R.H.S. RHODODENDRON AND CAMELLIA YEAR BOOK 1964

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THE RHODODENDRON AND CAMELLIA

YEAR BOOK—1964

THE ROYAL HORTICULTURAL SOCIETY

This issue contains an interesting article by Mr. Ilay Campbell on the magnificent specimens of rhododendron species growing in the mild and humid West of Scotland. Mr. R. L. Shaw's description of the Natural Regeneration of Rhododendrons at The Younger Botanic Garden, Benmore makes one realise how suitable the climate of the West of Scotland is for rhododendrons. As a contrast Mr. Patrick M. Synge describes Brigadier O. W. Nicholson's much colder garden at Coles, Hampshire where late spring frosts occur. Mr. David Wright has contributed Part I of a longer essay of the colour grouping of Rhododendrons, the second part of which it is hoped will be published in the next issue. Extracts from Letters to that great Cornish gardener Mr. E. J. P. Magor should give interest and pleasure to keen rhododendron growers. Mr. H. H. Davidian has published yet a further Review of Rhododendrons in their Series.

In the Camellia section of the book Sir James Horlick writes on growing Camellias off the South West Coast of Scotland. Mr. T. H. Findlay has written a review of the Kunming Reticulata Camellias in cultivation in the Great Park, Windsor. Reports are included on the Rhododendron Shows in 1963 in London and Glasgow and on the Camellia Competition.

The book contains both coloured plates and black and white illustrations.

COVER ILLUSTRATION

Azaleas at Coles

Colour photograph by

J. E. Downward

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TO THIS ONLINE EDITION

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Photo: J. E. Downward

Azaleas in the wood at Coles showing the soft mixture of colourings (see p. 19)

THE RHODODENDRON AND CAMELLIA YEAR BOOK

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FOREWORD

The circulation of the *Rhododendron and Camellia Year Book* has steadily increased with the years, showing the growing interest in these two genera in many countries, and it is hoped that the varied and interesting features in this 1964 edition will continue the trend.

The contents include two articles on how plants thrive along the West coast of Scotland. "Giants of the West" by Ilay Campbell, and "Growing Camellias off the South West Coast of Scotland" by Sir James Horlick, Bart. The latter is especially interesting as little has been publicised about how camellias grow—and flower—north of the Border. Two other garden articles come from opposite corners of the globe; that on Coles, Hampshire, by Patrick Synge, and on Pukeiti, New Zealand, by Douglas Cook.

Mr. H. H. Davidian contributes the eighth of his important articles on the Review of Rhododendrons in their series and deals with *Auriculatum*, *Edgeworthii*, *Scabrifolium* and *Virgatum* Series, and creates a new series *Griersonianum*. A further note on *Rhododendron auriculatum* is contributed by Mr. D. M. Burke.

An article by Mr. E. H. M. Cox, this time on scented foliage—an important point often overlooked in rhododendrons—is welcomed. Natural regeneration of rhododendrons by R. L. Shaw and their grouping by David Wright are complimentary.

Full and comprehensive reports of this year's Rhododendron and Camellia Shows, held in London and Glasgow, make interesting reading. Despite the phenomenal weather during the early part of the year, it is a credit to both exhibitors and organisers that such excellent displays were forthcoming.

The effect of the cold weather is dealt with in Mr. A. C. Gibson's article on "Foliage and Frost", and also the symposium of winter damage to evergreen azaleas.

Three more articles are included on Camellias. Reginald Try, a well-known competitor at the Shows in London, has written about these plants as a hardy shrub; their propagation is amply dealt with by P. Wiseman, who has raised many thousands with success. The Kunming Reticulatas are discussed by T. H. Findlay, with his knowledge of what is probably the finest collection of these varieties in this country.

Major Magor has kindly allowed us to use an interesting selection of extracts from gardening letters to his father, one of the pioneers in the field of rhododendrons by hybridising.

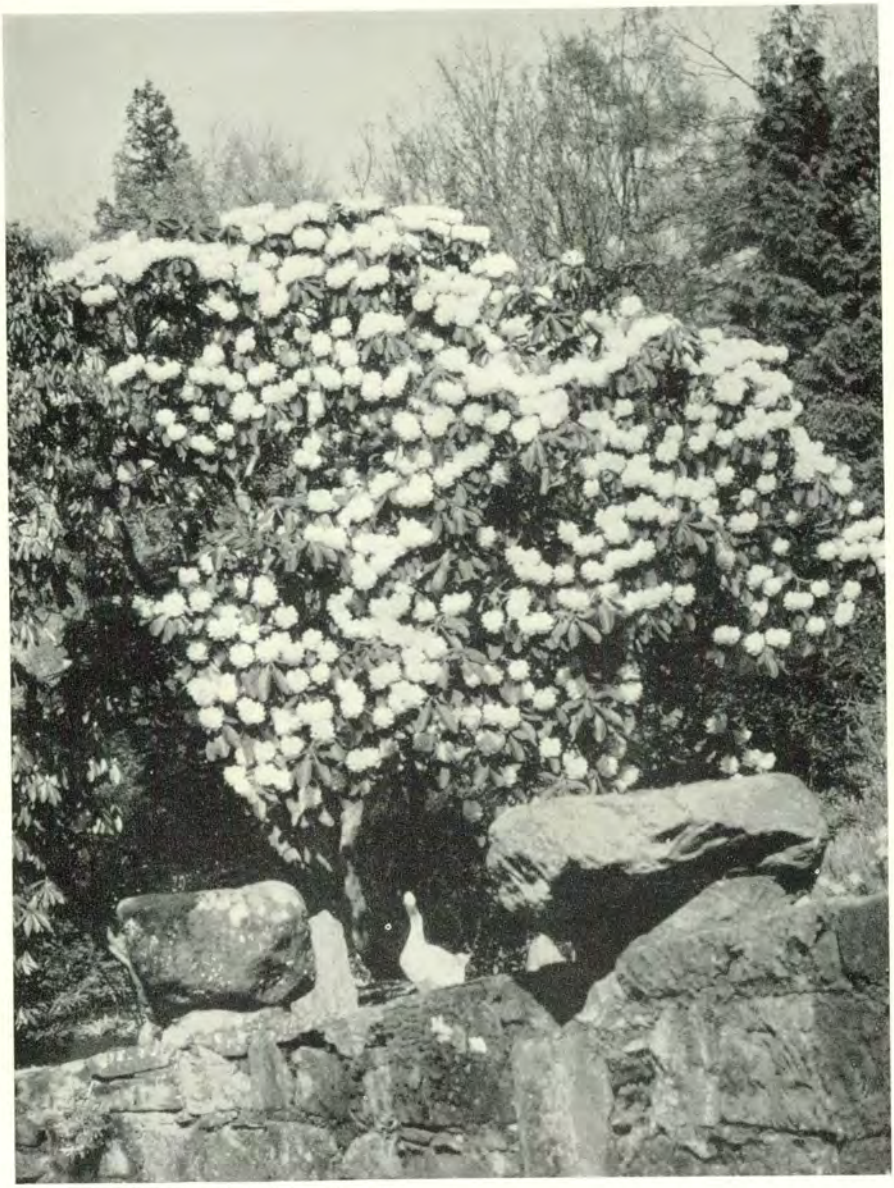
The latest hybrids find their place in additions to the International Rhododendron Register, whilst all awards in 1963, both Rhododendrons and Camellias, are listed and described.

However, the most important event of the year is the new edition of the Rhododendron Handbook. Part I, dealing with the species, is being published at the same time as this year book, whilst Part II—the hybrids—will follow in a few months. Both have been painstakingly revised and brought up to date; the species have each been given ratings of merit separately for flower and foliage by Dr. Fletcher assisted by other experts, in the light of the latest knowledge.

The hybrid list has been altered to conform to the present day rules of nomenclature, besides including all recent introductions.

These two, as well as the Year Book, are a "must" for all rhododendron enthusiasts.

GILES LODER



from a coloured photograph: Prof. G. Pontecorvo

FIG. 1—The famous old plant of *Rhododendron falconeri* at Glenarn. It is 30 feet high and may have been raised from Hooker's seed (see p. 11)

Photo: J. S. Basford

FIG. 2—*Rhododendron arizelum* 'Brodick', A.M. 9th April 1963 at the Glasgow Rhododendron Show. Shown by The National Trust for Scotland, Brodick Castle Gardens (see p. 134)

Photo: J. S. Basford

FIG. 3—*Rhododendron arizelum* 'Brodick', a close up

By courtesy of the National Trust for Scotland

FIG. 4—Some members of the Garden Committee at Brodick Castle. *Rhododendron sinogrande* on the right is 19 feet high (see p. 12)

GIANTS OF THE WEST

By ILAY CAMPBELL

THE climatic conditions of the West Coast of Scotland can briefly be described as 'warm and wet'. The degree of warmth and wetness varies of course considerably, and many other influences play their part. Generally speaking, however, from the Mull of Galloway to Wester Ross, rainfall is high and temperatures seldom very low.

Nowadays it has become accepted among gardeners that this part of the British Isles is ideal for the culture of the genus *Rhododendron*, especially perhaps those members whose native habitat is the Eastern Himalayas. But this has not always been the case. The curious and unfounded belief, still occasionally to be met with in England, that Scotland is a primitive country covered with snow for at least six months of the year, dies hard, and it is only in comparatively recent years that rhododendron enthusiasts brought up on tales of the glories of Cornwall, have realised that Scotland too, can boast gardens where these plants show themselves at their lush and luxuriant best. If any doubts still lingered they must have been put to flight by the results of the 1963 R.H.S. Rhododendron Show! Perhaps one of the reasons why North Western rhododendron gardens were not, until lately, so well known as those in the South and in Ireland, was merely that many were not started so early. When the great collectors of the 19th century were sending back seed it was to Kew that they sent it and to private collectors in the South. The West Highland gardeners, to a large extent did not realise the potentiality of their climate, and by the time they began to see what could be achieved, others, some even in less favoured districts, had outstripped them and it was to Cornwall and Ireland, that pilgrims turned to see the giants of the rhododendron kingdom.

Of course there were exceptions, exceptions caused more by chance than design. One such chance was the friendship that existed between John Campbell of Stonefield on the shores of Loch Fyne in Argyll and his neighbour, Sir William Hooker, director of the Royal Botanic Gardens at Kew. Sir William's son, Joseph, was, at this time (circa 1850) collecting in Sikkim and

some of the seeds he sent home found their way to STONEFIELD. Here a number of the plants raised remain to this day together with hundreds of their descendants. Once enthused with 'rhododendronitis' the Campbell family did not stop here, and in the collection which they formed over the generations were some magnificent specimens of many different species from all over the rhododendron world. After the War Stonefield became an hotel and though the proprietors have tried to do their best, wind, weather and lack of adequate funds available for upkeep, have played havoc with the garden. Many of the giants have fallen or become crippled, but some remain undaunted.

Among them are *R. arboreum*, several forms, one, seven years ago was 42 feet high, *R. falconeri* 30 feet, *R. grande* 20 feet, *R. niveum*, which, though not so high, has spread to an enormous extent, and *R. hodgsonii*. Particularly notable is a gigantic specimen of *R. zeylanicum* from Ceylon and there are several plants of the rare *R. eximium*. All these are outstanding and many seed themselves freely, the ground in places being thick with their progeny.

Enthusiasm is catching, and as years went by other Argyll lairds planted rhododendrons. The early *arboreum-catawbiense* hybrids were popular all over Scotland. While on the colder East coast they were found to stand up to the climate better than the species, in the West they just grew and grew. At Shirvan, also on Lochfyneside, there is a terrific example towering high above the front drive and appearing, when in flower, to make a triumphal arch overhead. A few miles further up the Loch is CRARAE where the Campbell family in the early part of this century were friends of their Stonefield namesakes. In addition other influences were at work. Lady Campbell's nephew was Reginald Farrer, and several plants of his collecting grow at Crarae today. Moreover Sir John Stirling-Maxwell was a cousin and his interest in rhododendrons is well known to any who have visited Pollok House, near Glasgow, now open to the public. The large specimen of *R. falconeri* at Crarae probably came from his garden and was planted in 1918. If it has not grown as tall as some of its relations elsewhere it is because of its somewhat exposed position. It is 16 feet high but 25 feet through at its widest point.

Two layers planted beside their parent just before the last War are catching up fast. The tallest tops 14 feet in height and is 20 feet across. All these plants flower freely and regularly, together making a gallant display. Nearby an old *arboreum* hybrid has attained at least 26 feet. *R. thomsonii* also planted in 1918 is

12 feet high by 16 feet across. Few of the many other rhododendrons at Crarae date from before the mid twenties, but it is worth mentioning two outstanding specimens. A pink form of *R. decorum* 22 feet high and a particularly fine form of *R. fulvum* 17 feet high by as much across.

R. falconeri and *R. thomsonii* were the only rhododendrons except for arboreum hybrids growing in the now celebrated garden at GLENARN on the Gareloch, when it was acquired by Messrs. A. C. and J. F. A. Gibson in 1927. These are plants of an older vintage than the specimens at Crarae, indeed Mr. A. C. Gibson is of the opinion that they are certainly over 100 years old and that the *falconeri* may very well be from Hooker seed. It is 30 feet in height by about as much through and its circumference has been estimated at 94 feet. Three massive trunks stem from ground level where their composite girth is no less than 6′ 7″. This amiable monster is in perfect health, continuing to make good new growth annually (Fig. 1).

A fast growing species throughout the West appears to be *R. macabeanum*, one at Glenarn, planted by the Gibsons themselves is now 26 feet high and grows about a foot a year. A particularly rich yellow-flowered form, it came from Exbury in about 1938.

Northwards again to Loch Melford where the late James Arthur Campbell of ARDUAINE started planting rhododendrons about the turn of the century. Here grows *R. giganteum*, a monumental specimen 20 feet high by 25 across. In 1935 it flowered; the first of its species to do so, in cultivation, in the Western Hemisphere. *R. zeylanicum* is well over 20 ft. high with no less than eleven main stems while *R. auriculatum* measures 30 by 35 feet. Other notables are *R. sinogrande*, 36 feet, *R. rex* and *R. fictolacteum*.

The late Osgood MacKenzie started introducing rhododendron species to INVEREWE, in Wester Ross, during the mid 1870s after having wisely and patiently waited fifteen years or so for his initial shelter planting to become effective. From that day to this, the genus has been continuously planted and it is now difficult to tell the age of any particular specimen, but a number of very large plants probably date from the latter years of the 19th century. Among them are *Rhododendrons fictolacteum, barbatum, hodgsonii* (over 20 feet high) and a number of *arboreums*. All are outstanding examples of their species. The success of growing rhododendrons at Inverewe entirely depends on shelter from

wind and salt spray. Sadly, during the past decade great havoc has been wrought among the century old trees so skilfully planted for this purpose. The wind has got in and has taken its toll. Now, however, the National Trust for Scotland, who own the garden, are doing all in their power to stop the rot and replace the shelter plantings. Thus the future of this unique garden and the health of the plants are happily assured for the future.

Another of the Trust Gardens is at BRODICK CASTLE on the Isle of Arran. Though started only after the first World War the rhododendron species there have already reached an almost incredible size, towering high above their counterparts in much older gardens elsewhere. Particularly suitable climatic conditions are to be thanked for this phenomenon. The Gulf Stream benevolently laps the shores of the island, hard frost is extremely rare and never prolonged, and rainfall is plentiful but not excessive. The lie of the land as well as old plantations of hardwoods and evergreens insure the maximum shelter and, in addition, the soil is rich, red and deep. The large-leaved tribe of rhododendrons have been known to put on 3 to 4 feet of growth in a season and therefore it is not altogether surprising that at Brodick large numbers of giants are to be found.

Perhaps the most remarkable of all the rhododendrons here are the *magnificums* and *giganteums*, two closely related species which are difficult to grow on the mainland. One specimen of *R. magnificum*, planted about 1925, is 21 feet high with a similar spread. Growing in half shade it produced its first flowers in 1961. Just one of the many plants of *R. giganteum* is 16½ feet high and although it possesses but a single stem has a breadth, well furnished to the ground, of no less than 28 feet. A blood-red *arboreum* is 25 feet high, *falconeri* 24 feet, *sinogrande* 19 feet, with a spread of 22½ feet (Fig. 4) and two wonderful plants of *R. macabeanum* are 22 feet and 21 feet high respectively (Fig. 5).

Although this article deals mainly with the taller growing species, it may, none the less, be of interest to report that a group of 3 plants of *R. johnstoneanum* have topped 10 feet in height and together measure 81 feet in circumference. When covered from top to bottom with their thousands of cream-coloured trumpets they present an unforgettable picture. Mention must be made here of *Rhododendron mollyanum*, named by the late Dr. Cowan after the late Duchess of Montrose who created the Brodick Gardens. This plant, over 20 feet high and probably the largest in the British Isles, was the one from which the species was

PL. 1—*Rhododendron mollyanum* at Brodick Castle. This is the type plant from which the species was described (see p. 12)

Photos: J. S. Basford

PL. 2—*Rhododendron mollyanum*. Close up of truss from plant above

described in the Rhododendron and Camellia Year Book for 1954 (Pls. 1 and 2).

Another splendid example of this uncommon species grows at the Younger Botanic Garden at BENMORE on the Holy Loch not many miles from Dunoon. It has larger flowers than the Brodick plant, and of a deeper pink shade. Unfortunately, it has been attacked by honey fungus and is probably doomed to die a lingering death, but layers have been taken and this particularly fine form saved for posterity. Benmore can boast what is thought to be the largest specimen of *R. campanulatum* in Scotland, if not in the country. A tree rather than a shrub, it is a white form and altogether a most outstanding rhododendron, approximately 30 feet high, the single stem having a circumference, at breast height, of 4 feet 5 inches.

Almost exactly opposite Benmore, across the road, is ECKFORD, a small garden belonging to Mr. John Younger whose family gave Benmore to the nation. Small in acreage but certainly not in interest, it contains some very unusual rhododendrons, many of impressive size. Perhaps the most remarkable is *R. macabeanum*, but rarer is *R. meddianum* var. *atrokermesinum*. There is also a large plant of *R. floribundum*, a member of the Arboreum series not very often seen.

One more Argyll garden, but a very different one, is KILORAN on the Isle of Colonsay. Here the late Lord Strathcona, whose wife was a daughter of the creator of Wakehurst, was particularly fond of large-leaved rhododendrons and planted a good number of them during the thirties of this century. The conditions are not dissimilar to those prevailing at Brodick and the rate of growth is equally fast. Thus there are examples of *R. sinogrande* and *R. falconeri* only 25 to 30 years old which have reached heights of 16 and 20 feet. Unlike Brodick, however, high winds are a constant problem and many shelter trees have fallen under the onslaught of the fierce Atlantic gales. It is not unusual to see the huge plants almost completely defoliated after a bad winter. But strange to relate this doesn't seem to affect them as much as might be supposed, and two years later, given the right conditions in the meantime, they often look as good as ever (Fig. 7).

Another garden begun not many years before that at Kiloran, is LARAICH MHOR, near Arisaig, on the wild Inverness-shire coast. It was in 1925 that about 50 acres of land was rented from the Arisaig Estate by the late John Holms of Formakin, Renfrewshire. A discriminating collector in many fields, and an expert on

pictures, silver, carpets and antique furniture, he has been described as 'having nothing to do with anything except the best'. This applied in the realms of horticulture as well as in his other interests, and it was because he wanted to provide perfect conditions for his plants that he chose this particular site for his garden. Rhododendrons were perhaps, his favourite genus, and it was at Laraich Mhor that *R. sinogrande* first flowered in Scotland. This plant is still to be seen today. Following Mr. Holms' death in 1934, many specimens were sold, but others remained, and although there have been many years of neglect a large number of remarkable rhododendrons still flourish in this remote and lovely corner of the Highlands. Only this year six intrepid young enthusiasts, all officials of the Royal Botanic Garden, Edinburgh, have taken a lease of the garden and are embarking on an ambitious programme of resuscitation and redevelopment. Of necessity the process will be slow as the new tenants can only, at present, spare weekends and short holidays for the job, but it will be fascinating and rewarding work and gardeners everywhere will wish them luck with their enterprise. Among the outstanding plants at Laraich Mhor the following are particularly worthy of mention. *R. fortunei*, one of the few true examples of this species in cultivation in the country, is 12 feet high with a 12 foot spread, *R. coriaceum*, 16 feet by 10 feet, has unusually large leaves of about 12 inches in length, *R. falconeri* the massive single trunk soaring to 34 feet, is an exceptional plant, and in addition such rarities as *R. martinianum*, *R. argyrophyllum* var. *cupulare* (12 feet high) and *R. wiltonii*, ramp in vigorous good health. The latter species, usually a comparatively low growing shrub has, here, reached 7 feet in height and spreads itself luxuriantly over a wide area. Other notables are *R. morii* and *R. calophytum*.

It would be unthinkable to write about rhododendrons in the West of Scotland without saying something of the great gardens of Galloway. In this area, where conditions are very similar to those of the Ards Peninsula just across the Irish Sea, rhododendrons, especially the big-leaved species find themselves very much at home and, about a century ago a number of South Western gardeners realising this, began planting them on a large scale.

Foremost among these, perhaps, was John, 10th Earl of Stair. He inherited the family Estates of LOCHINCH near Stranraer in 1864 at the age of 45 but he may well have been planting there prior to this date. It was he who was mainly responsible for laying out the present spacious gardens which surround Lochinch Castle,

which he built, and the romantic ruins of Castle Kennedy.

The many drives which traverse the extensive policies are bordered by immense specimens of *R. arboreum* and some of its early hybrids. They are thought to have been planted about a hundred years ago and have grown into forest trees, many being over 50 feet high. One particular example has a massive single stem, and measures 30 feet in girth at 3 feet from the ground! The effect of these goliaths of the rhododendron kingdom when covered in early April with their masses of red, white or pink trusses, has to be seen to be believed. *R. barbatum*, probably planted in 1860, is 30 feet high and some of the original 'Ironclad' hybrids, introduced in the 1860s and planted in groups, have achieved the same height. *Arboreum*×*campanulatum* hybrids about 60 years old are of similar stature. John, 12th Earl of Stair, is a recent and greatly regretted loss to the horticultural world. Inheriting Lochinch in 1914, he soon set out to add and improve the garden within the framework planned by his grandfather. Among the larger-growing species he introduced are *R. sinogrande*, 20 to 25 feet high at 40 years, *macabeanum*, the same age, 15 to 20 feet, *falconeri*, ten years or so older, about 30 feet and *griffithianum*, a wonderful plant perhaps 50 years old and 25 feet high by the same across.

Not far from Lochinch is LOGAN, the justifiably celebrated garden created, as their life and work, by the brothers Andrew and Nigel McDouall, who started planting there in 1896. Although perhaps Logan owes most of its fame, not so much to rhododendrons, as to the rare sub-tropical plants which flourish in the walled garden, there are none the less many very fine specimens which have grown to a great size in this mild maritime climate. Here are *R. grande* 20 feet, *sinogrande*, the leaves 32 inches long, 25 feet, *mollyanum*, a vigorous young plant, already 10 feet, *arizelum* 25 feet, *fictolacteum* 20 feet and *hodgsonii* 25 feet. Most of these were planted about 40 years ago. Among hybrids too, there are some fine plants including Loderi and 'Elsae', both 20 feet high. The earliest hybrids planted at Logan are known to pre-date the McDouall brothers as Martin College the head gardener has counted 96 annual rings when cutting up blown plants. These are of the type known as 'Russellianum' and most of them have several main trunks soaring to 35 feet or more. Nearly all the older rhododendrons at Logan were originally planted in clumps so that it is not always possible to get an accurate picture. Many of the plants have been drawn up, and

lateral growth suppressed. Younger plants, however, have been allowed to develop without competition and in years to come there will be, without doubt, some magnificent examples of the larger species.

The South-West of Scotland abounds with rhododendron gardens. There is CORSEWALL, where Colonel Carrick Buchanan has wonderful groups of *R. magnificum* and *R. sinogrande* as well as a really fine butter-yellow flowered form of *R. macabeanum*. There is MONREITH where the late Sir Herbert Maxwell, author of numerous gardening works, and a great rhododendron enthusiast, lived from 1877 to 1931, and there is GALLOWAY HOUSE, once the home of Mr. Neil MacEacharn of Villa Tarranto fame. There are many more which there is no space left to mention. If this article does nothing more, it will perhaps suggest that a leisurely tour along Scotland's Western Seaboard might well be a very rewarding experience for any lover of rhododendrons.

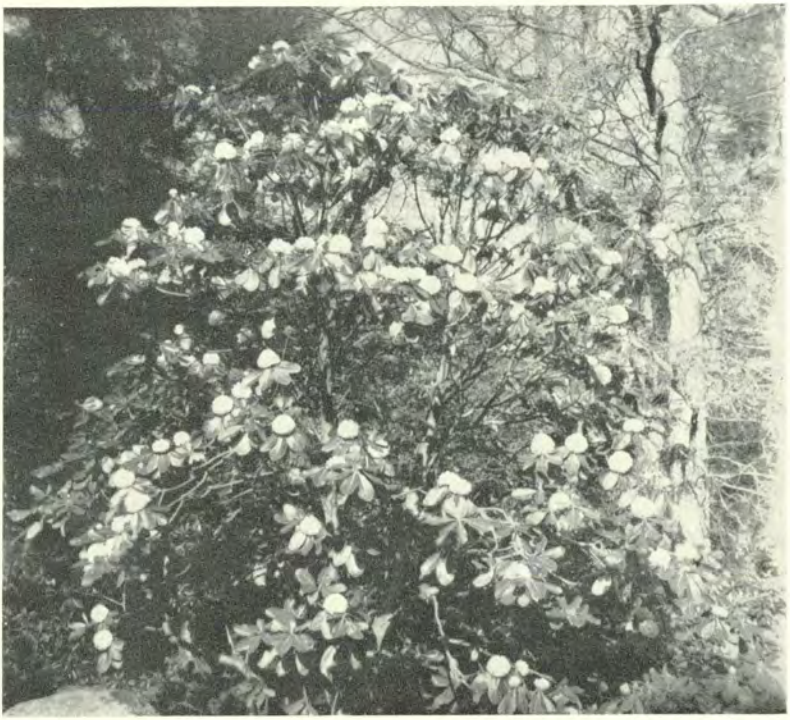


Photo: J. S. Basford

FIG. 5—*Rhododendron macabeanum* at Brodick Castle (see p. 12)

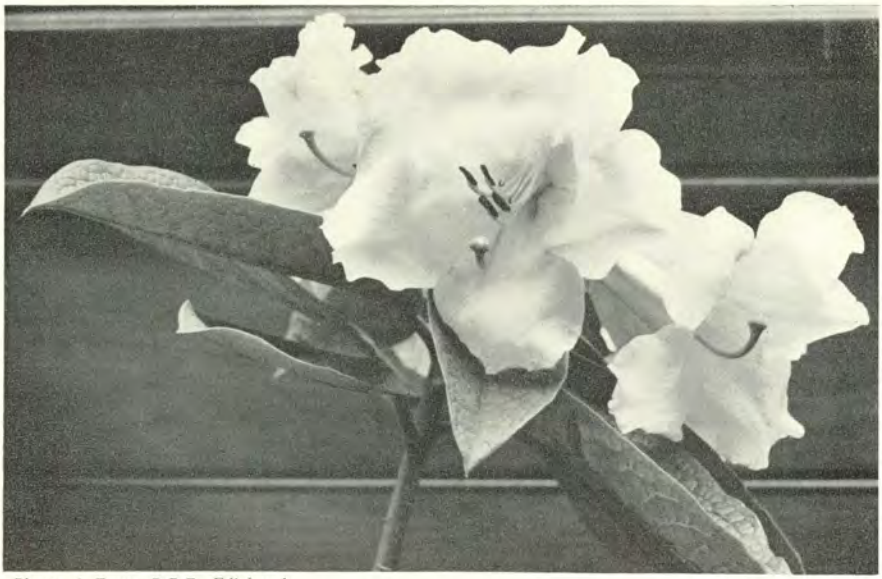


Photo: A. Evans, R.B.G., Edinburgh

FIG. 6—*Rhododendron nuttallii* which gained for Mr. E. A. Strutt, Galloway House, Garlieston, the Sir John Stirling Maxwell Rhododendron Trophy for the best truss or spray of a species in the Glasgow Rhododendron Show, 9th April, 1963 (see p. 94)

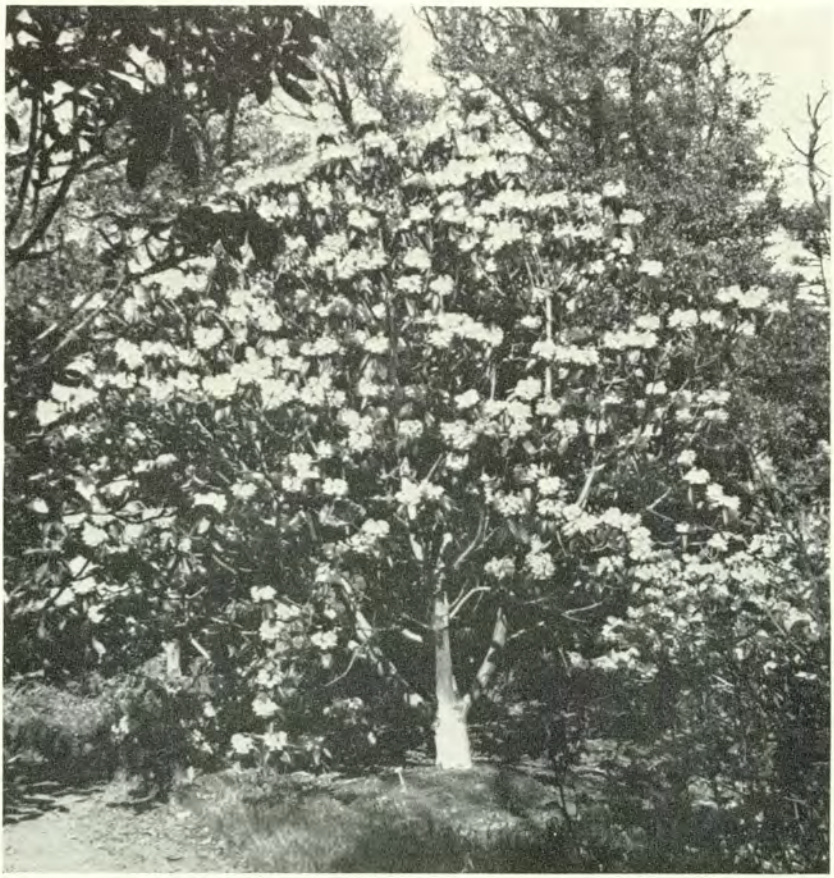


FIG. 7—*Rhododendron falconeri* at Kiloran, Isle of Colonsay 22 feet high and some 18 feet through and only 25-30 years old (see p. 13)

Photo: J. E. Downward

FIG. 8—A path amongst some of the azaleas at Coles

Photo: J. E. Downward

FIG. 9—A planting of azaleas at Coles with the wide grass walk

RHODODENDRONS AND AZALEAS AT COLES

By PATRICK M. SYNGE

COLES, the home of Brigadier O. W. Nicholson, is in the West Meon Valley of Hampshire, about seven miles south of Alton and five east of Petersfield, near the village of Privett. It is 600 feet above sea level with a heavy clay soil overlying chalk. In some places this is forty feet down, in others only a few feet. The ground slopes gently down to the base of a small valley to the south of the woodland. It is definitely a cold area, surprisingly so considering that it is only 25 miles from the South Coast. However, this has been abundantly shown during the last two winters, while in most years late spring frosts have occurred. Only the rhododendrons classified as "A" and "B" in the old Rhododendron Handbook ratings have proved a success. All the larger-leafed ones, even including *R. fictolacteum*, have either been killed or so damaged as to be of little use. This coldness is one of the essential facts about the garden. Curiously again *Rhododendron griersonianum* grows and flowers well, but few of its hybrids are a success. The rainfall, however, is quite high, being usually between 37 and 40 ins. in the year.

However, Brig. Nicholson and his head gardener, Mr. Ridsdale, have surmounted this by concentrating on the older hardy rhododendron hybrids and on the deciduous azaleas and have triumphantly created a woodland garden of great beauty and brilliant colouring, a superb and magnificent spectacle in late May and early June and fitting very suitably into this undulating, partly wooded, partly agricultural part of Hampshire. It is a comparatively modern garden, having been started after the second world war.

Everything is beautifully kept. This is noticeable straight away and the impression remains throughout one's visit. From the house around which in the summer are beds of lilies such as the Parkmannii hybrids, pelargoniums, fuchsias and other such plants, all very well grown, a long wide grass walk extends downwards several hundred yards to the woodland garden, a generous

walk, wide enough for a dozen people at least to stroll abreast of one another. On one side near the house is a broad herbaceous border. In azalea-time the only colour is provided by pyrethrums but there will be much more later. On the other side of the house is an enclosed rose garden which later will provide brilliant colour.

The next feature of interest on our right is a fairly newly-constructed pond or perhaps we should call it a small lake; slightly irregular in outline it is planted with a selection of water lilies while around the edge are large masses of irises, *sibirica* in dark blue varieties, *kaempferi* and in the water itself *laevigata*, both mauve and white, mingled with the contrasting foliage of blue-grey leaved hostas, large-leaved rheums, rodgersias and astilbes which contrast well with the more grass-like leaves of the irises. It is certainly a lesson in clever use of contrasting foliage characters to provide an effect throughout the summer. There are also blue meconopsis and moisture-loving primulas (Fig. 16).

On the other side of the grass walk are large beds of shrubs in which rhododendrons predominate. The old dark red 'Doncaster' is grown in large numbers and makes a striking colour effect while in other borders is the deep pink 'Souvenir de Dr. S. Endtz'. 'Lady Bessborough', 'Naomi' and its many forms and other crosses from *R. fortunei* have been found to do well at Coles as have also those from *R. dichroanthum*. The very dark red 'Jutland' (*R. elliottii*×'Belerophon') is also a success, while 'Loderi King George', *campylocarpum elatum*, *orbiculare*, *yunnanense*, *arboreum*, rather surprisingly, and hybrids of *R. discolor* also are grown and flower well.

All through the garden the beautiful specimen maples, many with dark foliage, lighten and enhance the effect of the rhododendrons and azaleas.

At the end of the long walk is a wide lawn in which two magnificent oaks have been left, trimmed carefully up to a clean stem as are the other trees in the wood. Around this in a semi-circle is the main planting of evergreen azaleas, probably some hundreds of plants. They have been cleverly placed in slightly sloping beds with a background of rhododendrons, the beds being held up above the lawn by large stones placed vertically on edge and about eighteen inches to two and a half feet in height. These rocks have been cleverly brought out into gently curving bays and promontories which break up the outline. Throughout the woodland garden the paths are all gently winding rather than straight which undoubtedly gives a much more natural appearance and is good

design. The azaleas have grown over the edges in a very natural way and are interspersed with ferns. Wisely and quite rightly the evergreen azaleas are kept well separate from the deciduous ones. The two groups rarely mix effectively (Figs. 12 and 14).

During the last winter the plants undoubtedly suffered appreciable damage but nevertheless there was quite a good show of flower while the year previously it was an outstanding sight. A few grey upright junipers are also grown among them. Among the evergreen azaleas the pink 'Louise' and 'Willy' have survived the cold best but the white 'Palestrina' was still good and is surely still the finest of this colour. Those with *malvatica* in their parentage seem to have proved the most hardy. Another newer planting of the Kurume and evergreen azaleas has been made in another part of the wood flanking one of the drives and here they have been planted in large groups of twenty or more plants of each and soon the plants will grow into each other. Meanwhile the ground is carpeted with blue bells which mingle beautifully with them.

But the finest spectacle, and probably the one which draws thousands to visit "Coles" every year, is undoubtedly the deciduous azaleas. These are planted in great masses and now the plants must be numbered in thousands rather than hundreds. This year there was hardly a plant which was not flowering and the spectacle was very lovely.

There are three curving grass walks through the azaleas on different levels and the wood has been opened so as to allow plenty of sun to reach the plants. Everywhere there are bluebells which flower with the azaleas. At one end is a delightful thatched summer house from which one can look down the main path and up towards the one above.

The colours are mixed rather than being grown in groups and the strong hot colours have been kept down in favour of the paler shades with a good mingling of white and creams. A few of the strong orange-scarlets, however, brighten up the general picture and provide highlights to attract the eye. The patches of white also have the same effect. (Frontispiece)

Originally Brigadier Nicholson started with fifty plants from Exbury but these have been relegated to one bank and the mass of plantings is now from his own seedlings. He started raising these in 1950 and now raises 2,000 seedlings a year from which he selects the plants for his wood, choosing particularly those with soft colours and those in which the flowers are massed in tight

heads so that they stand up well to the weather. In five years he obtains a good compact plant, well shaped with short growths for planting out. The tight heads are derived in part from a mixing in of the blood of the old Ghent azaleas and their slightly later time of flowering is here regarded as an asset.

The system of replacing odd plants in the woodland has been found unsatisfactory and so except in a few cases, whole areas are lifted at one time, the area double dug with a very liberal admixture of leaf-mould, peat and compost and then replanted, partly with new plants and partly with a selection of the best of the older ones. Only flowering sized plants are used. Then it is possible to some extent to control the colour blending and harmony and the result is certainly an outstanding success.

While the front of the banks beside the paths is almost solid azalea except for an occasional rather special rhododendron such as a fine specimen of *R. yakusimanum* or the pink hybrid of 'Dormouse' × *williamsianum*, the middle tiers and those more to the back have a sprinkling of other shrubs such as enkianthus, maples, *Cornus kousa* and eucryphias, although these latter suffered very severely in the last winter and these help with the autumn colour which is also a feature of the garden.

Through the kindness of Brigadier Nicholson the garden is open frequently during the azalea season, particularly at week-ends from mid-April to mid-June and at a few other occasions for the roses and autumn colour. Time and dates will be found in the yellow book of Gardens of England and Wales open under the National Gardens Scheme and in the list of those open under the Gardeners' Sunday Scheme. It is very well worth a visit.

PUKEITI

By W. DOUGLAS COOK

IT is now a little over twelve years since Pukeiti was started. It was a humble start with a gift of 153 acres of freehold land all in forest, except an acre of blackberry, which in New Zealand is a rapid spreading pest. The word Pukeiti is Maori for "Little Hill" and this hill, 1601 ft. high, has a view from the top looking over half of North Taranaki Province. Away in the distance on the coast lies New Plymouth and beyond a great stretch of the Western Coast-line up towards Kawhie Harbour. I won't go into raptures about that wonderful view, I'm always moved by grand scenery and when, after scrambling and fighting our way from the road half a mile or more through the bush, we reached the top and saw that view, my mind was made up to buy the property. I pictured a house on the top facing glorious dawns and sunrises and the wood-pigeons cooing quietly their appreciation of the peace and security.

The ground was covered with ferns and in the bush great tree ferns towered. With nearly 150 inches of rain per annum and a leafy forest floor, one didn't have to ask would rhododendrons grow here, one *knew*.

The property was bought and offered to the New Zealand Rhododendron Association as their permanent home, but the offer was declined, so we formed Pukeiti Rhododendron Trust. When I went to Europe in 1954 I was proud to say we had 300 members. Many joined in England and now we have over 2,000 members scattered all over the World.

Not only have we members but we have generous members. Some have contributed £1,000, some £300, to help us in our start. It's always the start which is so difficult. So much to do—so little money. In twelve years what a wonderful change has been made. A lodge was built for a caretaker and with it a lounge for members and a Board Room (Fig. 18). Now, after long patience, two more necessary rooms have been added, a very up to date Kitchen and a large convenient dining room. Gone are the days of teas served from a tent with visitors drinking their tea in the rain. A few years after our start, a water wheel was built by our caretaker to pump

water and make electricity. Now the Power Board have run some miles of Power line.

Though it rains plenty at Pukeiti, the ground is fast draining and water doesn't lie long. Everything is always fresh looking and clean. Growth is tremendous, buds set well and the show of blooms in October and November is just wonderful.

One of the greatest fascinations to me is the growth of the large-leafed species. I wouldn't mind if these glories never flowered. Their nobleness of foliage is sufficient. I hope some day we'll have a whole gully of these large-leafed fellows. I don't know them all by name, but *grande* (Fig. 20), *sinogrande*, *arizelum*, *rex*, *giganteum*, *macabeanum*, *falconeri* are amongst them. Some hybrids from A. C. Gibson of Glenarn are doing splendidly. They must think they are back in their original homes in the Himalayas and in China. They look wonderful in their Tree Fern setting. At Pukeiti there is no reason to cramp them. They have all got room to grow to maturity without quarrelling with their neighbours.

I don't think any rhododendrons at Pukeiti have suffered from frost. I should think probably a hundred *nuttallii* have been planted in various places and R.H.S. rate it as F. Even here at Eastwoodhill *nuttallii* is happy and what a glory.

When our Supervisor set out the rhododendrons in the "hybrid blocks" he gave them space to grow to maturity. It looked absurd when first planted, but "Jack Goodwin knows his stuff" and those who scoffed and wanted to double up the planting are keeping quiet now. One doesn't see long straggly growths at Pukeiti, one sees round, well clothed bushes covered in bloom. No doubt there are some naturally untidy growers in rhododendrons as there are untidy people. I think given space, most will grow into fine plants. *R. giganteum* in the wild can grow to 80ft. but I've no doubt it can be a respectable rounded bush in its comparative growth. At Pukeiti there is no reason to cramp anything for space, when we have 900 acres to play in.

I can see that, in time, Pukeiti will be a great botanical garden because even in a forest setting there isn't much sense in sticking to one family. Camellias are going to be largely represented in an area of their own. Grass paths are laid out with an ample bush background. At Pukeiti, except around the Lodge, nothing is formal, paths meander about as good guides round the hills and along stream banks.

One gets a view of a mass of scarlet across a stream in virgin bush—it is very attractive.

How sticky and difficult it all was at the start to get people to see what *should* be done, when they had ¼ acre section minds. In time I hope we will see *Magnolia campbellii, dawsoniana, sargentiana robusta* and *sprengeri* towering above the bush—I know they will fight their way to the Sun and be magnificent. Already a great number of magnolias have been planted well *back* from paths. Another thing which is extremely happy and evergreen at Pukeiti is *Michelia doltsopa.* I believe we could even risk *Manglietia hookeri* and *M. insignis.* The former is perfectly happy here with me and is 8—9ft. high.

It's rather a problem just now getting new things into New Zealand, not so much on account of plant restrictions, as from difficulties in sending money out of N.Z.

I think New Zealand must have most of the available good rhododendrons in the country now, but certainly *not* on the market—quite a few people have imported privately.

Pukeiti is really flourishing and well established now. It is a private trust and we produce nothing for sale. All has been accomplished from members' subscriptions, donations and legacies. On certain days, we fly the flags of all the nations in which we have members. Each donated by a member from his country—it is quite colourful and interesting.

I hope before long we will be able to drive from the road gate on a tar sealed road to the top of Pukeiti. I have long hoped for that but naturally plants come first and the road must be done with specially donated funds—I believe 1963 will see this road completed.

We do actually make some money from sales but of wool, not plants. A large area of Pukeiti is flat valley bottom. This has been cleared of rubbish except for groups and specimen trees, ploughed and sown in grass. This area is like an English Park and brings in over £300 a year.

The farming is looked after by two near-by farmers free of charge and much other work is also voluntary. It shows how popular Pukeiti is to have so much free labour at weekends. The world has plenty of takers but not too many givers.

I am very pleased and satisfied that I selected the best spot in New Zealand in which to start a Rhododendron Park. To my small gift has been added so much and it is certain that Pukeiti will one day be one of the world's greatest and loveliest Parks. We would be glad to have you join, then, come to New Zealand and see what we are doing. We are practically in the middle of a

huge Government Scenic Reserve and most of our land is freehold.

From the start of the planting at Pukeiti, plants of all kinds have been given plenty of room to grow in freedom to their ultimate maturity. Distances between rhododendrons in the hybrid block vary quite a lot according to variety and nearness or distance from open spaces like paths or drives. Some are 9–10ft. apart, others up to 15–16ft. or even 18–20ft. for such as 'Beauty of Littleworth'. A few at the outset, who did not know, or believe the ultimate in rhododendrons did not agree with such generous spacing but I was delighted that Mr. Goodwin insisted on his spacing and in that climate, time will prove his wisdom. I admit it looked, to the novice, ridiculous to see small plants from the Nursery planted 16–18 feet apart. The argument was 'They could be moved later'. Yes they could, but have you ever moved an 8ft. rhododendron? I have helped to, and from now on I'm all in favour of 16–18ft. spacing. I know it is done in England, but there, as you know, you have the ideal moving machinery *and* the manpower. Here, in New Zealand we have not.

