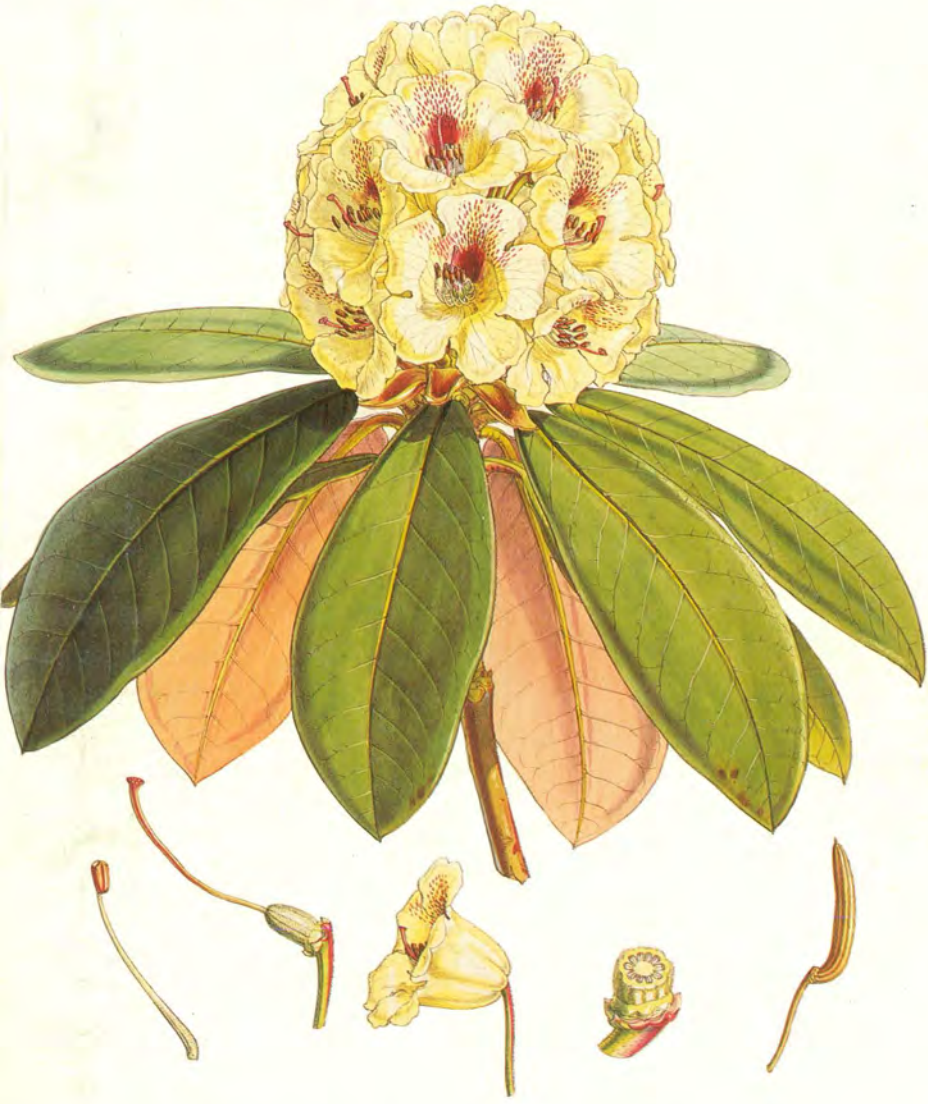
RHODODENDRONS 1991
with Camellias and Magnolias



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Acknowledgements

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RHS
Rhododendron, Camellia & Magnolia Group

Front Cover: *Rhododendron wightii* — *Photo: Eileen Tweedy, RHS*

Back Cover: *Magnolia 'Elizabeth'* — *Photo: Maurice Foster*

RHODODENDRONS 1991

with

Camellias and Magnolias

No. 43

THE ROYAL HORTICULTURAL SOCIETY
VINCENT SQUARE
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Contents

Illustrations

Foreword

It is very encouraging to see that the contents of the Year Book are so widely and evenly spread over rhododendrons, camellias and magnolias.

Armchair travellers will be taken to the mountains of Sichuan and can also follow in the footsteps of Hooker on his epic trek in Sikkim. One of his introductions, *Rhododendron wightii* (lacteum series), is to be seen on our front cover. Readers are taken to a rhododendron garden in Poland where the plants must withstand below zero temperatures. The climate of British Columbia, however, has proved ideal and the story of how rhododendrons have found a second home there is another armchair journey.

Nearer home, for those of us who were unable to join in the annual tours arranged by the Group, there are vivid reports of gardens visited in South-West Wales, the Lakes and South-West Scotland.

Camellia and magnolia breeding is well covered. We can read about a project to develop hardier varieties of camellias in this country. Other long-term programmes taking place in the United States are to cross various magnolia species and cultivars to produce good garden plants with new flower colours. There are pictures of some outstanding specimens.

Various conferences and congresses world-wide are covered, and it is useful to have the numerous International Rhododendron Conferences held since 1949 sorted out and their Proceedings, where published, identified.

In addition, there are the usual reports from the Vincent Square Shows as well as an article encouraging more prople to try their hand at exhibiting. We really do need to see some new names on the benches.

Whilst two of the more unusual rhododendrons in cultivation are described, there is a timely warning of the dangers of allowing *R. ponticum*, the only species to be naturalized in the British Isles, to get out of hand.

There are several book reviews. This had been a good year for literature on subjects of interest to us.

Finally, the honorary editor would be happy to hear from any members of the Group who have suggestions as to how the content or make-up of the Year Book can be improved. Naturally, this includes material for publication, in the form of articles, notes or photographs. They may be sent to her at 84 Barton Road, Cambridge, CB3 9LH.

BRUCE ARCHIBOLD

Rhododendrons on a western shore

LESLIE DREW

From the Queen Charlotte Islands, the mist-drenched archipelago off the north coast of British Columbia, came a recent report of an abandoned garden where rhododendrons still flower each June. A botany student working at the Butchart Gardens, near the provincial capital of Victoria on Vancouver Island, had heard mention of them on a visit to the Charlottes and her curiosity had been piqued. The garden had been the Edward Evans property, wrested from dense rainforest. Evans, settling there in 1911, had a fine two-storey house built for his family. The house is now a dank heap of rubble. The rhododendrons, mauve and white ('the mauve more vigorous and tree-sized'), live on unidentified amidst the ruins, seldom seen by anyone. Their survival untended in this remote, storm-swept place seemed remarkable, even assuming the durability of a ponticum. Beyond this, though, they could be regarded as representing the exuberant spirit of early gardeners in British Columbia – ambitious, eccentric, eager for every new plant the world had to offer.

The British, of course, introduced gardening to this part of the world, after having introduced a good many of our native species from North America to Europe. In rhododendrons, the starting point came almost two hundred years ago. On 4 May, 1792, the Scottish botanist, Archibald Menzies, who was acting on forthright orders from Sir Joseph Banks as a member of Captain George Vancouver's expedition, stepped ashore onto land that is now American, and discovered the native *R. macrophyllum* - big leaf, which it then was. ('I . . . met here with a beautiful shrub of the *Rhododendrum ponticum* . . .'). The encounter was botanically significant and today *R. macrophyllum* is the state flower of neighbouring Washington. At the time, however, it counted for nothing in a land touched only by a few explorers and fur traders and continued thus well into the 1800s, after this region of the Pacific Northwest became part of the vast domain of the Hudson's Bay Company. The rough-and-ready men of the fur trade would scarcely have given a thought to a rhododendron, if indeed they even knew the word; they had much more important matters at hand in their barterings with the sparsely distributed native tribes, each of whom, incidentally, would have been acquainted with at least one of the three indigenous species (the Thompson Indians of the interior used *R. albiflorum* Hooker as a scent).

Soon, however, with the opening of the West, American and Canadian, everything changed. The fur trade faded. The British Columbia of today was defined geographically and politically and was finally joined with populated eastern Canada through the building of the Canadian Pacific Railway. The city of Vancouver, as the western terminus, was created in the process. Linked with ocean liners, the railway was part of an Empire-girdling commercial network stretching to the Orient, Australia, India and Africa. Investment and land

settlement schemes, of which the CPR was long the prime agent, brought the desired results – a flow of British and American capital along with immigrants willing to set permanent stakes in the province's future. From the late 1880s, as timber resources and mineral finds were exploited, new Vancouver and older Victoria, originally a fur-trade post, grew and prospered. Each strove to emulate the style of larger European and American cities of the period. In landscape architecture no better example can be seen than The Uplands, the residential suburb of the Victoria area (Oak Bay) which was developed after 1909 and designed on the garden city concept then popular in Britain and the United States. Merchants and manufacturers lived up to a new age of affluence, building big houses, planting gardens. Some of the newcomers were retired or semi-retired, with the time, money and education not only to garden but also, if they wished, to lose themselves in the engrossing study of one plant genus or more.

By the time that Evans and his workmen were grappling with his wild land on the Charlottes, the population of the province had risen to 400,000, mostly clustered in and around the two south-coast cities. Far off though he was, Evans had one thing in common with his contemporaries to the south – a climate comfortingly similar to that of the British Isles. The summer months were usually sunny and warm, the rest of the year rainy, misty and mild. What induced many coastal settlers to stay would also be auspicious for the growing of rhododendrons.

The first extensive use of rhododendrons was in the creation of public parks. John Blair, born and trained in Scotland, imported them in 1889 for a mass planting in Victoria's new Beacon Hill Park. Still in situ and flourishing, these Waterer hybrids included 'Mrs John Clutton', 'Fastuosum Flore Pleno' and 'Mrs John Waterer'. Enticed out of retirement by the park landscaping contract (subscribed by leading citizens at the mayor's urging), Blair had spent his working life laying out American parks and estates notably in Chicago, so when he ordered the rhododendrons from a Pennsylvania nursery he was probably dealing from experience. Very soon, and for the next seventy years, rhodendrons as plants would come almost entirely from England and Holland. Blair himself, meanwhile, remains a classic example of the British Columbian predilection for engaging men trained in the British Isles when gardening expertise was required.

At the same time as Blair was building Beacon Hill Park, Richard Layritz arrived in Victoria as a young immigrant from Germany and immediately started a nursery. His timing was perfect: the building boom was just beginning. Trained in horticulture in Stuttgart, he had then studied formal gardens in France and, on a visit to London, spotted the land-promotion advertising. Layritz had an enormous capacity for hard work. When he needed money to buy more land for his nursery, he joined the Klondike gold rush and toiled so prodigiously as to be one of the few men to come out richer than when he went. He soon had the first large nursery in BC, supplying fruit trees for new orchards in the interior (as many as 40,000 in a single order) and ornamental

trees and shrubs for public plantings and private gardens, the latter including the abandoned limestone quarry north of Victoria which Robert and Jenny Butchart were transforming into a garden par excellence. Layritz was the first nurseryman to import rhododendrons in quantity. One of these pre-First World War catalogues offered more than 300 cultivars, 'some from the high Himalayas', and by 1923 a new partner, Major Harry Seale, was buying hybrids from the Rothschild Estate at Exbury.

While early interest in rhododendrons was being expressed ostentatiously in urban settings, in the background a few individuals quietly began to experiment with species and hybrids. George Fraser, living at Ucluelet on Vancouver Island's very wet west coast, began propagating and hybridizing. His 'Fraseri' was the first hybrid developed in Canada to receive international recognition. Fraser, whose field was all Ericaceae, would try anything he could get his hands on; his crossing of *R. maximum* with the native *R. macrophyllum* led to 'Albert Close'. Isolated though he was, he corresponded with two of the best authorities of the day – Cornwall's E. J. P. Magor and Pennsylvania's Joseph Gable – and was ever-grateful for their advice and encouragement.

Contacts were increasingly important as plantsmen and plantswomen, satisfied that they had found a congenial climate, became more sophisticated in their tastes. The Royal Horticultural Society was the fount of information and plant material. Mrs Butchart tested for West Coast suitability a wide variety of seeds from plant hunters' expeditions. In the procuring of prize seeds of newly discovered rhododendron species from southeast Asia, a close network developed privately along the coast from BC to California. Dr C. T. Hilton, in the Alberni Valley, was an early grower and distributor – to Fraser among others. Whatever their sources, the efforts of these rhododendron fanciers could lead along unforeseen paths to lasting benefits. For instance, among the retired people who chose to settle here and garden were British army officers, who had served at hill stations in India. One of them was a naturalist, Dr Richard Stoker (a brother of Bram Stoker, author of *Dracula*). He and his wife, Susan, obtained seeds, perhaps direct from northern India, for their garden at Lake Cowichan, which grew into a small nursery in the care of their younger friends, George Buchanan Simpson and his wife, Suzanne. Essentially, theirs was a collection of quality alpines. In the 1930s, the rhododendron portion formed the base on which Ted and Mary Greig founded their pre-eminent specialized nursery at Royston, on the east coast of Vancouver Island.

In gardening generally in British Columbia during the early decades of this century, the accomplishments were such that plant hunters visiting on lecture tours were impressed. Colonel Bailey, E. H. M. Cox, Frank Kingdon-Ward, and Dr Joseph Rock among them were full of admiration or clearly astonished at the diversity of plants and the expertise with which they were grown. The prevailing trend was toward alpines and rock gardens, whose developers would later establish and from time to time infiltrate organized rhododendron circles. Gradually, though, rhododendron species and hybrids came to be appreciated for private gardens, as new forms and the products of carefully chosen crossings

by the great British hybridizers – Lionel de Rothschild especially – became available. Sybil McCulloch recalls her introduction to the genus during the Second World War, when Mrs A. C. U. Berry of Portland, Oregon, lectured in Victoria and showed slides of the first flowering of plants she had grown from seed collected by Dr Rock: 'I suddenly realized that there were rhododendrons other than 'Pink Pearl'.'

After the war, most of the plant stock for British Columbia came from Holland, until stringent regulations about soil importation dried up this source. Then the US Pacific Northwest took over, led by work in its universities and by hybridizers in Washington and Oregon such as Bill Whitney, Hjalmar Larson and Halfdan Lem. As the almost exclusive suppliers, the American nurserymen found a surprisingly lucrative market right at their back door. The population of BC is now three million and every gardener wants at least a few rhododendrons, especially new medium- and small-sized hybrids.

By now, collectors and hybridizers have learned much about the diverse growing conditions within the generally favourable south coast climate. The soils vary greatly, moisture-retentive loams on the Fraser River delta, rock outcrops on Gulf islands, thin soils on most parts of Vancouver Island. In their attempts to compensate for disadvantageous soils, growers here have not had the wealth of deciduous native trees compared with, say, England or the American northeast. The rainfall, while high from autumn to spring, can be extremely low in summer months. In a rainshadow region such as the southeastern tip of Vancouver Island, the 30-year average rainfall for July is less than 2.5 cm (1 in) and scarcely more in an average May, June and August. Growers here are rather envious of Ken Gibson on his conical hill of rhododendrons at Tofino, on the west coast of the Island close by George Fraser's old haunts (Fig. 2). Tofino's average annual rainfall amounts to 322 cm (127 in), from a winter high of 46 cm (18.2 in) to 8 cm (3.3 in in July). With an average temperature of 6.4°C (43.5°F), Gibson is able to grow most Maddeniis outdoors all year.

For other growers, however, the light summer rains are worrying. 'As our human population increases, we will have more water restrictions in summer', a correspondent writes from Seattle, where the average July rainfall is also less than 2.5cm (1 in). 'I think that we in the Pacific Northwest should give more attention to drought-resistant plants'. His words have a bearing on what Dr Hermann Vaartnou has learned in growing big-leaf species at his sheltered Oak Bay garden – that they reach flowering age and fare just as well as in every other favourable climate, given enough light and plenty of water in the summer months. This possibility of a water shortage in the future (and the more immediate threat of powdery mildew, of which Kenneth Cox gave warning at the American Rhododendron Society's convention in Victoria in 1989) are the major concerns today.

In each microclimate, growers have had the time and experience to assess and compare many species and hybrids for their hardiness and their worthiness as garden plants. Dr Bob Rhodes and David Dougan have each grown

rhododendrons in several south-coast locations. Rhodes, now on Gabriola Island, has observed colour differences in hybrids grown here and in England, which he can only attribute to different soils. Dougan, whose latest garden is situated high on the Malahat, north of Victoria, delights in meeting the challenges of new microclimates while studying the behaviour of his plants. His eclectic tastes encompass species and hybrids: 'If it's a good garden plant, it's a good garden plant.'

Hybridizers, meanwhile, have contributed to the goal of achieving a good range of well adapted plants. A selection of the best BC hybrids includes several from Jack Lofthouse, such as 'Butter Brickle', 'Canadian Beauty', and 'Cherry Float'; Albert de Mezey's 'Mary's Favourite' and 'Peggy Abkhazi'; Rhodes's 'Bob's Blue' and 'Haida Gold', the late Dr Stuart Holland's 'Transit Gold'; and earlier Greig hybrids bearing their Royston cognomen. Some hybridizers believe that more of the unusual species should be used now that they are available, as Milton Wildfong is doing. Opinions differ on current trends in the Pacific Northwest where, in the Puget Sound area alone, ninety people are engaged in hybridizing, some making as many as a hundred crosses a year. Some BC growers contend that too many new hybrids are being rushed on to the market and, furthermore, that too many of insufficient distinction are being registered. Even in a consumer society, they say, the table can be laid with too lavish a feast.

Two research developments in the Vancouver area, one institutional and the other commercial, are being watched with interest. At the University of British Columbia, the David C. Lam Asian Garden gives every promise of becoming a rhododendron species garden of world class. The site, a 16-ha (40-acre) old-growth Douglas fir forest on a south-west slope, is proving excellent. The collection has been building up since the early 1950s, first with a thousand plants donated by the Greigs, and then expanded in the 1960s when the university co-operated with the new Rhododendron Species Foundation in the US as the principal propagator of its plant material from major gardens in the British Isles and other prime sources. Seven hectares (17 acres) are planted, not all with rhododendrons. Now, with a $1 million gift from Vancouver businessman David Lam, who has since become lieutenant-governor of British Columbia, the species garden will have a new building and landscaping of a further 2 to 2.5ha (5-6 acres).

The other development is very much in the realm of private enterprise – tissue culture propagation by Les Clay Jr. Since co-financing experimental work in the US, the Clay nursery has swung its production almost entirely from cuttings to tissue culture in ten years. While conceding that the method still has to be validated for certain species and hybrids, Clay believes that in this decade a whole new range of plants will be brought into mass production. Already his nursery is one of the largest overseas exporters on the West Coast, air freighting half a million plants annually, mostly to the United Kingdom, France and Italy.

British Columbians have received two Gold Medals from the ARS. One was

awarded to Evelyn Weesjes, who was chief propagator at the University of BC during its joint programme with the Rhododendron Species Foundation and who, with her husband Nick, has recently developed a woodland garden (Towner Crest) of species and hybrids without equal here among private gardens in its panoply of plants. The other Gold Medal was awarded jointly to the Greigs, whose rhododendrons are everywhere. When he dedicated the Ted and Mary Greig Garden at Vancouver's Stanley Park in 1989, John Bond, Keeper at Windsor Great Park, spoke of England's current efforts to establish garden trusts so that old plantings can be preserved on site or relocated. The Greig rhododendrons were a case in point. Mary Greig was then in her nineties (she died last June); her historic garden lives on across the Strait of Georgia. While mass transplantings have been done in the past, at heavy cost to either the mover or the plants, most owners of old and venerable rhododendrons agree that the time has come for heritage trusts. Edward Evans's plantings, close to oblivion, might not be worth saving. But who, now, is to say?

Return to Sichuan, 1989

PETER A. COX

Our whistle-stop organized tour of northern Sichuan in 1986 gave us an insight into the rich flora and superb scenery of that region and encouraged us to attempt another lengthier visit some time in the future. After more than a year's negotiations with Professor Fang Mingyuan of Sichuan University, permission was finally granted for us to visit various parts of north-central and northern Sichuan in spring 1989. We were given little indication of where we would be able to go before leaving home, or if we would be camping or not.

I had the alternative choice of going to northern Yunnan with an American trip organised by Warren Berg. One moment I was all set for going to Yunnan due to lack of confirmation for Sichuan. Then the final telex arrived from Sichuan giving us the all clear and it left me with a difficult decision which came out in favour of Sichuan. In the end it turned out that the Yunnan trip suffered more frustrations and disappointments than we did so I made the right choice.

Sichuan lies to the northeast of Yunnan and has a considerably harsher climate than most of the latter province. As one travels north and east in China, the climate becomes more continental, with greater differentiation between winter and summer seasons. The approximate equivalent to 3,000 m (10,000 ft) altitude in Yunnan is 1,800m (6,000ft) in northern Sichuan. This means, in theory, that it is not necessary to go so high up the mountains to find hardy plants. To some extent this is so, but we found that rhododendrons in particular were elusive in much of the upper forested regions and it was only about and above the tree-line at about 3,600m (11,750ft) that they became plentiful.

The three of us, Sir Peter Hutchison, my long-standing travelling and gardening companion, now chairman of the Trustees of the Royal Botanic Garden, Edinburgh, Dr David Chamberlain, taxonomist in the Botanic Garden in charge of the classification of subgenus Hymenanthes (Elepidote) of *Rhododendron*, and I, left home on 11 May 1989 and arrived in Chengdu, capital of Sichuan province, two days later. The timing was of some significance as spring 1989 will long be remembered for the student unrest in China and the accompanying massacre in Tiananmen Square in Beijing. Late evening three nights after our arrival in Chengdu I heard noises in the street outside my hotel window and a little more in the morning which proved, as I expected, to be the chanting of students. We met up with further demonstrations at the university the following day. Later we saw larger demonstrations in the main square around Mao-Zedong's huge statue and later, when shopping, we were passed by processions. All was conducted in a very friendly and peaceful manner and in no way did we feel threatened. There was obviously some harmony of ideas between the demonstrators and passers by.

We were, of course, careful not to get mixed up in the situation or to take photographs at close quarters.

Our preliminary trip to the well known Emei Shan (Mount Omei) was delayed until 17 May, when the university broke up, so we spent some little time visiting the university, temples, parks and some shopping. We were accompanied by our very nice and helpful guide/interpreter Mr Jiang Yuan, and even with his help, we failed to locate some of our requirements. Even a tin of tea took some finding!

Emei town surprised us by having quite a smart university. On our evening walk after our arrival, we heard and then saw more chanting students with banners. Our hotel was something to do with the University of Traffic! We were to attempt to fit the necessary three days on the mountain into one and a half. We had a long discussion on how to make the best use of our limited time with our leader, Professor Fang, who accompanied us on this part of the trip. He knows Emei well as did his father, Professor Fang Wen-Pei, who was the leading expert on the flora of the mountain. I rather felt that the professor took a good look at us and decided that we were not fit to carry a back pack with our kit for a night so, in the end, he planned for us to come back to the hotel the following night, with only the one day on the upper reaches. This meant that we would miss much of the very interesting middle altitudes.

Emei Shan rises almost straight out of the Sichuan Plain, with a comparatively gentle slope on one side and a really fearsome precipice on the other. There is now a road and even a cable car the rest of the way to the approximately 3,000m (10,000ft) summit. This side is drier and therefore has a less diverse flora than the steep cliff side. In the old days anyone (mostly pilgrims) wishing to reach the top had to climb some 22,000 steps! We had to admit that the fairly limited number of steps we had to traverse had quite a detrimental effect on our legs so perhaps the professor was right! These steps are made for short Chinese legs and little feet. Taking two steps at a time is almost a necessity and yet the narrowness makes this decidedly risky.

