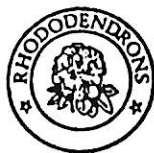


The Rhododendron, Camellia & Magnolia Group



BULLETIN No. 57 - December 1994

Forthcoming Events

Dec 9-10	RHS Christmas Show	Apr 20-23	Harrogate Spring Show - Valley Gardens, Harrogate
Jan 24-25	Ornamental Plant Competition	Apr 26-30	Cincinnati Flower & Garden Show, USA (in conjunction with the RHS)
Feb 21-22	Botanical Paintings	May 2-3	Main Rhododendron Competition; Late Daffodil Competition; Tulip Competition; Ornamental Plant Competition.
Mar 14-15	Ornamental Plant Competition	May 5-7	Malvern Spring Gardening Show (in conjunction with Three Counties Agricultural Society) TCAS Showground, Malvern.
	Botanical Paintings	May 9-14	Group Spring Tour (see text)
	Early Camellia Competition		All shows at Vincent Square, unless otherwise stated
	Early Rhododendron Competition		
Apr 11-12	Daffodil Show. Main Camellia Competition		
	Ornamental Plant Competition		

Chairman's Notes

I always enjoy attending the South West Branch Autumn Meeting but on this occasion my enjoyment was tinged with a certain sadness, since it was, effectively, Nigel Wright's farewell party, as he is shortly relinquishing control. His term of office has been a very successful one as evidenced by the large attendances at all the functions he so ably organised. He will be sadly missed. Although he will be "a hard act to follow" I am sure that Alun Edwards will run the Branch with equal enthusiasm. Later in this Bulletin you will learn of the reason for the late posting of the August Bulletin which was entirely outside the control of the present Editor who worked very hard to meet the deadline. He has, of course, now taken over the additional task of Membership Secretary and transferred manually all the records to his own computer - no mean task - so there should be no delays in future.

The bringing up to date of the Group's Constitution together with those of the other RHS Groups has been given a lot of attention and I understand that draft copies will soon be available to Committee members for discussion in Committee and subsequent submission to the Annual General Meeting for ratification.

And so we come to the end of another year, which has not been a vintage year as far as blossom is concerned, but the growth has been good and there is much promise of a better flowering for next year; a happy thought as we face the winter and look forward to the spring.

B.A.

Editor's Notes

I must first of all apologise for the late delivery of Bulletin No.56. This was due to the problems we had in connection with the transfer of the database from the previous Membership Secretary's computer to mine owing to the fact that his computer was not IBM compatible. Happily, all our difficulties are behind us and this issue should reach you at the beginning of December, as usual.

Two members spotted the deliberate mistake in the last Bulletin; the Section Pogonanthum in North West Branch News should have been spelt Pogonanthum (cf. the associated species *anthopogon*). Both these observant members received a quantity of seedlings grown from wild-collected seed from Yunnan. I still have lots more seedlings surplus to my requirements and I will be pleased to send a small supply to anyone wishing to try their hand at growing them on. They include the following species: *RR.zaelucum*, *sinogrande*, *luteiflorum*, *yunnanense*, *racemosum*, *sidereum* and the following (open-pollinated) from Ballywalter Park in Co.Down: *RR.falconeri*, *calophytum*, *magnificum*? and *sinogrande*. A nominal sum to cover postage will be appreciated!

See if you can spot this month's D.M. and win a *R.delavayi* in a 9cm pot.

New Members

The following new members have joined the Group since the last

Bulletin (Branches in brackets):

Mrs M V Burgers, Regentess 16, HILVERSUM, Holland. (OS)

Mrs Dorothy J Callaway, P.O.Box 3131, THOMASVILLE, Georgia, 31799, USA. (OS)

Mrs M C Campbell-Culver, 68 Esplanade, FOWEY, Cornwall, PL10 1HZ. (SW)

Miss Ann Eve, Coachman's Lodge, Leigh Rd., CHULMLEIGH, Devon EX18 7JW. (SW)

