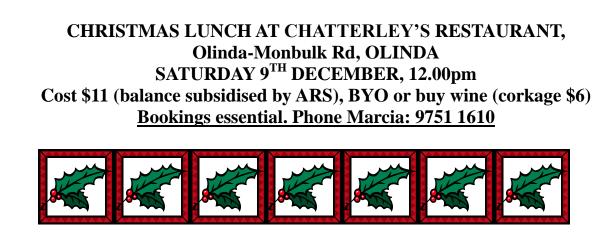
THE RHODODENDRON NEWSLETTER

NOVEMBER 2006

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FUTURE FUNCTIONS



FESTIVE GREETINGS

TO ALL MEMBERS AND THEIR FAMILIES



AUSTRALIA DAY BBQ SUNDAY 28th JANUARY 2007, 5.00pm National Rhododendron Gardens BYO everything.

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PRESIDENT'S REPORT 2006

One of my friends, who read the recent article on names of rhododendron, recounted the story of **Eleanor Roosevelt**, who was reported to be initially delighted to have a rose named after her. That is, until she read the descriptor in the plant catalogue: "not particularly good in a bed, but does quite well when backed against a wall." I can't say that I know the plant!

George Argent continues to send us some interesting Vireya seed. From a recent trip to Kinabalu, he has forwarded seed of *rugosum*, *acuminatum*, *ericoides*, *durionifolium*, and *edanoi ssp pneumonanthum*. He has also sent seed of *rosendahlii*, and *gardenia* is reported to be on the way. This latter seed of *gardenia* should generate some interest. It is not to be confused with 'Gardenia Odyssey'. A great deal has been written about the difference in previous Journals, so it will be very useful to be able to make a comparison.

I understand that Foothills Nursery has closed, and the stock is now held by BT Ferns in Monbulk. We are sorry that Julie has made this decision, because she grew a very good quality plant.

The **<u>2006 Rhododendron Show</u>** has just been completed. Special thanks to all members for their contributions to the display. We were fairly pessimistic, because we estimated that blooms were at least two to three weeks ahead in their flowering because of the drought. Some readers may not be aware that some government bureaucrats are now describing the current drought as an event, which occurs once in a thousand years. Suffice to say that water will become a scarce resource, perhaps even crucial this summer fire season.

Ron Moodycliffe kindly made a range of Hostas available at bargain basement prices, and Cliff Renshaw donated a special grafted maple to raffle. John Quinn was the fortunate winner of this specimen.

Karl offered several grafted Vireya on a stick for sale, and his stock plants were up to his usual high standard. The list of prizewinners appears elsewhere in this newsletter, but special congratulations to Len Sloggett for his trio of azalea, one of which won the Award of Merit. I doubt that we will ever see better. John Quinn's garden is starting to produce an ever-increasing range of stunning blooms, many of them new to our members, and this will stimulate others to follow him.

Since this is the last Newsletter for the year, there are some members who should be acknowledged for the time and commitment they have freely given to the Society:

- <u>Marcia (Honorary Secretary)</u>. This is probably one of the most time consuming roles in the Society. Marcia has managed very ably, and with little fuss. Her greatest problem is to keep the Chairman on track!
- <u>Simon (Newsletter)</u>. Many members have quite rightly expressed their satisfaction with the Newsletter. The colour photography initiative has proven to be a very positive addition.
- <u>Neil (Treasurer)</u>. This is an unrelenting task, and certainly the role with the most public accountability. Neil has done it so well and for so long that we should remind ourselves of our good fortune to have a person of his capability available.
- <u>Bill Taylor</u>. Bill is the "cement" that binds the Society together in so many ways. He is the person to whom we all turn for guidance on all facets of ARS operations, and he is a person who leads by example. He has assumed too many roles to fully enumerate here.
- <u>Alan Walker</u>. Alan is somewhat of a "workaholic" in the National Gardens, and also for the ARS. Alan is perhaps our most reliable member.

Whilst I have highlighted the efforts of the people above, I hasten to add that there are many other members who have also made significant contributions to the effective operation of our Society.

Here is a sample of achievements:

- The *photographic component* of the General Meeting is already showing promise.
- The use of *micro photography* should offer avenues for educating ourselves, as well as entertaining us!
- The rationalization of the *Asiatic* collection should allow us to focus our efforts on growing the plants collected in NZ. Those that have bloomed this year are all quite stunning plants, and would enhance any collection.
- Similarly, the **Vireya** collection is becoming considerably more diverse, with new species being cultivated, and many new first generation hybrids will soon bloom. Vireya are almost 'Work in Progress', and have exciting possibilities.
- Improved *record keeping*, and the use of *GPS* within the NRG means that we now have more information on the nature, composition, and location of that collection.
- The **volunteer group** at the NRG continues to provide an opportunity to network with other members, and allows members access to propagation facilities and expertise.

I am certain too, that you would like me to express our appreciation to all members who have assisted the Society over the past 12 months. Often these tasks were unobtrusive, but they are all tasks that benefit everyone, and even if we occasionally forget to acknowledge them immediately, I assure you that your assistance is appreciated.

In some respects, these levels of involvement are indicators of a healthy Society.

Jane Edmundson recently expressed the opinion that many Plant Societies are facing an identity crisis, and many certainly have an aging membership structure like ours. This simply serves to remind us all that just as we nurture our plants, we all need to cultivate aspects of our Society. Everyone has something to offer the broader group, and since we have a diverse and interesting cross-section of backgrounds in our membership, your unique contribution may just make the difference. The greatest gift you can give is to share your company with others who have similar interests! What can you offer?

On behalf of your Committee, I wish everyone a safe and happy Festive Season. May it be all you could ask for.

M. McAlister 2006

THE SPECIES COLUMN.

ovatum, -Subgenus Azaleastrum, Section Azaleastrum.

Rhododendron *ovatum* is rare overseas and dislikes cold wet conditions. Fortunately it grows quite easily in Melbourne and is one of my favourites, producing masses of mauve and white flowers in early October. It is generally heat-tolerant, lace-bug resistant, and seems to be resistant to peta1-blight.

Name:

The name refers to the small oval leaves.

Distribution:

Widespread in Central and South-East China, growing on open slopes and forests at around 2000 metres.

Characteristics:

This is a rather bushy plant growing 1 to 4 metres high. The leaves are ovate to ovate- elliptic, and usually 1 to 2 cm. long. The undersides are smooth, elepidote (without scales) and have microscopic hairs on the petiole and midrib. This species is easily distinguished from the others in the Sub-series, namely *hongkongense*, *leptothrium*, and *vialii*, These are all rare and interesting species which we have growing on in the shade-house.