We passed numerous *R. calophytum* on the way up, many still with good flowers and the majority having at least a pink tinge. Many were trees of 10m (30ft) or more. On the summit itself, there is a small plateau on which stands the Golden Temple, recently rebuilt after a fire. The rest of the summit is a mess and as we walked down from the top 900 m (3,000 ft), we passed numerous shacks, with rubbish piled outside, litter everywhere and human excreta under every bush near the path. We were disgusted. The easy access has encouraged a vast quantity of humanity to ascend this mountain with horrifying results. There are still good plants, although some are now half-buried in rubbish. Unfortunately, the two summit rhododendrons, *R. faberi* and the Lapponicum *R. nitidulum* var. *omeiense*, were not yet in flower. The latter, collected by Keith Rushforth in 1980, has proved to be one of the best of the subsection, with late, clear lilac-blue flowers and a neat, spreading habit. These are perched on the edge of the abyss. Just below on the gentler side, we saw *R. oreodoxa* typical and many *R. pachytrichum*, with flowers varying amazingly in colour, from

pale pink to almost the red of *R. strigillosum*, plus a great variation in hairiness. There were also apparent hybrids between *R. oreodoxa* and *R. pachytrichum* that equal most of Rushforth's KR172, which is obviously nothing to do with *R. davidii* as thought previously. This species occurs on another part of the mountain. In addition, there was *R. ambiguum* and *R. concinnum* out of flower. Later, we found, *R. wiltonii* right on the edge of the cliff.

The professor said that, at around 2,700m (9,000ft). we should find the much coveted *R. dendrocharis*, a small-leaved relative of *R. moupinense* which has never been introduced. Sure enough, Peter first spotted it in a rock cleft half-filled with litter. (More of this species later when we reach Wolong.) David and I failed to see much difference between *R. pingianum* and its close relative, *R. argyrophyllum*. In bud higher up the mountain, *R. pingianum* was covered with shell-pink flowers at its lower elevations. Alas, these were all the species we saw on Emei. The following day, we determined to reach the site of *R. hemsleyanum*, but ran out of time long before we could reach it.

We had a spare day before setting off on the main part of our trip. David and I went out into the country near Chengdu to see a garden-cum-experimental station used for testing street trees and shrubs for Chengdu. This was most impressive. The magnolias, which totalled many hundred plants, included several too tender for Britain. *Magnolia grandiflora* and what I took to be *M. denudata* lined the main concrete path. We also noticed the large-leaved, deciduous *M. officinalis*, which we had seen cultivated in some quantity around Emei Shan for the medicinal properties of its bark.

We stayed the following night at Guanxian, situated at the foot of the mountains to the north of Chengdu. Our first meal here proved to be the best so far. We had several more meals here, all excellent and not too spicy. Over all we fed very well, much better than in 1986. Our staff were experts at locating the best food, being very partial to a good meal themselves and often got extra dishes thrown in by bribing the cooks with cigarettes. Our staff consisted of our excellent interpreter, Jiang Yuan, Yang Manye, who was in charge of our well-being, and our new driver with a different Toyota minibus. The latter was basically a good driver and got us out of some nasty moments, but he developed a most annoying habit of free-wheeling on every possible occasion, hurtling down any hill and even on the flat, speeding up and then turning the engine off, probably using more fuel than normal!

The next day, we visited the new high elevation garden run by Professor Chen, under the overall charge of Beijing, which is attempting to grow quantities of wild-collected rhododendrons. Most of the plants have so far been collected locally, but their losses are far too high. They have been making three principal mistakes – attempting to lift plants that are too large and straggly; not leaving on nearly enough root and soil; and mounding soil up the trunks often as much as 30cm (1ft). After our visit, we wrote out a list of what we thought they were doing wrong and they seemed quite appreciative. The commonest species was *R. davidii*, which we saw growing wild later. This has much longer, narrower leaves than *R. oreodoxa*, up to 20cm (8in) or more, somewhat

glaucous below. It forms a large rounded shrub of about 5m (16ft) and, as the flowers were all over, it is likely that it flowers about the same time as *R. oreodoxa*. Seed has been sent from China recently, but has failed to germinate.

Other species were *R. hunnewellianum, R. oreodoxa, R. longesquamatum, R. calophytum* and a curious member of Argyrophylla with pretty white flowers, surprisingly having about 16 stamens and a light brownish indumentum. Its closest relation seemed to be *R. argyrophyllum* ssp. *omeiense*. The *R. longesquamatum* was a rather inferior form, at least in its foliage, with less tomentum on the stems than the best in cultivation. There was a large *Davidia* in full flower. This plus a few other trees are on a special protection list. We did see numerous small and largely healthy *R. davidii* growing in a nursery and also in raised, open ground seed beds, with a few tiny seedlings visible. The surrounding mountains are covered with virgin forest and the area is said to contain 20 rhododendron species.

Wolong Panda Reserve was next on our itinerary, the beginning of our main trip up north. Peter and I had spent two and half hours plant hunting there in 1986, and this time we were to spend three days. The reserve contains the second highest mountain in Sichuan, Sigunian, at 6,700 m (21,600 ft) and many other lesser peaks. The first evening just before it got dark, we went for a short walk up a gorge near the guest house, in the distance, I am sure I saw a magnolia, probably *M. sinensis*, in full flower but out of reach on a cliff. On the cliffs and steep banks over the river opposite the guest house were scattered plants of *R. augustinii* in flower. Later, we are able to see some at close quarters. Having heard that many forms of this species in the wild are definitely not good blues, in fact often various shades of pink and mauve, we were delighted to see a population of really high quality plants, some equal to the best selections in cultivation. This species was scattered through the scrub and riverside forest, rather like *R. yunnanense* is in Yunnan.

Our first day's excursion was back up the Heroes' Gorge where we had spent an hour and a half in 1986. The heroes were workers who blasted out the four tunnels on the path, several losing their lives in the process. This time I had brought a torch, which helped us grope our way through the tunnels. The big *R. galactinum* in the gorge had only one truss on it and was inaccessible anyway. In all, we saw perhaps 20 mature plants of this species, but only three or four had flowers. One was a good pink. The only mature plants of *R. wiltonii* were on sheer cliffs, as on Emei Shan. These had impressive rugose foliage, perhaps superior to most in cultivation, but the indumentum was inferior to those seen on Emei Shan. There were also some white-flowered *R. pachytrichum*.

At one stage I was a little behind and David and Peter asked if I had seen anything of interest. They certainly had – numerous plants of *R. dendrocharis* (Fig. 4) or the closely related *R. petrocharis*, previously found in bud on Emei Shan. Here, it was in full flower, forming conspicuous blobs of deep pink to near white high up in the trees and on the cliffs. Peter determined to reach one he had spotted on the cliff while David and I set off up the hillside near by.

Before long I found one on a fallen tree with some flowers on it and after a while Peter had returned having risked life and limb, clutching a branch in all its glory, covered with beautiful, pink, flushed-rose flowers, very large in comparison with the tiny hairy leaves. This looks like a real winner and should be reasonably hardy, being found at 2,500 m (8,250 ft). Its relationship with *R. moupinense* is quite obvious, but it has much smaller leaves. We came to the conclusion, on the material we examined, that there is little point in keeping *R. dendrocharis* and *R. petrocharis* as separate species.

Beyond the tunnels and the *R. dendrocharis*, the country levelled out, and, with it, the flora was much less interesting. There were the three Triflorums, *R. concinnum, R. lutescens* and *R. polylepis*. The first two are well known species and were of no special merit. *Rhodendron polylepis* has rather longer, narrower leaves than *R. concinnum*, with very conspicuous scales below. The flowers were a fairly uniform purple, but there was quite a variation in leaf and flower size. This species seems to replace *R. rubiginosum* in Yunnan and *R. keysii* in Bhutan, all three occupying similar niches in their respective areas, forming vigorous, upright bushes.

On the way down, David scrambled up the bank after *R. wiltonii*, which he failed to reach, but he did return with a shoot of *R. longesquamatum*, equal in foliage to the best forms in cultivation. I spotted a decaying fallen tree, which I looked at carefully as it often makes a good seed bed. There were seedlings of *R. wiltonii, R. galactinum* and one or more Triflorum and also a little seedling with rounded leaves, which had to be *R. orbiculare*. We resolved to find mature plants of this species the following day.

Next day, we were off to search for *R. orbiculare* in a special panda observation area down river from Heroes' Gorge. We clambered up a zigzag path to the panda observation hut. Here we met an American zoo man on holiday who had been lucky enough to hear a panda grunt on one occasion. Some way beyond the hut we came to a crumbling crag, where we scrambled to the top and sure enough, there on the top, was a mature specimen of *R. orbiculare* just opening its buds. There were shouts ahead of more plants, some in full flower, all with good, clear rose-pink flowers and some with leaves bigger than I had ever seen in cultivation. The only other rhododendron here was *R. lutescens.*

We walked on up to the rather flat-topped ridge, with nothing more of interest except fairly numerous *R. calophytum (R. asterochnoum),* up to 11m, (36 ft) high. The latter plant has been described by the Chinese and is said to differ from *R. calophytum* in its stellate indumentum on the leaf underside. It is recorded from here and we examined many plants in passing. These varied in having from a little indumentum on the mid-rib and sometimes on the veins to a thin scattering on the rest of the lower surface. Here is a case of hair-splitting and, at best, this plant only deserves varietal status.

We heard the news that the Balang pass further up the road was open to traffic, so on we went the next day to what might be the highlight of our trip. The first part of the valley had quite a large population of Tibetan origin with

their accompanying cultivation, sometimes away up the hillside, a ridiculous state of affairs in the middle of the chief panda reserve. Before long, the valley became more of a gorge and habitation was left behind. We found a nasty rock slide where, just as our minibus was about to cross, rocks and boulders started hurtling down. We spotted large white-flowered rhododendrons scattered on the steep, forested banks, which turned out to be the sought-after *R. balangense*, described by Fang Wenpei in 1983 (Fig. 3). Any ideas that this might not be a good species were soon banished. David had placed it tentatively in Taliensia, as have the Chinese, but we came to the opinion that it might be better placed near *R. watsonii*. Its chief characters are winged petioles, persistent leaf bud scales and white to buff, scurfy indumentum on the leaf underside. The white to tinged pink flowers are in a rather floppy truss. It forms a large plant to 5-8 m (16-25 ft). While not perhaps a top rate species, it would still be well worth introducing. Towards the top of its altitudinal range, it was associated with *R. galactinum*, having pink to off-white flowers with a blotch in a more compact truss. Forming more of a tree than *R. balangense*, *R. galactinum* was the handsomer of the two, with a deeper, thicker indumentum, noticeable from quite a distance. Also here were *R. ambiguum*, *R. augustinii* and probable hybrids between them.

The road then started to climb away from the river, with the forest thinning out and largely disappearing. Two new rhododendrons were identified as *R. faberi* ssp. *prattii* and *R. watsonii*. The former was mostly in bud, the latter going over. The one example of ssp. *prattii* in flower was surprisingly a pale pink, with a rather deeper, thicker indumentum than most in cultivation. The *R. watsonii* was typical, with its distinctive yellow midrib above and quite a neat, but fairly small truss of white flowers. This is rare in gardens. We failed to find *R. sargentianum*, recorded from here, probably owing to lack of time.

Having reached the alpine pasture, we saw numerous *Meconopsis integrifolia*, with its gorgeous yellow flowers almost the size of soup plates – perhaps my favourite plant of the whole trip. There were also many *Primula melanops*, a large Nivalid species, having bluish violet flowers with a white eye, and *R. nivale* ssp. *boreale*, formerly *R. violaceum*, a rather dull Lapponicum. Near the summit of the pass, officially 4,400 m (14,500 ft), there was fresh snow on old snow. On the north side where, curiously, there was less snow, the primulas and meconopsis were blooming at a higher altitude, being drier and less cold. We dropped down to a valley with the promise that we would return almost as far as the pass the following day. Our abode was primitive but the meal by candlelight had a lot of local atmosphere. Mao Zedong was reputed to have stayed here on the Long March. The people were mostly Tibetan with houses made of horizontally laid stones and flat roofs.

The next day, our first stop on the way up was at a cut-over bank covered with flowering rhododendrons. These turned out to be *R. vernicosum*, with their consistently good flowers, pink to almost white. We were to see this species frequently through much of our onward journey, often hanging out over the rivers and the only species in such locations. Here, it was accompanied

by *R. concinnum*, not really typical, with rather long leaves, less prominent, scales and flowers often of a really striking magenta-red. Also here was the Lapponica, an upright, rather leggy bush with pale to mid-blue-purple flowers. The next stop rewarded us with more Lapponica, plus *R. primuliflorum* (Fig. 5). The Latter was an upright, straggly bush to 2 m (6 ft), with pale pink to cream, daphne-like flowers. I managed to cross the stream and find *R. wasonii*, not in flower. There was quite a variation in leaf width and colour of indumentum. The flowers are probably pink here. The top stop was at 3,900 m (12,750 ft), where rhododendrons petered out. Three isolated plants were all different, one looked like *R. przewalskii*, the second like *R. aganniphum*, while the third appeared to be half-way between. Here, I found our first *Meconopsis punicea* of this trip, too early for flowers, growing among and on top of boulders.

Further down, we saw many white- and pinkish-flowered rhododendrons on the opposite bank, a real case of the grass growing greener on the other side as the stream was a raging torrent, and time was running out. Luckily, some were just over the stream and we were able to identify them as *R. bureavii (bureavioides?)*, which the American Warren Berg found in a neighbouring valley, again always along streamsides, in 1983. This had large cream-coloured trusses and we distinctly saw the indumentum on parts of the leaf upper surface, with its dense cinnamon colour below. We had a long drive down the valley to the town of Xiaojin, the country getting drier all the way.

Conversely, the valley north out of Xiaojin became gradually damper. Again, we suffered from having a long way to go and we had to hurry through it far too quickly. The pass called Mongbi proved to be not as high as Balang, about 4,000 m (13,000 ft). The top was a defile cut through the hill and the road was a terrible quagmire of mud and snow melt but our driver was skilful enough to avoid us having to push. The pass had quite a snow covering and thickets of *R. aganniphum*, with its usually convex leaf and almost white indumentum. The hillside opposite was covered in what must have been this species and, interestingly, the valley below was equally full of the Lapponicum. Here, the north side was again quite different, with forest starting just 100 m (300 ft) below the summit. We descended through the forest, here carefully felled in blocks and replanted. We had actually passed three tree nurseries, all looking quite well organized, with wooden slats shading the beds. Unfortunately, the rhododendrons suffer in this replanting programme and we saw none on cleared and replanted areas. The foresters probably consider rhododendrons to be a weed to be eliminated. The next four nights were spent in the town of Maerhkang and we were able to return to the pass.

The upper forest contained numerous rhododendrons where the trees thinned out. The higher altitude ones were all *R. phaeochrysum* var. *phaeochrysum*, with flowers varying from whitish to quite a strong pink, all spotted, in small, compact trusses. *Rhododendron aganniphum* still occurred intermittently in the forest zone, where it grew larger and healthier-looking. Even here, it was still in bud while *R. phaeochrysum* was fully out. The apparent lack of overlapping in the flowering season was no doubt responsible

for the absence of visible natural hybrids. Lower down, another Taliense appeared, *R. rufum* in the thick indumentumed form previously known as *weldianum*, with white to flushed pink flowers. David debated whether this should be returned to specific status, though later we saw some that could be placed either way. With *R. phaeochrysum* and *R. rufum* flowering together, the presence of hybrids between these two was hardly surprising.

After Maerhkang, we planned to make a detour to the high Zhegu pass that, tantalisingly we went over in 1986, but terrible road works and an overturned lorry loaded with aubergines held us up several hours, so once again the pass had to be missed out. As we approached the Hong Yuan plain, which is the southeastern corner of the vast Tibetan grasslands, the forest gradually disappeared. We enjoyed the drive across the plain with its green undulating hills in superb weather covered with herds of yaks herded by Tibetan nomads living in their yurts made out of yak skins. The grass was studded with primulas, king cups and buttercups, in place of the gentians and cremanthodiums we had seen in the autumn of 1986. There was only a scattering of rhododendrons: *R. capitatum* and *R. aganniphum* were probably the only two species present at that elevation, between 3,500 and 3,700 m (11,500-12,000 ft). An excursion up the occasional higher peak might have produced the much sought-after *R. rufescens*, a member of the Pogonanthum section not in cultivation.

The scenery over the pass to Huanglong was absolutely staggering and largely unexpected as low cloud had hidden it on our 1986 visit. A long, jagged, snow-covered ridge was backed by higher peaks, including one of 5,558 m (18,000 ft) called in Chinese 'Icy Peak'. On the left were much lower limestone peaks, with streaks of pyrites, while at the back, in between, an inky black thunderstorm was raging.

The flowering here was disappointing and the locals told us it had been much better last year. It was hard to find decent trusses on either *R. rufum* or *R. watsonii*. Likewise *R. oreodoxa* had only the remnants of poor flowers on plants up to 7.6 m (25 ft), with unexpectedly attractive bark. Here, *R. przewalskii* takes the place of *R. aganniphum*, virtually all with no indumentum. Hybrids of *R. oreodoxa* × *rufum*, *R. rufum* × *watsonii* and *R. rufum* × *przewalskii* were noticeable. After our 1986 trip we were happily calling the Pogonanthum, which grows here above and below the tree-line, *R. anthopogonoides*, but now, having seen it in flower, we had to admit that it is only more *R. primuliflorum*. The leaves of the former are larger and the flowers are also larger and more to the truss. The extraordinary limy river, with its sectioned pools, was low at the time of our visit and often had rhododendrons actually growing out of the limy soil or even in the water at the edge. Not surprisingly, these plants were not exactly happy. Above the tree-line, there were huge drifts of *R. przewalskii*, alas none in flower.

It was at Huanglong that we learned something of the terrible slaughter in Beijing. We had a good many stops on the way back over the pass. *Rhododendron rufum* was in rather better flower, but the the blooms being off-

white and rather small were of no particular merit. *Rhododendron capitatum* had its usual upright habit, with green to glaucous leaves, the flowers varying from blue-purple through pale lavender to more pinkish. To our amazement, two samples of the elepidote rhododendrons among the *R. capitatum* revealed mixed populations, some with plastered indumentum, some more or less woolly, sometimes only along the midrib below, other times over the whole surface, the colour being light buff to grey to white. Surely this was a merging population of *R. przewalskii* and *R. aganniphum.*

Owing to the unstable situation in China, we got on our way as quickly as possible. One highlight was seeing *Lilium regale* in the Min valley, still in the huge quantities reported by Ernest Wilson early this century. Another was meeting Professor Hu Chi Min in Guanxian. He is the leading expert on primulas in China and was able to name all those we had seen, including one species only just named.

On entering Chengdu, the aftermath of the rioting was all too visible. We saw a number of burnt out buses and, on returning to our hotel, found a number of windows broken and the shop outside ransacked. The hotel opposite had much of its furniture thrown out the windows and the Peoples' Market where we had done much of our earlier shopping, had been completely burnt out. All this had happened three days before our return and the first night troops were still on constant patrol. All transport had been at a standstill and we were indeed lucky to be able to fly out on schedule.

On our last visit to the university, we were introduced to Professor Fang's rhododendron study group, Some members are working on the 'Flora of China', *Rhododendron* section, others on leaf analyses and the study of pollen. We were both surprised and impressed, but consider it a pity that so much of the research on the flora of China is based in Chengdu and not in other places like Kunming in Yunnan. We also heard about hybridizing in Maddenia and Choniastrum and were told that one of the hybrids that had been raised blooms in winter. Tests are being carried out on the nutritional value of the flowers of *R. decorum, R. arboreum* and *R. simsii*, all of which are eaten as a vegetable. In addition work is being done on the medicinal and insecticidal properties of rhododendrons; *R. przewalskii* is being used as a cough cure. The International Rhododendron Union should publish a paper on what is going on in Chengdu. Good as all this activity may be, we got the impression that there is a lack of co-operation between the different provinces and a danger of their work becoming fragmented.

To sum up. It was a good trip and we saw a great deal, but the potential is there to achieve much more, given more time in the field and access to high elevations. Special thanks are due to Sichuan University for organizing the trip for us and to Professor Fang Mingyuan, Jiang Yuan, Yang Manye and our drivers, who accompanied us and looked after us so well.

Philip J. Savage Jr, a magnolia breeder with flair

KARL FLINCK

Phil Savage, whose hybridizing of magnolias is the subject of this article, falls outside the pattern of most gardeners. For me he is more like an old yankee frontiersman, always looking for a new challenge round the corner.

Phil Savage (abbreviated throughout to PS) was born in Michigan and has spent most of his life there. His college training was in chemistry rather than botany or zoology, but World War II upset his plans. He made the decision to join the American Airforce as a volunteer and flew 35 combat missions as captain and pilot of a Liberator bomber. Soon after peace returned, PS established his own successful business. This involved not only chemistry but also the many facets of biology. He had always wished to find out what would grow in the environment of his own state of Michigan. With the few spare hours at his disposal he limited himself to the genus he liked best - *Magnolia*. But he was not satisfied with the plants he had obtained from outside, and he set out to produce for himself what he could not obtain from others. As he says himself:

> In early childhood, the lasting strong interests of our lives are formed. I clearly remember the deep impression made upon me by the blossoms of a *Magnolia soulangiana* on either my third or fourth birthday. I remember my delight at finding furry little 'pussy willow' buds expanded into magnificent pink vases, heavy-textured and with a strange exotic scent. I remember how clear and smooth and perfect were the insides of the lovely petals. As Conrad Lorenz would say, I was 'imprinted' with magnolias. Imprinted I have remained. Twenty miles north of Detroit, where I live, we see fifteen below zero Fahrenheit just about every winter. The last frost is around May 5th, and the stingy 32 inches of rain we average per year would only support jack pines and poplars if it weren't for the fact that we receive less sunshine to evaporate it than does foggy London, England. For all this lack of climatic hospitality, it is surprising to find the number of magnolias that live, bloom and grow old here. [The highest temperature measured in PS's garden is 40°C (104°F) and the lowest is −34°C (−29°F). The summers are warm and warm sunny Octobers ripen the wood very well. K.F.]

The following is a list of species that PS grows and the hybrids he uses in his breeding work:

SECTION YULANIA. *M. dawsoniana* (possibly hybrid); *M. denudata; M. denudata* 'Purpurascens'; *M. campbellii* var. *mollicomata; M. sprengeri* 'Diva' and seedlings.

SECTION BURGERIA. *M. biondii; M. cylindrica* (Lu Shan form); *M. kobus* var.

borealis; M. salicifolia; and *M. stellata* 'Royal Star', 'Waterlily' and 'Rubra'.
SECTION TULIPASTRUM. *M. acuminata* var. *acuminata; M. acuminata* var. *subcordata* of US trade; *M. subcordata* 'Honeybee'; and *M. liliiflora.*
SECTION RHYTIDOSPERMUM. M. fraseri; M. hypoleuca; M. macrophylla; M. officinalis var. *biloba; M. tripetala.*
SECTION MAGNOLIA. M. virginiana var. *virginiana;* and *M. virginiana* (most northern form).

The growth rate of these species is impressive. The location is far further south than any part of the British Isles and the continental climate suits very well the magnolias that are hardy. Quite a few that develop into big bushes in Britain grow with PS as trees with single trunks. The growth rate and willingness to bloom early has also been of great help to him in selecting his crosses.

The following is a list of hybrids grown by PS and used in his breeding work. Some are the result of his own breeding (Seed parents unless otherwise stated):
'Helen Foog' (PS hybrid); Galaxy; *M. loebneri* 'Ballerina' and 'Merrill'; 'North Star' (a non-registered PS hybrid); 'Orchid' (pollen parent); *soulangiana* × 'Alexandrina'; 'Brozzonii'; 'Lennei'; 'Lennei alba'; 'Picture' (an exceptional parent); 'Sawada's pink' (all hardy except 'Lennei alba'); *M. veitchii rubra* (doubtful identity, but half *M. campbellii*); *M. wieseneri* (seed-sterile, pollen-fertile).

My general views on hybridization are as follows and I mention them because I find that most of PS's successes coincide with them one way or another.

(1) Yellow colour is linked to plastid carotenoids. The inheritance of plastid pigment is to a great extent maternal. The chances of successfully introducing yellow colour into magnolia flowers are therefore by far the best if *M. acuminata*, which has the greatest amount of carotenoids in its plastids, is used as the female parent in breeding work.

(2) Pink, red and purple colours are linked to anthocyanins that occur in cell sap of tepals from flowers with the colour mentioned. If one wishes to introduce pink, red or purple colours, this can be done by using pollen from plants with the colours mentioned.

(3) Hardiness seems normally to be more linked to the female than the male parent.

(4) In most respects, at least when magnolias with low chromosome numbers are hybridized with a high chromosome plant, the progeny tend to be intermediate between the two parents.