Mr T J Heal, Ynys-y-Rhyd Farm, Pont Ynyswen, CARMARTHEN, SA32 7PH. (SWW)

Mr T Hodges & Dr L Cotes, The Glen, Limes Lane, Buxted, UCKFIELD, TN22 4PB. (SE)

Mr J Holleyhead, 10a Sunningdale Gardens, LONDON W8 6PX. (SE)

Mr D P How, 3 Angas Court, WEYBRIDGE, KT13 9BG. (SE)

Dr A G Latham, 1 North View, Croxton Lane, MIDDLEWICH, CW10 9EZ. (NW)

A very warm welcome to all these members; I hope you will notify me if any of the above details are incorrect.

American Rhododendron Society Journal

Following the sad death of the late Mr Philip Page, his widow, Ruth, wishes it to be known that she has a quantity of back numbers of the ARS Journal which she would be pleased to give away if collected or postage paid. Anyone wishing to take up this kind offer should write direct to: Mrs R Page, 277 Holt Road, Horsford, NORWICH, NR10 3BB.

New Zealand Rhododendron Association Bulletin, 50th Jubilee Issue, 1944-1994

This elegant 64-page number with 8 pages of fine colour photographs celebrates the first 50 years of the New Zealand Rhododendron Association. These years were also celebrated between 7th and 11th November by their 50th Anniversary Conference at Hastings, Hawkes Bay, South Island attended by 300 delegates, many from overseas. The story of the development and foundation of the Association is told by the current President, Peter E. Cameron. The Association has over 1000 members, owns a beautiful garden at Kimbolton and lays on an annual national conference. The islands of New Zealand are even further from North to South than are the British Isles and, understandably, rhododendron enthusiasts have formed their own regional groups, as indeed have their fellows in this country. There are now nine such groups, independent of the NZRA, but with linked activities. Amongst many other things, the NZRA has helped to sponsor two botanists to come from China to work in the Pukeiti Trust Garden and has given funds to support the Powdery Mildew research at the RBG Edinburgh. Speakers from overseas (mainly Great Britain) have been invited to

visit, and tours to China and Nepal have been organised. Lastly, the Association is co-operating with the Pukeiti Trust to develop a National Rhododendron Collection.

The Jubilee Number of the Bulletin contains a number of delightful personal recollections of the early days of rhododendron cultivation in New Zealand, including an account by the son of the first hybridiser, Edgar Stead, of his father's work. (See **The Rhododendron and Camellia Year Book, No.2 1947, pp.42-50** for an article by Edgar Stead). The part played by original introductions from Britain should be noted. The great gardens of members of our own Rhododendron Society, formed in 1915, provided much of the plant material. The Bulletin also contains a great deal that is perhaps more of local interest, but the close relationship between rhododendron lovers of the two Island communities on opposite sides of the globe is evident throughout and should give all of us cause for satisfaction.

Cynthia Postan

Honorary Corporate Membership

There has been an exchange of corporate membership of this Group with that of the NZRA, which, co-inciding as it does with the attainment of the above-mentioned milestone in their history, seems especially appropriate.

Dunedin (NZ) Rhododendron Group Bulletin

The Bulletin has a new Editor, Brent McKenzie, who will most surely maintain the high standards of his predecessor, Margaret Cameron. The annual record of the Group's activities, together with lively articles, all help to educate, inform and entertain members. But there is always something for the wider public. This year it consists of three articles on dwarf rhododendrons - all very different - *RR.lapponicum* and *camtschaticum* in Alaska, alpine vireyas from New Guinea, and what should obviously be called the 'Elisabeth Hobbie' grex. Most of us had thought of this hybrid as a clone, but Brent McKenzie disillusioned us! If members of our Group would like to read all about it please write to the Hon. Yearbook Editor, 84 Barton Rd., Cambridge, CB3 9LH, and she will lend them the Group's copy of the Dunedin Bulletin No.22 (1994).

Cynthia Postan

Letters

From Pauline M Dean S B A, RHS Gold Medalist.