The pictures of the Lodge show the setting in the middle of dense bush. The large lawn and slopes were not only correct but very wise as, at any time if needed a helicopter could land there. It is the only really open space for miles. Fig. 18 shows the lawn area and the front of the lodge. We find it not too easy to get adequate parking area on the road as the whole area slopes steeply up to the range which flanks Mt. Egmont 8260ft. On open days, buses run from New Plymouth 17 miles away. In such a place as Pukeiti it was essential to think well ahead and do as little temporary work as possible. Even from the height from which these photographs were taken, cleared areas look small, but in reality they are not—The Hybrid blocks must be several acres and the cleared area round the Lodge 2—3 acres. There is quite a feeling of airiness and when it shines, sunshine everywhere. Imagine a climate where *Lapageria rosea might* become a pest and where *Tropaeolum speciosum* already threatens, lovely as it is. It is hard not to be enthusiastic after a visit to Pukeiti. Even old 'Pink Pearl' creates such a stir in some hearts that sales are boosted in New Plymouth Nurseries. Pukeiti does not run a nursery and sells no plants. It propagates for its grounds only.

The growth in most plants is tremendous. I can remember no failures. If we started growing many Australians and South Africans we might look for some disappointments, but things like the *Boronia* do well.

FIG. 10—Part of a lawn at Coles with hardy hybrid rhododendrons contrasting with other shrubs

Photos: J. E. Downward

FIG. 11—One of the winding paths at Coles, leading to the thatched summer house

FIG. 12—Gently curving bays planted with evergreen azaleas in raised beds at Coles (see p. 18)

Photos: J. E. Downward

FIG. 13—Deciduous azaleas with a group of hostas at Coles

FIG. 14—The wide lawn at Coles with raised beds of evergreen azaleas

Photos: J. E. Downward

FIG. 15—*Rhododendron dauricum* 'Mid-winter', A.M. 19th March, 1963 when exhibited by the Crown Estate Commissioners, Windsor Great Park (see p. 135)

Photo: J. E. Downward

FIG. 16—The small lake at Coles (see p. 18)

Photo: Douglas Elliott

FIG. 17—A view in New Zealand's Rhododendron Park at Pukeiti (see pp. 21-26)

FIG. 18—A view of the Lodge at Pukeiti, New Zealand (see pp. 21 and 24)

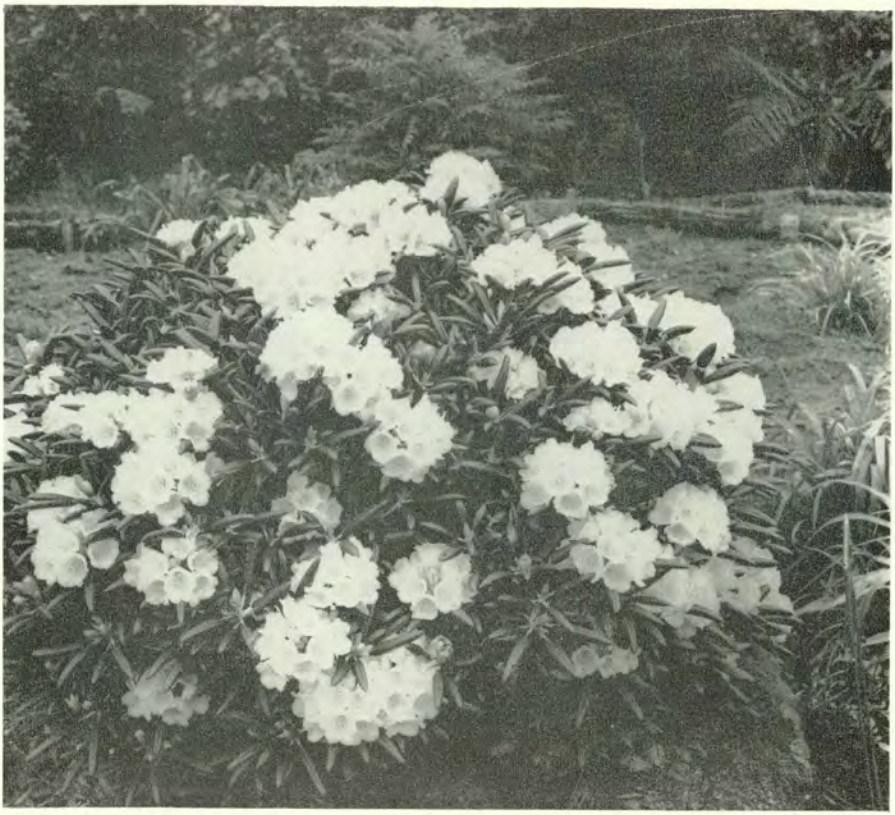


Photo: Douglas Elliott

FIG. 19—*Rhododendron yakusimanum* at Pukeiti

Photo: Douglas Elliott

FIG. 20—*Rhododendron grande* growing at Pukeiti, New Zealand (see p. 22)

Photo: J. E. Downward

FIG. 21—A view of Windsor Castle from Mr. R. Try's garden at Saint Leonard's Hill (see p. 27)

Photo: Miss A. Blacklock

FIG. 22—Pruning and shaping *Camellia japonica* at Saint Leonard's Hill. This well budded bough flowered for three months in water in a sheltered porch (see p. 28)

I spoke earlier of the proposed road from the road to the top of Pukeiti (Little Hill). This has been bulldozed and we are now waiting for consolidation before tar sealing.

Importation of rhododendron plants and seeds goes on almost annually from England and Pukeiti's collection steadily grows. Soon we hope to have all Britain's best. In recent times we have had generous donations and one legacy of very considerable size. We now hope to build another house and keep another man in comfort.

It's pretty tough for one man to maintain all, but it makes a great difference when that man loves his job and the place. Now that this Trust is firmly established considerable sums are left as endowments and our membership has remained about 2,000 for a few years. It is of interest too that we have members greatly interested all over the World. Britain, America, Hong Kong, Singapore and even Argentine, Canada and Australia.

It must not be supposed that Pukeiti is entirely for rhododendrons. Far from it. We started as a Rhododendron Park for New Zealand but every other tree or shrub which likes our climate may perhaps some day be grown. For instance, Walter G. Hazlewood gave us a fine collection of Indian and Kurume azaleas and these will be quite a feature here. At present, they are 2–3ft. across and and thriving and flowering splendidly. Then the lovely Autumn-colouring oaks and maples will be featured later and already a fairly good collection of magnolias flourish. These in time I quite expect to compete fairly well against the native bush. Our bush is entirely of evergreens and in very few cases has it conspicuous flowers. The magnolias will add marvellously to the scene.

Of course the millions of Tree ferns are a great feature and, where a native tree has died out of our area or never existed here it will be added.

The younger generation will live to see Pukeiti one of the top four Botanical Gardens of the World. We have two pests to contend with, Goats and Opossums. Neither of these is fussy about what it eats. Sheep on the other hand are quite particular but they love camellias and roses. Opossums I find here have this year decided camellia buds are good eating. War is waged on these pests.

Snow sometimes falls at Pukeiti but does not last long and frosts seldom reach 12 degrees. *Michelia doltsopa* flourishes and flowers splendidly at about 12-14 ft. or even more. *Rhododendrons*

nuttallii, *lindleyi*, *dalhousiae*, *rhabdotum*, etc. all flower well and escape the hard frosts.

The rainfall is between 135–140 inches a year and is fairly well spread. Now and again gales do some damage but that's to be expected on the slopes of a great mountain twice the height of Ben Nevis.

"Nothing succeeds like success". Pukeiti I feel, has passed its difficult start, but I think none really ever doubted its success. I am glad several are leaving their money as endowments and that we have a really sound supervisor in Mr. Goodwin, well backed by a board most of whom really "know their stuff".

Pukeiti is on its way to become a "Tourist Attraction" and is fortunate in being almost surrounded by "Scenic" Reserves of large extent.

THE CAMELLIA AS A HARDY SHRUB

By REGINALD A. R. TRY

"THE greenhouse has done us few worse turns than spreading the idea that the Camellia is a tender shrub. Its culture was so common in pots in the greenhouse that little thought was given to it out of doors. Yet it is hardier than some of our common evergreen shrubs.

"Sir F. T. Barry has well shown in his garden at St. Leonard's Hill, Windsor, that it is not only in the favoured southern counties that success with the Camellia outdoors may be hoped for, and in various notes to the Garden and other journals he told of his success. He had many plants thriving out of doors in all aspects, they flower beautifully in spring and early summer and even ripen fertile seeds from which plants have been raised".

The foregoing is an extract from FLORA & SYLVA Vol. 1, No. 2 page 66, May 1903.

About 1923 the estate of Sir F. T. Barry was sold—the old mansion demolished and the park divided and sold as building lots. I acquired the old gardens situated on the summit of St. Leonard's Hill overlooking Windsor, nearly 300 ft. above sea level and containing about one hundred old *Camellia japonica* planted between 1870 and 1900 by Sir F. T. Barry (Fig. 21).

Now sixty years after the article published in FLORA & SYLVA the shrubs then referred to, continue to thrive having survived gales, blizzards, frost, snow, drought, heatwaves, and severe maltreatment. During the 1939–1945 war years the woodland where the camellias grow was a Military Training Area and the shrubs had no attention or protection and consequently were almost torn to pieces at flowering time. This vicious pruning did in fact prove beneficial eventually.

Many of the old favourite varieties are amongst the surviving shrubs. 'Elegans', 'Mathotiana', 'Mathotiana Rosea' and 'Alba'; 'Mikado' ; 'Coquetti' (Fig. 24) ; 'Saturnia' ; 'Nobilissima' ; 'General Lamorciere' ; 'Duc de Bretagne' (Fig. 26) ; 'Imbricata' ; 'Rubescens' ; 'Contessa Lavinia Maggi' ; 'Salvator Rosa' ; 'Alba Simplex' ; 'Alba Plena', *maliflora* ; 'Magnoliaeflora' ; 'Kimberley' old variety; 'Jupiter' ; 'White Swan' ; 'Snow Goose'.

The shrubs are indeed planted in "every aspect" some completely exposed to the South, North, East and West, some sheltered from one or the other points of the compass while others have become hemmed in and completely shaded by the growth of surrounding trees. All are thriving in their various situations and flower prolifically from December to June according to early or late flowering variety. This last winter, when the temperature dropped to many degrees below zero F. for long periods, was the first time during the last 25 years when all flowering was retarded until middle May and many shrubs failed to bloom at all.

Pruning is essential to maintain a strong healthy growth, a good shape, and fine flowers (Figs. 22–23). The best way to "light prune" is to cut sprays when the flower buds show colour and it does not matter where the cut is made. These sprays will flower to perfection in water indoors, in fact some varieties will open blooms more fully indoors than on the shrub. It is advisable to thin out the flower buds of a heavily budded variety; a curious fact is that in the house, cut sprays will live and continue to bloom in water for as long as three months, whereas pot plants, however carefully watered, start to shed leaves after about two weeks and will surely die within a few weeks.

It is well worth growing early blooming varieties in the garden to provide cut flowers for the house. Normally the flowers are spoilt by frost, rain or wind but a shrub of say 'Nobilissima' will supply sprays of lovely double white flowers from December until May. A well established shrub of 10 years old or more can be kept in fine shape and size by this pruning and will thrive in a lime free soil if well mulched with leaves. In early spring new young shoots will appear in abundance which may be nipped by the later May frost if not given some protection by a covering of polythene or similar material. The lovely green foliage of *Camellia japonica* makes it a thing of beauty in the garden in all seasons.

No fertilizers are given to the old shrubs growing in and near woodland; an ample supply of leaves collects under the shrubs including the leaves, flowers and petals shed by the shrub itself. This maintains a good depth of mulch sufficient to keep the plant in excellent health giving fine and plentiful flowers. A few shrubs growing in the open and subject to full sunshine are given an additional mulch of fallen leaves, to prevent baking and drying out of the soil under the shrub which can be very detrimental to it.

Camellia japonica growing in Great Britain is remarkably free from attack by pests, and consequently I am never compelled to spray the shrubs. Occasionally one or two varieties show virus which causes variegation to a few leaves, and does not appear to harm the tree whatsoever.

The greatest problem is snow. Weight of snow will split branches from the main stem so these must be propped up securely. Three old shrubs each about 20ft. high have been destroyed by weight of frozen snow and wind by snapping off completely at soil level.

To prevent more losses from this cause the taller trees are being reduced in height by pruning a main stem every few years. The camellia benefits from this drastic treatment giving finer flowers on the new growth together with greener healthier foliage (Fig. 22).

For the first time in my experience it appears that one of the old shrubs has sustained split bark damage at soil level due to the severe frosts of last winter giving temperatures well below zero (Fahr.) for long periods. It is all the more surprising as this particular shrub although very exposed on the hill top was enveloped by a protective covering of deep snow drifts for many weeks, during the most severe frost period. The damage may prove fatal. The shrub is a fine double red over 45 ft. in circumference with a girth of main trunk at soil level 54 inches. The largest of the four stems springing from the main trunk is about 30 inches girth.

The single and semi-double varieties generally produce natural fertile seeds in abundance, except in three or four seasons when no seeds whatever have been harvested. It is not possible to give any definite reason why the shrubs completely fail to seed some years when they have flowered as usual in the spring.

Many fine shrubs have been raised from these seeds mainly single reds, white, and variegated, with occasionally an outstanding fine new variety worthy of naming such as 'Windsor Princess'. Rarely does a seedling naturally grown show flower before 8 years old. The seedling 'Windsor Princess', which was awarded first prize at the Royal Horticultural Society's Camellia Competition 1962 for a plant in bloom, was 11 years old and showed a first flower at 9 years old.

GROWING CAMELLIAS OFF THE SOUTH WEST COAST OF SCOTLAND

By SIR JAMES HORLICK, Bt.

I would like to make it quite clear that my knowledge of camellia growing in the South West of Scotland is purely local and with the exception of one or two gardens relatively close by, is confined to the small Island of Gigha which is situated some three miles West of the coast of Kintyre and about 28 miles North of Ireland. Although it is partially sheltered by the Island of Islay some 12 to 15 miles away it is still very much open to some 3,000 miles of the Atlantic Ocean. The garden itself is situated behind a low hill some 400 yards from the Ocean and unfortunately this hill fades away both to the North and to the South, so exposing the protecting trees to the full fury of the North West, West and South West gales. The South East gales also take a hand, sweeping up as they do the full range of the Irish Sea. It is significant that no deciduous tree in the little 40 acre wood ever grows to more than 50 feet high and some of them are well over 100 years old.

I have been trying to grow camellias here for nearly 20 years and have come to the very definite conclusion that it is waste of time to attempt to grow any of the *reticulata*, *sasanqua* and *japonica* varieties for various reasons which I will give in detail below. The only section which can be grown with satisfaction, I find, is that of the species *Camellia saluenensis* and its *williamsii* hybrids, adding to these the sole exception the *cuspidata* hybrid, Camellia 'Cornish Snow' and, I expect, *Camellia cuspidata* herself, although the very small one I had succumbed to the 61/62 Winter.

Camellia reticulata

This can be grown, of course, if sufficiently sheltered, but then it will not flower. I have some half dozen blooms on one of three plants (two of them the wild form) grown against a wall and all well over 12 years old and this is an exceptionally good flowering year. The wild form also grows up on my hill facing East (my sheltered side) and one of three plants does flower, but it was planted some nine years ago, is only about 5 feet high and the blooms never open properly.

The only successful *Camellia reticulata*, so far as I know, grown in this part of the South West of Scotland, is grown by Sir George Campbell of Succoth at Crarae, by Invereray, on the wall of his house facing about due South and with the kitchen stove just the other side of the wall—the envy of all his neighbours.

Camellia sasanqua

I have only grown four Camellia 'Crimson King' of this species in this garden. They grew remarkably well, so much so that two were blown out of the ground in one gale and the other two, although quite reasonably sized plants, showed no signs of flowering so I finally gave them away. After all they are a Winter flowering variety and just do not get the sun warmth required.

Camellia japonica

When I came up here from the South I had high hopes and brought up some 150 small plants from the large collection I had down there. I still have round about 20 to 30 out in the garden, but grown as they ought to be grown in partial shade one might just as well grow laurels. They flourish but never flower. To flower them one must grow them in the open and this I do, if possible, against a wall, but that means they are exposed to the blast of the Atlantic or South East gales. This they endure but all their outer leaves become very yellow and their blooms, of course, are small and battered. I still have a few in sheltered positions and every now and again they flower, but very seldom, and the blooms are small. They have been better than usual this year, of course, as has everything else. There is in the South West corner of the walled garden tucked up against the wall and against the hill a vast *Camellia japonica* at least 100 years old which practically never has a flower on it. In the early days here I had a very highly skilled professional gardener who was an excellent pruner and she did clear masses of stuff out of this very big plant, rather as an apple tree is pruned (three farm cart loads of branches I remember) and it certainly did flower for several years after, much to the astonishment of my gardener who had never previously seen a bloom on it. It proved to be an insignificant, dirty pink, and being a poor pruner myself I have never dared to touch it since. There are also two facing due West and catching the South West gales which flower white, extremely battered, and certainly 60 to 70 years old and not more than 7 or 8 feet high.

My feeling is that the reason that none of these varieties will flower except in the open, is that it is too far North and that the sun is not strong enough to induce inflorescence unless the plant

is fully exposed to it and so not growing under normal suitable conditions. I am further confirmed in this opinion as I grow a few biggish plants in pots in a cold house for indoors and these are invariably covered with bloom once they settle down and do not spend all their energy growing.

Camellia saluenensis

I grow several varieties of this species with quite an amount of success. They flourish in very light, partial shade and are remarkably impervious to wind, although of course these last two seasons have proved a bit too much for some of them and I am afraid I have lost one or two. The two most tolerant of winter conditions I find are an open flowered form which came from Bodnant. These two plants are now some six feet high or more and have flowered well this year, and a dark flowering form also from Bodnant, which forms a thick bushy plant; and this in spite of an exceptionally violent Nor'wester in December 1962, several vicious S.W. and S.E. gales and a terrific snow blizzard from the N.E. lasting many hours on 5th/6th February. To add to all this, night frosts continued up to April 16th with snow and sleet showers throughout Good Friday, April 12th, so they really had something to contend with. The actual maximum number of degrees of frost registered during last Winter was 16° Fahrenheit.

Camellia williamsii Hybrids

These again have been very knocked about by N.W., S.W., and S.E. gales and split open by the snow blizzard and I am afraid one or two of them are practically dead, but given ordinary South West coast of Scotland conditions they flourish in this light partial shade and I grow some twelve or more different varieties. They are planted in an open glade in my woodland some 80 yards long and 25 yards across and running roughly North and South. There is dense woodland on the Eastern and very open woodland on the Western side so that they are in places somewhat exposed to the N.W. —S.W. Atlantic gales. On both sides there is a protective screen of griselinia, various olearias and *Crinodendron hookerianum* (a very broken reed this past Winter) and dotted about among the camellias so as to produce a light shade are stewartias, embothriums, Double geans, laburnums, rowans and eucryphias.

There is no doubt in my mind which is the toughest and the most beautiful and that is Camellia 'Donation'. Some half dozen or more plants up to six feet high have been covered with bloom this year.

Camellia 'Salutation' (the earliest) is excellent, so is Camellia 'Hiraethlyn' and, of course, Camellia 'J. C. Williams' of which

Photo: J. E. Downward

FIG. 23—Mr. Try with a *Camellia japonica* showing new growth as the result of pruning to the main stem four years previously (see p. 28)

Photo: J. E. Downward

Fig. 24—Camellias 'Coquetti' and 'Nobilissima' at Saint Leonard's Hill (see p. 27)

Photo: Miss A. Blacklock

Photo: J. E. Downward

FIG. 25—A fine specimen of a *Camellia japonica* variety in Mr. Try's garden
FIG. 26—*Camellia japonica* 'Duc de Bretagne' at Saint Leonard's Hill (see p. 27)

Photo: J. E. Downward

FIG. 27—*Rhododendron pulchrum* 'Maxwellii'. This plant received an Award of Merit in 1960. Shown by Major A. E. Hardy, Sandling Park, Kent

Photo: Miss A. Blacklock

FIG. 28—The stems of a *Camellia japonica* variety at St. Leonard's Hill

there are so many variations, and Camellia 'Mary Christian' does well too. I do not pretend that they flower as well as they do in Cornwall; I shall never forget the great bank of Camellia 'Donation' and others with the sun behind them at Trewithen some years ago—one just could not see the leaves for the flowers.

I think anyone who is anxious to grow camellias in the West and South West of Scotland, near the coast at any rate, would be well advised to start with *williamsii* hybrids in preference to *Camellia japonica* and then try the japonicas later if he wishes to experiment. If he or she wishes to grow *Camellia japonica* I have found the most tolerant of salt and wind and the most prone to flower is that lovely red Camellia 'Adolphe Audusson', but its blooms will be only 2 to 3 inches across and not 5 to 6 inches as they should be. Other good ones are 'Lady Clare', 'Donckelarii' and 'Mathotiana Rosea'.

THE KUNMING RETICULATA CAMELLIAS

By T. H. FINDLAY, M.V.O., V.M.H.

IT was in 1950, during the Camellia and Magnolia Conference, that great interest was shown in the new forms or varieties of *Camellia reticulata*, described and illustrated by Mr. Yü. These plants were for sale in America from about 1952–3 at the fantastic price of 400 dollars a set. However, some forms were sent to this Country in 1951 and the first recognition of their beauty of flower—an Award of Merit—was given to the form known as 'Shot Silk' (Tayinhung) in 1952, when shown by the Royal Horticultural Society's Gardens, Wisley.

It was through the great generosity of that wonderful camellia expert and gardener, the late Ralph Peer, that some of these camellias were presented to the Crown Estate at Windsor, comprising the following twelve varieties: 'Crimson Robe' (Tataochung) 'Chang's Temple' (Changchatiechih), 'Butterfly Wings' (Hoyehtiechih), 'Pagoda' (Sungtzelin), 'Willow Wand' (Liuyehinhung), 'Shot Silk' (Tayinhung), 'Lion Head' (Shihtzetou), 'Cornelian' (Tamarnao), 'Buddha', 'Osmanthus Leaf' (Hsiaokuiyeh), 'Professor Tsai' (Tiehtse-Maotan), 'Noble Pearl' (Paochucha). These camellias were shipped by Nuccio's Nurseries, California, and arrived by air, a few days after despatch, on 16th January, 1956. Most of the plants were young two year grafts, and on the advice of Mr. Peer these we regrafted on to our own stock of three to four year old rooted cuttings.

From observation of plants of this group it was apparent that they were rather difficult as pot plants and, in fact, to this day I have yet to see a well-grown specimen in a pot! Whether the art of growing specimens has gradually diminished, or whether these camellias do not like restricted root room I leave to the experts to decide. One thing is certain, and that is that a plant grown with unrestricted root action is entirely different in habit, in substance of flower, and in general character, from a pot-grown one.

Eventually our Kunming camellias were planted out in a cool greenhouse. This is a house that has heat only during the winter months when the outside temperature drops below 35°—40°.

I find that, in fact, the cooler they are kept during winter the better (but, naturally, not below 32°). They are inclined to start growth very early in the season. The area of this greenhouse was trenched two spits deep, and into the rather heavy but acid soil was incorporated a good quantity of well-rotted cow manure and leaf soil. As the soil was very acid, a dressing of sulphate of potash and a rather heavier than usual dressing of coarse bone meal, with hoof and horn in equal quantities was added. Watering is carried out by hand from a tank in the house, which is chiefly supplied by rain water from the roof.

Many of the Kunming reticulatas are inclined to have variegated foliage. No-one seems to know whether this is the result of a disease, or not. The illustrations in the Conference Report of 1950 show great variegation in the foliage. Varieties with such variegation at Windsor have not, on the whole, grown very well, and in fact three varieties have been eliminated, as poor in foliage and in growth. These are 'Chang's Temple', 'Cornelian' and 'Willow Wand'. Two other varieties, 'Crimson Robe' and 'Lion Head' grow fairly well, but although the foliage arrives green in the young state it eventually turns half yellow. These varieties are both deep Turkey red, and worth growing, if one likes the foliage. Of the remaining seven varieties, all have good foliage and different habits. In all these the flower is a complete break, both in colour and form, from the old *Camellia reticulata* 'Captain Rawes'.

If I had to place the last seven in order of merit I would place 'Shot Silk' at the top of my list. It has a good habit, stiff and upright, holds its flowers well and flowers freely (Fig. 31). Its large semi-double, wavy-petalled, Spinel Pink flowers make it my favourite. Here, at Windsor, it is now 15 ft. high, in spite of having been "mauled" to show in London. A close second is C. 'Buddha', for which we received an Award of Merit in 1962. F. 'Buddha' is rose-pink, listed as semi-double, but to me is more single than semi-double (Fig. 29). With its weeping habit this rather elegant plant is a fine variety. It is a good grower and is now 15 ft. high. This year it has produced three seed pods, self-pollinated. 'Butterfly Wings' and 'Osmanthus Leaf' (Fig. 33) are also very good, and may become more popular when better known and shown. Both are a soft rose pink, and of good habit. Here they are 9 ft. high. 'Butterfly Wings' has a very large flower.

A form nearer to *C. reticulata* 'Captain Rawes' is *C. reticulata* 'Noble Pearl'. With a large flower of oriental red, it is of compact

habit, with sturdy foliage, and is a good grower (Fig. 32). This variety set seed two years ago, and we have raised a batch of seedlings. Since then we have pollinated many of its flowers with the × *williamsii* group, but up to date we have had no success. We showed 'Noble Pearl' in February last and it received an Award of Merit.

To me 'Pagoda' is synoymous with *Camellia reticulata* 'Robert Fortune'. Which name to use I would hesitate to say, but it is certainly one of the best double-flowered camellias I have ever seen. In addition, in the spring its new foliage is of a lovely bronze colour. It is an F.C.C. plant, but under which name, is still under discussion. It is a very sturdy grower, stiff and erect (Fig. 30).

Last on my list, therefore, is 'Professor Tsai'. It has grown to 8 ft. and has small pink flowers, unfinished by nature, in fact hardly a flower, but a few petals held together, and scarcely worthy of a place among so many wonderful varieties.

Now, what of the future of these forms? Few gardens in Great Britain will grow them with success in the open and they will not make good pot plants. They do, as I have said, respond to cool greenhouse treatment and perhaps one day, with hybridisation, we shall achieve yet new varieties and, who knows? even better ones.

PROPAGATION OF CAMELLIAS

By P. WISEMAN

MOST camellias can be increased by cuttings, and this is especially true of the *Camellia japonica* and *sasanqua* varieties.

The cuttings are made from the ripened wood of the current season's growth. Normally they are in this condition on outdoor grown plants from early August onwards, and cuttings can be taken any time from mid-August to early September. Plants grown under glass will be ready earlier.

There are various ways of making the cuttings and according as to how they are made they are known as leaf bud, terminal shoot and stem cuttings. A leaf bud cutting consists of a leaf and a portion of the stem approximately $1\frac{1}{4}$ inches long with a growth bud in the axil of the leaf (Fig. 34). A slice of bark $\frac{3}{4}$ inch in length is removed from the stem portion and the exposed tissue treated with one of the hormone root promoting substances now readily available. A terminal shoot cutting consists of the tip of a shoot some four inches long and containing three to four leaves according to vigour. Short firm side shoots are the best material for cuttings. They are trimmed with a half inch portion of the stem left beneath the bottom leaf axil or "node" (Fig. 35). The lower leaves should be removed and the stem treated as for leaf bud cuttings. Stem cuttings are a compromise between these two. A shoot is taken and cut into lengths, each length containing two buds and leaves. They are made "internodal" and treated as for leaf bud cuttings (Fig. 36). Where the foliage is large the leaf surface can with advantage be reduced by cutting them in half across the middle. It is essential that any knives or other tools used in making cuttings are kept absolutely sharp and clean to avoid any laceration of tissues in the operations involved.

A satisfactory rooting medium consists of two-thirds sharp sand, one-third fine moss peat of a good brand. To this a little bone meal can be added. This will provide a little food for the cuttings as they begin to root and carry them for a little while till they can be potted on.

In use the mixture should be uniformly moist but not wet. Where only a few cuttings of each variety are wanted, they can

be accommodated in five inch pots, six cuttings to each pot, five round the edge and one in the middle. For larger quantities, boxes twelve inches by fifteen inches and two and half to three inches deep can be used. The pots or boxes should be filled with the medium nearly to the top, lightly firmed and surfaced with sharp sand. After the cuttings have been inserted they should be given a good watering to settle them in and then stood in the propagating frame. Leaf bud cuttings should be inserted with the base of the bud resting on the sand. Tip and stem cuttings should be put in one and half to two inches deep.

If one is in possession of one of the small electrically heated propagating frames on the market, this can be used to advantage. If not it is a simple matter to make a box of a suitable size and depth in which to root the cuttings. The depth should be so regulated that the glass, in use, is about two inches above the cuttings, and the overall size made to take any of the standard sizes of horticultural glass, eighteen inches by twenty-four inches is a useful size, and boxes can be made to take one or more panes as required. They must be made air tight and the glass can lie flat on top of the box.

If the boxes are to be placed on a greenhouse staging which is covered with shingle, no bottom is needed. But if the staging is "slatted" then a bottom is required, and provision made for drainage. The bottom should be covered with one inch, of half inch shingle. This will ensure good drainage and assist in maintaining an even moist atmosphere inside the box.

In order to understand the necessity for what follows it may prove helpful to have some idea of the principles involved. It must be remembered that in taking cuttings, we are removing portions of living material from their source of supply of food and energy. Our problem is to keep these alive and functioning until they have formed roots and can fend for themselves.

Various methods are in use to attain this end. On the one hand we have the heated propagating cases, the "mist" technique and the electrically heated frames of the professional, accommodated both in greenhouses and outside. On the other the small greenhouse and the humble cold frame of the amateur. The aim in each case is the same, to use these aids in such a way as to keep the cutting alive, and to stimulate the formation of roots until such time as the cuttings are self supporting.

In order to keep cuttings "turgid" (that is from losing too much moisture through evaporation, so that they wilt and eventually

die), it is essential to keep them air tight, to see that the air surrounding the cuttings is maintained at a suitable degree of humidity and that the rate of transpiration is controlled in such a way that the water content of the plant cells is kept at the necessary level.

"Soft" cuttings soon indicate, by drooping, when these conditions are not maintained, and prompt remedial means taken to restore them will put things right, if taken in time. The thick leathery leaves of the camellia, however, will show no such signs. When they do, it is generally too late to repair the damage, hence the need for "a regular daily routine for successful results".

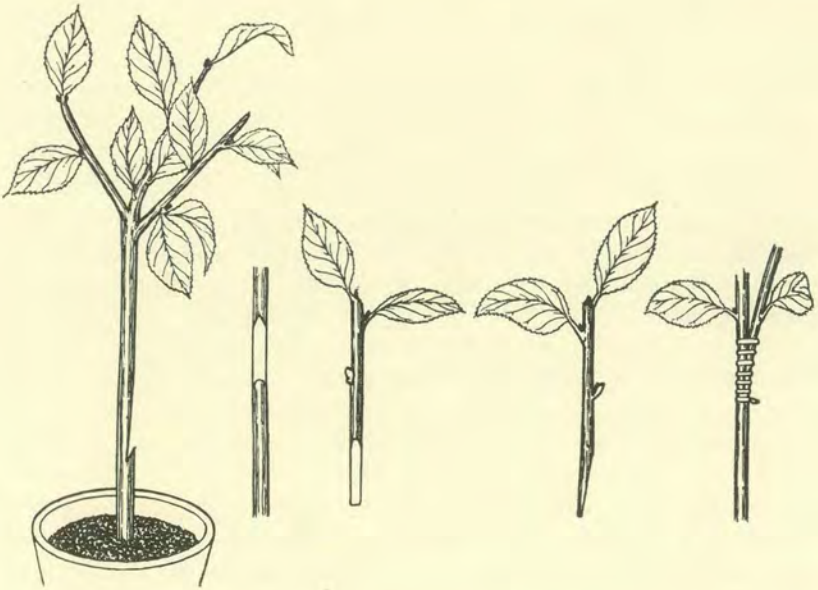
Having placed the air tight box containing the camellia cuttings on the greenhouse bench or in the cold frame, they should be inspected daily. In the morning the glass should be removed and the cuttings lightly syringed, replace the glass, turning it over in the process. The box should then be shaded. A double thickness of newspaper laid on the glass will be sufficient for this. If the weather is warm and sunny it will be necessary to shade the roof and sides of the greenhouse as well, and also to damp down the sides and paths and under the staging with water to maintain a buoyant and cool atmosphere. If using a cold frame, after replacing the glass over the cuttings, damp down the frame area inside, put on the sash and shade, leaving a crack of air on the frame to keep it cool. At mid-day, if practical, repeat the syringing and then again in the early evening. The rooting medium should be regularly inspected and watered when necessary. The aim should be to keep this uniformly moist, *not wet;* it must not be allowed to get dry and if possible the temperature of the propagating box should be kept around 65/68° Fahrenheit. Cuttings can be inspected periodically by removing one to see what progress is being made.

This routine should be kept up for the first few weeks, when as the weather changes and cooler conditions prevail the daily syringing can be reduced to every other day then twice a week and finally discontinued. By this time the cuttings should have formed a "callous" and root initials be clearly visible. They should be kept closed throughout the winter, airing them for about $1\frac{1}{2}$ to 2 hours once a week, except during cold weather when air should be given during mild spells. Protection should be provided during periods of frost.

New growth will start in the spring, and as the sun gains power more attention must be given to shading and watering. During this period air can be gradually increased until the glass is removed,

giving light shade until the plants are well rooted. At this stage a little stimulant in the form of a "liquid manure" can be given. When the plants have finished growing and the young growth properly ripened they can be potted on, normally end of August —early September. They will then establish themselves before the winter. They should be over wintered either by plunging in the cold frame or kept in the greenhouse. Grow on for two years before planting out.

For those who would like to try their hand at grafting, surplus rooted cuttings from compact vigorous growing varieties can be used as understock, when they have attained the size of an ordinary lead pencil. The "veneer" or side graft will prove most suitable. For this the plant is left intact, though a few inches can be cut off the top if this is too long. First a light horizontal cut, sloping slightly downwards and near the base of the stem is made in the stock, then a slice of bark with a thin sliver of wood is taken from the side of the stem about one to one and a quarter inch long and finishing at the horizontal cut, leaving a short lip.



Text Fig. 1. Camellia Veneer Grafting.

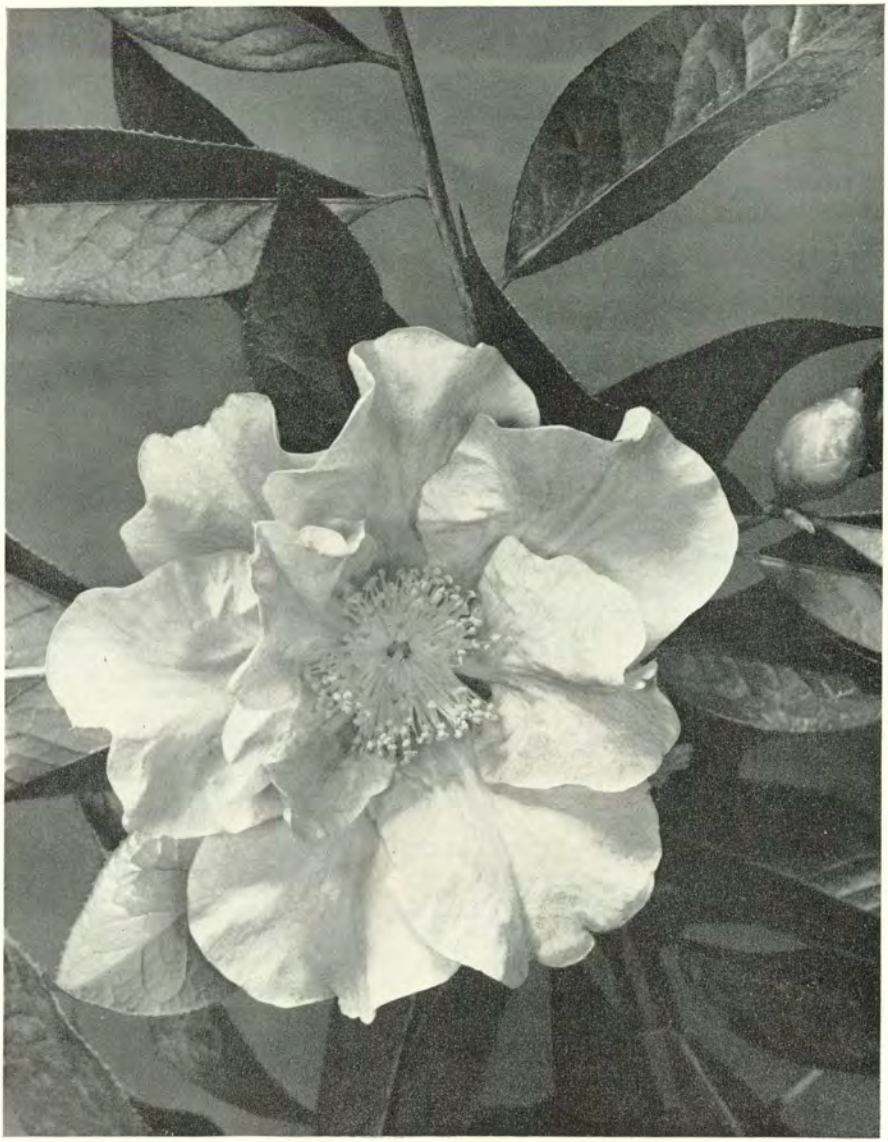
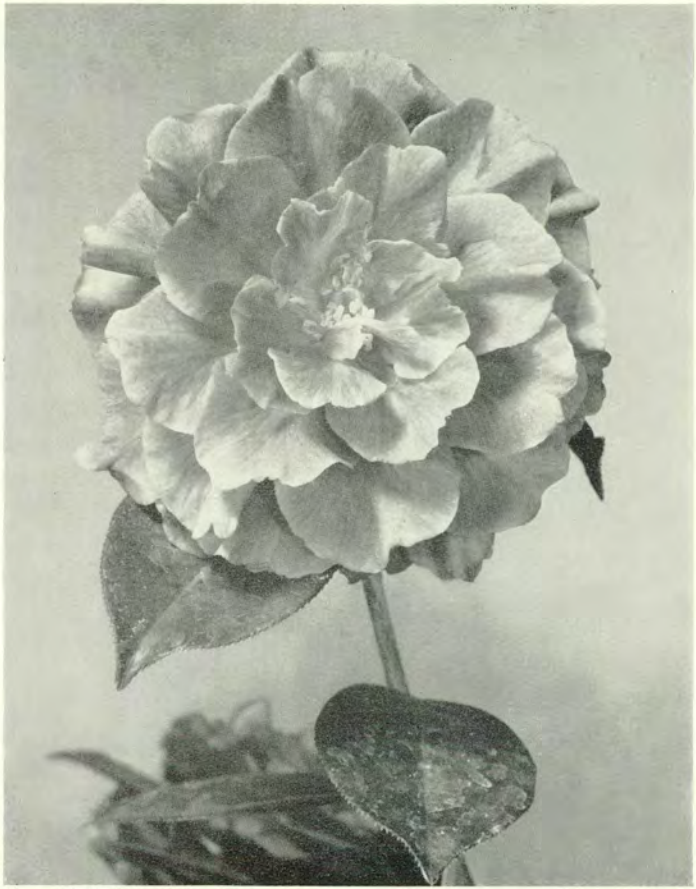


Photo: J. E. Downward

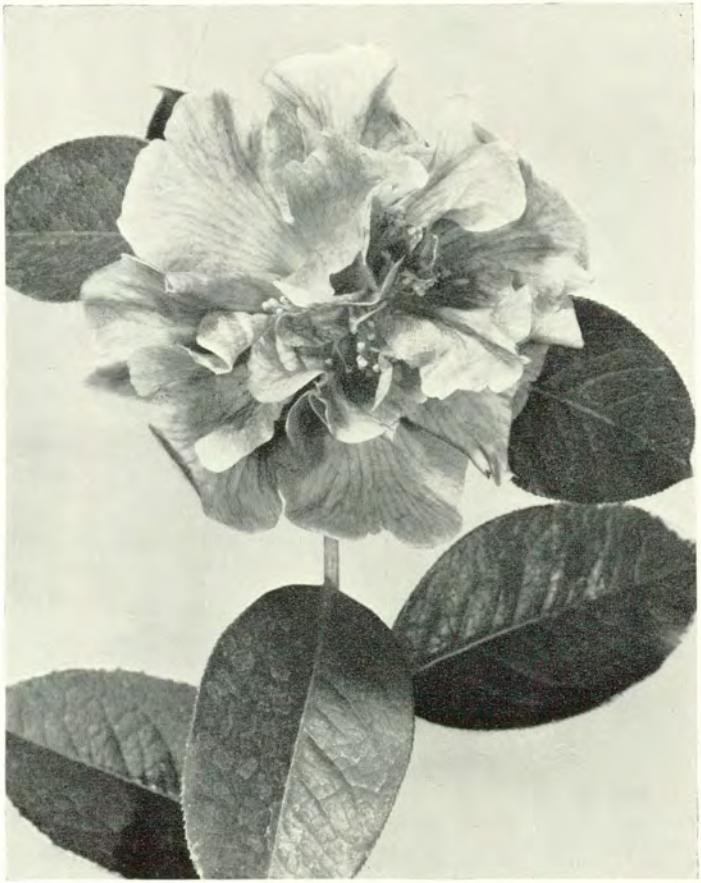
FIG. 29—*Camellia reticulata* 'Buddha', one of the Kunming varieties in the Savill Garden, Windsor and which received the Award of Merit in 1962 when shown by the Crown Estate Commissioners (see p. 35)



Photos: J. E. Downward

FIG. 30—*Camellia reticulata* 'Pagoda' (Sungtzelin). A Kunming variety in the Savill Garden (see p. 36)

FIG. 31—*Camellia reticulata* 'Shot Silk' (Tayinhung). One of the most successful of the Kunming varieties in the Savill Garden (see p. 35)



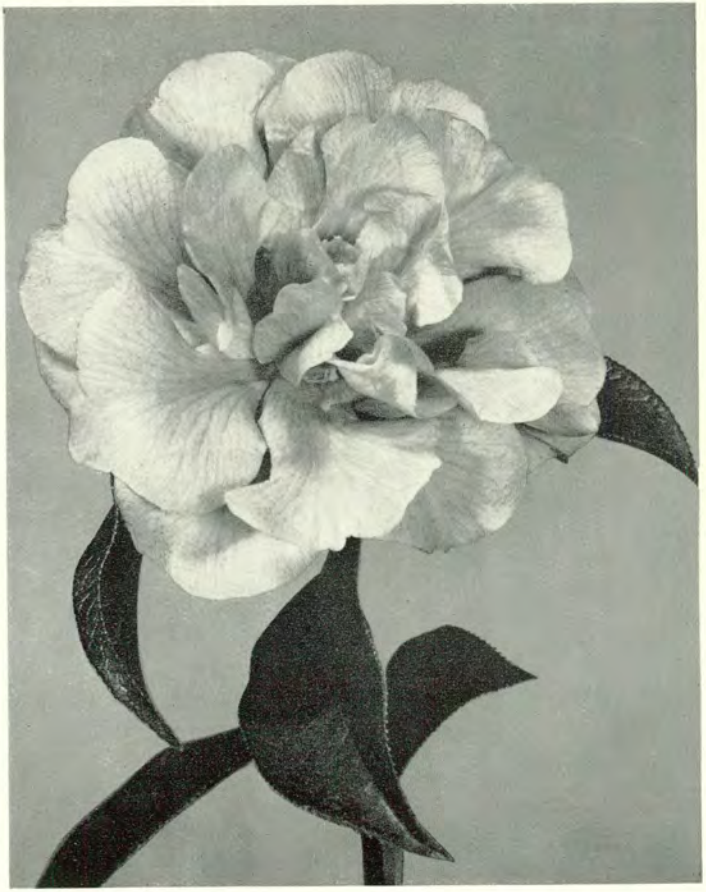
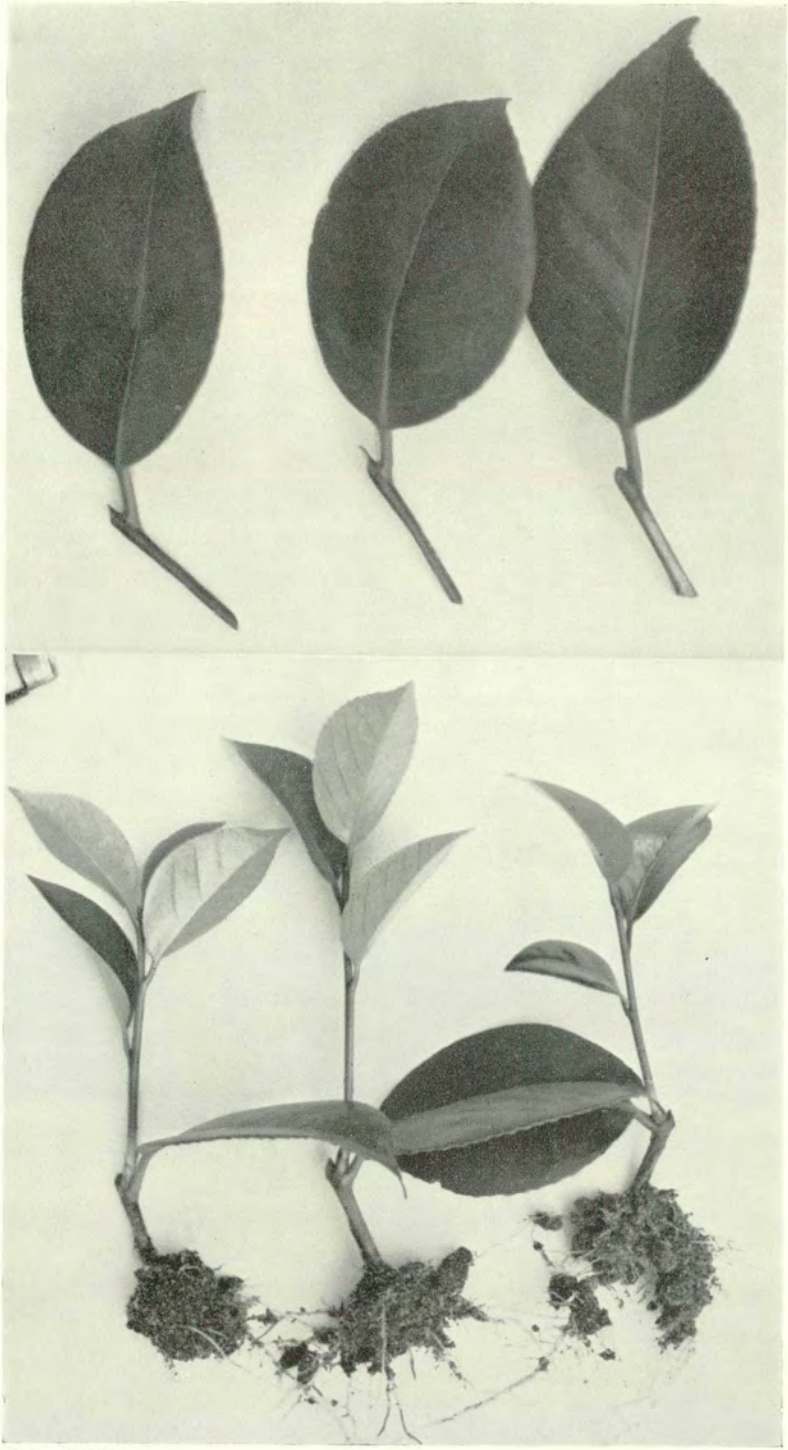


FIG. 32—*Camellia reticulata* 'Noble Pearl' (Paochucha) which received the Award of Merit in February 1963, when shown by the Crown Estate Commissioners (see p. 35)

FIG. 33—*Camellia reticulata* 'Osmanthus Leaf' (Hsiaokuiyeh). An excellent Kunming variety (see p. 35)



Photos: P. Wiseman

FIG. 34—Leaf bud cuttings of camellias prepared for striking (see p. 37) Below—Leaf bud cuttings rooted and showing the growth from the buds

The scion, which is usually the tip of a shoot about four inches to five inches long and containing three to four leaf buds is then cut in a similar way so as to fit the cut neatly on the scion. It is essential that these cuts are straight and clean, with no bulge or dent in the middle so that when tied no air can pass between them, and a perfect fit is ensured.