The flowers are flat saucer-shaped, 2 to 5 cm. across, and vary in colour from white to pink or pale purple, with small purple spots in the throat.

The plants in the N.R.G. were grown from seed collected by Peter Valder in China, whom I met at the 2000 Rhododendron Conference. He told me the story of how a taxi-driver took him to a hillside covered in *ovatum* plants where he duly collected a pocket-full of seeds. (Plant-hunting the easy way)

This species strikes easily from cuttings but the small plants require care for the first year or they can die unexpectedly.

Hybrids:

None recorded. This is a distinctive subseries and would probably be incompatible with most elepidotes.

Where to See These Plants

There are several mature plants in the Maddenia Walk. These are drawn up by too much shade and obviously need a more sunny position.

Alan Kepert.

VIREYA SPECIES COLUMN

<u>R laetum</u>

Section Euvireya Subsection Euvireya [According to the classification proposed by Dr. George Argent *Rhododendrons of Subgenus Vireya* RHS 2006, 19-24]; a shrub to 3m, terrestrial.

Name

Derives from the Latin *laetus* cheerful or bright, an illusion to the bright flowers

<u>Origin</u>

Indonesia, West New Guinea; the Anggi Lakes area in Arfak Mountains from 1800-2300m.

Description

[taken from Argent 300-301] Leaves 4-6 together in tight pseudowhorls. Blade 40-95 x 25-53 mm broadly elliptic or semi ovate elliptic apex usually very shortly acuminate or sub-cuspidate [for diagrams see Argent 360-361, but short points] margin entire [smooth all the way round], flat base usually rounded, dark green and glossy above paler underneath. Petiole 2-7 x 2-3 mm grooved above, laxly scaly. Flowers; an open to full umbel of from 5-12 horizontal to semi-erect flowers. The corolla, 50-70 mm x 50-60 mm, broadly funnel shaped [Argent 364] opens a pure deep yellow, becoming suffused with red or orange with age. The tube [the bit of corolla before the mouth to which the lobes are attached- Argent 363] 28-35 x 8-12 x 15-20 mm, straight, distinctly 5 angular; lobes broadly obovate [Argent 356, 360] 20-30 x 15-22 mm. The pedicel [the individual flower stalk] 25-55 x 1 mm.

In the ground

Introduced into cultivation from material distributed by Professor Sleumer in 1967 *R laetum* is easily grown and heat tolerant. In Olinda, at NRG, there are a number of plants. Many ARSV members grow it also. I find it is somewhat susceptible to rust at 'Beechmont'' in Olinda but not so as to be a real problem. It is clearly a must for any serious vireya grower. It is not very quick growing. My original 10 year old plant is now just over 1m. A new acquisition is taller.

Hybrids

R laetum is frequently used in hybridizing. There are many unnamed hybrids. I think many hybrids are mis-described as the species. Its registered hybrids include

'Coral Flare' [*viriosum x laetum*]

'Shantung Pink' [(konori var. .phaopeplum x viriosum) x leucogigas x laetum]

'Shantung Rose' [(konori var. phaopeplum x viriosum) x leucogigas x laetum]

'Sunset Fantasy' [*laetum x zoelleri* 'Golden Gate' x *zoelleri x leucogigas*]

'Simbu Sunset' [*laetum x zoelleri*]

SWB

LIFE MEMBERSHIP AND ARS MEDAL FOR BRIAN CLANCY

We are absolutely delighted that Brian Clancy has finally consented to accept the honor of Life Membership of the Australian Rhododendron Society, for there could not be a more worthy recipient.

Not only is Brian one of the original foundation members of the ARS (Vic), but also over the course of his membership, he has made a profound contribution to the cultivation of Vireya.

He is one of a small number of members to achieve the status of international recognition as a significant grower, hybridiser, and distributor of Vireya worldwide.

It could reasonably be said that the cultivation of Vireya largely languished until in the 1960's, after a series of communications with Dr. Herman Sleumer, Rev. Canon Crutwell, Michael Black, Lou Searle, and other botanists, Brian received viable seed, which he was able to germinate. As this was multiplied, he began to send seed to some of the major botanic gardens of the world, such as in England, Germany, Japan, and America, as well as providing material to Australian members, and to overseas Rhododendron Society members.

Perhaps, too, this stimulated further interest amongst growers, and encouraged further expeditions to search for additional plant material.

Brian's real passion, though, was in the field of hybridizing. It is here that we can see the outstanding progeny which he has developed for us to all enjoy. Many have commented on the range and selection of species that he has drawn on to achieve such outstanding results. The grandeur and magnificence of Vireyas is truly evident in the superbly scented *Our Snowy River*, with large white flowers; or the dwarf bushes of *Happy Times*, which is smothered with masses of tangerine florescence. Some of his other noted hybrids are *Arthur's Choice*, *Our Waltzing Matilda*, *Veronica Maureen*, and *Young Blood*. Several of his hybrids of *Gardenia Odyssey x R. javanicum* will clearly be magnificent additions to this collection.

Brian's reputation in the Vireya world has been further enhanced by his extensive contributions to The Rhododendron Journal of Australia. A significant number of these have been reprinted by request – in London, America and on the Internet, so that a new generation of enthusiasts can benefit. Brian has been one of the most prolific authors of articles on every aspect of cultivation of these elegant flowers. Not content with that, Brian has complemented these writings with professional colour photographs, many of which have featured on the front covers of journals here and overseas.

At every Show bench over the years, Brian's hybrids could be seen to be the focal point of interest. Many of his hybrids have taken an **Award of Merit**, and deservedly so.

For many years, Brian was often competing against himself, but in the process, we were all the beneficiaries.

What a magnificent gift Brian has given to Rhododendron growers throughout the world. Brian's reward is to see the result of all of his efforts. It is a simple pleasure, but we have the opportunity to acknowledge an outstanding contribution to the cultivation of Vireya.

This citation was prepared by President Murray McAlister for the Committee. The Committee resolved that its delegates to National Council propose that Life Membership be conferred on Brian Clancy on the basis of the citation. This proposal was adopted by National Council which, in addition, resolved to award Brian its highest honour, the ARS Medal. The presentation was made at the Annual General Meeting of the ARS, held at Emu Valley on Saturday 21st October 2006, to Brian's daughter, Geraldine Roelink.

LIFE MEMBERSHIP AND ARS MEDAL FOR WILLIAM RICHARD VOIGT

William Richard [Bill] Voigt, was born and raised in Rainbow, Western Vic., where he received his early education. He subsequently graduated from Ballarat College and Ballarat Teacher's College to become a significant educator, teaching in Victoria and for five years in New Guinea {on Rooke Island}. Then followed a distinguished career teaching in the South Australian Education Department for some 30 years.

