumatra, Java, Kalimantan), Malaysia (Peninsular Malaysia, Sabah), ?Myanmar, Philippines, Thailand, Vietnam.

*Senegalia pluriglandulosa* (Verdc.) Maslin, Seigler & Ebinger, Blumea 58: 41 (2013). – *Acacia pluriglandulosa* Verdc., Kew Bull. 32: 472 (1978).

*Distribution.* **Southeast Asia:** Indonesia (West Papua), Papua New Guinea, Philippines.

*Senegalia pruinescens* (Kurz) Maslin, Seigler & Ebinger, Blumea 58: 41 (2013). – *Acacia pruinescens* Kurz, J. Asiat. Soc Bengal, Pt. 2, Nat. Hist. 45: 296, 298 (1877).

*Distribution.* **East Asia:** China (Guangxi, Yunnan). **Southeast Asia:** Myanmar, Vietnam. **South Asia:** India.

*Senegalia pseudointsia* (Miq.) Maslin, Seigler & Ebinger, Blumea 58: 41 (2013). – *Acacia pseudointsia* Miq., Fl. Ned. Ind. 1: 12 (1855), as '*Pseudo-Intsia*'.

*Distribution.* **Southeast Asia:** Indonesia (Java, Sumatra), Malaysia (Peninsular Malaysia, Sabah, Sarawak), Thailand.

*Senegalia rugata* (Lam.) Britton & Rose, N. Amer. Fl. 23(2): 120 (1928). – *Mimosa rugata* Lam., Encycl. 1: 20 (1783).

*Acacia concinna* (Willd.) DC., Prodr. 2: 464 (1825). – *Mimosa concinna* Willd., Sp. Pl., ed. 4, 4(2): 1039 (1806).

*Distribution.* **East Asia:** China (Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Yunnan). **Southeast Asia:** Cambodia, Indonesia (Ambon, Java, Kai Is., Sumba, Flores, Moluccas, Sulawesi, Sumatra), Laos, Malaysia (Peninsular Malaysia), Myanmar, Papua New Guinea, Philippines, Thailand, Vietnam. **South Asia:** Bangladesh, Bhutan, India (incl. Andaman Is.), Nepal.

*Introduced.* Australia (Queensland), Japan (Okinawa), Madagascar, Mauritius, Reunion Island.

*Note.* A variable species in need of critical revision.

*Senegalia sulitii* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 42 (2013). – *Acacia sulitii* I.C.Nielsen, Opera Bot. 81: 24, fig. 10 (6–10) (1985).

*Distribution.* **Southeast Asia:** Indonesia (Sulawesi), Philippines.

*Senegalia tawitawiensis* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 42 (2013). – *Acacia tawitawiensis* I.C.Nielsen, Opera Bot. 81: 22, fig. 10 (1–5) (1985).

*Distribution.* **Southeast Asia:** Philippines.

*Senegalia teniana* (Harms) Maslin, Seigler & Ebinger, Blumea 58: 42 (2013). – *Acacia teniana* Harms, Repert. Spec. Nov. Regni Veg. 17: 133 (1921).

*Distribution.* **East Asia:** China (Yunnan, Sichuan).

*Senegalia thailandica* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 42 (2013). – *Acacia thailandica* I.C.Nielsen, Adansonia sér. 2, 19: 356, pl. 1 (1980).

*Distribution.* **Southeast Asia:** Cambodia, Thailand.

*Senegalia tonkinensis* (I.C.Nielsen) Maslin, Seigler & Ebinger, Blumea 58: 42 (2013). – *Acacia tonkinensis* I.C.Nielsen, Adansonia sér. 2, 19: 358, pl. 2 (1980).

*Distribution.* **East Asia:** China (Yunnan). **Southeast Asia:** Laos, Thailand, Vietnam.



***Senegalia torta*** (Roxb.) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Mimosa torta* Roxb., *Fl. Ind.*, ed. 2, 2: 566 (1832). – *Acacia torta* (Roxb.) Craib, *Kew Bull.* 1915: 410 (1915).  
*Distribution*. **Southeast Asia**: ?Thailand. **South Asia**: India, Pakistan.