(5) It is easier to cross plants within the Yulania subgenus with each other than to make crosses over the border between the two subgenera.

(6) Plants with high chromosome numbers in, for instance, *M.* × *soulangiana*, can lead to new genetic responses in flower size and substance as well as in hardiness.

According to PS, 'In *M. acuminata* a leathery outer perule covers each flower

bud plus a leaf bud on each side of it. These open at the same time. In crosses using *acuminata* the other parent must be dominant for eliminating this perule or the leaves hide the flowers. *M. liliiflora* and *soulangiana* clones heavy in *liliiflora* blood, such as 'Lennei', do not shed this perule early so the flowering is not truly precocious.' Today, after some 150 years, there are only a dozen named and registered yellow, large-flowered magnolia cultivars. Outside PS's place, there are only pale yellows, for it seems as difficult to get a deep yellow colour in magnolias as it is to get it in rhododendrons.

The following is a list of the PS *acuminata* crosses. Space prevents detailed comment:

Seed Parent	*Pollen Parent*
Magnolia acuminata var. *acuminata* 'F.M.'	× *M. campbellii* var *campbellii*
	× *M. campbellii* 'Queen Caroline'
	× M. denudata 'Wada'
	× M. denudata 'Veitch'
	× M. × 'Orchid'
	× *M. sargentiana robusta* 'I'
	× *M. sargentiana robusta* 'II'
	× *M. sprengeri cv 'Diva'*
	× *M. sprengeri cv* 'dark-flowered seedling'
	× *M. soulangiana* 'Alexandrina'
	× M. 'Picture'
	× *M. veitchii* 'Peter Veitch'
	× *M. denudata* 'Sawada's cream'
Magnolia acuminata var. *subcordata*	× *M. soulangiana* 'Alexandrina'
M. acuminata var. subcordata cv 'Miss Honeybee'	× *M. denudata* 'Sawada's cream'
	× *M. loebneri* 'Ballerina'
	× *M. loebneri* 'Merrill'
	× *M. sargentiana robusta*
	× *M. sargentiana* 'Chyverton'
	× *M. soulangiana* 'Brozzonii'
	× *M. stellata* cv 'rubra'

There are some outstandingly successful crosses among these, including that from × 'Picture'. The yellows include 'Butterflies' (Fig. 7) with deep yellow, truly precocious flowers, 'Yellow Lantern', 'Goldfinch' and 'Yellow Star'.

MAGNOLIA AND MICHELIA CULTIVARS NAMED AND REGISTERED BY PS

Name	*Description*
Magnolia 'Bloomfield'	A form of *M. tripetala* selected for its unusually large, firm-textured leaves and multi-tepal flowers. Originated from central Pennsylvania seed.
M. 'Goldfinch'	*M. acuminata* var. *subcordata* 'Miss Honeybee' × *M. denudata* 'Sawada's cream'. Very early, light yellow flowers. Some leaves show with later flowers. Bloomed at four years from seed. Tall and graceful, single trunk habit.
M. 'Yellow Lantern'	*M. acuminata* var. *subcordata* 'Trade form' × *M.* × *soulangiana* 'Alexandrina'. Large lemon-yellow flowers hold 'tulip' shape and very long-lasting. Very fertile and good breeder.

Name	*Description*
M. 'Butterflies'	*M. acuminata* 'F.M.' × *M. denudata* (K. Sawada). Neatly shaped tree, with deep yellow, truly precocious flowers. Ten to fourteen tepals, stamens red.
M. 'Fireglow'	*M. cylindrica* (from Krossa's Lu Shan import) × *M. denudata* 'Sawada's pink'. Small but vigorous tree with 'spruce' shape: dark green, very coriaceous leaves. Flowers small but well shaped; light pink with brilliant wax-like cerise spot at tepal base that is unfading.
M. 'Helen Foog'	*M. denudata* 'Sawada's cream' × *M. veitchii* 'Peter Veitch'. Very vigorous, symmetrical tree. Flowers white with lower half clean pink. Hardiest of 24 seedlings.
M. × *flinckii*	Grex name for hybrids of *M. virginiana* and *M. macrophylla.*
M. × *flinckii* 'Karl Flinck'	Vigorous, hardy clone with flowers intermediate between parents. Inner tepals show purple blotch.
M. × *flinckii* 'Birgitta Flinck'	Similar to above clone, but with unspotted flowers (see fig. 8).
M. 'Big Dude'	*M. sprengeri* 'Diva' × *M.* 'Picture' (Wada). Very vigorous grower. Flowers open to a tall cup shape. They are red-purple outside and white within. Long-lasting; they continue to enlarge and nod to horizontal while fading to a pretty pink and white. Tree has bloomed after −34°C (−29°F).
M. × *gossleri*	Grex name for hand-pollinated hybrids of *M. denudata* × *M. sargentiana* var. *robusta.*
M. × *gossleri* 'Marj Gossler'	Vigorous and handsome, this clone resembles pollen parent and is white with a red-purple base on the large flowers, which are fragrant and long-lasting.
M. 'Editor Hopkins'	*M. acuminata* 'F.M.' × *M. veitchii* 'Peter Veitch'. Tall, straight tree, flowers pastel, pink and yellow on white.
Michelia × *foggii*	Grex name for *Michelia doltsopa* × *Michelia figo.*
M. × *foggii* 'Jack Fogg'	Flowers white, pink picotee.
M. × *foggii* 'Belle Durio'	Flowers white, pink stamens.
M. × *foggii* 'Allspice'	Flowers white, great vigour. Other clones of this grex have been selected and named by the Durio family of Louisiana Nursery.
× *Yuchelia*	*Magnolia acuminata* × *Michelia figo.* Name derived from *Magnolia* subgenus *Yulania* × *Michelia.* This is a bi-generic hybrid produced in 1975 by using pollen of *Michelia figo* on *Magnolia acuminata* var. *subcordata* 'Miss Honeybee'.
× *Yuchelia*	*M.* × *soulangiana* 'Brozzonii' × *Michelia doltsopa.*

There are ten crosses using *M. denudata* and twenty using *M.* × *soulangiana* as seed parents, the latter with considerable success. The genetic structure gives a good chance of progeny with vigour, increased hardiness and larger flowers of good substance. These results are also valid when soulangianas are used as pollen spenders. The most dramatic is the hybrid between the octaploid 'Picture' (pollen spender) and *M. sprengeri* 'Diva', resulting in the plant named

'Big Dude' (i.e. a tough guy) (Fig. 6). The latter has long-lasting red-purple flowers and flowers after a −34°C (−29°F) frost.

Other seed parents have been *M. cylindrica*, 'Sawada's pink' and 'Helen Foog' as well as *M. denudata* 'Wada' crossed with *sargentiana robusta* and *cylindrica*. *M. wieseneri* is claimed to be pistil-sterile and has been used as a pollen parent with *M. virginiana* var. *virginiana*, *M. hypoleuca*, *M. tripetala* and *M. officinalis biloba*.

PS is the first breeder systematically to intercross within the Rhytidospermum section. He has hybridized the American species *M. fraseri*, *M. macrophylla* and *M. tripetala* with each other and with the Japanese *M. hypoleuca* with varying results.

PS has for many years been very interested in the genus *Michelia* and also for years back bred the interspecific hybrid *Michelia*×*foggii*. This is the grex name of the cross *M. doltsopa* × *M. figo*. Several cultivars have been selected and named. What is even more interesting is that PS for years has tried to cross members of the *Magnolia* genus with the *Michelia* genus. He has been successful in crossing seed parents from the *Yulania* sub-family with *Michelia* pollen spenders. It is interesting that Dr Steve Spongberg at Arnold Arboretum, when making his revision of magnolias hardy in the USA a little more than ten years ago, found so little difference between *Michelia* and the subgenus *Yulania* of *Magnolia* that he considered unifying them. He considered the distance to subgenus *magnolia* of *Magnolia* greater. PS has told me that he failed in crossing *Michelia* with subgenus *Magnolia*.

In conclusion, the outstanding elements in PS's work can be summarized. He has created a better range of yellow *acuminata* hybrids than others elsewhere, 'Butterflies' being the deepest yellow yet known. 'Big Dude' is the first really hardy hybrid to approach *sargentiana robusta* in flower size, substance and colour. By crossing *M. wieseneri* with representatives of section Rhytidospermum he has combined large leaves with early flowering and is the first hybridizer to intercross within that section, giving vitality and resistance to heat. He is also the first to hybridize *M. macrophylla*. His clever use of *M. cylindrica*, *M. sprengeri* 'Diva', *M. sargentiana robusta* and *M. veitchii* will probably produce much that is of value in the future. His *M. tripetala* 'Bloomfield' is a spectacular park tree. Seventy-five per cent of his best hybrids are trihybrids. The full impact of his work will probably not be apparent until after the turn of the century, but may be as significant as the use of *Rhododendron catawbiense* was for the breeding of rhododendrons. He has endeavoured to name and register only those plants he considers outstanding. To avoid perpetuating inferior plants, all others are eventually scrapped. As he is an amateur growing for pleasure and not for profit, he sells nothing himself, but turns over his outstanding plants to wellknown nurseries for propagation and sale.

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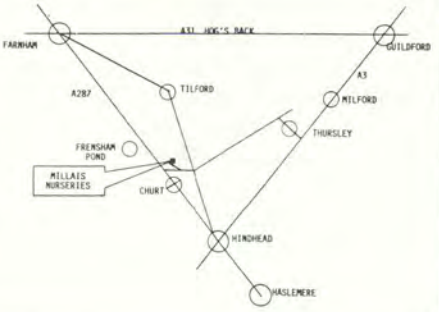

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Towards a hardier camellia

JOHN TOOBY

In America much attention has been given to evaluating the relative hardiness of camellias, and as hybrids came out rather well as a group, a large project was set up aiming to develop hardier forms. The first crosses were made in 1962 and 1963, and thousands of seedlings were raised and planted out in parts of the north-east, such as Longwood Gardens. Unfortunately, a series of very severe winters killed the lot and the project was terminated. At about the same time the fine collection at the US National Arboretum in Washington D.C. was practically wiped out, the only survivors being two forms of *C. oleifera*. American hybridizers are now using these and also forms of *C. japonica* from Korea.

In this country 15 or 20 years ago there were strong differences of opinion as to how hardy camellias were, and how far north they could be successfully grown. The British directors and some enthusiastic members of the International Camellia Society therefore set up trial plots at four centres. The results of these trials in the midlands, Yorkshire, Scotland and northern Ireland have been described by Mr A. Lane in *Rhododendrons 1990* No. 42, p.47, 'Camellias: a widening appeal'. The trials have helped greatly in evaluating the performance of many camellia cultivars. My own tentative conclusions on the subject are therefore based not only on my own experience in Worcestershire but also on the results of these trials.

We can now say that only the hardier forms of *C. japonica* are successful garden plants in most parts of the midlands and north of England, and even these often fail to make flower buds in Scotland and central and northern parts of Ireland. Most hybrids, on the other hand, bud up well in these places. It is now known that each camellia needs a minimum temperature to form normal flower buds; if the temperature is slightly lower some stamens may be converted into petals and lower still, bud-formation is inhibited.

The hybrids from Caerhays are among the hardiest, especially 'St. Ewe' and 'Charles Michael'; 'Mary Christian' is not far behind, but its flowers do not weather quite so well and the habit is looser. 'J. C. Williams' is also good, but seems less happy in some gardens than the newer 'Carolyn Williams', while others like 'Mary Larcom' and 'Muskoka' are promising. The *C. cuspidata* hybrid 'Cornish Snow' is good in many places, but not so easy to establish as some and needs to be at least 60 cm (2 ft) before being planted outside in cold gardens.

'Elizabeth Rothschild' from Exbury is not so widely grown, but better than 'J. C. Williams' in some places, while 'Inspiration', in spite of its *C. reticulata* blood, has proved to be one of the hardiest and is considered the best camellia of all by some good gardeners. 'Francis Hanger' is a tender plant but the flowers are notably weather resistant for a white.

The hybrids from Bodnant, 'Citation' and 'Hiraethlyn' are also quite hardy and the former is good at Edinburgh.

'Bow Bells', from Chinese seed was at first considered to be a form of *C. saluenensis*. It has small trumpet-shaped flowers, but is very free-flowering and has long been a Scottish favourite. It is now known that it is quite normal for camellias to outcross.

'Donation', from Borde Hill, is also reasonably hardy (provided a large enough bush is planted) and flowers freely as far north as Inverewe. In Scotland and Ireland its flowers carry more petals and are close to formal double in the north. 'Leonard Messel' from Nymans is another fairly hardy *C. reticulata* hybrid, but its lovely flowers are not so weather resistant and it is probably best against a wall in many places. I saw it at Birr a few years ago, covered with flowers while forms of *C. japonica* nearby had failed to bud up.

Of the Tregrehan hybrids, 'Tristrem Carlyon' is rather tender while 'E. T. R. Carlyon', though hardier, is still on the tender side; it blooms late and its beautiful white flowers stand up well to the weather. 'Cornish Spring' (*C. japonica* × *C. cuspidata*) seems reasonably hardy and flowers successfully in Edinburgh; otherwise it is outshone by the American 'Spring Festival', probably from the reverse cross, which is equally hardy but does not set flower buds regularly in Scotland.

The best group of hybrids so far are those from Les Jury of New Zealand; he paid great attention to his parent plants and he was particularly successful with his *C. saluenensis* 'Sunnybank'. Unfortunately, many of them are on the tender side. 'Anticipation' is the best for British gardens, but it is on the borderline in colder gardens; wherever it can be grown its compact upright habit and good display of fine rosy red flowers make it outstanding. 'Debbie' is rather less hardy, but its flowers are remarkably weather-resistant, probably the toughest we have yet seen. However it is not free-flowering in some Scottish gardens. 'Elsie Jury' is more tender still, but superb in Ireland – or over here after a mild winter. 'Elegant Beauty' and 'Joan Trehane' are the best of these so far for colder gardens.

Of the American hybrids, 'Brigadoon' has more vigour and better flowers than 'Donation' in the same line of colour; it seems quite hardy but has not become so popular. 'Dainty Dale' is vigorous, free-flowering and reasonably hardy; its sister seedling 'Dorothy James' is distinctly tender although a much slower grower. 'Freedom Bell' is another slow grower but reasonably hardy with red flowers of a good colour. The British 'Janie Anderson' is somewhat similar and seems about as hardy. David Feathers' 'Bridal Gown' is the hardiest white *C.* × *williamsii* so far. Two American pale pink *C. reticulata* hybrids are also promising. 'Dr. Louis Polizzi' is doing well at Edinburgh, and 'Free Style' is reported as unusually cold-resistant further south.

'Charles Colbert' and 'Bowen Bryant' seem to be the toughest of the Waterhouse hybrids; 'E. G. Waterhouse', a very fine plant, is on the tender side for cold gardens.

Two camellias stood up particularly well to an overnight frost in April 1988.

They were *C. japonica* 'Dr Burnside' and the hybrid 'Grace Caple'. The latter is one of a series of very free-flowering seedlings of *C. pitardii pitardii* raised by Bettie Durrant in New Zealand and Edgar Sebire in Australia. Both probably used the nice form of this species in cultivation 'down under' and is well worth growing wherever it proves hardy. Some should soon be available in the UK.

It is natural that hybridization of camellias should mostly be conducted in warm climates where more seed is set, and it is only by chance that a few hardy cultivars have emerged. Advances in hardiness would be more likely if the hardiest possible parents were used. I have therefore obtained forms of *C. japonica* from northern South Korea and from northern China; and *C. pitardii yunnanica, C. reticulata* and *C. saluenensis* from Chinese seed.

We know that pollen from plants with paeony-form flowers produce a proportion of seedlings which bear paeony-form and formal double flowers, and 'Debutante' has proved particularly successful in this respect. Similarly *C. saluenensis* 'Sunnybank' and *C. pitardii pitardii* have proved notably successful seed parents.

The only cultivar of *C. japonica* flowering freely in Edinburgh in 1988 was 'Ludgvan Red' and this might have something to offer. Being a single it may also set seed. 'Jupiter' is a better plant and a good seed setter but not all that hardy. The best seed-bearing *C. japonica* with me are 'Berenice Boddy' and 'Margaret Ratcliffe', both semi-double pinks from America. While only about a foot (30 cm) high, one of the Koreans, 'Taebengi no 10' produced a small cup-shaped flower of a good bright red, rather like a small 'Kimberley', and an empty seed capsule, – a hopeful sign.

The plan, then, is to use pollen from 'Debutante', 'Dr Burnside' and other paeony-form cultivars on the Korean and Chinese *C. japonica* forms to produce a male line and to mate 'Sunnybank' and *C. pitardii pitardii* with the hardiest available forms of *C. saluenensis* for the female line and to use the best of the progeny for the final crosses. This may take many years, and, as I am not bound to live until I am 100, I am happy to make my intentions public as this may stimulate others to follow or improve on what I have in mind.

In Joseph Hooker's footsteps

DAVID FARNES

The exploits of the early plant hunters have always fascinated me, especially those of the intrepid men who discovered some of my favourite rhododendrons in the Himalaya. None capture the imagination more than Sir Joseph Dalton Hooker's epic travels into Sikkim from which he sent back the very earliest rhododendrons to be collected in that country. Many of Hooker's introductions still flourish in our gardens today. The drawings he sent home to his father, Sir William, who was the Director of Kew Gardens, were engraved by William Fitch (best known for his illustrations of *Curtis's Botanical Magazine).* In 1849, edited by his father, they were published by subscription in a monumental folio edition under the title *The Rhododendrons of Sikkim-Himalayas.* The hand-coloured lithographs in this book are amongst the most desirable botanical illustrations available to bibliophiles and surprisingly true to the plants we grow now under the same or revised names.

I had the good fortune to visit Sikkim in the spring of 1989 just 140 years after Hooker and to retrace a part of his route. During my trek I was able to find many of his rhododendrons (most of which, including *R. wightii* pictured on the front cover, are illustrated in his great book). On 1 May, 1989 therefore I found myself with a party of six companions flying from Delhi to Bagdogra where cars were waiting to take us up to Darjeeling in the Himalayan foothills. Until recently Darjeeling could only be reached by its famous narrow gauge railway, alongside which we travelled for most of the way. We marvelled at the spectacular engineering needed to get the trains from 121m (400ft) above sea level at Siliguri to 2133m (7,000ft) through steep-sided valleys, ravines, gorges and, in places, dense jungle. On the way I got my first thrill — *R. dalhousiae* growing in scattered clumps amongst fairly dense scrub. Their huge lemon-yellow trumpets were suspended in loose trusses well above the surrounding vegetation. We are used in cultivation to the lax habit of many Maddenii rhododendrons, but in the wild they grow up through surrounding shrubs which support the flowers. *R. dalhousiae* was one of Hooker's first discoveries on his journey from Calcutta which took some ten weeks on foot and pony. He stayed in Sikkim for three years against our three weeks. As the pioneer in completely unknown territory, he had to plan and prepare for his expeditions without the modern technology and communications available to us. Our three-week trip had everything prepared with mechanized transport for part of the way. Although swift and easy for conveying us and our luggage, it did not give our bodies time to acclimatize to increasing altitude.

Our leader Lobsang was the nephew of Norquay Tensing of Everest fame. His widow entertained us to tea and showed us her husband's garden filled with rhododendrons. Their home, a tall narrow five-storey house, is something of a national shrine. The next day we drove by minibus on a long, tiring journey,

described by one of our party as like driving through the pages of the National Geographical Magazine. At Pemayangtse I awoke before dawn next morning to the sound of a cuckoo. Until now we had had no sight of the mountains because of mist and low cloud, but from my window in the early morning light and under a blue sky, there was Kanchenjunga, third highest mountain in the world, in the far distance, glistening white in the sunshine. Below us on a plateau was Yoksum, the village from where we were to start our trek. Hooker had set up his base there. At Yoksum we met Lobsang, our leader and guide.

The next day we climbed gradually for about 610m (2,000ft) along narrow paths, through dense forest, crossing ravines and gorges on secure and not-so-secure suspension bridges. We wondered how Hooker could have crossed some of the ravines, hundreds of feet deep. In a clearing I spotted *R. arboreum* and *grande*, long past flowering, also *Sarcococca hookerana*. We were now really on the Hooker trail. We had to descend to cross a river over which the bridge had been destroyed the previous winter and climb steeply up the other side to reach our hostel at Bakhim 2950m (9,700ft), and found *Mahonia sikkimensis*, bearing huge bunches of grape-like fruits and showing brilliant maroon new growth. Nearby was a drift of emerging *Cardiocrinum giganteum* and a solitary *R. griffithianum* (Hooker's *aucklandii*). Finally *Magnolia campbellii*, still bearing a few flowers, *R. grande*, showing lovely new growth, and three huge clumps of white cymbidium-type orchids on an ageing tree sent me to bed happy.

For the next four days we trekked through real rhododendron country, sleeping at nights in tents. Each day dawned bright and sunny with cloudless blue skies and we set off very early - often by 5.30 am. By midday, however, mists and cloud had rolled up the valley from the south with a considerable drop in temperature. I now understood how the dwarf and alpine species manage to resist the hot sun, growing as they do above the tree line. Most afternoons everything was shrouded in thick mist and, whilst the plants enjoyed the protection, we often had to withdraw early to our tents for warmth (Fig 9). Joseph Hooker in his journal, records how he found everything was saturated with moisture from these mists — what he described elsewhere as a 'dear, delightful, double-distilled Greenock fog' — saying it was impossible to keep dry and that even the firewood was difficult to kindle. How lucky we were, by contrast, to have polythene bags to keep our spare clothing dry.

From Bakhim we walked to Phedang, a distance of about 6.5 m (4 miles) with a climb of 610m (2,000ft). Dense forest vegetation gave way to more open country. It was noticeable that each species of rhododendron grew in its own altitude zone. First *arboreum* and *falconeri*, then *barbatum*, which in turn gave way to *hodgsonii* for about 150m (500ft) of climb. Then, abruptly, *wightii* appeared in profusion with clear yellow flowers in neat tight trusses and foliage with bronze indumentum. As we reached Phedang, our first camp site, the flora changed. I recognized several rhododendrons, if only from their foliage. With two of my companions, I spent the afternoon botanizing. We found *R. thomsonii, lanatum, cinnabarinum, campylocarpum* in profusion and, more rarely, two plants of *camelliiflorum.*

Above Phedang, the scenery and terrain changed rapidly. Within 60m (200ft) we left the overhead tree cover, already sparse, mostly *Abies spectabilis*, and reached a more level plateau where walking was easier. Soon huge thickets of *R. fulgens* and *campanulatum* appeared; their altitude zone seemed to begin at about 3660m (12,000ft). *Fulgens* was particularly variable in its flowers; the best forms had neat, compact, brilliant scarlet multi-flowered trusses, whilst the poorest had merely a few dull red 'pips' with no truss formation. *Campanulatum* was only just coming into flower, but also showed considerable variation, though the foliage was more consistent, with its thick brown indumentum — obviously a good form. Further on and several hundred feet higher we saw *R. anthopogon*, but with few flowers.

Our next camp site was Dzongri, a former yak station on the route to Tibet. Hooker also camped here. The hillsides were covered with dwarf rhododendrons — *lepidotum* and *setosum* — rather like British moorland. At 3960m (13,000ft) several of us began to feel the effects of altitude, but after a night's rest I felt fine. In the clear air Kanchenjunga looked very close. A short ascent to a ridge brought us to an area of undulating country with a mixture of plants; tall shrubs in the hollows and sheltered banks and dwarf scrub on the exposed sites — mostly rhododendrons, but some berberis. A steep descent of perhaps 457m (1,500ft) brought back rhododendrons in their altitude zones in reverse order. For once the mist did not arrive and we enjoyed lunch in an idyllic grove of *hodgsonii* and *barbatum*. We were at the interface of these two species — about 3500m (11,500ft). Here all feeling of exertion and anxiety had vanished.