He grew his first rhododendron [Volcano] at Rainbow in 1956 and his abiding passion for plants and gardening has been ever ongoing. He developed gardens at each school at which he served and encouraged the development of horticultural skills and awareness to his students. Many of his school gardens received prizes.

Now in his seventies and formally retired, he is able to pursue with unabated vigour this deep horticultural commitment. Living in the Mt. Lofty area of South Australia, his garden contains the meticulous selection of the discerning plantsman. His deep and very long standing interest in the genus rhododendron has long flourished and in South Australia his contributions to its appreciation has been signal.

For some decades he has been a very quiet and unassuming, but formidable member of the S.A.Branch of the A.R.S. serving as it's President for a number of terms. His gardening knowledge is encyclopedic, and he is called upon by the professional nursery trade and within the Society for plant identification. His very quiet and self effacing personality sees this advice offered in the most understated and helpful manner. New members are encouraged with an easy and welcoming grace.

In the annals of the Branch there are many Bill Voigt "handouts" on the genus. These compilations of just a few pages are the most detailed, elegantly simple introductions to varieties, growing techniques, pest and diseases etc. They are completely satisfactory to the knowledgeable and superbly informative, to the new grower- the hand of the good educator is all too clear. Much of the substantial awareness in the Branch is due to his quiet instruction.

The S.A. Branch has always pursued the aims of the Society in widening the community interest in the genus. In this activity Bill has played an enthusiastic and supporting role. Vireyas were introduced to the Zoological Garden, rhododendrons added to the large Woodhouse development. Within the Mt. Lofty Botanical Gardens, the detailed husbanding of the large Freeway and Whibley rhododendron collections has seen his massive effort and support in identification and propagation. The rhododendron curatorial staff call upon his detailed knowledge frequently in identifying material- it is so freely given. A number of the old Adelaide Hills gardens are being reworked and Bill has made a substantial contribution in the sure identification of many older rhododendron species and hybrids. Several historic collections have been restored under his guidance.

Within the Branch he has always been one of the most willing helpers in any activity in which the Society is involved- always cheerful, helpful and with large effort delivered with characteristic understatement- this latter personal characteristic frequently masks his signal contributions.

With so much contributed and still being contributed on such a wide front, this Branch believes William Richard Voigt surely merits the award of Life Membership and recommends it in the strongest possible terms.

The foregoing Citation was prepared and endorsed by the South Australian Branch and duly proposed by the South Australian delegates. National Council adopted this proposal and, in addition, awarded Bill its highest award, the ARS Medal. The presentation will made by the South Australian Branch.

LIFE MEMBERSHIP AND ARS MEDALFOR BARRY DAVIDSON

Barry has been an enthusiastic member of the Australian Rhododendron Society for 25 years, being involved in both the Southern Tasmanian Branch and National council.

In our Southern Tasmanian Branch he has been an invaluable member of the committee and has also held the positions of President and Secretary several times. He has been President of the National Council twice, also Vice-President and a delegate quite a number of times.

In 1994-1995 Barry was editor for *The Rhododendron*. His contributions to the Journal have been well received including several articles and a book review of *Gardening with Rhododendrons* by Murray Richards in Vol. 34 Spring 1994.

He has given his full support to the Branch over the years with setting up, showing and dismantling our annual show. His input to our local monthly meetings can always be relied upon with various talks on species and hybrids plus information on any aspect of botany relevant to growing rhododendrons. He can always be relied upon to bring flowers to the meetings for the benefit of other members.

Without Barry's help and enthusiasm for the genius rhododendron our Branch would not be the success it is today. His official positions have been:

1986-1988: Branch Secretary.

1989- 1990: Branch President and National Council Vice- President 1993: National Council President and Branch Secretary 1994-1995 Editor of the Journal 1997: Branch Secretary and National Council Delegate 2002: Branch President and National Council Delegate 2003: Branch President 2003-2004: National Council Vic-President 2005: National Council President 2006: Branch Secretary

All members of the Southern Tasmanian Branch Committee enthusiastically endorsed the above citation. The Branch delegates proposed it to National Council which awarded Barry Life Membership and, in addition, its highest honour the ARS Medal. The presentation was made at the ARS AGM at Emu Valley on Saturday 21 October 2006.

LACE BUG UPDATE

The Integrated Pest Management plan to control Lace Bug using Lace Wing as a biological control is in the monitoring stage here at the Rhododendron gardens. In the last couple of weeks Lace Bug eggs have hatched in the warm weather, but the cold nights last weekend, which nearly resulted in a frost on the mountain, has caused the nymphs from this hatching to die off. We are fortunate that we have these cold nights on the mountain as this really helps us in controlling the early hatching.

We are expecting our first shipment of 2000 Lace Wing to arrive in mid November with a further 2000 in early December and 2000 again in mid December. They will be released in a few of the hotspots for Lace Bug around the gardens such as the Australian Hybrid collection.

We are also planting nectar plants to feed the adult Lace Wing around the border of the Australian Hybrid bed, hopefully this will frame the bed and soften the road edges but mostly help keep the Lace Wing breeding in the area.

Rabbits have bred prolifically this year so we are also hoping to reduce the rabbit population as well soon as they are eating any new planting and causing considerable damage around the gardens. We are hoping to use a combination of Dogs and Ferrets over a couple of days to reduce the numbers.

Glenn Maskell, Team Leader, Parks Victoria

BENCH DISPLAYS

September 2006

If this report seems similar to previous reports you are right, we have the same members showing and they are displaying the same quality blooms.

The Vireya section again had entries in all classes. Winning entries came from Simon Begg, Andrew Rouse, Michael Hare and Alan Walker. Winning blooms were *tuba* and *laetum* (Simon), *rubineiflorum* x *paliflorum* (Andrew) and 'Mrs. Elizabeth Miller from Michael. Other placed entries came from Bill Taylor with 'Gardenia Odyssey' and *saxifragoides* and Murray Mc Alister with 'Happy Times'.

Azalea section entries were in the evergreen and pot plant classes only but there were a large number of good quality exhibits. Len Sloggett's 'Rose of Heaven' won from Alan's 'Hino de Giri' and 'Ken's White'. Alan's plant of 'Kirin' was chosen over Bill's 'Kirin' and 'Christmas Cheer'.