On February 21 & 22 at the exhibition of Botanical Paintings at RHS New Hall, I am planning to show 25 water colour paintings of Magnolias from Wisley Gardens. The majority of the paintings will be for sale. I would be glad if you would bring this small exhibition to the notice of your members as I am sure it will be of interest to many of them.

I have been awarded four consecutive Gold Medals by the RHS for my work and have recently had work published in the New Plantsman Magazine.

The Autumn Weekend at Cambridge, October 21 - 23, 1994.

Some 23 members met at the Royal Cambridge Hotel on 21st in time for a companionable dinner and relaxing evening together. Among the members present was our longest-standing member, Mrs Doris Sutcliffe and her daughter, Audrey. Mrs Sutcliffe has a fund of fascinating tales of Group activities which she has acquired over the years and to which we never tire of listening. An exchange of garden news, RHS projects and other matters of horticultural interest is one of the pleasures of the week-end. After breakfast next day we foregathered at near-by Cambridge University Botanic Garden for coffee in the Gilmore Room, purpose-built for lectures and similar functions. The Director of the Garden, Dr Piggot, kindly gave us a short talk on the history of the Garden and the prospects for its future.

Our tour of the grounds was soon interrupted by a heavy thunderous downpour from which we found shelter in a series of near-by interconnected glass-houses containing plants in tubs, including datura, in flower, and the S.American cythomandra which is a curiosity for its tomato-flavoured fruit. Each house is temperature- and humidity-controlled according to the needs of the plants contained therein, e.g. alpines in one, cacti in another and a collection of tropical plants in another large section with a very high roof.

A delicious lunch was provided in the Gilmore Room by the Friends of the Cambridge Botanic Garden (all voluntary helpers). Dr James

Cullen then arrived to give us a talk on the taxonomy of rhododendrons, which we all found most interesting and highly instructive; Dr Cullen (with Dr Chamberlain) was responsible for the book on the revision of the genus, rhododendron.

The rain having stopped, we then continued our tour of the gardens, which although rather flat are beautifully laid out and maintained, a wide use of ornamental bark showing the beds to their best advantage. Among outstanding features was a maze, marked out by high grass-covered ridges and set in a large lawn. The many lovely trees included a group of *Betula albo-sinensis* with beautiful bright pinky-white trunks. An imaginative feature was a chronological bed showing the types of plants introduced from different parts of the world from as far back as the 17th century up to the present day.

Other features include a rock garden incorporating carboniferous limestone with a separate section for acid-loving plants.

On Sunday, after attending Sung Eucharist at King's College Chapel, we were entertained to pre-lunch drinks by Lady Cynthia Postan, who had undertaken most of the week-end arrangements and for which we extend our grateful thanks. Finally we returned to the hotel for a lunch of roast beef and Yorkshire pudding which marked the end of a very successful week-end.

V.A.

Group Spring Tour

The Spring Tour will be in the Derbyshire area. Because the Spring Bank Holiday has been moved from May 1st to 8th the tour will begin on the 9th and finish on Sunday 14th. Reservations have been made for accommodation at the New Bath Hotel, Matlock.

Some very good gardens will be visited, including that of Wentworth Castle, S. Yorkshire, which is not yet open to the public. Wentworth has the National Collection of subsection Falconera. Altogether there are 318 different species rhododendrons covering 35 subsections, and 30 species of magnolias amounting to 108 plants, including 52 hybrids. Camellias number about 60, mostly *williamsii*.

Some private gardens will also be on the programme, including two owned by members of the Group.

For further details write to the Hon. Tours Secretary, Mrs Valerie Archibold, Starveacre, Dalwood, AXMINSTER, Devon, EX13 7HH. (Tel:0404 881221), Please enclose a s.a.e. size 9" x 6".