We crossed the river bed, only a little stream at this time of year and in the near-drought conditions. Up the valley through thickets of *wightii* and *fulgens* to our next camp site, Thangsing at 3960m (13,000ft); *campanulatum, anthopogon* and *setosum* had re-appeared. Primulas on the grassy area were not yet in flower. Our final day of climbing led us to a near-barren landscape of rocks and snow beside a glacial lake at Chemathang. The next day dawned cloudy and cold: the weather was obviously breaking and as some of the party were showing signs of altitude sickness our leader decided we should return to Thangsing a day early. Even the porters were pleased as they had had a cold night without shelter. Headaches and breathlessness disappeared as we descended. The next day we covered 23km (14 miles) in torrential rain to Bakhim, bypassing Dzongri and Phedang. I noticed that in the few days since we had passed that way many more rhododendrons were in flower. The rest of the return journey was uneventful and we finished the holiday in Gangtok, the capital of Sikkim, and at Kalimpong.

Sir Joseph Hooker recounts many incidents of hostility whilst in Sikkim, but these must have been mainly connected with his relations with the unscrupulous Dewan, culminating in the imprisonment of his companion, Dr Campbell. He seemed to have been well-received by the village people, especially when he was able to give medical assistance. Nowadays, for tourists such as myself, it is a privilege to visit this lovely country, to enjoy the plants and to meet the friendly hill people, especially their children.

The Brooklyn 'yellows'

MAURICE FOSTER

About an hour from Grand Central Station on the commuter line out of Manhattan the train takes you north into the wooded hills of Westchester County to Kitchawan, near Yorktown. There you will find a large orchard of yellow magnolias set out in rows inside a high deerfence.

This orchard is at the Brooklyn Botanic Garden Research Center and is the result of a magnolia hybridization programme carried out by the Center and spanning almost 35 years. The first cross was made in 1956, using the mildly unlikely parents of the yellow *Magnolia acuminata* and the deep purple *M. liliiflora*. *M. acuminata* was the seed parent. This is both the largest and most widely distributed of the American species ranging from as far north as Ontario right down to Louisiana and N. Florida. Some specimens in the wild exceed 30m (100ft); Bean lists eight of over 18m (60ft) in the UK, so it is quite a formidable tree usually seen with a large straight single trunk. The flowers are not conspicuous, opening after the leaves unfold, a greenish yellow, generally small and uneven in shape, with a slight fragrance. By contrast, in New York State, *M. liliiflora* is at about the northern limit of its hardiness range. It flowers late, so pollen was available at the right time.

The cross was noteworthy as it was the first between an American and an Asiatic species.

The progeny was subsequently named as the *M.* × *brooklynensis* grex, and generally favoured *M. acuminata*. The seedlings were, however, highly variable, with leaves differing in size, shape and texture and flowers in size, shape and colour. The type clone was named 'Evamaria' after Evamaria Sperber, a staff member who made the cross. It has quite large flowers some 10cm (4in) across at maturity, with six tepals in two rows of three. The flowers are a curious mixture of colour with shades of magenta and rose suffused with pale orange, yellow and green, very unusual and attractive at close quarters.

The strain continued with the naming in 1984 of M. 'Hattie Carthan' an F_2 hybrid of *M.* × *brooklynensis* 'Evamaria' and a sibling (‡ 209). This has a bright yellow flower with strong purple veining ascending from the base and the outer whorl or tepals touched with green. The upright flower holds its shape throughout, and the peak of flowering coincides with leafing out. This new magnolia has a neat upright vase-shaped habit and promises to be a first class garden plant with a bold and striking flower.

'Evamaria' was earlier used as the seed parent of M. 'Yellow Bird', which was the result of a backcross with *M. acuminata*. It is thus 75 per cent *M. acuminata* and 25 per cent *M. liliiflora*. The flowers are an intense bright yellow with a green tinge on the outer tepals which disappears as the flowers mature. It grows vigorously and flowers freely in Kent. The flowers appear in succession over

several weeks, the first opening with the leaves. Although it has the brightest yellow flower, many of the later blooms tend to be hidden by the generous foliage and its relatively long flowering period is not therefore a significant advantage. This situation may improve as the plant matures and vegetative growth slows down. After five years from grafting 'Yellow Bird' has made a rather narrow tree with upright branches, which has reached about 3.6m (12ft), coping good naturedly with the unusually wide range of weather extremes experienced in Kent over its brief lifetime.

A new breeding line began with *Magnolia* 'Elizabeth' which first flowered in 1972 (back cover), some 15 years after the cross was made in 1956 with *M. acuminata*, this time fertilized with pollen from *M. denudata*. It is now quite widely available in the UK. Twelve crosses were made, yielding 71 seeds. All the seedlings had yellow flowers, and hybrid ‡ 391 was selected for patent and named 'Elizabeth'. Although the flowers of many of those in the orchard on the basis of colour and form appear to different people to have as much or even more merit, 'Elizabeth' was preferred to its siblings for a number of reasons. The flower is of good colour, size and substance on a neat upright but branching bush. It is very free flowering, consistent and reliable. It flowers precociously with the leaf buds breaking at the peak of the flowering period and thus makes a significant colour contribution to the landscape; it is also late enough to avoid most spring frosts. It is easy to root from cuttings and subsequent growth is free and vigorous. The flowers are a uniform cream rather than yellow when fully open, with 6-9 spatulate tepals about 10cm (4in) long by 5cm (2in) wide and enhanced by dark red stamens. There is a greenish cast at the base of the tepal attractively accentuated in sunshine by the pale green of the unfolding leaves. The flower is an intermediate type, if anything favouring *M. acuminata*; it falls short of perfection because it lacks the fine balance and symmetry of the *M. denudata* sire. It is however a first-class garden plant and perfectly hardy. More will be seen of it as cuttings grow on strongly to flower in their third or fourth season (see back cover).

Lola Koerting, in charge of plant breeding at the BBGRC, made a further cross in 1976 taking pollen from a sibling of 'Elizabeth' (‡ 853) to fertilize *M. acuminata*. The genetic proportion of this backcross thus echoed that of M. 'Yellow Bird', with three quarters *M. acuminata* complemented this time by *M. denudata* rather than by *M. liliiflora*. The resultant seedlings began to flower in 1987 and one, (‡ 11/60) as yet unnamed, appears to be a distinct improvement on both 'Elizabeth' and 'Yellow Bird', with a better form and colour than the former and a more simultaneous and precocious flowering than the latter. In addition it is a true tree, freely branching with an open habit, but on a clean trunk with a smooth close bark. The flowers are a clear primrose yellow on opening, evidently deepening in tone as they mature. There are nine tepals in three rows of three, spoonshaped and half as broad as long, reminiscent in size and character of the rather solid, shapely flowers of the old *soulangiana* hybrid 'Alba Superba'. On a clear luminous April morning against a blue sky, backed by myriad white dogwoods in the woodland it seemed to be very close to what

the imagination might conceive as a perfect hybrid, combining the best of the stature, floral elegance and colour of both parents. It has a long way to go before this potential is finally confirmed but it is a most attractive hybrid, with every prospect of thriving in UK conditions.

Much other breeding work on yellow magnolias continues to be done elsewhere in the USA using similar parents. Already a number of clones have been named with a few small plants growing in the UK with evocative names such as 'Sundance' and 'Butterflies'. Selections have also been made from *M. acuminata* itself and its related species, *M. subcordata*. I understand that more ambitious crosses between the pink *M. sprengeri* 'Diva' and *M. acuminata* are yielding intermediate seedlings in shades of orange and apricot thus potentially extending the colour range of magnolias in a new direction by a quantum margin. It has to be said that exciting though all these developments are, it is likely that too many similar yellow clones will be named. Though all are good, as with the Gresham hybrids, trials will be required over an extended period in a variety of conditions here in the UK before definitive judgements are made to select the best for general garden decoration. Having said that, from what is admittedly minimal experience, at this stage I would vote the Brooklyn Botanic Garden's hybrid ‡ 11/60 a very strong contender.

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Friendly competition[1]

MARIGOLD ASSINDER

Three of the RHS Shows at Vincent Square, held in March and April, have competitive classes for camellias, magnolias and rhododendrons that are open to anyone, whether a member of the Society or not, free of charge. These classes produce stunning exhibits from many of the great gardens of England. At the Early and Main Camellia Shows, Exbury, Chatsworth, Stonehurst and Ann Hooton, among others, show their camellias. However, the presence of these giants should not intimidate the amateur gardener from showing.

Although I started gardening in 1957 in Putney (back garden 7.5 × 42.5 m [24 × 139 ft], front garden 7.5 × 7.5 m [24 × 24 ft]), I did not summon up the courage to start showing until 1981. The seed had been sown the previous spring when my brother came up from Cornwall on one of his prize-winning raids on the Main Camellia Competition. I watched him as he set up his exhibits. It was about 8 o'clock in the morning; several 'grand' gardeners were setting up or standing around. Another onlooker turned to me and whispered apologetically, metaphorically pulling his forelock: 'My garden's only a third of an acre.' In that moment I realized I had a goal, which was to prove that small gardens can produce prize-winning camellias.

As if I wanted to break away from the influence of that lovely garden, my first camellia, planted in 1959, was not one grown at Chyverton. One autumn day, my mother and I went to the Garden House at Buckland Monachorum to buy one of Lionel Fortescue's camellias – he always seemed to have the best form of everything. We chose a well grown plant of what was then called 'Nigra', had been 'Old Port' and is now known as 'Konron Koku' or 'Konron Jura'. 'How much do you want for it?' 'Five guineas.' I have never forgotten that stunned look on my mother's face. She was giving the plant to me and the price was outrageous – I don't dare to translate it into modern money. But she bought it and I have blessed her ever since as it has paid its rent now for over thirty years, has won prize after prize and has had its photo in *Garden open today*, the publication celebrating the Silver Jubilee of the NGS Scheme. By 1981, the other camellias in my garden were 'Contessa Lavinia Maggi', 'Lady Clare', planted for my daughter's birth and 'Adolphe Audusson', my father's favourite camellia.

Early in 1981, I sent for the Show Schedule from the RHS and entered two classes in the Camellia Show in April. Feeling ridiculously nervous, I took the two 'blooms', as I had learned to call them, to the hall early on the day of the show to set them up – the hours being 7 am to 9.45 am (2 pm to 10 pm the day before). The first thing is to find your show cards. This used to be difficult,

[1]This article appeared in *The Chelsea Year 1988/89*, editor David Joyce, and is reprinted here in an altered and shortened form by kind permission of the publishers, Messrs Chatto & Windus.

nowadays a sort of display box is used. Until 1988, camellia blooms were placed in narrow sunken vases surrounded by moss; they looked beautiful and had the advantage of holding up the flower if it dropped off before the judging! Now, sadly, the 'vases' are plastic cups, easily knocked over and so wide that small blooms of 'Cornish Spring' or 'Bob's Tinsie' can sink beneath the waves unless buoyed up by moss. In 1989, the rumour ran around that the judges did not like to see this moss. I was glad I did not have to cope with them when I first started showing. In1981, luckily, I had cut the blooms of 'Nigra' and 'Contessa Lavinia Maggi' with leaves; I was so green that I did not know that each flower must be accompanied by a perfect leaf or two. The moral is of course: read the Schedule very, very carefully.

Looking back it is difficult to know why I felt so nervous, but this continued for a year or so – aggravated into panic one year by all the vases being put away early before I had set up, leaving me racing round the hall lifting up the hessian skirts of the stands trying to find them. To return to that first show – I came back later that morning to find first prize stickers on both my show cards. I have been reasonably successful in the intervening years but nothing, *nothing*, since has stunned me with such joy and amazement. A kind man told me he had never seen a better 'Contessa Lavinia Maggi', no, not even in Devon, and my cup was full. I was hooked.

Now, instead of four camellias, there are nearly 80. Eighty camellias in my garden? It's impossible. When I reached a total of 27, I noted: 'I have reached the limit; there is no more room.' Who was I trying to persuade? Of the later acquisitions, *C. japonica* 'Adelina Patti' stands out as charming and unusual. Other favourites are *C. williamsii* 'Brigadoon' and 'Margaret Waterhouse', and *C.* × *cuspidata* 'Cornish Spring'.

I find the camellia shows increasingly enjoyable as I get to know other enthusiasts and joining the International Camellia Society has widened my horizons. I still get a thrill when my plants win prizes. The thrill is a little diminished, however, because entries in the camellia classes are fewer. In 1983, John Gallagher wrote in *Rhododendrons with Camellias and Magnolias*: 'Seeing [as I do] many camellia shows in America, where enthusiasm is quite infectious, it does seem strange that so few camellia lovers exhibit their flowers in London.' This decline may be the result of some late, difficult springs, when camellias sulk and will not open in time. There are two other possible factors. First, owners of small gardens or even of just one or two magnificent plants grown in tubs simply do not realize that their plants, sometimes growing in almost 'greenhouse' conditions, have a great chance of beating the 'big boys'. They should take heart from the example of Maria Byk, who has a superb *C. japonica* 'Ave Maria' growing in a tub in a very small garden in Fulham – one camellia, one class, one entry and a first prize with all the joy and pride that goes with it.

The second factor is ignorance: people do not know the possibilities – and, of course, they exist for every sort of plant, not only camellias. Here the RHS and *The Garden* could help with advice on entering. If you do embark on showing, I

can promise you endless interest and, sometimes, deep satisfaction. Write to the Shows Department, RHS, PO Box 313, Vincent Square, London SW1P 2PE, for your schedule and plan your showing year. Note that the powers-that-be are getting fussy about prompt entries, so put them in a good week before the show. When you take the entries up to the hall, see they do not rattle about in the car; some people use tissue paper or cotton wool, I usually put the plants in damp oasis to keep them firm and fresh. Take secateurs and possibly some moss or more oasis so that your exhibit is firmly anchored in the awful plastic cups. Having removed all obvious imperfections, dead leaves, faded flowers, black fly etc, set up the best vase you can – and good luck! Oh, and remember to take a water container of some sort as the one tap is in the northeast corner of the hall and the camellia benches are usually on the south side with hordes of daffodil fanatics setting up *their* exhibits in between. Remember, too, better a smaller but perfect bloom than a magnificent flawed one and READ THE SCHEDULE, especially any restrictions about width and height of exhibit. Nothing is worse than going back to your exhibits hoping for glory and finding the dreaded NAS – not as schedule – scrawled by some flinty-hearted judge on your entry card.

See you in the New Hall . . .

Two rhododendron profiles

K. J. W. LOWES

Rhododendron stenaulum

Rhododendron stenaulum was placed in the old Stamineum series and was awarded an Award of Merit in 1937 when exhibited by Exbury and Lochinch. The species is not now widely cultivated in Britain, although it seems to be fairly common in the wild. The 1980 *Rhododendron Handbook* gives its source-area as Yunnan, but it has been found over a wider area than that indicates, including northern Burma, by the collectors Farrer, Forrest, Kingdon-Ward and Rock. Taking entries in the *1980 Handbook* as representing seed collections, I find 16 collections so-named, plus three possibles. Thus, *R. stenaulum* might easily have become a common plant in British gardens.

However, it suffers from the awkward characteristic of being less than hardy in most parts of Britain. I only know of plants growing outdoors in a few gardens in Cornwall and Ireland. There used to be one in the frost-free plant-house in the Savill Garden, Windsor, where I took the photograph (Fig. 11). It must, of course, be growing in a number of other gardens, especially in milder areas. The plant has a slightly unusual appearance, and the flowers are scented. The corolla is distinctive, virtually tubular at the base of the trumpet, and with the five over-lapping lobes cut well down to where the tube begins. The attractions *R. stenaulum* undoubtedly has when it is in flower are greatly enhanced when the highly coloured new growth appears, before flowering is over. I think it is worth keeping an eye open for it when garden visiting, as being an intriguing example of variation within the genus and also because it is one of the those light-built, more graceful plants which contrast with and relieve the larger-leaved and perhaps bulkier-looking plants around it.

The flower colour of the plant in my photograph, which I take to be a standard colour, is one which is not universally admired, but I have to say that I like it, and would not care to have to do without the concinnums, niveums, purpurellums and ririeis which occupy this range. However, Frank Kingdon-Ward mentions white forms at least twice, including his collection 18540 of 1949; I have not seen one but feel that a white *R. stenaulum* must be very nice indeed. In his *The Larger Species of Rhododendron* (Batsford, 1979) Peter Cox tells of an encounter with white-flowered specimens in north-east India, and also gives much more detailed information about both this species and the series (pages 146-52).

So far I have said nothing about the size and appearance of the plant in the wild; the few plants I have noticed in gardens are of modest dimensions, below eight feet. But it is interesting to learn the effect on Frank Kingdon-Ward of some of his encounters. '*(R. stenaulum)*, a sinuous tree with a smooth copper-red trunk, was enveloped in blossom.' (*Plant Hunting on the Edge of the World*, page 26). '. . . then, when a mantle of blossom surrounds the whole, with the

scarlet of old leaves, and the purple plumes of the newly-born, this Rhododendron takes on a very different appearance', and '. . . , a gawky tree with a stout copper-red bole, almost like glass, and a crown of branches which had burst into a foam of white flower'. (Both extracts, *Ibid.*, page 111). 'I was impressed by the size of *Rhododendron stenaulum*. One tree growing by the roadside, 9-12m (30-40ft) high in spite of an injured top, was 1.2m (4ft) in girth, 1.5m (5ft) above the ground. Such a tree might easily be 200 years old.'

Rhododendron leptothrium

Rhododendron leptothrium is a member of the old Ovatum series. As with *R. stenaulum* (Fig. 9), it is far from common in British gardens, and is not a very hardy plant. Nevertheless, it has been grown in a few milder-climate gardens, including Exbury, Trewithen, Lamellen, Chyverton, Arduaine, Castle Kennedy (Lochinch) and Corsewall. The species is common in the wild and has a wide distribution from south-east Tibet and Yunnan in the north, to northern Burma. George Forrest is credited with twenty collections; Rock and Ward also found it.

Although it is not really closely related to *R. stenaulum*, the two have certain superficial features in common. Inflorescences are axillary, young growth is highly coloured and elegant, the general appearance of young plants is light and attractive, and the usual colour-range of the airy flower-trusses falls in the unfashionable area of lilac to mauve to purple. However, there are several characters which help the amateur to decide which of the two he is looking at in a garden. In *R. leptothrium* the flowers arise *singly* in the leaf-axils, and the corolla-shape is rotate with oblong lobes. There are only *five* stamens, a characteristic of the series. The leaf-blades are thin, as the specific epithet indicates, smooth, glabrous green beneath. When fully expanded they are usually about 5-8cm (2-3in) long, a good deal smaller than the leaves of *R. stenaulum* which are also more or less lanceolate.

At Trewithen in Cornwall there is a semi-mature free-flowering plant measuring about 1.8m (6ft) high by 2.4m (8ft) wide, with two others of rather smaller dimensions beside it; they are the same age but do not yet flower normally. They are in the open under tree-shelter, but their rather precocious new growth can be damaged by an untimely frost.

My photograph (Fig. 10) was taken at Exbury, where there is a quite sizeable mature plant growing in the open, in a part of the garden which is only a few feet above sea-level (the Solent). I would expect *R. leptothrium* to make a very attractive conservatory specimen.

The snow camellia, 'Yuki Tsubaki'

MAYDA REYNOLDS

One of the delights of our International Camellia Society tour of Japan in early April was to see the snow camellias growing on a mountainside at Kamo, a small town about 20 miles south of Niigata. We arrived at the annual Snow Camellia Festival and met the Snow Camellia Queen and her attendants at the reception and luncheon given in our honour. Dr Kaoru Hagiya, President of the Japan Camellia Society, led us from the city hall up the mountain to see some of the thousands of snow camellias growing in this area.

The snow camellia (Fig. 12) is so called because it grows in regions which are completely covered by thick snow (1.8 m [6 ft]) in the winter months. It is classified as *Camellia japonica* ssp. *rusticana*, but differs from *C. japonica* in several characteristics. It is a low-growing shrub, never a tree, and the branches are so pliant they bend easily under the weight of snow to spring back again when the snow melts. The blooms are usually red or pink, rarely white, and they are more open like those of *C. sasanqua*. The petals are thin and the bright yellow stamens are relatively short and separate. The serrated leaves have short, hairy petioles. Snow camellias are strong plants, but they are not as cold-resistant as one might expect from their situation in the snowy mountains. Apparently, the thick snow cover protects them from severely cold weather. It must be wonderful to see the brightly coloured flowers appear as the snow thaws and, since the season is short, they flower abundantly and produce seed earlier than *C. japonica.*

Camellia japonica grows naturally in the coastal regions of the Sea of Japan and, in the area between the coast and mountains, there are thousands of hybrids of *C. japonica* and *C.* ssp. *rusticana*. Some of these hybrids are very beautiful and have been dug up over the years and planted in the gardens of farmhouses, shrines and temples.

Our guide, Dr Hagiya, has studied *C.* ssp. *rusticana* for many years and has a very large collection of its hybrids. An important reference for this subject is an article he wrote for *Amateur Gardening*, 11 December 1965, which was reprinted in the ICS *Journal* Vol. 1, No. 4, 1970. Dr W. L. Ackerman of Maryland, USA, has used rusticana japonicas in his hybridization programmes and one of his best known hybrids is 'Fragrant Pink' (*C. japonica* ssp. *rusticana* × *C. lutchuensis*), a miniature, deep pink bloom of peony form.

As we came down the mountain, we walked through a plantation of cultivated hybrids, very neat in form, with lovely blooms of varied size and shape, single, double, semi-double, rose, anemone and peony. I was surprised to see some of our members taking cuttings, but was informed that Dr Hagiya had not only given permission but had actually provided secateurs for this purpose! After the long journey home, I hope my scions will root and I will be able to grow snow camellia hybrids in Jersey.

Champion Magnolias

VICTORIA HALLETT

The name of Alan Mitchell has for many years been associated with recording rare trees to be found growing in parks, gardens and estate woodlands in the British Isles. These carefully accumulated records of Mr Mitchell's continuous monitoring of tree growth since 1954 have been collated with data from historical sources going back to 1826. They form what is now known as the Tree Register of the British Isles (TROBI). This register covers the location and planting dates, where known, of over 80,000 trees, together with their height and diameter.

It is possible to extract from this mass of information details of important specimens of any selected genus growing in the British Isles, e.g. American and Asiatic magnolia species. (Measurements are given in metres (height) and centimetres (diameter). Girth is measured at breast height unless otherwise stated (e.g. 0.5m). A plus sign (+) indicates more than one bole).

NORTH AMERICAN MAGNOLIAS

Magnolia acuminata (the Cucumber tree), perhaps the best-known of the American species, has been in Britain since it was introduced by John Bartram in 1736. The tallest we have on record is at Leonardslee in Sussex (27 × 58 in 1984). One tree at Tilgate Park, Sussex, was 26 × 65 in 1984 but was blown down in1987. At Westonbirt Arboretum, Glos. another grew to 26 × 65 (1988) until it became a storm casualty (1990). The largest specimens in girth grow at Knaphill Nursery, Surrey (16 × 101 in 1984) and Brockenhurst Park, Hants. (21 × 95 in 1986).

The best of four specimens of *M. cordata* Michx can be found growing in Dyffryn, S Glamorgan (15 × 57).

Magnolia fraseri Walt., discovered in S. Carolina in 1776 by John Bartram's son, William, is named after John Fraser, who introduced it ten years later. The largest we have on record for both height and girth was at Leonardslee (24 × 52 in 1984) until blown down in 1987. At Belsay Castle, Northumberland, a shoot on an old stem was 5 × 44 in 1984.

The finest evergreen magnolia must surely be *M. grandiflora* L., the two largest being at Nonesuch Park, Epsom, Surrey (10 × 72 and 11 × 61 in 1989). Another at Ashbourne House, Co. Cork, Eire, was 10 × 52 in 1987 and one more at Sheffield Park, Sussex grew to 12 × 40 in 1989 at 0.5m.

At Killerton, Devon, *M. macrophylla* Michx was 18 × 30 in 1983; at Bodnant, Gwynedd, it reached 10.5 × 28 in 1986, and at the Savill Gardens in Windsor Great Park it was 12 × 22 in 1984. At Nymans, Sussex, it was 11 × 21 (1985).

The Umbrella Tree, *M. tripetala* L., from the Allegheny Mountains was planted at Kew RBG in 1924 and had reached 9 × 21 and 18 in 1986. At

Penrhyn Castle, Gwynedd, it grew to 8 × 22 by 1986. The tallest specimen we have on record is at Chelwood Vachery in Sussex (18 × 39 at 0.5m), but it has not been seen since 1981.