*Note*. It is unlikely that this species occurs in Southeast Asia. The Thailand records by Nielsen (1985b: 167) are probably *Senegalia tonkinensis* (fide Srisanga & Sasirat, 2000).

***Senegalia verheijenii*** (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Acacia verheijenii* I.C.Nielsen, *Opera Bot.* 81: 16, fig. 6 (1–6) (1985).

*Distribution*. **Southeast Asia**: Indonesia (Flores).

***Senegalia vietnamensis*** (I.C.Nielsen) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Acacia vietnamensis* I.C.Nielsen, *Adansonia sér.* 2, 19: 360, pl. 3 (1980).

*Distribution*. **Southeast Asia**: Laos, Vietnam. (Erroneously recorded for China by Wu & Nielsen 2010: 57).

***Senegalia yunnanensis*** (Franch.) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Acacia yunnanensis* Franch., *Pl. Delavay.* 193 (1890).

*Distribution*. **East Asia**: China (Yunnan, Sichuan).

**VACHELLIA** Wight & Arn., *Prodr.* 272 (1834). TYPE: *Vachellia farnesiana* (L.) Wight & Arn.

*Delaportea* Thorel ex Gagnep., *Notul. Syst. (Paris)* 2: 117 (1911). TYPE: *Delaportea armata* Thorel ex Gagnep. (= *Vachellia harmandiana* (Pierre) Maslin, Seigler & Ebinger).

*Nimiria* Prain ex Craib, *Bull. Misc. Inform.* 1927: 393 (1927). TYPE: *Nimiria siamensis* Craib (= *Vachellia siamensis* (Craib) Maslin, Seigler & Ebinger).

***Vachellia harmandiana*** (Pierre) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Pithecolobium harmandianum* Pierre, *Fl. Forest. Cochinch.* 5: tab. 394A (1899). – *Acacia harmandiana* (Pierre) Gagnep., *Not. Syst. (Paris)* 2: 115 (1911). – *Delaportea armata* Thorel ex Gagnep., *Not. Syst. (Paris)* 2: 118 (1911).

*Distribution*. **Southeast Asia**: Cambodia, Laos, Thailand, Vietnam.

***Vachellia inopinata*** (Prain) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Acacia inopinata* Prain, *J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist.* 66: 507 (1897). – *Nimaria inopinata* (Prain) Craib, *Bull. Misc. Inform. Kew* 1927: 393 (1927).

*Distribution*. **Southeast Asia**: Myanmar.

***Vachellia kingii*** (Prain) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Acacia kingii* Prain, *J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist.* 66: 506 (1897).

*Distribution*. **Southeast Asia**: Myanmar.

***Vachellia leucophloea*** (Roxb.) Maslin, Seigler & Ebinger, *Blumea* 58: 42 (2013). – *Mimosa leucophloea* Roxb., *Pl. Coromandel* 2: 27, tab. 150 (1800). – *Acacia leucophloea* (Roxb.) Willd., *Sp. Pl.*, ed. 4, 4(2): 1083 (1806).

*Delaportea microphylla* Gagnep., *Bull. Soc. Bot. Fr.* 99: 46 (1952).

*Delaportea ferox* Gagnep., *Bull. Soc. Bot. Fr.* 99: 47 (1952).

*Distribution.* **Southeast Asia:** East Timor, Indonesia (Java, Bali, Timor), Laos, Malaysia (Peninsular Malaysia), Myanmar, Thailand, Vietnam. **South Asia:** India, Pakistan, Sri Lanka. *Introduced.* Mauritius, Trinidad.

*Note.* Maslin et al. (2013: 42–43) recognise two varieties, *Vachellia leucophloea* var. *leucophloea* and var. *microcephala* (Kurz) Maslin, Seigler & Ebinger (recorded only for Myanmar). The taxonomic status of *Vachellia leucophloea* var. *microcephala*, however, needs to be reviewed.

