

Vol. III., No. I., 1925.

The
Rhododendron Society
Notes.



REPRINTED BY
THE PACIFIC RHODODENDRON SOCIETY

ACKNOWLEDGEMENTS

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RHODODENDRON, CAMELLIA
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2017



THE PACIFIC RHODODENDRON SOCIETY

"Dedicated to the Hobbieist and Home Gardeners"

Foreword

The Pacific Rhododendron Society has reprinted the Rhododendron Notes in an effort to further the knowledge of the Genus Rhododendron by those enthusiasts with an avid interest in the history, exploration and biographical sketches contained herein.

The Rhododendron Notes are offered to the end that the reader may more easily understand the progress encouraged by those who contributed the wealth of information contained in these volumes, thereby making clear our understanding of the Genus Rhododendron today.

The Society wishes to gratefully acknowledge the efforts on our behalf by the following persons and organizations: Dr. R. Shaw, Curator and M.V. Mathew, Librarian of the Royal Botanic Garden Edinburgh, Scotland, for providing the missing numbers; Lord Aberconway and John Cowell, Secretary of the Royal Horticultural Society, for certain photocopies and other considerations, Sir Giles Loder and Sir Edmund de Rothschild for their esteemed counsel, and to Thomas V. Donnelly our printer.

Our greatest appreciation to Dan E. Mayers of Lorien, Wadhurst, England for providing the originals and the inspiration. Without his assistance this project would never have become a reality.

The Pacific Rhododendron Society
1976

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The Pacific Rhododendron Society
9025 Waverly Drive S.W.
Tacoma, Washington 98499

Printed in the United States of America.

The Rhododendron Society Notes.

NOTES

CONTRIBUTED BY
MEMBERS OF THE SOCIETY
FOR THE YEAR
1925

All communications regarding the publications of the Rhododendron Society
should be made to Charles Eley, Esq., East Bergholt, Suffolk.

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ADDRESS BY CAPTAIN KINGDON WARD AT A MEETING OF THE
SOCIETY HELD AT 46 PARK STREET, W. 1, ON WEDNESDAY,
6TH MAY 1925.

J. C. WILLIAMS, Esq., in the Chair.

Captain KINGDON WARD : These are about half the number of species of Rhododendrons that I collected. Kew kindly sent on these mounted. I have only here those which I found in flower. I should think about as many more I found out of flower. I am sorry to say that two species in flower are not included here, the orange cinnabarinum and a curious little aromatic dwarf purple-flowered species, which I could not place. All those which were collected in the Gorge in the winter—we went through the Gorge during the period from the middle of November to the end of December—are not included here, as I thought it not worth while to show foliage only.

5845. ♣ The first one is obviously the *Forrestii* series, but is not *repens* itself. It covered the rocks with scarlet flowers, and is a very floriferous species. The flowers themselves were higher above the surface of the rock than any other part of the plant; that is to say, it is an absolutely prostrate species. I do not know whether it will do better or worse than *repens*. It grows on the sunnier side of the valley, where the snow melted first in June, and where the snow was melting again in the middle of October when I collected the seed. A great many of the plants, of the Alpine plants, of which seed was collected in October had to be dug out of two feet of snow, but this scarlet *repens* was on the rocks where the sun had melted the snow, on very steep cliffs. In June you could see these great sheets of scarlet a mile away across the valley.

A MEMBER : How would you separate that from the forms of *repens* you have met with in the Yunnan country ?

Capt. WARD : I have never seen *repens* itself in flower. I have never seen one of them before.

A MEMBER : Mr. Farrer found one, did he not ?

Capt. WARD : I do not remember. I saw either *repens* or *Forrestii* in Upper Burma, but it was not in flower.

A MEMBER : They grow in very much the same sort of places ?

Capt. WARD : Very much the same, on very steep granite cliffs with a south aspect; that is to say, where the snow melts first in June and where it melts in the intervals between the snowstorms in October.

A MEMBER : How much drought do they get ?

Capt. WARD : They get none at all. They only grow where the rainfall is very heavy and all the year round; that is to say, as soon as the rain ceases the snow begins.

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A MEMBER: Do they get much sun?

Capt. WARD: Very little. I do not think the sun does them much harm so long as the ground is drenched. You may get one day's sunshine, but the rock is absolutely soaked.

A MEMBER: Have you the seed number with you?

Capt. WARD: It is on them, 5845.

5846. The second is either a *Forrestii* or a *Neriiflorum*. It is rather bigger than this repens one, and with deep crimson instead of scarlet flowers. The truss bears about three flowers.

A MEMBER: The same sort of country?

Capt. WARD: Exactly the same place. This grew on the same sheltered side where the Rhododendrons are larger.

A MEMBER: Is this the one you called Scarlet Runner?

Capt. WARD: The first one was Scarlet Runner. The second we called Scarlet Pimpernel. As a matter of fact, the second one is not scarlet but more crimson.

A MEMBER: Did you take any water-colours?

Capt. WARD: No.

A MEMBER: What is the height of these?

Capt. WARD: These grow rather low. I saw them as low as 10,000 feet.

The third one I called Carmelita in the despatches. It is bigger again. It grows, I should think, a foot high and forms a big low-growing shrub with very bright carmine flowers, so different from Scarlet Runner that it was easily distinguished when you got the whole mass. It did not actually grow with Scarlet Runner, as a matter of fact, but again kept to the more sheltered part of the rock. I think it is of the *Neriiflorum* series, and probably of the *Sanguineum* subseries. This one in particular had to be dug out of two or three feet of snow. The capsules are rather striking. They are rather long-shaped and very nearly scarlet before they are ripe. It is one of the few Rhododendrons I have seen in which the capsules themselves are picturesque objects. You have generally about three flowers in a truss, and lots of the capsules which I dug out of the snow were intact. I found them still in threes, simply lying in the snow. A few were just cracked at the top, whereas on the other hand with Scarlet Runner practically every capsule I collected was wide open, and flat on the rock. A puff of wind scattered the seeds immediately.

A MEMBER: About how long is it from the ripening to the flowering of the seed?

Capt. WARD: They were all found in flower about the 20th June, and the seeds were ripe in the middle of October, the shortest period of any Rhododendron I know. All the dwarfs, as a matter of fact, and the *Campylogynums* were just about the same, about four to five months.

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A MEMBER: How far away were 45 from 47?

Capt. WARD: Not more than half a mile, just across the valley. But the two sides of the valley were very distinct. One was a sort of Giant's Stairway, the sunny side of the valley, and the other side was just a great mass of boulders and rocks. There were no glaciers in this part, but it was obviously a glaciated valley.

5861. That was, I think, one of the Sanguineum subseries, of which I found no flowers. I found it just at the end. It had the Sanguineum type of flower, and then I found some plants in fruit in October. It is bigger again. It grows perhaps 18 inches to 2 feet high and forms a bush. It was generally swamped in a series of other species, so that it was rather difficult to spot it, and we practically missed it in flower.

A MEMBER: Did the Gorge run east and west?

Capt. WARD: The Gorge runs north-east—south-west. These were found actually to the east. Perhaps I had better explain that all these species I am showing at the moment, these four Sanguineums to which I am referring, were found only on the extreme eastern end of the Himalayas; that is to say, on the south side of the Brahmaputra.

A MEMBER: It is quite a different district from the Sanguineums that we have.

Capt. WARD: Absolutely. You would have to cross the whole of the Irrawaddy basin to get there.

5659. I now go on to a species which was found on both sides of the Tsangpo in the beginning of the forest country. Coming down the Tsangpo Valley from the very high, barren plateau country, where there were no trees at all, this was one of the first Rhododendrons that we found where the forest of Juniper and Picea began. To my mind it recalls a very fine habrotrichum, but there are never more than four flowers in the trusses. They are drooping. They are striped a very pale pink-and-white. It gives a very beautiful effect. The tree grows perhaps 20 feet high, and is always in the forest. It has large corollas.

A MEMBER: The foliage is very distinct, is it not?

Capt. WARD: The foliage is very distinct. The pedicle, the leaf pedicle, is hairy and bristly. I think it must be one of the Barbatum series. Otherwise I cannot place it.

A MEMBER: The Souliei is very nearly as hairy in some places.

Capt. WARD: I think it is a Campylocarpum or a Barbatum. I was very doubtful whether it was a Barbatum or a Campylocarpum.

A MEMBER: The hairs are very well shown there.

Capt. WARD: Yes, they are very distinct. It grows on both sides of the Tsangpo.

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A MEMBER : What is the Picca that you were speaking about ?

Capt. WARD : I do not know. I think I got some seed. I certainly got some specimens. I do not think it is anything very out of the way.

5736. This was the—I think I called it in my notes Wardii; anyhow, it is a Souliei, one of the Souliei subseries. It is rather like campylocarpum in this respect, that it has brick-red buds which then open to very bright yellow flowers—that is to say, sulphur-yellow.

A MEMBER : One notices the bark and the twigs are quite different from the bark of the European flower. It is harder, and it has a grey-and-fawn-coloured look about it, which ours does not have.

Capt. WARD : 5853. I thought at first that this was an Alpine form of the Souliei species. It is the one I have referred to in my notes as the Yellow Peril, because it seemed to swamp the mountain-sides in certain parts. The flowers are very like the previous one—that is to say, they are bright sulphur-yellow; but I found a good many botanical distinctions between the two. But apart from that, in the winter this was easily distinguished by the very bright glaucous foliage. This again was visible against the cliffs a mile away, great splashes of a sort of light sea-blue green due to the glaucous foliage. The flowers are rather like the previous one. I do not remember that the buds were bright red. These grow in the same valley as the Sanguineums, and grow mixed up with Carmelita. One could almost walk over the top of it. It formed enormous patches of this brilliant sulphur-yellow flower in June, and seeded rather late. I did not collect the seed until the end of October.

5759. This was a Lacteam with very variable flowers. It formed a shrub, generally growing socially, as high as 8 or 10 feet, but very often, where it ascended right into the Alpine region, becoming rather smaller, perhaps 3, 4, or 5 feet. The under surface of the leaf has the typical Lacteam indumentum, very like Traillianum. The flowers vary enormously, purple and cream, sometimes red, and sometimes white, rather as Farrer described aiolosalpinx.

A MEMBER : What kind of yellow ?

Capt. WARD : Quite a pleasant yellow, but not a striking yellow, perhaps more cream than sulphur. It does not compare with the colour of a Souliei or Campylocarpum.

A MEMBER : You could see it from all sides ?

Capt. WARD : Yes, I collected it on both sides of the river.

A MEMBER : I take it that you have gathered it more or less from the top branches of the shrub ?

Capt. WARD : Yes, I generally do.

A MEMBER : What would be the average height of this Lacteam series ?

Capt. WARD : About 8 feet. It grew a bit higher than that and a bit shorter. There is one point I would like to make, and that is the beauty of its foliage, when it is breaking. In the usual way the leaf-buds break vertically. Their leaves come up in a sort of plume and form a very striking patch. The outer

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surface of the leaf is covered with a sort of sheen of small scales, which drop off eventually when the leaf is mature; and the under surface is bright silver. When this catches the sun, it is even more striking. The young seedlings of this plant do not have any indumentum till about four years old. In fact, I was greatly puzzled: I thought it was a different species, and spent quite a long time looking for the parent plants of it.

5863. Another Lacteam, which in fact I think is only the Alpine form of the previous one. This forms the same sort of dense jungle, growing not more than 3 feet high, and has the same variegated-coloured flowers. This grew with Yellow Peril and the Sanguineums in the same valley on the sheltered side of the slope.

A MEMBER: About what height?

Capt. WARD: About 3 feet.

A MEMBER: And very slow-growing, I suppose?

Capt. WARD: Yes, and the branches all twisted amongst each other. You could walk on top of the thing, practically, rather after the style of niphargum. It is certainly a Lacteam.

A MEMBER: That was quite out in the open?

Capt. WARD: Yes, in the Alpine region. By Alpine I mean above the normal tree growth. The snow-line is very low on the Eastern Himalayas, not more than 14,000 feet.

5718 was the only other Lacteam which I got, and recalled to me Beesianum. It has rather the leaf of Beesianum. It is a tree, I should think, on the average 20 to 30 feet high. It grows more or less socially in the Upper Abies Forest, and it has very large, handsome trusses of flowers, which also vary. I should say they were usually cream with a blotch at the base. It flowered very badly last year, so that I only got one or two specimens of the flowers, but I got a fair amount of seed, I think. I notice particularly that some species in any given year flower extraordinarily well, and others extraordinarily badly.

5671. This is the first specimen I found flowering.

A MEMBER: What series is that we have just seen?

Capt. WARD: Lacteam, I think. It recalls Beesianum, but the Beesianum flower is pink, and this one is usually cream and has a flash at the base of the corolla, which I do not think Beesianum has.

5732 is the one I referred to in my notes as the pink Fortunei. It is a tree of about 25 feet, growing in the middle of dense forest with a certain number of Picea trees. Not high up; I should think about 10,000 feet on the average. It flowers in early June. It has rather handsome trusses of bright rose-pink flowers without any purple in them. It is one of the species with tawny, absolutely smooth trunks. There is a plant, gymnogynum, which has the same sort of trunk.

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A MEMBER: How many lobes has the flower? We are rather inclined to separate Fortunei from Arboreums from the fact that they have more lobes to the flower.

