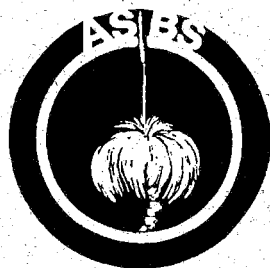


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ASBS INC BUSINESS

David Eric Symon

(carried forward from the last newsletter, where David's life membership was announced)



David Symon at the ceremony being presented with the Life Membership certificate (top) and with Bob Hill, representing the long line of newsletter editors, beneficiaries of his contributions, and Robyn Barker and Barry Conn, who signed the certificate (bottom). Photos: Bill Barker

From notes supplied by David.

David was born in London in 1920 and emigrated to Australia as a child. His early life was spent on a dryland mallee farm at Pyap, near Loxton, in the Murray Mallee of South Australia.

He was educated at the Pyap Primary School to 1935. For some years he worked at the Lasscocks Nursery in Lockleys, a suburb of Adelaide. During this time he did single subjects at night school to get his matriculation.

Having achieved his matriculation David then did a Diploma in Agriculture at Roseworthy Agricultural College which enabled him to do a degree in Agricultural Science at the University of Adelaide.

After an Honours year he was employed as an Agrostologist in the Agronomy Dept of the Waite Agricultural Research Institute. David considers the first years as "lost years" with the production of only three small, but interesting papers on heterozygosity in subterranean clover (Symon 1954), a hybrid swarm in *Cassia* (Symon 1955) and polyembryony in *Cassia* (Symon 1956).

In 1957 he transferred to the position of Botanist serving the needs of the Institute and, in part, the Department of Agriculture. Duties included lecturing in many aspects of agriculture, weed science and crop plant evolution. The Waite Herbarium was greatly strengthened and the Waite Arboretum developed with a coherent policy. The first of two large bibliographies on subterranean clover was assembled (Symon 1961a and 1986d).

In 1966 he published his first revision (Symon 1966), a revision of *Cassia*. The demonstration of polyembryony in *Cassia* in Australia had given a possible clue to the taxonomic difficulties within this genus and resulted in Barbara Randell undertaking biological and taxonomic work in the genus for her Ph.D.

Problems with the identification of *Solanum*, particularly the weedy species, led to an interest in the genus and family and resulted in a long series of papers (Symon 1970-1995, see bibliography),

amongst which were revisions of the Australian species (Symon 1981b) and the New Guinea species (Symon 1985c). He has published about 60 new names in the family. As well as the taxonomy of the group, David was keenly interested in the biology. He documented dioecy in some species of *Solanum* (Symon 1970), considered dispersal of the group (Symon 1979), pollination (Symon 1979), insect foragers (Anderson & Symon 1985, 1989) and was involved in the surveying of the group for alkaloids. Australian *Solanum* species were surveyed for the alkaloid solasodine at a time when a number of countries, including Russia and subsequently Australia, were looking to this alkaloid as a precursor for the formation of hormonal steroids (Bradley et al. 1978, Ripperger et al. 1984).

In order to achieve much of this work in Solanaceae a number of collecting trips were made, in particular to northern Australia – Arnhem Land, Kimberleys, Pilbara etc., as well as two trips to Papua New Guinea. Collections from these trips are amongst David's 16000 numbered collections at AD with many duplicated at CANB, K and MO.

David was Chair of the Committee which organised the successful IVth International Solanaceae Conference in Adelaide in September 1994 and attended the three conferences prior to this. The first of these was in Birmingham in 1976, the second in St Louis, Missouri, in 1982 following which David visited US herbaria in Los Angeles, New York, Chicago, Harvard, Cornell and San Francisco. The third conference was in Bogota in 1988 (see letter below). He presented papers at each of these conferences.

Other overseas visits in search of Solanaceae included Paris and Russia. An earlier visit to the Paris herbarium in 1963 had disclosed at least 20 closely strapped bundles of Solanaceae above the Solanaceae bays. This famously under-curated collection was visited again in 1991 and most of a month was spent in going through this backlog, some of which had been waiting since 1836. At least 800 sheets were identified and the remainder sorted to genera to facilitate later visitors finding them. It was on this visit that Ru Hoogland was so helpful.

Dr M. Kirtsova attended the 1994 Solanaceae conference in Adelaide and was one of the last of the Russian workers developing Kangaroo Apple as a field crop, a subject on which Gerasimenko and Korneva et al. had published extensively. With an invitation to visit Dr Kirtsova, David and Judy had a holiday trip to Turkey and Russia in 1997. David visited Dr A. Baytop who had published on Turkish Solanaceae in Istanbul. Then to Moscow to meet Drs Kirtsova and Korneva. This included an all too brief visit to the herbarium in Leningrad where the small holdings of Australian Solanaceae were examined and, more importantly, some of the types of the many cultivars of Kangaroo Apple named by Gerasimenko were photographed.

Laurie Haegi and Phillipa Horton both worked with David at the Waite Institute on Solanaceae, Laurie on *Datura* and *Lycium*, later going on to a Ph.D. in the Anthocercideae (completed in NSW), and Phillipa produced an account of *Nicotiana*.

However David's botanical interests have always been much broader than Solanaceae. He has published checklists of the Simpson Desert and Dalhousie Springs (Symon 1969, 1984c), papers on flowering pears in the Waite Arboretum (Symon 1983d, 1991), and contributed to the *Flora of Central Australia* (Symon 1981c), *Flora of Australia* (Haegi, Purdie & Symon 1982) and *Flora of South Australia* (Symon 1986b). He also published early on the food plants of Australian butterfly larvae (Symon 1980a), on the use of words of aboriginal origin in the epithets of Australian higher plants (Symon 1996d), and studied landscapes in the Art Gallery of South Australia in order to ascertain the early vegetation in the Adelaide area (Symon 1990c).

David was heavily involved in the Nature Conservation Society of South Australia (including being President for two years) and participated in their early biological surveys of conservation reserves or potential reserves. These included Hambidge, Hincks, Oraparinna, Gawler Ranges, Scorpion Springs, Carrappee Hill, Innes National Park, Comet Bore, Pt Davenport, the Mound Springs, Marble Range and Great Victoria Desert. He assisted the National Parks & Wildlife Service of South Australia on their surveys of the Great Victoria Desert (Yellabinna), the Olary Plains and southern Flinders Ranges survey. He has also

made substantial plant collections from northern South Australia, Simpson Desert, Dalhousie Springs, Musgrave Ranges and Pearson Island and has continued to participate in biological surveys of the present Department of Environment & Heritage.

David's recollections of his first field trip:

My first field trip was in 1953 when the University of Adelaide funded an educational trip for C.S.Bauer, "Fred" Jessup, P. Madge, P.G.Martin, G. Mayo, K.Phillips and D.Symon to Central Australia. In two vehicles we drove to Alice Springs, the Hartz Ranges, McDonnell Ranges, Ayers Rock and the Olgas. It was successful despite some tensions within the party and all remembered it to their dying day (only two participants still survive). This was before my botanical career began and the plant collections were sadly inadequate. Considering University stringency these days it seems inconceivably generous. The only paper resulting directly from the trip was Symon (1955) on *Cassia*.

Since retiring in 1985 David has continued as a volunteer and part-time worker at the State Herbarium of South Australia. During this time he has continued his work in Solanaceae, publishing a number of new species and introductions (Symon & Swarbrick 1986, Clarkson & Symon 1991, Symon & Kenneally 1994, Symon 1995d, Symon 1997h, Symon 1998a). He has also been involved in amino acid sequencing in order to determine a phylogeny of *Solanum* (Martin et al. 1986), became involved with cladistic analysis (Lepschi & Symon 1999) and contributed to the development of an interactive LucID key to all of the Australian species of Solanaceae (with R.M.Barker and L.Haegi, development continuing, prototype on web). Besides Solanaceae, he has revised the earlier handbook on the "Acacias of South Australia" (Whibley & Symon 1992), and developed a keen interest in the Rosaceae, particularly *Acaena* (Symon, Whalen & Mackay 2000) and the taxonomically difficult *Rubus* (Evans et al. 1998). He is also currently pursuing an interest in gypsophilous plants and preparing a comprehensive account of Sturt Pea with Manfred Jusaitis.

David has been a member of the Editorial Committee of the *Journal of the Adelaide Botanic Gardens* since 1978. He was also a member of the Flora of Australia Editorial Committee (1980-84), a member of the Flora and Fauna of South Australia Handbooks Committee (pre 1972 - 1994) and an editor of "Solanaceae IV", the proceedings of the international Solanaceae conference held in Adelaide in 1994. He has published numerous reviews and notes in the *ASBS Newsletter* and in the *Friends of the Adelaide Botanic Garden Gazette*.

David was awarded a D.Sc. in 1996 on the basis of his published work.

David lists the highlights of his career as being

- The unexpected way in which his research on Solanaceae blossomed
- His pleasure and faith in the international nature of plant systematics
- The realization that so much more needs to be done – particularly in the biology of Australian plants
- His gratitude to the State Herbarium of South Australia where he has worked as an

Honorary Research Associate since his retirement

Disappointments

- That the Flora of Australia has not been completed more promptly
- The uncharitable dismissal of common sense in the face of any chemical or numerical contribution to our knowledge.
- Lack of understanding at the higher political levels of the basic nature of taxonomy which underwrites any of the fashionable buzz words: conservation, biodiversity, rare and endangered, sustainable agriculture, etc.

David married Judith Wibberley in 1957 and has three children and five grand children. He attributes much of his success to his happy and stable domestic life. He and Judy have shared interests in reading, theatre, arts and ceramics and Judy has also often accompanied David on his botanical forays, both within Australia and overseas.

New species and combinations published by D.E.Symon

In Symon 1965

C. helmsii, *C. desolata* var. *planipes* (J.Black)Symon, *C. nemophila* var. *coriacea* (Benth.)Symon

In Symon 1966

Cassia charlesiana, *C. ferraria*, *C. hamersleyensis*, *C. manucula*, *C. pilocarina*, *C. oligophylla* var. *sericea*, *C. pleurocarpa* var. *angustifolia*, *C. pleurocarpa* var. *longifolia*, *C. barcalyana* var. *pubescens* (Benth.)Symon, *Cassia* subgenus *Absus* (DC.)Symon

In Symon 1971

Solanum cleistogamum, *S. eburneum*, *S. gilesii*, *S. karsense*, *S. lachnophyllum*, *S. leopoldense*, *S. oedipus*, *S. papaverifolium*, *S. tumulicola*

In Symon 1981b

Solanum sect. *Campanulata* and sect. *Pugiunculifera*, *Solanum ashbyae*, *S. beagleholei*, *S. chippendalei*, *S. clarkiae*, *S. cookii*, *S. eardleyae*, *S. hesperium*, *S. heteropodium*, *S. orbiculatum* var. *macrophyllum*, *S. petraeum*, *S. plicatile* (S.Moore)Symon, *S. seitheae*, *S.*

terraneum, *S. tudumunggae*, *S. yirrkalensis*, *S. linearifolium* Gerasimenko ex Symon

In Symon 1981c

Petalostylis cassioides (F.Muell.)Symon

In Symon 1984d

Nicotiana burbidgeae

In Symon 1985c

Solanum sect. *Asiomalesiana* (Bitter)Symon, sect. *Dunaliana* (Bitter)Symon, *S. abortivum*, *S. atheniae*, *S. anfractum*, *S. bitterianum*, *S. borgmannii*, *S. dendropilosum*, *S. denseaculeatum*, *S. expedunculatum*, *S. incanoalabastrum*, *S. infuscatum*, *S. mankiense*, *S. missimense*, *S. multivenosum*, *S. nolense*, *S. papuanum*, *S. pustulatum*, *S. rivicola*, *S. saruwagudensis*, *S. umbonatum*

Nicotiana wutkei (Clarkson & Symon 1991); *Nicotiana heterantha* (Symon & Kenneally 1994); *Solanum coracinum*, *S. dissectum*, *S. gympiense*, *S. stupefactum* (Symon 1995d); *Nicotiana truncata*

(Symon 1998a); *Senna phyllodinea* (R.Br.)Symon (Symon 1998f); *Goodenia gypsicola* (Symon 2000e); *Senna sericea* (Symon)Symon & Albrecht (Symon 2000a);

Eponymy: new taxa named after D. E. Symon

Solanum symonii Eichler, *Taxon* 12: 296 (1963) – replacement name for *S. fasciculatum* F.Muell.
Bassia symoniana Ining, *Trans.Roy.Soc. S.Austral.* 88: 75 (1964)
Ptilotus symonii Benl, *Trans.Roy.Soc. S.Austral.* 92: 33 (1968)
Hibiscus symonii Wilson & Byrne, *Linn.Soc. N.S. Wales* 95: 195 (1970)
Cranothrips symoni L.A.Mound, *J. Aust. Ent. Soc.* 11: 37-54 (1972)
Calogyne symonii Carolin, *Brunonia* 2: 12 (1979) – now *Goodenia symonii*

Solanum vescum var. *davidii* Herasimenko, *Rast. Resursy* 9: 424 (1973)
Stylidium symonii Carlquist, *Aliso* 9: 439 (1979)
Acacia symonii Whibley, *J. Adelaide Bot. Gard.* 2: 167 (1980)
Symonanthus L.Haegi, *Telopea* 2: 173 (1981) – replacement name for *Isandra*
Symonicoccus Koteja & Brookes, *Pol. Pismo Ent.* 51: 377 (1981)
Eucalyptus symonii Carr & Carr, in D.J.Carr & S.G.M.Carr (1985), *Eucalyptus* I: 36-37 (Phytoglyph Press).
Pseudococcus symonii Williams in D.J.Williams (1985) *Australian Mealy Bugs* p. 333, fig. 148 (British Museum(Natural History), London)
Senna artemisioides subsp. *symonii* Randell, *J. Adelaide Bot. Gard.* 12: 243 (1989)
Solanum symonianum Takenchi, detail not known.

Collections

A summary of numbered collections by D.E.Symon. Collecting books are deposited in AD. In addition some unnumbered collections, especially of cultivated plants, were made. More than 30 numbered collections from one trip are indicated in bold and the start of each year is also indicated in bold.