Soft fillis, raffia, or good darning wool can be used to tie stock and scion together. The tying should be so arranged as to leave approximately one tenth of an inch spacing between each round. Commence at the base and finish at the top of the cut. Progress of the union can be watched from time to time. Union should be complete in about eight weeks. Treatment follows the same lines as for cuttings. It will be necessary to lay the grafted plants on their sides, grafts uppermost in the propagating box. The daily syringe should be omitted, but the glass should be lifted off and turned daily and the box shaded as for cuttings. It will be necessary to stand the plants up every so often so that they can be properly watered. They can be laid down again and kept close till union is completed. Air should then be admitted gradually until plants are hardened off and can stand out in the open. During this time the stock should be cut away in stages until it can be finally removed by the time the plants are hardened off. These plants should be grown on in pots for two years before being planted outside.

Grafting can be carried out under glass either in early spring, end March/early April or again in August.

NATURAL REGENERATION OF RHODODENDRONS AT BENMORE

By R. L. SHAW, N.D.H.

IN introducing this subject it is necessary, at first, to describe the set of conditions which led up to this remarkable feature of the Garden. After the war and subsequent years the Younger Botanic Garden was very overgrown, and in many parts not far short of a rhododendron jungle. Valuable plants were choked and suppressed by *Rhododendron ponticum*, birch, beech, elderberry, *Spiraea douglasii*, *Leycesteria formosa*, and, naturally, regenerated conifers, in particular the vigorous, light-robbing, *Tsuga heterophylla*, *Pseudotsuga taxifolia*, and *Abies procera*. Even the choice rhododendron species were competing with, and spoiling, themselves, so closely were they planted.

Most of the rhododendron species in the main were planted in groups, each group representing a Series. The Series groups were not entirely pure; for instance, *R. cinnabarinum* and *R. rubiginosum* were in the Triflorum Series; *R. irroratum* in the Barbatum Series; *R. fargesii* in the Thomsonii Series, and *R. fulvum* and *R. fictolacteum* had been grouped together. However the purity of the groups has little significance here—more important was the state in which these plants were growing. The way they had been planted is best likened to a stand of timber trees, so close that plants in a single group shared a common canopy of foliage. This canopy caused the suppression of all growth on the lower parts of the main stems (the outer specimens only had foliage to ground level) and prevented any growth of ground herbage. The ground beneath the rhododendrons was bare except for the litter of dead leaves and twigs of the rhododendrons themselves. Between the leaf canopy and the ground there was an almost impenetrable mass of dead twigs still attached to the plants. These once formed the younger framework of the rhododendrons, but in time had had to give way to more recent growths. It was evident here that the plants had, from time to time (perhaps from the stimulus of light following a broken branch in the leaf canopy) tried to re-furnish themselves at lower levels. Young growths had

started, become etiolated, and eventually died through light starvation. It is also possible that natural regeneration by seed failed for the same reason. Certainly there were no seedlings to be found under these rhododendrons planted in a sylvicultural manner.

It is important at this stage to note that the plants referred to were mature, and somewhere between 30 and 40 years old. For many years they had flowered and produced viable seeds. It is also important to state that, whereas there was no regeneration evident under these groups, there were many seedlings on their verges.

These seedlings were only surviving under special conditions. They could not compete in the open ground, between the groups of mature rhododendrons, because of the rampant growth of rough pasture flora (including *Holcus lanatus*, *Juncus gerardii* and *Digitalis purpurea*), but they abounded on dead tree stumps, and on the steep sides of ditches, where they shared the constantly damp, but not waterlogged, leafy soil, with mosses. So much for the original circumstances.

In the latter part of 1956 a large scale felling and clearing programme came into operation and has continued into the present time. This proved to be one of the main influences in the encouragement (unwittingly at the time) of prolific natural regeneration. Enormous tracts of *Rhododendron ponticum* and other scrub were cleared, trees were felled, and, where necessary, even choice rhododendrons, particularly those growing in thickets, were destroyed to give the remaining, less suppressed, specimens, a real chance to recover and to develop into shapely, individual, plants. The ground, when cleared, was bereft of any plant growth, but covered in decaying vegetable litter, such as described earlier on—mainly rotting leaves and twigs of the destroyed rhododendrons, plus the other leaves and debris which collect in thickets. This litter in conjunction with vastly improved light conditions proved to be a perfect nursery for the seedlings that began to appear in the years that followed.

At first the rhododendron seedlings had no competition, but, before long, weed invasion started. Early arrivals were buttercup and foxglove, and eventually undesirable grasses. In open areas away from trees of any kind the competition from weeds became too fierce. The seedlings that appeared there two years ago are already swamped by grasses, but fortunately a fair part of the regeneration that occurred, happened in light woodland. Here,

where trees have been limited to an ideal number, under which the light is sufficient to support rhododendrons, but not enough to encourage grasses to any extent, the sparse soft grass that does grow, is easily removed by hand, for its roots are not firmly held in leaf mould.

Another important factor in the rhododendron regeneration has been the general maintenance of the cleared areas. This maintenance can be considered in three parts. The first, the largest task, is grass cutting by machinery. In the roughest areas, amongst large trees and shrubs (for they can withstand coarser weeds than lesser plants) a motor scythe is used, the grass being cut when long, twice a year. A start is made as soon as bluebells finish flowering. All the cut grass is removed and composted, and in this state can be placed, later, where required. Grass left to rot in situ only encourages more vigorous growth of grass where it is least desired. Finer and more frequent cutting is done with small rotary scythes amongst smaller shrubs and trees. This type of cutting is short enough to maintain a reasonable sward without destroying all the wild flora that occurs, such as primroses and violets, and the natural seedlings of *Primula pulverulenta* and *P. japonica.* Seedlings of rhododendrons, berberis, cotoneaster, and stranvaesia, are frequently beheaded, but some still survive. The cut grass from this type of mowing is too short for economic recovery.

The second part concerns areas inaccessible to machinery, where brambles and grasses are cut by scythe. The height of cut is determined by what is growing in a particular site. Ferns, for instance, can be cut through their crowns with a scythe to kill them if so desired, or the scythe can be drawn through the foliage only where a periodic reduction of foliage is beneficial to a neighbouring small plant. These methods control soft weeds and at the same time retard, if not kill, seedlings of sycamore, beech, and *Rhododendron ponticum* etc. They are topped at least twice a year and therefore rarely become a nuisance. Periodically, perhaps every 3–5 years, during the winter months, it might be necessary to remove the oft-topped stumps of beech etc., which would otherwise eventually make scything an irksome task.

The third method is hand weeding. This method is used amongst small, or newly established, specimens, and in areas selected for their strong colonies of natural regenerated seedlings. Coarse subjects amongst them, like *Rhododendron ponticum*, beech, birch and foxglove, etc. are removed from time to time.

The set of circumstances described has resulted in astonishing regeneration in many parts of this garden, not all of it confined to the genus *Rhododendron*. Probably the most impressive sight is a large drift of seedling *Rhododendron arizelum*, with youngsters of all stages from tiny seedlings, barely identifiable, to vigorous plants fifteen inches high, with good foliage showing the typical indumentum of *R. arizelum* (Fig. 37). Within the same series it is almost certain now that *R. fictolacteum* and *R. coriaceum* are regenerating naturally.

R. decorum gives rise to countless seedlings with various shapes and sizes of foliage which suggests that a considerable amount of hybridization occurs with other species—which is to be expected when the seedlings result from open pollination (Fig. 40). *R. fargesii* or *R. oreodoxa*—it is hard to tell one from the other in leaf—and *R. sutchuenense*, or *R. calophytum*, likewise, are evident as seedlings. *R. vernicosum* may also be involved in the Fortunei Series regeneration.

R. morii, *R. glischrum* and *R. crinigerum* (Barbatum Series) seedlings are to be seen in parts of the garden, although it is difficult to say whether *R. glischrum* and *R. crinigerum* are occurring separately, for the seedlings look mainly intermediate between the two species.

Scores of seedlings have appeared where once there was a mass planting of the three Series *Cinnabarinum*, *Heliolepis*, and *Triflorum*. No regeneration of the *Cinnabarinum* Series has shown up, but *R. oreotrephes*, *R. lutescens*, *R. polylepis*, *R. ambiguum*, *R. triflorum* and *R. zaleucum* characteristics can be seen in this epidote progeny (Fig. 39).

Another prolific source of seedlings is *R. neriiflorum*, and, although there are other seedlings of the Neriiflorum Series, they are not yet large enough for positive identification. It is likely that *R. sanguineum* and *R. apodectum* are amongst them (Fig. 42).

Three years ago a large number of seedlings, with dark green leaves, the undersides of which were crimson, were noted, but identification then was impossible. Now they are gradually developing the indumentum of *R. fulvum* (Fig. 41). *R. uvarifolium* in the *Fulvum* Series may also be giving rise to seedlings.

The only species in the *Glaucum* Series found to regenerate naturally is *R. brachyanthum*, and this it does frequently. The same cannot be said of *R. griersonianum* (*Griersonianum* Series) when only two seedlings have been seen. A hopeful watch is kept

on the *Maddenii* Series, where seedlings of *R. crassum* (Fig. 38) and *R. ciliatum* only have occurred.

One further and most important element, the Benmore climate, must be considered here. Apart from the Gulf Stream influence and the hills which contribute towards mild winters in this district, the rainfall is exceptional. The average rainfall is in the region of 90 inches, and even in 1958, with its long, dry summer, the rainfall at Benmore was over 70 inches. The rainfall figure can vary between 70 and 122 inches, but in recent years the rainfall has been slightly below average. However 1961 was very wet and an analysis of that year may prove interesting. Also out of interest is added the rainfall foı the first month following 1961. Note the high figure for the period August 1961 to January 1962 which totals 68.68 inches in only half a year.

Rainfall Younger Botanic Garden

1961.			
January	9.70″	October	13.72″
February	10.12″	November	8.08″
March	6.45″	December	6.90″
April	8.50″		
May	5.15″	Total	101.19″
June	3.90″		
July	6.70″	1962	
August	10.69″	January	18.01″
September	11.28″		
		Total	68.68″ for 6 months.

Benmore provides an ideal climate for rhododendron culture, and natural regeneration, and if that condition can be matched by good husbandry in the garden it is possible that the regeneration noted so far may be but a beginning.

THE GROUPING OF RHODODENDRONS

for small and medium-sized gardens up to 4-6 acres

PART 1

By DAVID WRIGHT, MA

FEW, if any, groups of plants grown in our gardens offer such opportunities and at the same time such temptations as the genus *Rhododendron.*

Among hardy woody plants, only the florist's strains of camellias and roses (notably Floribundas and Hybrid Teas) can rival rhododendrons both in size and vivid colouring of flower (certain magnolias can claim parity in these respects, although the colour of their flowers is scarcely as flamboyant as that of many rhododendrons and roses, and in any case the overall size of such plants as *M. campbellii, dawsoniana, mollicomata* and *sargentiana robusta*, together with their shyness of flowering preclude their being used as lavishly as rhododendrons).

Accordingly, rhododendrons need perhaps more skill and care in placing than any other shrubs, or in fact plants of any kind.

Bearing in mind Miss Jekyll's axiom about not planting too many things in one place, the secret in dealing with rhododendrons is not to mix up too many colours at once. The stronger the colour, such as scarlet, orange or crimson, the more restrained should be its use and the more it should be segregated from the main body of a rhododendron planting in a small group or groups on its own, preferably in shade and with a dark backcloth of evergreens, such as holly, yew or pine.

Paler or cooler colours, ranging from white (in practice rarely pure, but tinged with pink, green or lemon, sometimes freckled with orange, red or brown) through cream, lemon and primrose, shell-pinks and apple-blossom shades to salmons and apricots, mauve-pinks, mauve-blues and blue-purples, can be used in far greater quantity, because they tone much better with the prevailing colour of the English landscape than do the aggressive hot colours. They can also, by virtue of their softness, be mixed up with each

other. Even the softer colours, however, can be most telling when divided into two or three separate groups as for instance :—

1. Creams and ivories, grouped with lemon, primrose and pale yellow in general, with perhaps a sprinkling of blues.

2. Whites and off-whites, especially apple-blossom shades, namely whites, flushed or freckled with very pale pink. These again might profitably have a small admixture of blues.

3. Stronger pinks, including 'old-rose', carmine, mauve-pinks and purplish pinks, deepening to true purples, dark violets and dusky plum-shades.

As already suggested, scarlets and crimsons should be isolated in a shady place, against a background of dense dark greens, whether the sombre black-green of yew or the dusky smoky blue-grey-green of Scots pine or the polished coppery green of broad-leaved hollies such as *Ilex* 'Altaclarensis'. The pines would, of course, in time grow far taller than the others and so should be planted behind the holly and yew, several yards away.

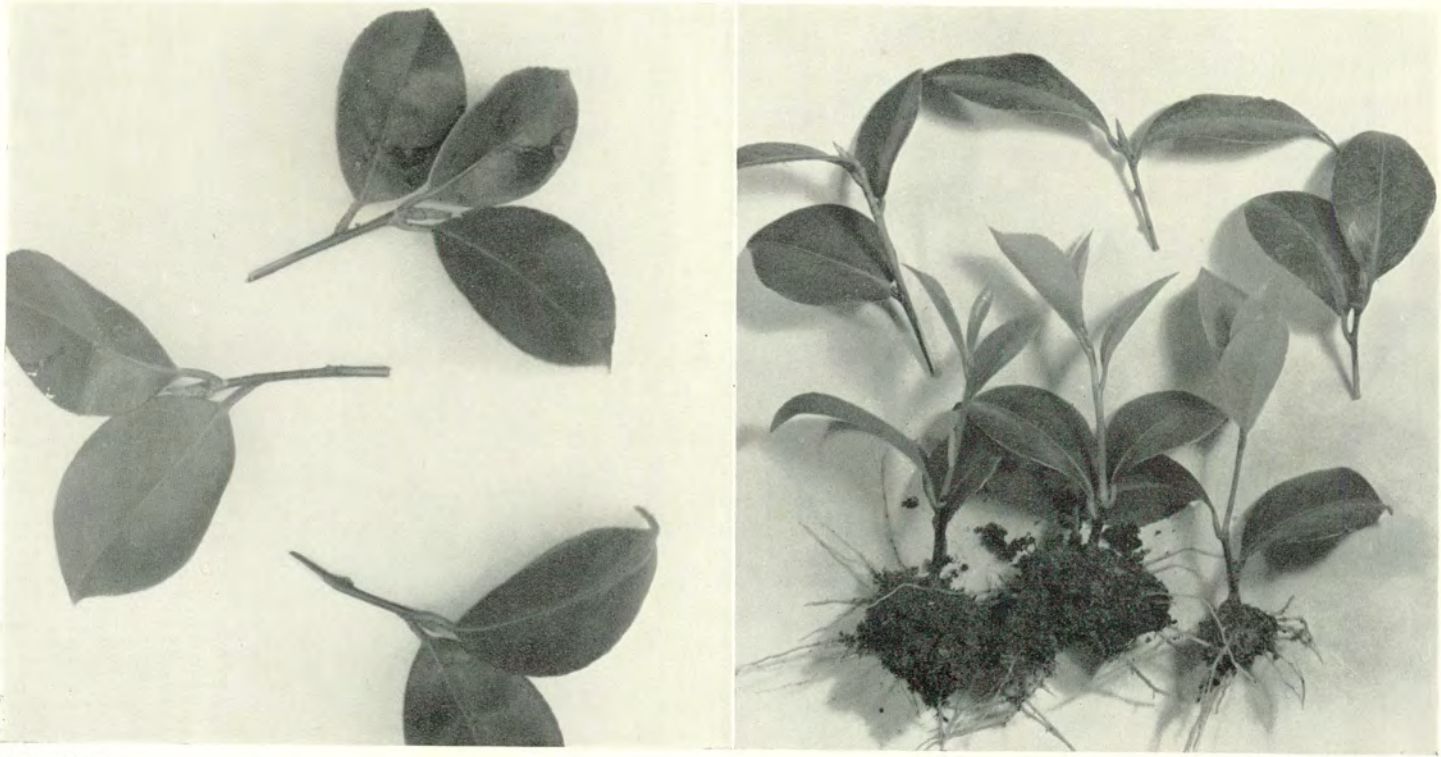
What might loosely be termed 'apricots' occupy a position somewhere midway between the hot and cool colours, as they include subtle creamy buffs (hinting at both pink and yellow at the same time) at one end of the scale, and strong coppery oranges at the other.

So these could form a fifth group on their own, but nevertheless loosely linking up the sharply separated reds with the main body of cool colours.

In suggesting how these groups might be built up, I propose to leave out the Hardy Hybrids, called 'castiron warriors' or 'barmaids', according as to whether one respects their high degree of hardiness and general adaptability or dislikes their (on the whole) crudely coloured and grossly large thick-set flower heads.

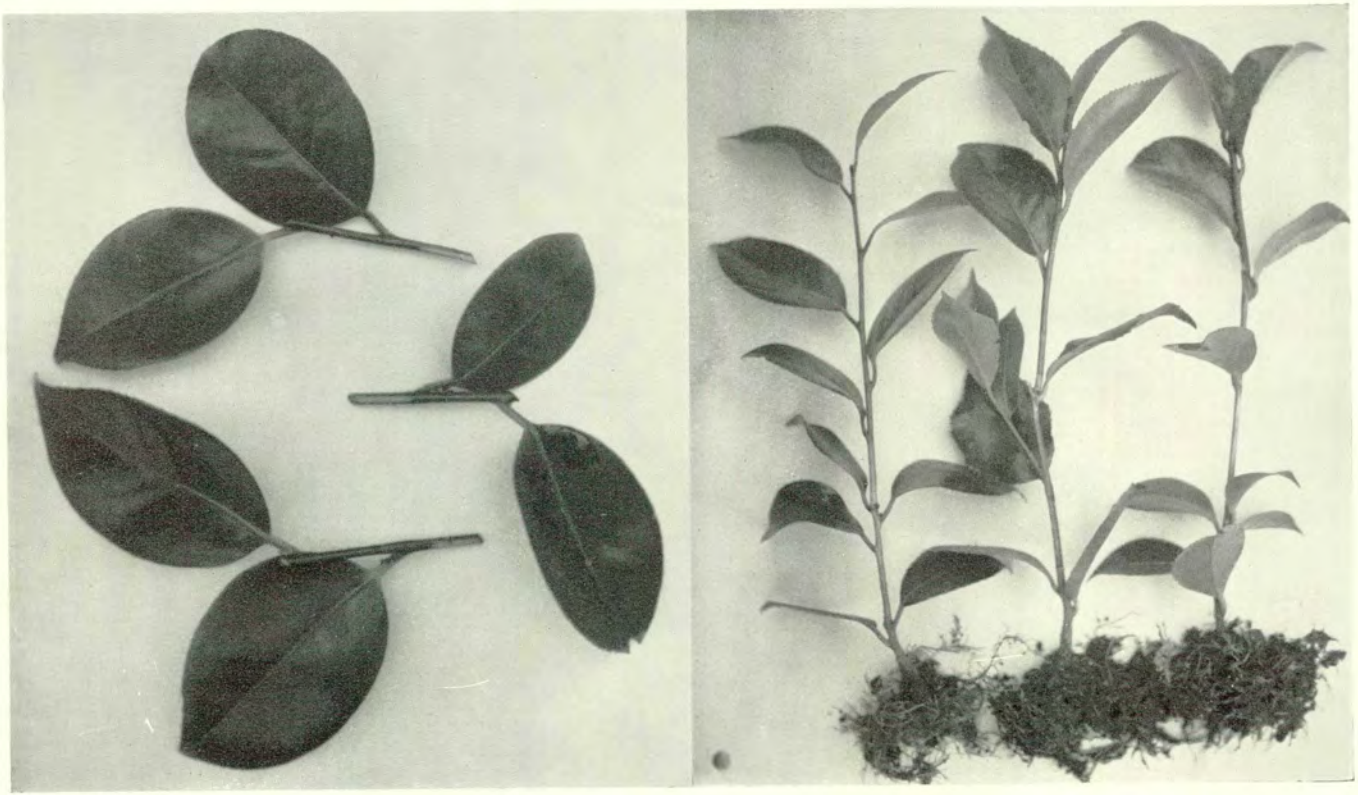
Instead I shall suggest the use of certain of the species which are rarely if ever equalled, let alone surpassed, by even the best hybrids for refinement, and a few choice hybrids which stay fairly close to the species in essential characteristics.

While admittedly most of the rhododendrons that I mention are not as hardy as the Hardy Hybrids, especially as regards their flower buds, they are nevertheless much hardier than is frequently suggested in books. All the species and hybrids mentioned in these notes are growing successfully in at least two gardens (one is my own) in Southern England where up to 20 degrees of frost Fahrenheit can be experienced during the period December to February and where there can be exposure to North and East



Photos: P. Wiseman

Fig. 35—Terminal shoot cuttings of *Camellia japonica* prepared for insertion and right after rooting (see p. 37)



Photos: P. Wiseman

FIG. 36—Stem cuttings of *Camellia japonica* prepared for insertion and right after rooting and after shoot growth has been made (see p. 37)

FIG. 37—Natural regeneration of *Rhododendron arizelum* at Benmore (see p. 45)

Photos: R.B.G., Edinburgh

FIG. 38—Seedlings of *Rhododendron crassum* (see reversed leaves) at Benmore (see p. 46)

FIG. 39—Seedlings of a rhododendron of the Triflorum Series, possibly *R. ambiguum* at Benmore (see p. 45)

Photos: R.B.G., Edinburgh

FIG. 40—Natural regeneration of *Rhododendron decorum* or possibly *R. decorum* × *discolor* at Benmore (see p. 45)

winds for many weeks on end, especially from the end of Winter through the earlier half of Spring. Furthermore, they are mostly growing in the open garden and not in woodland.

I deliberately omit many highly desirable kinds that are unsatisfactory except in, say, West Cornish or West Scottish gardens and one or two other very favoured sites.

One final point needs to be made by way of general introduction. Nearly every rhododendron that is mentioned has *interesting foliage*, so that even when out of flower, and especially from November till April, while deciduous plants are bare or underground, they constitute objects of great beauty in the garden landscape—significant pieces of furniture! (except, of course, during periods of stiff frosts, when the leaves roll up and the plants look generally rather bedraggled). Perhaps their most striking phase in the whole year is when their young foliage unfurls during late Spring and early Summer, depending on their time of flowering.

To consider only extremes, the foliage can be metallic in texture, steely-blue in colour, in the case of those kinds that have smooth waxy leaves with glaucous undersides (e.g. *R. callimorphum*, *caloxanthum*, *campylocarpum*, *cinnabarinum*, *caeruleum album*, *concatenans*, *oreotrephes*, *souliei*, *thomsonii*, *wardii* (N.B. *cinnabarinum* and *concatenans* have scaly undersides giving a rusty effect).)

Or it can be woolly in texture, fawn-beige or cinnamon in colour, in the case of those that have rough leaves backed by indumentum (e.g. *R. beanianum*, *bureavii*, *haematodes*, *mallotum*, *roxieanum*, *yakusimanum* and closely related species such as *metternichii* and *smirnowii*, also the much larger *campanulatum*, *falconeri*, *fictolacteum* and *fulvum*).

Then there are species whose young growths are tinged with bronzy tones, such as *R. augustinii*, reddish copper colour in the best forms of *R. lutescens*, and almost chocolate in the case of *R. williamsianum*. *R. decorum* and related species in the Fortunei series have young foliage of a pale grey-green, rosemary-colour, and a very waxy texture. The same sort of tone appears in the young growths of the very hardy but neglected *R. aberconwayi*, but here in conjunction with a brittle metallic appearance. Its mature leaves, on the other hand, are leathery glossy black-green, than which only yew is darker in tone. The undersides remain a curious chalky grey.

Then there is *R. insigne*, whose leaves, both young and adult,

are perhaps more metallic in texture than those of any evergreen we grow and, to quote the late Lord Aberconway 'the back of the leaf is perhaps more beautiful than that of any other rhododendron, giving the effect of bright silver washed over with a transparent golden varnish, just like a piece of fake Italian woodwork'.

Azaleas, whether evergreen or deciduous, cannot of course be ignored and of all the series of the great genus rhododendron, they offer the *greatest* opportunities and temptations. They are, however, given scant attention in these notes, because they have already been dealt with at length in horticultural literature and overplanted in many gardens throughout the country.

They tend, perhaps, more than other sections of the family, especially when hybridized, to have sickly garish or too hot colours which, in the mass, are overpowering, creating a quite incongruous effect in the English landscape. This applies especially to the appalling pinks, crimsons and magentas of the Kurume group. Moreover, with a very few exceptions, the foliage is undistinguished compared to that of most other series of the genus. Their tendency to be 'smothered' with flowers so that the foliage is hidden—a fact which is almost universally thought to be a virtue—is, in the eyes of those who regard form and texture as being quite as important as colour in the garden, a limitation or even a positive defect.

A few, however, are invaluable for their scent, and these are considered.

Possible groupings of Rhododendron species and choice hybrids suitable in scale for small and medium-sized gardens (say, up to 4 acres).

A. Reds, including scarlets and crimsons.

Rhododendrons with flowers of these colours need to be used sparingly but, if rightly placed, as for instance at some distance from the house in a fair degree of shade (but where the horizontal rays of the evening sun can shine through them), they can form one of the dramatic highlights of the garden.

As already suggested, red-flowered rhododendrons look best planted against a dark dense backcloth of hardy evergreens such as common yew or holly, especially the broad-leaved hybrid group known collectively as *Ilex* 'Altaclarensis'. The finest of these hollies for foliage effect is probably the female 'Camelliaefolia', a bold pyramidal tree with highly polished dark-green spineless leaves.

The first choice in any plantation of red rhododendrons should undoubtedly be *R. thomsonii*, not only the finest rhododendron of its colour but one of the aristocrats of the entire family. To the regal poise of its waxy blood-red bell-shaped flowers (in loose trusses that show off each flower separately) it adds the beauty of smooth cinnamon-mushroom-grey stems of the texture of coffee-powder and smooth rounded leaves of an almost eucalyptus-greyness, especially the undersides. Furthermore, along with most of its series, the young leaves are a metallic blue-grey, almost dazzling in their subtle intensity.

In time, and especially in sheltered positions in the South and South West of Britain, it will form a small tree in which case the trunk and branches, especially if planted against a dark background, will form a feature in the landscape all the year round. On the other hand, unlike many larger species, *R. thomsonii* will flower freely when quite a small plant.

With *R. thomsonii* could be associated *R.* 'Shilsonii' (*R. thomsonii* × *R. barbatum*) which closely resembles *R. thomsonii*, but is larger in all its parts and generally flowers in March rather than in April. *R. barbatum* itself, highly praised by many connoisseurs of the genus, seems to me to fall below the supreme standard of the above two, both because of the tightness of its flower trusses and the rigidity of its leaves and branches.

To form a trio with *R. thomsonii* and R. 'Shilsonii', plant *R. mallotum*, if only for the contrast provided by its stout leathery leaves (sometimes as much as 7″ long and half as wide), wrinkled and dark green above and thickly covered beneath with foxy-red indumentum, especially striking in Winter when the leaves hang down. It flowers in March and April with rose-scarlet to deep-crimson tubular bell-shaped flowers in flattish trusses.

These three rhododendrons in gardens sufficiently protected from North and East winds and reasonably free from frost after February can be breathtakingly beautiful, providing the eye with a feast of rich deep colour after the grey dreariness of several months of winter.

In front of such tall or tree-like kinds, according to the relative positions of the evergreen backcloth and the path by which the whole group is approached, other dwarfer varieties of red rhododendrons could be planted, bushes that will in time form compact mushroom-like mounds (recalling *Acer palmatum dissectum* in shape, but leathery and dense in texture), so valuable in helping to give gardens that "Cèzannesque" density and solidity which they all too often lack.

Crimson-scarlet in colour and free-flowering at an early age, R. 'Elizabeth' (*R. forrestii* var. *repens* × *R. griersonianum*) would be the first choice here. It makes a good neighbour for *R. thomsonii* because, while the flower colours harmonize (the flowers are less bell-shaped and more trumpet-shaped than those of *R. thomsonii*), the rigid lanceolate moss-green leaves of R. 'Elizabeth' form a dramatic contrast with the almost velvety, by comparison, grey-green leaves of the former.

Flowering slightly later and forming a very low table-top bush is R. 'Carmen' (*R. forrestii* × *R. didymum*). This has small neat dark green Box-like leaves and very waxy tubular crimson flowers. It should be planted in a *group* (where space allows) by the edge of a path and, above all, where the horizontal rays of the evening sun can shine through the bells. The colour is then like burgundy or port.

R. haematodes also makes a dense flat-topped bush with small leathery leaves undercovered with lovely pale-fawn indumentum. The flowers are tubular and very waxy, in flattish trusses and usually near a pure scarlet with very little crimson in it.

R. 'May Day' (*R. haematodes* × *R. griersonianum*) forms a much larger laxer bush with narrow sharply pointed leaves of a dusky-olive-green undercovered with fawn-buff indumentum (the young growths are noticeably woolly and fawn-coloured). The trumpet-shaped flowers are dazzling scarlet with no hint of blue or crimson. This is a plant that can easily be over-powering or garish if over-planted or wrongly sited. One specimen, however, standing on its own in shade can provide the sharp stimulus that the eye occasionally needs by way of foil to the predominantly soft tones in a garden designed primarily to *blend* with the landscape.

R. 'Arthur Osborn' (*R. didymum* × *R. griersonianum*) can provide a similar effect in July and August when other parts of the garden and very different kinds of flower are holding the field. It forms a low flat mound, recalling *R. haematodes* or 'Carmen', and its small leathery leaves are of so dark a green as to look almost black in some lights—an exciting contrast to the pale fawn indumentum underneath. It has small loose trusses of long-stalked trumpet-shaped ruby-red flowers.

As for *R. cinnabarinum*, especially in its darkest and reddest form, var. *roylei*, this is so uniquely beautiful and so distinct in its unlikeness to orthodox rhododendrons that although, in a sense, its place is in a plantation of red rhododendrons, it looks best when standing somewhat apart or even forming a little

group on its own (I have seen it most appropriate and attractive planted against an old granite gate-post). In any case, nothing should distract the eye from the contemplation of its pendulous Lapageria-like flowers, dusky crimson in colour, waxy in texture, and covered with a mauvish-plum bloom. The young foliage is a vivid metallic blue-grey.

R. cinnabarinum var. *roylei* closes my choice of red rhododendrons that might be loosely grouped together; a short list, it is true, but the aim of this essay is not to give comprehensive lists of plants for the potential planter to choose from, but to throw out hints and suggestions as to how a few really choice plants may be organized into visually satisfying associations.

There is no reason why rhododendrons, beautiful as they are, should be regarded as so sacrosanct as to be entirely segregated from all other types of plants. Accordingly, I shall suggest one or two other plants, either woody, herbaceous or bulbous, that could be associated with them.

Thus with red rhododendrons might be grouped the red-flowered species of *Enkianthus—E. campanulatus* var. *palibinii* and *E. cernuus* var. *rubens*, both with pendulous clusters of deep red bells recalling Lily-of-the-Valley in size and shape. Their light open twigginess and the tabular tiered arrangement of the main branches would make an effective contrast to the heavier and more substantial forms of the evergreen rhododendrons.

They flower in late May. A little later, in early June, there is an uncommon and beautiful evergreen *Vaccinium — V. cylindraceum* with similar hanging clusters of waxy ruby-red flowers, but tubular and not cup-shaped. The young foliage, incidentally, is reddish-bronze.

Red or apricot-coloured rhododendrons (to be considered in the next group) could have, for a light shade canopy or simply to give height to the plantation, the company of small trees with terracotta, mahogany or cinnamon-coloured trunks, such as *Acer griseum*, *Betula albo-sinensis* var. *septentrionalis* (the trunk of this is more of a salmony-mushroom, overlaid with grey bloom, but it would associate very nicely), *Prunus serrula thibetica*, *Sorbus aucuparia* var. *beissneri* or *Stewartia monadelpha*.

If the site were really sheltered from all winds, both the kinds that shrivel and kill and those that batter and break, a place should be found for *Arbutus menziesii*, one of the noblest evergreen trees of the temperate world, at least of those that are reasonably hardy in Britain.

Regarding its impact on the beholder as it grows in the wild in North California, it has been said that 'the traveller, forrester, hunter, artist and botanist is held by the spell of its crown of flowers and masses of red fruits, its terracotta bark and burnished foliage'. According to W. J. Bean in 'Trees and Shrubs Hardy in the British Isles', it grows best in the moist rich valleys of Northern California. This suggests that conditions akin to those enjoyed by rhododendrons should suit it and in fact a very fine specimen grows in a wood along with rhododendrons, magnolias, enkianthus and clethras at Borde Hill in Sussex.

But even if the red flowers of the various rhododendrons mentioned are to be seen against the trunk of the arbutus from various angles, on no account should the latter be cluttered up, but stand alone in a clearing in all its majesty.

B. Apricots, ranging from pale salmony-buff to rich coppery-orange.

A group embracing these colours might form a loose link between the very hot and startling reds on the one hand and the main body of pale cool colours on the other. I take it to be an axiom of gardening in Great Britain that the latter should predominate to a very large degree. It is hard to lay down anything like an exact measurement in this respect, partly because landscape gardening is not, any more than painting, an exact science, and partly because what applies to country gardens does not necessarily apply to town gardens. In either case, size will be a determining factor as to how much can be used of a given colour.

A plantation of apricot-coloured rhododendrons would, I think, have as its backbone a group—three or more according to the area available—of that incomparably beautiful and reasonably hardy hybrid R. 'Lady Chamberlain' (*R. cinnabarinum roylei*×R. 'Royal Flush' Orange Var.). Unfortunately, it has a lax and straggling habit of growth; it therefore lends itself to grouping rather than to single planting. But this defect is more than compensated by the unsurpassed beauty of the waxy tubular flowers, hanging elegantly in loose clusters, and of the metallic blue-grey young foliage. The flower colour ranges from warm apricot-yellow through orange-buff to terracotta-red, but always overlaid with a misty bloom, like that on ripe plums.

Possibly R. 'Lady Chamberlain', in its different forms, is so beautiful, not only among its congeners but among all hardy shrubs, that it should be grouped completely on its own. These remarks also apply to R. 'Lady Rosebery' (*R. cinnabarinum roylei*×R. 'Royal Flush' Pink Var.). The pink has a distinct undertone of

orange so that it neither blends satisfactorily with apricots and oranges, nor with the various 'pinks' described later in this essay. I have, however, seen it neighbouring the violet-blue *R. augustinii* and was impressed by the combination.

Be this as it may, the much dwarfer and more compact *R. concatenans* and its hybrid with *R. yunnanense* (R. 'Alison Johnstone') could be planted nearby without incongruity. The flowers in each case have the same misty-waxy texture, but those of *R. concatenans* are bell-shaped, while those of R. 'Alison Johnstone' tend to be more widely trumpet-shaped. As for colour, the flowers of the former are apricot-yellow, sometimes with greenish undertones, whereas those of the latter—among the subtlest in tone of *any* rhododendron—are palest creamy apricot with a suggestion of pinkish buff in the earlier stages, fading to cream or ivory in the latter ones.

Both *R. concatenans* and R. 'Alison Johnstone' have the same vividly glaucous young foliage as R. 'Lady Chamberlain', possibly more so, as the leaves appear to be overlaid with a fine powder-white bloom. They flower about mid-April, perhaps a fortnight earlier than the forms of R. 'Lady Chamberlain'.

To prolong the season of this colour-range into June (if this is really desirable, which is open to question, as by June both the eye and the mind may well be sated with rhododendrons) there is the hybrid R. 'Fabia' (*R. dichroanthum* × *R. griersonianum*) with dark steely-green lanceolate leaves and orange-salmon trumpet-shaped flowers. A certain stiffness and gawkiness of habit, however, seems to me to make this a less desirable plant than the hybrid R. 'Fabia' × *R. dichroanthum* (raised by Mr. T. Thacker, Nurseryman of Knowle, Warwickshire, and known as 'Knowle Orange') which is perhaps more attractive than either of its parents. The foliage is more metallic in texture, underlaid with a thin silvery-fawn indumentum. The flowers are more waxy, bell-shaped, and of a coppery orange, while it resembles *R. dichroanthum* in forming a low compact mound. The foliage recalls that of *R. insigne*.

This small plantation could be completed by a group of *Enkianthus campanulatus*, one of the most elegant and refined of all hardy deciduous shrubs.

It was noted in the last section how the branch structure of *Enkianthus* spp. would contrast strikingly with rhododendron shapes. It is only necessary to add here that the flowers of this species are normally a pale creamy-yellow, tipped and veined with red, giving an effect of buffish apricot a few feet away. It

flowers at the end of May or early June, according to site and locality. The leaves turn brilliant red and yellow before falling in Autumn.

C. Pale yellows, creams and blues.

As will be noted from the above two sketches, the group containing the pale yellows, creams and 'blues' (strictly lavender-blue or blue-violet) occupies a central position and predominates also on account of sheer size. It is, in fact, my conviction that these colours *should* so predominate, followed closely by the whites and off-whites, because, together with the soft greens of breaking buds and young foliage, they do in fact constitute the fabric and texture of an English Spring.

I am well aware that this is contrary to the exhortations and advice of most gardening books, articles in the press and planting manuals (which tend to exalt brilliant pinks and reds above all other colours), but when it comes to first-hand experience and perception, I find that an extraordinarily large number of people admit without effort that their favourite rhododendrons are among the paler colours. This is hardly surprising when one considers what affection they feel for the primrose, the violet, the wood anemone and the bluebell, and for plum, pear and apple blossom.

Pale yellows can be considered under four heads :—

1. primrose shades, fading or merging into cream,
2. lemon yellows,
3. greenish yellows (chartreuse),
4. butter yellows.

Some of the most delicately beautiful and refined of all rhododendrons, and indeed of all hardy flowering plants, come into these colour categories. (It should be noted that as one category tends to merge into another, so certain rhododendrons belong partly to one, partly to another. So when planting, these groups can be justifiably, and indeed profitably, overlapped and intermixed). The orthodox condemnation of these, or in fact any other colours, on account of their pallor, seems to me quite ridiculous. If the full possibilities of colour in the garden are to be realised, pale and cool colours must receive no less attention than hot bright ones. Moreover, I cannot resist saying once more that, the prevailing tone of the English landscape being what it is, the pale and cool colours *should* predominate in *any* garden scheme.

1. Primrose shades.

The key rhododendron in this colour category and one that is

indispensable for any garden that can grow the genus is undoubtedly *R. campylocarpum* and its var. *elatum*. The type plant has flowers tending more towards lemon and is bushy in habit, whereas the variety *elatum* has primrose-cream flowers and is taller and more open in growth. In both cases the neat oval leaves are dark shining green, of the tone of holly, though with a greyish undertone. The undersides are palely glaucous, like those of *R. thomsonii*, to which *R. campylocarpum* is related; and the bell-shaped flowers hang in lax clusters.

None of the hybrids of *R. campylocarpum*, except perhaps R. 'Penjerrick Cream' (*R. campylocarpum* var. *elatum* × *R. griffithianum*) has, to my eye, the refinement and grace of the species.

R. 'Penjerrick' (there is a very pale pink, as well as a cream form) is unfortunately somewhat tender and only suitable for sites well protected from North and East winds and from early Spring frosts, but it is so beautiful that it is worth trying wherever possible. It inherits from *R. griffithianum* a tree-like habit and pale fawn peeling stems. The flowers are more creamy in tone than either form of *R. campylocarpum*.

For gardens too cold to grow R. 'Penjerrick Cream', an excellent substitute is R. 'Chaste' (*R. campylocarpum* × 'Queen of the May') which has the same loosely hanging, glowing, creamy bells, but its leaves are lanceolate and twisted, instead of symmetrically oval. On an underfed or badly grown plant this can look like a disease, but in conditions of good health it is a most attractive feature, because one sees at once both the black-green upper surfaces and the palely glaucous undersides.

One semi-dwarf rhododendron, R. 'Cowslip' (*R. williamsianum* × *R. wardii*), like a miniature 'Penjerrick Cream', and two dwarfs, *R. hanceanum nanum* and *R. sargentianum* (the latter a real alpine cushion), come into the creamy-primrose category. (The delightful *R. flavidum* of the Lapponicum series is also pale primrose, but I find it a very poor grower). Obviously, they should be grouped where room allows, especially the latter two, preferably close to a path or walk. If the bed in which they are planted were raised above the path level by a foot or more, so much the better, as *R. sargentianum* needs close examination for the full enjoyment of its narrowly tubular flowers, about the size and shape of a daphne's. *R. sargentianum* will stand a lot more sun than the other plants in this colour group. *R. hanceanum nanum* belongs to the great Triflorum series, but differs from its relatives in carrying its flowers, which are creamy, in short racemes.