The Asiatic rhododendron section display was very good and each class had entries. John Quinn won exhibit of the night with 'Joan Thompson', an excellent truss. John also won and took places with 'President Roosevelt' x *macabeanum*, arboreum 'Rubyat', *calophytum* and 'Grace Seabrook'. Simon placed with *triflorum*, 'Grande', *gillii* and *ciliicalyx*. Murray won the plant section with a 'Grande' hybrid. Bill won the 'Maddenia' section with a pink 'Maddenia' before Simon's *cilliicalyx* and Elizabeth Xipell's 'Anne Teese'. Mike Hammer took the small species with *genestieranum* and keeping it in the family Inga won the non-rhododendron section with a very good pot of *Fritillaria meleagris*.

October 2006

There was an excellent spread of entries over all classes; this gave us a very full bench. The points for Vireya's were shared evenly by Murray McAlister, Bill Taylor, Andrew Rouse and Elizabeth Xipell. Bill placed first with Red Tubular and a Christii hybrid (plant). Elizabeth won with *jasminiflorum* and placed with *zoelleri* x *christi* and 'Mrs. Elizabeth Miller'. Andrew gained points with interesting blooms of *malayanum*, *pauciflorum*, *polyanthemum* x 'Dr. Sleumer' x *herzogii* and *macgregoriae* x *stenophylum*. Murray took the points with *lochiae* (Mt Hodgens form) in the larger species class.

Andrew displayed a very uncommon species *saxifolium* in the azalea section-very interesting exhibit. Other exhibitors-Alan Walker, Elizabeth Murray and Len Sloggett gaining points with the following Gretel (Alan) *occidentale* (Elizabeth), *luteum* (Murray) and 'Autumn Coral' (Len).

The Asiatic Rhodo's had the exhibit of the night with a truss of 'Naselle' presented by John Quinn with 'Majestic Maiden' so close- excellent blooms.

There is no doubt that Asiatics in bloom are breathtaking. Other notable presentations came from Andrew-*concinnum* and *championiae*, 'Saffron Queen' (Alan) and 'Pink Trumpet' and 'Jean Marie de Montague' (Murray). Jack Morris' hanging basket of '*trichostomum x ledoides*' won its class. I am not sure whether it was the plant that won or its name.

The non rhodo section was taken out by Inga Hammer with an excellent bowl display of Peony Roses-very striking.

Len Sloggett

2006 PACIFIC REGION INTERNATIONAL RHODODENDRON CONFERENCE EMU VALLEY, BURNIE, TASMANIA 20-23 OCTOBER 2006

Simon and Marcia Begg, Neil and Julie-Ann Webster and Geraldine Roelink represented the Victorian Branch of The Australian Rhododendron Society in Burnie. Over 100 delegates from USA, UK, New Zealand, Canada, Brazil and Germany as well as delegates from Emu Valley and the South Australian and Southern Tasmanian Branches enjoyed the conference, including an impressive range of speakers, magnificent gardens and hospitality. The Mayor of the City of Burnie hosted a reception to commence the Convention.

Congratulations and thanks are due to President Graham Simpson, Sue Simpson, Curator Maurie Kupsch and the Emu Valley Members.

2006 ARS NATIONAL COUNCIL MEETING AND ANNUAL GENERAL MEETING

The National Council Meeting and AGM were held on Friday afternoon, and Saturday evening 20 and 21 October, respectively.

The National office bearers were re-elected for a further year.

President: Kaye Hagen, Southern Tasmania

Vice President: Neil Webster, Victoria

Secretary: Daphne Chandler, South Australia

Treasurer: Peter Wiadrowski, South Australia

Registrar: Ken Gollanders, Southern Tasmania

Chairman of Editorial Committee: Barry Stagoll, Victoria

The next National Council Meeting, AGM and ARS convention will be held in Hobart on the last weekend in October 2007.

National Council noted trials of Azalea lace bug at both Mt. Lofty Botanic Gardens and National Rhododendron Gardens, Olinda. It agreed to explore overseas tours for Australian Rhododendron Society members. These could be in conjunction with, or separate from, tours currently organized for US and UK Rhododendron Society members. Possibly New Zealand Society members will be interested. Potentially tours could be to view rhododendrons in the wild in, say, Yunnan or Mt. Kinabalu or to attend international conferences such as Edinburgh in 2008 and famous gardens.

CONFERENCE PAPERS

Graham Smith, Director, Pukeiti Rhododendron Garden, Taranaki, New Zealand.

Graham was appointed Curator at Pukeiti in 1969. He became Director in 1995. In his long reign Graham has become a rhododendron expert, particularly big leaf and vireya varieties. He has seen much of the development at Pukeiti. It is a large area with all varieties of the genus rhododendron growing together with native New Zealand rainforest flora. One of the great world rhododendron gardens. Graham illustrated his talk with pictures of the garden.

Guan Kiayun, Director of Kunming Botanical Gardens, Yunnan Province, China.

Guan, too, has held his position for a long time and is expert on the many species of rhododendron found in China. He is well known to the many rhododendron enthusiasts who travel to Yunnan to see rhododendron species *in situ*. Guan detailed the numbers of species rhododendron in the various Chinese Provinces, including the numbers found only in each Province. Yunnan was the most prolific in terms of total species though equal with 2 others in terms of numbers of endemic species. He illustrated his talk with many wonderful pictures. No doubt in the years to come there will be many more rhododendron pilgrims to Yunnan.

Mike Peterson, Senior Forester with Forestry Tasmania researching Dendrocronology [the chronology of trees] and Ecological processes. Mike has been a forester for a long time but not as long as his subjects in the forests of Tasmania! Mike showed delegates his equipment for measuring tree rings and gave them an insight into how growth ring patterns can be matched in living and dead trees from the same vicinity thus enabling an accurate climate history to be deduced. In 'good', wet, warm years the rings are wider because growing conditions are good. Conversely when the conditions are not good. Mike explained that work on Huon Pine [which strongly resists water deterioration] still had two 'gaps' in a period extending back 17,000 years, requiring discovery of further old tree debris to fill. He was hopeful these gaps would be filled. That would mean a precise history of conditions for the whole period. From this the effect of Western civilisation and global warming can be measured, along with historical cycles, and predictions made. Mike gave the ages of living Tasmanian trees extending back over 2000 years. He had wonderful photos to illustrate his talk.

Geraldine Roelink, proprietor of Vireya Valley Nursery and daughter of noted vireya expert and hybridiser Brian Clancy. Geraldine gave an excellent presentation about the history of the discovery of some species and the development of Brian's hybrids illustrated with photos. Her thesis was 'Grow the Best' i.e. 'Start with the best to get the best'. In the past year Geraldine has registered 6 vireya hybrids propagated by her father [full details are published in (2006) 46 *The Rhododendron* 59-66]. They are:

'Bright Morning Star' from 'Arthur's Choice''Life's Good', 'Teddy's Best' x rarilepidotum'Merriment', lochiae x gracilentum x 'Happy Times'

'Our Joshua', Dr.H Sleumer x superbum

'Our Snowy River', 'Arthur's Choice' x superbum

'Red Carousal', 'Arthur's Choice' x yongii

'Arthur's Choice' was Brian's first named cultivar, it is a second generation hybrid. Brian used to discard pastels until Geraldine suggested that some people like them!