Date	Collecting Numbers	Locality
3.xi.1959-	1-111	Grampians
8.xi.1959	114-141	Port Fairy
9.xi.1959	142-299	Grampians
24.i.1960	301-306	Yorke Peninsula
25.i.1960	309-329	Mt Compass
20.ii.1960	330-365	Waite environs
23.ii.1960	377-403	Salisbury & Main North Road
11.iv.1960	430-476	Mambray Creek
12.iv.1960	477-509	Pt Augusta-Mundallio Pound
13.iv.1960	510-514	Horrocks Pass-Mt Remarkable
28.viii.1960	515-520	Student tour- mid North SA
23.viii.1960	521-530	Koomooloo
13.ix.1960	539-716	Wilpena
3.x.1960	717-733	Waite environs
12.x.1960	734-751	Belair
13.x.1960	758-770	Gorge Road
27.x.1960	775-818	Saddleworth
11.xi.1960	830-970	Tumby Bay environs
12.xi.1960	971-999	Wilpena
1.xii.1960	1000-1159	NW SA with Tom Browning – Arcoona, andamooka, Stuart Ck, Billa Kalina, Anna Creek, Commonwealth Hill, Kingoonya, Whyalla
6.iii.1961	1168-1213	Mt Gambier environs
25.vii.1961	1245-1272	Happy Valley reserve

30.viii.1961	1273-1306	Florieton, Bower, Sedan
4.ix.1961	1307-1439	Wilpena, Aroona, Brachina, Arkaba
14.ix.1961	1440-1499	Winulta, Yorke Peninsula
29.ix.1961	1503-1510	Monarto
28.ix.1961	1512-1526	Blakieston, Adelaide Hills
	1533-1596	Happy Valley Reserve, Waite plots
		Clare and environs
	1604-1640	Adelaide Hills, Blakiston etc.
	1641-1867	Horsham, Grampians
		Upper Murray River
		Happy Valley
		River Murray
		Misc Adelaide Hills
	1951-2035	Yorke Peninsula
	2036-2070	Upper Murray River
		Millbrook
		Port Augusta, lower Flinders Ranges
		Happy Valley, Waite plots
		Wilpena, Parachilna, Blinman
20.vii.1962	2155-2748	Musgrave Ranges far NW of SA. Giles Expedition. Musgraves, Tomkinson, Rawlinson, Mann, Sir Frederick, Walter James Ranges, Hopkins Lake, Schwerin Mural Crescent, Giles, Mt Lindsay, Piltadi, Mt Woodroffe, Kenmore Park, Woomera
		Roseworthy College
1962		Happy Valley plots.Mt Compass
1963		West Beach
4.iii.1964		Mannum
	2900-2931	Koomooloo, Students tour
		Happy Valley
		SE Tour
	2959-3106	Pt Augusta, Flinders Ranges, Gammon Ranges
	3107-3164	Monarto
		Blanchetown
1965		Port Noarlunga, Second Valley
10.ii.1965	3219-3452	Dalhousie Springs with Tom Browning Strangways Spring, Everglades, Mt Dare, Everard Park, Mt Illbillie, Commonwealth Hill, Woomera, Lake Bring, Wynbring, Tarcoola, Kokatha, Moonaree, Whyalla
	3457-3514	Grampians
	3526-3585	Morgan
	3586-3896	Overland Corner, Oak Dam, Calperum
	3899-3947	Clare, Mintaro
1966		Misc mid North
	3963-4051	Flinders Ranges, Mt McKinley, Mt Serle
	4078-4323	Hambidge Reserve (NCSSA)
	4331-4405	Simpson Desert
	4406-4449	Mortlock Exp. Station, Mintaro
		Robe
1967	4481-4967	Eyre Pe., Koonalda Caves
		Cultivated Solanaceae

		Waitpinga foreshore
15.v.1967	4743-5044	Qld - Townsville, Atherton, Laura, Coen etc. to
	5045-5242	NT to
19.vi.1967	5243-5478	WA with Mary Clark and Bryan Barlow
		Blesing, Eyre Pen.
		Sthn Hills
14.viii.1968	5520-6102	Strzlecki to Flinders Ranges
		G. Howard, WA
	6108-6559	Hincks Reserve, Eyre Pen. (NCSSA)
	6565-6598	Mortlock Stn, Mintaro
6.1.1969	6602-6681	Pearson and Dorothea Islands (Royal Society, SA)
		Mortlock Stn, Mintaro
		Cultivated Solanaceae
		Broken Hill
		Palmer, Blanchetown
	6761-6797	Flinders Ranges
	6798-6878	Cultivated from Pearson Island soil
1971		Coorong
16.viii.1971	6815-7192	Kimberleys - Yuendumu, Tanami, Hooker Ck, VRD, Broome, King Leopolds, Kalumburu
12.ix.1971	7193-7589	Flinders Ranges, Oraparinna
16.i.1972	7590-7624	Miltadie, Eyre Pen. with Roy Pearce
	7637-8010	NT - Arnhem, Gove, Darwin with John Maconochie, Peter Latz and Norm Byrnes
		Flinders to Lake Frome
	8037-8373	Gawler Ranges
		South East
1973	8380-8450	Wingelena, far NW of SA
	8451-8506	Kangaroo Island
		Mortlock Stn, Mintaro
	8534-8577	Belacre, Meningie, upper SE
	8581-8786	Scorpion Spring
		Misc
1974		Misc.
14.ix.1974	8822-9052 (also 9678-9681)	Carrappee Hill
		Monarto site
18.ix.1974	9075-9484	NE SA - Oodnadatta - Dalhousie, Simpson Desert, Purni Bore
6.x.1974	9485-9699	Innes NP, Yorke Penin., SA
26.xi.1974	9701-9757	Monarto
29.xii.1974		Innes NP, Yorke Penin., SA
27.i.1975	9778-9894	Vic. - NSW with Roy Pearce <i>S. elaeagnifolium</i> trip
11.v.1975	9908-10388	WA - Kalgoorlie, Leonora, Wiluna, Meekatharra, Wittenoom, Broome, Mt Leopold, Kalumburu, Tablelands, Wyndham, Baines River, Alice Springs
	10395-10559	Coorong
1976		Fleurieu Pen.
		Upper Murray River tour
		Flinders Ranges
		Upper Murray River tour
		Nelshaby, lower Flinders Ranges

1977		Mt Lofty Ranges, Upper Sturt
	10623-10707	Papua New Guinea
	10710-10930	Mt Shaugh Cons Park, SE Comet Bore
		Rowallan Scout Camp, Adelaide Hills
		SE students tour
1978		Students tour, Upper Murray
	11008-11103	Pt Davenport, Yorke Pen.
	11104-11446	Mound Springs, Lake Eyre
	11448-11481	Arckaringa Hills
		Brownhill Ck, Mitcham
		Sandergrove Exp. Stn near Strathalbyn
1979		NSW - Dorrigo - Myleston
		Students tour, Upper Murray
		River Murray near Morgan
		River Murray, Chowilla
	11596-11863	Marble Range, Eyre Pen.
	11865-11925	Pt Davenport, Yorke Pen.
		Sandergrove Exp. Stn
		Pt Davenport, Yorke Pen.
1980		Flinders Ranges, Oraparinna
		Students tour, Upper Murray
	11998-12142	NT-WA (Kimberleys) with Greg Anderson
		River Murray, Chowilla
	12158-12772	Great Victoria Desert
		Upper SE
		Loxton
1981		Whyalla
		Mortlock Stn, Mintaro
	12885-12937	Gawler, mid North, Clare
	12939-13016	Southern Hills
1982	13030-13062	Oraparinna, Flinders Ranges
1983		Martins Bend, Holder Settlement, River Murray
	13097-13103	Southern Hills, Second Valley
	13109-13220	Dalhousie with Brendan Lay
		Students tour, mid North
	13251-13345	Milang, southern Hills
		Morgan-Cadell
	13377-13497	Kuitpo
		Waite environs
	13509-13714	Porter Bay near Port Lincoln (with David Morgan)
1984	13716-13783	Southern Hills
		Student tour, Upper Murray
	13799-13896	Papua New Guinea
		Pt Augusta environs
		Burra - Morgan
	13935-14196	Moralana Stn
1985		Upper Gorge to Brookefield
1987		Upper Murray
28.v.1987	14352-14598	Dalhousie, Purni and other bores
9.vii.1987	14599-14697	Moralana
		mid North SA

7.x.1987	14706-14801	Mt Finke, Yellabinna Survey
1988	14802- 14853	Miscellaneous
1989	14854-14874	Torrens Linear park
8.vi.1989	14880-14890	Qld/NSW
		Moralana
		Misc.
1990	14974-15023	Eyre Pen.
1990		Melrose
		Normanville
2.vii.1991	15053-15108	Olary Plains survey
5.vi.1992		Moonta area, Yorke Pen.
26.ix.1995 – 5.x.1995	15224 -15283	Stony Deserts with Rob Brandle
1996/97	15362-15479	Mostly <i>Rubus</i> from SL and SE and misc.
i.1999	15966	Tasmania – mostly <i>Rubus</i> and <i>Cotoneaster</i>
ix.1999	15973-16008	Eyre Pen, Lake Gillies, gypsum
ix.1999	16014-16040	Cookes Plains gypsum
vi.2000	16081-16240	Arckaringa- Coober Pedy

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Letters by David Symon

Unless otherwise indicated, letters are addressed to his wife Judy or the family

Letter 1

Koonalda Caves [Nullarbor]
15th February 1967

Marvellous, fantastic, like Jules Verne's "Journey into the interior of the earth"

You drive out of the southern edge of the Nullarbor - a vast plain with few poor trees - towards a windmill - nothing else in sight - looking for tents, trucks, cars etc. Then suddenly in a low depression are the [...] but still no cave and then you see it, a huge hole in the ground with a sharp rim. Down below looking tiny are small figures and all the camp and kitchen gear. Over the edge down a rickety iron ladder - 25 ft perhaps, to fallen boulders and then struggle down over them to the main floor of the collapse.

One enters a relatively low roof and gradually realise that you are in a huge cavern and in the distance a glow of light shows up the little team excavating. From the excavation we went on up a huge rockfall with yet another huge cavern now in total darkness (the first one is faintly lit from the

entrance). At the end of this cavern is another rockfall going up almost to the ceiling to the "squeeze", a narrow flat passage one can just wriggle through flat on one's chest. This brings you to a ledge and fifty feet down on the other side is a black pool. Most dramatic of all are the hand marks on the wall - where there is now no ledge! Are these the last grasp of someone whose ledge collapsed into the pool below? Back through the squeeze into the caverns. Here, and even through the squeeze are signs of aboriginal flint mining and hand scratching on the wall. Back almost to the entrance and down into another series of chambers - these are ones water now runs into and along - damp and like a huge railway tunnel. Fairly easy going along here, then some pools and rock falls and finally, after passing a passage going off into the dark on the other side of the pool we get to a terminal pool and there fifty feet above is the precarious ledge reached via the squeeze. You are now 260 feet down and 100 yards from the entrance.

All most tremendously impressive. Not the least is the work in cave by the station owner putting an engine and piping down to get at the water.

The excavation (archaeological) has borne out the preliminary work and looks as if it could be the most exciting and significant in Australia. It has the possibility of pushing back the date of man in Australia many thousands of years – back in fact to the great era of cave paintings in Europe – when man here, as there, penetrated into these dark recesses. However there are no vast murals here – only vertical scratches made by hand on the walls...vertical shallow grooves whose significance and origin is at the moment obscure.

Weather dull, blowy and cold! We are well fed – the wife of the expedition leader, heavily pregnant and with a 4 year old boy, with one daily assistant looks after us. The child is down the sink hole most of the day so is pretty safe there – I am sure you would have a fit to have a child free on the plain above. The company is an interesting and cheerful lot. After our conducted tour I came to the surface and started collecting plants – not a very exciting lot.

Letter 2

Well all goes well with the Dig – very well in fact. They have just got back two radio carbon dates done for them urgently. The first on the top hearth dated by Dr Gallus last year as 12,000 years ago has been confirmed at 15,000 years in Canberra, and today news came that the second hearth 2 feet below was 19000 years old. There is yet a third hearth further down, not yet dated but fairly confidently expected to be at still older. Implements occur below this again and more carbon was got today just above the implements so they will have some date above them. The “art” in the cave consists of no more than (mostly) almost vertical streaks made in the softish surface with 3-4 fingers or an implement. There is a single circle and one or two lattices. Bob Edwards [S.A.Museum] says that he has seen the incised type before but the finger scratches seem unique, perhaps because of the rock surface. It is as if finger drawings in the sand had been preserved. We have also seen wood in some rock interstices which seems to have dropped from their fire-torches, but it has not yet been recovered. Below the hearths is a different deposit of red soil laid down in water that goes down many feet (?10-12). From this have come animal bones (?seal) and today a ?Tasmanian devil skull and more charcoal. So it is all very exciting.

My botanical side is dowdy by comparison. Today I went N to the plains proper and did some general collecting. Brought back some fragrant sandalwood amongst the woods. Tomorrow we have a day off – Sunday – and will drive 70 miles to see another cave and a permanent waterhole!! Don't know if we will get to Eucla before we leave. No talk yet of a return date so there is no chance of us being back by Tues-Wed. More likely to leave on Wed. ...we will definitely be back by the weekend. ...We have no news here – no papers and really no wireless...

Letter 3 (through the Gulf country to Darwin in company with Mary, a 70 year old deaf cousin)

Daly Waters Road

5th June 1967

Miriam gave us as children a book called “Heroes of Modern Adventure” – a bit like “Danger Danger Danger”. In it was the story of some one searching for the Buddha orchid or such in the Himalayas. The search was fruitless but he did good to some Tibetan youth while he was there. On their departure – disappointed, he thought he saw the bushes open and a face appear – on searching, there was the wanted plant, indicated by the grateful but retiring native.

I sometimes think of that when I am looking for plants and that if I look hard enough they will materialise. All this leading to a vision that appeared this morning a little after we had started the last leg of our run to Borroloola. There by the roadside in a beautiful white gum flat was a fine *Solanum*. Tall with fine purple flowers, rusty tomentum, lots of large yellow fruits hanging down on an elegant and striking plant. Made the day of course.

From the Robinson River the going was not quite so rough and we sped along through some fine looking country. As I had driven all the way from Burketown I decided to let Mary have a drive again. Well we did strike a patch of bad road but she is a bad driver, keeps her foot on the clutch and does not use the gears enough and will drive in top gear at slow speeds. Well poor thing she soon hit a tree. No bad damage done except probably to her pride. I let her drive on for a while but it is so bad for my nerves or I am so intolerant I took over

again as soon as I decently could – by stopping for lunch at the first opportunity and driving after that. We are now on the road to Daly Waters – may possibly get there tomorrow – it's a good road and we will not hurry. I shall be glad to get out of the "Gulf Country".

We had another vision this evening when a plains turkey walked into the camp. We were just washing up when it calmly and quietly walked to within 12 feet of us. Seemed interested in the fire, stood about, looked at us and the fire. I would not have been in the least bit surprised if it had started talking to us. Though I suppose they are a bit stupid it is a dignified bird and its quiet and deliberate ways made it rather striking. We were transfixed for quite a while.

Last night was a good night, much cooler, and virtually no insects so for the first time I was able to put my hood down and see the stars properly. Promises as well tonight.

Am really looking forward to some mail at Daly Waters- missed at Normanton, so I have not heard from you since Coen. Which seems a year ago. We hear no news. The few locals I have asked scarcely know more than we do and don't seem much interested in the outside world. Don't blame them in a way, their own country's rather overwhelming in size and quality.

25 miles from Daly Waters 6th June 1967

A long dull drive today, much through rather forbidding dull dense scrub – a couple of good *Solanum* collections. Very little wildlife – a nice big fat snake, a wallaby and several more plains turkeys. We nearly made Daly Waters but would have arrived late with shops and Post Office closed and so we did not push on. We are now camped in a long gravel pit – usually moderately clean (of grass etc.) and safe for a fire – a bit near the road is their usual disadvantage. We shall reach the bitumen tomorrow and in the morning will clean out our dusty vehicle.

Incidentally the turkey that visited us last evening also turned up again in the morning. I bought a felt hat and a pair of shorts in Burketown and may buy a pair of trousers soon – some hard material that will not catch too many grass seeds which are bad

now and catch the frayed and worn patches of these trousers.