Capt. WARD: I think this has only five.

5830. This is the one about which there has been a certain amount of controversy. I called it "Coals of Fire" in my despatches. It has bright scarlet pendent flowers, and a truss of four or five. It is distinguished from any Rhododendron known to me by having at the base of the corolla five small circular jet-black glands. These are not, as you get in the Arboreums and Delavayi, patches which look black; the base of the corolla is not pinched up at all. It is perfectly open, and you get a circle of five coal-black glands. The leaf rather suggests Thomsonii.

A MEMBER: This is the nearest point to China?

Capt. WARD: Yes, barring the Gorge itself.

A MEMBER: Did you find the seeds on the plant?

Capt. WARD: I got one or two specimens with capsules. This plant was a forest plant, generally occurring on the banks of streams. It also grew in the Picea forest on very steep slopes right away in the dark. Of course, this forest is not jungle: it is fairly open, but heavily shaded. It grew into a considerable bush. I should think the highest plant I saw was about 10 feet high, but it grew rather spreading, rather in the ponticum style. It did not go into the Alpine region, but was more or less sheltered; but it certainly preferred to grow absolutely on the banks of flowing streams in the forest. I think it was a very striking species, but that was partly because it was the first scarlet-flowered Rhododendron we saw, and we had been rather bemoaning our fate on the Tibetan side of the river that we had seen no scarlet-flowered Rhododendrons. As soon as we tackled the Himalayan Ridge itself in the middle of June, the first thing we came across was this brilliant scarlet-flowered Thomsonii. The fruit itself is not very like a Thomsonii. The flowers are abundant, and the pedicle of the flower is peculiarly curved. As you know, in most pendent flowers, when they fruit the pedicle gives a twist to bring the fruit vertical in order to shake the seeds out. This species hardly did that at all. The capsules themselves remained almost pendent.

5843 is the one I called Plum Glaucum because it had the foliage of a glaucum Rhododendron and the flowers of campylogynum.

A MEMBER: There are no hard varieties in that district?

Capt. WARD: Do you mean as timber?

A MEMBER: Yes.

Capt. WARD: I really could not say. You mean like maple? Not in these particular forests. We did not see any oaks till we got down the Gorge, but we saw maple and birch.

A MEMBER: Where are we now?

Capt. WARD: We are still on the Himalayas.

A MEMBER : What sort of height is this ?

Capt. WARD : This is on the Alpine region, 12,000 feet. I only found one patch of it, and we came across the flowers absolutely by accident when we were on our way back to camp. I thought the thing was probably quite common, and did not mark it. When we came to collect seed, we never saw it again, and when we were collecting seed I thought I should not be able to find them because the whole mountain was under snow, but I came by chance on the one patch we had found.

A MEMBER : How did you mark them ?

Capt. WARD : Generally speaking, I did not mark an individual plant unless I found it was very rare. Then I tied on a metal label.

A MEMBER : And you can find that again in October ?

Capt. WARD : I trust to do so. As a matter of fact, I found nearly all. In the case of that Ivory Meconopsis, of which we found only six plants, I marked it with cairns of stone, but shrubs and trees I mark with a metal label.

5844, I think, is of the pink Himalayan glaucum type. It has not nearly such a red flower as those shown yesterday. This is much more a cherry pink, like many of the Japanese flowering cherries. Particularly when we crossed the Himalayas we found it running almost to mauve. It really was a beautiful sight, little bushes growing in tremendous thickets. This was quite one of the commonest species of the thickets, and the flowers ran from almost apple pink to very nearly a pure mauve.

A MEMBER : Is the seed very like the bracteatum seed ?

Capt. WARD : I do not know the bracteatum seed.

A MEMBER : For the ordinary layman it is very like glaucum seed.

Capt. WARD : Yes, this was very like glaucum seed. It was slightly aromatic, but not very strong and not unpleasant.

5661. This was the one and only taliense, which at its best is a very fine plant. It has the thick, bright, silver-white indumentum of the typical taliense. In a broad way it is the Taliense series.

5644. Then come these Lapponicums, of which I distinguished three species in the field. They grew as low down as any Rhododendron we saw ; I think the lowest down we saw, as a matter of fact. Great masses of these plants grow wherever you get birchwood. Just above the drier path of the river you would get silver birches with an undergrowth of these purple flowers, Lapponicums. I suggest that as a rather picturesque effect.

A MEMBER : What heights were these ?

Capt. WARD : This was quite low down. They were generally under copse-wood. It also grew as undergrowth amongst bigger bushes of the Taliense, the previous one.

A MEMBER : Always in the shade ?

Capt. WARD : I suppose half-shade.

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5792 is an Alpine Lapponicum. There is one thing about the Lapponicums : in the drier country and the great river gorges, you get hundreds of square miles of practically nothing else but Lapponicums and *R. racemosum*, growing together where it is very dry. That is to say, you get a very heavy summer rainfall, but then at least six months of really dry weather with very little snow. The Lapponicums seem to require conditions of that kind. They seem to stand a great deal more drought than most Rhododendrons. They must not get drought in the summer. Therefore in this country in which I was working they were particularly scarce. On the other hand, that may be because in Yunnan, as you know, it was practically all limestone rock, and possibly the Lapponicums thrive on limestone. Certainly great patches are definitely found on limestone and nothing else. We saw no limestone at all, and the rock we are dealing with is gneiss or schist, and there were only one or two species of Alpine Lapponicum.

5829, I think, is *trichocladum*. That is the specimen with the rather hairy surface.

A MEMBER : How far west is *racemosum* ?

Capt. WARD : I did not see it on this journey at all.

5851. I think this is a good one, a good *trichocladum*. It is an Alpine, growing also with the *Sanguineums* in the same place, on the fully exposed side of the mountain on very steep grassy slopes. The plants which grew with it were mostly herbaceous. It was in little scattered bushlets, amongst *primulas* and *gentians*, in very gravelly well-drained soil. It flowered before the leaves came out, and was simply one mass of bright yellow, the corollas reddened on the reverse. When we first saw it, we thought we had found something entirely new, but it turned out to be a *trichocladum* of this nature. It flowered very freely indeed. It flowered in the middle of June, and I collected seed of it at the end of October. It might have been 3 feet high in some places, but the average was less. In exposed places they were not more than 2 feet high.

5810. This was the *Strawberry Saluenense*, but I am open to correction there. It flowered rather late, considering that it was found on the north side of the Tsangpo rather high up in the Alpine region, about 14,000 feet, in huge clumps and mixed with two other species, one Lapponicum and one *Anthopogon*; that is to say, there were no *Sanguineums* or *Campylogynums* there, only these three species covering scores of square miles of moorland, absolutely open moorland, but rather drier than the Himalaya itself. This is the next range to the north of the Himalayas. These great ranges run east and west, and they get successively drier and drier as you go north, until you reach the plateau, where there are no Rhododendrons and hardly any plants at all.

It was replaced on the Himalayas by another quite obvious *Saluenense*, 5828, which rather recalls to my mind *calostrotum*. This forms little bushlets 6 or 9 inches high, generally growing by the side of streams, but also in the open meadows, with bright purplish-crimson flowers. The flowers of both recall *saluenense*. To my mind the previous one is the better. It has flowers of crushed-strawberry. Also, the previous one has very aromatic foliage, which

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this one has not. For this reason I am very doubtful whether the previous one is a Saluenense.

We now go right down to the Tsangpo Gorge itself, and come to a bush which I found growing on an exposed rubble scree in very poor earth, a bush with extraordinary leathery leaves and bright pink flowers. The number is 6354. I cannot place it in any section. It does not get a great deal of sun because there is so little, but it flowers in the winter when all the sun that is going is to be had. It corresponds to what is the cold weather in India. It is about 6000 feet up. I think it is quite a handsome bush. It might be useful because it grows in a particularly poor soil and in a sunny situation. The rock here was mostly schist.

A MEMBER: Is it sweet-scented?

Capt. WARD: No, it is not scented at all. The flower is pink, a rose-pink, not purple. I do not think it has the *Maddenii* leaf at all.

5790. This is going back to the drier range again. This plant I could not place. I thought at first it was a *Triflorum*, and then perhaps a *Heliopsis*. The flowers are a very bright rosy purple. It formed undergrowth in the *Picea* forest, on rocky slopes, growing at certainly not less than 11,000 to 12,000 feet. A very fine sight massed in the forest. The bushes were 8 or 10 feet through, and grew perhaps 12 feet high. It liked particularly growing in these deep glens in the *Picea* forest, where the torrents were coming straight down from the Alpine region. The colour is bright rosy purple. The bells are hanging. It is much brighter and deeper than *rubiginosum*.

6333. This is an obvious *Maddenii* from the Gorge, a rather slim and slender thing. It was flowering in December, and the capsules were ripe, of course, at the same time. Evidently it takes ten to twelve months to ripen its seed.

A MEMBER: Did you get frost in the Gorge at that time?

Capt. WARD: Yes, I have the degrees in my diary. I should think somewhere about 5 to 8 degrees. This species grew in thickets, where it probably did not get any frost at all. It grows about 15 feet high, and flowers very freely at the top. It is very fragrant. The leaves are quite flat. The flowers are white, with a dash of egg-yellow at the bottom. There were three or four flowers to a truss. The biggest plant I saw was 12 to 15 feet high, but very slender. The one from which the flowers were taken was only about 6000 feet. It was growing right in the Gorge.

5877. This is the big *fulvum*, a tree of about 25 feet high, growing at the upper limit of the forest, but always in the forest, just on the edge of the forest, amongst birch and maple. I only saw it in one place on the Himalaya. The leaves were extraordinarily striking. They were bright cinnamon-red beneath. We found the plant rather by luck. We went up to the top of the pass in June. We were unable to cross the pass because we could not get our kit over in the deep snow. This was at the very end of June. On the top of the pass we found a sprig of this *Rhododendron* stuck in a little cairn of stones. We knew this tree did not grow on our side of the pass, and we decided to make an expedition down the valley until we came to it. We returned to camp that day, and next day started very early in the morning, climbed up to the pass, and had a diffi-

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cult time in the snow on the other side. We got down into the valley on the other side, and one of the first things we saw was this tree in the forest. The flowers are cream with a purple flash. In October we were able to move our camp over the pass and get the seed.

5687. This was what I call the mahogany Triflorum. The flowers vary enormously, but on the whole they are yellowish. Not the pure yellow of *R. lutescens*, but rather a brownly or sometimes salmon-pink yellow. I think this is one of the most striking Rhododendrons we saw. It was very widely distributed. Sometimes we got really bright salmon-pink flowers, with a mahogany splash at the base, sometimes more yellow, and sometimes brown. I got seed from a great many different localities. It is fairly widely distributed.

A MEMBER: Did you mix the seed?

Capt. WARD: Yes, they are all mixed.

5842. A *Campylogynum*. This flower was plum-coloured, very like *dama-scenum*. It was growing with the *Sanguineums* and the plum-pink *Glaucums*. It seeded rather earlier than the others, and I am afraid I did not get very much seed of it. A good deal of it was lost in the snow, but I think there is enough to raise it. The flower trusses are quite upright, but it is one of these sprawly things, perhaps nearer a *Sanguineum* than a *Campylogynum*. The flowers are like ship's ventilators on long stalks. The flowers are fluorescent, as I think they are in all the *Campylogynums* I have seen. That is to say, by reflected light they have this purple bloom on them, but if you have the sun shining through them they are sheer port-wine colour.

5994 is a yellow *Lepidotum*. The only other yellow *Lepidotum* I know is a *salignum* from Sikkim. I only found one patch of it. It flowered very badly and seeded worse. The flowers are quite a bright yellow. If it flowered well, it would be a good plant.

5940. This was another *Lepidotum*, with purple flowers. I take it the purple one is *Baileyi*. The point about the *Lepidotums* is that they flower so late.

5879-5880. In the Abor Hills I found a series of Rhododendrons which I am quite unable to place. They had very big flowers, and are small shrubs. They are not all the same, but evidently related to each other. These were growing in the most appalling tangle I have ever seen, about knee-deep, rather more than knee-deep. You could not walk on top of them, and it was almost impossible to hack your way through them. The slopes were very steep and rocky, and there was just this absolutely intricate confusion of gnarled stems. They had flowers of all colours, some cherry-coloured and some white speckled purple. It has a leaf rather like an *Azalea*. These were growing in the wettest climate that we struck anywhere, a place where it rained six months in the year and snowed the other six.

5875 and 5878 I cannot place. They belong to this same set.

A MEMBER: Do you consider the colour of this last flower to be good?

Capt. WARD: The best forms of them certainly. One had white flowers speckled purple. As a group they were very good.

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5655. A *Virgatum*. Fine pink flowers, very fragrant. It grows where most *Virgatums* grow, on bracken-clad slopes under pinewood, in rather dry, sunny situations. It grows in semi-open situations and thickets. The highest was about 9000 feet, but it may well be hardy. There is quite a sharp winter there. It flowers rather early, but I think it breaks late. It flowers about May.

5641 and 5700. The *Anthopogons* were very confusing, with either pale shell-pink or pure white flowers and almost a blood-red under-leaf. I think these two are the same species. They generally grew as rather thin, straggly shrubs.