***Vachellia myaingii*** (Lace) Maslin, Seigler & Ebinger, *Blumea* 58: 43 (2013). – *Acacia myaingii* Lace, *Bull. Misc. Inform.* 1915: 114 (1915), as “Myaingii”.

*Distribution.* **Southeast Asia:** Myanmar.

***Vachellia nilotica*** (L.) P.J.H. Hurter & Mabb. subsp. *indica* (Benth.) Kyal. & Boatwr., *Bot. J. Linn. Soc.* 172: 515 (2013). – *Acacia arabica* var. *indica* Benth., *London J. Bot.* 1: 500 (1842). – *Acacia nilotica* subsp. *indica* (Benth.) Brenan, *Kew Bull.* 12: 84 (1957).

*Distribution.* **Southeast Asia:** Myanmar. **South Asia:** Bangladesh, India, Nepal, Pakistan. **West Asia:** Iran, North Yemen, Oman, Qatar, South Yemen.

*Introduced/naturalised.* Africa, America, Australia (Northern Territory, Queensland, South Australia, Western Australia), India (Andaman Is.), Indonesia (Timor), Sri Lanka.

***Vachellia siamensis*** (Craib) Maslin, Seigler & Ebinger, *Blumea* 58: 43 (2013). – *Nimiria siamensis* Craib, *Bull. Misc. Inform.* 1927: 393 (1927). – *Acacia craibii* I.C.Nielsen, *Adansonia ser.* 2, 19(3): 344 (1980).

*Distribution.* **Southeast Asia:** Thailand.

***Vachellia tomentosa*** (Rottler) Maslin, Seigler & Ebinger, *Blumea* 58: 43 (2013). – *Mimosa tomentosa* Rottler, *Ges. Naturf. Freunde Berlin Neue Schriften* 4: 208 (1803). – *Acacia tomentosa* Willd. *Sp. Pl.*, ed. 4, 4(2): 1087 (1806).

*Distribution.* **Southeast Asia:** East Timor, Indonesia (Java, Sumba, Sumbawa, Sulawesi), Myanmar, Thailand, Vietnam. **South Asia:** Bangladesh, India, Sri Lanka.

**Appendix 2.** Indigenous taxa of *Acacia* sensu lato in East and Southeast Asia, listed by country of occurrence.

See Introduction for definition of the terms East and Southeast Asia. E = endemic (additional to the 15 country-specific endemics shown below there are 10 species of *Senegalia* that are endemic to Southeast Asia which occur in more than one country, see text above).

<b>East Asia</b>		
China	10 species (13 taxa)	<i>Senegalia caesia</i> , <i>S. catechu</i> , <i>S. delavayi</i> (var. <i>delavayi</i> & var. <i>kunmingensis</i> ) [both E], <i>S. megaladena</i> (var. <i>megaladena</i> & var. <i>garrettii</i> ), <i>S. pennata</i> (subsp. <i>hainanensis</i> & subsp. <i>kerrii</i> ), <i>S. pruinescens</i> , <i>S. rugata</i> , <i>S. teniana</i> [E], <i>S. tonkinensis</i> , <i>S. yunnanensis</i> [E].
Taiwan	2 species	<i>Acacia confusa</i> . <i>Senegalia caesia</i> .
<b>Southeast Asia</b>		
Brunei	0	No indigenous species recorded.