Letter 4 (continuation of above – with Mary to Arnhem Land)

Caravan Park, Darwin

June 1967

Our initial stay in Darwin was not for long. Our arrival coincided with the Festival of Darwin or something and the place was milling with people and we immediately joined a procession of decorated floats. We went to TAA, the PO and Mary's bank (closed on Sat.). I was not able to contact either of my men after repeated trying. So we decided to try and go to Oenpelli straight away although I would have liked to contact my men. However Mary decided to book her seat to Sydney for Wed. a.m. So, unless we went almost immediately, we could not do it. Could not get any information about the place from several garages. I think we will be at the limit of our petrol resources to get back.

Darwin is larger than I expected. Much more spread out and obviously booming. Expansion, new buildings everywhere – all very raw and all somewhat crude. Of course we are seeing it dry and dusty but it could do with a lot more trees and a great deal of tidying up in the approaches especially. Mary thought the place a dump and seemed to have an aggrieved air. The thought of staying in Darwin especially in a motel was not good which was another reason for getting her out into the bush again. This will at least cope with Sat, Sun Mon and Tues and after that I shall have a day or two off I think, as well as cleaning up, repacking and reprovisioning.

Half of the NT seems to be on fire or to have been recently burnt. It is the general pattern I think but it does make the countryside desolate to say the least. Today we saw our first "wild" buffalo on Morrokai Stn – close[d] season – now carefully protected. Quite impressive large animals. One of the best things on the trip has been the ant hills. Some of noble proportions as you will see and of most attractive shapes – I am trying to take a series of pictures – to give a talk on Australian architecture based on ant-hills – has possibilities. Of course there are also many fine trees – paperbarks and

many Eucs. I wish I knew more of them. At the moment we are camped in a rather drab burnt country on our way to Oenpelli, and a few mosquitoes about – not too bad – it is warmer unfortunately and I may have to erect little mosquito tent. Last night my blood froze with dingoes howling – it seemed only yards away, probably half a mile. I could not see them with the torch, though the other evening I had seen (and heard) wallabies about our camp in the night.

Sunday p.m. “fever ridden swamp” (almost). Quite a day – to start at the beginning when I rolled my bed up this morning I found that the termites had been at work underneath while I slept and though they had not done any damage they had built tunnels etc. on the groundsheet!!

We plugged on and only towards the afternoon did we get glimpses of the impressive Arnhem Land scarp standing up like the forbidden land. The last part just before the Alligator River Crossing we passed a few big rock heaps and then through large flat swampy areas (lots of birds and buffalo). Finally we came to the river – tidal – and you can only cross at low tide. Well the tide was rushing out – rather more strongly than I liked though it probably would have been safe to go across – the water was falling even while we waited. There was also a firmly worded notice threatening us with a 100 pound fine and 6 months in gaol for entering a reserve without a permit. We did not try, but it was too late to get one on Sat. a.m. in Darwin. With my reluctance to cross the river and Mary’s and my fairly law abiding habits we decided to turn back, having gazed on the forbidden shore and I thought having said goodbye to any chance of getting one *Solanum* that has only been gathered once.

We stopped at the first pile of rocks on the right side of the river and lo – there was a *Solanum* – not the one I expected nor very good but something. At the next pile there was fine material of the very one I wanted in fine fruit which had not been described before. With hoots of joy we made a fine collection, feeling virtuous as well as saying that if we had gone on we would probably not have found it anyway.

Whilst squatting down pressing the plants a large brown snake seemed to emerge from near Mary’s

bottom and glided away – almost sent us into hysterics. Photos etc. and we decided we would get as far back on the way as possible to get out of the swampy lands. Just a quick look at the next large pile of rocks and there were three *Solanum*’s, the new one in flower now, the first one in fruit and a new one not yet collected on the trip. Well it was late by then so I decided we would have to camp here and deal with the stuff properly in the morning. So here we are in a fine setting, great towering rocks, swamp only yards away, night birds and others making weird noises, clouds of mosquitoes, quite a nice fire, cheered by the collections already made and potential and feeling our long drive out here has now been fully justified. Prospects are for a miserable night as it is warm and still and we are in an enclosed, fairly thickly vegetated area.

Mary is round the side having a good wash and I shall follow her example in due course. Have put out a set of clean clothes. We are both doused in mosquito repellent which does seem to be fairly effective.

Monday p.m.

Well the night could have been worse. The roar of the mosquitoes was continuous until the morning but my little tent worked quite well – the best yet – and I only had a few in. However I did not sleep very well and the night seemed very long. There were lots of noises which no doubt reflected lots of animals but it was not as bad a night as Clarence’s! [a reference to Shakespeare’s Richard III]

We were up before sunrise, collected our *Solanums* thoroughly. The one that I thought was the one I really went to Oenpelli to get is probably not that at all but possibly quite new – which is both good and bad. The second is possibly also new. However it was a good haul. No snakes or excitements and we began the long and dull drive back – we were 237 miles away from Darwin. Tonight camped in unexciting burnt scrub some 60-70 miles from Darwin poised for a moderately early arrival tomorrow

Letter 5 (continuation of trip above, but now with Bryan Barlow to the Kimberleys)
Geikie Gorge
23rd June 1967

Dear Prof [C.M. Donald]

I think I last wrote from Darwin. Since then I collected Barlow and we have travelled S and W to the Fitzroy Crossing where we are now. Straight run down to Katherine through miles of burnt country and then west to Victoria River Crossing, Halls Creek and now Fitzroy.

It has been getting increasingly dry. Tree layer has become smaller and sparser and now we are largely in spinifex grasslands on the wide shallow valleys between the low ranges on the S side of the Kimberleys. The road from Katherine to Wyndham must hold the record for cattle killed on the road. No doubt due in part to the impressive East Kimberley transports which hurtle along it. Some of these are positive trains, 4 units long, [...] in such clouds of bulldust that one just has to close up the Rover windows etc. and sit tight until they pass.

Collecting has been good with at least 7 species since Wyndham. Virtually perfect collecting with fruits and flowers and cytological material in nearly all cases. I am very pleased indeed and for the much greater understanding of the genus the trip has already been worthwhile for me. Several probable new species, some interesting problems like one species producing male and hermaphrodite colonies. I have made copious collections – enough to supply the herbaria of the world!

Barlow seems satisfied with his collections too. Has extended the range of some species by a 1000 miles and generally has plenty to do. His driving and mine seem very compatible and we are getting on well. The vehicle has been running well except that when we had it serviced at Kununnurra the good mechanic at CSIRO noticed that both main leaf front springs were broken. It looked as if they had been done for a considerable time - Bryan thinks they were probably like it in Adelaide – however neither of us had any remembrance of bad crashes or bumps. We decided that as we still had a long

way to go and over some rough road that we had better have them repaired. This was done at Wyndham by a most competent and helpful mechanic – it was not a job we could do ourselves but it did cost some \$38 alas – but we feel much safer in driving.

Much of these southern Kimberleys are thrashed and eroded and would do credit to worses parts of northern pastoral SA. Scalded patches and gully erosion in many areas. If the beef roads intensify stocking up here the future looks poor.

Have just taken my damper out of the oven – looks like an advertisement for Golden Crust.

Tonight we are at Geikie Gorge – an attractive stretch of water where the Fitzroy River comes through the ranges. The tops of the steep walls are incredibly roughly dissected (a very fine, probably new *Solanum* up there). It is a fashionable watering place now a days with a cluster of caravans etc. "People is pigs" – really the Australians must be the worst in leaving their camping rubbish about – bottles, tins, papers. I might say we are scrupulous in burying all tins etc. Tomorrow we will go towards Derby, from there run up towards Mt House and Karunjie – not as far as Karunjie but to the King Leopold Ranges, then return to Derby thence to Broome. As you will see we are getting ahead of the tentative schedule so that any mail had better be posted somewhat earlier than indicated on my schedule.

Very little wild life to be seen in marked contrast to the Darwin – Katherine area. Since Katherine we have seen one kangaroo, no goannas, but did see two crocodiles on the banks of the Ord at Kununnurra.

Letter 6 (a subsequent visit to the Kimberleys with John Maconochie of the Alice Springs Herbarium)

Near Theda Stn
S of Kalumburu
29-30/6/1971

Hard to think I started off a fortnight ago and that we have travelled over 2300 miles. Since Broome all has gone well. We stopped in the King Leopolds

for a couple of days and John got his *Cycas* and I got a couple of *Solanums*. Had two exhausting tramps – the first to Mt Broome which was more or less a failure and the second to Bold Bluff (a success) – over broken stony ground covered with spinifex. Had a good campsite except for the flies that were excruciating and a few mosquitoes. Most nights we have camped near water and have been able to wash or bathe. Since King Leopold we have come on up the road to Kalumburu. However the going has been rough and slow. Only did 120 miles today, though we did have a late start. Hope to get to the Mission tomorrow. Actually *Solanum* almost absent all day.

...We drive till dark, then stop and press plants then have tea and then usually go to bed. Everyone seems rather tired tonight. Probably made worse by the very rough road. The country is now greener, moister and more tropical. Went through groves of palms today and there is usually plenty of water in the creek-lines with blue water lilies and Pandanus. Wild life conspicuously absent – though the tall grass 4-5 feet high would hide most wallabies and kangaroos. Even so they are very rare. Lots of birds, one or two snakes and goannas. Cattle about and wild donkeys.

For the amount of work to be done and the collecting possible we are travelling too fast and scarcely touching the flora except for specialties. One could readily spend half a day on some sites. Have found some interesting rare plants such as *Gossypium* cotton and some *Hibiscus*. I am sure I have made more collections than anyone else but even so feel I am not touching it. Long stretches of Euc. and mixed woodland with tall grass underneath. Not many hills or mountains today but the road may well be avoiding them.

Sunday 30th

Well we got to Kalumburu OK. Waited while the Father finished dishing out stores to the natives (some 200) in the Mission. Then came and talked to us. Quite friendly but hates anthropologists – calls them “anthropophagi” because they live off people! Has some justification of course. There are two priests, one Brother, one lay Missionary, three nuns and two school-teachers. Quite a big set up really, have cattle, have airstrip and deal through Wyndham mostly. (The last bit of road was

atrocious and I think we were the first people through since the wet - tall grass unbroken on the road). The Father took us to a camping place near the sea (though not particularly attractive) but near a nice creek. Today we collected and I had two very good finds, one of which has not been collected since last century (Cunningham) and the other only once collected before.

It has been very hot and somewhat humid. I have been sweating like a pig and felt quite done in by lunchtime. However had some salt tablets and the Cook having been to get some meat and stores came back with some lovely small Cavendish Bananas (Canary island type – small and sweet). Both revived me.

This afternoon we went across the river King Edward and I tramped through sand and scrub to find the second *Solanum* known to be there somewhere. Had a brief talk with several Aboriginal women, one of whom [Mary Pantilow = Tudunungga] impressed me tremendously – impressively articulate, not only about the plants we were looking for but about herself and life on the Mission. How free they were to go anywhere – to fish, swim, hunt etc. How they would have to pay for food if [...] left. How the women did all the work (most of the work) and the men did little. How the Father had a nice garden but that they were too lazy to make their own gardens. She had more sense than our poor inarticulate Greg [Maconochie's assistant] who (at least to us) does not seem to know what he is doing or where he is going. Seems to have little motivation. However after our afternoon sorty we came back and pressed plants and then had a wash in “our” creek – beautiful clear warm water, hard or sandy bottom, no mud. I did see a small crocodile in it earlier when I was collecting. My washing was all dry, including my blue jeans. It is now almost too dark to see to write, the mosquitoes are bad and I did not sleep well last night. Will soon put up my net through which the mosquitoes seem to pass freely!!

Mon a.m. – Good nights sleep – somewhat cooler – used sheet and blanket. Fine morning, though everything wet with dew. Packing up now. Shall leave this letter at the Mission though it may not go for several days.

Letter 7 (to Arnhem Land with two Monash University chemists, Frank Eastwood and David Collins)
Arnhem Land
7th June 1975

It was an unpleasant night. We had pushed hard during the day to reach the Ramparts. The evening was warm and muggy and slightly overcast. Down in the shrubs and slender paperbarks it was still but the wind was gusty and the trees noisy above. The mosquitoes were enough to carry one off and bleed one, green ants dropped from disturbed nests of the large leaved wattle. We were all glad to get to bed as soon as possible after tea. It was rather too warm and firstly the blanket came off and then the tarpaulin but it was necessary to stay in the sleeping bag. Occasional mosquitoes found their way in.

Expectation had been better than arrival. Mining companies now churned up the roads – tracks ran in all directions. A mining camp was not far away and some vehicles moved about at night. Tourists, each with boat on roof, sped by. At 1 a.m. two cars came by. Always disconcerting and suggesting, probably needlessly, nefarious dealings. There was some scabbling in the large flowering gum tree. Then whoosh whoosh of heavy wing beats as a flying fox flew off unseen. David had a tummy upset and began moving about vomiting and with diarrhoea. Then the slow tread of feet coming closer. A few steps and heavy breathing. We were just off a small track off the main road, hopefully out of sight. The steps passed the car and paused. Low breathy breathing. I turned over on my tummy under my net and table. The thing was opposite me now. Switch on the torch. A buffalo face looked at me, head low, eyes reflecting the torch. Sssh off, I said, and switched off the light – low breathing and then stumbling steps and crashes as it ambled through the scrub and away. The wind tossed the noisy trees. Sound like a willy willy at night. David's torch goes on as he moves about. Frank calls out "Are you alright David?". I pull the sheet over my head leaving a nose hole. The mosquito's high pitched whine continues. I doze. Morning was welcome.

We cross the road from the car and face the blocky sandstone mass. Rearing up abruptly but deeply

weathered in all directions. About the bases dense vegetation drying and prickly burrs cover our legs. We step on the first blocks. There is *Solanum clarkiae*. The bushes almost dead but hung with large pale fruit. We pass them, up the blocks to *S. asymmetriphyllum* in full fruit. Its large pale calyces closely covering the bright green fruit. Dozens have dropped on the rocks. We collect from the plant and the fallen fruit and take leaf samples as well. Next a male plant still flowering freely – quite showy. These are the largest I have seen – almost small trees. Trunks 3 inches diameter and 12 feet high and 15 wide. We climb right to the bare top of the rocks and look out over Arnhem Land.

To the north miles of watery marsh and beyond that green plains below dense mixed scrub. To the east the broken sandstone scarp of the Arnhem Land plateau. Out of sight the Alligator River. The road soon disappears. Countries should have some areas where no one goes. To be looked at and wondered at, a forbidden land, forever tempting. We step down a few ledges. Here is the long thin painting in red ochre of a woman. Her body a wide curve. Nearby a dumpy kangaroo, two large older fishes. We move to another ledge – two small stick figures sharply painted, still clean and fresh.

We climb down with our Solanaceous booty through the dense fringing zone. A buffalo has slept under the overhang. We sort our specimens near the car, some for the press, some for pickling for chemical analysis, some for seed. Where shall I send them? To Birmingham or Canberra or Moscow to be grown in aseptic glasshouses duplicating the warm humid airs but never the sights and sounds. In the distance a jackhammer and pneumatic drill shatters the peace. We pack up, yes, a good collection, yes, everything we want. Have we left anything behind? How are you feeling now David after lying in the shade of the pandanus. We pull onto the road and head for home. No, we have not seen the Alligator River. We cross stream after stream – all turbid with the wallowings of buffalo. We will get more water out of a tap at Pine Creek. Alas the sweet streams of the Kimberleys are far behind us. Keep buffaloes out of the Kimberleys! Donkeys and cattle are bad enough. On through the twisting Road to Pine Creek. Petrol, water, a beer, talk with an incoherent (? Scandinavian) prospector and then south. Have

a long way. Fires on the horizon, a smoke haze before us. We soon pass the burnt areas. David dozes. Frank drives on and I write this sitting in the middle. My feet rather hot.