5849 and 5850 are Alpine *Anthopogons*. 5849 has yellow flowers, and 5850 red flowers. They were also found in the same valley as the *Sanguineums*, quite close to them but on the shadier side. They form thickets sometimes by themselves. They grow about 1 to 1½ feet high.

5733. The last is the snow-white *Anthopogon*, which is a dwarf. It has snow-white little flowers, rather after the style of *sphaeranthum*, and a very dark indumentum. It grew with the crushed-strawberry *Saluenense*. It covered acres and acres of this rather dry, peaty moorland. When at full bloom it was perhaps one of the most striking dwarf *Rhododendrons* of all. You got these little clots of flowers just like sea foam scattered all over the dark-green surface of the moorland, mixed up with clouds of *Strawberry Saluenense* and a little purple *Lapponicum*. It grows no more than 9 inches high, and the leaves are aromatic, and dark chocolate on the reverse. It is a very floriferous species also. Most of the *Anthopogons* that we found are inclined to be rather leggy and to get straggly, but this was a very compact little shrub, and formed hassocks of these deep-green leaves.

CHAIRMAN: May I thank Mr. Ward on behalf of all of us for his great kindness, and specially for his patience in answering all our questions? Nothing could possibly be better. Perhaps we are not all quite sane on the subject of *Rhododendrons*, so it would hardly be possible for us to have a pleasanter evening.

The meeting concluded with a vote of thanks to Mr. Lionel de Rothschild, to whom the Society is also indebted for the above verbatim report of Captain Ward's address.

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SCHEDULE OF THE RHODODENDRON SOCIETY'S FIRST SHOW,
TO BE HELD AT THE ROYAL HORTICULTURAL HALL, VINCENT
SQUARE, LONDON, S.W. 1, ON TUESDAY, 27TH APRIL 1926.

Committee :

The Hon. H. D. McLAREN.

E. H. WILDING, Esq.

LIONEL N. DE ROTHSCHILD, Esq.

P. D. WILLIAMS, Esq.

J. B. STEVENSON, Esq.

CLASS.

- 1 Best group of Rhododendrons shown by a trade exhibitor.
- 2 Best group of Rhododendrons shown by an amateur.
(Exhibitors should state in Classes 1 and 2 how much space they require, and according to the amount available it will be allotted at the discretion of the Secretary of the Royal Horticultural Society. Exhibitors should note that Rhododendrons only are allowed to be exhibited in these classes, and although moss may be used as a covering, it is not necessary. Their attention is further called to the fact that Rhododendrons may be shown either cut or on plants, and either grown in the open or under glass.)
- 3 12 Species, distinct, single truss of each.
- 4 12 Hybrids, single truss of each.
(Not more than three, and only distinct seedlings of the same cross, may be shown.)
- 5 3 Species, distinct, single truss of each.
- 6 3 Hybrids, not of identical parentage, single truss of each.
- 7 Best Species, one truss.
- 8 Best Hybrid, one truss.
- 9 One truss of Falconeri.
- 10 One truss of Wightii.
- 11 One truss of argenteum or grande.
- 12 One truss of calophytum.
- 13 One truss of lacteum.
- 14 One truss of fictolacteum.
- 15 One truss of Aucklandii or Griffithianum.
- 16 One truss of arboreum, blood-red.
- 17 One truss of arboreum, any other colour.
- 18 One truss of niveum.
- 19 One truss of campanulatum.
- 20 One truss of Fortunei, Houlstonii, or any form of decorum.
- 21 One truss of Davidii, Fargesii, haematocheilum, orbiculare, or oreodaxa.
- 22 One truss of pachytrichum or strigillosum.
- 23 One truss of campylocarpum, croceum, or Wardii.
- 24 One truss of Thomsonii.
- 25 One truss of haematodes or sperabile.

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CLASS.

- 26 One truss of *neriiflorum*.
- 27 One spray, not exceeding 18 inches from the top of the vase, of *rubiginosum*.
- 28 One spray, not exceeding 18 inches from the top of the vase, of *Augustinii*.
- 29 One spray, not exceeding 18 inches from the top of the vase, of *chartophyllum*, *Davidsonianum*, or *yunnanense*.
- 30 One spray of a Chinese or Himalayan alpine species, not exceeding 8 inches in diameter or 15 inches in height, of a mauve or purple colouring.
- 31 One spray of a Chinese or Himalayan alpine species, not exceeding 8 inches in diameter or 15 inches in height, of a yellow colouring.
- 32 One spray of a Chinese or Himalayan alpine species, not exceeding 8 inches in diameter or 15 inches in height, of pink or white colouring.
- 33 One truss of *Dalhousiae*, *Lindleyi*, or *Nuttallii* or their hybrids.
- 34 One spray, not exceeding 18 inches above the top of the vase, of any other sweet-scented species or hybrid.
- 35 One spray, not exceeding 18 inches in height above the top of the vase, of any deciduous rhododendron species (*azalea* included).
- 36 One spray, not exceeding 18 inches in height above the top of the vase, of any deciduous rhododendron hybrid (*azalea* included).
- 37 One spray, not exceeding 18 inches in diameter or 15 inches in height, of an evergreen *azalea*.
- 38 Single truss of any large-leaved hybrid (such as *Elsae*, etc.).
- 39 Single truss of any hybrid between *Aucklandii* and a species.
- 40 Single truss of any hybrid between *Aucklandii* and a hybrid.
- 41 Single truss of any *Thomsonii* hybrid.
- 42 Single truss of any *campylocarpum* hybrid.
- 43 A spray of any *cinnabarinum* hybrid, not to exceed 18 inches above the top of the vase.
- 44 Six hybrid Rhododendrons lifted from the ground or grown in pots, not to cover more than 60 feet super.
- 45 Three alpine Rhododendrons lifted from the ground or grown in pots.
- 46 Six distinct trusses of "Hardy Hybrids" in commerce.
- 47 Six vases of Evergreen Shrubs or Trees in flower suitable for growing with rhododendrons.
- 48 Six vases of Deciduous Shrubs or Trees in flower, suitable for growing with rhododendrons.

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THE RHODODENDRONS OF EASTERN CHINA.

In continuation of the series of articles it has been my privilege to contribute to *The Rhododendron Society Notes*, I now propose to deal with the Rhododendrons of Eastern China. With exception of the Chusan Islands, of Hong-Kong and its neighbouring islands, and the island of Hainan, the region is continental, and the 115th parallel of east longitude may represent its western limit except in the south. The valley of the Yellow River is considered the northern boundary and the Gulf of Tonking the southern limit. A portion of this vast area of China consists of the broad alluvial plains of the Yellow and Yangtze rivers, but much of it is broken country, though none of the mountains, so far as is known, exceed 7000 feet in height above sea-level. The sea-board of this region was the first explored by Western navigators; this was begun by the Portuguese in 1516. Through the interior of this region the various European embassies of the seventeenth and eighteenth and early nineteenth centuries to the Emperors of China travelled from Canton to Peking. It was the plants of this region that first became known in Europe, and it was of this part of China that the first *Flora Sinensis* was published by Michael Boym in 1656. From there was imported among other familiar and indispensable plants the first of the large-flowered, so-called Indian Azaleas. And there, too, was discovered the first Chinese broad-leaf Rhododendron (*R. CHAMPIONAE*) and the invaluable fragrant *R. FORTUNEI*, the first really hardy Chinese species known. But in spite of our long acquaintanceship with and early knowledge of plants wild and cultivated, the flora of this region remains to this day much less known than that of regions to the immediate west and north of the boundaries here set forth. Indeed, the flora of interior Fokien and of the adjacent mountainous parts of Chekiang, Kiangsi, and Kwangtung provinces is among the least known of the whole of China.

Western science is beginning to penetrate into China, and the Chinese themselves are commencing to take an active interest in the flora of their own country. The Arnold Arboretum has prevailed upon a few Chinese students that have come under its ægis to collect plants, and during the last five or six years a steady flow of herbarium material has reached this institution from various parts of China. From South-Western Chekiang and Northern Fokien several parcels have been received, and these have proved rich in new species and types of interesting plants, including Rhododendrons. Of the region in general it may be said that we are only just beginning to appreciate the richness of its flora. In particular this increased knowledge is helping toward a better understanding of the geographical range of many Chinese plants. For example, a number of plants at one time thought peculiar to Hong-Kong are now known to grow in this continental area so far north as Chekiang province. When the glamour of Western China has subsided, plant collectors will turn their attention once more to the mountains of Eastern China.

My own actual knowledge of this region is exceedingly limited, for I have botanised only on Hong-Kong and the adjacent territory of Kowloon, and on

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the Lushan Mountains in Kiangsi province. There is, of course, Bentham's *Flora Hongkongensis*, published in 1861; and in 1912 Messrs. Dunn and Tutchter's valuable *Flora of Kwangtung and Hong-Kong* was issued as additional series X. of the *Kew Bulletin of Miscellaneous Information*. Robert Fortune in his books has bequeathed to us intimate accounts of his journeys into this region, and in the publications of various societies scattered references to the plants may be found. But on the whole the sum of knowledge is surprisingly small, and we really know little or nothing about this part of China. That in wealth of species it will equal the western regions of China I do not believe, since it lacks the great range in altitude and consequently diversity of climate.

Of our own particular plants Eastern China has given us *R. SIMSII*, *R. MOLLE*, and *R. FORTUNEI*, three of the best known and most useful species we possess. In all some twenty-one species have been recorded from Eastern China as here defined, but of these only ten have been introduced, proving how much this region has been neglected. The subgenera *ANTHODENDRON*, *AZALEASTRUM*, and *EURHODENDRON* are represented, the latter leading with nine species. Fourteen species have not yet been found outside the area as here circumscribed. Four (*R. MOLLE*, *R. OVATUM*, *R. MARIESII*, and *R. WILSONAE*) have their western limits in Hupeh, and one (*R. SENIAVINII*) in Hunan. Two (*R. OVATUM*, *R. MARIESII*) as their eastern limits have a bare foothold in Formosa. One (*R. SIMSII*) is abundant and widespread in all the warmer parts of China, and also occurs sparingly in Formosa, with a very distinct variety (*ERICARPUM*) on the Kawanabe Islands off the Liukiu Archipelago. The remaining plant (*R. DAURICUM* var. *MUCRONULATUM*) is a northern species doubtfully wild in the region under consideration.

In the *Journal of the Arnold Arboretum*, vi. pp. 156-186 (1925), I have given full descriptions of all the species and listed all their synonyms. Here, as in former articles, it is thought sufficient to quote the original reference and a figure when available. A key to the species is given, and the enumeration is alphabetically arranged for the convenience of reference.

CLASSIFICATION.

KEY TO THE SPECIES.

Leaves deciduous.

Leaves lepidote on under surface

R. DAURICUM var. *MUCRONULATUM*, p. 21.

Leaves not lepidote on under surface.

Leaves oblong-lanceolate, pubescent, often canescent on under surface ;
corolla yellow..... *R. MOLLE*, p. 26.

Leaves ovate to ovate-lanceolate, glabrescent ; corolla pale lilac-purple to
rose-colour.

Stamens 10 ; fruit short cylindric on an erect pedicel

R. MARIESII, p. 26.

Stamens 8-10 ; fruit conic-ovoid on a curved pedicel

R. FARRERAE, p. 22.

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Leaves persistent.

Shoots with flattened adpressed bristle-like hairs.

Corolla funnel-form-campanulate ; stamens 8-10.

Leaves linear-lanceolate, under surface sub-glaucous

R. HAINANENSE, p. 24.

Leaves elliptic to elliptic-oblong or oblong-obovate, under surface pale green..... R. SIMSI, p. 27.

Corolla with cylindric tube and spreading lobes ; stamens 5.

Style villose at base ; corolla white to rose-colour

R. SENIAVINII, p. 27.

Style glabrous ; corolla lilac-colour

R. MARIAE, p. 26.

Shoots not clothed with flattened adpressed bristle-like hairs.

Flowers from clustered axillary buds crowded at end of shoot.

Corolla rotate.

Stamens 5..... R. OVATUM, p. 26.

Stamens 10..... R. ELLIPTICUM, p. 22.

Corolla funnel-form-campanulate.

Fascicles one-flowered ; leaves glabrous, coriaceous or sub-coriaceous.

Leaves ovate-lanceolate, short acuminate..... R. WILSONAE, p. 28.

Leaves oblong-lanceolate to oblong-oblanccolate, long acuminate

R. LATOUCHEAE, p. 25.

Fascicles several-flowered ; leaves pubescent, membranaceous or chartaceous ; petioles and pedicels densely bearded and glandular

R. CHAMPIONAE, p. 21.

Flowers from terminal bud, umbellate or racemose.

Corolla 5-lobed.

Leaves lepidote on under surface..... R. LEVINEI, p. 25.

Leaves not lepidote on under surface.

Shoots and petioles floccose tomentose ; leaves green and glabrous on both surfaces..... R. ANWHEIENSE, p. 21.

Shoots and petioles glabrescent ; leaves encrusted on under surface with firm, pale grey indumentum.

Leaves usually broadest above the middle, obtuse or rounded ; calyx glandular-ciliolate..... R. SIMIARUM, p. 27.

Leaves usually broadest at or below the middle, acute ; calyx glabrous..... R. FOKIENENSE, p. 23.

Shoots and petioles glabrous ; leaves glabrous, green on both surfaces.