Plants etc.wanted

A chance encounter in the 1st Class dining car on the Glasgow train on the way home from a meeting of the Group's Executive Committee was the beginning of an amusing dialogue over the lemon sole between me and a fellow-traveller, one Maj. Michael David, who like me was going to have to change at Carlisle and catch a connection to Dumfries. The conversation inevitably devolved on rhododendrons when, on learning that I had a nursery given over largely to the production of species of that genus, he suddenly informed me of a burning desire to bury his grandmother, as he put it, in his garden at Rockcliffe. Not surprisingly, I was slightly taken aback at this until on asking if his grandmother was meanwhile being kept in the deep freeze he went on to say that she was a rhododendron! Apparently, although I had never heard of it, there is, or was, a rhododendron called 'Laura David', named in fact after his revered and much loved ancestor a specimen of which my new-found friend would dearly love to come by. A reference to Plant Finder on my return home did not help and furthermore this particular hybrid seems to have eluded Messrs. Salley and Greer. Not so David Leach, however, from whose learned tome I learnt that Granny was in fact a hybrid of *R.campylocarpum*, the other parent being unknown, and that she was exhibited in 1954.

Group Records

Consequent upon the change of Membership Secretary it has been found necessary for the records of the entire Group to be re-typed into a new database in the course of which it would be surprising if one or two errors had not crept in. May I ask you, therefore, to examine the address label on the envelope containing this Bulletin and notify me of any inaccuracy. On this one occasion, also, I have shown your Membership No. of the RHS, if indeed you are a member. If it is not shown and you do in fact belong to the RHS I would be most grateful if you

would send me a card notifying me of the number so that I can bring the record up-to-date.

Your label also shows the Branch to which you are at present affiliated. Presumably you already know who your Branch Organiser or Secretary is. You are however free to take part in the activities of any other Branch if you so wish and so that you should know what is being arranged I do my best to announce forthcoming events in the Bulletin. However, this is not always possible, as the Bulletin only comes to you three times a year, so if you would like to be put on the mailing list of a neighbouring Branch, please let me know and I will arrange for this to be done.

The Branches and their Organisers/Secretaries are as follows:-

South West (SW)

Dr Alun Edwards, 12 Ellerslie Rd. Barnstaple, EX31 2HT

Wessex (WX)

Mrs Margaret Hall, Rivendell House, Monks' Well, Moor Park, Farnham, GU10 1RH.

South East (SE)

Mr Barry Haseltine, Goodwins, Snow Hill, Crawley Down, RH10 3EF.

Southwest Wales (SWW)

Mr Ivor Stokes, Pantcoch, Carmel, Llanelli, SA14 7SG

East Anglia (EA)

Mr Colin Grainger, The Gables, Finborough Rd. Stowmarket, IP14 1PY.

North Wales & North West (NW)

Mr C M Reddington, 18 Westwood Rd. Birkenhead, L43 9RQ.

Lakeland (LL)

Mrs Thelma Potter, Broomhill, Birthwaite Rd. Windermere

Irish (IR)

Miss Mary Forrest, 9 Larchfield, Dundrum Rd, Dublin, Eire.

North East (NE)

Midlands (MID)

Scotland (SC)

Channel Is (CI)

Overseas (OS)

} No Organiser/Secretary at present.
Volunteers or Nominations
would be welcome!

Proposed formation of New Forest Branch

Some twenty-four Group members live in the New Forest, or a short drive away, but find that it is a long journey to Wessex Branch functions, more often than not arranged in the Farnham area. There is a suggestion that, if a new Branch were to be formed based on the New Forest, there might be interest shown by some or all of these members in becoming affiliated to it rather than to the Wessex, or possibly even to the South West Branch. Preliminary enquiries indicate that the excellent facilities of Jermyn's House at the centre of the famous Hillier Gardens and Arboretum would be available to us.

This new initiative has the blessing of the Wessex Branch Organiser who wishes it success and it might well be the means whereby more rhododendron lovers were to be attracted to apply for membership of the Group. You are invited to write or phone to: Maj. Tom Le M. Spring-Smyth, 1 Elmscombe Close, Lyndhurst, Hants, SO43 7DS. Tel: 0703 282478.

Branch News

Lakeland Branch.