Letter 8 (David and Judy getting to the Solanaceae conference in Bogota)
Bogota
Tues 26th June 1988 (I think)

Dear Herbs [traditional greeting to State Herbarium of South Australia personnel]

Visions of Hell!!

We left London on Sunday a.m. and as the flight was from Gatwick had to get the half hourly train from Victoria Stn. Friends drove us in but it did mean getting up at 6. We arrived in fair time but the long ticket queue meant that we caught the train by 30 seconds which gave us a breathless start. Our carriage was so full I did not get a seat until halfway there when a man kindly shared his with me. Usual struggle for trolley, with luggage and with finding one's way about these huge airports. (This is being written in bed at half past two in a.m. as we are both wide awake).

After taking the best part of an hour to get through check-in due to the crush we went through passport control to a scene by Bosch (Hieronymus) of the damned. There were hundreds of people lying about asleep or trying to, or arising from - behind the potted palm, along the counters not in use, on chairs etc. The air conditioning could not cope so it was stuffy and hot - amongst this mass of condemned the scheduled passengers picked their way. At the due time we were eventually herded into a full 747. As we charged down the runway I felt that we were not gathering speed and soon we began to slow down which is not good for the nerves at that stage, and the Captain said no adequate power from the engine(s); back to Continentals base for an engine check.

Well we sat in the plane for at least 2 hours when they decided to transfer us to another plane still being cleaned and into which of course all the meals, luggage had to be moved. I might say the stewards were very good. We now began to get worried as our connection time in Miami was

rapidly slipping away - 2 hours later we finally got off, all hope of connection now gone.

Got to Miami about midnight London time so it was a long day. All the Jumbos for the day must have arrived together and we were told that we would have to collect our luggage which had originally been booked through. One case of two turned up but it meant waiting until the very end of unloading. Then chasing about for lost luggage. No case (one set of conference papers gone!). Continental put us up for the night in a nearby hotel and we had a meal. They said they had put us on the first flight next day and in my zombie state I thought it was the morning. Check in at 5 for flight at 6 to arrive at 8.30 - it still looked possible [to arrive in time for the start of the Solanaceae conference].

Well, we hardly slept, were up at 4, at the now deserted airport at 5. No Continental activity at all. Told the counter not open until 9! And it gradually dawned that the flight was in the evening. We would lose the whole first day and in addition have to spend the whole day waiting at the airport. We were just about in tears. I then went around every company (most closed as it was still very early) and found two with flights to Bogota. Both full up, but one had plane out at 9 a.m. and offered to put us on waiting list. Apparently American companies consistently over-book - found a man put off (or at least never put on) and had so missed connecting flight to Argentina because Pan Am had 50 over-booked.

Well I hovered about the desk, the clerk shaking her head. I said we would willingly upgrade from tourist to super class if that would help. I would have given up but Judy was persistent and suddenly about an hour before flight was due we had seats. They said get to C-24 gate immediately. This meant taking a mechanical automatic sort of tram to the outlet - we made it and collapsed on board, nervous wrecks. At least we got a good breakfast. Had paid \$26 for upper class but were of course in the bowels of the plane.

Got to Bogota - no trouble with passport or customs - but also no case. Taxi to hotel - 4 broken down cars on the road even in that drive. Had a quick shower, changed shirt and taxi to conference

centre (unwalkably far apart). Found them all at lunch. The first session, which I was supposed to have chaired, was over – but you can guess who was the next speaker – DES of course, the famous keynote address. D'Arcy had given his in the morning and so I had no idea what he had said, I had not yet registered and did not have a programme. So scrambled my slides into a cassette and it was on.

I think I can say it went quite well. Judy in the audience said I was not distressed and Hawkes was very pleased. After that a couple more speakers and then coffee break. By now reaction

was setting in. I felt terribly tired (was in fact feeling altitude effect a little) when suddenly I heard a voice say the next speaker was Symon & Haegi on *Datura*. By now a zombie, got up totally confused, and verbally staggered through, hardly knowing what I was doing. I regret it did not do it justice, took up all the time so there were no questions. A couple more talks, back to the hotel by bus, an evening meal (had collected conference literature) and so to bed. But now so wound up, could not sleep. Head slightly aching, breathing deeper, restless, so that is how you get a letter written at 3 a.m.!

ABRS REPORT

ABRS revisited

An amended version of my item 'Save Our ABRs' (*Newsletter* 104: 17) reached the editor too late to replace that published. I had intended not to write more at this stage, but the news of Professor Barry Osmond's departure from the Research School of Biological Sciences (RSBS) at the Australian National University (Higher Education Supplement, *The Australian*, Wed. 29 Nov. 2000), and his reasons for leaving, have prompted me to do so. In my amended version I referred to Barry Osmond's annual report of RSBS for 1996 where he discussed the 'bureaucratic capture' that had befallen the School. I suggest that this is now endemic not only in RSBS but in ABRs and many organisations across the country. Barry is quoted in *The Australian* as saying that 'Australia has almost disassembled its infrastructure for holding its own in research worldwide.' He believes it will take a generation to regain the point we were at 10 years ago.

Look at what has happened to ABRs in the latest moves. The Flora and Fauna Editorial Committees were combined into an unworkable single committee and the latter has now been dropped altogether. Who will advise the staff on editorial matters? Why, the Advisory Committee, which is to be expanded to include non-scientists, and is to take on some tasks of the editorial committee (we

have not been told which tasks). How on earth is the new Advisory Committee going to function as a scientific advisory body with an additional load for already-overworked members, and with the distraction of dealing with members who are unfamiliar with a complex program? If you want outside advice or assistance, you ask for it, you don't add people to your committee. How will a landcare member, for example, contribute to discussion on grants, or an editorial matter?

Independent editorial committees of experienced taxonomists were a fundamental strength of the ABRs operation. They kept the editors free of discussion on details, avoided the imposition of their whims, and contributed greatly towards uniformity. With almost all details of the format thrashed out by the committee, and any new matter referred to them, the editors simply had to follow them. Staff were distanced from argument with contributors and could get on with editing. An early recommendation of the Flora Editorial Committee was that the Executive Editor (EE) should be as free as possible of administrative duties, though because some staff positions were never filled the EE always had more administration than intended.

There is no longer an EE. Instead there are six sub-programs, each with a leader, done 'particularly to increase focus on lesser known groups'. Does calling them a sub-program somehow give a higher profile? How is scientific and editorial consistency to be achieved across the series? Presumably the sub-program leaders compete with each other for scarce resources within ABRS. Further, they must seek 'partnership opportunities' to 'extend . . . resources and accelerate . . . activities.' When will they have time to edit and plan? Divide and rule indeed!

Having been somewhat outspoken against this kind of change I can understand why I have not been asked for submissions for the various reviews that have taken place, but as one who uses ABRS products every day, and who uses a computer every day for writing and bibliographic work, I can say without reservation that I prefer hard copy for ABRS (and other publisher's) products. If I need a detail on a species/genus/family etc. I don't want to have to seek a web site or insert a CD-ROM, search for the data, then copy it electronically or print it out (probably with illustrations of far poorer quality than published copy). I want to reach out for a book and have the information instantly, not affected by download and search time, and perhaps have it open on my desk with other works for comparison. The librarian at a

major scientific research organisation in Perth has told me that all except one of the staff they service prefer hard to electronic copy. When your computer is down, or the web site uncontactable, or your subscription has expired, or the CD-ROM you have is no longer compatible with your operating system, then what? With hard copy you at least have the volumes you paid for.

I can understand that management feels that it must make changes, otherwise they are seen to be not doing their job and may (shock, horror) be downsized, so I can only hope that 'they' will suddenly discover the benefits of an earlier structure and manage to promote it as a new innovation (!) that will improve productivity. When they do, let's hope it is left in place long enough to allow that improvement to happen.

No-one could be a stronger supporter of ABRS than I. I want to see it given an appropriate environment to pursue its goals.

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ABLO REPORT

September

Kew Gardens

In contrast to last year, Summer was very mild and, apart from three consecutive days reaching the high 20s - early 30s in June it has been relatively cool.

Professor Bob Johns has been awarded the Kew Medal for his energetic and enthusiastic work with the Friends of Kew, organising volunteers for support work in the Herbarium and his work with the Kew Foundation in raising substantial funds for scientific research.

The Millennium Seed Bank at Wakehurst Place was officially opened on August 26th. Science staff began moving into the new £13 million Welcome Trust Millennium Building on August 21st.

Recent visitors to Kew included Joan Graham (formerly CANB) and Dr Judy West (CANB).

British Museum of Natural History

Mr Bob Press has recently been appointed Associate Keeper.

Linnean Society of London

The Society took delivery of 150 purpose-built Solander boxes designed to fit the new steel shelving for the Smithian Herbarium cabinets. In addition, the carpentry work on the cabinets to extend the shelving for the boxes has been completed. The remainder of the Smith collection has now gone to Liverpool for documentation and conservation work.

ABLO changeover

Unfortunately there was no overlap this year between ABLOs due to Rod Seppelt's delayed arrival, however, I extend my best wishes to both Rod and Gwen and hope their year at Kew is a fruitful one.

Bob Chinnock

December

So, this is London, officially rated as the most expensive place on earth to live, and where the Australian dollar is worth nothing! A city where it never stops raining (apparently); the streets are filthy; the trains don't work; the roads are choked with far too many cars, trucks and buses; there is chaos on all forms of transport, including air; they have mad cow disease, the chickens are suspect, the fish stocks are depleted, and even the pigs are now suspected of harbouring nasty bacteria. But, hey, the Christmas lights are great.

Much hassle regarding Visas (the need to have or not to have), as I am a Commonwealth Government employee doing government work, I did not need one. We were also finally advised (in writing) that my wife did not need a visa - although she clearly did. For those who are devotees of the program, we will not be appearing

on Airport - although if we had been able to arrive on time we might have.

Personally, I am very critical of the fact that there is nobody in Australia who seems prepared to take the responsibility for the ABLO position. There needs to be (and should be) some office (person) responsible for acknowledging receipt of applications, advising applicants of the outcome, and liaising with the incoming ABLO with regard to visas (it would be much simpler for Canberra to take charge of this), advice about living and working in London, etc. It simply is not good enough to do all this more or less by word of mouth.

I am grateful to Bob Chinnock for leaving an in tray basically empty. This certainly makes for an easier transition, particularly as we did not have

the overlap enjoyed by previous ABLOs. While this lack of overlap is not critical, it would make life easier to have been walked through the routines here. Kew, with 7 million plus specimens, four wings of three levels, a basement which is a humungous compactus storage area, and a separate building for the mycologists, takes a bit of navigational skill. The high level of security, and all its attendant peculiarities, is also something rather novel. With the introduction of new security passes (swipe cards) in mid December, access to the front door and all internal doors will be controlled. Visitors are still welcome, but do not expect to get very far in a hurry if you just turn up.

Now that the ABLO has a proper office overlooking Kew Green, with a computer provided by Kew, there is no need to bring computing facilities from home. In fact, it is no longer possible to interconnect a personal computer with the Kew System. Support from the computing people here at Kew is also excellent.

One major event recently took place - the opening of the Millenium Seed Bank at Wakehurst Place. No sooner opened that the storms struck, blowing in the plate glass front doors! No damage to the interior, fortunately.

The recent incessant wet and stormy weather has also taken its toll in the Gardens. Fortunately, only a small number of trees were blown over or damaged.

One thing that has struck me is the extent of activity in the Gardens directed at the public. There is a very active Friends of Kew group; numerous lectures that are well attended; ever changing displays - both seasonal and specific (the display of cucurbits around Halloween was marvellous, and this was followed by an apple and apple industry display); a large group of volunteers who give regular short guided walks; there has been a big display of large African stone sculpture work; and now there are Christmas lights

and decorations, with carols, music, Santa, mulled wine and fruit mince pies thrown in. When you have to rely on public support for a large part of your budget, you have to think large and lateral!

Sadly, the two huge pots of *Amorphophallus* have only produced leaves this year. A couple of years back when it flowered, despite the smell (or perhaps because of it) there were huge queues of people paying good money to get in the gate, thereby making the accountants very happy.

There has been a steady, but not overwhelming, stream of requests. Many of these have been for literature (a bone of contention with every recent ABLO), as well as specimens. While having someone on site to search for material is of great benefit, from a purely local and practical point of view, I should point out that a trip to the British Museum or to the British Library represents a significant cost outlay.

One of the personal projects I have embarked on this year is to gather together Type descriptions of the Australian bryoflora. Much of the literature is available here in Kew, with additional reference material at the BM. By being able to check the original literature I have discovered a good many errors in Streimann and Curnow's "Catalogue of mosses...", as, indeed, there are in the "Index Muscorum". I guess there is no substitute for checking against the original - be it literature or Type specimens.

And so the first quarter comes to an end. As I look out my office window and smile sweetly at the triple security cameras (two are infra red as well as daylight) and wonder if there is a sun out there, do I think of home - only occasionally. There is too much to do in the time remaining.

Rod Seppelt

ARTICLES

Systematic Studies in *Lepidosperma* (Cyperaceae: Schoeneae) with particular reference to the *Lepidosperma laterale* complex

John Hodgon B.Sc. (Hons) student
Botany, University of New England, Armidale, NSW 2351

Throughout its geographical range *Lepidosperma laterale* is considered a variable taxon forming a complex that exhibits much morphological variation both within and between populations (Wilson 1993, 1994; Curtis & Morris 1994). Three varieties of *L. laterale* were recognised by Bentham (1878), but these have been synonymised under *L. laterale* in New South Wales, Victoria and Tasmania (Wilson 1993, 1994; Curtis & Morris 1994).

The major goal of the study was to investigate the apparent morphological variation within the *L. laterale* complex to obtain a clearer definition of species limits. However, during the course of collecting and assessing character-state data it became apparent (through intuitive assessment and comparison of specimens) that the species limits of other ingroup taxa, *L. curtisiae*, *L. elatius* and *L. gunnii*, also required investigation. A putative new species from Queensland, *L. sp. nov.* (Mt Coolum; P. R. Sharpe 5605A), was also included to test its status. The emergence of these issues necessitated more sampling than first envisaged at the expense of a more thorough investigation of the taxonomic value of palynological, embryological and cytological data sources.

The aims of the study were to:

1. Explore the taxonomy of the *L. laterale* complex using non-molecular data sources.
2. Critically assess characters previously used to address taxonomic issues within *Lepidosperma* and the *L. laterale* complex.
3. Investigate novel characters and assess their taxonomic value within *Lepidosperma*.
4. Explore species limits within the *L. laterale* complex, *L. curtisiae*, *L. elatius* and *L. gunnii* based on phenetic analysis.