Pedicels glabrous..... R. WESTLANDII, p. 28.

Pedicels glandular-villose.

Ovary pilose..... R. HENRYI, p. 25.

Ovary glabrous..... R. DUNNII, p. 22.

Corolla 7-lobed..... R. FORTUNEI, p. 23.

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ENUMERATIONS OF ALL KNOWN SPECIES AND VARIETIES.

RHODODENDRON ANWHEIENSE *Wilson*.

[In *Jour. Arnold Arb.* VI. 163 (1925).]

This is a new species characterised by its small glabrous leaves, reticulate on the upper surface, its glandular-ciliate calyx-teeth, and by its glabrous cylindrical curving capsules on erect pedicels. It is most closely related to *R. PRZEWALSKII Maxim.*, which differs in its leaves being clothed on the under side with a grey to brownish floccose and crustaceous indumentum; it also has a stouter fruit. The material is poor, but the plant is so distinct that there is no hesitation in naming it. It has no close affinity with any species known from Eastern or Central China, which is strange when its habitat is considered. We know very little about the botany of Anwei province, and the finding of this distinct Rhododendron suggests the presence of other new plants. The specimen was collected on Wang-shan at 1800 m. alt. in open rocky places on August 28, 1923, by H. K. Ip.

RHODODENDRON CHAMPIONAE *Hooker*.

[In *Bot. Mag.* LXXVII. t. 4609 (1851).]

This is a very distinct Rhododendron with thin oblong-lanceolate strongly veined leaves scabrid on the upper and clothed with soft pubescence and often grey on the lower surface, ciliate margins, bearded petioles, shoots, and pedicels, and a long cylindrical scabrid fruit. It was the first Rhododendron discovered wild in China, being found at Fort Victoria, Hong-Kong, in 1849, by Captain J. G. Champion, after whose wife it is named. For many years it was considered endemic on Hong-Kong, but in 1905 it was found in Fokien province by S. T. Dunn, and quite recently in the south-east corner of Chekiang province. However, it appears to be everywhere a rare plant.

According to Nicholson (*Dict. Gard.* III. 294 (1887)), this Rhododendron was introduced into England in 1881. It is a tender plant, and has never become common in gardens. The figure in the *Botanical Magazine* was drawn from the original herbarium specimen and coloured from the author's description. As seen in cultivation, the flowers scarcely measure up to the quality of the original illustration.

RHODODENDRON DAURICUM var. MUCRONULATUM *Maximowicz*.

[In *Mém. Acad. Sci. St. Pétersb.* sér. 7, XVI. no. 9, 44 (*Rhod. As. Or.*) (1870).
Hemsley in *Bot. Mag.* CXXXVI. t. 8304 (1910), as *R. mucronulatum*.]

In the summer of 1920 I saw the type of Léveillé's RHODODENDRON ARGYI preserved in the Herbarium of the Royal Botanic Garden, Edinburgh, and identified it as *R. DAURICUM* var. *MUCRONULATUM*. In the spring of 1925, at my request, Professor W. Wright Smith examined the specimen, and is in complete agreement with my identification. So far as I can make out, the place where the specimen dealt with by Léveillé was collected is between Nanking and Soochow, and I strongly suspect that it came from a garden. If it was a spontaneous plant this would be several hundreds of miles south of the known habitat of Maximowicz's plant.

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A full account of this plant I have given in *Jour. Arnold Arb.* IV. 50 (1923), and mention is made of it in *The Rhododendron Society Notes* for 1922, p. 99.

RHODODENDRON DUNNII *Wilson.*

[In *Jour. Arnold Arb.* VI. 170 (1925).]

This new species is characterised by its glabrous lustrous leaves, its numerous flowered umbellate-corymbs, its glandular-villose pedicels, and by its glabrous pistil. It is most closely related to *R. HENRYI* *Hance*, which has a villose ovary, more acute calyx-lobes, usually setose-glandular petioles, and often irregularly serrulate leaves. It may also be compared with *R. WESTLANDII* *Hemsl.*, which differs in its perfectly glabrous pedicels and is stouter in all its parts. I based this species on a specimen loaned from Herb. Kew, which was collected on April 13, 1909, by S. T. Dunn at the bottom of Phoenix Mountain, near Swatow (Hong-Kong Herb. No. 5802). I have also seen two specimens (Nos. 8, 9 in Herb. Edinburgh), collected in Fokien province by J. de la Touche, which belong here. The flowers on Dunn's specimen are rather smaller than on La Touche's; otherwise they agree perfectly.

This *Rhododendron* appears to be common in south-eastern Fokien. It is evidently a pleasing plant and well worth introducing into gardens.

RHODODENDRON ELLIPTICUM *Maximowicz.*

[In *Bull. Acad. Sci. St. Pétersb. sér. 3, XXXII. 497*
(*Mél. Biol.* XII. 742) (1888).]

This species is unknown to me, neither have I seen any material which can be referred to it. According to Maximowicz it is most closely related to *R. OVATUM* *Planch.*, which is distinguished by having five stamens and glandular-pilose pedicels and much smaller leaves. Maximowicz, who is always very accurate in his descriptions, describes the corolla as rotate, which is, of course, the shape of the corolla in *R. OVATUM* *Planch.* The Liukiu plant collected by Tashiro, which Maximowicz also refers to his *R. ELLIPTICUM*, has a distinctly funnel-form corolla, with a narrow tube and spreading lobes. I can only imagine that the material was in poor condition, and that he could not make out the shape of the corolla in the Liukiu plant now called *R. LEIOPODUM* *Hayata*.

We do not know where *R. ELLIPTICUM* *Maxim.* was collected. There are no herbarium specimens of it in America, and so far I have been unable to discover that it has been seen by any subsequent explorer. Until this happens it must remain an obscure species.

RHODODENDRON FARRERAE *Tate apud Sweet.*

[*Brit. Flow. Gard. ser. 2, I. t. 95* (1831). Lindley in *Bot. Reg.* XXXIII. t. 3 (1847), as *Azalea aquamata*.]

This species seems peculiar to Hong-Kong and the neighbouring islands, and to adjacent parts of Kwangtung province. It is a low, densely branched shrub with short, rigid, shining brown, verticillate branchlets clothed with

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adpressed, straight, and villose hairs when young, becoming glabrous and grey in the second year.

I have seen this *Azalea* growing wild in Hong-Kong, and, as Hemsley has pointed out, it is a very distinct species. It is characterised by its small, ovate leaves, its very short villose petioles, and by its relatively large fruit. It was first introduced into England in 1829, by Captain Farrer of the East India Company's ship *Orwell*. It was reintroduced by Robert Fortune, who in 1844 sent it to the garden of the Horticultural Society of London, where it flowered and was renamed by Lindley. I have no knowledge of its having been in cultivation in America, and Millais states that it is a rare plant in English gardens, and hardy only in the south.

RHODODENDRON FOKIENENSE *Franchet*.

[In *Bull. Soc. Bot. France*, XLVI. 210 (1899).]

This species is characterised by its long acuminate bud-scales, by the grey crustaceous under surface of its lustrous coriaceous leaves, by its densely pubescent, non-glandular ovary, and by its short, stout, cylindric, glabrescent fruit. As Franchet points out, it is most closely related to *R. HYPOGLAUCUM Hemsl.*, which, however, has rounded, not acuminate bud-scales, a glabrous, sometimes glandular ovary, and a curved, furrowed fruit. It is also very closely related to *R. FORMOSANUM Hemsl.*, which is a more vigorous plant with rounded bud-scales, a very much larger inflorescence, and pedicels densely clothed with short, curled rufous-brown pubescence.

RHODODENDRON FOKIENENSE was discovered on the Fokien Mountains round Kuatun, in April 1898, by J. de la Touche. Quite recently it has been found in south-western Chekiang, but has not yet been introduced into cultivation.

RHODODENDRON FORTUNEI *Lindley*.

[In *Gard. Chron.* 1859, 868. Hooker f. in *Bot. Mag.* XCII. t. 5596 (1866).]

This handsome Rhododendron is characterised by its pruinose shoots, dark green leaves pallid on the under surface and usually subcordate or rounded at the base, its pink very fragrant blossoms with more or less glandular pedicels and pistil, by its 7-lobed corolla, and by its large, erect, pruinose fruit. It was the first Chinese Rhododendron with a 7-lobed corolla discovered, and the first hardy species to be introduced from China into the British Isles. The number of short-stipitate glands on the pedicels varies, and often they are absent or virtually so; this is also true of the glands on the pistil. Occasionally there are a few sessile glands on the inner surface of the corolla. The length of the stamens also varies. In other respects the species is very constant. The truss is large though somewhat loose, and is borne well above the bold foliage; the fragrance is most pleasing.

It was discovered in October 1855 by Robert Fortune on the mountains south-west of Ningpo in Chekiang province. The plants bore ripe fruits, and Fortune sent seeds to Mr. Glendinning, a nurseryman at Chiswick, near London,

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who successfully raised a stock of young plants. The species is common on other mountains of the Chekiang province, and especially so on the Lushan range of the contiguous province of Kiangsi, where it has been collected by several people, including myself. The Lushan range appears to be the western limit of its distribution. The mountains have been deforested, and are now covered with a dense growth of miscellaneous shrubs. Among these, and especially alongside torrents, Fortune's *Rhododendron* luxuriates.

Though grown and appreciated at Kew and in a few other gardens in the south of England, *R. FORTUNEI* Lindl. does not appear ever to have been a common plant in British gardens. In the Arnold Arboretum and elsewhere in New England it is not hardy. The late Professor Isaac B. Balfour was at one time sceptical of the true species being in cultivation, inclining to the belief that it had been lost and its name in gardens usurped by plants of hybrid origin. I know the Kew plant very well, and in the Arnold Arboretum Herbarium there are specimens collected from it so long ago as 1884 which agree perfectly with specimens collected in China from wild plants. I agree with Bean (in *Rhododendron Society Notes* I. 187 (1913)) that there are really no reasons for doubting the genuineness of the plant growing at Kew as *R. FORTUNEI*.

In the hands of the hybridist *R. FORTUNEI* Lindl. has proved a most prolific and extremely valuable parent. The first hybrid appears to have been \times *R. LUSCOMBEI*, which resulted from the crossing of *R. FORTUNEI* and *R. THOMSONII* Hook. f., about 1880, by Mr. T. Luscombe of Coombe Royal, Kingsbridge, Devon. Among the more recent hybrids is \times *R. LODERI*, raised by Sir E. Loder at Leonardslee by crossing *R. FORTUNEI* and *R. GRIFFITHIANUM* Wight in 1901. This hybrid has huge flowers, pink passing to white, each from 6 to 7 inches in diameter, and by many is considered to be the most magnificent hybrid *Rhododendron* ever raised. The only *R. FORTUNEI* hybrid hardy in the Arnold Arboretum is one named "Duke of York," raised by George Paul of Cheshunt, which has been growing here since January 1915.

For other named hybrids, see Millais, *Rhododendron Society Notes*, 170 (1917).

RHODODENDRON HAINANENSE Merrill.

[In *Philip. Jour. Sci. Botany* XXI. 350 (1922).]

This is a very distinct species, well characterised by its narrow linear-lanceolate, acute leaves, sub-glaucous on the under side, and by its large calyx-lobes. It is most closely related to *R. NAKAHARAI* Hayata, which has oblanceolate to oval leaves. It is also related to *R. KANEHIRAI* Wils., which has dimorphic linear-lanceolate leaves with obscurely crenate-serrate margins. I have seen a co-type specimen, and through the courtesy of Professor E. D. Merrill I have had the loan of a specimen collected by Miss Schaeffer on a second occasion, but probably from the same plant that yielded the actual type specimen.

This is a very interesting addition to the Chinese species of the section *Tsutsutsi*. It was discovered on the island of Hainan, in January 1921, by Miss K. L. Schaeffer, but has not yet been introduced into cultivation.

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RHODODENDRON HENRYI *Hance*.

[In *Jour. Bot.* XIX. 243 (1881). Komatsu in Matsumura, *Icon. Pl. Koisikav.* II. 73, t. 121 (1914), as *R. ciliato-pedicillatum*.]

This species is characterised by its villose ovary, its glandular-villose pedicels, often setose-glandulose petioles, and by the curious serrations on many of its leaves. Through the courtesy of the Herb. Brit. Museum and of Kew, I have had on loan fragments of Hance's type, and from the Herb. Edinburgh two specimens collected at Thai-yong, some 60 miles west of Swatow, by Dr. J. M. Dalziel. In this herbarium is a specimen (No. 2667) collected on April 26, 1924, by H. H. Chung in Inghok Hsien, Fokien province. This is all the material I have seen. It agrees well, and certainly all belong to the same species. Hayata in describing his *R. CILIATO-PEDICILLATUM* evidently overlooked Hance's species.

RHODODENDRON HENRYI must be a pleasing and free-flowering species well worth introducing into our gardens. It was discovered in March 1881 by the Rev. B. C. Henry, but has not yet been introduced into cultivation.

RHODODENDRON LATOCHEAE *Franchet*.

[In *Bull. Soc. Bot. France* XLVI. 210 (1899).]

