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Acacia - the final decision

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On 16 July 2005 the Nomenclature Section of the XVII International Botanical Congress in Vienna voted to accept a recommendation to conserve the name *Acacia* with an Australian type. This means that the vast majority of the Australian Wattle species will keep the scientific name *Acacia* and will not have to be called *Racosperma*.

This has been an excellent outcome, not only for Australia but also for the hundreds of people around the world who use Australian species for a wide variety of purposes. The decision means that less disruption will occur worldwide by keeping the name *Acacia* for species of the Australian group than would occur had the name been applied to groups that predominate outside Australia. In botanical legalese, it has been judged that global nomenclatural stability was best served by retypifying *Acacia* with a new type species.

This *Acacia* name issue has been much discussed and hotly debated over the past couple of years. This is not surprising because as currently defined *Acacia* is one of the largest of plant genera in the world with species represented on most continents: about 1000 in Australia, 150 in Africa, 185 in the Americas and 95 in the Asia-Pacific region. A summary of much of what has happened over the past two and a half years is presented on the Worldwidewattle website at <http://www.worldwidewattle.com/infogallery/nameissue/chronology.php>.

The decision concerning *Acacia* was an extremely difficult one for the botanical community to make and there were always going to be those who would be unhappy with whatever outcome ensued. Nevertheless, it is important to appreciate that all arguments, both for and against retypifying the genus, were properly considered by the appropriate bodies and that the decision reached was consistent with the Rules and Principles outlined in the International Code of Botanical Nomenclature. Nevertheless, this has been a contentious issue and it is hoped that the following précis of events leading up to the final decision will clarify matters for at least some people.

Until recently, *Acacia* had been considered to be one genus of almost 1 400 species that were distributed throughout the tropics and in Australia. However, recent scientific evidence, including the modern methods of molecular analysis, have shown that the genus cannot stand as a single entity and that it falls into three main groups, with two other smaller ones in Central America. Apart from about 10 species found mostly in northern Australia, all the Australian species fall into one group of about 1000 species. A few species of this group extend to the islands of the Pacific (as far as Hawaii), into South East Asia (as far as Taiwan) and to Madagascar; furthermore, a number of the Australian species are widely used commercially, environmentally and/or socially around the world, and in places they have escaped to become woody weeds. Most of the remaining 380 or so species of *Acacia* (as presently defined) fall into two roughly equal groups that predominate in the Americas, tropical and South Africa and tropical Asia. If each of these groups

is to be regarded as a distinct genus (which most, but not all, botanists now seem to accept), the question arises as to which one is to be called *Acacia* .

In botany there is a system which says that the group which includes the 'type species' of the name must retain the name. But one can make a proposal to change that 'type species' in exceptional circumstances. (These exceptional circumstances must be ones that are judged to be in the best interest of stability for the group concerned.) The type species is usually one of the first species to be named in the genus, and in the case of *Acacia* this has long been accepted as one that occurs in Africa and Asia , *A. nilotica* . With this as the type species, 45% of the non- Australian species (including about half of those in Africa and Asia , and one third of those in the Americas) would retain the name *Acacia* while 55% would become *Senegalia* ; virtually all the 1000 Australian species would be called *Racosperma* . Note that about half or more of the African, Asian and American species are expected to be taken out of *Acacia* and put in *Senegalia* anyway, whatever decision was taken over the type of *Acacia* . However, if the type species were changed as proposed, the 1000 Australian species would be called *Acacia* and not *Racosperma* , while the 45% of non-Australian species would be called *Vachellia* .