Geraldine gave some well proven methods to promote even growth – foliar feed every 2 weeks in spring, summer and autumn. Spray it on 1 hour before dawn or just after dusk to see immediate results. Foliar food with trace elements (e.g. Aquasol) makes all the minerals available to the plant. Vireyas need at least 4 hours of sun to flower well.

Geraldine's enthusiasm and knowledge was inspiring to the audience.

Ken Gillanders, President Southern Tasmanian Branch of the Australian rhododendron Society, with his wife Lesley past proprietor of Woodland Nursery, Longley, plant expert extraordinary. Ken's topic was 'Tasmania's Gondwana Heritage'. Ken and Lesley have traveled the world studying photographing and collecting plants, particularly those of Gondwana now found in Australia, New Zealand, South America, Pacific Islands, South Africa and India. Ken illustrated his talk with many fascinating photos. He showed, for example, that different species from the same group of *Nothofagus* can be found in Chile, New Zealand and Tasmania, though separated in time by millions of years and in distance by thousands of kilometers. Yet these different species will hybridise! He pondered on the name '*Nothofagus*' for the Southern Hemisphere Beeches – 'notho' means false whereas 'noto' means southern. Did the botanists make a mistake or perhaps a printers error?

Dr. Ben Wallace, past director of both Royal Botanic Gardens, Sydney, and Australian National Botanic Gardens, Canberra. Ben now conducts botanically based tours and has conducted expeditions to Yunnan, China, Mt. Kinabulu, Indonesia and Mt Wilhelm, PNG. Ben's topic was 'A Tale of Two Mountains- Vireyas of Mount Wilhelm and Kinabulu'. Pictorially Ben took delegates down each mountain showing distinct, though similar, species at similar altitudes. He showed pictures of two glacial lakes at the top of Mt. Wilhelm and vireyas growing around the edges. *R. womersleyi, R. gaultherifolium, R. atropurpureum* and *R. commonae* were some that were growing in frosty areas. It is now far easier to see why species from high altitudes on tropical mountains can thrive in temperate conditions in Olinda, Emu Valley and Hobart.

Holger Hachmann, grandson of the founder of the legendary Hachmann Nursery North of Hamburg, Germany. Holger succeeded to the task of running the nursery on the death of his father in 1982. There were, in 1992, 600 nurseries nearby! He has been hybridizing since 1989. He showed photos of some of his magnificent hybrids. In German conditions late flowering and frost tolerance are, respectively, desirable and essential attributes. His topic was 'Colourful and Hardy Novelties for the Rough Climate Zones of North Europe'. Holger said he tries to achieve good foliage as well as good colour. R *yakushiminicum* is one of his favorite parents. With recent quarantine restrictions delegates could note the crosses, to try to reproduce them, but can not expect to import any. Holger has plant rights in respect of many of his hybrids. His scale of operation would be the envy of Australian nurserymen.

GARDENS

Emu Valley Rhododendron Garden

Maurie Kupsch, Curator Emu Valley Rhododendron Garden, led delegates on a tour around the Garden prior to a BBQ lunch in the main Gazebo. The Garden will be celebrating the 25th anniversary of the planting of R 'Golden Dream' on 8th November 2006. It was established 7 km from Burnie on 13 ha of steep land leased for pepper-corn rent from Hilary O'Rourke which the Emu Valley Society later acquired. Development is ongoing with clearing and planting around the perimeter.

However delegates could not help but be impressed by the accomplishments of the past 25 years. Over 23,000 plants are already planted deriving from every geographic area where the genus rhododendron grows. Apart from species ranging from alpines and big leaf to *maddenia* and vireyas there are many hybrids and trees and shrubs of other species. The plantings are arranged by geographic area of origin around a series of lakes. The Society has been successful in securing support of the local community as well as grants from Government to assist with construction of its building. The City of Burnie has adopted one of Hilary O'Rourke's hybrids, R 'Matador' x 'Noyo Chief' which has been named 'City of Burnie', as its floral emblem. The Convention was held at the peak flowering time, so the Garden was magnificent.

Hilary O'Rourke's Garden

Hilary is one of the original members of the Emu Valley Branch and a keen hybridiser. It is thanks to his generosity that the Emu Valley Garden started.

His front paddock is laid out like a vegetable garden with row upon row of plants he has grown from seed waiting to be selected for naming or thrown away! The keenest visitors followed him along the rows like the 'Pied Piper' as he explained his crosses. Each plant was labeled but to boost his memory he carried a thick tome under his arm which he referred to very occasionally.

The garden behind the house was where the successes and other treasures were planted out. Many of these are mature specimens about 25 years old.

'Pigeon Hill' Fairie Nielson's Garden

Fairie is the Patron of the Emu Valley Garden and as well as establishing an amazing garden she runs a 400 acre farm single-handed. Over 40 years she has planted hundreds of rhododendrons, native and exotic trees, bluebells and other treasures. Most of the planting is along both sides of a steep gully. At times she has lowered herself by a rope to plant a new specimen! The effect has the advantage of being able to look across the gully and into the tops of the trees.

Brenda and Ian Kibble's Garden

Situated behind Hilary O'Rourke's block the Kibble's keep Highland cattle, goats and guinea fowl and a beautifully landscaped, immaculate one acre garden. They are particularly interested in deciduous azaleas which were in full bloom for our visit. Many maples and other exotics were well placed in large garden beds. The beds were edged with mass plantings of *nepeta* or purple *heuchera* which gave a formal edge to the colourful displays of mixed plantings.

Formosum Lodge

Formally the home of Dr. Noel Sullivan one of the founding members of Emu Valley and present home of society member Don Carter. It contains some rare plants of interest as well as an excellent collection of conifers and maples growing on extremely poor soil.

Lockington

Don Dosser moved from Warburton in Victoria, where he had a nursery, about 13 years ago. He dug up and potted his most precious plants and filled 2 semi-trailers for the trip to Tasmania. He chose a steep bush block with a creek and waterfall but covered with all known weeds and trees. He set about clearing 3 acres to plant his collection and build a house. The result is a breathtaking display of over 300 maples, 300 rhododendrons (many his own Lockington crosses), azaleas and other exotics, not to mention 2 model towns on the slopes above the creek.