A very glabrous species, distinguished by its narrow, rigid, coriaceous, caudate leaves with deeply impressed midrib and immersed secondary nerves, its 1-flowered lateral fascicles, the pedicels sheathed in paleaceous bud-scales, and by its deeply lobed corolla, villose filaments, and glabrous pistil. The calyx-teeth are sometimes elongated, and as much as 3 mm. long, a phenomenon known among other species of the same group. It is evidently a very elegant plant, most closely related to *R. WILSONAE* *Hemsl.* and *Wils.*, which has broader ovate-lanceolate leaves and shorter genitalia.

This species is unknown to me in a living state, but I have a photograph of the type specimen in Herb. Paris, and examined four sheets loaned from Herb. Edinburgh and collected by J. de la Touche. The thick, narrow, caudate-acuminate leaves with deeply impressed midrib are striking. It was discovered on the Fokien Mountains by de la Touche in 1898, but it has not yet been introduced into cultivation.

RHODODENDRON LEVINEI *Merrill*.

[In *Philip. Jour. Sci. Botany* XIII. 153 (1918).]

A well-marked species, distinguished by its strigose hairy shoots and petioles and by its obtuse, often truncate, mucronulate leaves, ciliate on the margin, and by its large membranous calyx-lobes. The young shoots are red-brown, and the bark is thin and peeling in the third year. It is most closely related to *R. CILIICALYX* *Franch.*, which has glabrous shoots and petioles, a minute calyx, and usually acuminate leaves. *R. LEVINEI* *Merrill* was discovered in 1917 on Lo-fau Mountain in Kwangtung, and has not been introduced into cultivation.

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RHODODENDRON MARIAE Hance.

[In *Jour. Bot.* XX. 230 (1882).]

This *Azalea* is known only from two or three isolated localities in Kwangtung and not far from Canton. It is a twiggy shrub with branchlets clothed with adpressed reddish-grey bristles which, changing to grey, persist more or less for a couple of seasons. The leaves are of two forms clustered at the ends of the branchlets, persistent and, for a plant of its group, very coriaceous; they are shining dark green and nearly glabrous, with impressed, reticulate veins on the upper surface. The spring leaves are elliptic lanceolate, acute and mucronulate; the summer leaves are elliptic to obovate, obtuse or rounded at the mucronulate apex. The petioles are strigose. The flowers are small and fragrant and crowded in terminal clusters. The corolla is lilac-colour, with a slender tube, small spreading lobes, and the five stamens are exerted.

It was discovered in April 1882 by the Rev. B. C. Henry; but so far as I have been able to discover, it has never been introduced. In recent years it has been collected several times by botanists attached to the Canton Christian College.

RHODODENDRON MARIESII Hemsley and Wilson.

[In *Kew Bull. Misc. Inform.* (1907), 244. Hutchinson in *Bot. Mag.* CXXXIV. t. 8206 (1908).]

This species is very common in many parts of Eastern China, especially in Chekiang province, where it was first discovered by Robert Fortune in 1845; its southern limits are in northern Kwangtung.

In my *Monograph of Azaleas of the Old World* a full account of this plant is given; mention will also be found in *The Rhododendron Society Notes* for 1923, p. 170, and 1924, p. 235.

RHODODENDRON MOLLE G. Don.

[*Gen. Syst.* III. 846 (1834). Loddiges, *Bot. Cab.* IX. t. 885 (1824), as *Azalea sinensis*.]

This species is abundant in Eastern China, especially on the mountains of Chekiang province, and appears to have its western limits on the conglomerate hills near the city of Ichang in Hupeh province.

In my *Monograph of Azaleas of the Old World* a full account of this plant is given; mention will also be found in the *Rhododendron Society Notes* for 1923, p. 70.

RHODODENDRON OVATUM Planchon.

[In *Rev. Hort.* (1854), 43. Hooker in *Bot. Mag.* LXXXIV. t. 5064 (1858), as *Azalea ovata*.]

This pleasing species is a fairly common plant in many parts of Eastern China. It was discovered on the Chusan Island in 1843 by Robert Fortune, and by him introduced into England.

An account of this plant will be found in *Rhododendron Society Notes* for 1923, p. 171, and 1924, p. 237.

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RHODODENDRON SENIAVINII *Maximowicz.*

[In *Mém. Acad. Sci. St. Pétersb.* sér. 7, XVI. No. 9, 33, t. 3, fig. 21-24 (*Rhod. As. Or.*) (1870).]

Dr. Handel-Mazzetti, who collected this *Azalea* in 1918, states that it is a shrub about 6 feet tall, and that it grows on the margins of forests of broad-leaved trees, and that it has white flowers with the tube of the corolla suffused with rose-colour and the upper lobe spotted with purple. The grey and rufous grey hairs which clothe the shoots, both surfaces of the young leaves, and the under side of adult leaves, the pedicels, calyx, and ovary, well characterise this species. The leaves vary in shape from oval to lanceolate, and are acute or obtuse and mucronate at the apex. The flowers are small, clustered from 3 to 10 together at the end of the shoots; the corolla has a slender nearly cylindrical tube, hairy on the outside, and spreading lobes, which are overtopped by the 5 exerted stamens. The discoverer of the species is unknown, but from what Bretschneider says (*History of European Botanical Discoveries in China*, 620 (1898)), it seems probable that the original specimen came from the borders of western Fokien. Dr. Handel-Mazzetti's specimens, the only ones I have seen, were collected in south-western Hunan. The plant is not in cultivation.

RHODODENDRON SIMIARUM *Hance.*

[In *Jour. Bot.* XXII. 22 (1884). Hemsley in *Bot. Mag.* CXXXII. t. 8111 (1906).]

This is a very distinct plant, with rigid stems and crowded coriaceous oblanceolate-oblong to lanceolate-obtuse leaves, grey on the under surface, and small, very woody fruits. It is a bush about 7 feet tall, with numerous stout branches, which when young are covered with a grey loose tomentum. The flowers, which are borne from 4 to 6 together in a loose truss, are about $2\frac{1}{2}$ inches across, pink on the outside, white, or nearly so, within, with a few rose-coloured dots on the upper lobe.

The plant was discovered in 1883 growing in Monkey Gorge, near Lo-fau-shan, which is not far distant from Canton, by the Rev. B. C. Henry. In 1889 Mr. Charles Ford found it on Lantao Island, and in 1924 he sent seeds to Kew, which resulted in its introduction into gardens. It flowered in a greenhouse at Kew for the first time in 1906. It is a pretty plant in a quiet way, but cannot be rated a high-class *Rhododendron*; moreover, it is tender.

At Kew, Ford's discovery was made the type of a new species, but the loan of a fragment of Hance's type (No. 22205) from the Herb. British Museum enables me to establish its identity with *R. FORDII* *Hemsl.* Presumably no one had heretofore compared actual material, for the identity is obvious.

RHODODENDRON SIMSII *Planchon.*

[In *Fl. des Serr.* IX. 78 (1854). Sims in *Bot. Mag.* XXXVI. t. 1480 (1812), as *Azalea indica.*]

This, the common red-flowered *Azalea* of China, and the principal parent of the so-called Indian *Azaleas* of gardens, is widely distributed through Eastern

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China. It was from Canton that the first types of this plant were sent to England in 1810.

In my *Monograph of Azaleas of the Old World* a full account of this important plant is given; mention will also be found in *The Rhododendron Society Notes* for 1923, p. 172, and 1924, p. 239.

RHODODENDRON WESTLANDII *Hemsley*.

[In *Jour. Linn. Soc.* XXVI. 31 (1889).]

This is a perfectly glabrous species except for a slight pubescence on the basal part of the filaments. It has very numerous ciliolate bud-scales and a several-flowered terminal umbellate inflorescence. The foliage and habit of growth suggest certain species of *Pittosporum*. The lilac-coloured flowers are said to be fragrant. This *Rhododendron* appears to be a rare and local species, and not to have been introduced into cultivation. It was discovered about 1885 by A. B. Westland on Lantao Island; in 1914, W. J. Tutcher found it on the mainland in the new British territory of Kowloon. It was collected on the summit of Phoenix Mt., Swatow, in 1905, by S. T. Dunn. It is not in cultivation.

RHODODENDRON WILSONAE *Hemsley and Wilson*.

[In *Kew Bull. Misc. Inform.*, 1910, 116.]

This rare species, first discovered in Hupeh, so far as is known, has the eastern limits of its distribution on the mountains of northern Kwangtung, where it was discovered in 1917 by Rudolf Mell. An account of it is given in *Rhododendron Society Notes* for 1923, p. 173.

E. H. WILSON.

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No.	Determination.	No.	Determination.
938	Rh. tapeinum, <i>Balf. f. et Farrer.</i> Some specimens under this number of cultivated plants are <i>R. myrtill-</i> <i>loides.</i>	1532	Rh. habrotrichum, <i>Balf. f. et</i> <i>W. W. Sm.</i>
959	„ sino-grande, <i>Balf. f. et</i> <i>W. W. Sm.</i>	1538	„ Sp., Maddeni Series.
979	„ Form of decorum, <i>Franch.</i> See note below.	1539	„ spilotum, <i>Balf. f. et Farrer.</i>
980	„ erileucum, <i>Balf. f. et For-</i> <i>rest.</i>	1540	„ Martinianum, <i>Balf. f. et</i> <i>Forrest.</i>
1022	„ facetum, <i>Balf. f. et Ward.</i>	1544	„ Sp., Maddeni Series.
1023	„ oulotrichum, <i>Balf. f. et</i> <i>Forrest.</i>	1547	„ aiolosalpinx, <i>Balf. f. et</i> <i>Farrer.</i>
1024	„ scyphocalyx, <i>Balf. f. et</i> <i>Forrest.</i>	1548	„ coelicum, <i>Balf. f. et Farrer.</i>
1044	„ crassum, <i>Franch.</i>	1549	„ arizelum, <i>Balf. f. et Forrest.</i>
1045	„ calostrotum, <i>Balf. f. et</i> <i>Ward.</i>	1550	„ cerinum, <i>Balf. f. et Forrest.</i>
1046	„ myrtilloides, <i>Balf. f. et</i> <i>Ward.</i>	1551	„ hylaeum, <i>Balf. f. et Farrer.</i>
1046A	Not seen.	1552A	„ chawchiense, <i>Balf. f. et</i> <i>Farrer.</i>
1047	„ propinquum, undescribed.	1552B	„ niphobolum, <i>Balf. f. et</i> <i>Farrer.</i>
1065	„ plebeium, <i>Balf. f. et W. W.</i> <i>Sm.</i>	1558	„ repens, <i>Balf. f. et Forrest.</i>
1093	„ crassum, <i>Franch.</i>	1559	„ sidereum, <i>Balf. f.</i>
1171	„ calostrotum, <i>Balf. f. et</i> <i>Ward.</i>	1560	„ glischrum, <i>Balf. f. et W. W.</i> <i>Sm.</i>
1184	„ aperanthum, <i>Balf. f. et</i> <i>Ward.</i>	1566	„ tapeinum, <i>Balf. f. et</i> <i>Farrer.</i>
1196	„ cremnastes, <i>Balf. f. et</i> <i>Farrer.</i>	1567	„ tephropeplum, <i>Balf. f. et</i> <i>Farrer.</i>
1343	„ monanthum, <i>Balf. f. et</i> <i>W. W. Sm.</i>	1590	„ sino-Nuttallii, <i>Balf. f. et</i> <i>Forrest.</i>
1410	Not seen.	1595	„ megacalyx, <i>Balf. f. et Ward.</i>
1444	„ facetum, <i>Balf. f. et Ward.</i>	1596	„ aureum, <i>Franch.</i>
1505	„ Mackenzianum, <i>Forrest.</i>	1606	„ ciliicalyx, <i>Franch.</i>
1514	„ Sp., Maddeni Series.	1607	„ zaleucum, <i>Balf. f. et W. W.</i> <i>Sm.</i>
1514A	„ Sp., „ „	1615	„ Sp., Triflorum Series.
1518	„ ombrochares, <i>Balf. f. et</i> <i>Ward.</i>	1626	„ nwaiense, <i>Balf. f. et Ward.</i>
1519	„ sino-grande, <i>Balf. f. et</i> <i>W. W. Sm.</i>	1627	„ charitopes, <i>Balf. f. et</i> <i>Farrer.</i>
1520	„ aff. megacalyx, <i>Balf. f. et</i> <i>Ward.</i>	1629	„ bullatum, <i>Franch.</i>
1530	„ phaedropum, <i>Balf. f. et</i> <i>Farrer.</i>	1630	Not seen.
1531	„ Genestierianum, <i>Forrest.</i>	1631	„ ? protistum, <i>Balf. f. et</i> <i>Forrest.</i>
		1632	Not seen.
		1643	„ euchaïtes, <i>Balf. f. et</i> <i>Forrest.</i>
		1644	„ setiferum, <i>Balf. f. et</i> <i>Forrest.</i>
		1645	„ spodopeplum, <i>Balf. f. et</i> <i>Farrer.</i>
		1646	„ crassum, <i>Franch.</i>

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No.	Determination.	No.	Determination.
1650	Rh. Martinianum, <i>Balf. f. et Forrest.</i>	1686	Not seen. Said to equal 1690.
1668	„ hypolepidotum, <i>Balf. f. et W. W. Sm.</i>	1690	Rh. charidotus, <i>Balf. f. et Farrer.</i>
1669	„ chaetomallum, <i>Balf. f. et Forrest.</i>	1702	„ propinquum, undescribed.
1670	„ charopoeum, <i>Balf. f. et Farrer.</i>	1717	„ brachystylum, <i>Balf. f. et W. W. Sm.</i>
1671	„ aperanthum, <i>Balf. f. et Ward.</i>	1726	Farrer suggests this is a hybrid (1627 × 1670).
1672	„ caloxanthum, <i>Balf. f. et Farrer.</i>	1731	Not seen. Farrer suggests this is a hybrid (1671 × 1669).
1683	„ chaetomallum, <i>Balf. f. et Forrest.</i>	1753	„ Kyawi, <i>Lace et W. W. Sm.</i>
		1775	„ torquatum, <i>Balf. f. et Farrer.</i>

NOTE ON FARRER NO. 979.