In our third season our members enjoyed interesting and enlivened talks by three outside speakers; Ian Glendinning from Braevarlich Nursery in Argyll gave us a brisk and witty talk on nursery management, bringing with him, in addition to slides, many specimens from the nursery some of which ended up in members' gardens. In November, Jennifer Trehane spoke about Camellia species and hybrids with particular reference to colour, form and hardiness. Mention was made of 'Lovelight' as a good white, 'Little Bit' as having a pleasing anemone form, 'Jury's Yellow' as an excellent yellow and a trailing variety, 'Baby Bear' for ground cover. 'Magic Wand' was recommended for hanging baskets and 'Spring Mist', highly scented, for the conservatory. Ivor Stokes, Director of Clyne Gardens, which have belonged to Swansea City Council since 1953 came in February to talk to us about this 50-acre estate, situated on Swansea Bay. A fine collection of rhododen-

dron species and hybrids was established there by the previous owner, Algernon Vivian. A bog garden full of successional-flowering Asiatic primulas also accommodates rodgersias, hostas and skunk cabbage (*Lysichiton americanus*).

Ivor is also Director of "Plantasia", a futuristic glasshouse on a derelict dock area. Here, plants from differing climatic zones grow in a computer-controlled environment wherein are maintained the correct conditions for plants from tropical, rainforest or arid zones. This is a very informative and educational area providing a valuable attraction for residents and visitors alike.

A new departure was our visit to Argyll in April, when we first met at Glenarn, Rhu, a wonderful garden above the Clyde owned by Mr & Mrs Thornley who kindly provided us with an excellent buffet lunch. The magnolias, *M. campbellii* and *M. sprengeri* 'Diva' were breathtaking and the rhododendrons, too were in good heart. The garden is obviously in good hands as the Thornleys are not only enthusiastic but practical and, above all, knowledgeable. Next we went to Inveraray where we saw Ashley Howarth's nursery in the walled garden of the Castle and where his stock of rhododendrons, azaleas and other ericaceous plants thrive in the cool and sheltered conditions. St George's Day found us at Arduaine, that renowned garden until recently the property of the Wright brothers and now in the care of The National Trust for Scotland. From there we moved on to two smaller privately owned gardens, Dalmaheish at Carsaigh Bay and Duntoun Castle. The garden here is a walk away from the castle, down on the loch, and therefore sheltered.

The following day we all enjoyed Sir Islay Campbell's garden at Crae where we were particularly attracted by the wine-coloured indumentum on *R. roseavalloni* - a plant with bright red flowers and the habit and leaf shape of *R. neriiflorum* of which it was registered as a hybrid by Caerhays Castle.

We rounded off our tour with a visit to the Younger Botanic Garden at Benmore.

Wessex Branch.

Our first autumn meeting was held at Charterhouse School where we were entertained to a most interesting and stimulating talk on *Rhododendrons and Associated Plants* by Dr Alfred Evans. Illustrating his subject with excellent slides taken in Japan and North America as well as Britain, notably Scotland, Dr Evans ranged from rhododendrons and other ericaceous plants, such as *Arbutus*, *Andromeda*, *Gaultheria*, *Vaccinium* etc. to other genera often found in association with rhododendrons, such as *Lilium*, *Primula*, *Meconopsis*, *Nomocharis* and *Trillium*.

The raffle prize was R. 'September Song' which was won by Mr Paul Gunn.

Our programme for early 1995 includes:-

Friday, 24th February, *Camellias around the World* - an illustrated talk by Miss Jennifer Trehane - Churt Village Hall, near Farnham. A visit to the Trehane Camellia Nurseries is being arranged for March.

Sunday, 2nd April, *Members' Afternoon* at Rivendell House, Monks' Well, Moor Park, Farnham, Surrey.

Sunday, 7th May, *Annual Competition, Plant Sale and Exhibition* at Ramster, Chiddingfold, Surrey by kind invitation of Mr & Mrs Paul Gunn.

Sunday, 14th May, *Visit to Little Coopers*, Coopers Hill, Eversley, Hampshire by kind invitation of Mr & Mrs J K Oldale.