Kaydale Lodge

The whole family is involved with this garden which is constantly being extended to accommodate everyone's needs. The garden has a lovely waterfall beside a remodeled tennis court which now grows tree ferns and rockery plants at one end and a Japanese garden at the other. The house, which has been built from local timbers by the owner, has bed and breakfast suites and a tea room. Beyond the house there are acres of herbaceous peonies, daffodils, fritillaries and other bulbs which the family sells to retailers.

Tasmania Arboretum

This is a huge area of land set aside about 20 years ago to grow a selection of trees from all continents. There is also an area for Gondwanaland trees and shrubs including a collection of *Nothofagus*. There is a major problem with possums and wallabies which have found the deciduous exotic trees very much to their liking. A high fence surrounds the Arboretum but many of the trees have suffered and either died or become much distorted.

SWB

JOTTINGS

Email from Tom Noonan

My next door neighbour reported that while he was in the Hobart Botanical Gardens he spied a lady with an Australian Rhododendron Society logo on her jacket. He was tempted to ask if she knew Tom Noonan but thought better of it seeing that it was the <u>Australian</u> Rhododendron Society and the person would be just one of thousands and therefore unlikely to know me.

(The lady was Marcia Begg who had been participating in the Burnie Conference!)

Email from Glen Jamieson, Ph.D, Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, British Columbia

Hi: I am a vireya enthusiast from Vancouver Island, British Columbia, Canada. Following a successful and interesting 3 week botanizing trip to the Yunnan border area adjacent to Myanmar with 14 other plant enthusiasts last year (led by Steve Hootman with the Rhododendron Species Foundation), I am now trying to organize a similar trip into New Guinea to focus on seeing vireyas in the wild around 2009. I am hoping that you might be able to put me in touch with vireya experts in Australia in Australia that would be knowledgeable and potentially available to participate in such an expedition. Any contact would be appreciated.

(Anyone who is interested can contact Glen at <u>jamiesong@pac.dfo-mpo.gc.ca</u>)

Web address displaying ARS photos

Simon Begg has started a web site with 'Picasa' that will display any number of photos. Members interested in the photos of ARS activities and the National Rhododendron Garden can see them at the new ARS Photo website. This will be updated regularly. The address is a mouthful but can be kept in Favourites. –

http://picasaweb.google.com/ARSVic

Gembrook Gardenfest

Five lovely gardens were open in October to raise funds for the Gembrook CFA. Four of our members, Laurie and Joyce Begg and John and Carole Quinn, participated in the opening. Their gardens were at the peak of the season's flowering and looked stunning. The weather was perfect and the advertising was very successful bringing 500 people from all over Melbourne to spend the day in the area. The CFA received about \$5000 from the event.

Dandenongs Garden Festival

The Dandenongs are well known for their lovely gardens but most private gardens are hidden away from the public unless they are in the Australian Open Garden Scheme. There is no Garden Festival as there is many other areas. Next year we hope to hold a Dandenongs Garden Festival in autumn and spring. The spring openings will be held in conjunction with the inaugural 'Hill's Festival' in October 2007. We are looking for people in the area who would be interested in participating in opening their garden to the public for 1 or 2 days in autumn or spring. All money raised will benefit a community group such as the CFA.

Please contact Simon and Marcia Begg - 9751 1610 or email mnbegg@gmail.com

Proposed Group Tour to Edinburgh 2008

Several members have registered an interest in a group tour to the Edinburgh Rhododendron Conference in April 2008. National Council is considering the possibility of finding a rhododendron enthusiast with tour group experience to organize

such a tour. It would probably be followed by an extended tour of gardens in the UK or Europe. Expressions of interest can be sent to the following members.

Simon and Marcia Begg – 03 9751 1610, email – <u>mnbegg@gmail.com</u> Robert Hatcher- 08 8339 4010, email – <u>hatcher.robert@saugov.sa.gov.au</u>

Royal Horticultural Society Plant Trials – *Rhododendron yakushimanum* and hybrids.

A 10 year trial of these rhododendrons was undertaken by the RHS from 1995-2005. The purpose of the trial was to highlight this group as being good plants for the smaller lime free gardens. The Award of Garden Merit was awarded to the best cultivars.

The trial objectives were –

- to establish which cultivars, when grown in full sun, remained compact, had good foliage, and flowered well and consistently.
- To determine whether there was any difference in habit, growth or performance between plants that had been grafted, micropropagated or grown from cuttings.

Results of the trial can be found on the RHS website - <u>www.rhs.org.uk/plants/trials_bulletins.asp</u>

A Visit to Pirianda Garden

On Sunday 24th September, a cold grey morning threatening rain, some dozen intrepid members and a couple of grandchildren gathered at the entrance for John Curtis' guided tour. Some 2 hours later we raced inside Harvey and Gillian Ansell's house [now a Parks' Conference Centre] as the rain began. We all thought the visit was well worth while. Thank you John.

John told us that he had worked at Pirianda for 24 years. The Ansells gifted the property to the State of Victoria in 1977 and continued to live in the house until their deaths in 1985 and 1987. John worked with them in the maintenance of the garden for a few years and has been the principal carer for the garden since. The Ansells bought Pirianda in 1956 and over more than 20 years traveled the world collecting trees and shrubs many of which were then unique in Australia. These are planted in a well landscaped site. Of particular interest is the extensive magnolia and rhododendron collection, many coming from Chandlers' Nursery in The Basin, now landscaped as "Como".

Most of the collection is labeled with labels made by John. Pirianda is now a botanic garden. Unfortunately very few members of the public know it exists.

MNB

GARDEN VISIT TO WOODEND AND MACEDON

We thank Sue Jarvis for organising a delightful day at two quite different gardens at Woodend and Macedon. Twenty-five members car-pooled to arrive at Sir Roderick and Lady Carnegie's country estate, 'Flinthill' at Woodend. We were met by the gardener, Arthur Boyd, who is about to retire after over twenty years of caring for the garden. In perfect weather we first enjoyed morning tea supplied by Arthur and his wife then had a guided tour around the extensive garden.

When the Carnegie's bought the property over 25 years ago they inherited some massive century-old trees. An avenue of *Sequoiadendron giganteum*, Giant Redwoods from inland Californian forests, led up to the house. Another large specimen was a *Quercus x hispanica*, Lucombe Oak, a semi-evergreen oak of garden origin. One group of introduced Aspens have become invasive by their suckering habit. These and other trees are attacked by local pests, the sulphur crested cockatoos, which strip off large sections of bark.

The garden of about 10 acres has lovely vistas that lead the visitor from one area to another. A secluded pond, large lake, rhododendrons and other exotic trees form a serene backdrop for massed plantings of tulips, bluebells and daffodils. Present and forthcoming water restrictions are causing some concern for the future of the water features.