From the phenetic analyses evidence for the recognition of the *L. laterale* complex as a single,

variable species as per the treatments of Wilson (1993, 1994) and Curtis and Morris (1994) is strong. However there remains further scope to characterise the heterogeneity across *L. laterale*. There is also strong support in the phenetic analyses for the recognition of *L. sp. aff. curtisiae* (Hardacres; J. Hodgon 357 & J. J. Bruhl), *L. sp. aff. elatius* (Whian Whian State Forest; J. Hodgon 331 & D. M. Hodgon) and *L. sp. nov.* as species. In contrast there is strong evidence that the species limits of *L. gunnii* require further investigation. A possibly distinct taxon, *L. sp. aff. gunnii* (Coaldale; J. Hodgon 313 & D. M. Hodgon), was identified but the recognition of this at the specific rank before a comprehensive investigation of species limits in *L. gunnii* would be premature.

Various morphological, anatomical, palynological and embryological characters were explored to assess their taxonomic value within *Lepidosperma*. Although the constancy of these characters was not established several characteristics appear worthy of further investigation.

I consider it an honour to have received the Research Grant of \$1,000 from the Hansjorg Eichler Scientific Fund. I sincerely thank all members of the Australian Systematic Botany Society for their continued support of scientific research through this award. The award funds allowed me to collect specimens vital to the project, visit BRI and NSW to examine and sample specimens and to conduct SEM studies.

I would also like to sincerely thank my supervisors Jeremy Bruhl and Karen Wilson for their support, encouragement and advice throughout the project.

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Saved by Steudel: *Grevillea manglesii* (Proteaceae) revisited

Professor D.J. Mabberley
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MARRICKVILLE NSW 2204

Mabberley (1990) showed that *Grevillea manglesii* Planchon (1858) was a new name for what was until lately called *G. glabrata* (Lindl.) Meisn. (1845). When published, *Grevillea glabrata* was illegitimate, because it had in its synonymy *Anadenia manglesii* Graham (1839), a valid name one year older than that of the basionym, *Manglesia glabrata* Lindl. (1840). Consequently, recently (see Makinson 2000: 421–4 for full bibliographical references), *G. manglesii*, allegedly based on *A. manglesii*, has been used instead of *G. glabrata*, now combined with *G. ornithopoda* Meisn. (1848).

Re-checking Planchon's publication, however, shows that in bringing forward the garden name, *G. manglesii*, 'HORTUL[ANORUM]; 'of gardeners'', Planchon nowhere cited *G. glabrata* or *A. manglesii*, and his *G. manglesii* is indeed effectively a legitimate *nomen novum* for *Manglesia glabrata*, but also *M. cuneata* Endl., cited there. However, it has not until now been noticed that the latter was first effectively published by Steudel in 1841 as an illegitimate renaming of *A. manglesii* (with the gardeners' name, *G. manglesii*, also in synonymy). Through *M. cuneata*, therefore, there would appear to be a link to *A. manglesii*.

If this is not accepted, the epithet as used in *Grevillea* would appear to date from 1858 and, in consequence, unless an earlier valid publication for the horticulturists' '*G. manglesii*' (in use in horticultural circles from at least as early as 1837, though apparently not validly published – see below) can be traced, the oldest available specific epithet for the species as presently understood (Makinson 2000: 423) would be *G. ornithopoda* Meisn. (1848), a name in widespread use in horticulture, until lately subsumed under firstly *G. glabrata*, and now, most recently, *G. manglesii*. The proposed synonymy is therefore:

331. ***Grevillea manglesii*** (Graham) Planch., *Hort. Donat.* 96 (1858); *Anadenia manglesii* Graham, *Edinburgh New Philos. J.* 27: 189 (1839); **M. cuneata* Endl. ex Steud., *Nomencl.* 2: 98 (1841), *nom. superfl. pro A. manglesii*; *G. cuneata* (Steud.) Druce, *Bot. Soc. Exch. Club Brit. Isles* 4(5) Suppl. 2: 625 (1917), *nom. superfl. illegit.* T: 'received this plant at the Botanic Garden, Edinburgh, from Mr Lowe [Hugh Low, 1793 – 1863] of Clapton Nursery [London], in 1837, under the name of *Grevillea Manglesii*' [cult. Botanic Garden, Edinburgh]; neo: E, n.v.

Manglesia glabrata Lindl., *Sketch Veg. Swan R.* xxxvii (1840); *Grevillea glabrata* (Lindl.) Meisn. in J.G.C. Lehmann, *Pl. Preiss.* 1: 549 (1845), *nom. illegit.* (*Anadenia manglesii* Graham *in syn.*); T: Swan River, [W.A.], 1839, [J.] Drummond *s.n.*; *holo*: CGE; *?iso*: Swan River, [W.A.], [J. Drummond 1st coll. 621]; OXF.

*Correction to APNI, Index kewensis etc.

Acknowledgments

I am grateful to Serena Marnier (OXF) and Gina Murrell (CGE) for help with the Drummond types in their care.

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Perth Chapter

After a break of some years in holding local meetings the Perth Chapter of the Society met at the Western Australian Herbarium on Monday 30 October for two anniversaries. We briefly recalled George Bentham (22 September last was the bicentenary of his birth), and his contribution to Australian botany. Dr John Beard then spoke on Ludwig Diels and Ernst Pritzel who arrived in W.A. on this date in 1900. John described the extensive journeys made by them, their large collections (more than 5700 numbers in 14 months) and Diels' research in plant geography. A vegetation map of Australia published with his account of W.A. is thought to be the first for the whole country, but tantalisingly he gave no

indication of the source of his data for parts that they did not visit. Can anyone throw light on this? Likewise, does anyone know details of their subsequent visit to eastern Australia?

The Western Australian Herbarium holds 241 sheets of Diels' numbers, 397 of Pritzel's and 536 joint collections, a total of 1174, including 90 types. Given the encouraging attendance, further meetings will be arranged next year.

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Request for Flora

Petrus Heyligers would like to obtain a set of the Flora of South East Queensland by Stanley and Ross. Is there somebody among the readers who could help out, either by offering a full set or a copy of Volume Two? He can be contacted by email at P.Heyligers@cse.csiro.au or by snail-mail at 3/2 Sexton Street, Cook ACT 2614.

REVIEWS

Addendum: Book Review

Plant Systematics. A Phylogenetic Approach

by Walter S. Judd, Christopher Campbell, Elizabeth A. Kellogg and Peter F. Stevens.
Sinauer Associates: Sunderland, Massachusetts, USA, 464 pp. 285 illustrations.
ISBN 0-87893-404-9. \$67.95 US (hardbound text with CD-ROM).

In the last issue of the newsletter I inadvertently left out a set of quotation marks in this review by Bryan Simon. The section below corrects that error – ed.

6. Cladogenesis and anagenesis

The dichotomous branching pattern produced in a cladogram is the primary basis for the interpretation of phylogeny by cladists. Critics of cladistics think this interpretation of phylogeny is too one-sided, with too much emphasis being given to cladogenesis and none to anagenesis, which comprises the other main aspects of evolution. This is stated lucidly by Mayr (1974)

“By claiming that branching is the only historical process of consequence, he [the cladist] denies that other aspects of evolutionary change such as rate of evolution,

adaptive radiation, the occupation of new adaptive zones, mosaic evolution, and many other macroevolutionary phenomena are eligible for the term “historical process”.”

For this reason

“cladistic classifications concerned only with apomorphic similarity are often drastically unlike those produced by any other method” (Ashlock 1974).

Other components that contribute to a phylogeny, apart from the branching pattern in a cladogram, are chronistics and patristics, well depicted in illustrations in Stuessy (1983), with phenetic relationships also included. I feel the interchangeable use of the terms evolutionary tree, phylogeny and cladogram by Judd *et al.* oversimplifies the situation.

‘From the Frontier’

Edit. John Mulvaney

In 1899 Spencer & Gillen published “The native tribes of Central Australia” described by Mulvaney as ‘arguably the worlds first modern anthropological monograph and its impact was enormous’.

Baldwin Spencer was an early Professor of Biology at Melbourne University and F.J. Gillen was stationed at Alice Springs and employed on the newly established overland telegraph line after a period at Charlotte Waters.

Gillen was a major informant and correspondent for Baldwin Spencer, and Gillen’s letters to Spencer, fortunately preserved in the Pitt Rivers Museum, Oxford, have been published as “My

Dear Spencer” Edit. John Mulvaney, H. Morphy & A. Petch, Hyland House, 1997.

Now a second volume of letters to Spencer “From the Frontier” Edit. John Mulvaney, Allen & Unwin, 2000, is available.

These comprise letters from Constable C.E. Cowle stationed at a police outpost at Illamurta 150 km SW of Alice Springs. There are 120 printed pages of his letters to Spencer from 1894 to a poignant last letter in 1920. P. Byrne was then stationed at the repeater station at Charlotte Waters and his letters to Spencer date from 1894 to 1925 and fill 60 printed pages. Again all from the Pitt Rivers Museum.

Both men had met Spencer during the Horn Expedition to Central Australia and it was Cowle who guided the expedition through the Lake Amadeus region to Ulum. He is commemorated in *Acacia cowliana*.

Cowle was literate, well read, somewhat cynical, irreverent and a heavy drinker at times. Much of his time was spent pursuing natives accused of killing cattle on the frontier pastoral stations. His attitude to the Aborigines was understandably "of the times" and Mulvaney's introduction is both sympathetic and understanding while in no way condoning the conduct of those times. He was generally hostile to the Aboriginal world. He contributed Anthropological information and specimens of native animals to Spencer. Both men, Cowle and Byrne, read a wide range of books, some supplied by Spencer himself.

Cowle can catch the naturalist in the field in ways we all recognise. "It will take me some time to completely grasp the names of various animals you mention owing to lack of an appreciative audience with pocket books to jot down golden utterances. 'I say Tate what did you say this was? Exaltatus or latifolia, here Tate replies, 'latifolia', but discovers next day that it is 'incanis'?' and so on."

Nor have politics changed, "Sincerely hoping you will have a pleasant Xmas and a prosperous New Year, free from the worries of a beggarly, retrenching, promise breaking government (also applies in South Australia only more so)" (1895).

"No one should grudge him (Horn) any honor he may get, as he has done good work in bringing a comparatively unknown part of the World under the notice of Scientists. It is to be hoped they won't create a new order and make him a Knight Commander of the most Distinguished Order of the Marsupial, because he happens to be a full Pouched Australian" (1895).

The letters of Byrne were the product of a taciturn, cynical, well read and literate author.

Through Byrne, Baldwin Spencer received numerous native animals virtually all caught by Aboriginal women for him.

"During the years since you last saw it, there have been many changes in the country. The rabbits have supplanted the marsupials and the indigenous plants are gradually giving way to inferior kinds of herbage" (1921).

Byrne was also a competent geologist and made contributions to that science.

Neither correspondents seem to have collected plants and there are few botanical references.

As Mulvaney points out these were personal letters to Spencer, neither author ever expected them to be published. The letters of Gillen, Cowle and Byrne crisscross the times, the people, the events and give a wonderful insight into the history and nature of white-Aboriginal contact that all should be aware of. They document early anthropology and the acquisition of biological knowledge frequently based on Aboriginal experience.

It is history straight 'from the pen' of men living under extreme conditions and isolation.

The letters that survive were those culled by Spencer for their scientific content, so there are gaps. Serious is the loss of virtually all the letters written by Spencer to these men. Those to Gillen were apparently destroyed by his wife after his death. Those to Cowle apparently reverted to his family and were later 'lost'. Those to Byrne seem to have left no trace.

Fascinating, very personal Australian history.

David Symon

INCITES

November 2000

Where science agencies and universities part company on chances to change

Changes to the thrust of the final report of the Science Capability Review in the way competitive research grants, and some infrastructure funds, would be distributed is creating sharp divisions between universities and the major science agencies.

<http://www.asto.com.au/members.htm>

Postgraduate talent now snapped up overseas - survey shows

Concerns over the great Australian brain drain are likely to deepen with the latest results from the Graduate Destination Survey.

<http://www.asto.com.au/members.htm>

New Australian-European science and technology forum

A new partner matching initiative, the Forum for European-Australian Science and Technology, has been launched with the aim of enhancing research collaboration between the European Union and Australia

http://www.asto.com.au/eu_ozforum.htm

CSIRO takes a lead from sister agency

The appointment of a former British professor of metallurgy, as head of CSIRO, has been controversial, given the current concern over Australia losing so much of its scientific talent overseas.

<http://www.asto.com.au/csirolead.htm>

See our calendar of events at <http://www.asto.com.au/events.htm>

Clunies Ross National Science & Technology Award 2001

Award recipients will be publicly honoured at a formal ceremony and dinner to be held at Hotel Sofitel, Melbourne on Wednesday 28 March 2001.

This annual Award has now honoured 52 special Australians who have made an outstanding contribution to the application of science and technology for the economic, social or environmental benefit of Australia.

Contact Details: Mary Bolger on (03) 9854 6266

LETTERS

Alexgeorgia on *Willdampia*

I have re-read my paper on *Willdampia* (*W. Austral. Naturalist* 22: 191–193, 1999) and am unable to find the 'strong emotional response' to Sturt Pea that David Symon (*Austral. Syst. Bot. Soc. Newsletter* 104: 35–36, 2000) saw in my writing, except perhaps in the phrase 'I believe' (though that hardly indicates emotion) and in the derivation of the generic name. Indeed, I am intrigued by others' response to my paper, which presents my hypothesis in the same way as others present theirs, whether based on morphological grounds or DNA analyses. David discussed vegetative characters that he considers link *Willdampia* with *Swainsona*. I did not mention these in my discussion of generic differences as they are not significant. He also dismissed some floral and fruiting characters because they occur in other genera. All genera, even in monotypic families, share characters with others. Part of the taxonomic process is to decide which characters are significant. If we were to bring together currently-recognised genera that cannot be distinguished by vegetative characters, for example, then there would be a huge amount of lumping to be done—the small-leaved Myrtaceae come immediately to mind.

The erect habit of some populations of *Willdampia* has been known for many years (e.g. C.A. Gardner, *Wildflowers of Western Australia* p. 59, West Australian Newspapers, 1959). Again, I did not invoke habit as a generic character.

I fail to understand why pollination should be brought into the discussion. In some genera, all taxa appear pollinated the same way, e.g. in Poaceae; in others there is a range of mechanisms. *Verticordia* would be a prime example of the latter. Where is the evidence that *Willdampia* is bird-pollinated? Because of the corolla form and colour it is assumed to be thus, but has the evidence been published? In the question of generic distinction, why does it matter? If it does, then surely the orientation of standard and keel and the prominent boss in *Willdampia* must be significant? Perhaps I

should have omitted mention of flower colour in my paper (is it a red herring? If so, should we consider lumping Sturt Pea with fish?). But remove colour from the flower and I still consider its morphology distinct from all species of *Swainsona*.

After my paper was published I learnt that Les Pedley had reached the same conclusion as I and was drafting a paper until he saw mine. So I am not alone in my conclusion.

To those who now require at least a cladistic tree, preferably with DNA analysis, before they can accept taxonomic results, I apologise. Rest assured that my large-scale systematic work is over, and I shall not be adding many more names to the world's flora.

I am preparing another paper on *Willdampia formosa*, as the type of the name appears to be missing. Sophie Ducker kindly pointed out to me that I overlooked Robert Brown's discussion of the plant in the Botanical Appendix in C. Sturt, *Narrative of an Expedition into Central Australia* pp. 71–73 (1849).

Incidentally, as discussed by L.R. Marchant (*An Island unto Itself: William Dampier and New Holland*, pp 42–49, Hesperian Press, 1988), it seems more correct to call Dampier a privateer rather than buccaneer when referring to his 'raiding' activities. Further, his crew on the *Roebuck* in 1699–1701 were sailors of the Royal Navy.