Honey Fungus (*Armillaria mellea*)

Sir Peter Smithers was the first to draw my attention to the treatment of *Armillaria mellea* by a product called 'Activator TCH', which I subsequently reported in Bulletin No. 53 contained a parasitic fungus, *Trichoderma hametum*. I recently received some fearfully scientific notes on *Trichoderma* research from a member of the Group in Australia, Mr C Blumenthal, from which I hope he will forgive me for making the following precis:

Trichoderma is a genus of beneficial soil-borne fungi several species of which are known to be antagonistic to soil-borne fungal diseases. Certain new strains have been developed, which, unlike the "wild" ones, can not only exist in symbiosis with the roots of dead trees, but actually form a protective shield around the root biomass, living on root exudates. Thus, if a pathogenic fungus tries to invade the rhizosphere,

it will be stopped by direct attack; a simple "cat and mouse" game. As the root grows the film of *Trichoderma* surrounding it will grow with it. Unlike chemicals it will not be diluted. Other important advantages of *Trichoderma* species over chemicals include:-

1. The improved strains are very tolerant to fungicides, so if these have to be applied, provided a period of a few days is allowed between the two applications, there will be no adverse effect on the *Trichoderma*.
2. They are totally organic, non parasitic to man, animals and plants.
3. Being biological, they do not leave harmful chemical residues behind.
4. They secrete into the rhizosphere some growth stimulants thereby speeding up seed germination, uniformity of germination, flowering, fruit setting and yields.

The soil-borne diseases which *Trichoderma* spp. have been found to control include: *Rhizoctonia* spp., causing damping off of small seedlings at ground level, *Phytophthora cinnamomi*, a form of root rot which is prevalent in nursery stock but which can also occur in the garden, *Phomopsis*, causing ugly leaf spots, *Botrytis*, which again is death to seedlings in the nursery or greenhouse, and many others which are less common. Research has shown that *Trichoderma* can be introduced into the soil during any stage of growth, although the earlier the better before any incidence of disease is apparent. However, applications at a later stage will have a marked effect on reducing the infection rate even after the symptoms have manifested themselves.

In a subsequent letter Mr Blumenthal states that whilst *Trichoderma hermatum* is available in Australia in powder form at A\$200 per kg from John Teulon, Horticultural Consulting Services, PO Box 17 Dural, NSW 2158, it could probably be more easily obtained from JH Biotech, PO Box 7943, Ventura, California, 93006, U.S.A. There it is marketed under the name 'Rootguard' whereas in Australia, as it is not yet registered, it is supplied, mainly to nurseries, under its fungal name.

In view of the information given to me earlier by Sir Peter Smithers concerning the short 'shelf life' of *Trichoderma* I put this point to Mr Blumenthal, who, after making extensive enquiries, has ascertained that, provided storage is at room temperature in a sealed container, it can be viable for up to 24 months, perhaps more when further tested, and after application will be active in the ground for at least 6, perhaps 9 months.

He goes on to say "Camellia Grove at St.Ives use *Trichoderma* against *Pithium* and *Phytophthora* (too easy to be true, they say!). They gave me a small quantity from what they had left over and I await the delivery of 1 Kg so that the whole of the garden can be treated as the Armillaria is prevalent in most areas. It will be some time before the results can be assessed, particularly as there has been little rain and possibly will be dry the whole summer." (i.e. this winter so far as we in UK are concerned. Ed.)

I shall contact him in 3 or 4 months time to ask how effective he finds it and at the same time ask for some information as regards the dilution rate of this product although from the sound of it I would think that a little goes a long way. I shall have more information on this subject to pass on in the April Bulletin. Meanwhile, whilst realising that I risk having my head chopped off for making this suggestion, might some thought be given to the possibility of obtaining a supply under arrangements made at Branch level which could be sold to members at a small profit to cover costs?

Phytophthora cinnamomi - Another kind of Root Rot.

If you have managed to grapple with the previous article you may be motivated to rush into your garden to see whether any of your prized specimens are showing signs of ill-health. But do you know what to look for?