This was named originally "RH. DECORUM FORM." The foliage resembles in some respects RH. RASILE and RH. DIAPREPES, but the flowers are only two-thirds the size of those of the former species and about half the size of those of the latter. Young plants in cultivation of this number have the very large leaves of RH. DIAPREPES in cultivation, and resemble that species in general appearance. I think we must recognise that in the RH. DECORUM complex there are many forms with flower and foliage variable in size.

NUMERICAL INDEX TO RHODODENDRONS OF THE GRANDE SERIES COLLECTED BY MR. GEORGE FORREST, 1924.

Field Number.	Species Name.	Date.
24140	Rh. sinogrande	1924
24147	„ „	„
24563	„ sidereum ? probably. Foliage only	„
24742	„ sidereum	„
24775	„ protistum	„
25090	„ sidereum	„
25486	„ „	„
25599	„ „	„
25679	„ sinogrande	„
25684	aff. „ giganteum	„
25716	„ „ semnum	„
25717	„ „	„
25825	„ „ giganteum	„
25875	„ sinogrande	„

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Field Number.	Species Name.	Date.
25947	Rh. semnum	1924
25965	„ sidereum	„
25967	„ „	„
25969	aff. „ giganteum foliage only.	„
25992	aff. „ semnum	„
26033	„ sinogrande	„
26092	„ ? „ foliage only	„

FIRST LIST OF NAMES OF RHODODENDRONS COLLECTED BY MR. J. F. ROCK (AS DETERMINED FROM EQUIVALENT NUMBERS IN THE COLLECTION OF DRIED SPECIMENS).

Seed No.	Name.	Series and Subseries.
59032	colletum, <i>Balf. f. et Forrest</i>	Lacteum.
59043	„ „	„
59048	? praestans, <i>Balf. f. et W. W. Sm.</i>	Grande.
59058	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59059	probum, <i>Balf. f. et Forrest</i>	Thomsonii (Selense).
59061	repens, <i>Balf. f. et Forrest</i>	Neriiflorum (Forrestii).
59062	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59063	„ „	„
59064	recurvum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59065	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59066	„ „	„
59067	„ „	„
59068	„ „	„
59072	colletum, <i>Balf. f. et Forrest</i>	Lacteum.
59073	„ „	„
59075	„ „	„
59077	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59078	repens, <i>Balf. f. et Forrest</i>	Neriiflorum (Forrestii).
59079	semnum, <i>Balf. f. et Forrest</i>	Grande.
59080	repens, <i>Balf. f. et Forrest</i>	Neriiflorum (Forrestii).
59082	saluenense, <i>Franch.</i>	Saluenense.
59085	praestans, <i>Balf. f. et W. W. Sm.</i>	Grande.
59088	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59089	colletum, <i>Balf. f. et Forrest</i>	Lacteum.
59091	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59100	„ „	„
59103	serpens, <i>Balf. f. et Forrest</i>	Neriiflorum (Forrestii).
59104	fictolacteum, <i>Balf. f.</i>	Falconeri.
59105	Not determined	Niphargum—uvarifolium aggregate.
59114	„	Thomsonii (Selense).
59115	„	„

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Seed No.	Name.	Series and Subseries.
59118	Beesianum, <i>Diels</i>	Lacteam.
59119	coriaceum, <i>Franch.</i>	Falconeri.
59122	Forrestii, <i>Balf. f.</i>	Neriiflorum (Forrestii).
59123	proteoides, <i>Balf. f. et W. W. Sm.</i>	Taliense (Roxieanum).
59130	recurvum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59135	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59137	colletum, <i>Balf. f. et Forrest</i>	Lacteam.
59139		
59141	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59142	" "	"
59143	" "	"
59147	" "	"
59149	beimaense, <i>Balf. f. et Forrest</i>	Thomsonii (Selense).
59154	glaucopeplum, <i>Balf. f. et Forrest</i>	
59157	? gymnanthum, <i>Diels</i>	Irroratum.
59158	? "	"
59160	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59161	Not determined	Taliense.
59162	recurvum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59172	arizelum, <i>Balf. f. et Forrest</i>	Falconeri.
59182	radicans, <i>Balf. f. et Forrest</i>	Saluense.
59183	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59185	" "	"
59186	" "	"
59188	" "	"
59192	Martinianum, <i>Balf. f. et Forrest</i>	Thomsonii (Dasycladum).
59193	arizelum, <i>Balf. f. et Forrest</i>	Falconeri.
59194	amaurophyllum, <i>Balf. f. et Forrest</i>	Saluense.
59195	coccinopeplum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59196	Not determined	Cephalanthum.
59200	tanastylum, <i>Balf. f. et W. W. Sm.</i>	Irroratum.
59202	bullatum, <i>Franch.</i>	Edgeworthii.
59205	oreonastes, <i>Balf. f.</i>	Taliense (Roxieanum).
59213	" "	"
59217	globigerum, <i>Balf. f. et Forrest</i>	"
59218	coccinopeplum, <i>Balf. f. et Forrest</i>	"
59221	oreonastes, <i>Balf. f.</i>	"
59222	recurvum, <i>Balf. f. et Forrest</i>	"
59223	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59224	" "	"
59228	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59229	phaeocrysum, <i>Balf. f. et W. W. Sm.</i>	"
59231	Not determined	Taliense.
59232	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59233	dumosulum, <i>Balf. f. et Forrest</i>	Lacteam (Levistratum).
59234	sinogrande, <i>Balf. f. et W. W. Sm.</i>	Grande.
59235	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59245	niphargum, <i>Balf. f. et Ward</i>	Arboreum (Niveum).

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Seed No.	Name.	Series and Subseries.
59246	niphargum, <i>Balf. f. et Ward</i>	Arboreum (Niveum).
59250	fictolacteam, <i>Balf. f.</i>	Falconeri.
59256	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59258	racemosum, <i>Franch.</i>	Virgatum.
59260	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59435	araliaeforme, <i>Balf. f. et Forrest</i>	Fortunei.
59436	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59439	poecilodermum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59440	fictolacteam, <i>Balf. f.</i>	Falconeri.
59445	probum, <i>Balf. f. et Forrest</i>	Thomsonii (Selense).
59447	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59451	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59461	Martinianum, <i>Balf. f. et Forrest</i>	Thomsonii (Dasycladum).
59462	praestans, <i>Balf. f. et W. W. Sm.</i>	Grande.
59463	ixeuticum, <i>Balf. f. et W. W. Sm.</i>	Barbatum.
59464	" "	"
59466	" "	"
59467	" "	"
59468	" "	"
59469	" "	"
59470	" "	"
59471	" "	"
59472	" "	"
59473	repens, <i>Balf. f. et Forrest</i>	Neriiflorum (Forrestii).
59475	proteoides, <i>Balf. f. et W. W. Sm.</i>	Taliense (Roxieanum).
59477	colletum, <i>Balf. f. et Forrest</i>	Lacteam.
59478	cosmetum, <i>Balf. f. et Forrest</i>	Saluense.
59480	semnum, <i>Balf. f. et Forrest</i>	Grande.
59481	praestans, <i>Balf. f. et W. W. Sm.</i>	"
59482	saluense, <i>Franch.</i>	Saluense.
59484	" "	"
59486	Roxieanum, <i>Forrest</i>	Taliense (Roxieanum).
59489	Forrestii, <i>Balf. f.</i>	Neriiflorum (Forrestii).
59495	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59497	" "	"
59507	Not determined "	Niphargum — uvarifolium aggregate.
59510	aff. levistratum, <i>Balf. f. et Forrest</i>	Lacteam (Levistratum).
59511	" "	"
59515	globigerum, <i>Balf. f. et Forrest</i>	Taliense (Sphaeroblastum).
59516	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59517	microform helvolum, <i>Balf. f. et Forrest</i>	"
59518	aff. dryophyllum, <i>Balf. f. et Forrest</i>	"
59519	microform helvolum, <i>Balf. f. et Forrest</i>	"
59520	" aiolopeplum, <i>Balf. f. et Forrest</i>	Lacteam (Levistratum).
59522	Not determined	Taliense (Roxieanum).
59524	recurvum, <i>Balf. f. et Forrest</i>	"

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Seed No.	Name.	Series and Subseries.
59528	aganniphum, <i>Balf. f. et Ward</i>	Taliense.
59529	aff. " "	"
59531	aganniphum, " "	"
59534	arizelum, <i>Balf. f. et Forrest</i>	Falconeri.
59538	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59541	Coryanum, <i>Tagg et Forrest</i>	Arboreum (Adenopodum).
59544	arizelum, <i>Balf. f. et Forrest</i>	Falconeri.
59550	" "	"
59558	fictolacteam, <i>Balf. f.</i>	"
59559	fulvoides, <i>Balf. f. et Forrest</i>	Fulvum.
59561	sino-Nuttallii, <i>Balf. f. et Forrest</i>	Maddenii (Megacalyx).
59562	colletum, <i>Balf. f. et Forrest</i>	Lacteam.
59563	fictolacteam, <i>Balf. f.</i>	Falconeri.
59565	" "	"
59566	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59567	? prasinocalyx, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59570	coccinopeplum, <i>Balf. f. et Forrest</i>	"
59571	" "	"
59572	" "	"
59573	Clementinae, <i>Forrest</i>	Taliense.
59575	aff. poecilodermum, <i>Balf. f. et Forrest</i>	Taliense (Roxicanum).
59577	racemosum, <i>Franch.</i>	Virgatum.
59578	" " (not typical)	"
59583	bullatum, <i>Franch.</i>	Edgeworthii.
59588	aff. fictolacteam, <i>Balf. f.</i>	Falconeri.
59589	oreonastes, <i>Balf. f.</i>	Taliense (Roxicanum).
59590	" "	"
59592	aureum, <i>Franch.</i>	Campylogynum (Aureum).
59594	recurvum, <i>Balf. f. et Forrest</i>	Taliense (Roxieanum).
59595	coccinopeplum, <i>Balf. f. et Forrest</i>	"
59599	? araliaeforme, <i>Balf. f. et Forrest</i>	Fortunei.
59600	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59601	araliaeforme, <i>Balf. f. et Forrest</i>	Fortunei.
59602	aff. dryophyllum, <i>Balf. f. et Forrest</i>	Lacteam (Dryophyllum).
59603	Beesianum, <i>Diels</i>	Lacteam.
59604	schizopeplum, <i>Balf. f. et Forrest</i>	Taliense.
59605	colletum, <i>Balf. f. et Forrest</i>	Lacteam.
59606	levistratum, <i>Balf. f. et Forrest</i>	Lacteam (Levistratum).
59607	? schizopeplum, <i>Balf. f. et Forrest</i>	Taliense.
59608	" "	"
59609	" "	"
59610	fissotectum, <i>Balf. f. et Forrest</i>	"
59612	colletum, <i>Balf. f. et Forrest</i>	Lacteam.
59617	adenogynum, <i>Diels</i>	Taliense (Adenogynum).
59618	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteam.
59619	" "	"
59621	aff. lacteam, <i>Franch.</i>	"
59623	niphargum, <i>Balf. f. et Ward</i>	Arboreum (Niveum).

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Seed No.	Name.	Series and Subseries.
59624	fictolacteum, <i>Balf. f.</i>	Falconeri.
59625	Not determined	Fortunei.
59628	fictolacteum, <i>Balf. f.</i>	Falconeri.
59630	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteum.
59632	" "	"
59633	" "	"
59634	Not determined	Cephalanthum.
59635	Traillianum, <i>Forrest et W. W. Sm.</i>	Lacteum.
59636	adenophorum, <i>Balf. f. et W. W. Sm.</i>	Taliense (Adenogynum).
59638	racemosum, <i>Franch.</i>	Virgatum.

RHODODENDRONS OF THE GRANDE SERIES COLLECTED BY MR. J. F. ROCK.

NUMBERS ADDITIONAL TO THOSE GIVEN IN THE "NOTES" OF THE
RHODODENDRON SOCIETY, Vol. II. No. V. (1924), p. 243.

Field Number.	Species Name.	Date.
7376	Rh. sidereum	1922
10061	„ praestans =seed No. 59462	1923
10966	„ praestans =seed No. 59462	1923

CORRIGENDA TO THE "NOTES ROY. BOT. GARD. EDIN.," ETC.

RH. HAEMALEUM, *Balf. f. et Forrest.*

Under the description of this species in *Notes Roy. Bot. Gard. Edin.* XI. (1919), p. 73, Forrest's No. 14166 is quoted. At a later period Sir Isaac referred this Forrest No. to RH. SANGUINEUM.