The Sweet Bay, *M. virginiana* L., is an early introduction and was known to have been planted at Fulham Palace by Bishop Compton before 1688. The largest of only ten specimens on record is at Knaphill Nursery (12 × 38 in 1982) and the fattest is at Tilgate Park, Sussex (14 × 24 in 1984).

ASIATIC MAGNOLIAS

From the Himalayas between Nepal and Assam comes the floriferous *M. campbellii* Hook f & Thoms. Specimens in Sussex grow to 27 × 69 (1988) at Leonardslee, 26 × 70 (1989) at Borde Hill, and 24 × 93 (1987) at Wakehurst Place. Other fine specimens on record are at Fota, Co. Cork, planted in 1915 (15 × 83 in 1987) and at Bosahan, Cornwall, planted 1880, (11.5 × 115 in 1985 at 1m). Another Cornish specimen at Trebah is 18 × 101 (1988 at 1m). At Bodnant, *M. campbellii* subsp *mollicomata* Ward grows to 19 × 42 (1981), while in Cornwall at Trewithen and Lanhydrock trees are 17 × 99 (1987), and 17 × 66 (1987) respectively.

The Chinese *M. cylindrica* Wils. is a low bushy species and appears only twice on our cards, at Trewithen, where it is 9 × 12 (1985) and at Tilgates, Bletchingly, Surrey, where it is no more than 1.3m in height.

Another Chinese species is *M. dawsoniana* Rehd, & Wils., named after Jackson Dawson, the first superintendent of the Arnold Arboretum and discovered by Wilson in a remote corner of Western Sichuan in 1908. The champions grow at Birr Castle, Co. Offaly, Eire (16 × 58 in 1987) and at Caerhays Castle, Cornwall, also 16 × 58 (1984).

Magnolia delavayi Franch. was introduced by Wilson in 1899: it was discovered in 1886 in Yunnan by Père Delavay. Our tallest grows at Caerhays (18 × 53 + 50 in 1984). At Borde Hill, Sussex, it is 13 × 53 (1987), and at Tregothnan, Cornwall 11 × 44 (1989), while at Saltram in Devon it is 10.5 × 42+ 32 ++ (1984).

Only two specimens of *M. denudata* Desrouss *(heptapetala)* are big enough to appear on our cards. One at Lower Coombe Royal, Devon is, in Alan Mitchell's words, 'supine', but 57 cm in diameter (1988). The other at Beauport Park, Sussex, is 11.5 × 44 + 26 (1982). It was introduced by Sir Joseph Banks in 1789.

Two *M. hypoleuca (obovata)* Sieb. & Zucc. planted at Westonbirt Arboretum in 1925 are the tallest in our records: 24 × 32 and 26 × 36 in 1988. The largest at Borde Hill is 16 × 75 (1989). Other good trees are at Leonardslee (17 × 37 in 1984) and Belvoir Castle, Leics. (12 × 39 in 1987).

Perhaps the best known Japanese Magnolia is *M. kobus* D.C. introduced by Maries in 1879. Our tallest specimen is at Borde Hill (20 × 29 in 1984), whilst the largest is at Kew RBG (15 × 62 in 1978). Other fine trees are at Trewithen (12 × 62 in 1985) and Exbury, Hants. (6 × 54 in 1987).

The Chinese *M. nitida* W.W.Sm grows to its tallest at Caerhays, where there

are four specimens (12 × 35; 9 × 37; 9 × 34; 6 × 31 in 1984). The only other specimen on our records is at Chyverton, Cornwall (5 × 8 in 1977).

Discovered by Augustine Henry in 1885 and introduced by Wilson in 1990, *M. officinalis* Rehd. & Wils. has ten entries, the largest on all counts being at Birr Castle at 17 × 42 (1985).

Magnolia rostrata W.W.Sm, discovered in Yunnan by Forrest in 1917, has five entries, the largest being at Sidbury Manor in Devon (planted c. 1935) which was 19 × 35 in 1977: runners up are at Caerhays (planted 1927) at 11 × 31 in 1975, and 12 × 31 in 1984.

In 1906 the Yokohama Nurseries sent *M. salicifolia* Sieb. & Zucc. Maxim to Kew, where it now measures 13 × 27 in 1970. At Nymans it grew to 18 × 35 in 1983 and at Caerhays it reached 15 × 61 at 0.3m and 18 × 43 in1984. At Plas Newydd on Anglesey (planted 1950) it measured 13 × 32 in 1987, and at Forde Abbey, Dorset 16 × 32 in 1988. Other good trees are at Mount Usher, Co. Wicklow, Eire (14.5 × 30 in 1975); Savill Gardens (15 × 48 at 1m in 1983); and Bodnant (18 × 30 in 1984 and 16 × 30 in 1989).

Both the largest and the tallest *M. sargentiana* Rehd. & Wils. on our records are at Caerhays (16.5 × 35 in 1984 and 18.5 × 47 in 1975) but there are other fine trees at Trewithen (16 × 51 in 1987) and at Coleton Fishacre in Devon (10 × 35 in 1984).

Introduced by Messrs. Veitch, *M. sieboldii* Koch appears only once in our records: at Bodnant, planted in 1916 (6 × 8 + 16 in 1989).

Specimens of *M. sprengeri*, var. *diva* Pampan., discovered by Augustine Henry in 1885, can be found at Borde Hill (20 × 50 in 1987); Caerhays, planted 1912 (? × 74 in 1984) and Trewithen (18 × 75 in 1985).

Only three *M. wilsonii* (Fin & Gagnep) Rehd. appear on our cards. A native of Western Sichuan and Yunnan where it was discovered by Wilson, it was introduced in 1908. Measured at Minterne in Dorset it was 5 × 24 in 1988 and at East Bergholt Place, Suffolk, it was 9 × 23 in 1972. Our only other entry is for Killerton in Devon where it is just 1.83m in height.

The ponticum problem

M. G. ROBSON

Most rhododendron enthusiasts know that *Rhododendron ponticum* has become a severe pest, in spite of its attractive appearance when in bloom. Its charms cannot conceal the assault that it is making on many native habitats throughout the British Isles, from Norfolk to north-west Scotland.

Rhododendron ponticum was introduced from Asia Minor in 1763 by Conrad Loddiges. Like most newly introduced plants, it was greatly prized and initially grown as a pot plant. Later, when so many new hybrids were being created, it was used commercially as a rootstock for grafting. Like other vigorous stocks, when neglected, *R. ponticum* tends to take over the main plant, as happened in many cases during the two World Wars. However, the spread of *R. ponticum* into woods and moorlands cannot be completely ascribed to rootstock takeover.

The invention in 1867 of the new sporting shotgun made game shooting both popular and easy and led to a rush to plant game covers. *Prunus laurocerasus* and *R. ponticum* were popular choices because they were rabbit-proof, shade-tolerant, vigorous and attractive, as well as cheap. *Rhododendron ponticum* seeds germinate and thrive in disturbed soil. There was much clear-felling of woodlands during the Second World War for example, 4,347 ha (10,641 acres) of woodland in Wales were classified as devastated in 1947, and this must have contributed to its spread. The rhododendron plants that were used as game cover were not always pure *ponticum* subsp. *ponticum* or subsp. *baeticum*. As early as 1806, *R. ponticum* and two North American species, *R. maximum* and *R. catawbiense*, had hybridized naturally. These hybrids were more vigorous than the species and were sold as *R. ponticum*.

The invasive character of *R. ponticum* has for long been noted. As early as 1849, reports from Hampshire and South Wales had commented on its strong regenerative characteristics. Tansley, that eminent botanist, commented in 1939 on the ability of this exotic species to invade undisturbed plant communities, but recognition of *R. ponticum* as a threat to native flora and fauna was not fully admitted until the 1960s, with the first coordinated clearance work in Ireland in 1972.

It may well be asked why this pretty evergreen shrub should threaten native habitats. The danger from *R. ponticum* is precisely because it excludes our native flora from the areas in which it grows. Its heavy leaf canopy intercepts much of the available light before it reaches the ground, thereby inhibiting the growth of other plants, which include the tree species needed to replace the woodland canopy. A similar effect can be seen under our native evergeens, *Ilex* and *Taxus*, but these species are less vigorous and have more associated fauna. Research has shown that *R. ponticum* reduces the number of breeding birds in woodlands. In an ungrazed mature oakwood there were 368 birds, while in

mature oakwood with *R. ponticum* there were only 88 (P. Hope Jones, 1965). The reason for this discrepancy is probably that fewer insects are associated with *R. ponticum* than with native flora. *Rhododendron ponticum* is also found to inhibit soil fauna. Rhododendron leaves contain toxins which reduce soil turnover.

Stands of *R. ponticum* produce seed freely: 1 2-m (6½-ft) high plant with a 10 m (33 ft) circumference can produce well over a million seeds each year, with dispersal distances by wind in open conditions of over 50 m (164ft) (Cross 1975). A *ponticum* infested woodland can soon colonize farmland beyond, especially if rough pasture is overgrazed or disturbed. The plant is poisonous to animals and thus there is little to curb its spread on to grazing land. However, *R. ponticum* is occasionally eaten by livestock and losses from poisoning on infested land are common. It is also claimed that, in spring, bees are poisoned by rhodendron nectar.

In defence of *ponticum*, the ecological enemy, it must be said to have great tourist value in the remoter parts of Britain at the height of the flowering season. It was part of the Victorian landscape.

For those who want or need to control the plant, many methods exist, but all are expensive. Control has been extensively researched by the Forestry Commission, who take an active interest from a tree growth point of view. The focus of their effort is chemical control. Many chemicals are known to be effective to a certain degree, but some, such as potassium salts, paraquat, ethyl butyl and 245T, are toxic to fish, birds and mammals. Treatment of regrowth from clear-felled areas with glyphosate seems to be the most effective method of control.

The British Trust for Conservation volunteers, who have undertaken rhododendron control for the last twenty years, have used physical means of eradication, but these are all labour-intensive. Handweeding bushes up to 60 cm (2ft) high can do no more than stop the spread, but does not eradicate. Felling mature rhododendron stands and subsequently recutting the new growth will eventually starve the roots and result in plant death. Winching is a method favoured by the Royal Society for the Protection of Birds: this involves a team effort to cut back the rhododendrons to 1m (3ft) and then to winch out the whole rootball by attaching a trifor hand winch to near-by trees or stakes. Waste material is usually burnt but, where burning has taken place, bonfire sites must be checked as they are ideal for rhododendron seed germination. Bulldozing and rotavating are ineffective, as has been proved by the Forestry Commission in Lincolnshire. A bulldozed stand had reverted to its original state in eight years.

Biological control, that is, introducing a destructive parasite which reduces plant vigour, has been considered for bracken, but the ecological consequences have yet to be fully evaluated, so the chances of a biological control for rhododendrons are slim. However, we rhododendron growers may have been inadvertently responsible for introducing a parasite, as happened with *Graphocephala coccinea*, the Green Jassid Bug, a North American species

which reached Britain in 1935. This insect inoculates rhododendron buds with *Pyerostearus azaleae*, bud blast, through egg laying. Bud blast reduces flower and seed production, therefore lowering the regenerative capabilities of an infected plant.

Rhododendron ponticum is only one plant of many thousands to come to this country by way of horticulture. Of those that escape into the wild, many find an acceptable niche, while others become serious pests. Two such are *Polygonum cuspidatum*, the Japanese knotweed, and *Heracleum mantegazzeanum*, the giant hogweed. These were included in the 1981 Wildlife and Countryside Act and anybody who causes either of these to grow in the wild is guilty of an offence. *Rhododendron ponticum* was also considered for the 1981 Act, but the Nature Conservancy Council felt that the species was so widespread that introducing such a measure would bring little practical benefit.

My own views are mixed: I do myself grow and enjoy rhododendrons, even *ponticums*. However, the loss of any native habitat is worrying. I believe that our best course of action, would be to eradicate *R. ponticum* from our valuable woodlands and heaths and to try to stop any further spread. But where it has already spread onto slate tips and rough pasture, I consider it would be a waste of money to control it in these days of agricultural surplus. As for those Victorian landscapes of *R. ponticum*, let us continue to enjoy them.

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Fig. 1 Rhododendron diaprepes in Bill Dale's garden on Saanich peninsula, BC (above)

Fig. 2 'Tofino', the Gibson garden on Vancouver Island BC (p. 9) (below)

Fig. 3 Rhododendron balangense, at Wolong-Balang, Sichuan (p. 17) (above)

Fig. 4 Rhododendron dendrocharis, at Wolong, Sichuan (p. 15) (left)
Fig. 5 Rhododendron primuliflorum, Huanglong, Sichuan (p. 18) (right)

Fig. 6 Magnolia 'Big Dude' (sprengeri 'Diva' × 'Picture') (p. 26) (left)
Fig. 7 Magnolia 'Birgitta Flinck' (p. 25) (right)

Fig. 8 Magnolia 'Butterflies' (acuminata × denudata 'Sawada's cream') (p. 24) (below)

Fig. 9 Mist rolling down on Phedang campsite, Sikkim (p. 32) (above)

Fig. 10 Rhododendron leptothrium at Exbury (p. 41) (left)
Fig. 11 Rhododendron stenaulum at the Savill Garden, Windsor (p. 40) (right)

Fig. 12 *A hybrid of Camellia japonica var. rusticana, the snow camellia (p. 42) (above)*

Fig. 13 *Camellia 'Leonard Messel' a reticulata hybrid, from David Farnes. Prize winner at Vincent Square, 13 March, 1990 (left)*

Fig. 14 *Camellia japonica 'Dr Clifford Parks', from Mrs. M. M. Assinder. Prize winner at Vincent Square, 13 March, 1990 (right)*

Fig. 15 *The Rhododendron Group at 'Four Ashes', Cosheston. April, 1990. (p. 58) (above)*

Fig. 16 *Rhododendron × campylocarpum at Picton Castle, S-W. Wales (p. 58) (left)*
Fig. 17 *Calyx of Rhododendron 'Shilsonii' at Picton Castle, S-W. Wales (p. 58) (right)*

Fig. 18 *Rhododendron vaseyi at Picton Castle, S-W. Wales (p. 58) (eft)*

Fig. 19 *Rhododendron grande × hodgsonii from Clyne Gardens. Prize winner at Vincent Square, 13 March, 1990 (right)*

Fig. 20 *The woodland at Corsock House, Galloway (p. 61) (below)*

Fig. 21 *Rhododendron lacteum at Corsock House, Galloway (p. 61) (above)*

Fig. 22 *Multiple trunks of Rhododendron thomsonii at Lingholm by John Bodenham. Winner of the photographic competition (p. 77) (below)*

A Polish rhododendron garden

TOMASZ ANISKO

The oldest and undoubtedly the finest rhododendron collection in Poland is that at Wojsławice near Niemcza, 52 km (32 miles) southwest of Wrocław. Wojsławice lies 228m (750ft) above sea level among the hills and valleys of the Sudety Mountains. Two valleys unite here to form a hollow surrounded by three hills, all over 305m (1,000ft) high. These hills and their forests provide protection from wind and help to raise the humidity so essential for the well-being of rhododendrons. It is unfortunate that there should also be heavy air pollution from local industry.

The estate of Wojsłowice, lying amidst deciduous woods, was acquired in 1881 by a German gentleman named Fritz von Oheimb. A passionate dendrologist, he created a 6-ha (15-acre) garden there in near-perfect surroundings. Since that time the rhododendron collection has gradually been built up, mostly between 1910 and 1925. The first specimens were bought from the German nurseries of A. Hesse near Oldenburg and the Seidel brothers of Grungrabchen near Dresden. Later, other plants were bought from Dutch, Belgian and English nurseries. By 1912, the collection numbered more than one hundred species and hybrids. Von Oheimb was regarded as one of the leading rhododendron specialists in Germany and he published papers in the *Mitteilungen der Deutschen Dendrologischen Gesellschaft*. He also collected peonies, irises and water lilies. His son, Arno, inherited the estate and garden in 1928. A mining engineer, he was, like his father, a keen dendrologist. He enriched the collection with new rhododendron species and hybrids, as well as with other woody plants. The irrigation system he built leads along the western ravine where the best rhododendrons grow. The two artificial ponds are not only decorative but help to maintain the atmospheric humidity.

From records kept in the years 1954-64, we know that the temperature varies between a maximum of 33°C (91°F) and a minimum of −29°C (−20°F) with about 173 frost-free days during the year. The average rain/snow fall is 662 mm (26 in) per annum. The heaviest rainfall usually occurs in July and the lowest in January and February. However, the garden's microclimate modifies these conditions sufficiently to enable many tender plants to be cultivated. The acid brown forest soil has a pH reading of between 3.85 and 4.50. It is rich and fertile with good moisture retention. The founder certainly chose his site skilfully.

Since 1945, Wojsławice has belonged to the Polish state and has been subject to many changes of management. Most of the time it was in the hands of the state farms and other agricultural institutions and the lack of professional care and knowledge resulted in heavy losses. In addition, a succession of very severe winters, when the minimum temperature fell below −30°C (−22°F), caused serious damage to the more tender plants. Those which survived can be regarded as fully acclimatized in western Poland.

After the Animal Breeding Combine took over in the 1970s, matters improved somewhat and the rhododendron collection was enlarged. In 1985, Heimo Oheimb, the founder's grandson, presented some new hybrids and finally, in 1988, the garden was taken over by Wrocław University, thus at last assuring the rhododendrons and other plants proper professional care.

Between 1969 and 1973 the winter hardiness of the rhododendrons was scientifically evaluated and this enquiry is still proceeding. The collection has also been used by nurserymen as a source of propagating material. At present there are 18 species in the garden and 102 hybrids. As might be expected, the species included *R. catawbiense, R. maximum, R. ponticum, R. smirnowii, R. luteum* and *R. occidentale.* The hybrids include many from *R. catawbiense*, the majority of which were bred in the Seidel nursery at the turn of the century. They seem perfectly adapted to the climate of Poland. Some are about one hundred years old, are up to 7m (23ft) in height and 1m (40in) in girth. There are also a number of other *catawbiense* hybrids which were not from the Seidel stable and these, especially those with red flowers, do not seem as vigorous. Nearly all the old rhododendrons are grafted onto *R. ponticum* stock. Although the species itself usually suffers in the winter, its root system seems sufficiently frost-resistant to enable the grafted hybrids to reach a considerable size. Some rhododendrons, for instance 'Cunningham's White', tend to start flowering in the autumn and this results in bud damage during the winter.

There is a considerable collection of azaleas in the garden, mostly Ghent hybrids, a large number of ericaceous plants and many trees and shrubs rarely to be seen in Poland. At the end of May and the beginning of June, when the rhododendrons and azaleas are in flower, the garden presents a magnificent sight and is visited not only by the Polish public but also by many visitors from other countries. Lying on an excellent main road, E-12, the garden is easily accessible by bus and railway from Wrocław.

[Mr Anisko lists by name 22 Seidel hybrids and 29 others, many of them bred in the UK during the nineteenth century and including at least three from the house of Waterer. Hon. ed.]

The international scene

International Rhododendron Conferences

The first Rhododendron Conference, postponed from 1940 because of the war, was held at the Royal Horticultural Society's New Hall in London at the end of April 1949 under the presidency of the second Lord Aberconway. Among others attending was the President of the American Rhododendron Society, Mr John Henry. The proceedings are recorded in the *Rhododendron Year Book No. 4*, 1949, Conference Number.

About the same time, Dr Hermann Sleumer published a new classification of the genus *Rhododendron*, the result of work carried out at the Botanic Garden in Berlin before the war. This was in German, and somehow escaped notice in this country. In 1973 work began at the Royal Botanic Garden in Edinburgh on a revision of the Balfourian system of classification of the genus, and three years later enough was known of the likely results for those interested to feel that there was scope for another conference to discuss the results of the revision.

Before proposals could be put to the RHS Council, Dr David G. Leach, the author of *Rhododendrons of the World*, took the initiative and arranged for such a conference to be held in New York, and this took place in May 1978. The Proceedings were published by the New York Botanical Garden in May 1980 and were reviewed in *Rhododedrons, 1980-81, with Magnolias and Camellias* pages 35-9. Under the title 'Contributions towards a classification of Rhododendron', the Proceedings began with an English translation of Dr Sleumer's system, and this was followed by a paper read by Dr Sleumer himself on past and present systems based on morphological characters. Mr Brickell, Dr Cullen and Dr Chamberlain all contributed papers, and among others Mr John Bond and the late Mr Robert Stephenson Clarke attended from this country.

David Leach proposed that a follow-up meeting might be held in Edinburgh four years later, and this took place in May 1982, and an account of this conference is in *Rhododendrons, 1982-83* pages 34-8. It was then suggested that another conference should be held in 1986, offers to stage it having been received from Ireland and Japan.

In fact it was held in April, 1985 in the Seattle-Tacoma area of the State of Washington, USA, in association with the annual meeting of the Rhododendron Species Foundation, and the American Rhododendron Society. An account of this is in *Rhododendrons*, 1985-86 pages 15-19.

Next, the Australian Rhododendron Society staged what it termed the Fourth International Rhododendron Conference (fifth post-war, fourth post-revision) in the first week of October 1988 at Wollongong University in New South Wales under the auspices of the International Rhododendron Union, as part of the bicentennial activities celebrating Australia's 200th Anniversary. An account of this by Mr John Basford is in *Rhododendrons, 1990, No. 42,*

pages 45-6. There is also an account of the social aspects in the December 1988 issue of the quarterly journal of the Australian Rhododendron Society, *The Rhododendron*, but the Proceedings do not appear to have been published yet.

In the meanwhile, towards the end of 1988, the Rhododendron Species Foundation published the Proceedings of what it termed the Third International Rhododendron Conference. This was the conference in Seattle in April 1985, and it was attended by Dr Chamberlain, Mr Peter Cox, and Mr Tony Schilling from this country, who all contributed papers. After the table of contents and list of contributors, the volume begins with a summary of the symposium by Dr David Leach, which includes a somewhat disingenuous account of how he managed to hijack the first post-revision conference to New York in 1978, instead of its being held in the country where the work had been done. Twenty papers are printed and the volume closes with a statement of the purpose of the Rhododendron Species Foundation and a list of its officers, including three British honorary directors.

To summarize: International Rhododendron Conferences have taken place in the following years: 1949 (London), 1978 (New York), 1982 (Edinburgh), 1985 (Seattle), 1988 (Wollongong, NSW).

WALTER MAGOR

American Rhododendron Society Annual Convention: Vancouver Island, BC April 26-30, 1989

The 45th Annual Convention of the American Rhododendron Society was held on 26-30 April, 1989, by invitation of the Victoria BC Chapter (The Victoria Rhododendron Society). It was attended by 1045 participants from nine countries - a record. Meetings were held in the newly refurbished 81-year old Empress Hotel in Voctoria, BC. Readers of the thirteen papers came from the United States (3), New Zealand (1), Canada (7) and Scotland (1), while the guest speaker at the banquet was Mr Edmund de Rothschild.

The widespread cultivation of rhododendrons on Vancouver Island reflects the generally favourable climatic conditions, but unfortunately the winter of 1988-9 turned out to be one of the coldest on record. However the meeting was blessed with a warm and sunny spring. The garden tours illustrating changing tastes during nearly one hundred years were heavily oversubscribed. Of the many gardens on view there were examples of both large and small urban gardens, gardens by the seashore, in an abandoned limestone quarry, in woodlands, as well as English-style gardens and gardens specializing in tender species. There was also the splendid University of Victoria Garden begun in 1971 with the gift of 150 species from one of the oldest gardens in the province. Finally, the Vancouver Chapter organized the sale of 9000 rhododendron plants, including some of the latest hybrids. Those plants which had come from growers in neighbouring Washington State, if returning to the United States,

had to be accompanied by phytosanitary certificates; the arduous paperwork was undertaken by Victoria Chapter volunteers.

Under the chairmanship of Norman Todd, ably supported by his wife, Jean, many voiced the opinion that it may be many years before the ARS holds another such successful convention in such a delightful situation.

HAMISH ROBERTSON and LESLIE DREW

The International Camellia Society's Congress April 3-8, 1990

The decision to hold the 1990 Congress in Japan was inspired, because April is cherry blossom time and there can be few more beautiful sights.