In view of the above Orchard and Maslin (2003) published a formal proposal in the international journal *Taxon*, arguing that the type should be changed to an Australian species, *A. penninervis* . This was automatically referred to the appropriate committee of nomenclatural specialists, the Committee for Spermatophyta, of which Dr R. Brummitt from the Royal Botanic Gardens, Kew , U.K. , is the Secretary. This committee has 15 members - 2 from Asia , 1 from Africa , 1 from South America , 6 from Europe , 4 from America and 1 from Australia . This committee received opinions both in favour and against the proposal, involving the longest correspondence ever in the history of that committee (which does not meet in person, all matters being dealt with by correspondence). It also took into account opinions expressed in a number of papers that had been published prior to handing down its recommendation. When a vote is taken in the committee, the rules are that in order to recommend acceptance of a particular proposal there needs to be a 60% majority, i.e. a minimum of 9 in favour out 15, and in the case of *Acacia* the vote was 9-6 - just enough for it to recommend acceptance of the Orchard and Maslin proposal! Because of the contentious nature of this issue, the Secretary of the committee published in the August 2004 issue of *Taxon* a special report detailing the reasons why the Committee for Spermatophyta voted the way it did (Brummitt 2004). In this report Dr Brummitt commented "This proposal has been the most high-profile and most extensively and vigorously debated case in the history of this committee, not surprisingly since *Acacia* in the broad sense is such a huge, widespread and important genus. It has been realised in the committee from the start that whatever outcome is recommended, some people are going to be very unhappy at having to change the names of important species. While this is regrettable, there is nothing that this committee can do to avoid it."

The next formality was to pass the Spermatophyta Committee's recommendation through the General Committee of the International Association for Plant Taxonomy. Normally this is just a rubber-stamping operation, but in this case there was (unexpectedly) some opposition; it nevertheless passed by 14: 6.

The next step was to pass the General Committee's recommendation through the meeting of the Nomenclature Section of the International Botanical Congress, which was held in Vienna from 12 to 16 July in the week before the Congress proper. This meeting was attended by around 200 botanists, many of whom carried institutional votes from their own or other institutions, and many issues were hotly debated in a lecture theatre. Conservation proposals are normally routinely passed in the business at the end of the meeting, and never in the history of these things had any individual case been challenged at this point. However, those opposing switching the type to an Australian species had let it be known that they wished to oppose the *Acacia* recommendation, and it was put to a debate on the last day, Saturday 16 July. Not only had the pro-African-type lobby come in numbers to make their case, they had solicited large numbers of

institutional votes from places which did not send a representative. This is within the rules, but never before had lobbying been done in this manner. There was a debate for about half an hour, at the end of which the chairman ruled that as for all other proposals impacting on the ICBN debated during the week, the move to overturn the Committee decisions needed a 60% majority to succeed. A secret ballot was held, and those wanting to keep the African species as type got 247 votes and those favouring the Australian type got 203. The margin was thus only 55%, and the necessary 60% majority was not achieved. The Committee decisions were thus upheld - but only just ! Even then, when the final plenary session of the whole Congress was held a week later, Saturday 23 July, somebody saw fit to raise the matter for discussion yet again, but fortunately this was quickly defeated.

It appeared to us from the start that the case for adopting an Australian type was overwhelming. Firstly, and undisputedly, the number of *Acacia* species is vastly greater in Australia . After the split, the number of species here is about 1000, while the number of species affected outside Australia is only about 150. *Acacia* in Australia is our largest genus, comprising nearly 6% of the Australian vascular flora. After the split, *Acacia* in Africa is only about 0.13% of the flora, and similar figures apply in South America and Asia . Then the economic arguments are very heavily in Australia 's favour, particularly because of the very large forestry industries based on Australian species. Australian Acacias are grown in many parts of the world in large commercial plantations for industrial timber, fibre and tannin, and in smaller scale plantations for fodder, soil conservation, human food, firewood, floriculture and other purposes. For example, *A. mearnsii* is considered the most profitable forestry species in South Africa, and plantations of this species in South Africa, Brazil, China and Vietnam generate income of US\$571 million per annum; *A. mangium*, *auriculiformis* and *A. crassior* cover 1.5 m hectares in plantations in Indonesia, Malaysia, Vietnam and China, generating US\$900 million from pulp alone; *A. saligna* is grown in plantations exceeding 500 000 ha in North Africa, the Middle East, West Asia and Chile. (For a summary of further details see Orchard & Maslin 2005, and Maslin et al. 2003a) . The African, American and Asian Acacias have nowhere near this level of utilisation. A summary of all the reasons why the committees voted in our favour is presented below.

