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October 2004 Newsletter

Meetings and Field Trips

We meet on the third Thursday of the month at 7:30 pm. We attempt to conclude the General meeting by 8:00pm, followed by a Guest Speaker beginning at 8:15 pm. There is time for a cuppa in between the meeting and the guest speaker. The venue for our meeting is Marrara Christian School, on the corner of Amy Johnson and McMillans Drive. All welcome. Bring plants to swap, sell or have identified.

Coming Events Coming Events Coming Events

~ Next Meeting Thursday October 21st ~
~ Annual General Meeting ~

The October meeting is our Annual General Meeting. Be there to support your Society! Following the AGM we will have the chance to view a new database of Top end plants which has been developed recently. Some members have been asked to bring along their own photo collections of various plants. If you have something to share with members after the AGM, bring it along!

TENPS Priorities Survey:

With last months newsletter you would have found a survey form, prepared by Sally Jacka and approved by the Committee, that sought members' input into the process of determining what activities and functions that members think are most important. This survey builds on recent discussion at general meetings and will assist the committee in setting future directions. Please complete and return the survey, either by folding it, putting a stamp on and posting it 'as is', or bringing it along to the next meeting you attend. This is important! So far only one survey has been returned! We will place all returned surveys in a draw - the prize being Phil Short's Book "In pursuit of Plants". You have to be in it to win it .. and returning your survey will ensure that you have your say about your society!

Your Membership is Due!

Please be remided that subs are due again. TENPS relies on your membership fees to keep running! It helps the club if people pay their fees promptly. Our Treasurer, Jen, will be more than happy to take your money!

Plant Sale at Coolalinga
Saturday 20th November
From 8:30 am
Tell your Friends to come along and Buy some
Top Quality Top End Native Plants
Now is a Great Time to Plant!

Are Australian wattles *Acacia*? (Sean Bellairs)

Currently *Acacia* is the name of the wattle genus, a very large genus with over 1350 species. Most of these wattles occur in Australia although they are also found in Africa, tropical Asia, tropical America and South America. Approximately 957 species occur in Australia, 185 species in America, 144 species in Africa and 89 species in Asia. Recently taxonomists have determined that the genus *Acacia* should be split into several genera.

Why should *Acacia* be split?

Based on the best available information, a plant genus is described to include a group of species that have a common ancestor. The species vary from each other but the extent of variation within the genus should not greatly exceed that within other genera. Importantly a genus should not include species that have different evolutionary ancestors.

By 1986 most botanists agreed that *Acacia* included a number of more or less disparate groups and that the variation within the genus would justify splitting it into several genera. However because of the importance of the genus there was hesitation in splitting the genus until considerable evidence was built up. Initial studies focused on leaf and seed characteristics but recently studies of the DNA of many *Acacia* species have been completed by Joe Miller. Jenny Chappill and Bruce Maslin also carried out a cladistic analysis of the genus, which involves measuring hundreds of features of each plant and analysing the patterns of evolution of the characteristics.
These studies have confirmed that there are distinctly different groups within the genus *Acacia* and some species within *Acacia* are more closely related to other genera (i.e. *Faidherbia*) than to some other species of *Acacia*. Species within the genus *Acacia* don't share a common ancestor that is not shared by species in other genera, therefore the genus needs to be split.

The largest group within *Acacia* that would be recognised as a single genus are the 956 mostly Australian species that have phyllodes rather than leaves with blades or leaflets. It is likely that the remaining *Acacia* species would be separated into four genera. However normally the genus name *Acacia* would not be retained by the Australian species.

How a plant genus name is chosen.

When a new plant is found it is formally described in a publication and given a name. When a group of plants are placed within a genus the plant that is first described provides the name of the genus. This ensures that the same name will be accepted by all taxonomists that accept that grouping as a genus.

The first *Acacia* was originally described by Philip Miller in 1754. One of the species included in Miller's paper was subsequently selected as the type species for the genus *Acacia*. This species is *Acacia scorpioides* (now known as *Acacia nilotica*) and it is a species that occurs in Africa and Asia). Therefore when the *Acacia* genus is broken up the name *Acacia* would normally stay with whichever new genus includes *Acacia nilotica*. However *Acacia nilotica* occurs in a group of about 163 species which occur mainly in Africa, America and Asia. In this case almost all the Australian *Acacia* species would receive a

new genus name. Overall 87% of the genus or 1200 species would need to be renamed!

There is another option. A group of plant taxonomists oversee the International Code of Botanical Nomenclature and they can be asked to consider an exception to the normal rules. Arguments have to be formally published and then judged by an international group of specialists. If they agreed, another *Acacia* in the Australian group of phyllodinous *Acacia* species could be nominated as the type species (the species on which the genus name is based). A formal proposal by Tony Orchard and Bruce Maslin (2003) has been published that argues for the name *Acacia* to be retained by the Australian phyllodinous species. It is argued that this would reduce world wide nomenclatural disruption and it would result in names of important timber and food species remaining the same.

The Spermatophyta (flowering plants) committee of the International Association of Plant Taxonomists has recently made a decision to conserve *Acacia* with a new type species, *Acacia penninervis*. The Committee's decision now needs to be endorsed by the General Committee of IAPT and ratified at the International Botanical Congress in Vienna in 2005 before this is confirmed. Then the 948 Australian species of phyllodinous wattles would retain the genus name *Acacia*. Background information and some of the documents supporting the case can be found on the web at http://www.worldwidewattle.com/infogallery/taxonomy/

Orchard, A.E. and Maslin, B.R. (2003). Proposal to conserve the name *Acacia* (Leguminosae: Mimosoideae) with a conserved type. Taxon 52: 362–363

Dave Liddle – Ptychosperma bleeseri

Some Notes from Dave's Talk (Russell Dempster)

15000 dots representing rainforest patches scattered across the Top End. There is a great scattering of rainforest patches in the Top End, many of which are very small, but they are interconnected. Genetic material is moved around the patches by fruit eating birds, most important dispersal agents.

- Figs are a keystone species as they can fruit at different times of the year. Ptychosperma bleeseri conservation is a part of rainforest conservation. They grow in wet spring-fed rainforests, classified as type II jungles by Jeremy Russell-Smith.

- A clumping palm, the terminal leaf set is the same width or narrower than the preceding leaf set.

(The BTEC campaign in the late 80's did a great deal for our rainforests – they have regenerated a great deal since the removal of buffaloes.)

- The fence at Bankers Jungle has gone into a state of disrepair resulting in the death of some adults as buffalo have taken their toll. Some have had their main trunks broken off and some have simply been pushed over.

- Fire also has an effect on Ptychosperma bleeseri. Hot fires will kill them, but plants can recover from fires, as evident atWhitewood Road,HowardSprings.

- Dave has been using a simulation program to model the future populations of Ptychosperma bleeseri.

Without fires and feral animals – Medium time to extinction.
With fires and feral animals – population drops more quickly.
Management possibilities can then be looked at for different scenarios.

- The increase in reliance and use of bore water in Darwin and the rural area has led to a lower water table in the dry season. This has meant that normally wet jungles are much drier and are therefore much more susceptible to fire, which have had dramatic impacts at Whitewood Road Jungle which has suffered from major fire impacts.

NEXT MEETING THURSDAY Thursday October 21st ~
~ Annual General Meeting ~ ”

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