2. Lemon yellows and sulphur yellows.

Of course, to many people the distinctions between this and the first group may seem trifling, but they exist nevertheless. Two reasonably hardy medium-sized species have lemon to sulphur yellow flowers, the April-flowering *R. caloxanthum* and the May to June-flowering *R. wardii*.

R. caloxanthum has flowers tinged apricot or orange in the bud and orbicular leaves intensely blue-grey in the young stages. The flowers of *R. wardii* are saucer-shaped (distinct from the bell-shaped flowers of *R. caloxanthum* and *R. campylocarpum*). The leaves are generally orbicular, dark grey-green when mature, blue-grey in the young stages. In some forms there is a deep crimson blotch at the centre of the flower—a lovely colour-contrast with the lemon-yellow. This is one of the loveliest of all flowering evergreens of medium size and, as in the case of Ludlow and Sherrif's form, it does not flower until early June, it is probably more useful for cold gardens than any of the other yellow kinds so far mentioned.

Hardly any of the so-called yellow-flowered hybrids have the lovely purity of colour suggested by the words 'lemon' and 'primrose', tending on the contrary to have undertones of orange or pink. R. 'Damaris', especially Logan form, is one of a tiny elite that has this purity of tone, its flowers being lemon fading to primrose with a faint green eye, blending beautifully with the bold drooping olive-green lanceolate leaves. It flowers in late April or early May and looks wonderful at the Savill Garden planted in conjunction with *Acer japonicum* which is unfurling its pale bronzy-green young leaves at the same time. (The subject of deciduous trees and shrubs that would satisfyingly associate with pale yellow rhododendrons deserves a paragraph to itself and will be dealt with at the end of this section). Again, R. 'Damaris' has been beautifully associated with veratrums, smilacinas, a species of cut-leafed meconopsis, and that most beautiful of ferns, *Polystichum setiferum* var. *gracile*, at Knightshayes, nr. Tiverton, Devon.

R. 'Marcia' flowers about the same time or a little earlier and has tighter flower trusses than 'Damaris'. Its smooth oval leaves, greyish underneath, and pale fawn stems recall *R. campylocarpum* and R. 'Penjerrick Cream', but it is hardier than either.

My third and last yellow-flowered hybrid to pass the test for purity of tone is R. 'Crest' (*R. wardii* × *R.* 'Lady Bessborough'). This flowers nearly a month later, thus usefully prolonging the

season of pale yellow rhododendrons. (Mr. T. Thacker of Knowle, Warwickshire, has crossed *R. wardii* with R. 'Letty Edwards', naming it 'Knowle Yellow' which, though not generally known or available is quite as beautiful as R. 'Hawk'. It has, in addition, the substantial semi-orbicular leaves of *R. wardii*).

3. Greenish yellows (*chartreuse*).

In this category I put those rhododendrons in which the primrose colour has a distinctly greenish undertone, sometimes caused by a green ray or freckling at the base of the petals. The rhododendrons mentioned in this section all have much smaller and less substantial flowers than most of those already considered. For this reason, they should be grouped a little apart, so that they are not dwarfed into insignificance by the comparatively large and heavy flowers of such Rhododendrons as 'Chaste', 'Damaris' and 'Marcia'.

The outstanding plant of this colour is undoubtedly *R. lutescens*, especially Exbury Variety. It is unfortunate that it flowers so early, usually March or even February, as to be unsuitable except for woodland or for gardens protected from cold winds. It should in any case, as with every rhododendron that flowers before the end of May, be planted so that the early morning sun cannot reach it.

Apart from this, I cannot think of any rhododendron that looks more at home in the English landscape, unless it be the closely related *R. augustinii* (lavender-blue) or *R. yunnanense* (blush pink to white).

R. lutescens has a lightness and grace based, partly, on its well spaced, shallow funnel-shaped flowers, pale greenish-primrose, lightly spotted with olive-yellow, and partly on its sparsely set thin lanceolate leaves. The latter are heavily flushed with copper and bronze, especially in the young stages, which feature alone would make the plant worth growing.

In similar conditions, the admirer of *R. lutescens* can grow its two hybrids, R. 'Bo Peep' (*R. lutescens* × *R. moupinense*), and R. 'Remo' (*R. lutescens* × *R. valentinianum*), a low compact bush with more tubular yellower flowers. The former flowers a little earlier than *R. lutescens*, the latter a little later.

R. ambiguum does the same job as *R. lutescens* in late April or May, but the flowers are slightly greener and paler, the leaves more rounded in shape and more leathery in texture and of a dusky bronze-green. Although it is generally despised in books and articles dealing with the genus, I have nevertheless seen it look

charmingly appropriate in more than one English woodland garden, especially when grouped.

R. keiskei is virtually a pygmy version of the above two, and an odd plant, forming a mound to bulge over a path's edge, would be a delightful addition to early-Spring flowering shrubs. Its leaves are rather waxy in texture, olive-grey-green, but its flowers are so paper-thin that it should be grown in a shady windless spot.

Another plant that is damned with faint praise in most writing on rhododendrons, is the early June-flowering *R. brachyanthum* var. *hypolepidotum*, a semi-dwarf (ultimately 4—5′) aromatic shrub with loose clusters of tiny bell-shaped flowers hanging from unusually long foot-stalks. They are a pale greeny or lime-yellow, very waxy in texture. Admittedly, they are inconspicuous from a few yards away, but fascinating to anyone who likes to enjoy at least some items in his garden at close range. (*Iris forrestii*, a dwarf member of the Sibirica section, with flowers of a very similar colour, netted and veined with purplish brown and flowering at much the same time, could neighbour this).

There is another dwarf, *R. lepidostylum*, whose greeny yellow funnel-shaped flowers are rather buried, because it flowers and makes young growths at the same time, but the latter are a wonderful blue-grey-green, metallic in texture (they retain this colour for most of the season), which would blend well with the flowers of lemon-yellow or greeny yellow late flowering Rhododendrons planted close by, such as *R. wardii*, R. 'Hawk' varieties and *R. brachyanthum* var. *hypolepidotum*.

4. Butter-yellows.

Not many Rhododendrons come into this colour category, but the one or two that do are plants of great beauty and individuality and would lend a distinction to any plantation of yellow rhododendrons.

Like those in the previous section, they should perhaps be planted a little apart from the larger flowered plants of the first two sections, as their impact lies not so much in colour effect from a distance, but rather in the fascination of their beautifully shaped and textured individual flowers at close range.

R. xanthocodon is a close relative of *R. cinnabarinum* and *R. concatenans* and has the same drooping waxy tubular flowers, but creamy butter-yellow; the leaves blend wonderfully with the flowers : they are pale olive-green and in the young stages seem to be powdered with pale gold dust.

R. 'Yellowhammer' (*R. sulfureum* × *R. flavidum*), although erect growing to a height of 5′ or more, is rather alpine in character in having small dark green leathery leaves, reminiscent of various daphnes, and inch-long tubular flowers of pencil thickness, hanging in clusters of three to four. It often flowers again in Autumn.

R. valentinianum could form a trio with *R. xanthocodon* and *R.* 'Yellow Hammer' *if* the site were really sheltered from all winds and from Spring frosts. It is a much dwarfer plant, 1½—3′ high, with brighter yellow flowers than the other two, almost buttercup-yellow, and small rounded leaves margined with golden hairs.

Blues (*lavender-blues and violet-blues*).

Pale yellow and cream rhododendrons could be adjacent to or intermingled with what are loosely called blue rhododendrons, and these in their turn could lead on to and run into the whites and whites flushed with pink.

The most important rhododendron in this colour category is undoubtedly *R. augustinii* which ranges in colour from 'blue-bell'-blue to a pale greyish lavender, in many cases freckled with yellowy green in the throat. A specimen of *R. augustinii* of the latter colouring has been superbly sited against the slate roof of an outbuilding in that supreme rhododendron garden, Penjerrick nr. Falmouth.

R. 'Electra' (*R. augustinii* × *R. chasmanthum*) is very similar, but flowers slightly later. Both have bronze-tinted young foliage which would tone beautifully with any cream or pale yellow flowers in the vicinity.

At knee-level, similar colour effects could be obtained by planting groups of R. 'Blue Diamond' (R. 'Intrifast' × *R. augustinii*) (I deliberately omit R. 'Bluebird' and R. 'Blue Tit' because of their habit of producing chlorotic-looking young foliage when there still remain a few of the pale lavender-blue flowers on the bushes, a combination which I do not find particularly attractive) or the alpine *R. scintillans*, the latter a deeper duskier blue-violet and one of the finest of all dwarf rhododendrons, also very hardy. Both these, however, have a fault; in the event of a hot spell in April, which is by no means uncommon, they can be terribly fugitive in flower, lasting only a few days. This situation could be slightly ameliorated by planting in two-thirds shade.

In my experience, much the finest dwarf blue rhododendron is *R. hippophaeoides* 'Haba Shan', whose flowers, longer lasting

than the above two, have almost the powder-blue colour of Ceanothus 'Gloire de Versailles', with anthers of a contrasting brick-red. The leaves are, as the specific name tells, the colour and shape of Sea Buckthorn (*Hippophae rhamnoides*).

All these near-blue rhododendrons look and do all the better for being planted in some shade (see the plantations of *R. augustinii* at the Savill Gardens) where they create an effect analogous to that of blue-bells in an English wood. Moreover, as they all have small lightly poised flowers, like those of *R. lutescens* and *R. ambiguum*, they can be freely grouped without risk of producing an overpowering heavy effect.

Mention should also be made of what seems to me one of the most beautiful of all deciduous azaleas—R. (azalea) 'Daviesii'. This flowers in June and has fragrant creamy-white flowers with a yellow blotch, and grey-green foliage. A group of these, however large or small, is indispensible where subtlety of colour is desired. It would extend into June the season of this predominantly April and May flowering plantation.

Editor's Note. This forms part of a longer essay and it is hoped next year to include further parts dealing with rhododendrons with white and pale pink flowers and suitable trees, shrubs and bulbous plants for association with them.

EXTRACTS FROM LETTERS TO A CORNISH GARDENER

INTRODUCTION

THE late E. J. P. Magor of Lamellen, Cornwall who died in 1941 was well-known for many years as a great gardener and raiser of rhododendron hybrids. He lived during the peak period of the introduction of rhododendrons from China, Burma and Tibet by such collectors as Wilson, Forrest, Farrer and Kingdon-Ward. He knew and corresponded with such famous growers of rhododendrons as the late J. C. Williams of Caerhayes and such botanists as the late Sir Isaac Bayley Balfour and the late Sir William Wright Smith, both of them greatly instrumental in identifying, classifying or naming rhododendrons.

For many years Mr. Magor entered in his garden journals of 40 or 50 years ago extracts from letters he received on gardening subjects. His son, Major E. W. M. Magor, is now living at Lamellen and, to judge from his many entries in recent Rhododendron Competitions, restoring his father's garden. Major E. W. M. Magor when going through his father's journals, collected many of these Extracts and has most kindly made them available to the Society. It is not possible to publish them all but many of those relating to rhododendrons are printed below, the principle writers being Mr. J. C. Williams and Professor Bayley Balfour.

It is apparent in the Extracts in general that both Mr. J. C. Williams and Professor Bayley Balfour were much concerned with the classification and naming of Chinese rhododendrons raised especially from Forrest's and Wilson's seed. Both were well aware of the possibility of hybrids occurring in the wild where two species met and of the resulting taxonomic difficulties or even confusion. Both were concerned with the variation in a species caused by a wide distribution with different climatic conditions. That their doubts were justified is well demonstrated by the revision of many series of the genus in recent years. A number of Extracts on these subjects are included here.

Hybridization had long fascinated many gardeners, particularly those interested in rhododendrons. A number of Extracts on this

subject is also included. Some proposed or attempted crosses forty to fifty years ago would appear daring even today.

Where species referred to in the Extracts have been submerged, or in the case of hybrids which have since been given grex or clonal names, the current name has been placed in brackets after the name referred to in the Extracts.

SPECIES

24th April 1916. Mr. J. C. Williams. "*R. fastigiatum* . . . is really most beautiful, and does nowhere so well as looking right out east onto Dartmoor with absolutely no shelter on that side. It is a treat to walk along them and watch the various forms emerging".

14th September 1916. Mr. J. C. Williams. "We had a heavy loss in the *R. fastigiatum* section at Werrington during the dry weather, and also among some of the larger things here; always with the rhododendron, it is the sun which is the enemy, and the loss is 10:1 against what we lose from frost".

22nd February 1917. Professor Bayley Balfour. "Only two species of the Irroratum series come from the neighbourhood of Teng-yueh, namely *agastum* and *araiophyllum*. *Agastum* is a coarse-growing fellow—*araiophyllum* a delicate and very beautiful plant. There is a tendency in many of the Irroratum series to assume a reddish tinge in the foliage as it oldens—in *agastum* prominent—not so marked in *araiophyllum*. It will be very nice if your plant turns out to be either of these species . . . *R.* F10651 is a plant from the Lichiang Range, which Forrest got in leaf with one or two fruits on it in his dried specimens, and it certainly belongs to the Irroratum series, but I won't pledge myself that it is *irroratum* itself, because I cannot find in it certain distinct characteristics which mark all the irroratums I have seen, namely the vestigial feet of the juvenile glands on the under surface of the leaf, and then the style is absolutely glabrous as it appears upon the very young fruit. It comes from a possible locality, for *irroratum* is essentially a plant running up from Hoking north of Tali to the top of the Yangtse Bend, and the Chungtien Plateau touching the Lichiang Range as it passes north".

3rd March 1917. Prof. Bayley Balfour. (On a truss of *R. irroratum* from Tali sent): "Meanwhile I am particularly pleased by seeing that all the main characters which I expected to find are present in your truss, and most particularly the beautiful red glands on the outside of the corolla—these by themselves are a mark of

FIG. 41—Natural regeneration of *Rhododendron fulvum* on the bank of a drain at the Younger Botanic Garden, Benmore (see p. 45)

Photos: R.B.G., Edinburgh

FIG. 42—Natural regeneration of *Rhododendron polylepis* and *R. neriiflorum* at Benmore (see p. 45)

Photo: J. E. Downward

FIG. 43—Rhododendron 'Mrs. C. Whitner' A.M. 20th May, 1963, when shown by Sir Giles Loder, Bt., Leonardslee, Horsham, Sussex (see p. 136)

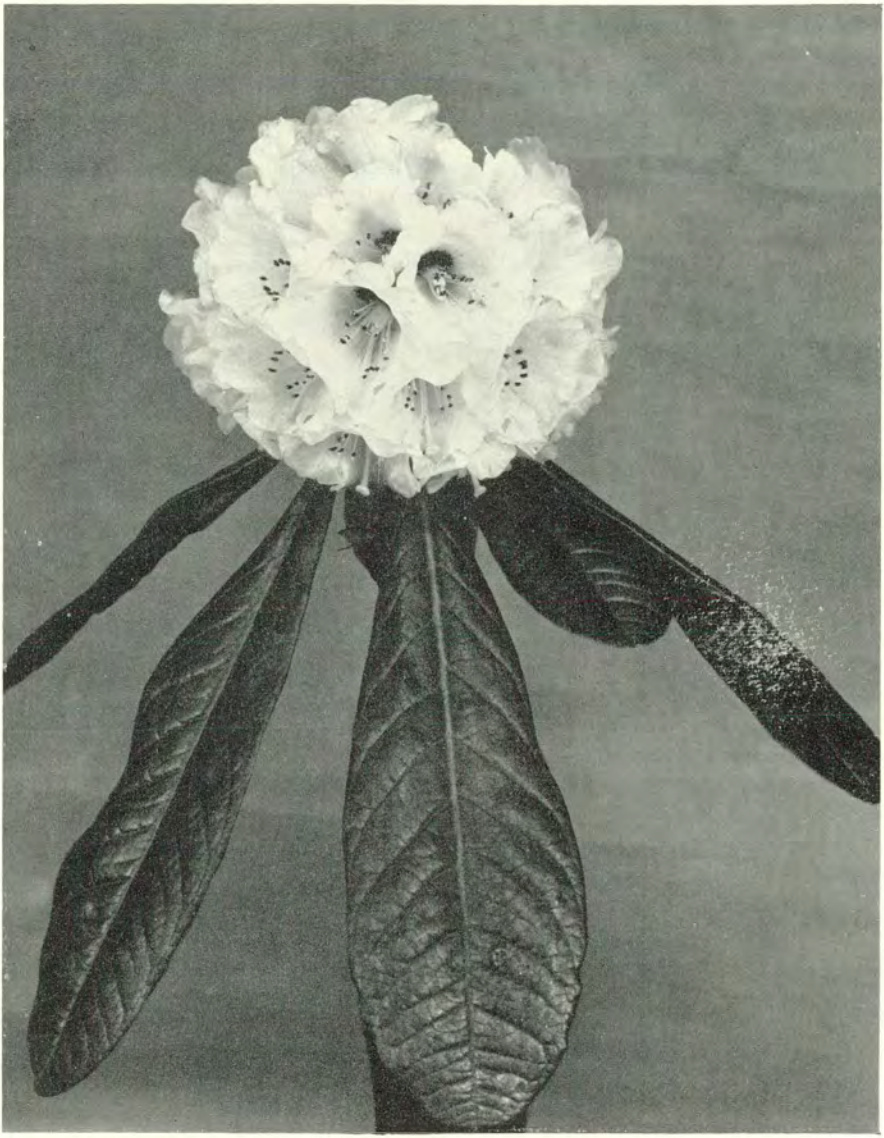


Photo: J. E. Downward

FIG. 44—*Rhododendron coryphaeum* 'Exbury', A.M. 18th April 1963 when shown by Mr. E. de Rothschild (see p. 135)

Photo: J. E. Downward

FIG. 45—Rhododendron 'Fred Wynniatt' A.M. 20th May, 1963. Exhibited by Mr. E. de Rothschild (see p. 135)

irroratum, and curiously enough they are not mentioned in any description of the species which I have seen. When I first saw them and failed to discover any reference to them, I wondered if I could be dealing with a plant other than *irroratum*, or if the specimens which I had under view were abnormal; but as every plant of a large series showed them, I concluded that somehow or other observers had overlooked them, and certainly they may be easily passed over in the examination of dried plants".

7th January 1918. Mr. J. C. Williams. "I think the most notable thing in that Doker-La area is the way in which rhododendrons like *saluenense*, *selense*, *sanguineum*, *proteoides*, *forrestii*, etc., split up into different varieties, and they will take a lot of watching to get rid of the rubbish. Of course the Lapponicum lot are even worse for this, and where they are dependent on refinements of lavender, blue and purple for their beauty, they vary from year to year according to the temperature they meet, as least I think so.

12th May 1917. Mr. J. C. Williams. "I believe W4328 is *augustinii* all right, certainly the two or three plants we have at Werrington have given us very nice forms of *augustinii;* I think they all need a northern light to show them well, also shade from the sun to prevent injury to the colour. If they chance to be in the sun, and you go round and look at the flowers on the shady side of the plant you will see what I mean. I will never admit that *villosum* (*trichanthum*) is anything but *augustinii*, but the bristle lunatics will have it otherwise".

19th October 1925. Mr. J. C. Williams. "We have had a very perfect flower of *lacteum* open, and it is a most wonderful thing. I can tell you about Rock's stuff. He went footstep by footstep to where Forrest has collected, for which reason I never sowed a seed of his, but he will with repetitions repeat many of F's best things. But you have on your hands all F's duplicates of duplicates once more".

14th April 1917. Prof. Bayley Balfour. "I wish I knew where to put *R. habrotrichum*. One is naturally tempted when one sees all these bristles to assume that it must have something to do with *barbatum*, but I am disposed to believe that the development of bristles has appeared in more than one phylum of the rhododendrons. It is a terrible season this altogether—ten days ago I thought we were through the winter, and here today we have over a foot of snow—the heaviest fall of the year". (1916–17 was the worst winter since 1894–5. E.J.P.M.)

9th April 1918. Prof. Bayley Balfour. "What you send me is not *R. habrotrichum*, I have not seen *habrotrichum* in flower, but I can say with confidence that it is something very different from what you send. But your plant is more interesting than would be *habrotrichum*. It is, I believe, a plant of which Mr. J. C. Williams sent me a truss a few days ago (It wasn't. E.J.P.M.). He had found it as a rogue in a group of *R. callimorphum*. The plant is not *R. callimorphum* and has a general resemblance to *R. neriiflorum*, which however it is not. The question to settle is, what is it? From what I have seen of it, I think it is a new species, and we have nothing like it among Forrest's dried flowers. As you say, the calyx is most striking—the largest calyx I have seen in any of these rhododendrons—so large as to suggest almost a double flower, or at any rate a "hose-in-hose". You will have noticed too how the calyx is spotted, as is also the corolla. I have not yet given the plant full analysis".

10th April 1918. Mr. J. C. Williams. "I lately sent Bayley Balfour from out of a group of *callimorphum* an obvious cross between that plant and *neriiflorum*, but I tremble lest it be seized and made a species of. They come from the same place on the Shweli—Salwin and the same level, and it happens that I grow a group of each of them some 20 ft. from one another, which makes the relationship the more evident".

13th April 1918. Mr. J. C. Williams. " . . . Your flower (*R. diphrocalyx* E.J.P.M.) is different from the one I sent B.B. . . . it would seem by the leaf to be much nearer *habrotrichum* also growing in that area, and I think it is quite likely that the three mix up in their leisure time, but that two or three fixed types remain dominant, as the grey rabbit does, though you may pour plenty of whites, yellows and blacks into his warren. I am rather inclined to push the hybrid theory, as the only apparatus at hand to save the poor gardener from the multiplication of species—for instance, look at the Maddenii affair, there is no limit to it, and the bulk of them could be dealt with under one name, with the addition 'Yunnan form' or the name of such range as the plant came off.

P.S. The calyx of your flower is an astounding outfit, previous to that *hookeri* and *neriiflorum* were the most notable I had seen, but I find in a number of *neriiflorum* plants the calyx runs from very big to almost nothing, which is unkind to some of the botanists".

16th March 1919. Prof. Bayley Balfour. "What is this W1435? I do not find that number in Pl. Wilsonianae. When I first saw it

I said hybrid from *hookeri*, perhaps with *maculiferum*, but that won't do. So far as my knowledge goes, the plant is quite different from anything known, and if there is no chance of it being a hybrid of cultivation it is a distinct species. Have you a history of it? The colour of the flower is hardly so pleasing as that of the Neriiflorum series".

21st March 1919. Mr. J. C. Williams. "I have not been round the plants to see, as I have not been free to do so, but *R.*1435 W by my book is evidently a mixture of *pachytrichum* (whatever that may be) and *maculiferum*, but as far as I know they do not grow near each other, so this must be the hand of man, probably a Coombe Wood man. You could get rid of several hours here in examination of *pachytrichum*, *strigillosum*, *oreodoxa*, *davidii*, etc., etc., muddle, for the plants vary and run into each other a lot, but they are not as a rule of great value. I have just noticed in Pl. Wilsonianae a footnote of mine to *maculiferum* that 1878 is a flower number in the 1900 expedition and a plant number in the 1904 expedition. This is a bit of Wilson's fancy work".

23rd March 1919. Prof. Bayley Balfour. "*R.* W1435 finds its position near *pachytrichum*, but it is in some ways more *strigillosum* than *pachytrichum*. I have not seen *pachytrichum* in flower, but the description does not suit your plant. Last year I saw *strigillosum* in flower for the first time in a truss Mr. Mclaren kindly sent me. Your plant's flower is near it, but the plant won't do otherwise for *strigillosum*. If I only knew a little more I would make it a new species—*R. magorianum*. If your plants are healthy growing and you would send me a leafbud just as it is opening and before the young leaves are more than halfway out of it, the specimen would help. Your plant loses very early the hairs and glands from the leaves which must be there in the young state, and a comparison of the young state with what is found in *R. pachytrichum* and *strigillosum* would help in a decision".

25th November 1919. Mr. J. C. Williams. "When you next come here you could put in a day doing nothing but examining unmatched rogues and natural hybrids. I tried B.B. with a few of them, but I thought it rather spoilt the old man's pleasure, for they must make the nightmares of the busy botanist".

29th November 1919. Prof. Bayley Balfour. "You are, I am sure, quite right. The plant of which you sent me a specimen has undoubtedly *R. rubiginosum* blood in it. Unfortunately we do not yet know the limits of *R. rubiginosum*—it seems rather a variable plant. I fancy we shall be flooded with hybrids of this series ere

very long, and they will be as impossible to separate as the mixtures of the old American *maximum*, *catawbiense* and *californicum* (*macrophyllum*)".

17th May 1920. Prof. Bayley Balfour. "Your most recent letter brought with it *apodectum*. Glad I am to see it. You will have recognised how near *dichroanthum* it is, but yet not the plant. I had not seen it before, and it is a charming plant, which will have its influence in the making of forms in the future. Your second specimen of *R. campylogynum* (F 13518) we shall not be able to retain under that name. The Campylogynum series is showing itself to be a widespread one, with corresponding microforms in several areas. How far we must go in giving definite names and indicating specific rank to the forms I am not yet able to say. In addition to Forrest's specimens, both Ward and Farrer have sent in quite a number of plants of the phylum, and I have to go through them all critically—I only await Forrest's last collection before taking the plunge. Your plant should therefore be designated as only "aff. *campylogynum*" meantime. It is a form that will I believe have a definite name, and it is curious that all the *campylogynums* I have seen in cultivation are of this form, which is not the type. Those *brevistylum* and *plebeium* (*heliolepis*) which you foretell as coming, will be of much interest for I am hung up altogether in the Heliolepis series. The earliest accounts of *heliolepis* and *brevistylum* are so vague, and the plants under the names in cultivation are so different from description that I am in a mist. Therefore all forms that will help to illustrate the series will be of value. *R. plebeium* (*heliolepis*) should be definite enough and easily told . . . Your letter of older date brought me a problem, which I have not neglected by failure of attempt to solve it, but I am for the moment baffled. I say for the moment. All these introduced plants are bringing out how mistaken is the practice of naming straight away from dried specimens, that show slight differences even in the dried state, without taking into account of the region (limited perhaps it is) from which they come. I have been having a most illuminating time with Forrest, going over his collections, and hearing from him at first hand his impressions of the growing plant, and I find great justification of my hesitancy to name definitely many many things we have dried, and which I know must be irritating to growers of them. In case after case I find my halting confirmed by Forrest's opinion. Now this plant of which you send me specimens with suggestion of crossing between *rubiginosum* and *chartophyllum* (*yunnanense*)

or *yunnanense* forms is, I am satisfied, no relative to the latter phylum and is easily separated from *rubiginosum*. The handicap to diagnosis is that cultivated *rubiginosum* is a big mixture, and Forrest's and Farrer's new things show a wide extension of character in the phylum. What is the true *rubiginosum* has to be settled first. I am sure it will not bring in your plant; and as the other, *chartophyllum* (*yunnanense*), phylum is near, we shall have to name it, I believe. I have none of the same thing under *rubiginosum*".

10th March 1926. Mr. H. F. Tagg. "I think Wilson sent home seed of many plants not represented in his herbarium collections. Some of the Wilsonian seed plants were probably hybrids—crossed in nature, but not able in nature to establish themselves, but in cultivation here, with no competition they do very well . . . Your notes on *R. magorianum* enabled me to fix definitely the plant Sir Isaac had attached the name to, and I found the manuscript description in Sir Isaac's handwriting, from which your notes were taken. No name was attached to this manuscript but Wilson's 1539 was quoted. I am publishing Sir Isaac's manuscript with a few comments in a forthcoming number of the Notes of the R.B.G. Edin, which is now in the hands of the printer".

HYBRIDS

30th May 1909. Mr. J. C. Williams. "My only two crosses which have come up well are *dalhousiae* × *falconeri* and *triflorum* × *keysii*. *Aucklandii* (*griffithianum*) × *falconeri* produced splendid pods, but the seed sown (the only ones on a great plant) over two large pans has only produced 4 tired and lonely looking little plants".

25th July 1909. Mr. J. C. Williams. "What is the most likely looking cross you have made this year? Ours is *dalhousiae* × *maddenii*".

26th August 1909. Mr. J. C. Williams. "The best thing to my mind when I left home was the fact that *dalhousiae* had set in every instance to *maddenii*, and that there was not another flower that had set; this should give us scented stuff, and perhaps more hardiness in spite of both parties being soft".

4th July 1913. Mr. J. C. Williams. "I have seen that 'Ascot Brilliant' × *edgeworthii* at Leonardslee, and I give it to him all the way, you cannot deny it if you see the plant. But I am less and less inclined to try these violent crosses, though of course he may have a treasure, but it is contrary to all the rules of breeding.

Osgood Mackenzie's *thomsoniis* are amazingly stout, I could not find a nest in one of them without plunging into it—mine have yards of stem and two leaves to each stem. Every garden suits something well, and this is more marked in Scotland than elsewhere!"

4th July 1914. Mr. J. C. Williams. "I think from my own experience that *R. sutchuenense* is delighted to mate with any of the *arboreum* type, and to do it in handsome style. I do really think we have hybrids from *auriculatum* pollen on *decorum*, and that they ought to give us nice autumn or late summer flowers".

15th January 1920. Mr. J. C. Williams. "The seedlings from *decorum* × *auriculatum* look like making the most vigorous things here, they were sown in 1913, and about 8 of them will flower this year; I believe a good few of them are 6 ft. high. *Ungernii* × *auriculatum* were sown in 1915, and have just gone out into wood, but have not got the vigour of the others as yet".

25th January 1920. Mr. J. C. Williams. "There should be a very great demand for that *auriculatum* young stuff, I am confident that very little seed has ripened in England so far . . . We have convinced ourselves that our *decorum* × *auriculatum* lot are the best things to do that we have yet seen, with much of *decorum's* rigid wind resisting power, and able to do fairly in bad ground with bad usage—we have an ample supply of those wanting the best of everything every time".

1st February 1916. Sir Edmund Loder. "Many thanks for sending me that leaf, which shows that you have undoubtedly been successful in making the cross *aucklandii* (*griffithianum*) × *bullatum* (*edgeworthii*), and I compliment you on your skill. I have tried many times to cross *aucklandii* (*griffithianum*) and *edgeworthii*, or *fortunei* with *edgeworthii*, and failed. There are now buds on plants which I believe to be 'Ascot Brilliant' × *edgeworthii*, but if this does not turn out better than *thomsonii* × *edgeworthii*, it will not be worth much! There are also buds on a very vigorous batch of *thomsonii* × *barbatum*. We find 'Shilsonii' a bad constitutioned plant. It will be some time before they flower, but I have nice plants coming on of Loderi (pink form) × blood red *arboreum*, which should be good".

SCENTED FOLIAGE IN RHODODENDRONS

By E. H. M. COX

FOR several years I have been interested in the scent of rhododendron leaves. At the start one is tempted to class them all under the vague term of aromatic or something akin to the scent of the leaves of our native Bog Myrtle, *Myrica gale*. But after a time one begins to realise that they have rather more individual characteristics.

I have never seen any chemical analyses of the scents of rhododendron leaves but from their character I suppose that they have some of the usual constituents of aromatic foliage, terpenes, borneal acetate, camphor and in particular eucalyptol, and possibly geraniol. It would be interesting if some enthusiastic chemist would analyse some of these scents.

As far as I can gather—or smell—no elepidote rhododendron leaf has any noticeable scent. Even among the lepidotes they seem to be limited to certain Series, *Anthopogon*, *Campylogynum*, *Glaucophyllum*, *Lepidotum*, *Trichocladum*, *Triflorum* and *Virgatum*. I can detect no scent in *Lapponicum* or only rarely in the *Saluenense*. In many cases the distinct scent is only noticeable in the young foliage and shoots and disappears when they begin to harden off in late summer.

When scents all belong to one group it is extremely difficult to make accurate comparisons and to couple the particular odour with that of other plants or other sources. In those mentioned below I have tried to make certain comparisons;—and I may say that this is entirely on my own. My son, who suffers severely from hay-fever, refuses to have anything to do with this.

I have no doubt at all that much the strongest scent among all the species is in *R. kongboense* and *R. oporinum*. These are quite unmistakable; the first is exactly like the peculiar odour of Friar's Balsam, while the latter is almost pure eucalpytus. Another which is quite distinct is *R. sargentianum* which to my nose is almost pure crushed *Thuja*.

The most aromatic series is certainly *Anthopogon*. *R. anthopogon* itself is one of the least scented and seems to have an added

unpleasant after-scent, possibly indol which is found in human sweat. This is even stronger in *R. concinnum* of the *Triflorum* series in which the after-smell hangs about for a long time. These are the only two known to me which are definitely unpleasant.

A number have a scent that I am quite unable to distinguish from that of *Myrica gale*; *R. charitopes*, *R. tatsienense*, *R. hypenanthum*, *R. racemosum* in some clones, and in particular a hybrid between *R. racemosum* and *R. tephropeplum*, although I cannot discern any distinctive odour in the latter parent.

Apart from *R. oporinum* I should say that the nearest to eucalyptus is *R. trichanthum* (*villosum*), although this is a case where the scent quickly disappears as the leaves mature.

Here are some others with some suggestions of their affinities:—

R. glaucophyllum seems to be near the scent of cinnamon, but the newer yellow-flowered variety *luteiflorum* seems to be nearer eucalyptus.

R. tsangpoense var. *pruniflorum*, pungent like turpentine.

R. trichostomum, a much more delicate scent like some of the thymes.

R. concatenans to me is exactly like peel freshly cut from a lime.

R. campylogynum when the shoots and foliage are very young like that of Lemon-scented Verbena.

R. pseudoyanthinum, unlike its near relative *R. concinnum*, is pleasantly aromatic. I cannot identify its affinity but it smells hygienic.

There are others which in a manner are nondescript although aromatic, such as *R. shweliense*, *R. lepidostylum* and the old hybrid *R.* × *praecox*.

There is no doubt that many more lepidotes could be added, but one's smelling apparatus becomes satiated after a week or two of crushing and sniffing leaves. I suggest that others might like to take up the amusing game of scent-hunting.

RHODODENDRON FOLIAGE AND FROST

By A. C. GIBSON

I can't remember having read observations on this point. *Rhododendrons* of the big-leafed class. These mostly droop their foliage to half mast, but don't curl up their leaves. Anything over 5° of frost shows a sign and at that time one can see potential flower buds for the coming season. Technicalities apart, I am calling this particular squad as the Falconeri-Grande and so forth series. The leaf of all of these is too stubborn to curl up. They just droop their foliage on the downward position and revive to near the horizontal when the frost departs.

So much for the really big-leafed tribe with a few exceptions. They never could curl up their leaves with any hope of unfolding them again.

And then we get along to a few peculiar ones and I have in mind, under the influence of a matter of 5° of frost or over the following two species which curl up their leaves very quickly. (1) *R. calophytum* (with leaves as long as a conger eel) and (2) *R. fulvum*, but with the very softest fur under each leaf. Those two show, as clearly as the mercury could, that a certain degree of coldness has been reached and their response is to curl up their leaves into the likeness of cigarette papers and to stay in that poise until the thermometer tells us that we are back again to something warmer than the freezing point. Those two can be used as a weather glass just for the fact that they will un-curl their leaves by day if the temperature coaxes them in that way and then, at evening time, the leaves are again rolled up, stiff and stark pointing down earthwards. We suggest those two special rhododendrons because the leaf reaction to frost conditions seems to us to be so much quicker than many others. Many others react, another "quickie" would be *hookeri* but those three are as good as the conventional weather glass which one taps each night and gloomily remarks "Glass Rising—more frost I suppose". And afterwards to bath and bed!!!

Most of the rhododendron tribe with Fur (indumentum) under the leaf, do not curl up in frost. *Fulvum* is an outstanding exception

we think, but what very soft fine fur lives under every leaf of *fulvum*. What a fur coat could be made for a wife out of a series of the undersides of the foliage—much better than ermine or mink! The others just droop their foliage and revive quickly after the frost has gone. Some others which react quickly to 5° of frost or so and curl up their leaves are :—

Argyrophyllum, *strigillosum*, *oreodoxa*, *fargesii*, *meddianum*, *beanianum*, *campylocarpum*, *eclecteum*, *cerasinum*, *planetum*, *neriiflorum*, *euchaites*, *exasperatum* and even *thomsonii*.

Praestans and *hodgsoni* curl up quickly and are exceptions among the big-leaved class. *Macabeanum* with its largish leaves and sparse indumtum does not curl at all, but can look pretty poorly.

We find that most hybrids do not curl up their foliage, perhaps out of deference to some ancestor who was responsible for their launch into this cold world, nor for that matter does our old friend-and-enemy *ponticum*. But old plants of this can suffer very acutely after a really severe winter and can fail to make a comeback during the next growing season, leaving behind them shabby-looking tiresome tangles of dead wood.

Taking it by-and-large we find that those which possess felt (indumentum) as an under-leaf covering, do not curl up. A great many could not possibly do so because of the enormous leaf sinews on each leaf (*sinogrande* is a case in point). Per contra, the very furry underleaf foliage of *haematodes* and some others as well, show little leaf movement and are content with the warmth, perhaps of the fur coat which they wear under every leaf.

SYMPOSIUM OF WINTER DAMAGE, 1962-63, TO EVERGREEN AZALEAS

INTRODUCTION

EVERGREEN azaleas in general presented a sad spectacle after the severe winter of 1962–63. Some appeared quite dead; others had dead branches or their leaves browned and burnt. From reports received from sixteen gardens or nurseries where these plants are grown extensively, the picture is now a happier one, showing that many varieties have considerable powers of recuperation.

Sir Edward Bolitho reported no damage from Penzance as did Major E. W. M. Magor from near Bodmin. Mr. N. G. Hadden's azaleas are grown in light woodland at West Porlock and little damage occurred except to *R. indicum*. Sir Eric Savill reported signs of frost damage from the Great Park, Windsor and both Major Hardy and Captain Collingwood Ingram sent in similar reports from Kent. In all these gardens the azaleas have now fully recovered and are in full leaf and vigour. At Bodnant the damage appeared to be more extensive but Mr. Puddle now reports that few plants have in fact been killed for the majority are now growing away from the base. In general evergreen azaleas only suffered temporarily in Brigadier O. W. Nicholson's garden near Alton, Hants. 'Bengal Fire' was killed but it has always had a reputation as tender. Some established plants of this variety at Kew were badly damaged but recovered subsequently. Fourteen of Wilson's Kurume azaleas were killed outright at the Royal Botanic Gardens. At Wisley where there is a large collection of varieties planted on Battleston Hill, the damage was extremely variable. 'Bengal Fire' was slightly damaged and the only variety reported as killed was 'Hinodegiri'. In fact in almost every garden in which this well known and popular variety was reported as being grown, it was killed or severely damaged.

Col. Sir James Horlick sent in a very detailed report on the extensive collection of evergreen azaleas he grows on the Isle of Gigha, Argyll. In such a mild, humid climate the chief enemy appears to be wind. For instance in the case of Wilson's Fifty

Kurumes, one plant of each variety is planted in two beds separated by a greenhouse. Those protected from the wind by the greenhouse were almost unharmed whereas those in the other bed received varying degrees of damage. 'Hinodegiri' was killed in both beds. In another big planting but sheltered by a thick wood some twenty plants of this variety were unharmed. Some plants of 'Gumpo' were killed or had their leaves burnt where snow froze on their leaves. At Exbury, although there was slight damage to all varieties of evergreen azaleas, virtually no plants were killed or cut to the ground. Any damage was repaired by spring growth. There was only one exception and that was to a planting of five thousand 'Hinodegiri' in rather an exposed position where the wind cut across one corner of the bed killing two thousand plants.

The pictures from nurseries is a far less happy one. Plants in the gardens already mentioned are generally mature, whereas a nurseryman's stock is of immature, unestablished plants. Mr. A. S. Fromow reported extensive losses to young plants of Kurumes but he found Kaempferi hybrids such as 'Kathleen' and 'Feodora' came through well with little damage. At Messrs. Waterer, Sons and Crisp's Bagshot Nurseries Kaempferi hybrids were affected similarly but 'Pippa' which has *oldhamii* blood was cut to the ground. Amongst their Kurumes 'Hexe' and 'Hinodegiri' were badly injured. Worse damage was reported by Mr. H. G. Hillier from Hampshire. Young plants of forty nine of Wilson's Fifty were almost entirely obliterated after being planted out in thin woodland in October 1962. Mr. Hillier found 'Leo' (*kaempferi* × *oldhamii*), although growing in an exposed position, to be one of the hardiest evergreen azaleas. Another planting, although of varieties killed or damaged elsewhere in the nursery, suffered very little as they were protected by 9–12 inches covering of snow and with no overhead shelter.

There are a number of conclusions to be drawn from this report:

(a) evergreen azaleas are as susceptible to damage from wind as they are to frost.
(b) young and unestablished plants are far more susceptible than mature plants.
(c) mature plants have considerable powers of recuperation.

The number of evergreen azaleas now available is very large. A short list of varieties selected from as many types as possible is included in this report.

Gardens from which information has been received

LOCALITY	REPORT MADE BY
Alton, Coles, Hants	Brigadier O. W. Nicholson
Bagshot, Surrey	Messrs. John Waterer, Sons and Crisp
Benenden, The Grange, Kent	Captain Collingwood Ingram
Bodnant, Tal-y-Cafn, Denbighshire	Lord Aberconway
Exbury, nr. Southampton	E. de Rothschild, Esq.
Gigha, Isle of, Argyll	Col. Sir James Horlick, Bt.
Horsham, Leonardslee, Sussex	Sir Giles Loder, Bt.
Hythe, Sandling Park, Kent	Major A. Hardy
Kew, Royal Botanic Gardens	Sir George Taylor
Lamellen, Bodmin, Cornwall	Major E. W. M. Magor
Trengwainton, Penzance, Cornwall	Sir Edward Bolitho
West Porlock, Underway, Somerset	N. G. Hadden, Esq.
Winchester, Messrs. Hillier Nurseries, Hants	H. G. Hillier, Esq.
Windlesham, Messrs. W. Fromow & Sons, Surrey	A. S. Fromow, Esq.
Windsor, Savill Garden and Valley Gardens, The Great Park, Berks.	Sir Eric Savill and T. H. Findlay, Esq.
Wisley, R.H.S. Gardens, Surrey	The Director

The symbols used in this survey are as follows: **K**=Killed **G**=Cut to ground level **B**=Badly injured **S**=Slightly injured **U**=Uninjured **D**=Defoliated **W**=Wilson.

EVERGREEN AZALEAS

'Azuma-Kagami' W. 16. **K.** Winchester, unestablished, thin woodland; Kew, slight shelter. **B.** Bodnant, open; Gigha, very windswept.

'Bengal Fire'. **K.** Winchester, slight protection; Alton, Hants, semi-woodland; R.B.G., Kew, slight protection. **B.** Kew, but recovered later; Horsham, open. **S.** Wisley. **U.** Wisley; Gigha, in walled garden.

General Wavell clone. **U.** Benenden, Kent.

'Gumpo' (*indicum* var. *eriocarpum*). **G.** Winchester, light woodland; Bagshot. **B.** Bodnant, open, repeated damage throughout garden. **S.** Gigha, leaves burnt, walled garden; Horsham under tree cover.

'Hinodegiri' W. 42. **K.** Exbury, in exposed position only; Windlesham, with some protection; Winchester; Wisley; R.B.G., Kew; Gigha, windswept. **G.** Wisley. **B.** Hythe, Kent, both sheltered or open; R.B.G., Kew, slight protection; Horsham, open. **S.** West Porlock, woodland; Bodnant, light cover.

'Hinomayo'. **K.** Fromow's Nursery, with some protection. **B.** R.B.G. Kew, slight protection; Bodnant, open. **S.** Alton, Hants, semi-woodland; Wisley. **U.** West Porlock, woodland; Wisley; Horsham, open.

indicum. **B.** West Porlock. **S.** Wisley; Horsham, open. **D.** & **S.** Winchester, light shelter.

'Kirin' W. 22. **K.** R.B.G. Kew, slight protection. **B.** Winchester, badly cut back, light woodland; Wisley, light woodland. **S.** Bodnant, open, throughout garden; Horsham, open. **U.** Gigha, very windswept.

Kurume azaleas. **U.** Trengwainton, Cornwall; Benenden, Kent, semi-woodland; St. Tudy, Cornwall; Windsor.

'Leo'. **B.** R.B.G. Kew. **S.** Alton, Hants, semi-woodland. **U.** Winchester, in exposed position; Gigha, in walled garden.