Cambodia	8 species (9 taxa)	<i>Senegalia caesia</i> , <i>S. comosa</i> , <i>S. donnaiensis</i> , <i>S. megaladena</i> var. <i>indochinensis</i> , <i>S. pennata</i> (subsp. <i>insuavis</i> . & subsp. <i>kerrii</i> ), <i>S. rugata</i> , <i>S. thailandica</i> . <i>Vachellia harmandiana</i> .
East Timor	3 species	<i>Senegalia pennata</i> subsp. <i>kerrii</i> . <i>Vachellia leucophloea</i> , <i>V. tomentosa</i> .
Indonesia	21 species (22 taxa)	<i>Acacia auriculiformis</i> , <i>A. mangium</i> , <i>A. oraria</i> , <i>A. peregrinalis</i> , <i>A. wetarensis</i> [E], <i>A. sp.</i> (Wetar) [E]. <i>Senegalia borneensis</i> , <i>S. donnaiensis</i> , <i>S. kekapur</i> , <i>S. kostermansii</i> [E], <i>S. megaladena</i> (var. <i>megaladena</i> & var. <i>indochinensis</i> – probably introduced, see note above), <i>S. merrillii</i> , <i>S. pennata</i> subsp. <i>kerrii</i> , <i>S. pluricapitata</i> , <i>S. pluriglandulosa</i> , <i>S. pseudointsia</i> , <i>S. rugata</i> , <i>S. sulitii</i> , <i>S. verheijensii</i> [E]. <i>Vachellia leucophloea</i> , <i>V. tomentosa</i> .
Laos	9 species (11 taxa)	<i>Senegalia caesia</i> , <i>S. comosa</i> , <i>S. megaladena</i> (var. <i>indochinensis</i> & var. <i>megaladena</i> ), <i>S. pennata</i> (subsp. <i>insuavis</i> . & subsp. <i>kerrii</i> ), <i>S. rugata</i> , <i>S. tonkinensis</i> , <i>S. vietnamensis</i> . <i>Vachellia harmandiana</i> , <i>V. leucophloea</i> .
Malaysia	8 species	<i>Senegalia borneensis</i> , <i>S. donnaiensis</i> , <i>S. megaladena</i> var. <i>indochinensis</i> (uncertain, see note above), <i>S. pennata</i> subsp. <i>kerrii</i> , <i>S. pluricapitata</i> , <i>S. pseudointsia</i> , <i>S. rugata</i> . <i>Vachellia leucophloea</i> .
Myanmar	18 species (21 taxa)	<i>Senegalia caesia</i> , <i>S. catechu</i> , <i>S. chundra</i> , <i>S. ferruginea</i> , <i>S. gageana</i> , <i>S. intsia</i> , <i>S. meeboldii</i> , <i>S. megaladena</i> var. <i>megaladena</i> , <i>S. pennata</i> (subsp. <i>hainanensis</i> , subsp. <i>insuavis</i> , subsp. <i>kerrii</i> & subsp. <i>pennata</i> ), <i>S. pluricapitata</i> (uncertain), <i>S. pruinescens</i> , <i>S. rugata</i> . <i>Vachellia inopinata</i> [E], <i>V. kingii</i> [E], <i>V. leucophloea</i> , <i>V. myaingii</i> [E], <i>V. nilotica</i> subsp. <i>indica</i> , <i>V. tomentosa</i> .
Papua New Guinea	10 species	<i>Acacia auriculiformis</i> , <i>A. crassicarpa</i> , <i>A. leptocarpa</i> , <i>Acacia mangium</i> , <i>A. peregrinalis</i> , <i>A. pubirhachis</i> , <i>A. simsii</i> , <i>A. spirorbis</i> subsp. <i>solandri</i> . <i>Senegalia pluriglandulosa</i> , <i>S. rugata</i> .
Philippines	8 species	<i>Acacia confusa</i> . <i>Senegalia merrillii</i> , <i>S. palawanensis</i> [E], <i>S. pluricapitata</i> , <i>S. pluriglandulosa</i> , <i>S. rugata</i> , <i>S. sulitii</i> [E], <i>S. tawitawiensis</i> [E].
Singapore	1 species	<i>Senegalia kekapur</i> .
Thailand	17 species (20 taxa)	<i>Senegalia andamanica</i> , <i>S. caesia</i> , <i>S. catechu</i> (uncertain), <i>S. comosa</i> , <i>S. meeboldii</i> , <i>S. megaladena</i> (var. <i>indochinensis</i> , var. <i>megaladena</i> & var. <i>garrettii</i> ), <i>S. pennata</i> (subsp. <i>kerrii</i> & subsp. <i>pennata</i> ), <i>S. pluricapitata</i> , <i>S. pseudointsia</i> , <i>S. rugata</i> , <i>S. thailandica</i> , <i>S. tonkinensis</i> , <i>S. torta</i> (unlikely, see note above). <i>Vachellia harmandiana</i> , <i>V. leucophloea</i> , <i>V. siamensis</i> [E], <i>V. tomentosa</i> .
Vietnam	13 species (15 taxa)	<i>Senegalia caesia</i> , <i>S. comosa</i> , <i>S. donnaiensis</i> , <i>S. megaladena</i> (var. <i>indochinensis</i> , var. <i>megaladena</i> ), <i>S. pennata</i> (subsp. <i>hainanensis</i> and subsp. <i>kerrii</i> ), <i>S. pluricapitata</i> , <i>S. pruinescens</i> , <i>S. rugata</i> , <i>S. tonkinensis</i> , <i>S. vietnamensis</i> . <i>Vachellia harmandiana</i> , <i>V. leucophloea</i> , <i>V. tomentosa</i> .