RH. HESPERIUM, *Balf. f. et Forrest.*

Forrest No. 15887 is quoted under this name in *Notes Roy. Bot. Gard. Edin.* XIII. (1922), p. 264, as one of several fragmentary specimens, probably RH. HESPERIUM. This is a misprint for 15587. Forrest's 15887 is RH. CRASSUM, *Franch.*

RH. ECLECTEUM, *Balf. f. et Forrest.*

Forrest No. 15298 quoted under this name, *Notes Roy. Bot. Gard. Edin.* XII. (1920), p. 105, should read 15293. Forrest's 15298 is an undetermined species of the *Irroratum* Series.

Forrest Nos. 22566 and 22565.

In the privately printed list of Rhododendrons collected by Mr. Forrest in 1922, the number 22566 is given as a Rhododendron, with a field note which reads, "Rhod. Sp. Duplicate in fruit of F. No. , Oct. 1922." The herbarium specimen 22566 is a Codonopsis, but 22565 is a Rhododendron with the field note quoted above.

Forrest No. 13947.

This was provisionally named RH. NOMOPHILUM. The name was never published, but it has become associated with Forrest's 13947 in personal lists of Forrest's plants. In a MS. note Sir Isaac Bayley Balfour discusses the differences he found between this 13947 plant and RH. CHRYSSEUM. Concluding, he writes, "I wonder if this can be maintained as a distinct form . . . there is not much material." Writing later, he says, "Ample material of 13947 has now come. It compels me to give up RH. NOMOPHILUM. Certainly I find no character constant to separate this 13947 from RH. CHRYSSEUM."

Forrest No. 14347.

In the *Notes from the Roy. Bot. Gard. Edin.* XIII. (1922), p. 305, Forrest's 14341 is quoted under RH. TRICHOPODUM. This is a misprint. The number should read 14347.

Forrest No. 14024.

This number is quoted in the *Notes from the Roy. Bot. Gard. Edin.* XIII. (1922), p. 295, under RH. SIGILLATUM. In revising his conception of the species at a later date Sir Isaac Bayley Balfour transferred this number to RH. VICINUM, as the type of the species.

H. F. TAGG.

EDINBURGH, 1925.

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BENMORE, ARGYLL.

Members of the Rhododendron confraternity had much cause for gratification when the Forestry Commissioners in 1922 invited the Edinburgh Botanic Garden authorities to set out at Glenbranter a collection of Rhododendrons. The scheme was well afoot before Sir Isaac Bayley Balfour's death, and we remember his eager satisfaction at the prospect of at last finding a suitable home for his multitudes of young plants of new Chinese species. A paper on Glenbranter, by Sir John Stirling Maxwell, appeared in No. III. of Vol. II. of our *Notes*.

Negotiations by the Forestry Commissioners with Mr. H. G. Younger, owner of the estates of Bernice, Benmore, and Kilmun, for the purchase of the first, which marches with Glenbranter, had been proceeding, when we learned last May that Mr. Younger had decided to make a gift of his lands to the Commissioners. They comprise some 11,000 acres, to the west and south of Loch Eck and the peninsula between Holy Loch and Loch Long. The general lie of the land is N.N.W. and S.S.E., and is situated in the Cowal district of Argyll.

So startling an act of patriotic munificence is almost unprecedented.

Mr. Younger is himself keenly interested in forestry and arboriculture, and wishes the property to be for all time a national demonstration area for both purposes. Unlike Glenbranter, there are already approximately 1100 acres of woodlands of over twenty years' growth, as well as a remarkable collection of exotic conifers. The numerous older Rhododendrons in proximity to Benmore House, including great plants of an *Arboreum* hybrid—presumably RH. CORNISH EARLY RED—are proof enough that Benmore is a highly suitable locality for most members of the genus.

It is proposed by the Isaac Bayley Balfour Memorial Committee to build a rest-house on the estate as a fitting and lasting tribute to the memory of the man to whom we owe so much. The site chosen is on a rocky eminence overlooking Puck's Glen, where a tumbling stream descends through the woods in a series of cascades to join the River Eckaig below. A more picturesque place it would be difficult to imagine, and very little clearing is needed to open up fine views of many hills and two deep valleys. The designing of the structure has been entrusted to Sir Robert Lorimer, A.R.A., and the paths made many years ago by a former owner will be restored and extended, with occasional necessary foot-bridges across the ravine. Clearings will be made for the planting of Rhododendrons, and the pockets of wet soil among the rocks of the gorge offer an ideal home for Primulas and Ferns. I found there numerous seedlings of *Thuja gigantea* and *Tsuga Albertiana* and *Saxifraga Geum* had established themselves.

It is agreed that Benmore has many advantages over Glenbranter, the chief of which is its much greater accessibility. The house is only three miles from Kilmun, four and a half from Kirn, and six by an excellent road from Dunoon, where frequent steamers call. The road passes the gate of Inverreck House, the summer home of Sir William Hooker for many years from 1837, and so beloved

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by Sir Joseph that when it came into the market in the late seventies he would have bought it had it not been so far from Kew.

It is indeed fortunate that before anything of a permanent character had been accomplished at Glenbranter, the opportunity has come to the authorities of the Edinburgh Botanic Garden, working in close co-operation with Mr. J. D. Sutherland of the Forestry Commission, to make good use of this splendid domain.

The estates were acquired in 1870 by Mr. James Duncan, who planted 6,488,000 trees, afforesting 1622 acres, between 1871 and 1883. In the latter year a highly informative article by Mr. Donald Stalker, the then head forester at Benmore, appeared in the *Transactions of the Highland Agricultural Society of Scotland*. His list of the plants growing in the home nurseries at that date may be given as indicative of the extensive plantings that Mr. Duncan made of exotic conifers, in addition to his forestry work with Larch, Norway Spruce, and Scots Pine:—

Abies Nordmanniana	36,000
" nobilis	11,000
" cephalonica	2,000
" pectinata	6,000
" pinsapo	600
Pinus laricio	40,000
" austriaca	40,000
" insignis	15,000
" excelsa	3,000
" cembra	600
Pseudo-tsuga Douglasii	33,000
Tsuga canadensis	3,000
Picea sitchensis	20,000
" orientalis	4,000
Sequoia gigantea	6,500
Araucaria imbricata	3,160
Cupressus Lawsoniana	6,000
Thuja gigantea	1,000
Cedrus deodara	1,000
" atlantica	500
Other choice conifers	2,000
	206,360

Many of the conifers planted by Mr. Duncan are now very notable trees, markedly so when their comparative youth is considered.

The Pinetum lies to the north of the drive. The most uniformly fine specimens are *Abies nobilis*; many of them girth 8 to 9 feet, and are well over 100 feet high. The height of the best specimen of *Abies grandis* is from 115 to 120 feet by 8 feet 8 inches girth. I also saw *Picea sitchensis* over 100 feet high by 8 feet 2 inches girth. The largest *Sequoia gigantea*, in a fine though short avenue of

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these trees, girthed 15 feet 7 inches at 5 feet above the buttressed base. *Picea jezoensis* was a flourishing tree of 7½ feet girth (girths taken at breast-height).

Leading into the avenue from the direction of the garden is a curving road, with a row of *Cedrus deodara* on one side and of *Araucaria imbricata* on the other. These last are particularly interesting, showing as they do an astonishing variability of branch habit. Some have branches with few or no branchlets, and 11 feet long from trunk to tip, while the branches of others have much more frequent branchlets and short leaves, at first sight giving the impression of a new species. In addition to the foregoing there are many fine trees of the following species, but my list is far from complete :—

<i>Abies Nordmanniana.</i>	<i>Cryptomeria japonica.</i>
„ <i>cephalonica.</i>	<i>Sequoia sempervirens.</i>
<i>Picea orientalis.</i>	<i>Thuja gigantea.</i>
<i>Cupressus Lawsoniana.</i>	<i>Tsuga Albertiana.</i>
<i>Cedrus atlantica.</i>	

Cruach Wood on the hillside to the north of the house, and with a south-east exposure, is of Douglas Fir, which has almost suppressed the *Thuja gigantea* planted with it in 1879. The average elevation of this fine wood is 450 feet.

The estate is roughly bounded on the west from the Holy Loch by the Eckaig until its confluence with the Massan. It follows that stream up Glenmassan for two and a half miles, whence the march is over the hills for seven miles to the head of Loch Eck. At one time these lands formed the ancient deer-forest of Benmore, a hunting-ground of the Dukes of Argyll. The highest summit of the range is 2500 feet.

The Arboretum is in the lower part of Glenmassan, and here are numerous fine conifers, which, however, have overgrown nearly all the broad-leaved trees. Happily, there is one noteworthy exception. I first visited Benmore in August 1908, accompanied by Professor Sargent and Mr. T. A. Nelson of Achnacloch, who fell in the Great War. The Professor was immensely struck by the splendid growth of Pacific Coast conifers, which are so intractable at the Arnold Arboretum; but the tree which delighted him more than any was a very fine *Betula Ermani*, planted on the edge of this Arboretum by the roadside in or about 1880. It has now a girth of 4 feet 6 inches, and is about 45 feet high, a most striking object, with its creamy trunk and branches in their dark setting of conifers. Also in the Arboretum can be seen several tall Japanese Larches, which are certainly among the first planted in Great Britain.

Mr. Younger has himself, and largely with his own hands, planted and tended an admirable collection of the more recently introduced trees and shrubs on a level area parallel with and south of the avenue.

At the bend of the drive, in a rather draughty situation, is growing a specimen of the true *R. FORTUNEI*; planted as a gawky thing by the late Mr. H. J. Younger in 1909 or 1910, it is now 11 feet high.

Of the woodlands in Mr. Duncan's time, some 500 acres were cut during the war, or had died out above the 900-foot level. Scots Pine, of which Mr. Duncan

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planted 2,130,000, have proved unsuccessful, as indeed generally happens where this tree is grown on mica schists, or where there is some lack of drainage or inability to get down a tap root. The expenditure on planting operations is given in detail by Mr. Stalker, and worked out at £7, 10s. per acre, a high figure in those days; but £3000, or one-quarter of the total cost, was spent in 27 miles of fencing, much of it of flat-iron, which is to-day, after fifty-five years, as good as ever. Some hardwoods were planted in Mr. Duncan's time, but have been largely suppressed by conifers; except sycamores, which seem to enjoy a wet climate better than most broad-leaved species.

The estate was purchased from Mr. Duncan by Mr. H. J. Younger, the father of the generous donor, late in 1889; he died in 1913, but for two years previously his son had taken a keen interest in its embellishment. By 1914 the nurseries contained one million young trees, and extended and continuous forestry operations were projected. The war, however, put an end to them, and it is now left to the Forestry Commissioners to make in the coming years a magnificent forest of this and the adjoining Glenbranter, where already they have planted upwards of 1400 acres.

This paper can give no account of the beauties and history of Benmore; but in the *Transactions of the Roy. Scoll. Arb. Soc.* of March 1925, Mr. John Webster, the factor, has dealt admirably with the topography and what is known of the previous ownership of the estates, and has described the plantings in detail.

The rainfall averages 85 inches, but in 1923 was as high as 113.25 inches.

Frosts are infrequent and not severe, the lowest temperature in recent years being 15 degrees of frost in November 1925.

The situation is just to the N.W. of the Great Highland Boundary Fault, which passes near Dunoon. The rock is a mica schist of the Dalradian series, a formation very suitable for the growing of most conifers other than Scots Pine.

It would be almost impossible to find in Scotland an area better suited to the growing of Rhododendrons and most conifers. Such plants as *Fitzroya patagonica*, *Eucryphia pinnatifolia*, *Griselinia littoralis*, *Desfontainea spinosa*, *Tricuspidaria dependens*, *Drimys Winteri*, *D. aromatica*, *Pittosporum tenuifolium*, and *Abutilon vitifolium* are absolutely at home.

At this particular period of the introduction of innumerable new species, unprecedented in the history of horticulture, and which can certainly never recur, Professor W. Wright Smith and his able coadjutors, Messrs. R. L. Harrow and L. B. Stewart, are greatly to be envied in having such a venue available for the contents of their Edinburgh frames and seed-pans. In twenty years Benmore may well be unsurpassed in the world as a collection of Chinese, New Zealand, and Chilian species.

F. R. S. BALFOUR.

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TWO FRENCH COLLECTORS OF RHODODENDRONS.

The following notes on the careers of two Frenchmen, notable as early collectors of Rhododendrons, may be of interest to members of the Society:—

PÈRE ARMAND DAVID.—This famous traveller, naturalist, and missionary was the first in point of time of the group of Frenchmen whose names will always be closely associated with the discovery of Rhododendrons in Central and Western China. He was born at Espelette, near Bayonne, September 27, 1826, and entered the Society of Lazarists when twenty-two years of age. Although ordained as a priest in 1851, it was not until 1862, when he was thirty-six years of age, that he joined the Mission of the Lazarists at Peking. As a young priest he had been a student of the natural sciences, and now, in China, he was provided with a new and fascinating field of study which he soon began earnestly to explore. His chief interest, at any rate at first, was in zoology, with botany and geology as subsidiary studies.