Malvatica hybrids. **D.** Winchester, exposed position. **U.** Windlesham, with some protection; Trengwainton; Windsor; Winchester, a few; Horsham, open.

mucronatum. **S.** West Porlock; Wisley; Horsham, open. **U.** Wisley.

obtusum. **D.** & **S.** Winchester. **U.** West Porlock; Wisley; Windlesham.

obtusum amoenum. **S.** R.B.G. Kew, slight protection; Gigha. **U.** Windlesham, slight protection; Horsham, open.

'Rasho-mon' W. 37. **K.** R.B.G. Kew, slight protection. **B.** Wisley, woodland. **S.** Bodnant, light cover; Gigha.

simsii. **B.** Wisley. **D.** Gigha. **S.** West Porlock.

simsii hybrids. **S.** Benenden, but recovered, woodland conditions.

THE RHODODENDRON SHOW 1963

By ALAN HARDY
assisted by T. T. BARNARD and JAMES PLATT

INTRODUCTION

IN the previous report Patrick Synge and I expressed the opinion that 1961 was an exceptional year for rhododendrons. No one could then have foreseen the ravages of the winter to follow. Our English climate is too well known to say much about its vagaries which caused the cancellation of the early competition. At that time few people could have thought it possible that such a wonderful show as was held on the 30 April, could take place. Perhaps 1963 should be deemed a vintage year for the species. Never have the species classes been better filled, with for instance the large number of 27 entries in one class. On the whole quality was very high but there were some weaknesses in the hybrid classes, some of them not being in their best form. Nevertheless those who visited the show, were amply rewarded by its variation and the number of different species to be seen. It is a pity some exhibitors do not take a little more trouble over staging as even by lunch time of the first day a number of entries had wilted and by the second day nearly half were dead. One cannot help feeling some splitting of the stem would help with drawing up water. Another feature of the winter was also shown by the unfortunate absence of some of the trade exhibitors though never can they have had a more difficult season.

A Gold Medal was awarded to Mr. E. de Rothschild whose large group from Exbury filled the end of the Hall under the clock, in spite of the difficulties of the winter. The exhibit contained a fine collection of both species and hybrids. It is difficult to highlight any particular plant out of so many fine plants, but his *niveum* was outstanding. This member of the Arboreum series with its compact trusses of flowers which are parma violet in its best forms appears either to make a strong appeal or else evoke a certain dislike. It can be most effective with yellow, and such a

yellow, that of the large leaved Exbury hybrid 'Fortune' was also in the exhibit in beautiful condition. Another outstanding species shown was *desquamatum* which generally produces its mauve or pinkish-purple flowers early in Spring. This is a very hardy species and not to be neglected because of the many large-flowered species and hybrids which are available. Exbury is well known for its scarlet hybrids many with *R. griersonianum* blood. 'Exbury Matador' in the exhibit was exceptionally fine.

The National Trust of Scotland sent down a most interesting exhibit from Brodick for which they were awarded a Silver-gilt Lindley Medal. This was well worthy of close study by the connoisseur as it contained some magnificent forms and varieties including many large-leaved species. Particularly of interest was the medium-sized yellow *glaucophyllum* var. *luteiflorum*, a new plant and as yet little seen. Their *R. delavayi* was also very fine, a plant which is regretably too tender for many of the southern growers. Their *bullatum* and *burmanicum* from plants grown happily in the open must have caused a few aches to the hearts of those who had lost plants rated much hardier.

Messrs. Hillier & Sons of Winchester had a good exhibit for which they were awarded a Silver-gilt Flora Medal. 'Marcia', one of the more yellow of the *campylocarpum* hybrids, which received a F.C.C. in 1944, was outstanding as was 'Jersey Cream' another *campylocarpum* hybrid. The yellow red-tinged 'Crossbill', an attractive small-flowered hybrid between *lutescens* and *spinuliferum*, was also well shown. They also showed *R. insigne*, a member of the Arboreum series with pinky white, crimson-spotted flowers and beautiful foliage, the latter making this species of interest throughout the year. The Knaphill Nurseries, who also received a Silver-gilt Flora Medal, showed hardy hybrids, some species and azaleas in their group. They used *R. yunnanense* as a centre-piece with such hybrids as the pink 'Betty Wormald' and the blush to white 'Mrs. Tom H. Lowinsky'. Their deciduous azaleas were flowering beautifully. In the main the majority of varieties were orange in various shades. 'Goldball' seemed outstanding. Messrs. Waterer, Sons and Crisp also received a Silver-gilt Flora Medal for their exhibit which was noteworthy for the excellent hybrids it contained. Perhaps the chief attraction was their Loderis because of their noticeable fragrance, but their 'Hawk' was very fine with flowers which seemed to be larger and of a richer yellow than usual. They also showed 'Gladys Rose' with pink buds opening to creamy white, contrasting with the clear

Photo: J. E. Downward

FIG. 46—*Rhododendron lowndesii* shown by Major A. E. Hardy, Sandling Park, Kent on 11th June, 1963

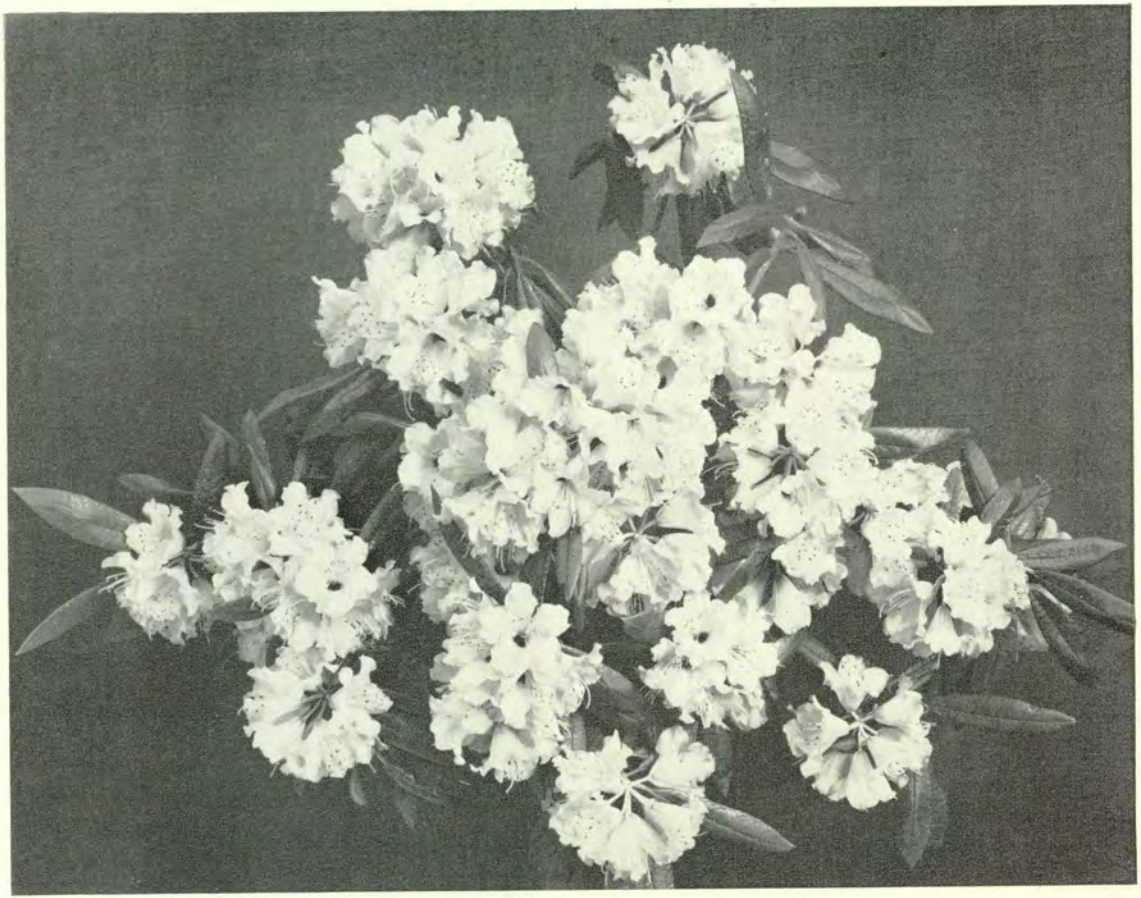


Photo: J. E. Downward

Fig. 47—*Rhododendron floribundum* 'Swinhoe', A.M. 30th April, 1963. Exhibited by E. de Rothschild, Esq., Exbury, nr. Southampton (see p. 135)

pink 'Rose Perfection' and 'Damaris' which in such a good form is one of the best yellow hybrids. It is always a pleasure to see such beautiful hybrids shown in excellent condition. An added attraction to the exhibit was an under planting of a particularly good form of *R. saluenense*. The Hydon Nurseries of Godalming had an interesting exhibit for which they received a Flora Medal. They used as a centre piece two contrasting forms of *R.* 'Conyan' which is the result of crossing the yellow-belled *R. concatenans* with the ruby-red *R. concinnum* var. *pseudoyanthinum*. They also showed some lovely 'Blue Diamond' which was most effective with the evergreen azalea 'Moira Pink'.

We may in the past have seen higher quality in the exhibits of the nurserymen which is understandable under the circumstances, but there has seldom been a better Show in the competitive classes.

COMPETITIVE CLASSES : SPECIES

There were ten entries in Class 1 for eight species. Mr. S. F. Christie of Blackhill, Nr. Elgin was first with a group which included many large-leaved species, the most notable of which were a clear yellow *lacteum* and an excellent *fictolacteum* with large flowers and a good purple blotch. His *hodgsonii* was of a good deep colour and his *hookeri* a fine rich red. His remaining species were *basilicum*, *falconeri*, *arizelum* and *vernicosum*. Sir Henry Price of Wakehurst was second, his entry including a splendid *macabeanum*, large-flowered and of a very deep yellow, a fine truss of *niveum* and a crimson *catacosmum* whose attraction is greatly enhanced by its large calyx. In his group which took Third Prize Mr. E. de Rothschild of Exbury had a *niveum* which was only a little less superior, an attractive mauve *campanulatum* and a truss of *coriaceum* whose intense white was emphasised by the deep purple blotch at the base of the corolla. The entry of W/Cmdr. Ingall of Castle Douglas was Highly Commended and included a very compact truss of *roxieanum*, a deep coloured *hodgsonii* and a *calophytum* of a nice clear colour. Lord Aberconway and the National Trust had an entry which was Commended with a very pale but light truss of *hodgsonii*, the attractive *vernicosum* and the rosy crimson *diphrocalyx* whose colour is intensified by its fleshy red calyx. There were other trusses of interest in this class, notably the fine *thomsonii* from the Crown Estate Commissioners, Windsor and the scarlet *smithii* from Mr. R. Strauss of Ardingly.

Class 2 for three species had eleven entries and also produced many interesting trusses. W/Comdr. Ingall was first with *sutchuenense* var. *geraldii*, a fine *fictolacteum* and an interesting deep-coloured *lacteum* with a dark crimson blotch at the base. Sir Henry Price, who was second, showed a deep red *haematodes*, *calophytum* and *irroratum*. The Crown Estate Commissioners were third with the handsome *basilicum*, a truss of a nice *habrotrichum* and *morii*. Among other interesting entries were *phaeochrysum*, a member of the Lacteum Series which is not often seen, from Major A. E. Hardy of Sandling Park, Major E. W. M. Magor's unusual *preptum* of the Falconeri Series from Lamellen and the splendid *falconeri* entered by Sir Edward Bolitho from Trengwainton.

Class 3 is also for three species but is restricted to exhibitors who have not won a prize in the previous two classes since 1958. The first prize was awarded to Mr. S. F. Christie with another truss of his fine *lacteum*, an *arizelum* which was rather more pink than usual and a deep red *hookeri*. Lea Rhododendron Gardens who were second showed the excellent *campanulatum* 'Knap Hill' while Mr. Geoffrey Gorer of Haywards Heath, who was third, had an excellent *fictolacteum* (Rock 59104) and a truss of *pseudochrysanthum*, an attractive medium-sized shrub with white to pink-flushed flowers.

Class 4 for the McLaren Challenge Cup for a truss of one species had the unusually large number of 27 entries amongst which were some very fine specimens mainly of large-leaved species. The first prize went to Mr. Christie, a worthy winner with an exceptionally fine truss of his outstanding *lacteum*. The Earl of Stair of Lochinch was second with a deep yellow *macabeanum*. Mr. R. Strauss was third with a large flowered *rex* with exceptional foliage. Major Hardy's very fine but unmarked truss of *falconeri* was fourth. A truss of *sino-grande* from Brodick Castle was Highly Commended and W/Cmdr. Ingall's *lacteum* was Commended. It will be seen from the number of awards given that the standard of the entries was very high and that this was one of the most interesting classes seen at the Show for a long time. Furthermore the majority of entries were the best forms of species and the species the best of their series.

Class 5 for a spray of any species was also well filled with 17 entries and Lord Aberconway's large spray of *vernicosum*, which was covered in flower, was a worthy winner. Mr. E. de Rothschild was second with a form of *pseudochrysanthum* in

which the flowers were large but few and in a loose truss. Sir Ralph Clarke's *floribundum* with dark-blotched mauve flowers won third prize and is an attractive and hardy member of the Arboreum Series. In Class 6 for *arboreum* or one of its subspecies, the Earl of Stair was first with an outstanding *arboreum* var. *roseum* with a large truss of fine colour. Sir Ralph Clarke was second with 'Blushing Bride', a fine form of great charm with a very tight truss of lovely pale pink. Mr. E. de Rothschild was third with a true blood-red *arboreum*. Class 7 for any species of the Arboreum Series other than *arboreum* and its subspecies was won by the Earl of Stair with an uncommon cerise-coloured form of *delavayi*. A pronounced saucer-shaped form of *argyrophyllum* won third prize for Lord Aberconway in this class. In Class 8 for a truss of the Barbatum Series Sir Ralph Clarke was first with a fine large truss of *strigillosum* of a splendid crimson-scarlet. In Class 9 for any species of the Boothii Series Sir Giles Loder of Leonardslee won the first prize with a very deep yellow *chrysodoron*. Lea Rhododendron Gardens were first in Class 10 for any species of the Campanulatum Series with their *campanulatum* 'Knaphill' while an attractive yellow *lanatum* heavily spotted with crimson from Bodnant was second. Sir Giles Loder showed in this class *campanulatum* var. *aeruginosum*, a very desirable foliage plant. In Class II for any species of the Cinnabarinum Series Mrs. E. G. G. W. Harrison showed a very deep-coloured *concatenans* but was outclassed by a form from Exbury with larger, open flowers which won the first prize.

Class 12 for a truss of *falconeri* produced 12 entrants and a wide divergence of form. Mr. E. de Rothschild won the first prize with a tight-trussed form with small, very greenish-yellow flowers with little crimson blotching at the base. Sir Henry Price was second with a large tight-trussed form while the Misses Godman's form which won the third prize was very creamy with a pronounced crimson blotch. The form from Leonardslee, very pale with a deep purple blotch and a lovely roll to the edge of the corolla, was Highly Commended. Sir Edward Bolitho's form was primrose-yellow and was Commended. Mr. S. F. Christie was first with his fine white *fictolacteum* in Class 13 for that species. In Class 14 for any species of the Falconeri Series other than the above two species there were 22 entries. Lord Aberconway was first with an outstanding pale blush-pink truss of *hodgsonii*. Mr. R. Strauss' very clean white *rex* was second while Mr. S. F. Christie was third with a very large compact truss of a pale

yellow and heavily blotched *arizelum*. Sir Edward Bolitho was sole entrant in Class 15 for *griffithianum* and was awarded third prize for his specimen.

In Class 16 for any species of the Fortunei Series other than *griffithianum* W/Cmdr. Ingall's *sutchuenense* var. *geraldii* stood out amongst the other 14 entries with its large mauve tinted flower. In Class 17 for any species of the Fulvum Series he was again successful with a large saucer-shaped form of *fulvum* whereas Lea Rhododendron Gardens were second with a form with smaller more tubular flowers of paler colour.

In Class 18 for any species of the Grande Series *macabeanum* took all three prizes. The Earl of Stair was first with a fine deep yellow flower which was greatly enhanced by its bright orange pistil. The Countess of Rosse and the National Trust who were second, showed a form from Nymans with longer bells though they were of a paler yellow. Major Magor was third. Class 19 for any species of Irroratum Series contained a fairly representative collection of the Series. Mr. E. de Rothschild won the first and second prizes; the former with his now well known *irroratum* 'Polka Dot'; the latter with a cream form of this species with very faint spots. Mr. W. F. Carpenter of Warlingham, Surrey, was third with a pure white *hardingii* with a loose, upright truss. Major Hardy's *eritimum* subsp. *heptamerum* with large deep crimson flowers, Captain Collingwood Ingram's scarlet *venator* and Exbury's rose-magenta *lukiangense* showed the variation of colour in this series. Class 20 for any species of the Lacteum Series, usually with a poor number of entries, had on this occasion 18. Mr. Christie and W/Cmdr. Ingall were respectively first and second with their splendid forms of *lacteum*. Major Hardy was third with *phaeochrysum* whose pinkish-white, slightly blotched flowers contrast nicely with the yellows of *lacteum*. In Class 21 for any species of the Megacalyx sub-series which may be grown in the open or otherwise the Crown Estate Commissioners produced one of the highlights of the Show with their superb truss of *nuttallii*. This truss had five large white flowers some five inches across and five inches long, with lovely golden throats. Sir Giles Loder and Mr. W. F. Carpenter were respectively second and third with *lindleyi*, the former's entry being pure white while the latter's had a faint pink flush. Mr. Geoffrey Gorer won first and second prizes in Class 22 for any species of the Maddenii Series other than one of the sub-series Megacalyx, with a *taronense* which had white flowers heavily speckled with greenish-yellow

and *ciliicalyx*. The Crown Estate Commissioners were third with a fine *parryae* which had a heavy yellow blotch and Sir Edward Bolitho's flesh pink *carneum* was Commended. Mr. W. F. Carpenter showed the double form of *johnstoneanum* which does not appeal to everyone's taste.

Lord Stair's *haematodes* was not only the brightest colour in Class 23 but won the first prize. It was of a striking scarlet and of waxy texture. In Class 24 for any species of the Neriiflorum sub-series Mr. L. de Rothschild and Sir Ralph Clarke were respectively first and second and Major Hardy third with *neriiflorum*. There were only two entries in Class 24 for *aperantum*. The first prize was won by Lord Aberconway with a form which had slightly larger and deeper coloured flowers than those of Lady Rosse's form which won second prize. Lord Aberconway also won first prize in Class 26 for any species of the Sanguineum Series other than *aperantum* with a very attractive orange-red form of *dichroanthum* var. *scyphocalyx*. His almost pure black *sanguineum* subsp. *haemaleum* took second prize.

Class 27 for any species of the Taliense Series attracted 21 entries and was dominated by Mr. Christie's superb truss of *prattii*. He also won second prize with *sphaeroblastum* another species with white, crimson spotted flowers. Mr. R. Strauss was third with a pinkish *adenophorum*. The Crown Estate Commissioners showed the uncommon *wuense* with apple-blossom like flowers. Sir Giles Loder won Class 28 for *campylocarpum* with a deep rich yellow form while Mr. E. de Rothschild who won second prize, showed the variety *elatum*, both entries being particularly well flowered. In Class 29 *caloxanthum* took all the prizes. A form raised from Forrest seed F.27125 and for which Mr. E. de Rothschild gained third prize, had an attractive red blotch at the base of the flower but it was perhaps insufficiently developed for a higher prize. In Class 30 for the Selense sub-series *dasycladum* won first and second prizes for Sir Ralph Clarke and Lord Aberconway respectively. Sir Ralph's form had a particularly neat truss. Class 31 for *williamsianum* was well filled with a form from Bodnant striking in its depth of colour and size of flower, standing out from the rest of the entries. The Countess of Rosse's form which won third prize had more tubular flowers and with the appearance of being more upright. In Class 32 for any species of the Souliei sub-series Lady Rosse was again first with a *wardii* whose truss was very tight with eleven or more flowers to it. In Class 33 for any species of the Thomsonii

sub-series all but one of the entries were *thomsonii*; that exception, a very striking deep red *hookeri* won first prize for Mr. S. F. Christie. Maj. Gen. and Mrs. E. G. G. W. Harrison won the first prize for a species of the Ponticum Series with *metternichii*, a somewhat modest species which can be appreciated for its foliage as well as its flower.

In Class 35 for *schlippenbachii* the prize winning forms ran each other very close. Perhaps Sir Giles Loder's large flowered, deep pink form had the advantage and was justifiably first. Class 36 for any other deciduous species of the Azalea Series was better filled than for many years and had some magnificent specimens. First prize went to Sir Giles Loder with a lovely deep coloured form of *albrechtii*. Major General and Mrs. Harrison were second with a fine spray of the beautiful white *quinquefolium*. There were several other entries of this species showing considerable variation in the width of the leaves. Captain Collingwood Ingram took third prize with a very dark *albrechtii*. There was also a nice spray of *reticulatum* in this class from Bodnant. Lord Aberconway won the first prize in Class 37 for three deciduous species of the Azalea Series with *albrechtii*, *schlippenbachii* and *quinquefolium*. Sir Ralph Clarke took second prize with the same trio and the Crown Estate Commissioners were third with the same species but entering *reticulatum* instead of *schlippenbachii*.

There were few entries in the next two classes for the Anthopogon and Campylogynum Series respectively. Lord Aberconway won first prizes in both classes with a charming deep pink *cephalanthum* var. *crebreflorum* in the former and *campylogynum* var. *charopeum* in the latter. He also won the second prize in the latter with *campylogynum* var. *myrtilloides* whose flowers are more tubular than the short saucer shape of *charopeum*. Sir Giles Loder won both first and second prizes in Class 40 for any species of the Edgeworthii Series with a very beautiful white *bullatum* and with his attractive pink form of the same species. There were 12 entries in the class for the Glaucophyllum Series. Lord Aberconway won the first prize with the mountain form of *glaucophyllum* which has large deep pink bells of thick substance. Although he did not win a prize with it, Sir Edward Bolitho had also entered a particularly nice coloured form of this attractive little species.

Mrs. L. J. David of Narbeth, Pembroke entered an outstanding *desquamatum* of good colour and form in Class 42 for any species of the Heliolepis Series and with which she won first prize. In Class 43 for any species of the Lapponicum Series Major-General

and Mrs. Harrison took first prize with a really lovely blue *scintillans*. The class was well filled and amongst the many entries a form of *cuneatum* with almost puce-coloured flowers from Bodnant caught the eye as did the seldom seen *stictophyllum*. The Crown Estate Commissioners took first prize in Class 46 with a deep purple *saluenense*. *R. spiciferum* is an attractive dwarf shrub with its rose flowers and is at last receiving more attention. It won the first prize for Sir Giles Loder in Class 47 for any species of the Scabrifolium Series. Mrs. Martyn Simmons of Quarry Wood was second with *pubescens* which is also a pleasing plant. In the next class for any species of the Virgatum Class a pure white *racemosum* from the Crown Estate Commissioners won first prize. It is a lovely thing and useful for associating with the blue of the Lapponicums. *Trichocladum* won the prizes in the class for the Series of that name. There was considerable variation to be seen in colour. The entry of Sir Ralph Clarke which was first, was of a very pale yellow contrasting with the deep ochre form, which won second prize for Sir Henry Price. Bodnant's entry with attractive yellowish-green flowers took the third prize.

In Class 50 for *augustinii* the blues from Bodnant and Windsor who won first and second prizes respectively stood out head and shoulders above the rest. They contrasted well with the almost pure white form of *oreotrephes*, KW 4309, with which the Crown Estate Commissioners won first prize in the class for species of that sub-series. Mr. Strauss won second prize with a large mauve bell-shaped form of this species while the form from Major-General and Mrs. Harrison who won third prize had light purple flowers with speckled upper segments. Sir Giles Loder came first in the next class with a nice form of the ruby-red *concinnum* var. *pseudoyanthinum*. Class 54 for the Triflorum sub-series was well filled. Sir Edward Bolitho's *ambiguum* showed the greatest depth in colour amongst the entries in a sub-series which is hardly colourful. In Class 55 for any species of the Yunnanense sub-series Lord Aberconway won first prize with his pink form of *davidsonianum*. The large spray exhibited showed this lovely plant to perfection. His second prize in this class, *caeruleum*, was an attractive white with orange speckles.

Class 56 is for any species not included in the foregoing class and produced some attractive dwarfs. Lord Stair won first prize with *pemakoense;* the Crown Estate Commissioners the second with the taller growing *dauricum* (syn. *fittianum*) and Sir Henry Price the third with the splendid rock plant, *imperator*. In Class

57 for an exhibitor who had not won a First Prize in or after 1958 Mr. Christie again won first prize with his *lacteum*. Mr. G. A. Judson of Orpington, Kent won second prize with a particularly blue form of *hippophaeoides*. Mr. C. F. Wray of Warlingham, Surrey was third with *myagrum* whose pleasing white, saucer-shaped flowers are on sticky pedicels.

HYBRIDS

Class 61 for eight hybrids produced 7 entries and was won by Major-Gen. and Mrs. Harrison. This entry consisted of 'Carita', 'Daydream', a *detonsum*×*griffithianum* hybrid, 'Lamellen', 'Naomi', *griffithianum*×*orbiculare*, 'Susan' and a *lacteum* hybrid. 'Carita', 'Naomi' and 'Lamellen' were outstanding. Lord Aberconway won second prize. 'Cornish Cross', the aptly named 'Cardinal' and 'Shirleyi' caught one's attention in this entry. Mr. E. de Rothschild was third. His 'Fortune', 'Lionel's Triumph' and 'Crest' were of fine quality. It was interesting to consider that the balance of colour might have affected the judging. The colours in Major-Gen. and Mrs. Harrison's group were well balanced while Bodnant's group was predominantly red and that of Exbury principally yellow. The quality of the entries in Class 62 for three hybrids was exceptionally high and Sir Ralph Clarke's 'Choremia', 'Bernard Gill' and a *calophytum* hybrid won first prize. The Misses Godman were second. Their 'St. George' attracted much attention. Exbury was third and their 'Yvonne' and 'Mariloo' were very good. Major Hardy was highly commended, including the pleasing 'Dr. Stocker'×'Cunningham's Sulphur' in this entry, a hybrid which is an improvement on 'Cunningham's Sulphur'. Mr. M. Haworth Booth had an excellent 'Damaris Goldilocks' in his trio. In Class 63, again for a truss three hybrids, Mr. Gorer's 'Mariloo' stood out though Mrs. Martyn Simmon's 'Cornish Cross' and Mrs. Gosney's excellent 'Matador' ran it close.

In Class 64 for sprays of three hybrids Sir Giles Loder was first with 'Leonardslee Primrose', 'Cornubia.×*griffithianum* and 'Wilhelmina'×*thomsonii;* the latter being particularly good. Bodnant won both second and third prizes. 'Bluebird' was perhaps their most attractive entry. Sir Giles Loder was again first in Class 65 with a very white 'Pink Glory'. The Crown Estate Commissioners showed *wardii*×'Crest' in this class and it was an impressive yellow. Mr. E. de Rothschild won the first prize in Class 66 for six hybrids raised by or in the garden of the exhibitor with 'Queen of Hearts', 'Lionel's Triumph', 'Crest', 'Adelaide',

'Carita Inchmery' and 'Fortune', an impressive sextette. Bodnant took second and third prizes, having an exceptionally fine deep red 'Gretia' with a lovely speckled throat and the brilliant 'Siren' amongst their hybrids. Messrs. Waterers, Sons and Crisp showed a promising yellow hybrid in this class, 'Diane' × 'Citronella'. Lord Aberconway won first prize in the next class for three similar hybrids with 'Luscombei', the light orange 'Conroy' and *houlstonii* × 'Penjerrick'. He also won third prize having the lovely 'Peace' amongst his entries. In Class 68 for six hardy hybrids Mr. E. G. Kleinwort won first prize, beating Messrs. Slocock. His 'Unknown Warrior', 'Matador' and 'Carita' were of exceptional quality.

Wing/Cmdr. Ingall was first in Class 69 where one parent has to be a species of the Arboreum Series with 'Fulgarb' an impressive red with a good truss. In Class 71 for any hybrid between *griffithianum* and any species other than *fortunei* or *campylocarpum* Mr. Haworth Booth produced a fine truss of 'Joyce Ramsden'. Although it did not win a prize in the class Major-Gen. Harrison's *griffithianum* × *orbiculare* was attractive. Sir Giles Loder's 'Gay Lady' won first prize in the class for a hybrid between *griffithianum* and a hybrid. Exbury was second with 'Yvonne' and Sir Giles won the third prize with *griffithianum* × 'Cornubia'. Major Magor's 'Mrs. Randall Davidson' was first in the class for this hybrid. It was a lovely truss of good colour. The Earl of Stair was second with 'Penjerrick' and Mr. Haworth Booth was third with another 'Penjerrick'. It is a pity that the flowers in this class did not last better. The flowers on this occasion were nearly dead after only a few hours. In Class 74 Mr. Kleinwort's 'Carita' stood well to the forepoint beating 'Crest' from Exbury. Mr. Kleinwort also won third prize with 'Unique' × *campylocarpum*.

Sir Giles Loder won first and second prizes in Class 75 for any hybrid of which one parent is a species of the Neriiflorum Series. His 'Elizabeth' was particularly dark and his 'Sussex Bonfire' a very tense red. Major Hardy won third prize with another and exceptionally good 'Elizabeth'. Sir Ralph Clarke's truss of 'Cornish Cross' was very fresh and of a lovely colour, winning the first prize in Class 76 for a *thomsonii* hybrid. 'Queen of Hearts' from Exbury won first prize in Class 77. This is a magnificent dark red. Bodnant was second with *hookeri* × 'F. C. Puddle', another fine red. Third prize was won by 'Dormouse' with its pink flowers, entered by Mrs. L. J. David. In Class 78 for a *griersonianum*

hybrid Mr. E. de Rothschild was first out of 18 entries with a superb truss of 'Matador', Lord Aberconway was second with his brilliant red 'Siren' while Sir Henry Price was third with the cherry-red 'Calrose'. In Class 80 for any hybrid one parent of which has to be a species of the Cinnabarinum Series Lord Aberconway was first with 'Conroy' and second with *cinnabarinum* × 'Royal Flush' with very attractive yellow bells. Class 81 brought one to hybrids of the Maddenii or Edgeworthii Series. Sir Giles Loder was first with the exquisite 'White Wings'. Bodnant took second prize with 'Tyermannii' with its lily-like blooms. Sir Edward Bolitho was third with his double flowered, pink 'Johnnie Johnston'. In Class 82 for a hybrid between a species of the Triflorum Series and a species of the Lapponicum Series Lord Aberconway's 'Blue Tit' was undoubtedly a clear winner, being an exceptionally good blue. In Class 83 Lord Aberconway was again first with a beautiful spray of 'Peace', Sir Edward Bolitho was second with 'Alison Johnstone' and Mr. E. de Rothschild was third with 'Eleanore' whose blue flowers made a great contrast with the paler colours of the other two. 'Elizabeth' took all the prizes in the class for a *forrestii* hybrid. Perhaps the most interesting cross in the class was Lord Stair's *forrestii* × *orbiculare* which was intermediate between its parents in colour and form. In Class 85 for any lepidote hybrid of which one parent belongs to the Series Anthopogon, Campylocarpum, Lepidotum or Saluenense Lord Aberconway won first and second prizes with *prostratum* × *saluenense* and 'Peace' × *campylogynum*. The latter is an interesting plant as the characteristics of the dwarf *campylogynum* have asserted themself more strongly than those of the much larger 'Peace'.

The hybrids in Class 86 formed a complete contrast for big-leaved species were much in evidence. Sir Giles Loder was first with 'Elsae', the Misses Godman second with 'Calfort' and Exbury third with 'Fortune'. Sir Giles was again first in Class 87 with 'Pink Glory'. Capt. Collingwood Ingram took the second prize with an *irroratum* hybrid with fine, large white flowers nicely marked and spotted. Major-Gen. and Mrs. Harrison were third with *detonsum* × *griffithianum* in which the loose truss was typical of *griffithianum*. Lord Aberconway won first prize in the class for any hybrid between two hybrids other than those already provided for, with 'Peace' × 'Lady Chamberlain' which has attractive yellow flowers. Sir Giles Loder and Mr. E. de Rothschild were respectively second and third with 'Ruthelma' and 'Janet'

both having Loderi blood in them. There was much competition in Class 89 for any hybrid and Sir Giles Loder's 'Cornubia' × *griffithianum* was placed first and his 'Queen Wilhelmina' × *thomsonii* third, while Exbury's brilliant 'Kiev' was second. With so much competition Lord Aberconway's *griffithianum* × *calophytum* and Major Gen. Harrison's lovely blue 'Saint Breward' were perhaps a little unlucky. In Class 90 for a hybrid shown by an exhibitor who has not won a first prize since and including the Rhododendron Show 1958 Mr. G. Gorer won first prize with an outstanding 'Golden Dream' beautifully shown. Mr. C. F. Wray's 'Comely' which took the second prize had attractive orange, *cinnabarinum* type flowers.

The Countess of Rosse and the National Trust brought up from Nymans a fine group of plants of species and hybrids for Class 100 in which they were the only exhibitor. Perhaps their most outstanding plants were *macabeanum*, *albrechtii* and *bullatum*. It is a great pity there were not more entries in the class as it is an attractive addition to the Show. It was a pleasure to see in Class 104 for a dwarf rhododendron suitable for the Rock Garden Messrs. Slocock's well-flowered, large bush of 'Humming Bird' with conspicuous, loose trusses of deep pink flowers. Messrs. Waterers were second with the F.C.C. form of *russatum*, a plant which needs no recommendation. Mr. Carpenter's *augustinii* × *scintillans* which won third prize was also an attractive, good blue. Messrs. Slocock were again first in Class 105 for any evergreen rhododendron, with a well-flowered bush of the yellow 'Idealist'. This is a hybrid of much merit which appears at last to be receiving recognition amongst lovers of soft colours. Messrs. Waterers were second with 'Dawn', a hybrid of their own raising with white flowers flushed phlox pink. Mr. R. Strauss was third with a slightly fragrant yellow-flowered species with heavy dark spotting under the number K.W. 21921. It was an interesting plant.

There were six entries in Class 107 for two leaves each of six rhododendrons. Mr. R. Strauss was first. His leaves of *rex* were splendid and the tawny under leaf of his *fulvum* was indeed attractive. Mr. S. F. Christie was second. His *sinogrande* and beautiful, round leafed *falconeri* were his highlights. Miss Ann Magor was third with leaves of *sinogrande* some 21 inches long, contrasting with the smaller leaves of *thomsonii*, *haematodes*, or *ungernii* down to those of *lysolepis* which were only ¾ inch long. The last Class in the Show, 109 for one species or hybrid grown

under glass always attracts attention. Sir Edward Bolitho won first prize with a truss of 'Tyermannii' which was one of the highlights of the Show. The truss was composed of five of the biggest flowers we had seen for a long time. It is an achievement to bring from Cornwall such flowers without a blemish of any kind. The Crown Estate Commissioners were second and third with an exquisite *parryae* and the gardenia-like *johnstoneanum* 'Double Diamond'.

RHODODENDRON SHOW GLASGOW, 1963

By CHARLES PUDDLE, V.M.H.

THE exhibits at the Scottish Rhododendron Show held in the McLellan Galleries, Glasgow, on April 9th–10th were of a very high standard in spite of the severe winter. Although entries were a little lower than in 1960, the well filled hall presented a most colourful scene and it was difficult to realise that the cold east winds still swept across the country.

At one end of the hall, the Royal Botanic Garden, Edinburgh, tastefully staged a most interesting exhibit illustrating the great variation which occurs within many species of the genus and stressing the need for cultivar names of selected clones. *R. fulvum*, *erubescens*, *eclecteum*, *uvarifolium*, and *floccigerum* were all shown in several distinct shades and with variable foliage. Also in the group were several tender species and hybrids including 'Cream Trumpet' (*dalhousiae* × *nuttallii*) and 'Harry Tagg' ('Albescens' × *ciliicalyx*).

The exhibit from the National Trust for Scotland, Brodick, Isle of Arran (Gardener Mr. J. Basford) contained over forty species. The large-leaved rhododendrons for which this garden is renowned were well to the fore with magnificent trusses of *R. magnificum*, *mollyanum*, *macabeanum*, *basilicum*, *arizeleum*, and *praestans* (Fig. 49). I also noticed very good forms of *R. hookeri*, *fulgens*, *uvarifolium*, and the lovely yellow *glaucophyllum* var. *luteiflorum*.

The species classes are always very strong in Scotland and competition was keen in Class 1 which called for six trusses. The winner Mr. S. F. Christie, Blackhills, Elgin, showed *R. calophytum*, *barbatum*, *basilicum*, *smithii*, *arizeleum* and a beautiful deep red *lanigerum*. The Earl of Stair, Lochinch, won Class II for three species with *R. mallotum*, *sutchuenense* var. *geraldii* and an outstanding truss of *arizelum* var. *rubicosum*. Mrs. K. L. Kenneth, Tighanrudha, Ardrishaig, triumphed in the class for a single truss showing *R. lanigerum*, and for single sprays, the Earl of Stair came first and second with *sulfureum* and *valentinianum* respectively in the lepidote class, and Mrs. Kenneth won the elepidote

class with a magnificent spray of the deep red form of *R. beanianum*.

In the classes for members of the various series there were several outstanding exhibits. I particularly admired the beautiful truss of *R. nuttallii* (Fig. 6) from Mr. E. A. Strutt, Galloway House, Garlieston, which won the Sir John Stirling Maxwell Rhododendron Trophy for the best truss or spray in the Show. Running this exhibit very close was an intense yellow spray of *R. sulfureum* exhibited by the Earl of Stair in the class for members of the Boothii Series. Class 18 for species of the Irroratum Series, I found most interesting with the rare red *shepherdii* shown by A. C. & J. F. A. Gibson, Glenarn, Rhu, gaining first, followed by *R. agastum* from E. H. M. & P. A. Cox, Glendoick and Mr. S. F. Christie with *anthosphaerum*, a rare and impressive trio. In the Fortunei Class, Sir George Campbell Bt., Crarae, had an exceedingly fine truss of *R. calophytum* and the Gibson Family produced an exquisite spray of *R. forrestii* var. *repens* to win the class for the Sanguineum or Forrestii Sub-series. Other notable first prize winning exhibits were an exceedingly deep *R. niveum* from Mrs. Kenneth, *hodgsonii* and *giganteum* from Major I. A. Campbell, Arduaine, Oban, *lutescens* from the Earl of Stair and *euchaites* from Sir George Campbell.

Highlight of the hybrid Classes was the bright purple hybrid of *R. niveum* (Fig. 48), later named 'Crarae', which won for Sir George Campbell the National Trust of Scotland Rhododendron Trophy for the best hybrid truss or spray. The main class for six hybrids was won by the Gibson Family with an exhibit containing fine trusses of 'Shilsonii' and *lacteum* × *grande*. Lt. Col. Sir James Horlick Bt., Gigha, showed a vivid red hybrid of *barbatum*, 'Shilsonii' and 'Titness Victory' to win the class for three hybrids, and also took first with a spray of the golden yellow 'R. W. Rye' in Class 53, and in Class 57 where a distinct deep yellow form was shown which should bear a separate cultivar name.

Mr. A. G. Kenneth, Stronachullin, Ardrishaig shone with a large hybrid of *R. grande* and *campanulatum* × *floribundum* in two second prize entries. The premier award for the most points in the Show, the Rhododendron Challenge Trophy, went to the Gibson Family who richly deserved their success.

The Show was a triumph for the Royal Caledonian Horticultural Society (which had been forced to cancel their two previous shows) and for the exhibitors who so magnificently overcame the difficulties of the winter.

Three outstanding features remain with me: the great superiority and excellence of the species in Scotland, the somewhat disappointing standard of the hybrids with certain notable exceptions, but most of all I was impressed by the enthusiasm and friendliness of the exhibitors and everyone connected with the Show. I would like to thank Mr. A. Evans of the Royal Botanic Garden, Edinburgh who kindly took the illustrations which accompany this short note.

REPORT OF THE CAMELLIA COMPETITION

April 17th and 18th, 1963

By REGINALD A. R. TRY

THE bright April sunshine streamed in through the great windows of the Royal Horticultural Society's New Hall and illuminated the colourful display of spring flowers and shrubs, but the two rows of staging of the Camellia Competition stretching along one side of the Hall were very sparsely filled with blooms compared with recent years. Months of snow, ice, blizzard with temperatures often well below zero F. played havoc with outside Camellia plants throughout the country.

The old camellia shrubs at St. Leonards Hill, Windsor, many approaching one hundred years old which have always in my memory bloomed from December through to May, failed to show one flower until middle May. Plants in cold and heated greenhouses and shelters failed to produce fine blooms for the Competition and resulted in only a few over 200 entires. Following the very successful competitions of the last few years it was expected that the 1,000 entry mark would be passed at this show.

The awards were shared by eleven competitors and tribute must be paid to these Camellia enthusiasts who managed to produce and show many quite outstanding blooms following such an appalling winter. Messrs. John Waterer, Sons & Crisp, The Nurseries, Bagshot, gained 18 firsts. Mr. O. A. S. Cutts, New Westbury, Garrads Road, S.W.16 and Folds Farm, Fordingbridge, Hants, 13 firsts. Miss C. A. M. Marsh, 26 Dulwich Wood Avenue, S.E. 19, 9 firsts. His Grace the Duke of Devonshire, M.C. Chatsworth, Bakewell, Derbyshire, 8 firsts. Many classes failed to attract one entry and in some classes a first prize was awarded to the only entry. In the first eight classes for various single *Camellia japonica* there were less than 20 entries compared with almost 100 entries in 1962.

Hydon Nurseries, Hydon Heath, Godalming, Surrey, 1st, Sir Henry Price, Bt., Wakehurst Place, Ardingly, Sussex, 2nd, Messrs. Waterers, 3rd, all showing 'Devonia' completed the

Photo: A. Evans, R.B.G., Edinburgh

FIG. 48—Rhododendron 'Crarae', a hybrid of *R. niveum*, from Sir George Campbell Bt., Crarae Lodge, Argyll, judged the best hybrid in the Show at the Rhododendron Show Glasgow, 9th April 1963 (see p. 94)

Photo: A. Evans, R.B.G., Edinburgh

FIG. 49—Part of the Exhibit from The National Trust for Scotland, Brodick Castle, Isle of Arran at the Rhododendron Show, Glasgow, 9th April, 1963 (see p. 93)

entries in Class 1 for a single bloom of 'Alba Simplex' or 'Devonia'.

Class 2 for *Camellia japonica* 'Jupiter' or 'Sylva' attracted only two entries. The Duke of Devonshire was awarded first for an average specimen of 'Jupiter' with Sir Ralph Clarke, K.B.E., Borde Hill, Haywards Heath, second showing a good bloom of 'Sylva'. In Class 3 Messrs. Waterers were awarded a first prize for the only entry of 'Kimberley'. No first prize was awarded in Class 4 calling for any single flowered red variety *japonica*. Second prize was awarded to Mr. Cutts for 'Fulgens', Messrs. Waterers unnamed seedling placed 3rd.

Class 5 for any single flowered white variety not already specified received most support in this section with five entries. First prize went to Mr. Cutts showing a good specimen of 'Frank Gibson', the feature of this variety being the mass of white petaloids edged with yellow. The Duke of Devonshire 2nd with 'Charlotte Rothschild', 3rd prize Sir Henry Price 'Rogetsu' (Hazy Moon).

Class 6 specifying any single flowered self coloured variety brought one entry only a bloom of 'Yoibigin' which gained a first for Sir Henry Price. Again, only one entry in Class 7 for any single flowered variety not already provided for in this section, brought a first prize to Mr. Cutts for 'Hatsu-Zakura'. Class 8 for any three single flowered varieties of *Camellia japonica* attracted only three entries compared with a fine show of 14 entries last year. Mr. Cutts gained first prize staging 'Frank Gibson', 'Fulgens', 'Hatsu-Zakura', 2nd prize Messrs. Waterers 'Alba Simplex', 'Devonia', 'Kimberley', 3rd prize Sir Henry Price 'Compton's Brow', 'Rogetsu', 'Devonia'. The Section for Semi-Double varieties of *Camellia japonica* consisted of eleven classes 9—20. Messrs. Waterers taking the first prize in seven classes.