**Table 1.** Classification schemes for *Acacia* sensu lato showing species numbers and major areas of occurrence.

Column 3 (in **bold**) gives the current classification and nomenclature of *Acacia* sensu lato. Species numbers are sourced from the WorldWideWattle website (web ref. 4) plus 19 Australian species of *Acacia* sensu stricto published in recent years but not yet posted to that site (see Maslin, 2014a–d; Maslin & Barrett, 2014; Kodela, 2015); these numbers refer to accepted, indigenous species only (not including infraspecific, informal or hybrid formulae taxa).

Pre-Vienna IBC names ( <i>Acacia</i> treated as a single genus with <i>A. nilotica</i> the type)	Post-Vienna IBC names; <i>Acacia</i> sensu lato treated as five genera						
	With <i>Acacia nilotica</i> the type	<b>With <i>Acacia penninervis</i> the type</b>	<b>Species numbers and distribution</b>				Total
			Americas	Africa <sup>1</sup>	Asia <sup>2</sup>	Australia /Pacific	
<i>Acacia</i> subgenus <i>Acacia</i>	<i>Acacia</i>	<b><i>Vachellia</i></b>	<b>57</b>	<b>84<sup>3</sup></b>	<b>30</b>	<b>9</b>	<b>163<sup>3</sup></b>
subgenus <i>Aculeiferum</i>							
section <i>Spiciflorae</i>	<i>Senegalia</i>	<b><i>Senegalia</i></b>	<b>102</b>	<b>68<sup>4</sup></b>	<b>45</b>	<b>2</b>	<b>201<sup>4</sup></b>
section <i>Filicinae</i>	<i>Acaciella</i>	<b><i>Acaciella</i></b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>
<i>Acacia coulteri</i> group	<i>Mariosousa</i>	<b><i>Mariosousa</i></b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>
subgenus <i>Phyllodineae</i>	<i>Racosperma</i>	<b><i>Acacia</i></b>	<b>0</b>	<b>0<sup>5</sup></b>	<b>13</b>	<b>1064<sup>6</sup></b>	<b>1067</b>

<sup>1</sup>Including Madagascar and Mascarenes. <sup>2</sup>New Guinea to the Middle East. <sup>3</sup>Including three species in Madagascar and one in Africa for which combinations are not yet available in *Vachellia*. <sup>4</sup>Including seven species in Madagascar and two in Africa for which combinations are not yet available in *Senegalia*. <sup>5</sup>*Acacia heterophylla* was formerly recognised for Reunion Island but was recently shown by Le Roux et al. (2014) to be conspecific with the Hawaiian species *A. koa* and to have colonised the Mascarene archipelago directly from the Hawaiian Islands  $\leq 1.4$  million yr ago. <sup>6</sup>1057 species in Australia, seven in the Pacific region.