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CONFERENCES

"Legumes Down Under" Fourth International Legume Conference

Australian National University, Canberra, Australia, 2-7 July, 2001.

Scientific program

Planning for the conference is well advanced. A program of symposia has been planned (see below), and the organisers of each symposium are currently contacting potential speakers. Each symposium will include a mix of invited and contributed papers. A call for contributed papers will go out with the Registration Brochure, which will be mailed in February 2001. The registration brochure will also be available as a down-loadable PDF file from the conference web site <<http://www.science.uts.edu.au/sasb/legumes.html>>. If you wish to offer a paper, please contact the relevant symposium organisers (listed below). It may not be possible to accept all contributed papers; however, we will provide for large poster sessions.

Plenary lectures

- *Higher level phylogeny of the legumes*
coordinated by Marty Wojceichowski
- *Biogeography of the legumes*
coordinated by Mike Crisp and Melissa Luckow

Symposia and organisers

- *Systematics of the Mimosoideae*
Jim Grimes <JGRIMES@rbgmelb.org.au>
Melissa Luckow <mal8@cornell.edu>
- *Systematics of Acacia*
Bruce Maslin <brucem@calm.wa.gov.au>
Joe Miller <j.miller@pi.csiro.au>
- *Systematics of the Caesalpinioideae*
Anne Bruneau <bruneau@IRBV.UMontreal.CA>
Gwil Lewis <g.lewis@rbgkew.org.uk>
Pat Herendeen <herenden@gwu.edu>
- *Systematics of the Papilionoideae*
Matt Lavin <mklavin@mcn.net>

with Bente Klitgaard, Toby Pennington and Peter Weston

- *Developmental and Structural Morphology*
Susan Singer <ssinger@carleton.edu>
Shirley Tucker <tucker@lifesci.ucsb.edu>
- *Phytochemistry and Pharmacognosy*
Barbara Meurer-Grimes <bmeurer-grimes@exgenix.com.au>
Ben-Erik Van Wyk <b-eww@na.rau.ac.za>
- *Utilisation and Infraspecific Genetic Studies*
Colin Hughes <colin.hughes@plant-sciences.oxford.ac.uk>
with Penny Butcher and Maurice McDonald
- *Symbiosis, Physiology and Landscape Rehabilitation*
Janet Sprent <j.i.sprent@dundee.ac.uk>
Jeremy Burdon <j.burdon@pi.csiro.au>
- *Animal-Legume Interactions*
Graham Stone <graham.stone@ed.ac.uk>
Suzanne Koptur <kopturs@fiu.edu>
- *Biodiversity Information Resources*
Jim Croft <jim.croft@ea.gov.au>
Frank Bisby <f.a.bisby@reading.ac.uk>
- *Electronic Identification Tools*
Rogier de Kok <Rogier.deKok@pi.csiro.au>
Jeanette Ridder-Numan <ridder@wanadoo.nl> or
<ridder@nhm.leidenuniv.nl>

Highlights

We are pleased to announce that the leading Australian botanist, **Professor Adrienne Clark**, will deliver a public lecture on the evening of Tuesday, July 3rd, entitled "Risks and benefits from genetically modified crops".

The conference will commence with a plenary presentation synthesizing recent work by several collaborators on the **phylogeny of the family**. This will be the most detailed phylogenetic tree yet

presented for the legumes. The research towards this presentation is being coordinated by Marty Wojcechowski of the University of California. Linked with this will be a **poster presentation** in the main foyer of the conference centre, showing the latest higher level phylogenies of the legumes, coordinated by Joe Miller.

On the morning of Saturday, July 7th, there will be a **workshop on the 'Legume branch of the tree of life'**, coordinated by Aaron Liston. The aim of this is to build on the new data presented on legume phylogeny at the Conference, by planning a international collaboration to develop a framework for a new phylogenetic classification of the family. the workshop will be open to all conference participants who are interested in legume intergeneric phylogeny and classification.

A new book '**Legumes of the World**', concisely describing and illustrating every genus in the family, edited by Gwil Lewis and Brian Schrire, and published by Kew, will be launched at the conference.

On Sunday, July 1st, there will be a **pre-conference social event**, combined with a conference art show, at the Australian Academy of Science in Canberra.

Publications

We are planning one or two volumes (400-600 pages total) in the series *Advances in Legume Systematics*. These will contain the 20-30 best papers presented at the conference. Jim Grimes will be the editor, and CSIRO Publishing will be the publisher, possibly also with involvement from the Royal Botanic Gardens, Kew. Contributors will receive discount copies. The remaining papers will be published more cheaply on CD-ROM. Details are yet to be worked out.

Field trips

We will offer a number of field trips, varying from a half day to several days:

- Cape York Peninsula, including wet tropics – 4 days Pre-Conference
- Central Australia – 4 days Post-Conference
- New South Wales, South Coast – 2 days Post-Conference

- Western Australia - 6 days Post-Conference (incorporating a 1 1/2 day Symposium on *Acacia*: see detailed notice in this Newsletter).
- Tidbinbilla Nature Reserve - Wednesday July 4 – half day

Whether all these trips go ahead will depend upon sufficient delegates expressing interest.

Costs and accommodation

The 'early bird' full-conference registration fee will be \$410 (if paid before 14 May), with a 50% discount for certified students. Fees will vary e.g. for late registration, single days, etc. (not detailed here). We have booked a range of accommodation from university halls of residence to five-star hotels. We will be able to offer limited assistance towards travel costs, depending upon the outcome of some grant applications. Announcements of these details will appear on the web site (URL below) and in the Registration Brochure.

Canberra

Canberra is the national capital of Australia. It has a population of 310,000, and it is an important base for legume research and education. Canberra is also a beautiful city. Its character as a "city of light and space", a contemporary garden-city, makes it a major tourist destination. Attractions include its scenic landscapes, lakes, parks and hills, as well as its impressive public buildings, such as New Parliament House, the National Library, the National Gallery, the Australian War Memorial and the Australian Academy of Science. Canberra is only a 2-hour drive from either the Snowy Mountains or the South Coast of New South Wales. Though cool in July, Canberra's winter days are nearly always crisp and clear with sunny blue skies.

For further information: visit the regularly updated conference web site at <http://www.science.uts.edu.au/sasb/legumes.html>

To register your interest in the conference, and to add your name to the address list for the registration brochure (to be mailed in February), contact:

Legumes Down Under 2001
Australian Convention & Travel Services (ACTS)
GPO Box 2200
Canberra ACT 2601, Australia

Telephone: (02) 6257 3299 (Int. +61 2)
Facsimile: (02) 6257 3256 (Int. +61 2)
Web site:
<http://www.science.uts.edu.au/sasb/legumes.html>

E-mail: legumes@ausconvservices.com.au

Organising committee

Mike Crisp
Jim Grimes
Joe Miller
David Morrison

Western Australian Acacia Tour and Symposium (8-14 July 2001)

A six day *Acacia* tour and associated symposium in Western Australia will be conducted immediately following the Fourth International Legume Conference. The tour and symposium are complementary events designed to provide participants with an appreciation and understanding of this very large and important Legume genus, while at the same time highlighting many contemporary landscape and nature conservation issues within a part of Australia renowned for its species-diversity.

Tour

The tour will extend from Perth, passing through the northern forest region to the extremely species-rich, semi-arid wheatbelt and then into the adjacent *Acacia*-dominated arid zone. The highest concentration of *Acacia* taxa in the world occurs within the area traversed by this tour. While the tour focus will be on *Acacia* species, other elements of the rich and unique Western Australian flora will not be ignored.

A pre-tour function will be held in Kings Park on the day prior to departure. The tour route listing key stops and key themes is presented below. For further information, including a map of the route, visit the Legume Conference web site at <http://www.science.uts.edu.au/sasb/legumes.html>.

Note. Numbers on the tour will be restricted to 35. Also, tour accommodation (after leaving Perth) will sometimes be "basic" and generally will be on a twin-share basis.

8 July (Sunday).

Pre-tour social function at Kings Park and Botanic Garden, including a talk by Stephen Hopper on biogeography and speciation in the south-west Western Australian flora.

9 July (Monday)

Route and key stops: Perth – Bindoon (Jarrah/Wandoo forest) – New Norcia (Benedictine Monastery) – Wongan Hills and environs (important area of remnant wheatbelt vegetation).
Key Themes: Forest flora; remnant vegetation; rare flora.

Overnight: Wongan Hills Hotel.

10 July (Tuesday)

Route and key stops: Wongan Hills – Kalannie (Landcare Centre; salt lakes, granite rocks) – Thundellara Station (various stops stop *en route* illustrating vegetation diversity and the boundary between the South West and Eremaean Botanical Provinces).

Key Themes: Landcare; salinity; species diversity; biogeography.

Overnight: Thundelarra Station (barbecue dinner).

11 July (Wednesday)

Route and key stops: Thundelarra – Burnabinmah Station (Mulga lands, breakaway country, floodplains) – Yalgoo (Jokers Tunnel) – Morawa.
Theme: Rangeland ecology and diversity, with emphasis on Mulga (*Acacia aneura*) communities.
Overnight: Morawa Hotel.

12 July (Thursday)

Route and key stops: Morawa district (Sandplain shrublands, Billeranga Hills, *Acacia* on-farm trials for large-scale rehabilitation projects & Sandalwood silviculture) – Dalwallinu (Welcome function hosted by the Dalwallinu Shire).
Key Themes: Sandplain shrubland flora; commercial utilisation of *Acacia*.
Overnight: Dalwallinu Hotel (12 & 13 July)

13 - 14 July (Friday - Saturday)

Acacia Symposium (see below). For tour participants not wishing to attend the Symposium, arrangements will be made for a field trip (13th only) to shrubland, woodland and granite rock sites near Dalwallinu.

14 July (Saturday, commencing around 1 pm)

Route and key stops: Dalwallinu - Coorow (*Acacia* translocation site) - Perth.

Key Themes: Nature conservation.

Overnight: Acacia Hotel, Perth.

Symposium: "The Conservation and Utilisation Potential of Australian Dryland Acacias"

This symposium aims to explore the environmental and economic potential of Australian dryland *Acacias* and in particular the role that these species may play in helping solve some of the serious problems currently confronting many rural communities and ecosystems, both within Australia and abroad. Invited speakers will cover a wide range of subjects and the proceedings will be published in the journal CALMScience.

It is appropriate that this Symposium is being held in Dalwallinu, a small wheatbelt township about 250 km northeast of Perth, because this community is currently attempting to develop tourism opportunities based on *Acacia*. The Symposium is being advertised widely and it is likely to attract a good attendance of scientists, land managers, farmers and others. For further information visit the Dalwallinu Shire web site at <http://www.dalwallinu.wa.gov.au>

Provisional program

13 JULY 2001

SESSION 1 (Systematics and Conservation)

- B.R. Maslin (W.A. Dept. of Conservation and Land Management, CALM): Is systematics critical for effective utilisation and conservation of *Acacia*?
- M. Byrne (CALM): The role of genetics in the conservation and utilisation of *Acacia*.
- J. Miller (CANB): Towards an understanding of variation within the Mulga complex (*Acacia* aneura and relatives) using nuclear DNA techniques

- D. Coates, C. Yates & M. Buist (CALM): Rarity and threat in relation to the conservation of *Acacia*.
- P. Hussey (CALM): Wattle I plant for wildlife?

SESSION 2 (Commercial applications)

- J. Bartle & G. Olsen (CALM): *Acacia* species as large scale crop plants in the Australian wheatbelt.
- J. Brand (CALM). Establishment of Sandalwood (*Santalum spicatum*) and *Acacia* species in tree farm systems in south-western Australia.
- K. Wickens and M Pennacchio (Curtin Uni.) Biological activity of traditional medicinal *Acacia* species used by indigenous Australians.
- D.S. Seigler (Uni. of Illinois): Gums and tannins: Economic potential from W.A. wattle species.
- G. Brand and L. Sweedman (Kings Park and Botanic Gardens): Horticultural potential of *Acacia*.
- C. Tate (WA Tourism). Tourism potential of *Acacia*, with particular reference to Dalwallinu.

SYMPOSIUM DINNER

14 JULY 2001

BUSH BREAKFAST (hosted by Dalwallinu Tourism Group)

SESSION 3 (Seed for human food)

- P. Latz (Northern Territory): Traditional use of *Acacia* by indigenous Australians.
- T. Rinaudot (World Vision) and L. Thomson (CSIRO Forestry and Forest Products): Potential of Australian *Acacias* in combating hunger in semi-arid lands
- M. McDonald (CSIRO Forestry and Forest Products): Edible Wattle Seeds of Southern Australia: a review of *Acacia* seed as a human food.
- A. Hele (South Australia): Issues in the commercialisation of wattlesseed for food.
- R. Prinsley (Rural Industries Research and Development Corporation): Title to be announced.

Poster presentations will also be available.

Costs and accommodation

The "early bird" price for the combined tour and symposium is \$984 (if paid before 14 May; \$1182

after that date). This price includes: Perth accommodation (two nights - one at the beginning and one at the end of the tour), pre-tour activities in Perth (8 July), tour travel, accommodation and meals (excluding alcohol) *en route* and full symposium registration (including a welcome function in Dalwallinu on 12 July, the symposium dinner on 13 July and a bush breakfast on 14 July).

For the symposium only the "early bird" price is \$171 (\$190 if paid after 14 May). This price includes registration for attendance at all sessions (morning and afternoon tea and lunches included) and a bush breakfast on 14 July.

Accommodation in Perth (at discount rates) for tour participants has been arranged with the *Acacia Hotel*, a new facility located in one of the most popular restaurant areas of Perth (close to the city centre).

Register your interest

To register your interest in the tour and symposium see accompanying article in this Newsletter titled "*Legumes Down Under*" *Fourth International Legume Conference*. To register your interest in the symposium only contact: Acacia Symposium - Shire of Dalwallinu, PO Box 141 Dalwallinu Western Australia 6609 (tel: +61 8

96611001, fax: +61 8 96611097, email: dallyshire@wn.com.au, website: <http://www.dalwallinu.wa.gov.au>.

Organisation

The *Acacia* tour and symposium is being presented through the collaborative efforts of the following agencies:

- Department of Conservation and Land Management (CALM)
- Dalwallinu Shire and Tourism Group
- Heartlands Tourism Association

Bruce Maslin (CALM) will lead the tour and Stephen Hopper (Kings Park and Botanic Gardens) will provide assistance with some general botanical matters. Other CALM staff with specialist knowledge of sites visited will join the tour at relevant points.

Further information

Contact Bruce Maslin (brucem@calm.wa.gov.au), for technical information regarding the tour or symposium, or visit one or other of the following websites:

- Legume Conference site at <http://www.science.uts.edu.au/sasb/legumes.html>
- *Acacia* Symposium site at <http://www.dalwallinu.wa.gov.au>

Society of Australian Systematic Biologists

As most of you should be aware, the next conference of the *Society of Australian Systematic Biologists* will be held in conjunction with the *Australasian Evolution Society*, at the University of Melbourne and Museum Victoria in the week of 16-20 July 2001.

The conference web page has now been set up at: <http://www.museum.vic.gov.au/about/conferences/sasb2001.htm>

This provides information about the conference, the associated social activities, and accommodation. Further details about registration and the scientific programme will be available during January.