Class 9 calling for one bloom of 'Adolphe Audusson' had only four entries compared with 18 entries last year. Messrs. Waterers gained a worthy first with an unblemished fine bloom. Mr. Cutts placed second and the Duke of Devonshire third. Messrs. Waterers 'Donckelarii' gained a first in Class 10. This was a good example of this favourite variety, having considerable white markings. Mr. R. Strauss, Stonyhurst, Ardingly, Sussex, was awarded 2nd prize with Mrs. Edwards Vinery, Penryn, Cornwall, third. Class 11 for a bloom of 'Gloire de Nantes' provided another first prize for Mr. Cutts staging an excellent specimen of this most popular camellia. Mr. Cutts' second entry was awarded 2nd with Messrs. Waterers 3rd. First and second prizes were awarded to the only two entries in Class 12 calling for one bloom of

'Latifolia', The Duke of Devonshire 1st, Messrs. Waterers 2nd, both blooms being far below the standard usual in this competition. Messrs. Waterers however truly deserved the first prize in Class 13 for a fine unblemished bloom of 'Lady Clare'.

Class 14 'Magnoliaeflora' white or pink, attracted four entries. An excellent exhibit, fresh and unbruised, won an outstanding first for Sir Henry Price with Mr. Cutts 2nd, and Messrs. Waterers 3rd. Medium blooms of 'Nagasaki' Class 15 gained a first for Messrs. Waterers with Mr. Cutts 2nd in an entry of two only.

Class 16. Any semi-double red not already specified brought together 6 entries. Mr. Strauss awarded first and Messrs. Waterers third staged good specimens of the lovely rose red 'Apollo' Mr. Cutts for 2nd prize winner chose 'H. A. Downing' a fine rose red distinctly veined blood red. This variety is sometimes shown as 'Helen of Troy'.

Class 17. Any semi-double white variety not already specified. Another certain first for Mr. Cutts showing a lovely clean bloom of 'Southern Charm', Messrs. Waterers 2nd 'Gauntletti', Sir Ralph Clarke 3rd, 'Alba Grandiflora'. 'Gauntletti' when shown overseas is staged as 'Lotus' a name more suitable to this lovely water lily-formed camellia.

Classes 18, 19 and 20 added three more first prizes to Messrs. Waterers awards. In class 20 for any three semi-double varieties Messrs. Waterers exhibited 'Drama Girl', 'Ozonran' 'Mathotiana Supreme', 2nd prize to Mr. Cutts showing 'Ville de Nantes', 'Gloire de Nantes', 'Marguerita' and 3rd prize also to Mr. Cutts grouping 'Mercury', 'Dr. Tinsley', 'Guilio Nuccio'. Confusion in nomenclature is inevitable and it seems that 'Marguerita' is a synonym of 'Nagasaki'.

Sub Section C for Anemone-Formed and Paeony-Formed Varieties of Camellia japonica numbered classes 21 to 28.

In Class 21 Miss C. A. M. Marsh gained a well merited first for 'Elegans' with Messrs. Waterers 2nd and the Duke of Devonshire 3rd. Class 22 'Nobilissima' displayed only two entries, both blooms appeared bruised and wilting. First and second prizes were awarded to Mrs. Edwards and Mr. Cutts respectively. In Class 23 'Preston Rose', Messrs. Waterers entry was outstanding and fully deserved first prize. The lovely salmon pink paeony-formed camellia glowed with colour and attracted many admirers.

First prize in Class 24 for a red variety not already specified in this section went to Sir Henry Price staging a good specimen of 'Arejishi', Mr. Cutts 2nd and 3rd with 'Laura Walker' and

'Beau Harp'. 'Beau Harp's' large red paeony form won the Illges Medal of the American Camellia Society in 1949, the first season this medal was awarded. Classes 25 and 26 provided two more first prizes for Mr. Cutts showing 'Dessa Thompson' and 'C. M. Wilson'. Very fine blooms of 'R. L. Wheeler' gained first prize for Sir Henry Price in Classes 27 and 28. 'Arejishi' and 'High Hat' made up the group of three blooms required in Class 28. Messrs. Waterers stages 'Elegans', 'C. M. Wilson', 'R. L. Wheeler' to take 2nd prize with Mr. Cutts 3rd showing 'High Hat' and two unnamed varieties.

Sub Section D for Rose formed and Formal double varieties of Camellia japonica Classes 29 to 42, attracted a total of 42 entries only.

Class 29 calling for one bloom of 'Contessa Lavinia Maggi' again this year showed the name of Miss C. A. Marsh on the First Prize card. Messrs. Waterers 2nd. Third prize not awarded in an entry of four. Class 30 'Rubescens Major' showed Waterers 1st. Mr. R. Strauss 2nd, Sir Ralph Clarke 3rd. Class 31 'Mathotiana' a really lovely well formed fresh bloom won first prize for the Misses E. & E. Godman, South Lodge, Horsham, the Duke of Devonshire this year taking 2nd place with Waterers 3rd. The feature of the true 'Mathotiana' is a distinct purple cast or tinge in the deep red bloom. There appeared to be no suggestion of this purple tinge in the first prize winning bloom. Three entries in Class 32 'Mathotiana Rosea' gained awards as follows:— Waterers 1st, Miss Marsh 2nd, Sir Ralph Clarke 3rd. Messrs. Waterers the only contestant in Class 33. 'Mathotiana Alba' were awarded a first prize. Class 34 'Imbricata' and 35 'Imbricata Alba' won well merited first prizes for Miss C. A. M. Marsh.

Class 36 *Camellia japonica* 'Souvenir de Bahuaud Litou' surprisingly had no entries. We missed the name of Mrs. Bainbridge on the 1st prize card and are pleased to know that the champion shrub at Sale, Cheshire, survived the winter without harm. Mrs. Bainbridge was unable to compete this year.

Class 37 'Coquetti' attracted one entry only, a near perfect bloom staged by Waterers to win a very well deserved first prize.

Class 38, Any rose formed or formal double red variety not already specified, managed to find three entries only. Messrs. Waterers 1st, 'Madame Le Bois', Miss Marsh 2nd 'Contessa Lavinia Maggi Rosea', Sir Ralph Clarke 3rd—no name.

A splendid bloom of 'Frosty Morn' won first prize for Mr. Cutts in Class 39 calling for any rose formed or formal double white variety, although in the U.S.A. this variety is classed as

Anemone Form. For a self coloured variety in Class 40 The Duke of Devonshire took first prize showing 'Eximea', Waterers second with 'Laurel Leaf'.

Class 41, Any variety not already specified in this section, attracted four entries with Mr. Cutts 1st, The Misses E. & E. Godman 2nd, each showing an excellent bloom of 'Augusto L. Gouveia Pinto'. Messrs. Waterers staged 'Flowerwood' to take 3rd.

Class 42, Any three rose formed or formal double variety. There was some competition with five entries. To win first prize the Misses Godman exhibited three choice blooms 'Mathotiana', 'Augusto L. Gouvela Pinto' and 'Imbricata Alba', Mr Cutts 2nd with 'Masterpiece', 'Augusto L. Gouveia Pinto' and 'Sweetheart', Miss Marsh 3rd 'Imbricata Alba', 'Contessa Lavinia Maggi' and 'Contessa Lavinia Maggi Rosea'. Class 43, Any six varieties of *Camellia japonica* with 6 entries made a fine show. The Duke of Devonshire staged 'Mathotiana', 'Elegans', 'Platipetala', 'Jupiter', 'Hana-Tachibana', 'Ara-niko'. Each bloom was fresh and unblemished and made an outstanding display to gain a merited first prize. Miss Marsh was a close second with 'Elegans' 'Imbricata Alba', 'Contessa Lavinia Maggi', 'Contessa Lavinia Maggi Rosea', 'Emperor of Russia', 'Bella Romana'. It is interesting to know that Miss Marsh's prizewinning blooms are taken from shrubs estimated to be about 100 years old growing at Dulwich in an unheated greenhouse. The striped variety and clear red 'Rosea' of 'Contessa Lavinia Maggi' came from the same shrub. Waterers took third place with 'C. M. Wilson', 'R. L. Wheeler', 'Grand Sultan', 'Pride of Descanso', 'Coquetti', 'Joseph Pfingstl'.

Again this year there was no support for the special class 44 open to exhibitors who have not won a first prize at the Competition since 1958.

Subsection F offered eleven classes 45-55 for Miscellaneous Camellias. Mr. Cutts submitted the only entries in Class 45, *Camellia reticulata* wild form and Class 48, a camellia other than *cuspidata, japonica, reticulata* or *saluenensis* without the reward of a prize.

An outstanding *reticulata* bloom well over six inches diameter, fresh and untouched gained first prize for the Duke of Devonshire in an entry of six in Class 46.

Only two specimens of *saluenensis* were staged, First Prize going to Sir Ralph Clarke for quite an excellent bloom.

Class 49 any single variety *Camellia* × *williamsii* attracted four entries; Waterers 1st 'Mary Christian', Sir Henry Price 2nd *williamsii*, 3rd Sir Giles Loder 'St. Ewe', Mr. Cutts' interesting entry 'Bow Bells' went unrewarded.

Seven fine 'Donation' blooms posed a problem for the judges. First prize went to Sir Ralph Clarke, 2nd and 3rd to Mr. Cutts. Sir Henry Price's entry, an almost perfect bloom, went unrewarded. Mr. Cutts collected four first prizes in succession in Classes 51 'Citation', 52 'Salutation', 53 'Inspiration' and 54 group of any four other than *japonica*, 'Inspiration', 'Salutation', 'Donation', 'Mary Christian'. A very creditable exhibition.

An interesting entry in Class 53 for any Hybrid was *heterophylla*. Only three competitors were able to find material for the new Class 55, any twelve Camellias one bloom of each, but the three groups made a fine colourful picture.

Messrs. Waterers group deservedly first, staged 'R. L. Wheeler', 'D. W. Davis', 'Flowerwood', 'Leviathan', 'Beauté de Nantes', 'Coquetti', *reticulata*, 'Mathotiana', 'Leonard Messel', 'Elegans', 'Anna Bruneau', 'Pride de Descanso'.

A close runner up, Miss Marsh, chose, 'Salvator Rosa', 'Elegans' 'Emperor of Russia', 'Imbricata Rubra' and 'Alba', 'The Mikado', 'Contessa Lavinia Maggi' and 'Rosea', 'Mathotiana Rosea'. 'Althaeaflora' 'Souvenir de Bahuaud Litou', unnamed. The Duke of Devonshire was placed third.

Following the arctic winter it was to be expected that the section for sprays—mainly cut from outside shrubs—would not be up to the usual high standard. Eight of the 18 Classes were unsupported and there were only 22 entries in the remaining 10 Classes.

First prize winners were Miss Marsh 4, The Duke of Devonshire 3, Sir Giles Loder 2, Sir Henry Price 1.

The sprays of 'Donation' staged by the Duke of Devonshire to win first prizes in Classes 73 and 78 were especially outstanding. A first class spray of 'Cornish Snow' heavily budded but showing no blooms was entered in Class 75 by Sir Giles Loder without award. Sir Giles Loder is usually supreme in this section staging sprays cut from the magnificent collection of outside camellias at Leonardslee, Sussex.

Miss Marsh entered some excellent sprays of 'Emperor of Russia', 'Imbricata Alba', 'Contessa Lavinia Maggi', taken from the old shrubs which survived the winter without harm in the cold greenhouse.

Messrs. Waterers and Mr. Cutts were the only competitors in the section for Plants in bloom not exceeding 48 inches from the soil.

In Class 81 for one plant Messrs. Waterers took first prize for a well grown plant 'Latifolia'. Mr. Cutts 2nd entered a plant of 'Comte de Gomer', healthy and well covered with bloom. Again in Class 82 for a group of three plants Messrs. Waterers gained first prize staging 'Dr. Tinsley', 'Platipetala' and 'Rubescens'.

Mr. Cutts choice 'Edelweiss', 'Marguerite Gouillon', 'General Leclerc'. was awarded a second prize. All the plants were well grown and carried an abundance of bloom.

Finally Miss Marsh, with no competition in Class 84 for a vase or bowl of camellias, staged two exhibits and was awarded a first and second prize.

This competition saw one or two new American varieties and no doubt many more new varieties and hybrids—some British we hope—will be exhibited in next year's Competition.

We look forward to good growing conditions this winter resulting in a record entry for the 1964 Camellia Competition.

RHODODENDRON NOTES

Rhododendron auriculatum

I enclose a photograph of *Rhododendron auriculatum* taken this August in my garden.

This plant started its life at Lanarth, where it had already reached flowering age before 1919 when Mr. P. D. Williams gave it to Mr. J. B. Stevenson. In 1923 it was again transplanted when Mr. Stevenson moved to Tower Court. In 1924 it was used as the pollen parent in the cross which produced *Rhododendron* 'Polar Bear'. On December 8, 1958, it was moved to my garden. It was so wide that the lorry which brought it required a police escort. Its actual dimensions being 11 feet high by 16 feet 6 inches × 17 feet across.

It receives full sun during the summer from 10 a.m. till 5 p.m. so, during the hot summer of 1959, we shaded it by moving a Scots fir and spreading fish netting over it on poles. We also sprayed it three times a day every day from April to November. As a result of this we obtained a wonderful show of flower in the second summer after planting in spite of the age and size of the plant and the very hot weather immediately after transplanting. We removed the flowers, however, without waiting for them to die. Reasonable growth followed although the leaves were a bit small. The plant is, however, in excellent health (Fig. 50). The present dimensions are 11 feet high by 20 feet × 18 feet.

Wentworth, Surrey D. M. BURKE

RHODODENDRONS IN HOT CLIMATES

Hundreds of thousands of camellias and azaleas are propagated and sold every year in Semmes, near Mobile, Alabama. These plants are typical of those seen and grown in the Gulf and Middle to South Atlantic coast of the United States. Kurume azaleas such as 'Hinodigiri' are grown there in very large quantities.

Rhododendrons are not grown in these regions, nor are they known. Such plants as *R. alabamense* or *R. mucronatum* are classed locally as azaleas. It is not known if rhododendrons proper have been tried there or not in the past. If any one, who has had the experience of growing rhododendron species or hybrids in a climate where the summer temperature can rise frequently to 100° F. in the shade and that of the winter seldom falls below 15° F., is willing to relate his or her experiences, would he or she please write directly to Mr. Clint McDade, Semmes, Alabama, U.S.A.

A REVIEW OF RHODODENDRONS IN THEIR SERIES

VIII. The Auriculatum, Edgeworthii, Scabrifolium and Virgatum Series, with a new Series Griersonianum

By H. H. DAVIDIAN, B.Sc.

AURICULATUM SERIES

THE Auriculatum Series, as it stands in *The Species of Rhododendron*, is represented by two species, namely, *R. auriculatum* Hemsl. and *R. griersonianum* Balf. f. et Forrest. The main diagnostic feature of this Series is said to be the long, pointed foliage-buds and flower-buds.

R. griersonianum is an aberrant species in this Series. Apart from the pointed buds, it has very little in common with *R. auriculatum*. It differs markedly from the latter in leaf shape, in the thick, woolly indumentum on the under surfaces of the leaves, in the dendroid hairs, in the shape and colour of the flowers, and in the 5-lobed corolla which is hairy on the outside. It further differs in the densely floccose branchlets and petioles, in the tomentose pedicels and calyx, in the 10 stamens, in the densely tomentose 5-6-celled ovary, in the style which is glandular only at the base or eglandular, and in the tomentose capsule. Moreover, the two species occupy different geographical areas.

It may be remarked that long, pointed foliage-buds and flower-buds are also characteristic features of the Parishii Subseries, Irroratum Series. From this Subseries, however, *R. griersonianum* is very remote.

In the lanceolate leaves with a thick, woolly indumentum on the under surfaces, *R. griersonianum* is comparable with species of the Adenogynum Subseries, Taliense Series. In other respects, it does not conform to the members of this Subseries.

R. griersonianum is so distinctive that it does not fit well into any known Series. In this review it is placed in a Series by itself.

EDGEWORTHII SERIES

This small Series has a wide geographical distribution extending from Sikkim, Bhutan, Assam and Tibet to north-east Upper Burma, Yunnan and south-west Szechuan.

It may be of interest to make some remarks on the main characteristics of the species.

HABIT. The species are small or medium-sized shrubs, often epiphytic, 30 cm.-3.60 m. high. The branchlets and petioles are usually densely woolly.

LEAVES. The bullate upper-surface of the leaves is a characteristic feature of *R. edgeworthii* and *R. seinghkuense*. A diagnostic criterion of the Series is the densely woolly and scaly under surfaces of the leaves.

INFLORESCENCE. The inflorescence is terminal, usually 1-3-flowered.

CALYX. The large calyx, usually 1-1.9 cm. long is an aid in distinguishing *R. edgeworthii* from *R. pendulum* and *R. seinghkuense* where the calyx is small, 5-9 mm. long.

COROLLA. The size of the corolla varies in the Series. The large corolla 3.2-7.6 cm. long, is a diagnostic feature of *R. edgeworthii*.

STAMENS. The number of stamens is 10. The filaments are densely villous at the base or up to two-thirds of their lengths.

OVARY. The ovary is 5-6-celled, densely woolly. The style is long and straight in *R. edgeworthii;* it is short and sharply bent in *R. pendulum* and *R. seinghkuense*.

CAPSULE. The capsule is oval, ovate or oblong, densely woolly and scaly.

In this Series there has been an undue multiplication of specific names, necessitating the reduction of two species.

SCABRIFOLIUM SERIES

The Scabrifolium Series is distributed in Yunnan, Szechuan, and Kweichow. It is a fairly homogeneous unit. *R. racemosum*, which had been placed in the Virgatum Series, is now transferred to this Series; further remarks on this change will be made in the introductory notes to the Virgatum Series.

Some comments on the main characteristics of the species will be of interest.

HABIT. The species are small or medium-sized shrubs, usually 15 cm.-2.40 m. high or sometimes up to 4.50 m. The branchlets and petioles are bristly or not bristly.

LEAVES. The glaucous and glabrous under surfaces of the leaves are diagnostic features of *R. hemitrichotum* and *R. racemosum*. In all other species, the under surfaces are pale green, rather densely or moderately pubescent.

INFLORESCENCE. A diagnostic criterion of the Series is the axillary inflorescence of 1-4 or rarely 5 flowers. These are usually in several clusters towards the apex of the branchlets or sometimes forming a raceme along them.

CALYX. The calyx is 5-lobed or cupular or a mere rim. In most species it is minute, 0.5-1 mm. long, but in *R. scabrifolium* and *R. spiciferum* it is up to 4 or 5 mm. long.

COROLLA. The shape of the corolla varies in the Series. The tubular corolla contracted at the upper end, is a characteristic feature of *R. spinuliferum*. In *R. mollicomum* the corolla is narrowly tubular-funnel shaped, oblique. In all other species it is widely funnel-shaped.

STAMENS. The number of stamens is 10; in *R. hemitrichotum* 8-10. The filaments are usually puberulous towards the base, except in *R. spinuliferum* where they are usually glabrous.

OVARY. The ovary is oval, ovate, conoid or oblong. It is puberulous or glabrous in *R. hemitrichotum*; glabrous in *R. racemosum*. In all other species the ovary is usually densely pubescent. The style is long, straight, puberulous at the base or glabrous.

CAPSULE. The capsule is oval, ovate, conoid or oblong.

VIRGATUM SERIES

The area of distribution of this Series extends from Sikkim, Bhutan, Tibet to Assam and western Yunnan.

R. racemosum is an aberrant species in the Virgatum Series. It differs markedly from this Series, in its habit of growth, usually in leaf shape and size, in the glaucous under surfaces of the leaves, in the nature of the scales, and usually in the shape and size of the corolla which is not hairy outside. It also differs very often in the inflorescence, usually in the size of the calyx, and in the style which is not scaly.

R. racemosum is very closely allied to *R. hemitrichotum* in the Scabrifolium Series. When the ample material now available and plants in cultivation under these names are examined, it will be seen that in all general characters, these two species are very similar to each other. The only distinctions between them are that in *R. hemitrichotum* the branchlets and petioles are rather densely pubescent, the upper surfaces of the leaves are rather

densely or moderately pubescent, and the pedicels and capsules are puberulous. In *R. racemosum* the branchlets and petioles are glabrous or puberulous or minutely puberulous, the upper surfaces of the leaves are glabrous or rarely puberulous, the pedicels are glabrous or sometimes minutely puberulous, and the capsule is glabrous.

As regards leaf shape, it may be remarked that when the extremes of these two species are compared—the one with lanceolate leaves, and the other with oval leaves—the distinction will readily be evident. But when a large number of specimens are examined, it is seen that the species merge into each other, and it is impossible to distinguish between them.

In general appearance, *R. racemosum* shows a strong resemblance to *R. spiciferum* and *R. scabrifolium* also in the Scabrifolium Series. In the latter two species, however, the branchlets and leaves are bristly and pubescent, and the under surfaces of the leaves are pale green.

It is apparent that *R. racemosum* closely resembles the species of the Scabrifolium Series in which it will now be placed.

AURICULATUM SERIES

GENERAL CHARACTERS: Shrub or tree, 1.80-10 m. high; branchlets setose-glandular; foliage-buds long, conical, tapered. Leaves oblong, oblong-lanceolate, oblong-elliptic or oblong-oblanceolate, lamina 9.5-32 cm. long, 2.8-12 cm. broad; under surface with isolated hairs and glands. Inflorescence a racemose umbel of 6-15 flowers; flower-buds large, tapered. Calyx small, 1-3 mm. long. Corolla tubular-funnel shaped, 6-10 cm. long, white, rose-pink or creamy-white. Stamens 14. Ovary densely glandular; style glandular to the tip. Capsule oblong.

Description of Species (Amp. et Em).

R. auriculatum Hemsl. in Journ. Linn. Soc., XXVI, 20 (1889); Hemsl. et Wils. in Kew Bull., 108 (1910); Rehd. et Wils. in Pl. Wils., I, 544 (1913); Millais, Rhododendrons, 125 (1917); Bot. Mag., CXLV, t. 8786 (1919); Tagg in The Sp. of Rhod., 39 (1930); Bean, Trees and Shrubs, III, 27 (1951); R.H.S. Dict. Gard., IV, 1766 (1951); Rhod. Handb., 45 (1956); Rehder, Manual Cult. Trees and Shrubs, 703 (1960).

HABIT: a shrub or tree, 1.80-10 m. high; branchlets setose-glandular, those below the inflorescences 7-10 mm. in diameter;

foliage-buds long, conical, tapered, the outer scales acuminate with long tips.

LEAVES: oblong, oblong-lanceolate, oblong-elliptic or oblong-oblanceolate, lamina 9.5-32 cm. long, 2.8-12 cm. broad, apex broadly obtuse or rounded, base rounded, *auricled*; upper surface dark green, glabrous or glabrescent with vestiges of hairs and glands, midrib grooved, primary veins 20-24 on each side, deeply impressed; margin glandular with short-stalked glands or eglandular; under surface pale green, moderately or rarely sparsely *hairy and glandular with isolated, long, flexuous, thread-like hairs and glands*, midrib prominent, primary veins raised; petiole 1.3-3.5 cm. long, rounded, hardly grooved, glandular with long-stalked glands.

INFLORESCENCE: a racemose umbel of 6-15 flowers; rachis 2.3-5 cm. long, rather densely glandular with short-stalked glands; flower-buds large, conical, tapered; pedicels 1-3.5 cm. long, densely glandular with long-stalked glands.

CALYX: 5-6 lobed, small, 1-3 mm. long, lobes triangular or rounded, outside and margin glandular with short-stalked glands.

COROLLA: tubular-funnel shaped, 6-10 cm. long, white, rose-pink or creamy-white, with a greenish blotch at the base of the tube inside, fragrant, outside moderately or rarely sparsely glandular with long-stalked glands; lobes 7, 2-2.5 cm. long, 1.5-3 cm. broad, rounded or ovate.

STAMENS: 14, unequal, 4-9 cm. long; filaments slender, glabrous.

GYNOECIUM: 6.2-8.4 cm. long; ovary oblong or conoid, 7-9 mm. long, 8-celled, densely glandular with short-stalked glands; style glandular to the tip; stigma large, knob-like.

CAPSULE: oblong or rarely oblong-oval, 2.1-3 cm. long, 0.8-1 cm. broad, glandular with short-stalked glands or with vestiges of glands, calyx persistent.

HABITAT:

Hupeh. A. Henry 513—holotype, in Herb. Kew, 5029. E. H. Wilson 1467.

Szechuan. Farges 1508.

Kweichow. Steward, Chiao & Cheo 332, 421. Y. Tsiang 7707, 7740.

R. auriculatum was first collected by A. Henry in 1885 in western Hupeh. Subsequently it was found by other collectors in Hupeh, eastern Szechuan, and Kweichow. The plant grows in woods, on high ridges, and on rocky slopes in forests, at elevations

of 1640-7540 feet. It is a shrub or tree, 5-20 feet high, but sometimes it reaches a height of 30 feet.

R. auriculatum shows a resemblance to the species of the Fortunei Subseries, from which it is readily distinguished by the indumentum of isolated hairs and glands on the under surfaces of the leaves, by the long, pointed foliage-buds and flower-buds, and usually by the shape of the leaves.

It was first introduced into cultivation by Wilson in 1900. The species is hardy but requires a sheltered position for the best results to be obtained. It is the latest of all species to flower outdoors, the flowers appearing in July and August. The plant starts growing late in the season, and the young growths are liable to be destroyed by heavy frosts.

It was given the Award of Merit when exhibited by Lord Aberconway in July 1922.

GRIERSONIANUM SERIES

GENERAL CHARACTERS: Shrub, 1.50-3 m. high; branchlets densely or moderately bristly-glandular, densely floccose; foliage-buds long, conical, tapered. Leaves lanceolate, lamina 6.4-20 cm. long, 1.2-5.3 cm. broad; under surface with a woolly indumentum. Inflorescence a racemose umbel of 5-12 flowers; flower-buds large, tapered. Calyx small, 2-3 mm. long, Corolla funnel-shaped, 5-8 cm. long, bright geranium-scarlet or rich carmine almost vermilion. Stamens 10. Ovary densely tomentose. Capsule oblong.

Description of Species (Amp. et Em).

R. griersonianum Balf. f. et Forrest in Notes R.B.G. Edin., XI, 69 (1919); Millais, Rhododendrons, ser. 2, 149 (1924); Gard. Chron., ser. 3, LXXXV, 359, 372, fig. 156 (1924); Journ. Roy. Hort. Soc., L, 1 (1925); Rev. Horte, fig. Jan. No. 1, 16 (1928); Bot. Mag., CLIII, t. 9195 (1930); Tagg in The Sp. of Rhod., 41 (1930); Bean, Trees and Shrubs, III, 74 (1951); R.H.S. Dict. Gard., IV, 1774 (1951); Rhod. Handb., 77 (1956).

HABIT: a shrub, 1.50-3 m. high; branchlets densely or moderately bristly-glandular, densely floccose, those below the inflorescences 0.4-1 cm. in diameter; foliage-buds long, conical, tapered, the outer scales with long tapering tips.

LEAVES: lanceolate, lamina 6.4-20 cm. long, 1.2-5.3 cm. broad, apex acute or shortly acuminate, base obtuse; upper surface glabrous or glabrescent with vestiges of a juvenile tomentum,

midrib grooved, primary veins 12-20 on each side, deeply impressed; *under surface with a continuous or discontinuous* fawn or brown *woolly indumentum*, midrib prominent, glandular and tomentose, primary veins raised; petiole 1-3.5 cm. long, rounded, bristly-glandular, moderately or rather densely floccose.

INFLORESCENCE: a racemose umbel of 5-12 flowers; rachis 1-4 cm. long, rather densely setose-glandular, moderately or densely floccose; flower-buds large, conical, tapered; pedicels 1.6-4 cm. long, deep red, rather densely or moderately or rarely sparsely setose-glandular, moderately or rather densely tomentose.

CALYX: 5-lobed, small, 2-3 mm. long, lobes triangular or rounded, outside and margin densely or moderately tomentose and setose-glandular.

COROLLA: funnel-shaped, 5-8 cm. long, bright geranium-scarlet or rich carmine almost vermilion, with or without deeper spots on the posterior side, outside hairy with branched hairs, tube cylindric, furrowed; lobes 5, 2-3 cm. long, 1.6-3 cm. broad, rounded.

STAMENS: 10, unequal, 2.5-5.7 cm. long, filaments deep red, puberulous in the lower one-half or two-thirds their length.

GYNOECIUM: 5.5-7 cm. long; ovary conoid, 5-7 mm. long, 5-6-celled, densely tomentose with whitish branched hairs, sparsely glandular with short-stalked glands or eglandular; style deep red, glandular with long-stalked glands at the base or rarely eglandular, floccose at the base or rarely glabrous; stigma small, lobulate.

CAPSULE: oblong, almost straight, 2-3 cm. long, 6-8 mm. broad, moderately or densely tomentose or rarely with vestiges of hairs, sparsely glandular with long-stalked glands or eglandular, calyx persistent.

HABITAT: *Yunnan*. Forrest 15815—holotype, 17696, 18049, 18154, 18829, 24116, 24280, 24649, 25158, 26048, 26734, 26746, 29345, 29679, 30392.

Burma. Forrest 29762.

Forrest discovered this plant in the Shweli-Salwin divide, western Yunnan, in 1917. He found it again later in other localities in the same region, and in the N'Maikha-Salwin divide, north-east Upper Burma. It grows in open situations in pine and mixed forests, in thickets, and in open glades amongst scrub, at elevations of 7,000-9,000 feet.

R. griersonianum is a unique species. The reasons for placing it in a separate Series are discussed in the introductory notes to the Auriculatum Series.

It was introduced into cultivation by Forrest in 1917. The plant is hardy, but to be able to grow it satisfactorily, particularly along the east coast and in gardens inland, a well-sheltered position should be provided.

R. griersonianum received the First Class Certificate when shown by Mr. T. H. Lowinsky, and Mr. Lionel de Rothschild in May 1924.

EDGEWORTHII SERIES

GENERAL CHARACTERS: Shrubs, often epiphytic, 30 cm.–3.60 m. high; branchlets densely woolly. Leaves ovate, elliptic, ovate-elliptic, oblong-elliptic, ovate-lanceolate, oblong-lanceolate or oblong; lamina 2.3–14 cm. long, 1.2–5.6 cm. broad; upper surface bullate or not bullate, under surface densely woolly, scaly, the scales ½–2 times their own diameter apart; petiole densely woolly. Inflorescence terminal, 1–4–(rarely up to 6–) flowered; pedicels 0.6–2.1 cm. long, densely woolly. Calyx 0.5–1.9 cm. long. Corolla campanulate or funnel-campanulate or rotate-campanulate, 1.5–7.6 cm. long, white or white tinged pink or sulphur yellow. Stamens 10. Ovary ovate, oval or oblong, 2–8 mm. long, densely woolly, scaly; style long straight or short sharply bent. Capsule oval, ovate or oblong, 0.8–2.2 cm. long, densely or sometimes moderately woolly, rather densely or moderately scaly.

KEY TO THE SPECIES

A. Style long, straight; corolla large, 3.2–7.6 cm. long; calyx large, usually 1–1.9 cm. long; flowers scented . . . . . *edgeworthii*

A. Style short, sharply bent; corolla small, 1.5–2.5 cm. long; calyx small, 5–9 mm. long, flowers not scented.

B. Upper surfaces of the leaves bullate; flowers sulphur-yellow; upper surfaces of the leaves not convex, margins not recurved; calyx pale green . . . . . *seinghkuense*

B. Upper surfaces of the leaves not bullate; flowers white or white tinged pink or rarely pale yellow; upper surfaces of the leaves convex, margins slightly recurved; calyx red or tinged red . . . . . *pendulum*

Description of Species (Amp. et Em.)

R. edgeworthii Hook. f. Rhod. Sikkim Himal., t.XXI (1851); Journ. Hort. Soc. Lond., VII, 77, 94 (1852); Bot. Mag., LXXXII, t.4936 (1856); Gartenfl., V, t.170 (1856); Fl. des Serres, VIII, t.797–8 (1852–3); Clarke in Hook. f. Fl. Brit. Ind., III, 469 (1882); Millais, Rhododendrons, 157 (1917); Hutch. in The

Sp. of Rhod., 231 (1930); Bean, Trees and Shrubs, III, 60 (1951); R.H.S. Dict. Gard., IV, 1771 (1951); Rhod. Handb., 68 (1956). *R. bullatum* Franch. in Bull. Soc. Bot. France, XXXIV, 281 (1887); Journ. Linn. Soc., XXVI, 20 (1889); Gard. Chron., ser. 3, XLVI, 379 (1909); ibid. ser. 3, LXXIII, 243 f. III (1923); Kew Bull., 106 (1910); ibid., 96 (1939); Balf. f. in Notes R.B.G. Edin., X, 148 (1917); Millais, Rhododendrons, 131 (1917); Hutch. in The Sp. of Rhod., 229 (1930); Bean, Trees and Shrubs, III, 35 (1951); R.H.S. Dict. Gard., IV, 1767 (1951); Rhod. Handb., 49 (1956). *R. sciaphylum* Balf. f. et Ward in Notes R.B.G. Edin., X, 146 (1917); Millais, Rhododendrons, ser. 2, 231 (1924); Hutch. in The Sp. of Rhod., 233 (1930).

HABIT: a straggly shrub, often epiphytic, 30 cm.–3.60 m. high; branchlets densely woolly with brown or rust-coloured or whitish wool, not scaly or sparsely scaly.

LEAVES: ovate, elliptic, ovate-elliptic, oblong-elliptic, ovate-lanceolate or oblong-lanceolate, lamina 4–14 cm. long, 2–5.6 cm. broad, apex acuminate or acutely acuminate or rarely acute, mucronate, base rounded or sometimes broadly obtuse; upper surface strongly or moderately bullate, glabrous or with vestiges of hairs, not scaly or sometimes scaly, midrib deeply grooved, woolly 1/3 to its entire length or glabrous, primary veins impressed; under surface densely woolly with brown or rust-coloured or fawn wool, scaly, the scales very small, more or less equal, pale brown or brown, one-half or their own diameter apart, midrib prominent, primary veins raised or obscured by the indumentum; petiole 0.6–2.5 cm. long, densely woolly with brown or fawn or rust-coloured wool, not scaly or rarely scaly.

INFLORESCENCE: terminal, umbellate or shortly racemose, 1–3–(sometomes 4– or rarely up to 6–) flowered; rachis 1–3 mm. long, tomentose, not scaly or rarely sparsely scaly; pedicels 0.6–2.1 cm. long, densely woolly with brown or rust-coloured or fawn wool, not scaly or sometimes scaly (Fig. 56).

CALYX: deeply 5-lobed, 0.6–1.9 cm. long, red or tinged red, lobes unequal, ovate or rounded or obovate, outside glabrous or moderately or densely or sometimes sparsely hairy, scaly or rarely not scaly, margin densely hairy, not scaly.

COROLLA: campanulate or funnel-campanulate, *very fragrant*, 5-lobed, 3.2–7.6 cm. long, white, or white tinged pink or rose, with or without a yellow blotch at the base, outside glabrous or hairy, moderately or rather densely scaly.

Photo: Ron Francis

FIG. 50—*Rhododendron auriculatum* in Mr. D. M. Burke's garden at Wentworth, Surrey. (see p. 103)

Photos: J. E. Downward

FIG. 51—Rhododendron 'Our Kate', A.M. 18th April, 1963 when exhibited by Mr. E. de Rothschild (see p. 136)

FIG. 52—Rhododendron 'Golden Oriole Venetia', A.M. 19th March, 1963 when exhibited by Mr. Julian F. Williams, Caerhays, Cornwall (see p. 136)

STAMENS: 10, unequal, 1.5–5 cm. long; filaments densely villous in the lower 1/3–1/2 of their lengths.

OVARY: ovate or oval or oblong, 3–8 mm. long, 5–6-celled, densely woolly with brown wool, scaly or sparsely scaly; style *long, straight*, longer than the stamens, densely woolly and scaly in the lower 1/4–1/3 of its length. (rarely not scaly)

CAPSULE: oval or oblong or short, stout, 1–2.2 cm. long, 0.8–1.2 cm. broad, densely or sometimes moderately woolly with brown wool, rather densely or moderately scaly, calyx persistent.

HABITAT:

Sikkim. J. D. Hooker, no number, no date. Lace 2222. Ribu & Rhomoo 6182.

Burma. Abbay 2. Farrer 842, 1629. Forrest 24561, 25632, 26423, 26618, 27617. Kingdon-Ward 1629—holotype of *R. sciaphylum*, 3038, 6807.

East Himalaya. Cave in 1/6/1915.

Bhutan. Cooper 2756, 3879. Ludlow & Sherriff 2952, 3132. Ludlow, Sherriff & Hicks 16378, 18777.

Tibet. Ludlow & Sherriff 1251. Soulié 1016. Forrest 19160, 19184, 21714, 22831. McLaren AD 99. Rock 22019, 22454.

Assam. Kingdon-Ward 8052, 8206, 11531.

Yunnan. Delavay 4399—holotype of *R. bullatum*. Forrest 508, 4141, 8172, 9039, 11859, 14007, 14240, 21564, 23286, 23287, 26355, 27769, 28305, 29123, 29307, 30393. McLaren C 33, D 266, D 303, L 158A, U 46A. Monbeig 164, in 1907. Rock 6369, 6745, 6999, 7377, 7865, 8426, 8432, 8776, 9071, 9503, 9504, 11277, 11278, 17087, 25453, 25454. H. T. Tsai 55893. Yü 18226, 19631, 20962, 22962.

Yunnan/South-east Tibet Border. Rock 135, 23040, 23592.

R. edgeworthii was discovered by Hooker in the course of his Himalayan explorations of 1848. Further gatherings by various collectors show that the species is distributed in Sikkim, Bhutan, Assam, south and east Tibet, north-east Upper Burma, Yunnan and south-west Szechuan. It is found on rocks, on cliffs, in open rocky situations amongst dwarf scrub in side valleys, on humus-covered boulders, in deciduous forests, in mixed forests, and in thickets, often as an epiphyte, at elevations of 6,000–13,000 feet.

As would be expected from the wide geographical distribution, diverse habitats, and altitudinal range, *R. edgeworthii* varies considerably in several of its features. It grows from 30 cm. to

3.60 m. high; the leaves are ovate, elliptic, oblong-elliptic, ovate-lanceolate or oblong-lanceolate, 4–14 cm. long, 2–5.6 cm. broad; the calyx is 0.6–1.9 cm. long; and the corolla is 3.2–7.6 cm. long.

In 1886 Delavay found a plant on Tsang-chan mountain, north-west Yunnan, and it was described in 1887 as *R. bullatum* Franch. When the ample material now available and plants in cultivation under *R. edgeworthii* and *R. bullatum* are compared, it is seen that in habit and height of growth, in the shape and size of the leaves, in the shape, size and colour of the flowers, and in all other characters, these two species are identical.

In the original diagnosis *R. bullatum* is associated with *R. edgeworthii* from which it is said to be distinguished by the flowers which are at least half as large, by the long woolly red hairs which cover the ovary and the margins of the calyx, and by the scales which are found quite abundantly on the outside of the corolla. These characteristics are shared by *R. edgeworthii*. The hairy or scaly lower third of the style, and the calyx margin fringed with small scales or hairs, which have been regarded as of diagnostic significance in the descriptions and in the Key in *The Species of Rhododendron*, are inconstant and unreliable. It may be remarked that in cultivation, plants with oblong-lanceolate leaves have often been named *R. edgeworthii*, and those with ovate leaves *R. bullatum*. The difference is evident when the two extremes are compared, but many plants are intermediate in leaf shape and these may be given either name. It is apparent that no constant character can be found to distinguish between these species, and the retention of the specific name *R. bullatum* cannot be justified.

Moreover, in 1917, the name *R. sciaphylum* Balf. f. et Ward was given to a plant from Htawjaw, valley of Naung Chaung, east Burma. The species is represented by a single gathering, Kingdon-Ward No. 1629. In the original diagnosis its affinity is stated to be with *R. bullatum* from which it is said to differ in the larger non-bullate leaves, and in the scentless corolla. When this specimen under *R. sciaphylum* is examined, it is seen that the leaves are 9.6–14 cm. long, 4.6–5.4 cm. broad, and the upper surfaces are more or less bullate. In these respects and in all other morphological characters, *R. sciaphylum* agrees with *R. edgeworthii*. The scentless corolla which is given as a distinguishing criterion would appear to be fortuitous.

R. edgeworthii was first introduced by Hooker in 1851. Several forms are in cultivation. The species is not hardy outdoors except in a few gardens in the west, but it is well suited to a cool

greenhouse. However, it may be remarked that a plant growing in The Royal Botanic Garden, Edinburgh, has proved to be hardy in a well-sheltered position in the woodland. It is a somewhat spreading shrub of four feet, and it seldom fails to cover itself with a profusion of large white tinged pink flowers in May.

The species is very highly rated. It was given the First Class Certificate when exhibited by Lt.-Col. L. C. R. Messel in May 1933. It also received the Award of Merit for a form under Farrer No. 842 in April 1923, and again for a pink form in May 1946, and the First Class Certificate in March 1937, when shown under the name *R. bullatum* by Mr. T. H. Lowinsky, Lord Aberconway, and Mr. Lionel de Rothschild respectively.

R. pendulum Hook. f. Rhod. Sikkim Himal., t. XIII (1851); Journ. Hort. Soc. Lond., VII, 80, 103 (1852); Fl. des Serres, VII, 662 (1851–52); Clarke in Hook. f. Fl. Brit. Ind., III, 469 (1882); Millais, Rhododendrons, 224 (1917); Hutch. in The Sp. of Rhod., 232 (1930); Rhod. Handb., 107 (1956).

HABIT: a shrub, often epiphytic, 30 cm.–1.20 m. high; branchlets densely woolly with brown or fawn wool, sparsely scaly or not scaly, leaf-bud-scales persistent or deciduous.

LEAVES: oblong, elliptic, oblong-elliptic or rarely oval, lamina 2.3–5 cm. long, 1.2–2.5 cm. broad, apex obtuse or rounded, mucronate, margins slightly recurved, base obtuse or rounded; upper surface *convex*, *not bullate*, glabrous or with vestiges of hairs, not scaly or sparsely scaly, midrib deeply grooved, tomentose at the base or ½ its length or entire length, primary veins impressed; under surface densely woolly with brown or fawn wool, scaly, the scales very small or medium-sized, brown, one-half or their own diameter apart, midrib prominent, primary veins obscured by the indumentum; petiole 0.4–1.2 cm. long, densely woolly with brown or fawn wool, scaly or not scaly.

INFLORESCENCE: terminal, shortly racemose or umbellate, 2–3–(rarely 1–) flowered; rachis 1–2 mm. long, tomentose, sparsely scaly or not scaly; pedicels 0.6–1.6 cm. long, densely woolly with brown wool, not scaly or sparsely scaly (Fig. 58).

CALYX: 5-lobed, 5–9 mm. long, red or tinged red, lobes obovate or rounded or oval, outside moderately or sparsely tomentose, moderately or sparsely scaly or not scaly, margin densely tomentose, not scaly.

COROLLA: rotate-campanulate, 5-lobed, 1.5–2.2 cm. long, white or

white tinged pink or pale yellow, with or without brown or red-brown spots, outside glabrous or sparsely hairy, rather densely or moderately scaly.

STAMENS: 10, unequal, 0.9–1.4 cm. long; filaments densely villous towards the base.

OVARY: ovate, 2–3 mm. long, 5-celled, densely woolly with fawn or brown wool, moderately or densely scaly; style short, sharply bent, tomentose and scaly at the base.

CAPSULE: ovate or oval, 1–1.3 cm. long, 6–8 mm. broad, densely woolly with brown wool, rather densely scaly, calyx persistent.

HABITAT:

Sikkim. J. D. Hooker, no number, no date.

East Himalaya. Cave 6741.

Bhutan. Cooper 3876. Ludlow, Sherriff & Hicks 16117, 18771, 18888, 20627.

Tibet. Ludlow & Sherriff 1309. Ludlow, Sherriff & Elliot 12525. Bor & Kirat Ram 18639, 20022.

R. pendulum is one of Hooker's discoveries in Sikkim, Himalaya, in 1849. It was later found by other collectors in Sikkim, Bhutan, and south and south-east Tibet. The plant grows on rocks, on cliffs, and in forests, often as an epiphyte, at elevations of 7,500–12,000 feet.

In some respects *R. pendulum* resembles *R. edgeworthii* from which it differs in the size and shape of the corolla, in the short, sharply bent style, usually in the smaller calyx, in the non-bullate upper surfaces of the leaves, and in the scentless flowers. It is also allied to *R. seinghkuense*, but is distinguished by the convex non-bullate upper surfaces of the leaves, by the colour and shape of the corolla, and by the red calyx.