Five hundred delegates from 13 counties were welcomed in the Cultural Hall, Maizuru, Kyoto Prefecture, by the President, Dr Thomas H. Perkins III, Dr Hagiya of the Japanese Camellia Society and the Mayor of Maizuru. The exquisitely costumed ladies of the local Flower Club had put on a deceptively simple display of Ikebana for us.

A number of interesting papers were given by, amongst others, Dr Violet Stone of Baton Rouge, Louisiana, Monsieur Jean Laborey of France, Dr Clifford Parks of the University of North Carolina ('Cross-compatibility Studies in the Genus Camellia'), Dr Kakoda of Tokyo University ('Sasanqua - its history and varieties'), Dr Xia Li-Fang of the Kunming Institute of Botany ('The present status and future trend of Camellia research in China'), Dr Terence Pierson of Australia ('How deliberate action can purposefully alter a genus') and Dr Yusuke Sakata ('Phylogency of the Genus Camellia').

The visit to the Seibu Maizuru Camellia Farm had to be curtailed owing to heavy rain, but the glasshouses provided plenty to admire, especially the rare species, such as *C. granthamiana, hongkongensis* and *chrysantha*. There was also a fine display of bonsai.

During our visit to Kyoto, the ancient capital of Japan, we saw the huge Imperial Palace and its lovingly cared-for gardens and made an exciting tour of EXPO '90, the International Garden and Greenery Exhibition at Osaka.

The last day included a visit to the Golden Temple of Kinkakuji, splendidly restored with real gold leaf, a damp lunch break in the Botanical Gardens (chopsticks hard to manage in the rain), a Tea Ceremony and a very special Cherry Blossom Dance, not forgetting the farewell party, which sadly I had to miss. This was, by all accounts, a fitting finale to a friendly, enjoyable and instructive congress expertly arranged by our Japanese hosts.

CHARLOTTE PETHERICK

The International Camellia Register

When camellias recovered their popularity after the Second World War, it was apparent that their nomenclature had become terribly confused. After discussions involving the late Professor Waterhouse of Australia, Albert Fendig of America and Charles Puddle of Wales, the Longwood Foundation made a substantial grant in 1957 to the L. H. Bailey Hortorium of Cornell University for a five-year study under Mr (later Dr) Ralph Philbrick. In 1962, the International Camellia Society was appointed the International Registration Authority and Dr Philbrick became the first Registrar. He travelled the world and accumulated a great deal of research material, much of which he took with him to Santa Barbara Botanic Gardens when he was appointed Director some years later. He continued to work sporadically on the project until 1974.

After a six-year hiatus, Mr T. J. Savige was appointed Registrar on an honorary basis and most of the material was shipped to Australia. Mr Savige, whose work is beyond praise, completed the Checklist in 1983 and circulated it to the USA, the UK and Japan for comment. Since then, he has rewritten the work as a complete register, which includes the origin, the originator, breeding, date, history, synonyms, awards, etc. and comprises about 31,000 names on 3,000 A4 sheets.

It was originally intended to include oriental characters by pasting these onto the A4 print-out sheets and to use these for printing by photoreduction. Recently, an enthusiastic Japanese member of the ICS, Mr Shinoda, contacted Mr Savige and is feeding in many corrections from Japan. He expects to complete this work by about the end of 1990. It should then be possible to deal with names in oriental characters as an addendum, so that discs from the word-processor could be used for computer typesetting and thereby achieve better quality printing. It is now expected that this mammoth task will be brought to fruition about the middle of 1991. The Register will run to about 2,700 pages and will be a mine of information for everyone interested in putting correct names to our camellias.

JOHN TOOBY

Tour of South-West Wales, April 27-30, 1990

JOEY WARREN

'Grass grows long in Pembrokeshire', said Major Philipps of Picton Castle. Trees grow tall and there are cowslips. The weather was fine, though severe frosts earlier in April had nipped many flowers; some rhododendrons had flowered exceptionally early because of the warm, early spring. Were the early-flowerers governed by temperature and the later-flowerers by day-length? mused Mr Trevor Crosby. Twenty-seven members, including one lady from New Zealand, met at the Ivy Bush Hotel in Carmarthen, on Friday evening. On Saturday morning we were met by John and Gwyneth Walters at Plas Glanrhydw, near Pontantwn. Three years ago the hillside garden was a wilderness; they have worked hard to restore a garden planted in the 1920s. We followed 'lover's walk' beside the river Rhydw, through trees and large rhododendron bushes, naming names. Across the river the old tennis court is now planted with large conifers. The mid-1700s house stands atop the steep bank with a walled rose garden. On the beech-wooded hillside beside the Little Rhydw, undercarpeted with bluebells and wood anemones, were more rhododendrons. We thanked our hosts and gave them R. 'Shamrock'.

Not far away, Gellideg, near Kidwelly, is Mrs Margaret Jennings's home. We walked uphill through a beechwood carpeted with ramsons and bluebells, past a romantic ruined mansion and a large round formal pond and were revived by coffee. Margaret's garden has a superb view southward to the sea. On the west side is the rhododendron garden (*R.* 'Carita', *macabeanum, fulvum,* 'May Day', *pachysanthum* were a few), with trilliums underfoot. A new planting of rhododendrons is below the old Roman terrace where a raven nests in a pine tree. We gave Mrs Jennings a *R. maculiferum*.

A short coach ride brought us to the all-too narrow entrance of Stradey Castle, where Lady Mary Mansel-Lewis and her husband David, Lord Lieutenant of Dyfed, welcomed us and gave us a delicious hot lunch. We were saddened to see that the January hurricane had felled so many huge trees. We thanked our hosts and gave them *R. auriculatum*.

Clyne Gardens, now a public park, were created by Admiral Walker-Heneage-Vivian, who established the famous collection of rhododendrons and azaleas. Ivor Stokes, who is in charge of the gardens, led us past the small rhododendrons and azaleas, a riot of colour, upstream amidst tall trees and larger rhododendrons (*Rhododendron floccigerum* with deep-coloured indumentum, *R. eximeum,* R. 'Pink Pearl', *R. niveum* × *falconeri* with a truss that lasts five weeks, a huge 'Loderi King George', *cerasinum* 'Cherry Brandy' and a pink *arizelum*). Past some *R. racemosum* we came to the triflorum collection; then at the top of the ravine with its bog garden filled with

skunk cabbage and whorled primulas we crossed a wide sward far above Swansea Bay to the Gazebo sheltered by *Pinus radiata* and to the wall border with tender climbers and unusual plants. On our way to the large-leaved rhododendrons we passed the Castle, via a wild meadow where orchids flourish after many years of dormancy. We presented Mr Stokes with *R. keiskei* 'Yaku Fairy' and *R.k.* 'Ebino' to add to the triflorum collection. Clyne ties with Mount Edgcumbe as 'probably the loveliest park in England'.

Westwards, on Sunday at Picton Castle we were welcomed by Major and Lady Marion Philipps. Mr Leo Ekke, head gardener, showed us round this large, mostly level, garden full of old rhododendrons amongst tall trees, long grass and scented azaleas (Figs. 16, 17 and 18). Rhododendrons in the woodland that had grown so tall that the flowers were lost to view have been cut down to start again. The walled garden, some distance from the castle, is very old and full of interesting plants and herbs. There was an enormous R. 'Old Port' and a good red R. 'Review Order' (*euchaites* × 'May Day'), but I missed the white 'Tai Haku' cherry trees which are interplanted with the scarlet embothriums that flourish here. We lunched in the restaurant, thanked Major and Lady Marion Philipps and presented them with *Quercus phellos.*

'Four Ashes' near Cosheston is a steeply sloping, mature garden with magnificent river views. Mr and Mrs Hayes began the garden 43 years ago, terracing with stone walls and planting choice species throughout. *Euryops pectinatus*, a dome of bright yellow daisies, welcomes you. Beyond the house terraces lead upwards; against a south-facing wall was *Clianthus puniceus* ('Kaka beak', said Joyce, both from New Zealand). We zigzagged down between trees and rhododendron species and hybrids, large-leaf and small. In full flower, *Abutilon vitifolium, Drimys aromatica, Melianthus* (honey-scented), *Paeonia lutea ludlowii, Sophora tetraptera*: a lot of golden-leaved plants. Down by the tidal river was a greenhouse full of treasures. Mr Petri, who has been there for 21 years, showed us round. After tea on the terrace, our thanks took the form of *Lomatia myricoides* and *Telopea truncata* (Fig. 15).

Monday's visit was to Mrs Jo Kenaghan's garden - the Post House, at Cwmbach - in another steeply sloping valley. It was started only twelve years ago. With Mr Kenaghan's help she cleared trees and branches, made path-edgings and earth-retainers. The stream was dammed to make a Koi carp-stocked pond. Camellias, magnolias, rhododendrons and azaleas are among over one thousand interesting plants amidst the natural groundcover of wood anemones, bluebells and terrestrial orchids. Mr and Mrs Kenaghan regaled us with coffee and afterwards we presented them with a *Magnolia tripetala.*

Later we drove to Pantyddaufryn, the home of Sarah and Rupert Miles. It was a perfect day to enjoy the downhill view from their house, drinks in hand, followed by a tasty lunch. Sarah then gave us an entertaining tour of her rhododendrons. Our thanks for her hospitality was a R. 'Loderi King George'. Thus ended our happy weekend. However, ten of us found Mr Derek Jenkins's walled garden at Bridgend and saw his garden and greenhouse, full of rare and tender plants.

Tour of Lakeland and Galloway, May 6-11, 1990

T. Le M. SPRING-SMYTH

The second leg of the spring tour began on May 7 at Lingholme near Keswick, Viscount Rochdale's beautiful gardens within sight of Borrowdale and Skiddaw. We were greeted by Lord and Lady Rochdale, their son, Mr St John Kemp and the head gardener, Mr Mike Wise. Below the terrace we came to an area devoted to dwarf rhododendron species, a remarkable collection, well labelled, many of them not often seen on our travels. Among others *Rr. patulum, complexum, fletcherianum, fragariiflorum, primuliflorum* 'Doka La', *shweliense, kongboense* and *trichostomum* var. *ledoides.* In the woodland garden we saw the R. 'Shilsonii' that had caught the discerning eye of Roy Lancaster for 'Gardeners' World', as well as *neriiflorum, telopeum, niveum* and *glaucophyllum.* There were new plantings of the large-leaf brigade and *auriculatum, sutchuenense, balfourianum* var. *aganniphoides* and *hookeri.*

Bruce Archibold thanked our hosts for our visit to this dynamic and enchanting garden full of choice trees, meconopsis and primulas, and presented as a token of our enjoyment a R. 'Polar Bear'.

Mr and Mrs Clive Collins watched with amusement from their eyrie (Fellside, Millbeck) as the column of cars took the wrong track, but they greeted us with sumptuous food and wine. Paths, steps and bridges have been skilfully engineered to provide access to the steepest fellside garden imaginable. Among the delights to be seen were *R. pachysanthum, insigne, smirnowii, elegantulum,* with amazing indumentum, *fulvum,* 'Sir Charles Lemon', *aberconwayi* in full flower, *eriogynum (facetum), bureauvii* and some beautiful hybrids. Full of admiration, Tom Spring-Smyth, thanked Clive and Joan for their hospitality and presented them with another *R. fulvum.*

At Stagshaw, the 3.2-ha (8-acre) woodland garden belonging to the National Trust, near Ambleside, and created by the late Cuthbert Acland, we were greeted by Mr Geoffrey Yates. The steeply rising hillside is planted under mature trees. The many species and hybrid rhododendrons are also beautifully mature and include an excellent 'Day Dream', various *griersonianum* hybrids, a *concinnum* effectively placed against a golden *Philadelphus coronarius aureus,* an imposing *rubiginosum* and a singular *Arbutus menziesii.* There was a large *rex* and an aptly named 'Fragrantissimum'. Professor Bird presented a R. 'Ruby Bowman' and thanked Mr and Mrs Yates for a welcome cup of tea.

We visited Barnhourie Mill near Dalbeattie next morning for a picnic lunch. This undulating garden, created by Dr Mavis Paton and Miss E. M. Horwood-King, has a range of trees of contrasting shape and form planted amongst outcrops of rock. The effect is superb and the situation ideal for rhododendrons

and other shrubs too numerous to mention. Among rhododendrons that caught the eye were *roxieanum* var. *oreonastes, fictolacteum, neriiflorum* and *smithii*. The enormous *Abies koreana* led many members to acquire its progeny. Valerie Archibold, our tour organizer, thanked our hostesses and gave them a *Kalmia* 'Pink Charm'.

At Corsock House, the home of the Ingall family, we were greeted by the gardener, Mr Lawrie, who has the task of keeping this old garden of renown in order (Fig. 20). It is 60 years since the products of Forrest's last expedition, particularly the Lacteum and Taliense series, arrived here. We saluted *R. lacteum* (Fig. 21) with trusses of clear yellow flowers as well as *R. sphaeroblastum* and *wiltonii* (both s. taliense), and *longesquamatum* (no flower this year). After 15 minutes examination of an orange-flowered *dichroanthum* with magnifying lenses and books we came to an excellent R. 'Sir Charles Lemon'. Two more taliense series were *faberi* and *clementinae*. Bruce Archibold presented a plant of R. 'Loderi King George'.

Next morning to Lochinch, the seat of Earl of Stair, where the gardens are laid out in the grand manner: terraces, lochs, avenues (of monkey puzzle trees) and vast clumps of ancient hybrid rhododendrons. However, there are great treasures to be found: *R. arizelum* var. *rubicosum*, not an everyday sight, a *falconeri* × *sino-grande* of impressive size and *R. mallotum*. The head gardener, Mr John Moir, showed us the two *R. kesangiae* (see *'Species novae* from Bhutan' in *Rhododendrons 1990*, No.42, pages 29-33) and this provoked a discussion on its botanical characteristics.

After lunch at Logan Botanic Gardens (an outstation of the RBG Edinburgh) our enthusiastic guide took us into the walled garden containing the exotics which we cannot grow outdoors in the South. These include *R. crassum, kyawii* (F.24542), *formosum* (Cox & Hutchinson, presumably 302), *burmanicum, edgeworthii, walongense*, a BLM *dalhousiae* (acquisition 12288) and *maddenii* (TSS 31), also *zeylanicum* last seen in the wild by the writer near Newara Eliya, Sri Lanka, in 1980. The fragrance of the *maddenii* sp. should encourage more enthusiasts to build conservatories. In Sir Ninian Buchan Hepburn's adjoining garden we saw amongst others, *basilicum, galactinum* (which attracted much debate), a 12m (40ft) tall *grande* and interesting trees (*Podocarpus salignus, Lomatia hirsuta, Olearia paniculata, Eucryphia cordifolia* (15m/50ft) and *E. milliganii*. Also R. 'Logan Damaris', named after Walter Magor's sister. We presented the two gardens, with our thanks, with a Loderi 'Venus' and a 'King George'.

After a sumptuous tea provided by Mrs John Brewis at Ardwell, nearby, we quickly realized how many treasures were in her garden. Apart from a number of interesting trees and shrubs (*Cornus florida, Stranvaesia, Myrtus apiculata* and *Dicksonia antarctica*) there were the rhododendrons - *thomsonii*, Hooker's form with yellow calyx, *rubiginosum* and a massive white *arboreum cinnamomeum*, and a Lochinch beauty, 'Review Order'. Valerie thanked Mrs Brewis and gave her *Corylopsis willmottiae* 'Spring Purple'.

The next morning we were off to the fine woodland garden at Garlieston,

owned by Mr Edward Strutt. Here many of the recent additions were the work of the late Mrs Strutt, a gifted gardener, Mr David Marshall, the gardener, took us through the woodland where we sighted *Rr. hodgsonii* and *rex* side by side, then 'Shilsonii' showing its parentage, *barbatum* and *thomsonii*, by its splendid bark. Amongst hybrids were 'Luscombei', 'Penjerrick', three brilliant 'Fusiliers', 'Sonata' and a 3.6m (12ft) 'May Day'. The greenhouses were full of Maddenii series in full, fragrant flower - *formosum, nuttallii, lindleyi, cubittii, dalhousiae* var. *rhabdotum, taggianum* and *edgeworthii* × *lindleyi*. After coffee by the fireside with Mr Strutt, we presented him with *R. thomsonii.*

After lunch in Newton Stewart we climbed the hill to Glenwhan Garden, Dunragit, where Mr and Mrs William Knott have created a garden very different from those we had already visited. It lies on an open, rocky, south-west hillside with two lochans fed by a burn; much gorse and bracken has had to be cleared. A very wide range of trees, shrubs, heathers and herbaceous material has been planted, too much to describe in detail, but the effect in ten years' time can easily be imagined. The choice of rhododendrons was also imaginative and comprehensive. It is an exciting and dynamic garden and the great variety of birds is an added attraction. Dr Robbie Jack expressed our thanks and presented *R.* 'Goldsworth Orange', a late-flowering hybrid.

Whitehills, near Newton Stewart, belongs to Mr and Mrs C. A. Weston. They have been restoring the garden since 1982, thinning and removing before replanting with new material. Below the terrace were many rhododendrons, including *soulei, hormophorum, ciliatum, pemakoense, chamaethomsonii* and *viridescens* and various hybrids. In the woodland, giving great scope for the future, were more mature rhododendrons. In the tunnels of the plant nursery was a large quantity of seedlings raised from seed collected by Mr Weston on a trek with Tony Schilling to Solu Khumbu in East Nepal. They were grown with a high standard of care and attention. In addition to one more delicious Scottish tea, our host and hostess generously gave us plants raised from seed collected in Tasmania, a challenge to climates less benign than Galloway's. Professor Bird thanked our hosts and presented R. 'Mezzitt'.

This concluded our 1990 tour, but not before we were able to express our gratitude to Valerie Archibold for her excellent organization in the many months before to arrange for our comfort, enjoyment and interest. We learn a great deal about rhododendrons on these tours, and much else besides. We have also identified and named quite a number of rhododendrons that have baffled their owners: we hope, at least, that we have not added to confusion. It would be invidious to name all our 'experts', but perhaps it is our combined fire power that counts. After all, if we do not know the wretched plant we can always throw the book at it.

The Rhododendron Shows 1990
13-14 March, 24-5 April

IVOR & JANE STOKES

The pattern of British weather has never been particularly reliable and this year was no exception. Throughout the winter and spring meteorological records were being broken almost every month. Abnormally high temperatures, with more than our normal quota of sunshine during this period, promised a good and early flowering season. Then it happened — the great storm that devastated so much of the south-east in 1987 was, we were told, to be expected every two hundred or so years. However, on January 25, after just two years, the winds returned affecting the whole of Britain and northern Europe. Few gardens escaped the damage this time and many collections were decimated. Despite the obvious setback that this caused, many fine plants made their way to the Early Show on March 13 and 14, and material was shown from gardens representing a wide range of growers. Large gardens, with extensive collections such as Chyverton, Borde Hill, Clyne and Exbury put on good exhibits in the majority of classes, but plants from the smaller private gardens swelled the number of trusses on the benches, ensuring plenty of choice for the judges. Hydon Nursery represented the commercial sector in the competition, showing good forms of both hybrids and species. Notable amongst their entries was *Rhododendron racemosum* 'Rock Rose', a pretty plant raised from seed of Rock 59578 (11265).

Large-leaved rhododendrons figured strongly in both the species and hybrid sections, the lack of frost in the weeks preceding the competition allowed many perfect blooms to be displayed. *R. montroseanum*, with its long, narrow, shining leaves, is not often seen, but it was exhibited by both Borde Hill Gardens and Clyne. *R. macabeanum* appeared in several classes and displayed a variation in colour from pale cream to a deep primrose yellow. The latter, growing under KW7724, possessed the typical large red stigma which adds greatly to the beauty of this magnificent species. An entry from Exbury included a good truss of the plant known as *R. hodgsonii* 'Poet's Lawn'; however, despite being given an Award of Merit in 1964, the consensus of opinion amongst the judges and stewards at the show was that this clone cannot be referred to that species and should be regarded as a hybrid. Undoubtedly the finest exhibit in the species section of the Early Competition was a specimen of *R. semnoides*, also shown by Exbury. The full, domed truss contained over 30 flowers of a rich cream colour with a deep maroon basal blotch which were carried above a rosette of handsome, obovate leaves almost 30cm (1ft) in length. The hybrid section seemed to be dominated by plants from the garden of John Fox in Crowborough. Only 0.4 ha (1 acre) in extent, the garden yielded a good selection of old and modern varieties to take many prizes.

In the middle of April, as in 1989, the lowest night temperatures of the year were recorded. In South Wales the mercury registered −13°C (8.6°F), and as the season was advanced the effect was disastrous. Acres of rhododendrons in full bloom or even just showing colour had their flowers destroyed, whilst those in tighter bud were to open damaged over the following few weeks. The Main Competition was staged on April 24, 25 and most exhibitors were hard pressed to find sufficient material of show quality to bring to London. Sadly, several exhibitors had to cancel their entries for the lack of suitable quality blooms. More than 20 classes failed to attract any support, whilst nearly 30 classes had only single entries. Many of the trusses on display showed signs of frost damage and the judges obviously took the season into account when awarding prizes.

The most popular class in the species section was Class 27, where there were eight entries. Here exhibitors were able to show plants that had been afforded the shelter of glass and, some beautiful tender species were seen. This class was won by Brian Wright showing a superb truss of the rare *R. ciliicalyx*. *R. parryae*, with its large scented flowers, took second place for Alan Hardy. It is an interesting plant known only from a single collection; material in cultivation from that collection does not match with the herbarium specimen which has been identified as *R. johnstoneanum*.

Class 3 was also relatively well supported, with six exhibitors competing for the McLaren Challenge Cup. It was won by a good wide truss of *R. falconeri* exhibited by Lady Adam Gordon. The hybrid section fared little better than the species classes for entrants. The lure of the Loder Challenge Cup did, however, attract ten exhibits, and was deservedly won by Edmund de Rothschild with a truss of *R.* 'Galactic', a large-growing hybrid between *R.* 'Avalanche' and *R. lacteum*, which was raised at Exbury. In the Miscellaneous section a perfect small spray of *R. macrosepalum* exhibited by Dr J. Dayton won the evergreen species azalea class, whilst *R.* 'Amoenum' was awarded a prize both as a species and in the hybrid class. It is hoped that the revision of the Tsutsutsi subgenus of *Rhododendron* will be available before the 1991 Show and that this will clarify the situation that currently exists amongst this taxonomically confused group of plants.

This brings us, perhaps, to consider generally the names used by exhibitors for the rhododendrons they show. Regulation No. 6 in the Show Schedule states that the nomenclature should be in accordance with that proposed by the Cullen and Chamberlain Revision, used in conjunction with the RHS Horticultural Modification to identify forms that have horticultural rather than botanical significance. This means that the plant shown by Swansea at the Early Show as *R. argipeplum* should have borne the label *R. smithii* 'Argipeplum Group'. Likewise, the unusual variety of *R. degronianum* exhibited by John Fox should have been labelled *R. japonicum* var. *pentamerum*, Borde Hill's *R. bergii* should have been *R. augustinii* var. *rubrum* and there were several others. A steward is normally on hand to assist exhibitors and a standardization of labelling would help judges and visitors to

the show. Comments were overheard from visitors about the legibility of labels; a little more time and care spent on this would greatly enhance their enjoyment of the plants on display.

The Rhododendron Group currently boasts a membership of around 700; yet for the last few years, even taking the weather into account, the number of exhibitors at both the Early and Main Shows has been very low, and appears to be falling. It is difficult to understand why this is happening when interest in the genus is still growing. Being a newcomer to competing I can, perhaps naively, see only benefits in taking part. One cannot discount the social side of exhibiting — the camaraderie when setting up, the satisfaction of sharing one's best plants with like-minded people and, maybe, at the end of the day being able to display one of the fine silver cups that are awarded annually. However, if the garden exhibiting is one that opens to the public then surely one can discount the cost of staging the exhibit and regard one's attendance as a marketing exercise. This year during the two days of the Main Show nearly 7,000 people passed through the Hall, the vast majority of whom have a keen interest in plants. What better location to advertise the existence of a garden or collection? The cost of employing an advertising agency or PR company to reach the same number and type of people would be far in excess of that involved in getting one's plants to London. Blooms do not have to be rare to win prizes and they do travel well. This last point has been demonstrated by the fine displays sent from Cornwall, Scotland and Wales in recent years, most of which are picked at least a day or so prior to the show. What has happened to all the famous rhododendron gardens in the south, maybe just an hour or so from Vincent Square? Only two or three seem to be exhibiting regularly. Let us hope that this decline is just a temporary phenomenon as we and our gardens adjust to the changes wrought by the weather.