For the answer to this question, being a mere amateur myself, I had to refer to the chapter on "Rhododendron Troubles and their Remedies" in *Rhododendrons of the World* by David G Leach and to endeavour to make a precis of the relevant information given there concerning the visible signs of root rot.

The most serious form of infection is Rhododendron Wilt (*Phytophthora cinnamomi*). It attacks principally through the roots, usually of young plants, but sometimes older plants are afflicted. In the early stages the

plant will show signs of wilt, especially the new growth. On close examination all the foliage will appear slightly off-colour and as the disease progresses the leaves will acquire an olive-green cast. If the bark is scraped away near to ground level at some point round its circumference the tissues of the main stem will be brown and dead and a dark reddish band the width of a thread or up to a half-inch in width will be found ascending the stem, possibly to a point where a branch originates. This branch alone may wilt and the leaves will curl up as they do in sub-zero temperature. When the disease reaches this stage it is unlikely that the plant can be saved and it is better to dig it up and burn it before the disease is transmitted to its neighbours. However before you do this it is as well to establish that the plant is not afflicted with another fungal disease, namely Rhododendron Die-back (*Phytophthora cactorum*) the second most important rhododendron disease, the symptoms of which at some stages are easily mistaken for those of Rhododendron Wilt. This, however, attacks through the leaf margins or old bloom stems on a single branch rather than through the roots. First signs are the premature browning of the green wood of the current year's growth which in healthy plants normally starts at the bottom and works its way up, whereas browning caused by Die-back always proceeds downward to a cankered area below which the branch is most probably quite green. Branches affected by Die-back should be cut off well below the point where evidence of the disease can be seen. These should be burned and the shears sterilized.

Next, let us perhaps consider the conditions under which *Phytophthora* may flourish, i.e. the environment. Here, I had the benefit of a 5-page, and again, highly scientific article by another of our members, this time from Poland, Mr Tomasz Anisko, from which I have tried to extract the main points with which the average amateur gardener is likely to be able to concern himself (or herself).

- (1) Most important of all, high soil moisture greatly increases formation of spores and improves conditions for their release and mobility. Plants with roots in an oxygen-deficient environment created by excess of moisture are less able to withstand the presence of *Phytophthora* compared to well-drained medium. This is rather more relevant in the case of container grown nursery stock where it is important not only that the growing medium should be as open as possible but that if the plants are watered from over-head any excess should be able to drain away.
- (2) Plant stress resulting from prolonged medium to heavy saturation (or even drought) increases the severity of the disease even in normally resistant rhododendron species.
- (3) Another factor is soil temperature which if over 60 deg.F. favours both infection and development.

Many nurserymen incorporate a fungicide called 'Aaterra' in the potting compost but even disease-free plants may become infected after being planted in the garden, especially if the disease has been suppressed in the nursery by means of sprays or soil drenches which have simply prevented the development of disease so long as the treatment lasted.

Having looked at some of the circumstances surrounding root rot development there are certain precautions which may be taken to minimise the risk of this form of disease, and/or to aid recovery following infection. These include:

- (1) careful irrigation considering that both drought and overwatering predispose rhododendrons to infection,
- (2) reliable drainage or planting in raised beds when the water table is apt to be high, and
- (3) improving the porosity of growing media with high water holding capacity by the incorporation of coarse material, such as bark, grit or a high proportion of humus.
- (4) Reducing soil temperature will also create conditions unfavourable to infection by *Phytophthora*. Thus mulching and sheltering rhododendrons may protect them not only from winter damage or summer scorch, but it will also help to avoid fungal infection. It is possible, also, that maintaining pH at the lower levels of the recommended range, i.e. 4.5 to 5.0, may be a good precaution.

Hon.Treasurer:

Mr Alastair Stevenson, 24 Bolton Rd., Grove Park, LONDON W4 3TB

Hon.Membership Secretary & Bulletin Editor:

Mr C Anthony Weston, Whitehills, Newton Stewart, Scotland DG8 6SL