In the shortly campanulate corolla and in the short sharply bent style, *R. pendulum* shows a resemblance to most species in the Boothii Series, but differs markedly in distinctive features.

The plant has long been in cultivation. Although hardy, it should be given some shade and protection from wind.

R. seinghkuense Ward in Notes R.B.G. Edin., XVI, 174 (1931); Hutch. in The Sp. of Rhod., 234 (1930); Rhod. Handb., 121 (1956).

HABIT: a prostrate or erect shrub, usually epiphytic, 30–90 cm. high; branchlets densely or sometimes moderately woolly with brown or rust-coloured wool, scaly or not scaly, leaf-bud-scales persistent or subpersistent.

LEAVES: ovate, ovate-lanceolate, oblong-lanceolate, oblong-elliptic or elliptic, lamina 3–8 cm. long, 1.6–4 cm. broad, apex acuminate or acute or obtuse, mucronate, base rounded or broadly obtuse; upper surface bullate, glabrous or with vestiges of hairs or rarely tomentose, scaly or not scaly, midrib deeply grooved, glabrous or tomentose at the base or ½ of its length, primary veins impressed; under surface densely woolly with brown wool, scaly, the scales very small, more or less equal, brown or pale brown, 1–2 times their own diameter apart, midrib prominent, primary veins raised; petiole 0.4–1.3 cm. long, densely woolly with brown or rust-coloured or whitish wool, scaly or not scaly.

INFLORESCENCE: terminal, umbellate, 1–(rarely 2–) flowered; rachis 1–2 mm. long, tomentose, not scaly or sparsely scaly; pedicels 1–2 cm. long, densely woolly with brown wool, not scaly or sparsely scaly.

CALYX: 5-lobed, 5–8 mm. long, pale green, lobes rounded, outside and margin densely woolly with brown wool, not scaly.

COROLLA: rotate-campanulate, 5-lobed, 2–2.5 cm. long, *sulphur-yellow*, outside glabrous or tube sparsely hairy, rather densely scaly.

STAMENS: 10, unequal, 1.3–2 cm. long; filaments densely villous in the lower 1/3–2/3 of their lengths.

OVARY: ovate, 4 mm. long, 5–6-celled, densely woolly with brown wool, scaly; style short, sharply bent, glabrous or woolly at the base, not scaly.

CAPSULE: rounded or oval, 0.8–1.4 cm. long, 0.8–1.3 cm. broad, densely woolly with rust-coloured or brown wool, scaly, calyx persistent.

HABITAT:

Burma. Kingdon-Ward 6793—isotype, 5440.
Burma/Tibet Frontier. Kingdon-Ward 9254.
Yunnan. Yü 19567, 20595, 21070.

The type material of this species was collected by Kingdon-Ward in May 1926 in Upper Burma. He records it as being abundant at Seinghku Wang. Later in 1931 he found it again in the Adung Valley, on the Burma-Tibet Frontier. Yü collected it in north-west Yunnan in 1938. It grows on rocks, in forests and in woods, often as an epiphyte, at elevations of 6,000–10,000 feet.

In the bullate upper surfaces of the leaves, *R. seinghkuense* is very similar to *R. edgeworthii* from which it is distinguished mainly by the shape, size and colour of the corolla, by the short

sharply bent style, and usually by the smaller calyx. In some respects, it agrees with its ally, *R. pendulum*; the distinctions between them are discussed under the latter species.

R. seinghkuense also resembles most species in the Boothii Series in the broadly-campanulate corolla and in the short sharply bent style. From this Series, however, it is remote in other features.

It was introduced into cultivation by Kingdon-Ward. The plant is tender and should be grown in a cool greenhouse. It is a somewhat slow-grower, and is difficult to increase from cuttings.

R. seinghkuense received the Award of Merit when shown by the Commissioners of Crown Lands in February 1953.

SCABRIFOLIUM SERIES

GENERAL CHARACTERS: Shrubs, 15 cm.–4.50 m. high; branchlets bristly or not bristly, pubescent or sometimes glabrous, scaly. Leaves lanceolate, linear, oblong-lanceolate, oblanceolate, oblong, obovate or sometimes oval; lamina 1–9.5 cm. long, 0.2–4.5 cm. broad; upper surface bristly or not bristly, pubescent or sometimes glabrous; under surface pale green (in *R. hemitrichotum* and *R. racemosum* glaucous), pubescent or sometimes glabrous, scaly, the scales ½–4 times their own diameter apart; petiole bristly or not bristly, often pubescent. Inflorescence axillary, 1–4–(or rarely 5–) flowered; pedicels 0.4–1.9 cm. long, bristly or not bristly, often pubescent. Calyx 0.5–5 mm. long, pubescent or sometimes glabrous. Corolla widely funnel-shaped or tubular-funnel shaped or tubular, 0.8–2.8 cm. long, rose, pink, white, reddish-purple, crimson or yellowish. Stamens 10 or rarely 8. Ovary oval, ovate, conoid or oblong, densely pubescent or sometimes glabrous; style long, straight. Capsule oval, oblong-oval or oblong, 0.4–1.5 cm. long, often pubescent.

KEY TO THE SPECIES

A. Under surfaces of the leaves glaucous, not pubescent except sometimes midrib.
  B. Branchlets and petioles rather densely pubescent; upper surfaces of the leaves rather densely or moderately pubescent; pedicels and capsules puberulous; leaves lanceolate, oblanceolate, oblong-lanceolate or oblong . . . . . *hemitrichotum*
  B. Branchlets and petioles glabrous or puberulous; upper surfaces of the leaves glabrous or rarely puberulous; pedicels glabrous or sometimes minutely puberulous; capsule glabrous; leaves oval, elliptic, obovate, oblong-elliptic, oblong-obovate, oblong or oblong-lanceolate . *racemosum*
A. Under surfaces of the leaves pale green, rather densely or sometimes moderately pubescent.

B. Corolla tubular, contracted at the upper end; stamens usually glabrous; upper surfaces of the leaves usually not bristly . . . . . *spinuliferum*

B. Corolla widely funnel-shaped or narrowly tubular-funnel shaped; stamens usually puberulous towards the base; upper surfaces of the leaves bristly or not bristly.

C. Corolla widely funnel-shaped, not oblique, 1–1.7 cm. long; upper surfaces of the leaves bristly, rough (rarely not bristly), margins bristly (rarely not bristly); calyx 5-lobed, 0.5–5 mm. long; branchlets moderately or rather densely bristly.

D. Leaves usually 3.5–9.5 cm. long, 1–2.8 cm. broad, lanceolate to elliptic . . . . . *scabrifolium*

D. Leaves usually 1.2–3 cm. long, 2–8 mm. broad, linear, lanceolate to oblong-obovate . . . . *spiciferum*

C. Corolla narrowly tubular-funnel shaped, oblique, 1.7–3.4 cm. long; upper surfaces of the leaves not bristly, not rough (rarely sparsely bristly), margins not bristly; calyx cupular or 5-lobed, 0.5–1 mm. long; branchlets not bristly or sparsely or moderately bristly . . . *mollicomum*

Description of Species (Amp. et Em.)

R. hemitrichotum Balf. f. et Forrest in Notes R.B.G. Edin., XII, 115 (1920); Journ. Roy. Hort. Soc., XLVIII, 64, f. 23 (1923); Millais, Rhododendrons, ser. 2, 154 (1924); Garden, LXXXIX, 336 (1925); Hutch. in The Sp. of Rhod., 601 (1930); Bean, Trees and Shrubs, III, 78 (1951); R.H.S. Dict. Gard., IV, 1774 (1951); Rhod. Handb., 80 (1956).

HABIT: a shrub, 25 cm.–2.40 m. high; branchlets not bristly or rarely bristly, *rather densely pubescent*, moderately or rather densely scaly.

LEAVES: lanceolate, oblanceolate, oblong-lanceolate or oblong, lamina 1.2–4.5 cm. long, 0.3–1.3 cm. broad, apex acute or sometimes obtuse, mucronate, narrowed to the base or sometimes obtuse; upper surface not scabrid, not bristly or rarely bristly, *rather densely or sometimes moderately pubescent*, moderately or sparsely scaly; margin recurved, not bristly, not pubescent; under surface *glaucous*, not pubescent, midrib not pubescent or sometimes pubescent, scaly, the scales medium-sized, unequal, brown or pale brown, their own diameter apart or sometimes ½ their own diameter apart; petiole 2–4 mm. long, not bristly or rarely bristly, *rather densely* (or rarely moderately) *pubescent*, scaly.

INFLORESCENCE: axillary in the uppermost few leaves, flowers usually in several clusters or rarely forming a raceme along the branchlet, umbellate or shortly racemose, 1–3-flowered; rachis 0.5–2 mm. long, pubescent, not bristly, scaly or not

scaly, flower bud-scales persistent during flowering; pedicels 0.4–1 cm. long, puberulous or rarely glabrous, not bristly, scaly.

CALYX: 5-lobed or a mere rim or cupular, 0.5 mm. long, lobes triangular or ovate, outside puberulous or glabrous, not bristly, densely or moderately scaly, margin puberulous or glabrous, ciliate or eciliate.

COROLLA: widely funnel-shaped, 5-lobed, 0.9–1.4 cm. long, pale rose or pink or deep pink or white edged with pink, with or without purple spots, scaly outside.

STAMENS: 8–10, unequal, 0.8–1.5 cm. long; filaments puberulous towards the base or rarely glabrous.

OVARY: conoid, 2 mm. long, 5-celled, puberulous or glabrous, densely scaly; style long, straight, longer than the stamens, glabrous or rarely sparsely puberulous at the base.

CAPSULE: oblong or sometimes oblong-ovate, 5–8 mm. long, 2–3 mm. broad, puberulous or rarely glabrous, rather densely scaly, calyx persistent.

HABITAT:

Szechuan. Forrest 16250—holotype, 20491, 21339, 22066, 22092, 22953. Handel-Mazzetti 2882. Rock 6450, 6451, 16151, 16156, 17392, 17393, 17415, 24040, 24058, 24531, 24541. Kingdon-Ward 4050, 4973.

Yunnan. Forrest 17004, 29248, 29273, 30940. Kingdon-Ward 4994, 5066. Yü 14843.

R. hemitrichotum was described from a specimen collected by Forrest in June 1918 on the Muli mountains, south-west Szechuan. It was later found by him and by various collectors in other localities in south-west Szechuan and west Yunnan. The plant grows in open rocky pasture, on dry rocky slopes amongst scrub, in open thickets in side valleys, in dry open meadows, in pine forests and in oak forests, at elevations of 8,000–13,000 feet.

It has been associated with *R. mollicomum*. From this species it is readily distinguished by the glaucous and glabrous under surfaces of the leaves, and by the shape and size of the corolla. *R. hemitrichotum* is closely allied to *R. racemosum*; the relationship between them is discussed in the introductory notes to the Virgatum Series. It is also related to *R. spiciferum* which differs from it mainly in that the branchlets and leaves are bristly, and the under surfaces of the leaves are pale green and rather densely pubescent.

R. hemitrichotum was introduced into cultivation by Forrest in 1919. It is hardy, and is easy to grow.

R. mollicomum Balf. f. et W. W. Sm. in Notes R.B.G. Edin., IX, 249 (1916); Millais, Rhododendrons, 214 (1917); Garden, LXXXIX, 336 (1925); Hutch. in The Sp. of Rhod., 602 (1930); Bean, Trees and Shrubs, III, 99 (1951); R.H.S. Dict. Gard., IV, 1778 (1951); Rhod. Handb., 99 (1956).

HABIT: a shrub, 60 cm.–1.80 m. high; branchlets not bristly or bristly, rather densely pubescent, scaly.

LEAVES: lanceolate or rarely oblong, lamina 1.2–3.6 cm. long, 0.3–1.3 cm. broad, apex acute or obtuse, mucronate, narrowed to the base or obtuse; upper surface not scabrid, *not bristly* or rarely sparsely bristly, rather densely pubescent, scaly; margin recurved, not bristly, pubescent; under surface rather densely pubescent, scaly, the scales medium-sized, unequal, pale brown or brown, 1–3 times their own diameter apart; petiole 3–5 mm. long, not bristly or bristly, rather densely pubescent, scaly.

INFLORESCENCE: axillary in the uppermost few leaves, flowers usually in several clusters, umbellate or shortly racemose, 1–3-flowered; rachis 1–2 mm. long, pubescent, not bristly, sparsely scaly or not scaly, flower bud-scales persistent during flowering; pedicels 0.5–1.4 cm. long, rather densely pubescent, not bristly, scaly.

CALYX: cupular or 5-lobed, 0.5–1 mm. long, lobes rounded or triangular, outside rather densely or rarely sparsely pubescent, not bristly, moderately or rather densely scaly, margin not bristly or sometimes sparsely bristly, pubescent.

COROLLA: *narrowly tubular-funnel shaped*, oblique, 5-lobed, 1.7–2.8 cm. long, pale or deep rose, without spots, scaly outside.

STAMENS: 10 or rarely 8, unequal, 1.3–3.6 cm. long; filaments puberulous towards the base.

OVARY: oblong or conoid, 2–4 mm. long, 5-celled, rather densely or rarely sparsely pubescent, densely scaly; style long, straight, longer than the stamens, pubescent at the base or in the lower 1/3 of its length.

CAPSULE: oblong, 0.6–1 cm. long, 2–4 mm. broad, rather densely or rarely moderately pubescent, rather densely scaly, calyx persistent.

HABITAT:

Yunnan. Forrest 10347—holotype, 11490, 12402, 12619, 15203, 15646, 20525, 21216. Rock 3945, 3960.

Szechuan. Forrest 22052.

This species was first collected by Forrest in July 1913, on the mountains in the north-east of the Yangtze bend, north-west Yunnan. It was found by him again in other localities in the same region, and in south-west Szechuan. Rock collected it on the eastern slopes of the Lichiang Snow Range in 1922. It grows in open thickets, in open scrub, and in open situations amongst scrub on the margins of pine forests, at elevations of 8,000–11,000 feet.

In general appearance *R. mollicomum* shows a resemblance to *R. spiciferum* from which it is distinguished mainly by the shape and size of the corolla, and by the bristleless upper surfaces and margins of the leaves.

Forrest introduced this plant into cultivation in 1913. It is hardy and free-flowering. It was given the Award of Merit when exhibited by Lady Aberconway and the Hon. H. D. McLaren in April 1931.

R. mollicomum Balf. f. et W. W. Sm. var. **rockii** Tagg in Notes R.B.G. Edin., XV, 114 (1926); Rhod. Hand., 99 (1956).

HABITAT:

Yunnan. Rock 8551—holotype, 8554. Forrest 23316.

This plant was first found by Rock in April 1923 on the western slope of the Lichiang Snow Range, growing on steep slopes in forests.

The variety differs from the species in the large corolla, 2.7–3.4 cm. long, and usually in the reddish-purple or reddish colour of the flower.

R. racemosum Franch. in Bull. Soc. Bot. France, XXXIII, 235 (1886); Journ. Linn. Soc., XXVI, 28 (1889); Garden, XLII, 320 (1892); Bot. Mag., CXIX, t. 7301 (1893); Gartenfl., LVII, 561, f. 67, t. 1577 (1908); Kew Bull., 120 (1910); Gard. Chron., ser. 3, XLVII, 343, f. 147 (1910); Millais, Rhododendrons, 233 (1917); Hutch. in The Sp. of Rhod., 829 (1930); Bean, Trees and Shrubs, III, 120 (1951); R.H.S. Dict. Gard., IV, 1780 (1951); Rhod. Handb., 114 (1956). *R. crenatum* Lévl. in Bull. Geogr. Bot., XXV, 20 (1915); The Sp. of Rhod., 852 (1930). *R. iochanense* Lévl. nomen. *R. motsouense* Lévl. in Fedde Repert., XIII, 148 (1914); The Sp. of Rhod., 853 (1930). *R. racemosum* Franch. var. *rigidum* Rehnelt in Gartenfl., LVII, 561 (1908).

HABIT: a compact or spreading or erect shrub, 15 cm.–4.50 m. high; branchlets *glabrous or minutely puberulous*, moderately or rather densely scaly, scales often peltate (Fig. 55).

LEAVES: elliptic, obovate, oblong-elliptic, oblong-obovate, oval, oblong or oblong-lanceolate, lamina 1–5.4 cm. long, 0.4–2.6 cm. broad, apex obtuse or rounded or rarely acute, mucronate, obtuse or rounded or rarely narrowed to the base; upper surface not scabrid, *glabrous* or rarely puberulous, scaly or not scaly, midrib glabrous or puberulous; margin recurved or slightly recurved, glabrous; under surface *glaucous* or rarely not glaucous, glabrous, midrib glabrous or rarely minutely puberulous, scaly, the scales medium-sized or small, unequal, pale brown to dark brown, ½ to their own diameter apart or sometimes twice their own diameter apart; petiole 2–6 mm. long, *glabrous or puberulous*, scaly.

INFLORESCENCE: axillary in the uppermost few leaves, flowers usually in several clusters or sometimes forming a raceme along the branchlet, umbellate or shortly racemose, 1–4-flowered; rachis 0.5–2 mm. long, minutely puberulous or glabrous, scaly or not scaly, flower bud-scales persistent during flowering or rarely deciduous; pedicels 0.4–1.7 cm. long, glabrous or sometimes minutely puberulous, moderately or rather densely scaly.

CALYX: cupular or a mere rim or 5-lobed, 0.5 mm. long, lobes rounded or triangular, outside glabrous, densely or moderately scaly, margin not bristly or sometimes bristly, eciliate or rarely ciliate, glabrous or rarely puberulous, densely or moderately scaly.

COROLLA: widely funnel-shaped, 5-lobed, 0.8–2.3 cm. long, pale or deep rose, pink, reddish-pink or white, without or sometimes with crimson spots, outside scaly or rarely not scaly.

STAMENS: 10, unequal, 0.8–2.3 cm. long; filaments puberulous towards the base or sometimes glabrous.

OVARY: conoid or sometimes oblong, 5-celled, glabrous, densely scaly; style long, straight, longer than the stamens or sometimes as long as the stamens, glabrous or sometimes sparsely puberulous at the base, not scaly.

CAPSULE: oblong or sometimes oblong-ovate, 0.4–1 cm. long, 2–4 mm. broad, glabrous, rather densely scaly, calyx persistent.

HABITAT:

Yunnan. Delavay 838—isotype, 299, in March 1887, in April 1887, in May 1887. Maire 22, 23, 24, 25, 26, 50, 52, 55, 59, 136, 142, 1419, in April 1911—holotype of *R. crenatum*, in April 1911—holotype of *R. motsouense*, in May 1911,

in May 1912, in April 1913. Cavalerie 4569. Ducloux 1268. Hosie 34. Siméon Ten 445, 478. Forrest 510, 2009, 2062, 2207, 4134, 5850, 5853, 5882, 10016, 10086, 10109, 12502, 12509, 13739, 13740, 13773, 13798, 13803, 13804, 15206, 15250, 15266, 15462, 15577, 19404, 21109, 21195, 21214, 21225, 21306, 21321, 21351, 21488, 21534, 21549, 21560, 21921, 21959, 21965, 22370, 22420, 22562, 22563, 22565, 22570, 22587, 22590, 22598, 23002, 23003, 23092, 23095, 23099, 23272, 23273, 23274, 23275, 23276, 23278, 23279, 23280, 23281, 28295. Rock 3108, 3167, 3274, 3277, 3421, 3481, 3507, 3510, 3629, 3670, 3944, 5118, 6827, 8120, 8200, 8206, 8229, 8404, 8512, 9815, 11264, 11265, 11403, 11415, 11424, 11476, 17100, 17354, 24259, 24658, 24859, 24910, 25026, 25045, 25047, 25125, 25126, 25153. Handel-Mazzetti 609, 6897. Kingdon-Ward 270, 3952, 4457, 5016, 5036, 5050, 5160, 5292. Yü 10925, 10993, 13680, 13880, 14405, 15011, 15012. M. Chen 2644. McLaren C 24, L 99A, U 31A, U 191, Misc. Coll. 39. H. T. Tsai 50853.

Szechuan. Cunningham 5. Wilson 3428. Forrest 20484, 20631, 22493, 22985. Schneider 1236, 1270. Rock 16158, 17440, 17441, 18275. Handel-Mazzetti 1852, 2154, 2207, 2280.

This well-known species is distributed in Yunnan and south-west Szechuan. It is found amongst scrub, on dry limestone hills, in open mountain pastureland, in dry stony situations, on rocky slopes, in peaty boggy ground, in thickets, in oak forests, and in pine forests, at elevations of 6,000–14,000 feet.

R. racemosum was discovered by Delavay in April 1884, on He-Chan mountain, above Lan-Kong, Yunnan, and was described by Franchet in 1886. Subsequently, distinctive names were given to variant forms, namely, *R. crenatum* Lévl. and *R. motsouense* Lévl., and in *The Species of Rhododendron* 1930 pp. 852, 853, these names have been regarded as synonyms of *R. racemosum*. *R. iochanense* Lévl. nomen and *R. racemosum* Franch. var. *rigidum* Rehnelt are also synonymous with *R. racemosum*.

The species varies considerably in height of growth, and in leaf shape and size, due to the various environmental conditions in which it is found. It shows a strong resemblance to *R. hemitrichotum* in general features, particularly in the glaucous under surfaces of the leaves, but differs in that the branchlets and petioles are glabrous or puberulous or minutely puberulous, the upper surfaces of the leaves are glabrous or rarely puberulous, the pedicels are glabrous or sometimes minutely puberulous, and the capsule is

glabrous. Moreover, in *R. racemosum* the leaves are oval, elliptic, obovate, oblong-elliptic, oblong-obovate, oblong or oblong-lanceolate; in *R. hemitrichotum* they are lanceolate, oblanceolate, oblong-lanceolate or oblong. *R. racemosum* is also allied to *R. spiciferum* which is distinguished mainly by the bristly and pubescent branchlets and leaves, and by the pale green under surfaces of the leaves.

R. racemosum was first introduced by Delavay about the year 1889. It is hardy and highly rated. Several forms are in cultivation. A dwarf form under Forrest No. 19404 is generally considered to be one of the best; it is compact in growth, up to 2 or 3 feet high, very free-flowering, and exceedingly attractive with its deep rose flowers in April or May.

R. racemosum received the First Class Certificate when shown by Messrs. J. Veitch & Sons in April 1892. It was given the Award of Garden Merit in May 1930.

R. scabrifolium Franch. in Bull. Soc. Bot. France, XXXIII, 236 (1886); Journ. Linn. Soc., XXVI, 30 (1889); Bot. Mag., CXVII, t. 7159 (1891); Millais, Rhododendrons, 239 (1917); Hutch. in The Sp. of Rhod., 604 (1930); Bean, Trees and Shrubs, III, 127 (1951); Rhod. Handb., 120 (1956).

HABIT: a shrub, 30 cm.–2.40 m. high; branchlets moderately or rather densely bristly, densely pubescent, scaly.

LEAVES: lanceolate, oblong-lanceolate or sometimes elliptic, lamina 2.3–9.5 cm. long, 0.6–2.8 cm. broad, apex acute or obtuse or rarely acuminate, mucronate, obtuse or narrowed to the base; upper surface bullate, scabrid, bristly or rarely not bristly, rather densely or moderately pubescent, sparsely scaly or not scaly; margin recurved or slightly recurved, bristly or rarely not bristly, pubescent; under surface rather densely or moderately pubescent, scaly, the scales medium-sized, unequal, pale brown or brown, 1–4 times (rarely $\frac{1}{2}$) their own diameter apart, primary veins raised; petiole 3–8 mm. long, moderately or rather densely bristly, rather densely pubescent, scaly.

INFLORESCENCE: axillary in the uppermost few leaves, flowers usually in several clusters, umbellate or shortly racemose, 1–3-flowered; rachis 1–3 mm. long, pubescent, bristly or not bristly, not scaly or sparsely scaly, flower bud-scales persistent during flowering or rarely deciduous; pedicels 0.5–1.9 cm. long, densely pubescent, bristly or not bristly, scaly.

CALYX: 5-lobed, 0.5–5 mm. long, lobes rounded, lanceolate, ovate or triangular, outside densely pubescent, not bristly or rarely bristly, sparsely or moderately scaly, margin bristly, pubescent.

COROLLA: widely funnel-shaped, 5-lobed, 1–1.7 cm. long, rose or white or crimson or white faintly flushed pink, scaly outside.

STAMENS: 10, unequal, 0.7–2.3 cm. long; filaments puberulous towards the base or rarely glabrous.

OVARY: oval or ovate or rarely oblong, 2–3 mm. long, 5-celled, densely or rarely moderately pubescent, moderately or densely scaly; style long, straight, longer than the stamens, puberulous at the base or rarely glabrous.

CAPSULE: oval or oblong-oval or oblong, 4–8 mm. long, 3–4 mm. broad, densely pubescent, moderately or rather densely scaly, calyx persistent.

HABITAT:

Yunnan. Delavay 297—isotype, in January 1887, in March 1887. Forrest 11031, 11072, 12406, 13527, 13732, 15103, 15503, 15504, 16829, 21135, 21181, 30937. Maire 1331, 1332, 1334, 1947, 1950, 2104, 2481. Siméon Ten 304. Rock 4057, 6291, 8243, 8246, 8266, 9614, 11713, 11742, 11745, 25173, 25223, 25229, 25234, 25443. Handel-Mazzetti 6253. Kingdon-Ward 3887, 5004, in 23/2/1914. McLaren AA 54, AA 58, C 100, L 24, L 25, L 34, P 30, U 15A, U 52A, U 87A.

The distribution of this species is restricted to Yunnan. It was first collected by Delavay in 1887 on Heechanmen mountain above Lankong. Subsequently it was found by other collectors in the same region. It grows in thickets, in scrub, amongst rocks, in pine and oak scrub, and in pine forests, at elevations of 6,000–11,000 feet.

R. scabrifolium is very similar to *R. spiciferum* in the bristly and pubescent branchlets and leaves, and in the shape, size and colour of the flowers, differing usually in the size and often in the shape of the leaves. From *R. spinuliferum* to which it shows a resemblance, it is readily distinguished by the shape of the corolla, by the bristly upper surfaces of the leaves, usually by the size of the calyx, and usually by the stamens which are puberulous towards the base.

It was first introduced into cultivation by Delavay in 1885. The plant varies in hardiness, and to be able to grow it satisfactorily, protection from wind is essential.

R. spiciferum Franch. in Journ. de Bot., IX, 400 (1895); Kew Bull., 120 (1910); Millais, Rhododendrons, 246 (1917); Hutch. in The Sp. of Rhod., 605 (1930); Rhod. Handb., 126 (1956). *R. pubescens* Balf. f. et Forrest in Notes R.B.G. Edin., XII, 153 (1920); Millais, Rhododendrons, ser. 2, 216 (1924); Garden, LXXXIX, 336 (1925); Hutch. in The Sp. of Rhod., 603 (1930); Bot. Mag., CLVI, t. 9319 (1933); Bean, Trees and Shrubs, III, 78 (1951); Rhod. Handb., 113 (1956).

HABIT: a shrub, 15 cm.–1.20 m. high; branchlets moderately or rather densely bristly or rarely not bristly, densely or rarely moderately pubescent, scaly.

LEAVES: lanceolate, linear, linear-lanceolate, oblong, oblong-obovate or oblanceolate, lamina, 1.2–3.5 cm. long, 0.2–1.3 cm. broad, apex acute or obtuse or rounded, mucronate, narrowed to the base or obtuse or rarely rounded; upper surface scabrid, bristly or rarely not bristly, rather densely or moderately pubescent, scaly or not scaly; margin recurved, bristly or rarely not bristly, pubescent; under surface rather densely or sometimes moderately pubescent, scaly, the scales medium-sized, unequal, pale brown or brown, 1–2 or rarely 3 times their own diameter apart; petiole 1–3 mm. long, moderately or rarely sparsely bristly, densely pubescent, sparsely or moderately scaly.

INFLORESCENCE: axillary in the uppermost few leaves, flowers usually in several clusters, or rarely forming a raceme along the branchlet, umbellate or shortly racemose, 1–4-flowered; rachis 1–3 mm. long, pubescent or rarely glabrous, not bristly or rarely bristly, not scaly or sparsely scaly, flower bud-scales persistent during flowering or rarely deciduous; pedicels 0.4–1 cm. long, rather densely or rarely moderately pubescent, not bristly or bristly, scaly.

CALYX: 5-lobed, 0.5–1 mm. or sometimes 2–4 mm. long, lobes ovate or triangular or lanceolate, outside rather densely or moderately pubescent or rarely glabrous, not bristly, scaly, margin bristly, pubescent or not pubescent.

COROLLA: widely funnel-shaped, 5-lobed, 1–1.5 cm. long, pink or deep pink or rose or white, scaly outside.

STAMENS: 10, unequal, 0.6–1.8 cm. long; filaments puberulous towards the base or rarely glabrous.

OVARY: ovate, oval or oblong, 1–2 mm. long, 5-celled, densely or rarely moderately pubescent, moderately or densely scaly;

style long, straight, longer than the stamens, pubescent at the base or glabrous.

CAPSULE: oblong or oblong-ovate, 5–8 mm. long, 2–4 mm. broad, densely or moderately pubescent, rather densely or moderately scaly, calyx persistent.

HABITAT:

Yunnan. Delavay, in March 1891—isotype. A. Henry 9369, 9369B. Bodinier and Ducloux 124. Bodinier 125. Cavalerie 3891, 8181. Ducloux 121. Maire 1381, 1939, 2480, 2481, 2695. Hosie 33. Handel-Mazzetti 8619. Schneider 1662. Kingdon-Ward 3952A, 3953. McLaren AA 12, AA 33, AA 71, AA 72, AA 163, AA 167, U 19A, U 21A, U 23A, U 39A, U 84A, Misc. Coll. 24.

Kweichow. Bodinier 1559. Y. Tsiang 8627.

Szechuan. Forrest 16812—holotype of *R. pubescens*, 22049. Handel-Mazzetti 1850.

R. spiciferum was discovered by Delavay in 1891 near Yunnansen, Yunnan. It is distributed in Yunnan, Kweichow, and south-west Szechuan growing in thickets, amongst scrub, amongst rocks, and in pine woods, at elevations of 5,000–10,500 feet.

In 1920 *R. pubescens* Balf. f. et Forrest was founded on a specimen (No. 16812) collected by Forrest in August 1918 on the Muli mountains, south-west Szechuan. The species is very similar to *R. spiciferum* in height and habit of growth, in the bristly and pubescent branchlets and leaves, in the shape and size of the leaves, and in the shape, size and colour of the flowers. The stated distinction in the Key in *The Species of Rhododendron*, as to the glabrous or pubescent style, is not constant. The ample material now available shows that *R. pubescens* is identical with *R. spiciferum* in every respect, and this is confirmed by the additional evidence of plants in cultivation.

R. spiciferum is very closely allied to *R. scabrifolium* from which it is distinguished usually by the size and often by the shape of the leaves. It is also related to *R. racemosum* but differs mainly in the bristly and pubescent branchlets and leaves, and in the pale green under surfaces of the leaves.

It has been in cultivation for a long time. The plant is hardy in a sheltered position. It was given the Award of Merit when shown under the name *R. pubescens* by the Commissioners of Crown Lands in April 1955.

R. spinuliferum Franch. in Journ. de Bot., IX, 399 (1895); Kew Bull., 120 (1910); Bot. Mag., CXXXVII, t. 8408 (1911); Millais,

Photos: J. E. Downward

FIG. 53—*Rhododendron pachytrichum* 'Sesame', A.M. 18th April, 1963. Exhibited by Lord Aberconway and the National Trust, Bodnant (see p. 137)

FIG. 54—Rhododendron 'Arborfield', A.M. 30th April, 1963. Exhibited by the Crown Estate Commissioners, The Great Park, Windsor (see p. 134)

Photo: R. B. G., Edinburgh

FIG. 55—*Rhododendron racemosum*, now transferred to the Scabrifolium Series, growing in the rock garden at the Royal Botanic Garden, Edinburgh (see p. 122)

Rhododendrons, 246 (1917); Hutch. in The Sp. of Rhod., 606 (1930); Bean, Trees and Shrubs, III, 135 (1951); R.H.S. Dict. Gard., IV, 1783 (1951); Rhod. Handb., 127 (1956). *R. duclouxii* Lévl. in Bull. Soc. Agri, Sarthe, XXXIX, 46 (1903); The Sp. of Rhod., 606 (1930). *R. fuchsiaeflorum* Lévl. in Fedde Repert., XII, 284 (1913); The Sp. of Rhod., 852 (1930). *R. scabrifolium* Franch. var. *pauciflora* Franch. in Journ. de Bot., XII, 262 (1898); Millais, Rhododendrons, 239 (1917).

HABIT: a shrub, 60 cm.–2.40 m. high; branchlets moderately or rather densely bristly, rather densely pubescent, scaly.

LEAVES: lanceolate, oblong-lanceolate, oblanceolate, obovate, oblong-elliptic or elliptic, lamina 2.4–9.5 cm. long, 0.6–4.5 cm. broad, apex acuminate or acutely acuminate or acute or obtuse or rarely rounded, mucronate, obtuse or narrowed to the base; upper surface bullate, not scabrid or rarely scabrid, not bristly or rarely bristly, puberulous or glabrous, sparsely or moderately scaly; margin recurved or not recurved, bristly or sometimes not bristly, pubescent or sometimes not pubescent; under surface rather densely pubescent, midrib not bristly or rarely sparsely bristly, scaly, the scales medium-sized, unequal, brown or pale brown, ½–3 times their own diameter apart, primary veins raised; petiole 0.3–1 cm. long, bristly, rather densely pubescent, scaly.

INFLORESCENCE: axillary in the uppermost few leaves, or terminal, flowers sometimes in several clusters, umbellate or shortly racemose, 1–4–(or rarely 5–) flowered; rachis 1–3 mm. long, pubescent, not bristly or rarely sparsely bristly, sparsely scaly or not scaly, flower bud-scales deciduous during floweringorpersistent; pedicels 0.4–1.2 cm. long, densely pubescent, not bristly or rarely bristly, scaly or not scaly (Fig. 57).

CALYX: cupular or 5-lobed, 0.5 mm. long, lobes triangular or rounded, outside densely pubescent, not bristly, scaly or not scaly, margin bristly or rarely not bristly, pubescent.

COROLLA: *tubular, contracted at the upper end*, 5-lobed, 1.4–2.5 cm. long, crimson-red or red or pink or yellowish, not scaly or sometimes scaly outside.

STAMENS: 10, unequal, 1.2–3 cm. long; filaments glabrous or sometimes puberulous towards the base.

OVARY: conoid or rarely oblong, 3–4 mm. long, 5-celled, densely tomentose, densely or moderately scaly; style long, straight, longer than the stamens, glabrous or puberulous at the base.

CAPSULE: oblong or oblong-oval, 0.7–1.5 cm. long, 4–5 mm. broad, densely tomentose, rather densely scaly, calyx persistent.

HABITAT:

Yunnan. Delavay 4883—isotype. A. Henry 10572, 10572A, 10572B. Bodinier in March 1897, 115. Ducloux 61—isotype of *R. duclouxii*, 75—isotype of *R. scabrifolium* var. *pauciflora*, 152. Bodinier and Ducloux 115. Cavalerie 4624. Maire in May 1911—holotype of *R. fuchsiaeflorum*, 138, 254, 1113, 1122, 1333, 1940, 1941, 1948, 1949, 2105, 2481, 2697. Forrest 509, 512. Handel-Mazzetti 8621. Rock 11728, 11730, 25224, 25225, 25237. McLaren AA 1, AA 3, AA 10, AA 14, AA 17, AA 20, AA 22, AA 24, AA 27, AA 29, AA 31, AA 35, AA 37, AA 39, AA 41, AA 43, AA 45, AA 49, AA 52, AA 169, AF 326, AF 343, L 15A, L 17A, L 23, L 32, L 36A, L 37A, U 11, U 50A, U 61A, U 65A, U 82A, U 93A, U 161, U 186, Misc. Coll. 15, 17, 23, 25, 32, 34, 36, 37.

This species is distributed in Yunnan, growing in woods and in shady thickets at elevations of 2,600–8,000 feet.

It was described in 1895 by Franchet from a plant collected by Delavay above Tonghay in 1891. Other plants which were subsequently collected in the same region were described as *R. duclouxii* Lévl. and *R. fuchsiaeflorum* Lévl. In *The Species of Rhododendron* 1930, pp. 606, 852, these names have correctly been referred to *R. spinuliferum*. *R. scabrifolium* Franch. var. *pauciflora* Franch. is also identical with *R. spinuliferum*.

A remarkable feature of this plant is the tubular corolla, contracted at the upper end with protruding stamens, by which the species is readily distinguished from all other members of its Series. It is allied to *R. scabrifolium* which it resembles in the shape and size of the leaves, in the bristly and pubescent branchlets and petioles, and in the pubescent under surfaces of the leaves, but differs in the shape of the corolla, in the bristleless upper surfaces of the leaves, usually in the glabrous stamens, and usually in the size of the calyx.

R. spinuliferum was first introduced into cultivation in 1907. Although it is hardy, a well-sheltered position should be provided.

VIRGATUM SERIES

GENERAL CHARACTERS: Shrub, 30 cm.–2.40 m. high; branchlets moderately or rather densely scaly. Leaves lanceolate, oblong-

lanceolate, oblong or sometimes oblong-obovate, lamina 1.8–8 cm. long, 0.5–2 cm. broad; under surface scaly, the scales flaky, ½–2 or rarely 3–4 times their own diameter apart. Inflorescence axillary, 1–2-flowered. Calyx 0.5–2 mm. or rarely 3 mm. long. Corolla funnel-shaped or tubular-funnel shaped, 1.4–3.9 cm. long, pink, rose, lilac, purple or white. Stamens 10. Ovary conoid or ovate; style long, straight. Capsule oblong or oblong-ovate, 0.5–1.2 cm. long.

Description of Species (Amp. et Em.)

R. virgatum Hook. f. Rhod. Sikkim Himal., t. XXVI (1851); Bot. Mag., LXXXIV, t. 5060 (1858); Journ. Hort. Soc. Lond., VII, 81, 95 (1852) excl. syn.; Clarke in Hook. f. Fl. Brit. Ind., III, 474 (1882); Millais, Rhododendrons, 259 (1917); Hutch. in The Sp. of Rhod., 831 (1930); Bean, Trees and Shrubs, III, 147 (1951); R.H.S. Dict. Gard., IV, 1785 (1951); Rhod. Handb., 136 (1956). *R. oleifolium* Franch. in Bull. Soc. Bot. France, XXXIII, 235 (1886); Journ. Linn. Soc., XXVI, 28 (1889); Millais, Rhododendrons, 220 (1917); Rev. Horte, 348 (1917); Bot. Mag., CXLV, t. 8802 (1919); Hutch. in The Sp. of Rhod., 828 (1930); Bean, Trees and Shrubs, III, 109 (1951); R.H.S. Dict. Gard., IV, 1779 (1951); Rhod. Handb., 104 (1956). *R. sinovirgatum* Balf. f. nomen.

HABIT: a shrub, 30 cm.–2.40 m. high; branchlets glabrous, moderately or rather densely scaly.

LEAVES: lanceolate, oblong-lanceolate, oblong or sometimes oblong-obovate or rarely obovate, lamina 1.8–8 cm. long, 0.5–2 cm. broad, apex obtuse or acute or rounded, mucronate, narrowed to the base or obtuse or rounded; upper surface glabrous, scaly or not scaly; margin recurved or slightly recurved; under surface pale green or pale glaucous green, glabrous, scaly, the scales flaky, medium-sized, unequal, brown or dark brown, one-half to their own diameter apart, sometimes twice or rarely 3–4 times their own diameter apart, with large peltate scales widely or closely separated; petiole 3–8 mm. long, glabrous, densely or moderately scaly.

INFLORESCENCE: *axillary*, 1–(or sometimes 2–) flowered; rachis 0.5–1 mm. long, glabrous, scaly or not scaly; flower bud-scales persistent during flowering, outside densely puberulous or glabrous, not scaly, margin densely puberulous, not scaly; pedicels 2–8 mm. long, glabrous, densely scaly.

CALYX: 5-lobed, 0.5–2 mm. or rarely 3 mm. long, lobes rounded, outside glabrous, scaly or rarely not scaly, margin puberulous or glabrous, not scaly or rarely scaly.

COROLLA: funnel-shaped or tubular-funnel shaped, 5-lobed, 1.4–3.9 cm. long, pink, rose, lilac, purple or white, outside rather densely or moderately pubescent and scaly.

STAMENS: 10, unequal, 0.9–3.8 cm. long; filaments pubescent towards the base.

OVARY: conoid or ovate, 2–3 mm. or rarely 4 mm. long, 5-celled, glabrous, densely scaly; style long, straight, longer than the stamens, pubescent at the base or up to one-half its length or glabrous, scaly at the base or up to one-half its length or not scaly.

CAPSULE: oblong or oblong-ovate, 0.5–1.2 cm. long, 3–5 mm. broad, glabrous, densely scaly, calyx persistent.

HABITAT:

Sikkim. J. D. Hooker, no number, no date. Ludlow & Sherriff 15841.

Bhutan. Griffith 2225, 2226. Bailey in 24/3/1927. Cooper 1516, 1547, 2819, 3064, 3151, 3346, 3588, 3815. Ludlow, Sherriff & Hicks 16054, 16206, 18687.

Tibet. Forrest 18900, 19149, 19696, 20067, 21716, 22833. Rock 11219, 22045, 22494, 22634. Kingdon-Ward 5655. Ludlow & Sherriff 1279, 1346, 1366. Ludlow, Sherriff & Elliot 12024, 12253, 12326, 12515, 13550, 13645.

Assam. Kingdon-Ward 11382.

Yunnan. Delavay in 18/4/1887—isotype of *R. oleifolium*, in 25/9/1888, in 25/4/1889, in 30/4/1889. Forrest 4132, 4133, 4169, 4170, 6770, 9342, 9942, 11616, 12100, 12878, 13532, 13724, 15604, 16214, 16559, 17588, 17744, 20932, 23136, 23372, 24047, 24228, 26065, 26347, 28298, 29108. Handel-Mazzetti 6244, 9952. Rock 3099, 3101, 3123, 3126, 4239, 8632, 8775. McLaren C 13, C 78, L 41, Misc. Coll. 41. Kingdon-Ward 5421. Yü 18279.

Yunnan/Tibet Border. Rock 17, 183.

R. virgatum was discovered by Hooker in Sikkim, Himalaya, in 1849. Further gatherings by various collectors show that the species has a wide geographical distribution extending from Sikkim, Bhutan and Assam to south and south-east Tibet and Yunnan. It grows on rocks, on the banks of streams, on cliffs, in dry open pastureland, amongst scrub, in thickets, in pine forests, and in spruce forests, at elevations of 6,000–12,500 feet.

Photo: R.B.G., Edinburgh

FIG. 56—*Rhododendron edgeworthii* with which *R. bullatum* has now been merged (see p. 112)

FIG. 57—*Rhododendron spinuliferum* (see p. 129)

Photo: R.B.G., Edinburgh

FIG. 58—*Rhododendron pendulum* of the Edgeworthii Series (see p. 115)

Photo: J. E. Downward

FIG. 59—*Rhododendron wardii* 'Meadow Pond' A.M. 20th May, 1963 when exhibited by the Crown Estate Commissioners, The Great Park, Windsor (see p. 137)

In 1886, *R. oleifolium* Franch. was described from a specimen collected by Delavay in Yunnan. The original diagnosis makes no reference to its affinity. The ample material now available and plants in cultivation show that *R. oleifolium* agrees with *R. virgatum* in height and habit of growth, in the shape and size of the leaves, in the axillary inflorescence, in the shape, size and colour of the flowers, and in all other respects they are identical. The glabrous or pubescent corolla which is given as a diagnostic criterion in the descriptions and in the Key in *The Species of Rhododendron*, is inconstant and unreliable. *R. sinovirgatum* Balf. f. nomen is synonymous with *R. virgatum*.

R. virgatum was first introduced by Hooker in 1849. Several forms are in cultivation. The species varies in hardiness, and to obtain the best results, it should be given a sheltered position.