Please visit this page, and make some plans to attend the conference.

Robert Brown 200 conference 8-10 May 2002, Sydney (first announcement)

It will soon be 200 years since Robert Brown first set foot in Sydney, in May 1802. He returned several times over the next three years, making a pre-eminent contribution to knowledge of our local flora. A three-day conference celebrating his time in this region and his lasting scientific contributions will be held in Sydney in May 2002, organised jointly by the Royal Botanic Gardens Sydney and Greening Australia (NSW) Inc.

It will include invited talks, contributed talks and posters on two broad themes: (1) Brown's lasting influence on botanical systematics, and (2) Changes in the vegetation of the Sydney region since his visit: current conservation and land management issues. Resulting papers will be published by the RBG in its journals.

The tentative list of invited talks on botanical systematics includes Mike Crisp speaking on Brown and the 'Natural System' of classification,

Randall Bayer on the systematics of Asteraceae, Lynn Clark on the Poaceae, and Peter Weston on the Proteaceae.

A one-day excursion between the two days of talks will revisit areas collected in by Brown and his collaborators such as George Caley, including sites that have been greatly changed and are now being restored, as well as the site of a rare species overlooked by botanists for 180 years after Brown first collected it.

There will also be an evening public lecture organised by the Friends of the Royal Botanic Gardens Sydney.

Further information will be available early next year via this newsletter and on the Royal Botanic Gardens website (www.rbg Syd.nsw.gov.au), or by contacting the organisers: David Mabberley (chair), Tim Entwisle, Doug Benson and Karen Wilson.

Investigator 200

The Investigator 200 Symposium in Albany, W.A., will now be held over two days, 9 and 10 December 2001, with excursions on 11th. A

promotional brochure and registration form will be available by the end of December.

NEWS FROM FASTS

Special award to Barry Jones

An icon of Australian science was celebrated at National Press Club on Tuesday November 1st.

Barry Jones was presented with a special certificate to mark his distinguished service to modern Australia, through his tireless advocacy of science, research, and innovation.

FASTS' President Sue Serjeantson presented the award as part of "Science meets Parliament" Day, organised by the Federation of Australian Scientific and Technological Societies.

"Barry Jones is both truly Australian, and totally international," Professor Serjeantson said. "He was an immense asset to a Parliament which

increasingly through his term had to grapple with science and technological issues.

"The greenhouse effect, genetic engineering, the ozone hole, stem cell research, IT, DNA, salinity and water use, nuclear reactors, cloning and the internet are some of these issues, all offering possibilities or dangers almost unimaginable a generation ago."

Professor Serjeantson said it was not surprising that Parliament had struggled with some of these issues.

"How comforting it must have been to have the presence of the Member for Lalor in the Chamber! Parliamentarians had confidence in his knowledge and understanding of issues."

"They remembered well that he had raised many of these issues in his 1982 book, 'Sleepers, Wake!: Technology and the Future of Work'."

Professor Serjeantson said one of the aims of "Science meets Parliament" Day was to build better links between Parliamentarians and scientists, so both sides feel more comfortable in seeking and offering advice.

"Science has not become an integral part of national policy-making in Australia, in sharp contrast to some of our competitors," she said. "It has to become a natural part of Parliamentary life if Australia is to maintain its position as a modern economy."

The event brought 170 scientists from all corners of Australia to Parliament House in Canberra for individual appointments with their Parliamentary representatives on 1 November.

Building linkages between Science and Parliament

The Minister for Industry, Science and Resources, Senator Nick Minchin has told a gathering of more than 150 scientists that innovation is the key to achieving global competitiveness in the future.

Senator Minchin told the scientists and technologists from across Australia that the Government was committed to science issues and welcomed the opportunity to engage in a policy dialogue with the science community.

"Establishing successful linkages between researchers, industry and government is important if Australia is to be an innovative society," Senator Minchin said.

"Australia has a solid scientific base and the Government recognises that we can build on that base."

"Australian scientists are world class producing leading edge basic research that has fundamental and far reaching implications for scientific

research, innovation, public health and economic prosperity."

"The Government remains committed to investing in scientific excellence, recognising its important contribution to the development of new industries and the renewal of established industries which have been the backbone of our nation," he said.

Scientists and technologists from across Australia descended on Parliament House in Canberra today for the second annual Science Meets Parliament Day.

Science meets Parliament Day aims to give both scientists and parliamentarians the chance to discuss science issues of importance to the nation. Scientists met with local members and Senators from across the political spectrum during more than 150 individual meetings.

This year's event coincides with the impending release of the final report of Australia's Science Capability Review, *The Chance to Change*.

The Government is also considering Innovation, Unlocking the Future, a report by the Innovation Summit Implementation Group. The Government will draw together its response to the Innovation Report and the Chief Scientist's report in the form of an Innovation Action Plan. The plan will focus on achieving innovation outcomes including

higher business investment in R&D, increased rate of commercialisation of research, and job creation.

Senator Minchin said the Government remained committed to establishing a sound framework for developing globally competitive industries in Australia.

Science at centre stage

Australia's peak council for scientists and technologists predicted that science and technology is moving to centre stage in debates about Australia's future.

Climate change, public health, genetically-modified food, information technology, salinity, energy, disposal of nuclear waste are all unresolved issues on the public agenda.

Professor Sue Serjeantson, President of the Federation of Australian Scientific and Technological Societies (FASTS), said scientists and technologists had to work more closely with Parliamentarians, to help them construct Australia's future over the next decade.

"Bill Clinton said last month that the language of science is about to become a much more pervasive part of life," she said.

Professor Serjeantson was releasing FASTS' "Ten Top Issues", a list of priority issues for 2001.

She predicted that science will continue to become more integrated with national policy-setting, as President Clinton has suggested.

"Ultimately, science means new industries and new jobs. It's the way forward - an improved environment, better healthcare, enhanced economic

competitiveness, solutions to the problems that drag our society back."

"Science doesn't have all the answers, but it is always part of the solution."

"The Prime Minister's commitment to his Science, Engineering and Innovation Council has raised the political stakes," she said. "Major decisions on national policies are having their birth in PMSEIC, a Council where the Prime Minister has shown a great deal of interest."

"FASTS' 'Science meets Parliament' Days have opened up a new conduit for information, and I have been struck at how useful and enjoyable Parliamentarians and scientists find this event."

The Government is expected to make a major statement on science later this month, with a significant boost in the national investment in science and research.

But Professor Serjeantson said she hoped the increased investment would come into effect immediately, ramping up over time.

"Frankly, Australia can't wait," she said.

"Ten top issues" for 2001

1. INCREASE THE NATIONAL INVESTMENT IN SCIENCE

Australia needs a new national approach to science, beginning with a substantial increase in our national investment. The recommendations of the final Batterham Review document should be implemented as a package, as the first stage in rebuilding our national investment.

2. BUILD ON OUR CAPACITY TO COMMUNICATE SCIENCE

Australians need a greater awareness of the possibilities and limitations of science if they are to make sensible decisions about how science will serve the national interest. A strong and confident ABC Science Unit will be a flagship in bringing science into Australian homes.

3. HELP PARLIAMENTARIANS TACKLE THE ISSUES

Science needs a stronger presence in Parliament to assist MPs make decisions on highly technical areas like greenhouse, IT and gene technology. Appoint young scientists as interns to MPs.

4. SCIENCE AND THE BOARDROOM

Adopt a "Science and the Boardroom" program, to bring science and industry together at the highest levels to assist in the transfer of technology and good ideas.

5. SELLING AUSTRALIAN SCIENCE OVERSEAS

Australia is an attractive place to do science business, but our international profile is low. Each major overseas embassy should have a science attache to sell our science expertise, and to stimulate collaborative research and development activity.

6. PROVIDING A START: SCIENCE AND TEACHERS OF SCIENCE

Science can inspire, but only when it is taught by highly-trained, well-qualified teachers working in modern laboratories with good textbooks. We need HECS relief and a vigorous national program to recruit and train science graduates, with refresher programs to keep their science up to date.

7. COHERENT POLICY ON MAJOR NATIONAL RESEARCH FACILITIES

Australia should work out the best way to run big science infrastructure. Establishing large national and international facilities requires regular funding and a systematic approach.

8. SCIENCE FOR THE BUSH

Coordinate Australian science to create jobs, improve existing industries, solve environmental problems and improve digital communication in regional and rural Australia.

9. BRAIN DRAIN BECOMES EXPRESS TRAIN

Australia is in danger of losing a generation of scientists and technologists overseas. Invest more in higher salaries, better career paths, and improved research funding to retain our best and brightest.

10. BENCHMARKING FOR BUSINESS

Australia must be more agile in attracting overseas companies to base R&D operations here, by offering competitive incentives and moving quickly to adjust our regulations and incentive schemes.

New head for CSIRO

FASTS welcomes the announcement by Science Minister Senator Nick Minchin of the appointment of Dr Geoff Garrett as the new Chief Executive Officer of CSIRO.

FASTS' President Professor Sue Serjeantson said the Head of CSIRO is one of the key positions in Australian science.

"CSIRO is Australia's largest and most powerful research organisation," she said. "Its work covers many disciplines and all regions of Australia."

"The work of CSIRO has huge implications for Australians, both in creating wealth-generating industries and solving environmental problems. CSIRO is a true national icon, held in warm affection by Australians everywhere."

"I congratulate Dr Garrett on his appointment, and look forward to working with him as a colleague on the Prime Minister's Science, Engineering and Innovation Council."

Professor Serjeantson said that CSIRO had been under funding pressure for the last decade. Its budget has been reduced by 24 per cent (relative to

GDP) over this period, and staff numbers have fallen by 12 per cent.

"Dr Garrett is taking charge of the helm at a time when the Government is reassessing the Australian national investment in science and research," she said. "The Government has indicated it will make an announcement on these matters by January 2001."

"It could be an exciting and challenging time to be in charge of a major research organisation like CSIRO."

Professor Serjeantson said Dr Garrett's international experience in both industry and research would be invaluable as pressures grow on Australian science to be competitive both commercially and internationally.

She commended the work of Dr Colin Adam as acting CEO of CSIRO since the death of Dr Malcolm McIntosh last February.

FASTS circular for the latter half of 2000

1. PRESIDENT'S REPORT

"Our main task now is to maintain the momentum behind the Chief Scientist's report, "Chance for Change". We have seen many such reports, including the West report on higher education, sink without trace. Budget 2001 is the nation's last chance to change and we cannot let this opportunity be lost. Maintaining the momentum without antagonising the policy makers of today and of tomorrow is an interesting challenge."

An extract from Sue Serjeantson's President's Report to the AGM. The full report is appended below.

2. "SCIENCE meets PARLIAMENT" DAY

Three quarters of all federal Parliamentarians had individual appointments with scientists on November 1, in the second "Science meets Parliament" Day. Feedback from participants has been positive, with the event scoring eight and a half out of ten overall.

The address by Dr Neal Lane, Bill Clinton's science adviser, was a highlight, as were briefings by Parliamentarians and parliamentary staffers.

The event had a clear and immediate impact, with over 30 speeches and questions in the House and the Senate on November 1. TV showed up the number of MPs wearing the blue "SmP" badges.

Media coverage was good, and included ABC News, Radio National Breakfast, the PM program, ABC TV News; as well as articles in the Sydney Morning Herald, Australian, Adelaide Advertiser, Hobart Mercury, Aust Financial Review, and West Australian.

FASTS is now suggesting that scientists everywhere should invite their local MP or Senator out to inspect an experimental site or laboratory. This should be a gumboots-and-labcoats occasion, rather than a time for corporate suits.

Introduce the MP to your colleagues. (But first check corporate guidelines on how to handle invitations and visiting rights.)

3. "SCIENCE meets PARLIAMENT" 2001

The FASTS Board has decided to hold "Science meets Parliament" Day again in 2001, provided the election scheduled for next year does not interfere with our timing.

It will be a new Parliament with a significant number of new members. We need to meet these new members as well as reinforce our contacts with existing members.

4. THE PRESIDENT ELECT

Professor Chris Fell, Deputy Vice-Chancellor of the University of New South Wales is to be the next President of Australia's peak council for scientists and technologists.

Professor Fell will take up his position as President of the Federation of Australian Scientific and Technological Societies (FASTS) in November 2001, at the conclusion of my term.

He has been responsible for the research, international and information technology activities of the University of New South Wales since 1991.

Trained as a chemical engineer, he worked in industry before joining UNSW. Research in his group led to the establishment of the high technology company Memtech Limited. Professor Fell played a pivotal role in the birth of the CRC for Waste Management and Pollution Control.

He was elected at the Annual Council meeting of FASTS.

The full Executive of FASTS for 2000-2001 is:

President: Professor Sue Serjeantson (ANU, Canberra)

President-elect: Professor Chris Fell (University of New South Wales)

Vice-presidents: Ms Jan Thomas (Victoria University of Technology, Melbourne), Dr David Denham (President, Australian Geosciences Council)

Secretary: Dr John Rice (Flinders University, Adelaide)

Treasurer: Professor Snow Barlow (University of Melbourne)

5. PETER CULLEN RETIRES

Peter Cullen did a great job as President of FASTS, and with the election of Chris Fell, severs his formal ties with FASTS. Peter's biggest asset was his ability to earn the trust and respect of the people he dealt with, politicians as well as scientists.

He joins a distinguished group of former Presidents of FASTS who still contribute most valuably to the organisation. Graham Johnston and Joe Baker are prime examples of this group.

My thanks to retiring Board Member John Pilbrow, a great contributor to the interests of Physical Sciences; and Rob Norris who represented the Deans of Science with distinction.

6. GOVERNMENT STATEMENT ON SCIENCE BY EARLY 2001

A statement by Minister Minchin on 17 November: "The recommendations of Dr Batterham's Report will assist the Government in identifying and addressing future science and innovation priorities for Australia"

"The Report of the Australian Science Capability Review and the ISIG (Innovation Summit Implementation Group) Report will be jointly considered in developing important elements of the Government's Innovation Action Plan which will be in place by early in the new year."

The Chief Scientist's final report is available on the Department of Industry, Science and Resources website at: <http://www.isr.gov.au/science/review>

7. BRIEFING PARLIAMENTARIANS

FASTS has stepped up briefing sessions with Parliamentarians. In the last months, we have briefed the Coalition Committee of Industry, Science and Resources on stem cell research, a lively and valuable discussion for an hour.

Earlier we met the ALP Caucus committee looking at GM issues on plant breeding.

FASTS has also met with the Shadow Minister Dr Carmen Lawrence and given evidence to the Senate Committee examining the new ARC bill.

8. ARC EXPERT ADVISORY PANELS

The ARC has asked FASTS to nominate appropriately qualified people to positions on these panels. The areas concerned are:

Biological sciences and biotechnology
Engineering and environmental science
Mathematics, information and communication sciences
Physical and earth sciences
Social, behavioural and economic sciences

Humanities and creative arts

9. FASTS' OCCASIONAL PAPER 3:

"MATHEMATICAL SCIENCES IN AUSTRALIA"
"Mathematical Sciences in Australia: Looking for a Future", was written by FASTS' Vice-President Ms Jan Thomas and published FASTS.

"No discipline can afford the kind of haemorrhaging documented in the report and remain vibrant, creative and innovative", Ms Thomas said.

"We're exporting our best talent to countries which appreciate the value of an investment in knowledge and ideas. We have all heard stories about the brain drain, and now we can put numbers to it.