Another matter that had a bearing on the outcome of this debate is the symbolic importance of *Acacia* to the people of Australia . In the weeks leading up to the Vienna Congress around 250 letters of support for the Spermatophyta Committee's recommendation were sent to Dr Brummitt, most by Australians who consider *Acacia* is part of their national psyche, part of their national heritage, part of their everyday life, and in some cases part of their everyday business. (Details of the symbolic significance of *Acacia* to Australia are presented on the Worldwidewattle website at <http://www.worldwidewattle.com/infogallery/symbolic/>). Much of this support came from listeners to the Australian Broadcasting Corporation's Sunday Morning program *Australia All Over* , hosted by Ian (Macca) McNamara. All letters received by Dr Brummitt before he left for Vienna on 11 July were displayed on boards at the Nomenclature Session in Vienna where they created an impressive display and were certainly significant. They included a letter from the Australian Minister for the Environment and Heritage, the Hon. Ian Campbell. Responding to this expression of support Dr Brummitt was moved to say at the Vienna meeting that if the proposal to adopt an Australian type was not approved, it would be the greatest injustice to the users of plant names in all his experience. Below we have listed those organisations who sent their support to Dr Brummitt; additionally there were very many individuals who sent their personal support. To all these people we extend our sincerest thanks; your efforts played an important role in the outcome that was achieved. A list of everyone who contacted Dr. Brummitt is posted elsewhere on Worldwidewattle . Dr Brummitt has commented to us that that in accepting and displaying these expressions of support he was not 'batting for Australia ' (even though he is a cricket lover) so much as fighting for what was obviously right. Alongside the 200 e-mails he placed on the notice boards, he added the following:

Summary of reasons why committees have voted for the conservation of *Acacia* with an Australian type as proposed by Orchard and Maslin (2003):

1. There are 1000 species of *Acacia* in Australia which would otherwise be called *Racosperma* , which constitute by far the biggest genus on that continent, much bigger than *Eucalyptus* for example
2. There is a multi-billion dollar agroforestry industry based on the Australian species which are now being grown on a vast scale in a number of other countries
3. The name *Acacia* has a much higher profile among the general public in Australia , where it is their national symbol, than in any other continent including Africa , as evidenced by the numbers of people who sent the letters displayed alongside
4. There is a large horticultural industry in Australia based on their native species, which are used in a very great number of different ways
5. Many of the 1000 species in Australia are restricted endemics which have attracted local and national legislation, and nomenclatural changes will affect the large number of scientists and administrators who the Australian federal and state governments employ in connection with the genus
6. If the proposal is not accepted, 13 times as many species in Australia will have to change their name as in Africa
7. Outside Australia 55% of the native species are going to change their names to *Senegalia* anyway, whatever decision is made on the type of *Acacia*
8. Because of the cultivation (and escape from cultivation) of many Australian species outside Australia , many people in those countries already think of 'Acacia' as meaning "the Australian species"
9. Retaining the name *Acacia* for fewer than half of the species outside Australia will lead to considerable confusion in Africa and elsewhere
10. Nomenclaturists must take note of the needs of those who use the names of plants

Where to now?

Until formal proposals to split *Acacia* have been published the generic names for species and infraspecific remain the same, i.e. they will still be called *Acacia* . Once the split begins, however, the generic names will likely be the following:

- *Acacia* for species ascribed to the present subgenus *Phyllodineae*;
- *Vachellia* for species ascribed to the present subgenus *Acacia*;
- *Senegalia* for most species ascribed to the present subgenus *Aculeiferum* (around 30 species from the Americas which are currently ascribed to this subgenus are likely to be placed in two separate genera).

Acknowledgements

Much of what we have presented above is based on a letter prepared by Dr R. (Dick) K. Brummitt, Royal Botanic Gardens , Kew , that was sent to each of the 250 or so people who expressed their support for the Spermatophyta Committee's recommendation to accept the Orchard & Maslin (2003) proposal to conserve *Acacia* with a new type. We thank Dick for allowing us to abstract so freely from his letter.

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