Beside the house Lady Carnegie has a white garden of perennials, shrubs and weeping flowering fruit trees. To add to this collection we left for her a rhododendron hybrid by Laurie Begg called 'My Snow White'.

We gathered for lunch at a picnic ground in Macedon where there are some substantial trees including a deciduous fastigious oak, an unusual evergreen oak, and conifers.

In the afternoon we were taken on a tour of 'Forest Glade' by the owner Trevor Bell. This was another substantial garden with massed plantings of azaleas, rhododendrons, bulbs, maples and lots of colour in every direction. Vireyas were growing in a glasshouse where they can receive adequate warmth and protection from frost.

Many garden rooms, all having distinctive themes with water features and sculptures, led off the main path. Trevor and his partner had collected many beautiful garden sculptures over the years and recently they went on a holiday to Thailand and visited a bronze foundry where they planned to buy a few more sculptures. They were unable to decide from the huge selection so they settled on enough to fill a container and had them shipped home! The job of installing them is still in progress!

At the bottom of the block there is a small creek and tree fern walk. Unfortunately thieves have found access to this area and removed many mature ferns and gunnera plants. From the fern gully the path leads through a Japanese garden, Laburnum arch, parterre gardens, hidden courtyards and many more surprises around every corner.

It is an amazing garden designed and cared for by dedicated people who hope to share their creation well into the future. To ensure this they have established a trust to maintain the garden as a garden museum for the public.

From there some enthusiasts visited Stephen Ryan's nursery, Dicksonia Rare Plants, a must for every visit to Macedon!

Marcia Begg

HOBART RHODODENDRON SHOW

What a fabulous venue! The Hobart Town Hall is the venue for many flower shows throughout the year. There is no charge for its use and coloured leaflets are produced to advertise all the shows for the year. The hall dates back to the 1800's, is built of the beautiful local sandstone and decorated inside with chandeliers and ornate ceilings. It is a perfect setting for the perfect blooms of rhododendrons and many other species.

The Southern Tasmania Rhododendron Society holds its show over three days at the end of October. This year the weather played an even greater role in the choice of blooms to show. Not only is the season earlier than usual, but the extremes of weather ranged from 30C with local bushfires followed by severe frosts just two weeks before the show, to hail and snow to sea level on the first day. Many members found it difficult to find undamaged entries!

Joy Stones was the prize winner of the Best Exhibit in the Asiatic sections. There were some lovely vireyas, the main entrants being Barry Davidson and Kaye Hagan (President of the National Council). As well as all the usual sections of rhododendrons there were many sections for perennials, shrubs and trees of other species. These were all well patronised.

Plant sales of rhododendrons and miscellaneous species, a raffle, Devonshire teas, craft sales and a pretty floor display of maples, rhododendrons and hostas filled out the remainder of the hall.

Marcia Begg

BOOKS FOR SALE

The following books are for sale from the ARS Vic library.

'The Rhododendron Leaf' by J. Cowan - \$25 'Genus Arisaema' by G. and L. Gusman - \$25 'Vireya Rhododendrons' by C. Fairweather - \$5

The following books are for sale by Val Marshall.

'The Rhododendron Handbook 1998' by RHS - \$40 'Vireya Vine' by E. White Smith 1991 - \$5 'Vireya Rhododendrons' by E. White Smith 1954-1998 - \$5 'Rhododendrons of Sub Genus Vireya' by G. Argent 2006 - \$50

All books can be purchased from Val Marshall, Ph: 9803 4434

2006 SHOW AWARDS

Certificate of Merit - Len Sloggett - Azalea Reijin Macleod – Couch Trophy John Quinn – Sweet Sixteen, Gwen Bell, Nuttalli Hybrid Dowd Trophy – Walter Lobbozoo – yak, lindleyi, scottianum Gibson Trophy – Marina Moodeycliffe – diaprepes Pritchard Trophy – Murray McAlister – Naselle x Exotic Alf Bramley Prize – John Quinn – houlstonii, Edmond de Rothschild, orbiculare Vireya Species – Elizabeth Xipell – jasminiflorum v. punctatum Louise Anderson Prize – Walter Lobbozoo – hellwigii x konori white giant Best truss in open section – Murray McAlister – Pink Walloper Best truss in Novice or Amateur section – John Quinn – Sweet Sixteen Best Azalea exhibit – Len Sloggett – Pride of Lawrenceville

RHODODENDRONS IN YORKSHIRE

The following article was sent by Joe Verrill, an ARS member, who found it in an English magazine. The garden is open to the public in April and May each year or by appointment. It is called 'The Himalayan Garden and Nursery' at the Hutts near Grewelthorpe in Yorkshire.

IN A HIDDEN valley near Ripon, an exotic garden has been quietly taking root as seeds carefully carried from the foothills of the Himalayas find a new home in the Yorkshire countryside. Now, after ten years of painstaking dedication, the gates are being opened to the public. The garden is the brainchild of Peter Roberts, a business- man, who bought the Hutts in 1996 because he fell in love with the view from the house perched high above a steep valley. Soon after he moved in, he was visited by a friend who suggested that the derelict, over- grown ghyll below the house was perfect for a Himalayan garden. Peter was inspired by the idea and began clearing the undergrowth. "It was a completely overgrown wilderness;' he says.We started planting in 1998. The following year he was joined by Duncan Farthing as head gardener, and they have continued planting ever since. The two men work closely together. "We walk the garden a lot as it's always growing and changing;' Peter says. "We have to be adaptable. We can find that plants are in the wrong place and we move them."

Fortunately the rhododendrons which make up the showiest elements of the garden are happy to be moved. Although rhododendrons are probably the best-known Himalayan plants, there are many others. Conservation International describes the Himalayas as a biodiversity hot- spot and estimates that more than ten thousand species of plants grow in the inhospitable terrain.

Plants from the Himalayas arrived in British gardens because plant hunters went out to find them, and still do so today despite the rough terrain and sometimes difficult political situation there. The region is steeply mountainous with a tangle of political administrations, some of which have not always welcomed foreigners. There are wild animals too; including elephants and tigers, and many plant hunters have died on their explorations from disease, accident or worse.

Amongst the early pioneers was J D Hooker, who went there in 1847. The garden historian Miles Hadfield credits him with being one of the principal originators of British rhododendron- mania. A second wave of hunting in the 1920s established rhododendrons as a garden favourite, and nurseries set up their own breeding programmes to produce showier, hardier hybrids. However, there are still new plants to be found, and the friend who suggested the Himalayan garden was a modern-day plant- hunter, Alan Clarke.