The Paper is available on the FASTS' web site: www.fast.org

Sue Serjeantson
President
18 November 2000

President's report meeting of the Council October 31 2000

FASTS has made considerable progress in putting the matter of research and development on the national agenda for the next federal election. Increasingly, the broader community is becoming convinced that private and public support for R&D is an investment in the nation's future prosperity. Of course, for any lobby group or peak body, it is impossible to demonstrate a direct relationship between the effort and the outcome. That said, we are seeing increased interest in our views by the popular press and by influential radio interviewers, such as Graham Richardson and Alan Jones, as well as by our traditional outlets such as the ABC and The Australian. The issue of investment in R&D is getting the attention of esteemed economists and the cartoonists; next, talk-back radio!

Our main task now is to maintain the momentum behind the Chief Scientist's report, "Chance for Change". We have seen many such reports, including the West report on higher education, sink without trace. Budget 2001 is the nation's last chance to change and we cannot let this opportunity be lost. Maintaining the momentum without antagonising the policy makers of today and of tomorrow is an interesting challenge.

I have watched other organisations, such as the Australian Medical Association (AMA), undergo serious divisions on the matter of style. The AMA is divided between those who prefer a cosy relationship with the Minister and those who think it is more effective to bleat from the side-lines.

During my Presidency I have attempted to steer the middle course, continuing the non-partisan record of FASTS that I inherited from my predecessors, Peter Cullen, Joe Baker and Graham Johnston. The Minister may not have ordered three bottles of champagne for us in the early hours of the morning, as did Dr Wooldridge for the former AMA team, but we have had the occasional quiet beer or breakfast with members of parliament and officers of ISR. This has not prevented our public comment on issues of importance to FASTS. FASTS is perceived, by one Cabinet Minister at least, as a 'good player'.

The first shock to the President of FASTS is to fully appreciate how limited the resources truly are. Following an increase in fees this year, individual members pay a maximum of \$5.00 per year plus 50 cents GST, tax deductible. While the individual subscriptions are modest, the total fee for any individual society can be substantial. I would urge societies to list the FASTS contribution as a separate item on personal subscription invoices. The subscriptions support an Executive Director and one part-time office manager. So we are dependent, in the most vulnerable way, on volunteer scientists in the area of policy development, on our sponsors, and on our membership societies, for sustainability.

When I looked at this situation, I decided that the immediate strategy had to be one of increasing the standing of FASTS. That is, our volunteers need to gain professional recognition for their contributions to the Federation and sponsors need to be assured that they are supporting a highly professional organisation deserving of their respect. Our members need to know that they are getting value for money and are proud to be associated with FASTS.

I cannot pretend that this is an easy or short-term task and it has been an ongoing one for my predecessors. Some of our most talented volunteers have not been given the recognition that they deserve in terms of their professional development, and this is of great concern to me. I want association with FASTS, whether as office bearers, as board members, or as member societies, to be keenly sought and also to be valued by those outside the organisation.

One indicator of progress in promoting the profile of FASTS is that sponsorship of FASTS' activities has increased significantly. Generous support of our events has been given willingly, and for that I thank our traditional and new supporters. Another indicator is increasing requests for private briefings to government officers on draft policy papers or to journalists on science-related media stories.

One other indicator, and the most important element for FASTS, is society membership. Essentially, over the past twelve months the membership status quo has been maintained, with two societies giving notice of withdrawal and CAPA joining. I'm truly delighted to have our young scientists join us and to have their fresh ideas put forward at Board meetings. We have made some progress in forging relationships with other organisations, such as the CRC Association, the Institution of Engineers, Australia; and the Australian Society for Medical Research. But we need to do more to recruit new corporate member societies.

Our achievements speak for themselves and I direct people to the list of Year 2000 activities undertaken by FASTS listed on our website. Other useful contributions, in terms of science policy and in promoting science, have been made through FASTS' ex officio membership of the Prime Minister's Science, Engineering and Innovation Council, PMSEIC. The non-Ministerial members have responsibility for developing agenda items for PMSEIC. I chaired the item Science and Technology in Fighting and Preventing Crime for the June 2000 meeting and am deputy chair of an item on Molecular Medicine for the November 2000 meeting of PMSEIC. In 1999, Peter Cullen co-chaired a PMSEIC working group on Salinity, and that work has continued to make important contributions to federal and state government policy on this issue.

The highlights for FASTS this year have been our two high-profile events, the Forum "Science & Technology in the Boardroom" and our second "Science meets Parliament Day". The success of these events is due to the stellar contributions of Toss Gascoigne and Robyn Easton. In addition, Toss is responsible for the strong media position of FASTS, working hard to maintain personal

contacts, submit press releases in a timely way and ensure the ready availability of commentators.

I would like to thank the members of the Board, of the Executive and of the Policy Committee for your terrific support during the year and to say that it is

a privilege to be your President. I hope the next twelve months, and the election budget, realise some returns for our efforts.

Sue Serjeantson AO PhD

Release of the final Science Review report

(relayed by FASTS)

I am delighted to publicly release today my final report *The Chance to Change* on ways to ensure Australian science, engineering and technology continue to help Australia grow.

In recognition of the importance of the science, engineering and technology (SET) base to Australia's future, in August 1999, the Minister for Industry, Science and Resources, Senator the Hon Nick Minchin, asked me to assess its capabilities to ensure it can meet the needs of Australians in the 21st century.

The consultation process for the Australian Science Capability Review has been extensive. I invited the community to make initial submissions in September 1999, released a discussion document in February 2000 in time for the National Innovation Summit and *The Chance to Change*-a discussion paper in August 2000.

In April this year, I visited a number of nations which are striking a new direction in the way they are anticipating change. During August and September I held public consultations in all capital cities around Australia, organised by State and Territory governments. The response I received on *The Chance to Change*-a discussion paper was overwhelmingly positive. These consultations were very useful in helping to refine the report. *The Chance to Change* also generated hundreds of submissions and letters of support, including an unprecedented letter of support from industry leaders and Academe, published in all national newspapers.

The insights I gained from my international consultations, submissions to the Review, consultations and considerable research have

generated an integrated set of proposals for government consideration.

In the Final Report, I propose a new direction for SET in Australia. The direction will ensure that Australians benefit economically, environmentally and socially from the enormous resource of the SET base. It will also ensure that the community is better able to track the progress of their investment.

My report recommends that significant new resources should go into Australia's SET base with the objective of driving much greater activity in the knowledge based economy. The emphasis of such new expenditure should be on supporting excellence under conditions of strict accountability to the community.

I believe that the case presented is too powerful to ignore. If we as a nation want to continue to contribute to the world's ever increasing stock of knowledge and continue to have a strong clear voice in international decision making we must act now to reserve our seat. A strong and healthy SET base is crucial for economic performance and a sustainable national innovation system in the future.

I am particularly grateful for the assistance provided by my distinguished Group of Strategic Advisers.

With community support, Australian science, engineering and technology will guarantee our future.

The *Chance to Change*-Final Report and further information about the Review can be found at: <http://www.isr.gov.au/science/review/index.html>

Invite a pollie today!

Inviting a politician to an experimental site or laboratory may be one effective way of breaking down the barriers that separate Parliamentarians and scientists in Australia.

FASTS has written to the 185 scientists and technologists who participated in November's successful "Science meets Parliament" Day, to suggest that they should invite a politician to inspect a working science experiment.

It would be a "gumboots and labcoat" day, rather than an event devoted to grey suits, sanitised laboratories and best behaviour.

Scientists participating in SmP Day were surprised at just how interested the Parliamentarians were when they sat down to discuss science, and how concerned they are at seeking new industry-generating ideas, or solutions to Australia's environmental problems.

Seeing a working experimental site will help build awareness among politicians of the possibilities and limitations of science.

While scientists are comfortable dealing with abstractions and theories, many Parliamentarians prefer to see and experience the actual work. This helps them see its relevance, and to talk about the work when they get back to deliberations in Parliament House.

When Gary Gray (former national secretary to the ALP, and now Executive Director of the WA Institute for Health) briefed the scientists before SmP Day, he urged them to tell the Parliamentarians stories, anecdotes that will stick in their mind.

Parliamentary business is getting more and more technical, with Parliaments having to make major decisions on matters ranging from the internet, to genetic engineering, cloning, salinity, nuclear energy and the greenhouse effect.

Not many MPs have a background in science and technology, and need to build an understanding on these complex issues from the ground up.

Parliamentarians need access to good scientific advice, which is why FASTS organised appointments with three-quarters of all federal Parliamentarians to meet a pair of scientists in Canberra.

FASTS believes that decisions Parliamentarians make today will affect the way Australians live and work in the future.

One of the aims of 'Science meets Parliament' Day is to introduce Parliamentarians and scientists, so both feel more comfortable in seeking and offering advice.

It was a basic exercise in communication, with the ultimate aim of building closer links between science, technology and Government. The long term consequence could be a greater national investment in the sector.

We've suggested to scientists inviting Parliamentarians that they should take photographs for newsletters, involve the media, and introduce the Parliamentarian to other on-site scientists who live and work in their electorates.

The visits could be quite informal, and perhaps involve the Parliamentarian having a question-and-answer session with scientists on site.

These things will add value to the event for the Parliamentarians, particularly as an election must be held in 2001.

We have also suggested that they should check what procedures and protocols are in place with their organisation, as far as inviting MPs is concerned.

Toss Gascoigne

FASTS has sent the following letter to Jonathan Shier, MD of the ABC:

4 December 2000
Mr Jonathan Shier
Managing Director
Australian Broadcasting Corporation

Dear Mr Shier

Coverage of science by the ABC

Australian scientists and technologists regard the ABC as one of the prime ways of keeping the Australian public informed of developments in science. The importance of this has been underlined in two major reports currently before Government - the Batterham Review and the Innovation Summit Implementation Group. Both make a major point of the need for a greater national awareness of the possibilities and limitations of science.

There is a growing view in political circles that science and technology hold the key to our prosperity, but first Australians need to change the way they think about science and its applications. Both reports urge an engagement of the public in science, technology and innovation; as a means to bringing about a cultural change in Australia.

Clearly the ABC has a major role to play if this national objective is to be achieved, as an authoritative nation-wide source of information and as a critical investigator on scientific matters. An important part of this equation is that scientists trust the ABC to report their research accurately and will therefore cooperate with the ABC, whereas they are less likely to participate in any program that relies on sensationalism.

For 16 years Quantum has made a valuable contribution to informing Australians of new scientific achievements. We regret the decision of the ABC to bring this successful program to an end, while recognising there may be advantages in looking at new ways of producing a high-quality program to bring the best of Australian (and international) science to a national audience.

We seek your assurance that ABC will continue to produce high quality science programs for television. What plans do you have for a replacement program?

Our view is that while there is room for commissioning some work from outside production units, the ABC needs to retain a solid core of scientific expertise. This expertise should have responsibility for in-house production and for commissioning the best of the external production houses to do particular segments or programs.

The retention of scientific expertise within the ABC is vital. To be producers or commissioning agents for good science programs, the ABC needs to be an active player in the field. This will provide continuity, balance, impartiality, corporate memory and resistance to commercial pressures.

FASTS is a national body representing 60,000 working scientists and technologists in all disciplines. We work actively with the ABC in news, current affairs and programs in helping them make contact with appropriate experts in different scientific fields; and would seek to continue this relationship with those involved in the successor to Quantum.

Yours sincerely
Sue Serjeantson

A.S.B.S. PUBLICATIONS

History of Systematic Botany in Australia

Edited by P.S. Short. A4, case bound, 326pp. A.S.B.S., 1990. \$10; plus \$10 p. & p.

For all those people interested in the 1988 A.S.B.S. symposium in Melbourne, here are the proceedings. It is a very nicely presented volume, containing 36 papers on: the botanical exploration of our region; the role of horticulturists, collectors and artists in the early documentation of the flora; the renowned (Mueller, Cunningham), and those whose contribution is sometimes overlooked (Buchanan, Wilhelmi).

Systematic Status of Large Flowering Plant Genera

A.S.B.S. Newsletter Number 53, edited by Helen Hewson. 1987. \$5 + \$1.10 postage.

This Newsletter issue includes the reports from the February 1986 Boden Conference on the "Systematic Status of Large Flowering Plant Genera". The reports cover: the genus concept; the role of cladistics in generic delimitation; geographic range and the genus concepts; the value of chemical characters, pollination syndromes, and breeding systems as generic determinants; and generic concepts in the Asteraceae, Chenopodiaceae, Epacridaceae, *Cassia*, *Acacia*, and *Eucalyptus*.

Ecology of the Southern Conifers

Edited by Neal Enright and Robert Hill.

ASBS members: \$60 plus \$12 p&p non-members \$79.95.

Proceedings of a symposium at the ASBS conference in Hobart in 1993. Twenty-eight scholars from across the hemisphere examine the history and ecology of the southern conifers, and emphasise their importance in understanding the evolution and ecological dynamics of southern vegetation.

Australian Systematic Botany Society Newsletter

Back issues of the Newsletter are available from Number 27 (May 1981) onwards, excluding Numbers 29 and 31. Here is the chance to complete your set. Cover prices are \$3.50 (Numbers 27-59, excluding Number 53) and \$5.00 (Number 53, and 60 onwards). Postage \$1.10 per issue.

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Evolution of the Flora and Fauna of Arid Australia

Edited by W.R. Barker & P.J.M. Greenslade. A.S.B.S. & A.N.Z.A.A.S., 1982. \$20 + \$5 postage.

This collection of more than 40 papers will interest all people concerned with Australia's dry inland, or the evolutionary history of its flora and fauna. It is of value to those studying both arid lands and evolution in general. Six sections cover: ecological and historical background; ecological and reproductive adaptations in plants; vertebrate animals; invertebrate animals; individual plant groups; and concluding remarks.

Special arrangement: To obtain this discounted price, post a photocopy of this page with remittance to: Peacock Publications, 38 Sydenham Road, Norwood, SA 5069, Australia.

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This list will be kept up to date, and will be published in each issue. Please inform us of any changes.

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

The Society

The Australian Systematic Botany Society is an incorporated association of over 300 people with professional or amateur interest in botany. The aim of the Society is to promote the study of plant systematics.

Membership

Membership is open to all those interested in plant systematics. Membership entitles the member to attend general meetings and chapter meetings, and to receive the *Newsletter*. Any person may apply for membership by filling in a "Membership Application" form and forwarding it, with the appropriate subscription, to the treasurer. Subscriptions become due on January 1 each year.

The Newsletter

The *Newsletter* appears quarterly, keeps members informed of Society events and news, and provides a vehicle for debate and discussion. In addition, original articles, notes and letters (not exceeding ten published pages in length) will be considered.

Contributions should be sent to the editor at the address given below. They should preferably be submitted as: - an unformatted word-processor file on an MS-DOS or Macintosh diskette (Microsoft Word 6 or an earlier version is preferred), accompanied by a printed copy; as an email message or attachment, accompanied by a fax message reporting the sending of the file; or as two typed copies.

The deadline for contributions is the last day of February, May, August and November.

All items incorporated in the *Newsletter* will be duly acknowledged. Authors alone are responsible for the views expressed, and statements made by the authors do not necessarily represent the views of the Australian Systematic Botany Society Inc. *Newsletter* items should not be reproduced without the permission of the author of the material.

Notes

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