The Camellia Shows 1990

CECILY PERRING

THE EARLY CAMELLIA COMPETITION, FEBRUARY 20-21, 1990

Surely 1990 will be remembered as the Year of the Camellia. The flowering has been quite remarkable, starting before Christmas 1989 and continuing until the sharp frosts in the middle of April although a few late blossoms continued in sheltered situations. The quality of the flowers was remarkable, as was the beautiful white marbling on varieties such as 'Elegans', 'Donation' and 'Nagasaki'. Was it the hot summer of 1989 that was responsible? It seems strange that the prolonged drought did not appear to affect the quality of blossom, and was it the heat that improved the quality? The lack of frosts during the height of the blooming season enabled us all to enjoy the full beauty of camellias as is very rarely possible in the UK.

In spite of the profusion of blossom the number of entries in the Royal Horticultural Society Shows was disappointing. It is such a delight to pit your blooms against others, and so very instructive, that it is a pity more amateur growers who abound in the London area do not take part. It is understandable that those living at a distance from RHS Halls find it daunting. Parking and public transport make it very hard to be there with exhibits in prime condition; but it can be done – witness the superb exhibits which we saw at the shows this year.

Beginners in this field sometimes find it hard to know what the judges are seeking, but it is not really difficult. They look for a perfect bloom – good colour, form and substance –with the right characteristics and size – typical of the variety it represents and certainly of the class for which it is entered. A catalogue from a reputable camellia grower will provide most of the information needed supplemented by a good book on the subject and a scrupulous adherence to the instructions in the RHS Schedule Regulations.

At the Early Show on February 20 and 21, 1990 the First Prize for Class 2 was won by a very fine exhibit of four ornamental plants of different genera in bloom. One of the four was a lovely vase of 'St. Ewe' - always a favourite. Its small shining dark green leaves are the perfect foil to the masses of cyclamen-pink single flowers with their rich golden stamens. A well-grown shrub will be in bloom and a treasure in the garden from December to April - what more could one ask?

There was also a most interesting and beautiful exhibit of *Camellia japonica* species notable for its lovely foliage, rich red flowers and golden stamens; it was most ornamental.

THE CAMELLIA COMPETITIONS, MARCH 13, 14 AND APRIL 3,4

The main competitions on March 13 and 14 and April 3 and 4 were well, but not heavily, supported. The quality of the blooms shown was outstanding. The

main contestants - Stonehurst Nurseries, Marigold Assinder, the Duke of Devonshire and Edmund de Rothschild battled away, with Mrs E. Bullivant, Charles Bettes, Mrs Kleinwort, B. E. Wright, D. N. Farnes, A. H. Hooton, Mrs C. Petherick, A. M. Bearn, Mrs B. Griffiths, Justin Heurtin, J. T. Link and D. Robertson making a determined effort to make their presence felt. Without these wonderful gardeners the Show would be poor indeed. Marigold Assinder has a superb 'Contessa Lavinia Maggi': the flowers won a number of prizes at both shows and it was interesting to note that at the March 13, 14 Show in Class 31 Sub-Section 4 (any rose-formed or formal double variegated cultivar - one bloom) there were six entries. Five of the six were of 'Contessa Lavinia Maggi' in great variety, but First Prize deservedly went to Marigold Assinder. The same on April 3/4: in Class 41 under the same title there were 7 entries - 6 of 'Contessa Lavinia Maggi' - and First Prize to Marigold Assinder who also entered some lovely prize-winning blooms of 'Scentsation' and 'Spring Festival'.

One of the most beautiful camellias exhibited to my taste was a lovely 'Augusto Pinto' shown by Edmund de Rothschild. It won First Prize and its unusual crushed strawberry pink stood out amongst the other blooms, but Mrs Petherick of Cornwall also exhibited a superb specimen and she too was awarded First for it in her Class. Stonehurst has an outstanding cultivar of 'Bob Hope' - certainly a most vibrant winner which glowed on the show bench and won several prizes.

Specially noteworthy was an entry (No. 32 in Sub-Section 5 on 13 and 14 March, by the Duke of Devonshire - 6 superb blooms - 'Mrs D. W. Davies', 'R. L. Wheeler', 'Elegans', 'Grand Prix', 'Dr Tinsley' and 'Bob Hope' - all most beautiful. Mrs Hooton has a much-winning 'Nuccio's Jewel', and old favourites such as 'Adolphe Audusson', 'Mathotiana Alba' and 'Debbie' appear in the entries repeatedly, and are clearly favourites. The 'Donation' entry (Class 56 Div. III on April 3, 4) was won by Stonehurst, but there were only 3 entries and The Yellows (Class 61) attracted only one. Too often this was the picture. A very special entry which earned a well-deserved First was from Mrs Petherick from Porthpean in Cornwall (Div. III Class 25 on April 3, 4). She displayed 12 superb blooms, including a beautiful 'Lady in Red'. Stonehurst took second place and Marigold Assinder third. Mrs Petherick entered the only 'Captain Rawes', a really lovely bloom.

Words cannot adequately convey the thrill which the beauty of these blooms give to the camellia addict. Only an unhurried visit to the Show can be satisfying. The display and surroundings at the RHS Halls make this a real pleasure. The visitor can view in comfort and without the jostling of crowds. It is a most worthwhile and enjoyable occasion bringing great credit on all those who exhibited.

Book reviews

The Rhododendron Species, vol. II, **Elepidote Species, Series Arboreum - Lacteum** by H. H. Davidian. 344 pp; 159 colour photographs in 48 plates; 7 black and white photographs; 46 line drawings; 5 maps. (B. T. Batsford Ltd 1989 £50).

This follows vol. I. *Lepidote Species* by the same author, published in 1982 and printed in the USA, sponsored by the Rhododendron Species Foundation. The main body of the present volume is 227 pages of text containing authoritative descriptions of 182 species of Elepidote rhododendrons (Subgenus Hymenanthes), 29 of them 'Q' (not in cultivation), including two new species and four new varieties described by the author. These are arranged alphabetically in 13 series under the Balfourian series classification with 12 subseries. The remaining six series, Neriiflorum - Thomsonii, with their 14 subseries, as well as the elepidote subgenera Azaleastrum (four series) and Therorhodion (four taxa) can be expected in volume III. The author told me 20 years ago that this work was completed and only waiting for a publisher. This was before the revision of the classification had begun at the Royal Botanic Garden at Edinburgh. New taxa described by the author, or by Chinese botanists, since then have however been included.

The account of each species starts with the authority for its name, followed by a detailed description of its botanical characters. After this come details of where the species was discovered, and when and by whom it was introduced; where there are outstanding plants in cultivation in this country; any awards received; hardiness; flowering season; epithet (reason for the name); and diagnostic characteristics (the 'trade mark' by which the author has taught his disciples to recognize certain species, such as the red glands on the style of flowers of *R. vernicosum*).

The glossary of botanical terms used and the illustrated descriptions of leaf shapes, flower shapes, scales and seeds, are repeated from Volume I; a new feature is drawings (by the author himself) of the 18 distinctly different types of hair and which occur in each of the Elepidote series. The maps showing South East Asia and China are repeated from Volume I, but three new maps illustrate for comparison the hardiness zones in SE Asia, Europe, and North America. An alphabetical list follows of all the Elepidote series, with the subseries, and the species and varieties in each, followed by a key for identification.

After the main section of plant descriptions, there follows a two-and-a-half-page lament about the precious rhododendrons that were lost when the rhododendron glasshouse at the RBG, Edinburgh, was destroyed in 1965. A seven-page list of synonyms of Elepidote rhododendron names follows, and then the botanical descriptions (in Latin) of the new taxa, as well as series and subseries, which the author has named. A synopsis of the Elepidote species and some of their characteristics covers some 14 pages. Next, a list of Lepidote rhododendron species, with their varieties and synonyms, in rather greater

detail than the list under the same title in Volume I. There is a general index, and, lastly an index of rhododendrons.

A reviewer cannot escape spotting the occasional mistake - few indeed in this case - but the index of rhododendrons sometimes omits the reference (e.g. *R. calophytum*, p.181) to the page where the species is described. The Lord Aberconway (1879-1953), after whom the species *R. aberconwayi* was named, and who was President of the RHS, was the 2nd Baron, not the 1st, and it was as the Hon H. D. Maclaren that he was responsible for making the fine collection of rhododendrons at Bodnant; more recently of course his son Charles, the 3rd Baron, has been President.

As was the case with the first volume, there are 7 fine black and white photographs taken by the collector, J. F. Rock, of rhododendron country in western China 50 years or so ago, including a frontispiece of the famous Mekong-Yangtze Divide and some fine mountain scenery. Most of the other illustrations are acknowledged, but I failed to find in either volume a hint of how these became available. Sixteen beautiful line drawings of 13 species were contributed by Mrs Rodella A. Purves, who had also contributed some of those in volume I. In volume I, the 95 colour plates were all bound together between the key to the series and the detailed descriptions of species; in this volume II, there are 159 colour plates, more attractively interspersed through the book, in groups of four or eight sides, three or four to a page; a detailed list gives the plate number, but it would take less time to find a particular plate if it also mentioned between which pages of text that group is located.

These photographs have mostly been provided by friends of the author; the quality varies, but most are very good. Seventy-six are photographs of rhododendron plants or inflorescences, all but one growing in the United Kingdom. The next 23 are photographs of new growth, natural regeneration, or pest damage; then follow views of 23 rhododendron gardens in Scotland, 8 in England, 1 in Sweden and 7 on the Pacific coast of the USA. Next, 21 photographs of rhododendrons in the wild in Nepal, Sikkim, Sichuan and SE Tibet. Lastly, a new lepidote taxon collected in 1976 on the Korean island of Cheju, in flower in a garden in Edinburgh.

A pity that the revised classification accepted by the RHS and the International Rhododendron Conferences could not be followed, but this is understandable as most of the work involved was carried out before the revision was begun. This should not put off readers who have become accustomed to the revised classification, for the table at pp.3-65 of the RHS *Rhododendron Handbook 1980* 'Rhododendron Species in Cultivation' compares the Balfourian series followed in Mr Davidian's book with the Edinburgh revision, and the modifications proposed by the RHS. In 1981, the RHS also published *An Alphabetical Checklist of Rhododendron Species*, comparing names in the Balfourian series with the equivalent names in the horticultural modification of the Edinburgh revision.

We are deeply indebted to Batsford for producing this beautiful volume which, unlike volume I, was printed in Hong Kong. It closely follows the layout

and style of volume I, and is a good companion volume; the cloth cover is a rather different shade of green, but this will not be noticed as most possessors of these books are likely to retain the beautiful paper covers, in the case of vol. II, a lovely truss of *R. grande.*

This book will be a treasure to possess, and should make an ideal birthday or Christmas present for a rhododendroholic spouse.

W.M.

Travels in China. A plantsman's paradise by Roy Lancaster. 516pp. 413 colour photographs, 253 black and white. 1989 (Antique Collectors' Club Ltd, Woodbridge, Suffolk. £29.30).

The author paid six visits to China between 1979 and 1986, and in seven well-illustrated chapters he describes what he saw in seven areas from which notable plants are now in cultivation in some of the temperate regions of the world. In this review only the genera with which this Year Book is concerned are mentioned but of course many other interesting plants are discussed in this comprehensive book.

The book starts with an outline of the contents, with a brief description of China and its vegetation, followed by biographies of some 78 people who have contributed to plant exploration in China, from Cunningham in 1698 to Professor Feng Guo-mei at the present day. There is a lucid explanation of botanical nomenclature.

Appendixes explain Chinese place names, describe Chinese botanic gardens and list (mainly non-native) trees and shrubs planted in Chinese towns. There is a glossary, a bibliography and no less than seven indexes. There is an outline map of the People's Republic of China, giving the obsolete but more familiar names of the provinces. Each chapter has a detailed map indicating the route followed.

In Chapter One no rhododendrons, camellias or magnolias are mentioned. Chapter Two deals with 'Sacred Emei Shan' (Mount Omei) in Sichuan province, made famous by E. H. Wilson who visited it in 1903, and which supports a very rich flora, estimated by the late Professor Wen-pei Fang at over 3000 species. These include *Rhododendrons calophytum, ririei, argyrophyllum, davidii* and *strigillosum, Camellia oleifera*, and the native *Magnolia officinalis* much planted round temples.

'City of Eternal Spring' (Chapter Three) is Kunming, capital of Yunnan province, to the south of Sichuan. *Rhododendrons decorum, siderophyllum, spinuliferum,* the azalea *R. microphyton, Camellia saluenensis, C. pitardii* var. *yunnanica, Magnolia delavayi* and *Michelia yunnanensis* are mentioned.

Chapter Four ('In the Footsteps of Forrest') deals with the mountains to the west and north of Dali (Tali-fu) in N.W. Yunnan between Sichuan and Burma, visited in 1980 by the Sino-British expedition to the Cangshan led jointly by Professor Feng Guo-mei and Mr R. J. Mitchell, the Curator of the University of St Andrews Botanic Garden. Forrest, Kingdon-Ward and Rock also collected here. The expedition saw *Rhododendrons sinogrande, lacteum, delavayi,*

edgeworthii and *crassum*, working from four different camps on the range, as well as *Rr. haematodes, irroratum, fictolacteum*, and *neriiflorum. Rr. trichocladum, cephalanthum* and *fastigiatum* were all growing on limestone (pH 8.1). They also saw *Camellia yunnanensis*, and *Magnolias mollicomata* and *wilsonii*.

In chapter Five 'The Peak and the Poppy', the author describes how, in September 1981, he led a party from Chengdu, the capital of Sichuan, to the Gongga Shan (Minya Konka) range west of Emei Shan, of which the highest peak is 24,900ft. Here, in an area worked by Joseph Rock in 1929-30, and where Wilson had collected, they saw several of the same rhododendrons they had seen on Emei Shan and the Cangshan. These included *R. hippophaeoides* and *phaeochrysum.* The magnolia on the mountains S.E. of Kangding was probably *M. dawsoniana.*

In Chapter Six 'North of the Yangtze', the author tells how, in May 1983, he took a party to the Wudang Shan in North Hubei. From this area French missionaries had sent botanical specimens to the Paris museum where they were named by Franchet. Later, Augustine Henry spent seven years at Yichang, and sent thousands of dried specimens to Kew. Between 1900 and 1911 Ernest Wilson, employed first by Veitch and later by the Arnold Arboretum, collected seed of many of the plants found originally by the French missionaries and by Henry. From Yichang, the party travelled north by train to Xiang Fan on the Han River, a tributary of the Yangtze. From there, they headed north to Jun Xian just south of the border with Henan province. Here they saw the azalea, *R. simsii*, and a magnolia, probably *M. sprengeri.*

In the last chapter 'The Long White Mountain', the author describes a visit in June 1984 to the Changbai Shan on the southern boundary of Jilin province in the far north-east of China, between Inner Mongolia and North Korea. There they saw *Rhododendrons lapponicum* and *parvifolium* which grow in the Arctic Circle, as well as *R. aureum, mucronulatum* and *redowskianum.*

A really splendid, reasonably priced book.

W.M.

Frank Kingdon-Ward by Charles Lyte, 218pp (John Murray, £16.95)

The volume is subtitled 'The last of the great plant-hunters', a dubious description as Kingdon-Ward (K-W) was outlived by Joseph Rock, Frank Ludlow and George Sherriff. However, K-W is perhaps the best known of all plant-hunters on account of the two dozen or so books he wrote - aimed at a fairly general readership - which describe in some detail his expeditions over a span of 47 years. Now, more than 30 years after K-W's death, a full-length biography is overdue to give an account of the man and his work.

Mr Lyte has a very readable style, as might be expected of the Gardening Correspondent of the *Daily Mirror*. He has carried out extensive research and here presents much hitherto unpublished material made available by K-W's family and friends. There emerges a clear portrait of the man: romantic, taciturn, hard-working, intolerant of fools, kindly, tough and resourceful.

Many readers will identify with K-W's love of the mountains and with his distaste for civilized life, even though few might be prepared to pay the price in terms of hardship, deprivation and illness. It is interesting to learn that many of K-W's books were written primarily to eke out his meagre income. The biography ends with a touching account of K-W's second marriage and the happiness it brought him.

However, Mr Lyte is on shaky ground when it comes to matters botanical and readers who are looking for a proper account of K-W's legacy of plants will not find it here. The book makes only a passing reference to K-W's field-notes: it contains various examples of misspelt or outdated nomenclature and no checklist of his many contributions to magazines, year-books, etc.

This biography, then, usefully fills in gaps in our knowledge about the man, but we still need a volume to stand beside Harold Fletcher's account of the work of Ludlow and Sherriff, *A Quest of Flowers* and Macqueen Cowan's *George Forrest: journeys and plant introductions*. Frank Kingdon-Ward wished –and deserves – to be remembered not by his books, certainly not by his quaint taste in clothing, but by his contribution to horticulture.

S.F.

Himalayan Enchantment, an anthology of the writings of Frank Kingdon-Ward, edited by John Whitehead. 265 pp., 22 black & white illustrations, 1 map. (Serindia Publications, London, 1990. £16.95).

To most of us, Frank Kingdon-Ward is best known, with George Forrest and Joseph Rock, as a prolific collector of rhododendron seed from the Eastern Himalayas, S. E Tibet and S. W. China. What is perhaps less wellknown is that he was primarily an explorer, an ecologist and a writer. He undertook 25 major plant hunting expeditions between 1909 and 1953, and wrote 25 books, of which thirteen are travel books describing his botanical expeditions. Most of these have long been out of print, although we can be grateful to Waterstone & Co. Ltd for publishing reprints of several in 1985, and to Cadogan Books Ltd for some others in 1986 in their Plant Hunters series.

The editor of this anthology explains that it is intended for occasional reading, and that the extracts from the travel books have been chosen to illustrate the high quality of Kingdon-Ward's writing. The prelude and first six chapters are taken from the first seven books; the next eight chapters deal with K-W's special interests - wild animals, birds and insects, and the people of the various tribes he encountered. The last chapters cover his last six travel books with an account of the Assam earthquake in 1950 when K-W and his wife were at the epicentre. The map is the best that I have seen of this difficult and badly mapped treasure house of rhododendron species. The excellent black and white photographs were nearly all taken by K-W himself and there is a reproduction of the charming pastel portrait of K-W by Miss E. M. Gregson, who gave us the pastel portrait of my wife which hangs in my bedroom now.

W.M.

Azaleas. Revised and enlarged edition, by Fred C. Galle, 519 pp., 366 colour photographs in 108 plates; black and white photographs; line drawings; 5 maps. (Timber Press of Portland, Oregon 1987, and (in Britain) B. T. Batsford Ltd. £45.00.)

A couple of years ago, my friend Homer Salley, author of the valuable 'Rhododendron Hybrids; a Guide to their Origins', told me that I really ought to get a copy of 'Azaleas' by Fred C. Galle, a past president of the American Rhododendron Society and of the American Horticultural Society.

In this country, a curious form of snobbery exists among rhododendron lovers and, as their knowledge of the genus grows, there is a tendency to go in for species at the expense of hybrids. This, I put down to the fact that, with a little knowledge, it is possible to identify a species from the publications emanating from the Royal Botanic Garden at Edinburgh and the RHS, but it is not easy at all with hybrids. They are encouraged in this if they consult their 'guru', Mr Davidian, about a doubtful species, when they are likely to receive the reply 'a he-bred', with a curl of his lip.

Going further than this, there has been a tradition to regard azaleas as somehow beyond the pale (non-U) and, apart from the azalea species, my father would not have them in the garden here. More recently, I was privileged to be judging the rhododendron classes at a flower show with a leading rhododendron authority, and after dealing with the individual classes, we had the task of selecting the best individual exhibit, for the award of a challenge cup. Our eventual choice lay between a fine spray of one of the best of the yellow rhododendron hybrids, and an equally good spray of a red evergreen azalea, both in perfect condition and equally well displayed. The matter was only settled when my co-judge said 'Well, we could not give the cup to an azalea, could we?', and of course I agreed.

With the background of these inhibitions, I have been slow to act on Dr Salley's advice, but when my son-in-law saw fit to make an extensive planting of azaleas here, it seemed that this book would make an admirable birthday present.

Mr Galle's book was published originally in 1985, but two years later the present revised and enlarged edition has been brought out, copies of which were only received in this country in the summer of 1989, and Batsford have generously sent me a complimentary copy, and it is a lovely book.

Rather curiously, this book contains identically the same three maps of hardiness zones in Europe, North America and China, as are included in vol. II of H. H. Davidian's 'Rhododendron Species', recently published, but in neither book could I trace any acknowledgement of their source, which I presume is the American Rhododendron Society. There is also a map of Japan prefacing the chapter on Evergreen Azaleas.

The colour photographs are very good and include 48 species and over 300 cultivars, as well as azaleas growing on Battleston Hill at Wisley, in the Valley Gardens in Windsor Great Park, and in the Emperor's Palace Garden in Tokyo.

The text is in four sections; the first has chapters on Azaleas in the landscape, and companion plants for the Azalea Garden. The second section has three chapters, one dealing with the position of azalea species in the Rhododendron genus, and helpfully compares the Balfourian classification with the Sleumer revision. There is a chapter on the morphology of azaleas, and another on nomenclature. Section III also has three chapters, one distinguishing between the deciduous and the evergreen azaleas, and then one on each of these groups, explaining the origin for instance of the deciduous Ghent and the Knap Hill (which includes the Exbury) hybrids, and the evergreen Kurume azaleas. Section IV has seven chapters, dealing with the care of azaleas, propagation, and hybridizing, and with pests. There are eight appendixes containing much valuable information; an index of azaleas by names; a subject index; and an index of colour illustrations.

This is a beautifully produced book, and should make a good companion volume to Mr Davidian's books on the Rhododendron Species, and a desirable present for anyone interested in azaleas.

W.M

Rhododendrons of Sabah by G. Argent, A. Lamb, A. Phipps & S. Collenette. (Sabah Parks Publication No. 8), 1988. Available through R.B.G. Edinburgh, £6.00).

From almost 300 species of vireya rhododendrons, a mere 35 figure in this book, but fully described and accompanied by mouth-watering colour plates, which in some instances illustrate the habitat. There is an excellent key to the species of Sabah, while seven naturally occurring hybrids are detailed. As a further aid to identification, there are 25 pages of monochrome illustrations of leaf scales, some at quite high magnification.

What is really a local book will surely become part of the vireya enthusiast's reference collection and might well stimulate the reader to order a new greenhouse or a ticket to Sabah.

Vireya Rhododendrons by J. Clyde Smith, Australian Rhododendron Society, 1989. $15.00 + $9.00 (Australian) p & p.

Of a general nature, this well-illustrated book describes 39 species regarded as being easily obtainable in Australia, while another 50 are mentioned as being in general cultivation. Hybrids are treated quite extensively with 122 being included and it is interesting to note some registered in the last century. Cultural routines, including growing indoors and outside, together with modes of propagation, are fully described. Although written primarily with Australian gardeners in mind, much of the information may be adapted for growing in other parts of the world.

G.H.T.

Magnolias: their care and cultivation by J. M. Gardiner, Curator of the RHS Garden at Wisley. 114pp. 80 colour photographs and 15 line drawings. (Cassell Illustrated Monographs. £14.95).

There are not so many books on Magnolias: the first of any note was by J. G. Millais, author of the classic *Rhododendrons, and their various hybrids*, in two volumes published in 1917 and 1924. This dealt with the magnolias in cultivation when it was published in 1927; a facsimile edition of this appeared in 1972. In 1955, G. H.Johnstone produced *Asiatic Magnolias in Cultivation*, a fine book published by the RHS. Then in 1978, N. T. Treseder produced his *Magnolias*, a comprehensive book covering all the species and cultivars then known.