"Every year," explains Peter, "we help fund him to go to different parts of the Himalayas or China and bring back original seed. It has to be done through the proper channels. Alan's trips are part of a syndicate organised by a group within the Royal Horticultural Society. Only about ten such expeditions are allowed by the Chinese authorities in any one year and they're only allowed to collect seed, not live plants."

Alan's trips, however, result in species new to cultivation being brought back to Yorkshire. Originally, Duncan grew the new plants solely for the garden, but now he grows for sale in the nursery too.

But Himalayan plants will only thrive in the right conditions. "The reason we made the Himalayan garden here," explains Peter, is that

there's a lot of shelter in the valley, it's full of streams, it has an overstorey of mature trees, and the soil's an acid peat. These are the key things you need for the plants that we grow."

While most of the rhododendrons in the garden have been planted by Peter or Duncan, some have been there for a long time. Duncan says: "We've rescued some of the original rhodos, a few of which are over 100 years old. They must, have been one of the very first collections."

Entering the garden is to enter a secret world. From the heights of the house, a footpath zig- zags into the valley. Thick foliage obscures the outside world, and the valley is filled with the sound of running water. Birds flit everywhere. Bright flowers and huge colourful leaves give a jungle-like feel. The sense of a separate world is .more than an illusion. "The valley has a unique environment," explains Duncan. "The landscape creates different climates within it. There can be quite a temperature range from top to bottom. So in spring, things start at one end and work through. And some species that people told us were frost- tender have done well here. I think they must be protected in the valley."

Although rhododendrons are the stars of this garden, there are other shrubs too, including magnolias, eucryphias and camellias. "We've got a lot of bog-loving perennials on the stream sides that flower later in the summer," Peter says. "We're going to add lots more Himalayan perennials this year, such as lilies and monocarps -which I'd never heard of before. It's like a lily, and will be good for summer colour."

The rhododendrons, however, are Duncan's favourites. "Not many people realise what a range of rhododendrons there is. They range from six inches to thirty feet tall. There's a good rhododendron suitable for any location. I can give guidance to buyers for the right size and colour they want. There are azaleas too; some are evergreen and some are deciduous.

There are over 700 species of rhododendrons and they are hoping to go for National Collection status next year. Some species are not known elsewhere in the UK. Others are not even named yet. Alan liaises with the Edinburgh and Kew Botanic Gardens to classify them.

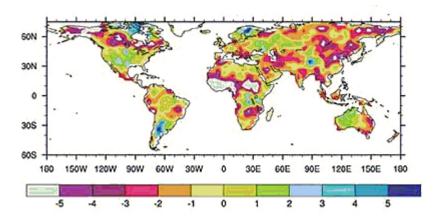
Author: Helen Johnson. Reprinted from the 'Dalesman' magazine.

DROUGHT'S GROWING REACH:

[*This article was forwarded to the Editor by our member Dr. Peter Fisher*] NCAR Study Points to Global Warming as Key Factor National Center for Atmospheric Research

January 10, 2005

BOULDER- The percentage of Earth's land area stricken by serious drought more than doubled from the 1970s to the early 2000s, according to a new analysis by scientists at the National Center for Atmospheric Research (NCAR). Widespread drying occurred over much of Europe and Asia, Canada, western and southern Africa, and eastern Australia. Rising global temperatures appear to be a major factor, says NCAR's Aiguo Dai, lead author of the study.



⁽graphic) (location: http://www.ucar.edu/news/releases/2005/images/dai pdsi trend.jpg)

This depiction of linear trends in the Palmer Drought Severity Index from 1948 to 2002 shows drying (reds and pinks) across much of Canada, Europe, Asia, and Africa and moistening (green) across parts of the United States, Argentina, Scandinavia, and western Australia. (Illustration courtesy Aiguo Dai and the American Meteorological Society.)

Dai will present the new findings on January 12 at the American Meteorological Society's annual meeting in San Diego. The work also appears in the December issue of the Journal of Hydrometeorology in a paper also authored by NCAR's Kevin Trenberth and Taotao Qian. The study was supported by the National Science Foundation, NCAR's primary sponsor.

Dai and colleagues found that the fraction of global land experiencing very dry conditions (defined as -3 or less on the Palmer Drought Severity Index) rose from about 10-15% in the early 1970s to about 30% by 2002. Almost half of that change is due to rising temperatures rather than decreases in rainfall or snowfall, according to Dai.

"Global climate models predict increased drying over most land areas during their warm season, as carbon dioxide and other greenhouse gases increase," says Dai. "Our analyses suggest that this drying may have already begun."

Even as drought has expanded across Earth's land areas, the amount of water vapor in the air has increased over the past few decades. The average global precipitation has also risen slightly. However, as Dai notes, "surface air temperatures over global land areas have increased sharply since the 1970s." The large warming increases the tendency for moisture to evaporate from land areas. Together, the overall area experiencing either very dry or very wet conditions could occupy a greater fraction of Earth's land areas in a warmer world, Dai says.

Though most of the Northern Hemisphere has shown a drying in recent decades, the United States has bucked that trend, becoming wetter overall during the last 50 years, says Dai. The moistening is especially notable between the Rocky Mountains and Mississippi River. Other parts of the world showing a moistening trend include Argentina and parts of Western Australia. These trends are related more to increased precipitation than to temperature, says Dai

"Droughts and floods are extreme climate events that are likely to change more rapidly than the average climate," says Dai. "Because they are among the world's costliest natural disasters and affect a very large number of people each year, it is important to monitor them and perhaps predict their variability."

To see how soil moisture has evolved over the last few decades, Dai and colleagues produced a unique global-scale analysis using the Palmer index, which for decades has been the most widely used yardstick of U.S. drought. The index is a measure of near-surface moisture conditions and is correlated with soil moisture content.

Since the Palmer index is not routinely calculated in most of the world, Dai and colleagues used long-term records of temperature and precipitation from a variety of sources to derive the index for the period 1870-2002. The results were consistent with those from a historical simulation of global land surface conditions, produced by a comprehensive computer model developed by scientists at NCAR, NASA, Georgia University of Technology, the University of Texas at Austin, and the University of Arizona.

By factoring out rainfall and snowfall, Dai and colleagues estimated how much of the global trend in soil moisture was due solely to rising temperatures through the extra evaporation they produce.

"The warming-induced drying has occurred over most land areas since the 1970s," says Dai, "with the largest effects in northern mid and high latitudes." In contrast, rainfall deficits alone were the main factor behind expansion of dry soils in Africa's Sahel and East Asia. These are regions where El Niño, a more frequent visitor since the 1970s, tends to inhibit precipitation.

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