LIST OF SPECIES AND SYNONYMS

AURICULATUM Hemsl.
bullatum Franch.=EDGEWORTHII
crenatum Lévl.=RACEMOSUM
duclouxii Lévl.=SPINULIFERUM
EDGEWORTHII Hook. f.
fuchsiaeflorum Lévl.=SPINULIFERUM
GRIERSONIANUM Balf. f. et Forrest
HEMITRICHOTUM Balf. f. et Forrest
iochanense Lévl. nomen=RACEMOSUM
MOLLICOMUM Balf. f. et W. W. Sm.
MOLLICOMUM Balf. f. et W. W. Sm. var. ROCKII Tagg
motsouense Lévl.=RACEMOSUM
oleifolium Franch.=VIRGATUM
PENDULUM Hook. f.
pubescens Balf. f. et Forrest=SPICIFERUM
RACEMOSUM Franch.
RACEMOSUM Franch. var. *rigidum* Rehnelt=RACEMOSUM
SCABRIFOLIUM Franch.
SCABRIFOLIUM Franch. var. *pauciflora* Franch.=SPINULIFERUM
sciaphylum Balf. f. et Ward=EDGEWORTHII
SEINGHKUENSE Ward
sinovirgatum Balf. f. nomen=VIRGATUM
SPICIFERUM Franch.
SPINULIFERUM Franch.
VIRGATUM Hook. f.

RHODODENDRONS AND CAMELLIAS WHICH HAVE RECEIVED AWARDS IN 1963

Camellia reticulata 'Paochucha', A.M. February 19, 1963. This shrub makes a fine plant for the cool greenhouse. The leaves are typical of the species being rather pale green and with finely serrated margins. In shape and size there is a great variation in the flowers, an average measuring about 6 ins. across. The petals are waved and intermixed with them are petaloids and stamens in small scattered clusters, to make up a Semi-Double flower. The colour of this distinctive camellia is Crimson (H.C.C. 22/1–H.C.C. 22/2) with a darker shade on petals which have not reached maturity. Exhibited by Crown Estate Commissioners, Windsor Great Park, Berks.

Rhododendron (Hawk grex 'Crest' × Loderi grex 'Julie') 'Arborfield', A.M. April 30, 1963. On this hybrid 12 flowers, each on a long pedicel, make up a lax truss. The corolla is shallow campanulate in shape, 4½ ins. across and coloured Mimosa Yellow (H.C.C. 602/3) darkening towards the throat. Deep in the throat there is a trace of crimson shading and, on a few flowers, a vestige of pale pink shading. Exhibited by Crown Estate Commissioners, Windsor Great Park, Berks (Fig. 54).

Rhododendron arizelum 'Brodick', A.M. April 9, 1963. Like a number of its congenors, *R. arizelum* has many variants some exceedingly poor and some—like this form—particularly fine. About 20 flowers make up its compact, globular truss and, in each flower, the corolla is cup-shaped with lobes overlapping each other. In colour the flowers are Solferino Purple (H.C.C. 26/3–H.C.C. 26/2) with a small blotch in the throat coloured a near black shade of crimson. The plant was exhibited very well before a meeting of the Rhododendron and Camellia Committee in Glasgow, by the National Trust for Scotland, Brodick Castle Gardens, Isle of Arran (Figs. 2 and 3).

Rhododendron arizelum var. rubicosum, A.M. April 9, 1963. It was reported by Mr. H. H. DAVIDIAN that this is one of the rarest of rhododendrons in cultivation and that he could not

recall where a plant, other than the one exhibited, might be found in the British Isles. It is similar in habit to the type, *R. arizelum*, with its compact globular truss of cup-shaped flowers. In colour, however, it is Rose Red (H.C.C. 724) and a near to black, small blotch in the throat. On the type the undersides of the leaves are coated with a dense mat of cinnamon-coloured indumentum; on the variety the indumentum is pale brown. Exhibited by The Earl of Stair, Lochinch Castle, Stranraer, Wigtownshire.

Rhododendron coryphaeum 'Exbury', A.M. April 18, 1963. In time this rhododendron makes a large shrub some 20 ft. in height, and Mr. DE ROTHSCHILD reports that it has proved quite hardy at Exbury and that it flowers well nearly every year. On the plant exhibited the large, heavy truss was composed of 32 flowers packed in a globular truss. The flowers were coloured a white, translucent shade of very pale yellow and the throat blotched with crimson (H.C.C. 827). Before opening fully a few flowers were tinged Magenta (H.C.C. 27/2). Exhibited by E. de Rothschild, Esq., Exbury, nr. Southampton (Fig. 44).

Rhododendron dauricum 'Mid-winter', A.M. March 19, 1963. Where early-flowering rhododendrons are collected this species is always in evidence and understandably so. Small terminal clusters of 2–6 blooms make up the small inflorescences. The corolla is rotate, flattened in appearance, has 5 spreading lobes and coloured Phlox Purple (H.C.C. 632/1–H.C.C. 632/2). Usually the species is semi-deciduous but Mr. FINDLAY reports that this clone keeps its leaves throughout the winter. The beauty of *Rhododendron dauricum* comes through when it is used as a parent and, particularly so, in such plants as *Rhododendron* 'Tessa', a hybrid which never fails to flower even after the worst of winters. Exhibited by Crown Estate Commissioners, Windsor Great Park, Berks (Fig. 15).

Rhododendron floribundum 'Swinhoe', A.M. April 30, 1963. Often this species is found with many variants particularly in colour and the one shown had flowers of Roseine Purple (H.C.C. 629/1) with a blotch of dark crimson in the throat; the lobes were large and marginally frilled. About 8 such flowers make up a lax, open truss. The leaves were crinkled above and beneath were covered with a persistant, woolly indumentum. Exhibited by E. de Rothschild, Esq., Exbury, nr. Southampton (Fig. 47).

Rhododendron (fortunei × Jalisco grex) 'Fred Wynniatt', A.M. May 20, 1963. As a result of this cross there has arisen a hybrid

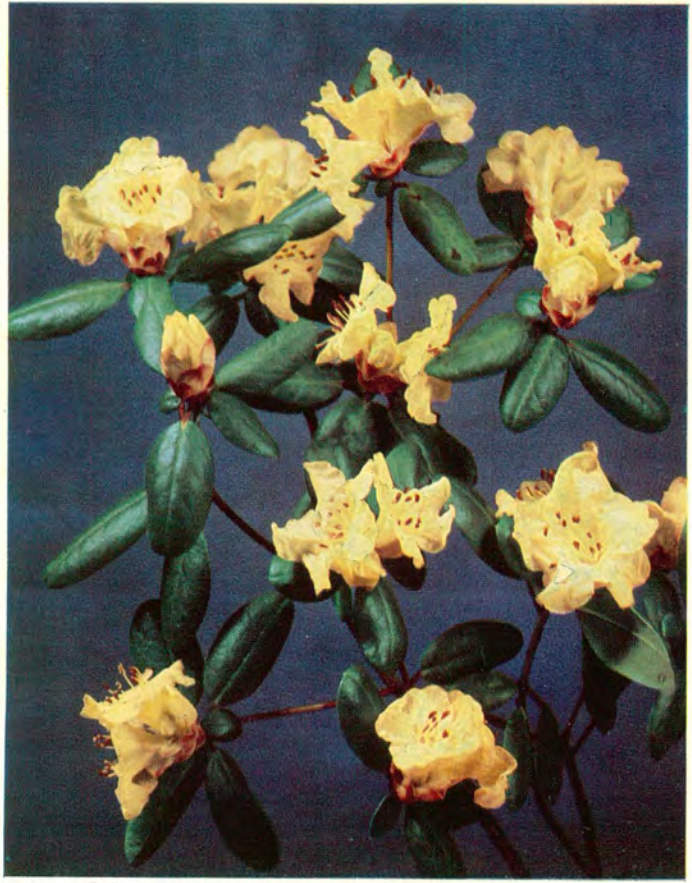
with a large, petaloid calyx up to 1 inch long and flowers of Maize Yellow (H.C.C. 607/1). By contrast the margins and outlines of the petals are flushed Neyron Rose (H.C.C. 623/2). Each truss contains up to 10 flowers and is lax and flat-topped in its make up. The cultivar is named after Mr. F. WYNNIATT, Head Gardener at Exbury. Exhibited by E. de Rothschild, Esq., Exbury, nr. Southampton (Fig. 45).

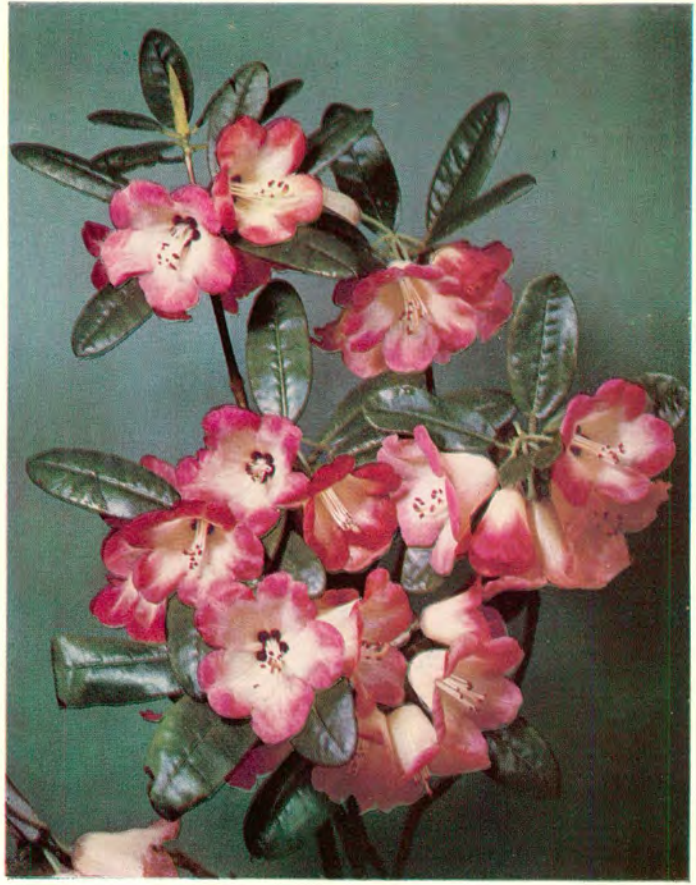
Rhododendron (moupinense white form × sulfureum) 'Golden Oriole Talavera', F.C.C. March 19, 1963. Under the name of *R.* 'Golden Oriole', this hybrid received an Award of Merit in 1947 and a description of it will be found in the R.H.S. Journal Vol LXII Pt. 1, p. 29 (January 1948). Exhibited by Julian F. Williams, Esq., Caerhays Castle, St. Austell, Cornwall (Pl. 3).

Rhododendron (moupinense pink form × sulfureum) 'Golden Oriole Venetia', A.M. March 19, 1963. After the severe winter of 1962–3 this plant, like the other hybrid of the same parentage, *R.* 'Golden Oriole Talavera', was reported by the exhibitor to have flowered well out of doors. Blooms are borne in 3-flowered trusses and are coloured Primrose Yellow (H.C.C. 601/2–H.C.C. 601/3) suffused with pale, reddish-pink shading together with heavy spotting on the upper lobes. The corolla is $1\frac{3}{4}$ ins. across with irregular margins to its five lobes and the brown anthers stand out prominently. Exhibited by Julian F. Williams, Esq., Caerhays Castle, St. Austell, Cornwall (Fig. 52).

Rhododendron (Loderi grex 'Sir Edmund' × Loderi grex 'Snow Queen') 'Mrs. C. Whitner', A.M. May 20, 1963. Like the parents of this cross, *R.* 'Mrs. C. Whitner' grows into a large bush and is responsive to the good growing conditions normally found in light woodland. Here it makes a plant of outstanding beauty. Its truss is composed of 15 flowers and is pyramidal in shape. Each bloom is on a long, red-stained petiole and is 5 ins. across. In colour the flowers are white suffused throughout Magenta (H.C.C. 27/3) tinged on the reverse a deeper shade of magenta and, in the throat, blotched with a dark shade of the same colour. Exhibited by Sir Giles Loder, Bt., Leonardslee, Horsham, Sussex (Fig. 43).

Rhododendron (calophytum × macabeanum) 'Our Kate', A.M. April 18, 1963. Seed from this cross first flowered 15 years after sowing and the resultant plant is now a small tree some 15 feet tall. It has large, leathery leaves 11 ins. long and beneath them a loose indumentum easily removed by touch. About 20 flowers





Photos: J. E. Downward

PL. 3—*Rhododendron* 'Golden Oriole Talavera', F.C.C. 19th March 1963. Exhibited by Mr. Julian Williams, Caerhays Castle, Cornwall (see p. 136)

PL. 4—*Rhododendron cerasinum.* An attractive form of this species shown by Capt. Collingwood Ingram at Chelsea Show 1963

make up the heavy, lax truss. These are white in colour faintly tinged Primrose Yellow (H.C.C. 601/3) and the throat coloured Ruby Red (H.C.C. 827) in a continuous band. Exhibited by E. de Rothschild, Esq., Exbury, nr. Southampton (Fig. 51).

Rhododendron pachytrichum 'Sesame', A.M. April 18, 1963. Under light woodland conditions this rhododendron will grow into a large shrub up to 10 feet or more in height. The lax, open truss is made up of about eight flowers. These are campanulate in shape and white in colour with some flowers tinged with varying shades of Solferino Purple (H.C.C. 26/3). Exhibited by Lord Aberconway and The National Trust, Bodnant, Tal-y-Cafn, Colwyn Bay, Denbighshire (Fig. 53).

Rhododendron wardii 'Meadow Pond', A.M. May 20, 1963. Seed of this plant was collected by LUDLOW and SHERRIFF in South Eastern Tibet in 1947 and it first flowered with the exhibitors in 1961. Morphologically the form is typical of the species and the flowers are coloured Primrose Yellow (H.C.C. 601/2) with a distinctive deep crimson blotch in the throat. Exhibited by Crown Estate Commissioners, Windsor Great Park, Berks (Fig. 59).

Rhododendron (calophytum × sutchuenense) 'Assaye', A.M. April 18, 1963. This plant was raised by the late J. C. Williams who gave it the grex name Robin Hood. Its oblong-lanceolate leaves are some 10 inches long and 3 inches broad. The campanulate flowers which are in a truss of up to 22, are white flushed a pale shade of Magenta (H.C.C. 27/1) blotched with a pale shade of Ruby Red (H.C.C. 827/3) and with some spotting. It forms a large shrub in light woodland. Exhibited by Julian Williams Esq., Caerhays Castle, St. Austell, Cornwall.

Camellia williamsii 'Lady Gowrie' P.C. March 5, 1963. Shown by Sir Henry Price, Bt., Wakehurst Place, Ardingly, Sussex.

ADDITIONS TO THE INTERNATIONAL RHODODENDRON REGISTER, 1962-3

a **Alsea** cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow with orange blotch, 3–3½″ across; mid-season.

Amy Ann cl. Parentage unknown; (raised by Rudolph Henny, introduced by Leona Henny, Brooks, Oregon); lvs. up to 6½″ long; fls. 10 per truss, brilliant Rose Opal (H.C.C. 0221/1–022/2); late flowering.

Arborfield cl. 'Crest' × 'Julie'; (Crown Estate Commissioners, Windsor); lvs. 6″ long, 2½″ broad; fls. up to 12 per lax truss; corolla shallow-campanulate, 4½″ across, 3″ long, Mimosa Yellow (H.C.C. 602/3) darkening towards the throat where there is trace of light crimson; pale pink tinge in a few flowers. A.M. (R.H.S.) 1963; selected for Wisley Trials 1963.

Assaye cl. *calophytum* × *sutchuenense*; (J. C. Williams, Caerhays, St. Austell, Cornwall); lvs. 10½″ long, 3″ broad, oblong-lanceolate; fls. in truss of up to 22, large, heavy; corolla campanulate, white flushed a pale shade of Magenta (H.C.C. 27/1) blotched with pale shade of Ruby Red (H.C.C. 827/3) and some spotting. A.M. (R.H.S.) 1963.

Baron Phillipe de Rothschild cl. 'Exbury Naomi' × 'Crest'; (E. de Rothschild, Exbury, Hants.); fls. pale yellow.

Barto Alpine cl. Parentage unknown; (raised by James Barto, Oregon, introduced by Harold Greer, Eugene, Oregon); lvs. elliptic, 1″ long, ½″ wide; fls. 4–5 in rounded truss, funnel-shaped, Fuchsia Purple (Nickerson 3 RP 6/10); late March to mid-April.

Beer Sheba cl. *R. cerasinum* seedling; (L. de Rothschild, Exbury, Hants.); lvs. 3″ long, 1½″ wide; fls. in truss of 5, 1½″ long, 2″ wide, white with lobes slightly waved and stained with Rose Madder (H.C.C. 23–23/3).

a **Bengal Beauty** cl. *kaempferi* × *simsii* ♀; (M. Haworth-Booth, Farall Nurseries, near Haslemere, Surrey); fls. 2″ across, Rose Bengal (H.C.C. 25/2); late May.

Beta cl. *R. lanigerum* (K.W. 8251) seedling; (Sir Edward Bolitho, Trengwainton, Cornwall); fls. Rose Opal (H.C.C. 022/1).

Bordeaux cl. *gymnocarpum* × *beanianum*; (E. de Rothschild, Exbury, Hants.); fls. dark red.

Bremen cl. *haematodes* × unnamed red hybrid; (raised by Georg Arends, Ronsdorf, Germany, introduced by G. D. Böhlje, Westerstede, Germany); dwarf; lvs. elliptic to ovate, 5–9 cm. long, 3 cm. broad, silver green to pale brown below; fls. in loose truss

of up to 12, campanulate, 4 cm. long, scarlet with small red calyx; April.

Brodick — cl. *R. arizelum* seedling; (National Trust for Scotland, Brodick, Isle of Arran); lvs. 8″ long, 2¾″ broad, oblanceolate, dense cinnabar indumentum below; fls. in compact globular truss of up to 20; corolla cup-shaped, lobes overlapping, Solferino-Purple (H.C.C. 26/3–26/2) with small blotch in throat almost black crimson. A.M. (R.H.S.) 1963.

Burma Road — cl. 'Fabia Tangerine' × 'Romany Chal' (R.H.S. Gardens, Wisley, Surrey); fls. up to 11 in compact flat-topped truss, 2½″ long, 3¾″ across, open campanulate, rich shade of yellowish-apricot suffused with pale rose-pink with deeper pink staining on the reverse. A.M. (R.H.S.) 1958.

a Calapooya — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. pale pink with deep yellow-orange blotch; mid-season.

Callagold — cl. *dichroanthum* × *wardii*; (Rudolph Henny, Brooks, Oregon); dwarf; lvs. 3″ or less long; fls. 1½″ long, reddish capped with amber gold; late.

Candi — cl. *campylogynum* var. *cremastum* × *racemosum*; (J. F. Caperci, Seattle, Washington); compact, 18″ high in 14 years; lvs. up to 2″ long and ¾″ wide, elliptical, scaly; fls. in compact truss of 4–6, funnel-campanulate, 1″ wide ⅝″ long bright rose; late April to early May.

Caper — cl. *williamsianum* × 'Hiraethlyn'; (Rudolph Henny, Brooks, Oregon); compact; lvs. elliptic, 3″ long, 2″ wide; fls. in truss of 5–7, funnel-campanulate, 4″ across, 2″ long, Azalea Pink (H.C.C. 618/3); early April.

Castle of Mey — cl. *barbatum* (pink form) × *chaetomallum*; (E. de Rothschild, Exbury, Hants.); fls. bright red.

Chateau Lafite — cl. 'Impe' × 'Jutland'; (E. de Rothschild, Exbury, Hants.); fls. dark red.

a Chetco — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove Oregon); fls. yellow with orange blotch; mid-season.

Cheyenne — cl. 'Jalisco' × 'Loderi'; (Harold Greer, Eugene, Oregon); compact, up to 3 ft. in 10 years; lvs. oblong, 5″ long, 2″ broad; fls. in open truss of 8–9, funnel-shaped, 7-lobed, 4″ across, 1½″ deep, yellow (Nickerson 3 Y 8.5/9) with slight orange brown marking in throat (N. 2.5 YR 4/7); mid-season.

Chikor — cl. *chryseum* × *ludlowii*; (E. H. M. and P. A. Cox Glendoick, Perth); lvs. elliptic, ½″ long, scaly; fls. in 5-flowered truss, corolla Primrose Yellow (H.C.C. 601/3), flat, lobes crinkled; calyx leafy. A.M. (R.H.S.) 1962.

China Boy — cl. *haematodes* × unnamed red hybrid; (raised by Georg Arends, Ronsdorf, Germany, introduced by G. D. Böhlje, Westerstede, Germany); dwarf; lvs. 5–7 cm. long, 3–4 cm. broad, thick light brown

felt below; fls. in loose truss of 10–15, scarlet with small red calyx; May.

a Clackamas cl. [Knap Hill]; 'Klondyke' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. salmon-coloured; mid-season.

a Coquille cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow, orange blotch; mid-season.

a Coos cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. pale pink with yellow blotch; mid-season.

Crarae cl. Parentage unknown, but possibly seedling or hybrid of *R. niveum* (Sir George Campbell, Crarae Inveraray, Argyll); lvs. as in *R. niveum*; fls. over 20 in compact rather tall truss, tubular-campanulate, fleshy, smoky-purple tinged with red.

Crowthorne cl. *aberconwayi* × *souliei*; (Crown Estate Commissioners, Windsor, Berks.); dwarf, compact; lvs. 2½″ long, 1½″ broad; fls. in tight truss of up to 11, flat, 2½″ across, 3″ long, white tinged with pink, upper lip spotted deep pink, buds China Rose (H.C.C. 024/2). Selected for Wisley Trials 1963.

a Deben cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Lemon Yellow (H.C.C. 4/2) heavily overlaid Lemon Yellow (H.C.C. 4/1), inner floret Indian Yellow (H.C.C. 6). H.C. (Wisley Trials) 1963.

a Deveron cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Chrome Yellow (H.C.C. 605/1) overlaid Lemon Yellow (H.C.C. 4/1), margins slightly tinged pink, blotch of Buttercup Yellow (H.C.C. 5) on lower floret. H.C. (Wisley Trials) 1963.

Edward Long cl. 'Fabia' × *fortunei*; (W. W. James, Eugene, Oregon) medium size, compact; lvs. 5″ long, 2″ broad, round at apex; fls. in round truss of 8–10, flatly campanulate, up to 4″ wide and 1½″ deep, buds Chartreuse Green (H.C.C. 663/2) opening to cream and retaining faint green centre blotch; May.

Edmund de Rothschild cl. 'Fusilier' × 'Kilimanjaro'; (E. de Rothschild, Exbury, Hants.); fls. dark red.

Exbury cl. *R. coryphaeum* seedling; (E. de Rothschild, Exbury, Hants.); lvs. 11″ × 4″; truss 32-flowered, globular, tightly packed; corolla deep campanulate, 2″ × 2½″ wide, translucent shade of very pale yellow, a few flowers in young stage tinged with Magenta (H.C.C. 27/2), throat blotched Ruby Red (H.C.C. 827). A.M. (R.H.S.) 1963.

Florence Mann cl. *rigidum* (*augustinii* var. *coeruleum* or *caeruleum*) × 'Blue Admiral'; (A. Bramley, Kallista, Victoria, Australia); fls. Sea Lavender Violet (H.C.C. 637/2–637/1); October.

Fred Wynniatt — cl. *fortunei* × 'Jalisco'; (E. de Rothschild, Exbury, Hants.); lvs. 6½″ long × 3″ wide; fls. 10 in lax flat-topped truss; calyx petaloid up to 1″ long; corolla 3″ × 4½″ wide, lobes overlapping, waved, Maize Yellow (H.C.C. 607/1), margin of petals flushed Neyron Rose (H.C.C. 623/2). A.M. (R.H.S.) 1963.

Glen Glow — cl. A hybrid of 'May Day' with an unknown parent; (hybridised by A. Bramley, Kallista, raised by Mr. Browne of Upway, and introduced by A. Raper, The Patch, all of Victoria, Australia); plant of good habit flowering in October; fls. Geranium Lake (H.C.C. 20).

Gnom — cl. *haematodes* × unnamed red hybrid; (raised by Georg Arends, Ronsdorf, Germany, introduced by G. D. Böhlje, Westerstede, Germany, 1959); slow growing; lvs. 4–8 cm. long, sparsely brown felted below; fls. in loose truss of up to 15, broadly funnel-shaped, about 6 cm. diameter, scarlet with large scarlet calyx; April-May.

Golden Oriole Talavera — cl. *moupinense* (white form) × *sulfureum* (J. C. Williams, Caerhays Castle, Gorran, St. Austell, Cornwall); lvs. 2″ long, 1¼″ broad, elliptic, petioles deep red; fls. in trusses of 3 or 4, Dresden Yellow (H.C.C. 64/2) with prominent brown anthers; corolla 1½″ long, up to 2″ wide at mouth, deep yellow spotting on upper lobes. F.C.C. (R.H.S.) 1963.

Golden Oriole Venetia — cl. *moupinense* (pink form) × *sulfureum*; (J. C. Williams, Caerhays Castle, Gorran, St. Austell, Cornwall); lvs. oblong-elliptic, 1½–2″ long, up to 1″ broad; fls. in trusses of 3, broad; fls. up to 1¾″ across, 1–1¼″ long, Primrose Yellow (between H.C.C. 601/2 and 601/3) suffused with pale reddish-pink and heavily spotted on upper lobes. A.M. (R.H.S.) 1963.

Goldilocks — cl. 'Dr. Stocker' × *campylocarpum* var. *elatum*; (M. Haworth-Booth, Farall Nurseries, near Haslemere, Surrey); plant about 5 ft., compact and wind resistant; fls. in loose truss of 12–14, 2½″ across, Dresden Yellow (H.C.C. 64/3).

a Humber — cl. Parentage unknown; (R.H.S. Wisley); deciduous; fls. Chrome Yellow (H.C.C. 605/1) edged with Porcelain Rose (H.C.C. 620/1), patch on upper petal Saffron Yellow (H.C.C. 7/1). A.M. (R.H.S. Wisley Trials) 1962.

Jade — cl. 'Fabia' × 'Corona'; (Rudolph Henny, Brooks, Oregon); fls. tinged with bright gold.

J'aime — cl. 'Jaipur' × 'May Day' (Reuthe form); (raised by Lester Brandt, Tacoma, Washington, and named by C. E. Simons, Seattle, Washington); compact spreading plant; lvs. 3″ long, 1½″ broad, with thin greyish-tan indumentum below; fls. in lax truss of 8–12, tubular-campanulate, 2½″ across, Orient Red (Nickerson 8/19/1) with faint crimson speckling on upper petal.

a James Belton cl. 'Albert Elizabeth' × 'Schryderi'; (E. Kirk, Epping, New South Wales, Australia); foliage similar to 'Magnifica'; fls. single, pink suffused with lavender; flowers for 8 or 9 months in the year in Victoria.

Kathy Doll cl. 'Corona' × 'Dondis'; (Rudolph Henny, Brooks, Oregon); lvs. up to 4½″ long; fls. flat, pink, waxy; late.

a Kensey cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Chrome Yellow (H.C.C. 605/2) heavily overlaid shades of Shell Pink (H.C.C. 516) and Poppy Red (H.C.C. 16/2), edged Vermilion (H.C.C. 18/2), blotch of Lemon Yellow (H.C.C. 4). A.M. (Wisley Trials) 1963.

Kimberly cl. *williamsianum* × *fortunei*; (Harold Greer, Eugene, Oregon); compact, up to 3 ft. in 10 years; lvs. oval to 3″ long and 2″ broad; fls. funnel-shaped, 3½″ across, in bud Persian Rose (Nickerson 2.5 7.5/5) opening to light Persian Rose (N. 2.5 RP 9/2) fading to white; April–May. P.A. (A.R.S.).

Kinglet cl. *racemosum* (Forrest 19404) × 'Finch'; (Rudolph Henny, Brooks, Oregon); lvs. up to 3″ long, ¾″ broad; fls. in truss of 3–4, tubular-campanulate, to 1¼″ across, ¾″ long, Fuchsine Pink (H.C.C. 627/1), base of tube outside Phlox Pink (H.C.C. 625); early April.

Lackamas Blue cl. *R. augustinii* seedling; (introduced by Ben Lancaster from stock originally obtained as cuttings from the Peter Kerr Estate at Washougal, Washington, from an imported plant); 4 ft. in 10 years; lvs. 3″ long × ¾″ broad; fls. flat in truss of 3–4, to 3¼″ wide, Sea Lavender Violet (H.C.C. 637); early mid-season. P.A. (A.R.S.).

a Lavender Bouquet cl. *poukanense* × hardy *poukanense* seedling; (Girard Nurseries, Geneva, Ohio); lvs. deep green, ¾″ × ½″; fls. lavender, hose-in-hose, up to 2″ diam.; mid-May.

Lisa cl. 'Catalgla' × 'Madonna'; (Joseph B. Gable, Stewartstown, Pennsylvania); plant to 5 ft. in 10 years; lvs. 8″ × 4″, elliptic; fls. about 18 to truss, up to 4″ across, white with Sap Green blotch (H.C.C. 62/2–62/1). P.A. (A.R.S.).

Little Lou cl. 'Lucy Lu' × *valentinianum*; (Mr. and Mrs. Maurice Sumner, San Francisco); 8″ high and 12″ wide in 6 years; lvs. obovate to elliptical, to 1¾″ long by ¾″ broad; fls. funnel-campanulate, 1¾″ across, yellow in bud, opening greenish yellow with touch of apricot; March. P.A. (A.R.S.).

Lydia cl. 'Antoon van Welie' × 'Day Dream, (red form); (Harold Greer, Eugene, Oregon); plant 4 ft. in 10 years; lvs. elliptical to 6″ long by 2½″ wide; fls. China Rose (Nickerson 8.5 RP 4.8/12), slight marking on upper lobes Cardinal Red (N. 5 R 3/7), rotate funnel-shaped, 5-lobed, to 4″ across, in tight truss of 12–14; late.

Mary Belle cl. 'Atrier' × 'Dechaem'; (Joseph B. Gable, Stewartstown, Pennsylvania); lvs. elliptic up to 5½″ long, 2½″ broad; fls. Salmon Peach with basal blotch of Cardinal Red (H.C.C. 822/2) and with spotting around blotch, widely funnel-shaped, to 4″ diam.; truss low rounded, flat-topped; late May. P.A. (A.R.S.).

Meadow Pond cl. *R. wardii* seedling (L. & S. 15764); (Crown Estate Commissioners, Windsor, Berks.); lvs. 3½″ × 2½″ wide; truss 10-fl., rounded, pedicels 1¼″ long, red-stained; calyx irregular, red-stained; corolla 1½″ × 2½″ wide, lobes waved, Primrose Yellow (H.C.C. 601/2), deep crimson blotch in throat. A.M. (R.H.S.) 1963.

a Mersey cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); plant 6 ft. high by 6 ft. spread; lvs. 4″ long, 1½″ broad; fl. truss 5″ diam., 5″ deep, compact, globular, 12 fls. to truss; corolla 4″ diam., 2½″ long, funnel-shaped, margins waved, Camellia Rose (H.C.C. 622/1) overlaid Camellia Rose (H.C.C. 622), patch of Chinese Yellow (H.C.C. 606) on upper petal. H.C. (Wisley Trials) 1962. A.M. (Wisley Trials) 1963.

Michael's Pride cl. *burmanicum* × *dalhousiae*; (Charles Michael, Head Gardener to C. Williams, Caerhays Castle, Cornwall); usually suitable for cool greenhouse culture; attractive bronze new growth; fls. large, 4–5″ long, tubular, creamy yellow, rather waxy.

Mid-winter cl. *R. dauricum* seedling; (Crown Estate Commissioners, Windsor, Berks.); sparsely branched, usually semi-deciduous shrub, occasionally retaining its leaves during winter; fls. in terminal clusters of 2–6, Phlox Purple (H.C.C. 632/1–632/2), rotate, with 5 spreading lobes. A.M. (R.H.S.) 1963.

Miss Jack cl. 'Ole Olson' × (*lacteum* × 'Mary Swaythling'); (D. W. James, Eugene, Oregon); plant medium sized, compact; lvs. 4½″ long by 2½″ broad; fls. in medium compact truss of 10–12, widely campanulate, up to 4″ wide by 2″ long, ivory with small area of red spots on upper petal; early May.

a Nene cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Venetian Pink (H.C.C. 420/3) overlaid Begonia (H.C.C. 419/3), lower floret blotched Amber Yellow (H.C.C. 505). H.C. (Wisley Trials) 1963.

Nimrod cl. 'Polka Dot' × *calophytum*; (E. de Rothschild, Exbury, Hants.); fls. pale pink, heavily spotted with brown.

Our Kate cl. *macabeanum* × *calophytum*; (E. de Rothschild Exbury, Hants.); lvs. 11″ long, 4″ broad; truss 20-flowered, large, heavy, lax; corolla deep campanulate, 3½″ long, 3½″ broad, white faintly tinged Primrose Yellow (H.C.C. 601/3), throat Ruby Red (H.C.C. 827). A.M. (R.H.S.) 1963.

Pink Frosting cl. *catawbiense* var. *album* × *yakusimanum*; (D. Leach, Brookville, Pennsylvania); lvs. obovate, 4″ × 2″ with thick indumentum; fls. pale pink (Nickerson 2.5 RP 8.5/3), reverse darker (N. 7.5 RP 6.5/11), buds bright pink (N. 7.5 RP 5.5/12), rotate campanulate, to 2″ diam., 14 per truss.

a Pink Plush cl. Deciduous Azalea; (D. Leach, Brookville, Pennsylvania, from seeds labelled "*R. furbishii*", as an advanced generation natural hybrid derived from *R. bakeri* and *R. arborescens*); lvs. 2″ × 1¼″, glaucous below; fls. strong pink (Nickerson 10 RP 6.5/14) minutely veined and shading to lobes tipped darker pink (N. 10 RP 4.5/14), faint orange blotch (N. 2.5 YR 7/7), to 2¼″ diam., 6–8 per truss in late June.

Pinwheel cl. Parentage unknown; (Rudolph Henny, introduced by Leona Henny, Brooks, Oregon); lvs. to 6″ long; fls. in truss of 7, up to 3¾″ wide, 7-lobed, creamy yellow, gold centre, Chinese Rose stripes on petals like spokes of a wheel; June.

a Pouffe cl. *kaempferi* ♀ × *indicum*; (M. Haworth-Booth, Farall Nurseries, near Haslemere, Surrey); evergreen; low compact spreading plant; fls. 1¼″ across, Azalea Pink (H.C.C. 618/1); early June.

Reine Long cl. *taronense* × 'Else Frye'; (cross made by Dr. Paul J. Bowman, Fort Bragg, California raised to flowering size by E. H. Long, Oakland, California); fls. semi-erect in loose truss of 4–5, rotate, to 3¾″ wide by 2½″ long, very fragrant, white, large blotch of Indian Yellow (H.C.C. 6/1), lobes streaked with Rose Madder (H.C.C. 23/1).

a Ribble cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); plant 5 ft. high, 5 ft. spread, compact; lvs. 3¼″–3½″ long, 1½″ wide; fl. truss 4½″–5½″ diam., 3″ deep, fairly compact, dome-shaped, 13 fls. per truss; corolla 3½″ diam., 2½″ long, funnel-shaped, margins frilled, between Camellia Rose (H.C.C. 622/1) and Neyron Rose (H.C.C. 623/1), single upper petal orange; flowering from June 1st, 1963. H.C. (Wisley Trials) 1960. A.M. (Wisley Trials) 1963.

a Ruth Kirk cl. 'Albert Elizabeth' × 'Splendens'; (E. Kirk, Epping, New South Wales, Australia); evergreen Azalea; fls. single, rich vermilion-pink in bud, marbled with paler colour as flower opens; flowering in Victoria at end of September.

Sady cl. 'Cornubia' × *arboreum*; (A. Bramley, Kallista, Victoria, Australia); fls. similar to 'Cornubia', Cardinal Red (H.C.C. 822/3) to Currant Red (H.C.C. 821/3); flowers from end of May to September.

a Saidee Kirk cl. 'Albert Elizabeth' × 'Sparkle'; (E. Kirk, Epping, New South Wales, Australia); evergreen Azalea with double flowers of a delicate shell pink.

a Santiam — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow with orange blotch; mid-season.

a Scarlet Glory — cl. 'Aladdin' × unnamed red seedling; (Girard Nurseries, Geneva, Ohio); evergreen Azalea; lvs. 1¼″ × ¾″, bright green; fls. brilliant scarlet, heavy substance, wide open.

Sesame — cl. *R. pachytrichum* seedling; (Lord Aberconway and the National Trust, Bodnant); fls. 4½″ long, 1½″ broad; truss 8-flowered, lax; calyx rim-like; corolla campanulate, 2″ long, 2½″ wide, white, some tinged in varying shades of Solferino Purple (H.C.C. 26/3). A.M. (R.H.S.) 1963.

Show-off — cl. 'Moonstone' × 'Carolyn Grace'; (Arthur O. Wright, Milwaukie, Oregon); plant compact mound, 3 ft. in 10 years; lvs. 2½″ long by 1½″ broad; fls. in lax truss, cup-shaped, to 2½″ wide, pale yellow; early April.

a Siletz — cl. [Knap Hill]; 'Hugh Wormald' × 'Klondyke'; (Howard J. Slonecker, Oak Grove, Oregon); fls. orange-yellow; mid-season.

a Silver Slipper — cl. Parentage unknown; (raised by L. de Rothschild, Exbury, introduced by Messrs. John Waterer, Sons & Crisp, Ltd., The Nurseries, Bagshot, Surrey); plant 4 ft. high, 7 ft. spread; lvs. 3½″ long, 1½″ broad; fl. truss 6″ diam., 4″ deep, compact, dome-shaped, 15 fls. to truss; corolla 3¼″ diam., 4″ long, funnel-shaped, margins finely dentate at tips, white slightly tinged Azalea Pink (H.C.C. 618/3), upper petals blotched Buttercup Yellow (H.C.C. 5/1); flowering from May 30th, 1963. A.M. (Wisley Trials) 1962. F.C.C. (Wisley Trials) 1963.

a Siuslaw — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow with orange blotch; mid-season.

Sparkle Plenty — cl. 'Pilgrim' × 'Red Cap'; (raised by Rudolph Henny, introduced by Leona Henny, Brooks, Oregon); fls. in tall trusses, light yellow to white with vermilion spots.

Springbok — cl. *griersonianum* × *ponticum* seedling; (A. F. George, Brakewood, Old Woking Road, West Byfleet, Surrey); 18 large flowers per truss, vivid carmine-pink spotted crimson.

Starlet — cl. 'Diva' × *williamsianum*; (raised by Halfdan Lem, introduced by Carl P. Fawcett, Tacoma, Washington); lvs. elliptic-oval, 3″ long by 1⅝″ wide; fls. in loose truss of 5–6, funnel-rotate, to 4″ wide and 2½″ deep, 5–6 lobed, Rose Madder (H.C.C. 23/2) to Crimson (H.C.C. 22/1); early May. P.A. (A.R.S.).

a Strawberry Ice — cl. Parentage unknown; (L. de Rothschild, Exbury, Hants.); plant 4 ft., 4 ft. spread, compact upright habit; lvs. 4¼″ long, 1½″ wide; fl. truss 5″ diam., 5″ deep, compact, globular, 23 fls. per truss; corolla 2¾″ diam., 2″ long, funnel-shaped, margins

lightly waved, Chinese Coral (H.C.C. 614/3) overlaid Porcelain Rose (H.C.C. 620/1), upper throat Indian Yellow (H.C.C. 6); flowering from May 25th, 1963. H.C. (Wisley Trials) 1962. A.M. (Wisley Trials) 1963.

Sugar Plum — cl. 'Moonstone' × 'Carolyn Grace'; (Arthur O. Wright, Milwaukie, Oregon); plant 3 ft. in 10 years, dense habit; fls. in lax truss of 5–8, wide funnel-shaped, to 3″ wide, deep pink; mid-April.

a Sun Chariot — cl. Parentage unknown; (L. de Rothschild, Exbury, Hants.); plant 5¾ ft. × 7 ft. spread, compact; lvs. 5¼″ long, 2″ wide; fl. truss 5½″ diam., 4¾″ deep, compact, globular, 11 fls. to truss; corolla 3⅛″ diam., 2½″ long, flat to funnel-shaped, margins waved, Chrome Yellow (H.C.C. between 605 and 605/1), very slightly overlaid Lemon Yellow (H.C.C. 4) with blotch of Indian Yellow (H.C.C. 6) on upper petal. A.M. (Wisley Trials) 1963.

Swinhoe — cl. *R. floribundum* seedling; (L. de Rothschild, Exbury, Hants.); lvs. 6″ long × 1¾″ wide, woolly tomentose below, crinkled above; truss 8-flowered, lax; fls. deep campanulate, 2½″ across, 3″ long, lobes frilled, Roseine Purple (H.C.C. 629/1) with dark crimson blotch in throat. A.M. (R.H.S.) 1963.

Taffy — cl. *R. griersonianum* hybrid; (Sir James Horlick, Isle of Gigha, Argyll, seeds from L. de Rothschild, Exbury, 1929); a close growing rounded floriferous bush; truss with up to 11 flowers of a glowing Geranium Lake (H.C.C. 20/1) fading to 20/2; mid-June.

a Tamar — cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Chrome Yellow (H.C.C. 605), upper petal Saffron Yellow (H.C.C. 7) tinged Chinese Coral (H.C.C. 614). H.C. (Wisley Trials) 1962.

a Tees — cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Porcelain Rose (H.C.C. 620/2) overlaid Porcelain Rose (H.C.C. 620) with small blotch of Buttercup Yellow (H.C.C. 5). H.C. (Wisley Trials) 1963.

Telstar — cl. 'Pauline' × *yakusimanum*; (R.H.S. Gardens, Wisley, Surrey); fls. Rose Madder (H.C.C. 23/2) becoming paler and almost white inside, upper throat Oxblood Red (H.C.C. 00823/3). H.C. (Wisley Trials) 1962.

a Tillamook — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. straw yellow, fading white, with orange blotch, to 3½″ wide; late mid-season.

a Tualatin — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. pale pink, deep orange-yellow blotch; mid-season.

a Tweed — cl. Parentage unknown; (R.H.S. Gardens, Wisley, Surrey); deciduous; fls. Geranium Lake (H.C.C.

20/2) overlaid on two upper petals with Rose Opal (H.C.C. 022/1). H.C. (Wisley Trials) 1962.

a Umatilla — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow with orange blotch; mid-season.

a Umpqua — cl. [Knap Hill]; 'Hugh Wormald' × 'Klondyke'; (Howard J. Slonecker, Oak Grove, Oregon); fls. orange-yellow; mid-season.

Vanity — cl. *griffithianum* × a hardy hybrid; (W. C. Slocock Ltd., Goldsworth Nursery, Woking, Surrey); fls. blush fading to pearly white.

Vienna — cl. 'Naomi' × *wardii*; (same parentage as 'Idealist', under which name it was sent to Knap Hill from Exbury); (raised by Exbury Gardens Ltd., introduced by Knap Hill Nursery Ltd.); fls. pale yellow. P.C. (R.H.S.) 1962.

a Winchuk — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. deep yellow with orange blotch; mid-season.

a Yachats (pronounced Ya-hots) — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. deep yellow with orange blotch to 4″ across; late mid-season.

Yamina — cl. 'Letty Edwards' × *fortunei*; (A. Teese, Monbulk, Victoria, Australia); fls. Uranium Green (H.C.C. 63/3) feathered red in upper lobe; October.

a Yaquina — cl. [Knap Hill]; 'Hugh Wormald' × 'Marion Merriman'; (Howard J. Slonecker, Oak Grove, Oregon); fls. yellow, orange blotch; mid-season.

CORRECTIONS

Saint Breward — cl. *augustinii* × *impeditum* ♀ ; (raised by Magor, 1936, introduced Harrison from cutting taken in 1949 from the original plant in the garden of Lamellan and now dead). Description as in Rhododendron and Camellia Year Book 1963.

Saint Tudy — cl. *augustinii* × *impeditum* ♀ ; (raised by Magor, 1936, introduced Harrison 1961); truss of up to 15 fls., 2″ diam., 1¼″ long, shallow campanulate, Lobelia Blue (H.C.C. 4122); A.M. (R.H.S.) 1960.

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(a) *denotes Azalea*

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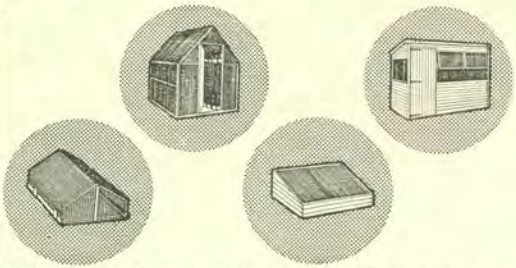

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