With Neil Treseder's *Magnolias*, 1978 now out of print, it was time for another really good book on magnolias to appear. While not as comprehensive as the latter, which is likely to remain the standard work on the genus, this is an attractively illustrated book which will be valued by all who aspire to grow magnolias.

A foreword by John Bond, Keeper of the Gardens, Windsor Great Park, where the National Reference Collection of Magnolias is located, explains how well qualified Jim Gardiner is to write about the genus. After the author's introduction, four chapters follow dealing with the story of magnolias, their cultivation, magnolias in the garden, and a very good chapter on their propagation.

Sixty-five pages contain the beautiful colour plates of magnolia blooms and plants, including most of the species in cultivation in this country, a number of cultivars that have arisen here, as well as some of the American hybrids.

After a short chapter on pests and diseases, a 17-page alphabetical section describes the 25 species in cultivation, and their subspecies and hybrids. The next section covers the Soulangiana, Veitchii, Loebneri, Gresham and other groups of hybrids. Three more pages are given to the allied genera, Manglietia and Michelia, and the less-closely related Talauma and Liriodendron. Tables follow of magnolias recommended for planting, of those which have received awards from the RHS, of magnolia suppliers, and of gardens where to see magnolias growing. Visitors are recommended to contact the owners before visiting private gardens, though: two of those named in Cornwall have been dead for several years. A book worth having and, for these days, moderately priced.

W.M.

Photographic competition

It is an invidious task to single out one from among the many beautiful photographs submitted. This year, as usual, there has been a remarkable crop of hybrids and species and an even more intriguing collection of hairy leaves, coloured pedicels and prominent calyces. But it was the brilliant peeling bark and the strange twisted trunks of *R. thomsonii* at Lingholme near Keswick that caught the eye of the judges. The prize of £10, therefore, goes to John Bodenham of Hunters Lodge, Wembury, near Plymouth, for the photograph reproduced on Fig. 22. To show how close was the competition we need only mention the runners up: Kenwyn Clapp, for showing the curious bristly new growth of *R. hirtipes* at Glendoick, Mrs. B. Cooke, for her picture taken at the Valley Gardens of a perfect truss of *R. wallichii* with its distinctive leaves, and a new competitor, Mr. B. J. Horrabin, for capturing the flaming symmetry of R. 'Grosclaude' (*eriogynum* × *haematodes*) in his own garden. Please, will everyone continue to send in their most eyecatching efforts, and next year the judges would like to see some camellias and magnolias, as well as the more unusual features of the genus rhododendron.

Awards at London Shows

RHODODENDRONS

1989

Rhododendron calendulaceum 'Amber Light' AM 21 May 1989, as a hardy flowering plant. A deciduous azalea. Trusses up to 10-12 flowers. Corolla 5-lobed, tubular, funnel-shaped, up to 4cm long and 5cm across, shades of Orange Group 28 in throat, darkening to Red Group 42B on lobes. Stamens 5, held free, filaments dull yellow-orange, anthers bright yellow-orange, style held free. Calyx 5-lobed, to 2mm, green. Calyx and corolla tube densely glandular hairy. Collector not recorded, raised and exhibited by Crown Estate Commissioners, The Great Park, Windsor, Berks.

'Choptank River Traveller' (*atlanticum* × *periclymenoides*) **AM** 21 May 1989, as a hardy flowering plant. A deciduous azalea; trusses up to 12-flowered. Corolla 5 lobed, tubular funnel-shaped, up to 4 cm long and 3 cm across, white with dark pink (Red Group 54A) corolla tube. Stamens 5, held free, filaments white, anthers light brown. Style held free. Calyx 5 lobed, to 2 mm green. Calyx and corolla tube densely glandular, hairy. Collector not recorded, raised and exhibited by Crown Estate Commissioners, The Great Park, Windsor, Berks.

'Dawns Glory' (parentage not known) **AM** 21 May 1989 as a hardy flowering plant. A deciduous azalea, trusses full, rounded 16-20 flowered. Corolla 5 lobed, tubular funnel-shaped, up to 6 cm long and 5 cm across, Orange-red Group 34 A - Red Group 45A with blotch of Orange Group 25A in upper throat. Stamens 5 held free, filaments orange, anthers cream, style held free. Calyx 5 deeply divided lobes, to 5 mm, green, glandular, hairy. Crossed, raised and exhibited by Edmund de Rothschild, Exbury Gardens, Exbury, nr, Southampton, Hants.

'Drury Lane' (parentage not known) **AM** 21 May 1989, as a hardy flowering plant. A double-flowered deciduous azalea, trusses 12-16 flowers. Corolla 5 lobed, tubular funnel-shaped, up to 7 cm long and 7 cm across. Stamens 5 held free, filaments orange-pink, anthers cream. Style held free. Calyx 5 lobed, to 4 mm, green, glandular hairy. Inner corolla Yellow-Orange Group 24B, darkening to Red Group 48A at lip of corlla, with blotch of Orange Group 24A in upper throat. Colouring similar on reverse. Crossed, raised and exhibited by Edmund de Rothschild, Exbury Gardens, Exbury, nr, Southampton, Hants.

'Nicola Newman' ('Cornubia' × *sutchuenense*) **AM** 31 January 1989, as a hardy flowering plant. Trusses firm, somewhat flattened, 12-13 flowered. Corolla 5 lobed, campanulate up to 5 cm long and 6 cm across, colour Red-purple Group C, darkening to Red-purple Group B at lip of corolla, some dark red spotting in upper throat. Stamens 10 held within, filaments white, anthers dark brown. Style held within. Calyx rudimentary. Leaves elliptic-oblanceolate, up to 20 cm long and 7.8 cm across, dull dark green above, paler, free from indumentum below. Crossed and raised by E. J. P. Magor. Exhibited by the Trustees of the Estate of R. N. S. Clarke, Borde Hill, Haywards Heath, Sussex.

Rhododendron pachysanthum AM 28 November 1989, as a hardy shrub for foliage effect, exhibited by P. A. Cox, Glendoick Gardens Ltd, Perth, Scotland. This rhododendron species collected in the mountains of Taiwan by the Rhododendron Venture in 1972 under the collector's number 72/001, has proved to be quite hardy in Scotland. The undersides of the leaves, petioles and young stems are thickly felted with a light orange brown indumentum, Greyed-orange Group 173D becoming darker with age to Greyed-orange Group 172C. The upper surface of the leaves are initially covered with thinner paler indumentum which is lost as the leaves mature. Each oblong to lanceolate leaf 70-80 × 25mm has a short acuminate apex and a slightly irregular truncate base. The flowers formed in trusses in spring, are about 3cm long, campanulate, white and densely spotted.

'Victoria Hallett' (*strigillosum* × *arboreum*) **AM** 21 February 1989, as a hardy flowering plant. Trusses loose, open, 12-13 flowered, up to 12 cm across. Corolla 5-lobed, campanulate, up to 6 cm long and 4.5 cm across, Red Group 53B with slight dark spotting in upper throat. Stamens 10 irregular, held within, or of equal length, filaments flushed red, anthers dark brown. Style held free. Calyx 5-lobed to 5 mm red. Leaves elliptic, up to 15 cm long and 5 cm across, dull matt green above, paler below with traces of brown woolly indumentum. Crossed and raised by Col G. H. Loder, exhibited by The High Beeches Garden Conservation Trust, The High Beeches, Handcross, Sussex, RH17 6HQ.

'William Hurley' *(nuttallii* × *megacalyx)* **FCC** 4 May, 1988, as a flowering plant for the cool greenhouse. Crossed, raised and exhibited by G. A. Hardy, Sandling Park, Hythe, Kent. Trusses three- to five-flowered. Corolla five-lobed, tubular-campanulate up to 8.5 × 12.5cm, white suffused yellow deep in throat; reverse very slightly tinged pink: strongly fragrant. Stamens ten, irregular, held within, filaments yellow-green, anthers dark brown. Style of equal length or held free. Calyx five-lobed, green, slightly scaly; up to 2.5cm long. Leaves oblong-elliptic, up to 16 × 6cm, mid-green with scattered scales above, densely scaly below. *[This is the correct name and description of the rhododendron previously named 'Susannah Hurley'. Hon. Ed.]*

1990

'Androcles' *(arboreum × calophytum)* **FCC** 20 February 1990, as a hardy flowering plant. A very handsome hybrid with large trusses of pink flowers. Leaves 15.3 to 20cm long, dull dark green above, with lighter veins; light green below, slightly glaucous. Truss large dome-shaped, containing up to 30 funnel-shaped, pale pink blossoms, 38mm long and 64mm wide, with four lines of darker spots from the base of the lobes to the ovary. Calyx cream, very small, petioles 19mm long. Bracts cream, turning brown as the flowers open. Crossed and raised by Lionel de Rothschild, exhibited by Edmund de Rothschild, Exbury Gardens, Exbury, Southampton, Hants.

'Anne George' ('Daydream' × 'Ice Cream') **AM** 21 May 1990, as a hardy flowering plant. Trusses full, 14-15 flowers. Corolla 5-lobed, funnel-shaped, up to 6cm long and 6cm across, Red Group 37D, with faint darker mottling of Red Group 55B, flushed yellow-orange deep in throat. Stamens 10 held within, filaments white, anthers brown, style held within. Calyx 5-lobed, to 17mm long, yellow-orange. Leaves elliptic, up to 12.5cm long and 4.5cm across, dark green above, paler below, free of indumentum. Crossed and raised by A F George, exhibited by Hydon Nurseries, Hydon Heath, Godalming, Surrey.

Rhododendron catawbiense 'Catalgla' AM 21 May 1990, as a hardy flowering plant. Trusses full, 15-20 flowered. Corolla 5-lobed, funnel-shaped, up to 4.5cm long and 6cm across, White Group 155C, with some yellow-green spotting in upper throat. Stamens 10, held within, filaments white, anthers red-purple, style of equal length. Calyx rudimentary, green. Leaves oblong-oval, up to 18cm long and 5cm across, dark, shiny green above, pale green and glabrous below. Collector not recorded, exhibited by Crown Estate Commissioners, The Great Park, Windsor, Berks.

'Christmas Cheer' *(caucasicum* × unknown) **AM** 20 February 1990, as a hardy flowering plant. Trusses full, compact, up to 11cm across and containing up to 14-15 flowers. Corolla 5-lobed, campanulate, up to 3.5cm long and 5cm across, pink in bud (Red-Purple Group 62A) opening to white, each lobe centrally flushed pink, with a little green spotting in upper throat. Stamens 10, held within, filaments white, anthers brown, style held free. Calyx rudimentary, 5-lobed. Leaves elliptic-ovate, up to 9cm long and 3.5cm across, dull mid-green above, reverse lightly covered with brown indumentum. Crossed and raised by T. Methuen and Son, Edinburgh, exhibited by Edmund de Rothschild, Exbury Gardens, Exbury, Southampton, Hants.

'Cliff Garland' ('Bric-a-brac' × *mucronulatum*) **AM** 20 February 1990, as a hardy flowering plant. Borne freely in 2-3 flowered terminal and axillary clusters, the flowers are campanulate, 5-lobed, and up to 2.5cm long and 3.2cm across. Colour is white, strongly overlaid with pink staining (Red-Purple Group 62A) and with a few darker spots in upper throat. Stamens 10, irregular,

held within or of equal length. Filaments pink, anthers brown. Style held free. Calyx 5-lobed, to 4mm long. Leaves ovate, dark matt green above, scaly beneath, up to 5cm long and 2cm across. Crossed and raised by Guy Nearing (USA), exhibited by Millais Nurseries, Churt, Farnham, Surrey.

Rhododendron dauricum 'Hiltingbury' AM 30 January 1990, as a hardy flowering plant. Flowers in clusters of 3 or 4, axillary buds. Corolla 5-lobed, broadly funnel-shape up to 2cm long and 4cm across, inner corolla Purple Group 78A. Reverse a darker Red-Purple 72B. Stamens 10, irregular, of equal length, or held free, style held free. Calyx 5 joined lobes, rudimentary, green, scaly. Leaves elliptic, dark green, up to 4cm long and 2cm across, densely scaly below, slightly scaly above. Collector not recorded. Exhibited by Crown Estate Commissioners, The Great Park, Windsor, Berks.

'Exbury Calstocker' (*calophytum* × 'Dr. Stocker') **FCC** 3 April 1990, as a hardy flowering shrub. Truss dome-shaped, large, containing up to 23 white, bell-shaped flowers, 95mm across, 76mm long, with widely spreading lobes, the base of the tube marked with a maroon blotch on the upper petals. Style deep pink, green tip. The buds are pink, and the flowers are slightly flushed with the same colour, particularly on the outside of the upper petals. Leaves elliptical, about 23cm long, dark green above, lighter beneath, main veins yellowish green and impressed. Crossed and raised by Lionel de Rothschild, exhibited by Edmund de Rothschild, Exbury Gardens, Exbury, Southampton, Hants.

'Fairy Light' ('Lady Mar' × *griersonianum*) **AM** 21 May 1990, as a hardy flowering plant. Trusses loose, 10-12 flowered. Corolla 5-lobed, funnel-shaped, up to 6.5cm long and 7.5cm across, Red Group 55B, with darker veining and light spotting in upper throat. Stamens 10-12 held within, filaments red, anthers dark brown, style held within, yellow-orange. Calyx rudimentary. Leaves oblong-lanceolate to elliptic lanceolate, up to 12.5cm long and 4.2cm across, dull matt green above, paler glacous, glabrous below. Crossed and raised by Lionel de Rothschild, exhibited by Edmund de Rothchild, Exbury Gardens, Exbury, Southampton, Hants.

Rhododendron ferrugineum AM 19 June,1990, as a hardy flowering plant. Trusses 12-14 flowered, up to 4cm across. Corolla 5-lobed, tubular, up to 16mm long and 13mm across, Red-Purple Group 63A, inner surface Red-Purple 66C, interior of corolla tube glandular-hairy, exterior slightly scaly. Stamens irregular held within, filaments white, anthers pale brown, style held within. Calyx rudimentary, green scaly. Leaves oblanceolate to lanceolate, up to 22mm long and 8mm across, dark shiny green, slightly scaly, above and densely covered with rust-brown scales below. Exhibited by Valerie Finnis, The Dower House, Boughton House, Kettering, Northants.

'Lucinda Hurley' (*calendulaceum* × 'Sang de Gentbrugge') **AM** 19 June 1990, as a hardy flowering plant. A deciduous azalea. Trusses 6-7 flowered. Corolla 5-lobed, tubular, up to 3cm long and 1.5cm across, interior of corolla Red Group 45C, darkening externally to Red Group 45B, and glandular-hairy towards base. Stamens 5, held well free, filaments red, anthers reddish-brown, style held free, red. Calyx rudimentary, green, densely glandular-hairy. Crossed, raised and exhibited by Alan Hardy, Hillhurst Farm, Hythe, Kent.

'Odee Wright' ('Idealist' × 'Mrs Betty Robertson') **AM** 24 April 1990, as a hardy flowering plant. Trusses full, rounded, 13-14 flowered, up to 18cm across. Corolla 5-6 lobed, campanulate, up to 6.5cm long and 10cm across, Yellow Group 2C, paling and shading at lip to Orange Group 27A, with reddish-brown and green spots in upper throat. Stamens 11-14, held within, filaments cream, anthers dark brown, style of equal length or held free. Calyx rudimentary, green, flushed red, sparingly glandular. Leaves elliptic up to 13cm long and 5.5cm across, dark matt green above, paler and indumentum-free below. Crossed and raised by A Wright Sr and A Wright Jr (USA), exhibited by P A Cox, Glendoick Gardens, Ltd, Perth, Scotland.

'Newcomb's Sweetheart' ('Pink Walloper' × *decorum*) **AM** 21 May 1990, as a hardy flowering plant. Trusses 11-13 flowered, as single or in multiple clusters, up to 19cm across. Corolla 5-lobed, funnel-shaped, up to 7cm long and 10cm across, Purple Group 75D, darkening at lip of corolla to 75B, with small green blotch in upper throat. Stamens 12-14, held within, filaments white,anthers pale brown, style of equal length. Calyx 5-lobed, to 6mm, purple. Leaves oblong-oval, up to 6.5cm long and 5.7cm across, dark matt green above, paler, glabrous below. Crossed and raised by Loyd Newcomb (USA), exhibited by Millais Nurseries, Crosswater Lane, Churt, Farnham, Surrey.

Rhododendron oreotrephes 'Pentland' AM 24 April 1990, as a hardy flowering plant. Trusses compound, rounded, containing up to 21 flowers, up to 10cm across. Corolla 5-lobed, funnel-campanulate, up to 3cm long and 5cm across, Purple Group 78A, paling in throat with sparse green and red-brown spotting in upper throat. Stamens 10, held free, filaments white, flushed purple, anthers brown, style held free. Calyx rudimentary, green, scaly. Leaves ovate to oblong-elliptic, up to 5.2cm long and 3cm across, dark matt green above, glaucous, densely scaly beneath. Collector not recorded, exhibited by P A Cox, Glendoick Gardens Ltd, Perth, Scotland.

'Silverwood' ('Silver Slipper' × unknown) **AM** 21 May 1990, as a hardy flowering plant. A deciduous azalea. Trusses loose, 4-10 flowered. Corolla 5-lobed, tubular funnel-shaped up to 6.5cm long and 6cm across, white, irregularly flushed red-purple, with large blotch of Yellow-Orange Group 13B in upper throat, with some glandular hairs externally towards base of corolla

funnel. Stamens 5, held free, filaments white, anthers pale brown, style held free. Calyx 5-lobed, to 5mm, green, hair-fringed. Crossed and raised by E G Millais, exhibited by Millais Nurseries, Crosswater Farm, Churt, Farnham, Surrey.

Rhododendron thayerianum AM 19 June 1990, as a hardy flowering plant. Trusses 14-16 flowered, up to 10cm across. Corolla 5-lobed, funnel-campanulate, up to 2.5cm long and 4cm across, white, faintly tinged pink (Red-Purple Group 62D) when fully open, colour stronger in bud stage. Stamens 10, held within, filaments white, anthers brown, style held free. Calyx 5-lobed, to 3mm, green, lobes flushed pink, densely glandular and glutinous. Leaves lanceolate, tough and leathery, up to 12cm long and 2cm across, bright green and glabrous above, with a thin pale brown indumentum below. Collector not recorded, exhibited by Crown Estate Commissioners, The Great Park, Windsor, Berks.

CAMELLIAS

Camellia japonica 'Australis' AM 13 March 1990, as a hardy flowering plant.Medium, paeony form, rose-red (Red Group 52B with darker veining of Red Group 52A). Raised by E G Waterhouse (Australia), exhibited by John T Gallagher, 2 Station Road, Verwood, Dorset.

Camellia japonica 'Bokuhan' (syn. 'Tinsie') **AM** 3 April 1990, as a hardy flowering plant. Miniature, anemone form, flowers dark red (closest to Red Group 46A) with contrasting tight central cluster of white petaloids, some of their tips lightly flecked with red. Raised in Japan. Introduced by Star Nursery (USA). Exhibited by David Trehane, Trehane, Probus, Truro, Cornwall.

'Pastel Shades' PC 13 March 1990, as a hardy flowering plant. Medium, semi-double, dark reddish-pink in bud, opening to white flushed shades of light pink to reddish pink (Red-Purple Group 62). Crossed and raised by David L Feathers (USA), exhibited by Dr J A Smart, Marwood Hill, Barnstaple, N Devon.

Tulip Time (*saluenensis* × unknown) **AM** 13 March 1990, as a hardy flowering plant. Medium, single, of tulip form, clear pink (Red Group 55C, with darker veining of Red Group 55B). Crossed and raised by D L Feathers (USA), exhibited by Dr J A Smart, Marwood Hill, Barnstaple, N Devon.

Sayonara AM 13 March 1990 as a hardy flowering tree, exhibited by J T Gallagher, 2 Station Rd, Verwood, Dorset. This magnolia cultivar was introduced into cultivation in this country by Sir Harold Hillier in 1963 but was first raised in USA by Dr Todd Gresham in 1955 as a result of a cross between *M.* × *soulangiana* 'Lennei Alba' and *M.* × *veitchii*. this cultivar, considered by many to be one of the best of the Gresham hybrids, forms a hardy deciduous small tree flowering at a young age. The globular scented flowers to 10cm across consist of about 12 broadly obovate creamy white tepals 10 × 6 cm flushed at the base with deep purplish pink, near Red Purple Group 70A. The filaments and anthers are tinged carmine red. Specimen in Herb.Hort, Wisley.

Awards at Wisley

RHODODENDRONS

There were no awards made at Wisley this year due to the damage caused by the gales in autumn 1989 followed by the exceptionally bad weather in the spring of 1990.

CAMELLIAS

Carolyn Williams AM 2 March, 1989. (Raised and sent by F. J. Williams, Caerhays Castle, Gorran, St. Austell, Cornwall). Plant 335cm high, 110cm spread, vigorous, erect, fairly compact habit; free-flowering. Leaves 7cm long, 3.8cm wide, medium green. Flowers 7cm diameter, single, nearest to Red Group 55C flushed and veined with a colour paler than between Red Group 55A and Red Group 55B. Flowering from 18 February, 1989.

E. G. Waterhouse AM 2 March, 1989. (Sent by Hillier Nurseries (Winchester) Ltd, Ampfield House, Ampfield, Romsey, Hants.). Plant 335cm high, 170cm spread, vigorous, erect, compact habit; free-flowering. Leaves 7.5cm long, 5cm wide, dark green. Flowers 7cm diameter, double, Red Group 56D flushed with a colour slightly brighter and clearer than Red Group 55D. Flowering from 28 February, 1989.

Hiraethlyn AM 2 March 1989. (Raised by Lord Aberconway; sent by Hillier Nurseries (Winchester)). Plant 252cm high, 228cm spread, vigorous, erect fairly compact habit; free flowering. Leaves 9cm long, 3cm wide, fairly dark green. Flowers 9cm diameter, single, very pale pink fading to white at midrib and base of petal. Flowering from 16 February, 1989.

Maud Messel AM 16 March 1989. (Raised by the late Col. L. C. R.Messel, introduced and sent by Countess of Rosse and the National Trust, Nymans Gardens, Handcross, Haywards Heath, West Sussex).
Flowering from 1 March, 1989.

RHS Rhododendron and Camellia Committee 1990

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The Royal Horticultural Society Rhododendron, Camellia & Magnolia Group

The Rhododendron, Camellia & Magnolia Group of the Royal Horticultural Society exists to bring together all members of the Society and affiliated Societies who have an interest in Rhododendrons, Camellias and Magnolias, be they beginners or experts.

With a membership of over 700, drawn mainly from the United Kingdom, but with members from such widely separated countries as Japan, Australia, Sweden and the U.S.A., the Group provides a Year Book - *Rhododendrons with Camellias & Magnolias* - containing articles of wide interest to followers of all three genera. A four-monthly Bulletin provides notices of activities of the Group and its local Branches - South-East, South-West, Wessex, South-West Wales, East Anglia, North-West & North Wales, and Ireland, together with other relevant articles. All these Branches provide activities by way of garden visits, lectures, and so on. The main Group organises a yearly Tour in some part of the United Kingdom, normally of about seven days duration, and also a one-day outing and social gathering over a weekend in October. A distribution of reliable seed exists for the benefit of members only.

The Annual Subscription is, at present, £10.00, which includes the Year Book and Bulletins. The Membership Secretary is: Mr. Alastair Stevenson, 24 Bolton Road, Grove Park, London, W4 3TB.

LIST OF OFFICERS AND MEMBERS OF COMMITTEE 1990

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The Knaphill Azaleas

G. DONALD WATERER

The list of azaleas raised and named in the Knaphill Nursery appears on pages 32-5 of *Rhododendrons 1985/86.* The list was complete to the best of my knowledge at that time, but since then I have noted the following omissions:

C. S. Sargent — Deep yellow with faint orange eye. Good shape.
Henrietta Sargent — Deep rose-pink. Orange eye, Good shape.
Rubra plena
(*Florist and Pomologist* (1883), p.177, coloured illustration)

Valencia — Vivid orange-scarlet AM (RHS) 1926
(International Rhododendron Register)

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of Rhododendrons, Camellias and Magnoliaceae

As applied to rhododendrons, (a) indicates an azalea.
Awards prior to1990 are not shown.

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