His first journey, undertaken in 1863, was to the Po-hua-shan mountain, west of Peking. The following year he explored the mountains to the north-east of the same city. So important were the scientific results of these comparatively short journeys, that permission was obtained from the Lazarists for David to make more extended ones on behalf of the Natural History Museum at Paris. In consequence, he spent the practicable part of 1866 in exploring Southern Mongolia. None of these journeys, however, have any interest for Rhododendron lovers as such, and it was not until 1868, when he started on his great journey to Eastern Thibet, that he reached the regions which later revealed so marvellous a wealth of species. He entered Szechuan, as Wilson did thirty years later, by way of the Yang-tze-kiang from Shanghai, through Kiu-kiang, Hankow, and Ichang, penetrating as far west as Cheng-tu and Moupin, where of course Rhododendrons abounded. David mentions finding them near Moupin with trunks one foot in diameter. It was here also that he first met with the *Davidia*, afterwards named in his honour. He returned to France in 1870.

In 1872 David set out again for China on his last great journey in that country. Starting from Peking in October of that year, he struck south-westwards overland to the province of Ho-nan; then, after crossing the Hoang-ho river, passed westwards into Shen-si. After exploring in the Sin-ling mountains, he went southwards by the Han river and once more reached the Yang-tze-kiang at Hankow. After despatching his collections to France he travelled southwards from Kiu-kiang into the province of Kiang-si, reaching the capital, Nan-chang, on May 27, 1873. After various journeys, including one to the maritime province of Fokien, he returned to Shanghai the following March, and, sailing for home, landed at Marseilles in May 1874.

After residing some time in Algeria to recoup his shattered health, he took up his residence with the Lazarists in Paris. He died there November 10, 1900, in his seventy-fifth year.

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It will be noticed that only one of his many journeys, that of 1868-1870, really touched the great Rhododendron region. He was the first to discover the following species: *argyrophyllum*, *calophytum*, *Davidii*, *decorum*, *dendrocharis*, *floribundum*, *lutescens*, *moupinense*, *orbiculare*, *oreodoxa*, *pachytrichum*, *polylepis*, and *strigillosum*.

PÉRE JEAN MARIE DELAVAY.—To European cultivators of Rhododendrons Delavay is a more important name than David. Delavay not only discovered more numerous species, he was the agent to whom we owe the first living plants in our gardens. So far as I can see, David never sent home seeds of Rhododendrons from China; Delavay did so several times. During my first visit to Paris in October 1889, I saw in one of the houses at the Jardin des Plantes a large number of pans of seedling Chinese Rhododendrons, a few months old, which had been raised from seeds sent there by him. It was then that I brought back to Kew tiny plants of *yunnanense*, *racemosum*, *scabrifolium*, and possibly a few others, all of course unnamed.

Delavay was born at Abondance, in the Haute Savoie, in 1838. He joined the Society of Foreign Missions, and was sent to the Kwang-tung province of China in 1867. Here he reached and proselytised for a number of years, and it was not until 1882 that he reached the great Rhododendron region of China. The previous year he had been home to Paris on leave and had been introduced by David to Franchet, the famous French botanist, who first described and named so many of the earlier Chinese Rhododendrons. Delavay had already taken an interest in the vegetation of Kwang-tung, and he was readily impressed by Franchet with the wonderful opportunity that had fallen to him, in his new mission station in north-west Yunnan, of exploring and studying a vegetation then almost entirely unknown to science. He penetrated to the west by the usual route of the Yang-tze-kiang river, and reached Yunnan in June 1882. During the ten following years he travelled and collected industriously, chiefly in Yunnan (especially among the high mountains in the neighbourhood of Talifu), but also in Hupeh and Szechuan. In 1888 he was attacked by plague, from the effects of which he never entirely recovered. He returned, partly paralysed, to France in 1893, but went back to China the following year. He died in Yunnan, December 30, 1895. He is credited with the discovery of over thirty new species of Rhododendron. How many he actually introduced it is impossible to tell. Comparatively few of the thousands of seedlings I saw at the Jardin des Plantes in 1889 ever reached maturity. An erroneous estimation of their cultural needs, I fear, caused most of them to perish at an early stage. For one thing, they were kept much too warm.

W. J. BEAN.

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FROM SEED-SOWING TO PLANTING-OUT STAGE.

In writing this article for *The Rhododendron Society Notes*, I do so with much diffidence, as I have no doubt many members of the Society can, and do, raise their plants from seed far better than has been done here; but perhaps a few words on the methods that I have adopted will not be amiss. The system that has been practised is as follows:—

The soil is first specially prepared, *i.e.* three parts peat, one part maiden loam, one part leaf-mould, and one part silver sand free from lime. This mixture is sterilised by being baked. The moss to be used with the crocks for drainage is also boiled. Boxes are used for sowing the seeds, and are made 9 inches square, and sheets of glass are cut to cover these. I have found boxes more serviceable, as they enable the name and number to be written on the edge, and obviate the use of labels; also, the seedlings are more easy to handle. If the seeds are sown late in February or early March, the seedlings are allowed to grow to about half an inch or more in height, or until they have made their second leaf growth, before pricking off, provided, of course, they do not show signs of damping-off, in which case they are pricked off earlier. They are pricked off into similar-sized boxes, and with seeds sown in February or early March this is generally done towards the end of April or beginning of May. By this means it has been found that the young seedlings will in all probability make a second growth. The following March they are planted out into cold frames, the soil being made up as follows: one part peat, one part loam, one part leaf-mould, and half-part sand. During the summer and winter they remain in the frames, and they nearly always make two growths during the season. In very rare cases they have made three. The frames are always left open, except in case of frost; they face south, and are partially shaded.

The plants are taken out of the frames and planted in the nursery the spring following, the dwarfier Rhododendrons ranging in size according to species from 2 to 3 up to 5 or 6 inches, and the larger-leaved and taller-growing plants from 6 to 8 inches up to sometimes 2 feet. From the nursery it is a matter for one's own judgment when to plant them out in their permanent positions, but I have found it better to keep plants in the nursery till they are fair-sized plants (except the dwarfier species), and I never put out any plants that are known to grow to a height at their mature stage of from 6 feet upwards, until they are over 2 feet high, unless they are put in beds by themselves (this particularly refers to all the large-leaved species, which generally make more leaf growth than height in their earlier stages).

The dwarfier species, such as *Lapponicum*, *Cephalanthum*, and *Saluenense* series, make fine edgings for the nursery. I believe in severely cutting these species over immediately after flowering. Many of the dwarfier species flowered profusely in the frames at fourteen months old, such as *racemosum*, *fastigiatum*, *muliense*, *mollicomum*, and *ledoides*. The nursery faces south; it is bounded

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on the north and east by a wall, and is entirely sheltered by tall trees, and a laurel hedge, on the south and west sides.

The method described above is no longer an experimental one. It has been adopted at Headfort for several years with uniformly satisfactory results, results which have astonished several expert growers who visited Headfort; and after careful observation I find no reason to vary it.

HEADFORT.

December 1925.

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SOME RHODODENDRONS AT WAKEHURST IN 1925.

One of the most remarkable of the newer Rhododendrons is undoubtedly *GRIERSONIANUM*. It was found by Forrest in the Shweli valley in Yunnan in 1917 (see *Edin. Notes* LII. p. 69), and named in compliment to Mr. Grierson, an officer of the Chinese Customs Service.

It is not surprising that Prof. Balfour felt unable to place it in any of the recognised series, its botanical characters no less than its appearance differing in many respects from anything yet introduced.

The truss does not consist of many flowers, 5 or 6 being the usual number, somewhat loosely set. The corolla is a long cylindrical tube of a very unusual colour. Prof. Balfour describes it as "bright rose," others call it "geranium red" or "vermilion"; but however described, it is something outside the ordinary range of colour hitherto associated with broad-leaved Rhododendrons. The flowering period is prolonged, roughly speaking, from the middle of May till the end of June, and the individual flowers last quite a fortnight.

Though it has the appearance of being "soft," it has so far proved hardy, at any rate in Sussex. It flowers when quite young, the first having been produced five years after the introduction of the seed. It grows quickly, and at Caerhays has already reached 5 feet in height. Mr. Williams informs me that it is one of the species which rabbits seem to relish. It is said to be fragrant, but I have not myself detected any scent on my plants. It remains to be seen what influence this singular introduction will have on future races of Rhododendrons. It is believed to have been already successfully crossed with *AURICULATUM* and various forms of *ARBOREUM*.

It will be encouraging, I hope, to those who grow *R. AUCKLANDII* outside Cornwall to hear that this monarch of the genus can, and does occasionally, flower profusely in Sussex. I am not prepared to suggest a reason, but in the summer of 1925 half a dozen plants, from ten to fifteen years old, in various situations, all flowered well. Some of them have in former years borne a few trusses, but this year there was a display which was remarkable: one plant not more than 8 feet high bore over 50 trusses. They were not perhaps composed of as many flowers as one is accustomed to see in Cornwall, but they were nevertheless very handsome. I am now waiting to see if seed will ripen properly.

Incidentally, may I be forgiven for calling this species *AUCKLANDII* when I suppose I ought to call it *GRIFFITHIANUM*, and asking whether there is any significance in the two names appearing in Mr. Stevenson's recent list as separate species? I am told that different forms are now recognised, and that both names may eventually be required. I have certainly noticed differences in my plants, but whether they are due to situation and soil, or whether they will prove to be varieties, I have not sufficient knowledge to say. The principal object of this note is to call attention to the fact that occasionally this species does flower well outside the warmest corners of the British Isles.

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I cannot forbear saying a few words about another Rhododendron to which somewhat disparaging allusions were made by that excellent judge of Rhododendrons, Mr. McLaren, in last year's *Notes*—namely, *ADENOPODUM*.

In passing I may observe that it was one of the surprises of a perusal of Mr. Stevenson's very useful classification to find *ADENOPODUM* placed in the *ARBOREUM* series, to which the ordinary observer does not find that it bears much resemblance either in flower or in leaf. Moreover, in Mr. Wilding's list it was put in the *TALIENSE* series.

It was originally found by Père Farges in Szechuan in 1901, and subsequently by Mr. Wilson in Hupeh, and first flowered in 1909. My plant came from Combe Wood about fourteen years ago. I cannot share Mr. McLaren's view that its comparative rareness need not be regretted; in my experience it is a most refined and graceful Rhododendron. The flowers, which hang in loose trusses, are bell-shaped and of a soft delicate pink or pale rose colour, and, as Mr. Wilson says, the lustrous green upper surface and the grey under surface of the leaves form a pleasing contrast. Mr. P. D. Williams, writing of it in 1922, says it is not happy everywhere, but adds that he has seen plants which are quite lovely, and surely it is by its appearance in health that a plant must be judged. Mr. Wilson says it reminds him of *R. SMIRNOWII*, which I can well understand, for this is also a very beautiful Rhododendron, not often seen in such perfect health as it was this year. The habit, however, is more compact and the flowers are less bell-shaped. In my experience *SMIRNOWII* is in every way superior to its relative *UNGERNII*. It is also one of the hardiest of all Rhododendrons.

G. W. E. LODER.

November 6, 1925.

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WILSON'S RHODODENDRONS AS GARDEN PLANTS.

(Continued from 1924.)

RH. WASONII of the yellow flower and prostrate habit I mentioned in last year's *Notes*, and I then hazarded a guess that the upright-growing RH. RHODODACTYLUM, with a leaf indistinguishable from that of WASONII, and with a pink-and-white flower, might be the WASONII described in Wilson's *Field Notes* as pink-flowered. But that is not so; for since I wrote a second plant of prostrate WASONII (obtained under name and not under number) has flowered, and flowered pink, a good month later than its yellow brother. These two plants are otherwise identical in habit and leaf.

RH. DECORUM is represented at Bodnant by a number of plants from Wilson's collected seed, but of two very distinct forms. The first is a tall, quick-growing shrub that requires a number of years to bring it to flowering age; a shrub of distinguished habit, not a mere bush like FORTUNEI or DISCOLOR, but in general shape not unlike an ARBOREUM, although the leaves are, of course, not so ornamental or so well carried.

The second form is a low-growing bush that flowers abundantly at a remarkably early age. The flower-buds of this form tend to swell too soon, and are often destroyed by frost before they open. It came under the quite unauthorised name of RH. DECORUM var. BALFOURIANUM, but it is so distinct from a garden point of view that it deserves a varietal name.

The flowers on both these forms are of similar type, though they vary somewhat in merit from plant to plant.

The petals tend to lack substance and to be therefore a bit crinkly, and I suggest that this species will not be as good for hybridising as that form of FORTUNEI with solid waxy flowers that helped to produce LODERI.

RH. DISCOLOR has proved a fast-growing shrub of the inverted pyramid shape so often assumed by RH. CALOPHYTON, SUTCHUENENSE, and FALCONERI. It is quite hardy, but not very easy to please, being inclined to grow thinly; it seems to prefer a situation open overhead and fairly dry at the root.

The five or six specimens that have flowered at Bodnant have all flowered at the same time of year—late in July; the flower varying between pink, pale pink, and pink on cream-coloured ground. Unfortunately, however, it is a shy flowerer, so much so that, if one good flowering season be excepted, a number of plants in over twenty years from seed have produced in all that time perhaps a total of two trusses apiece. However, to make amends for this, they are all, for the season of 1926, most fully set with buds.

RH. HOULSTONII (648aW) is quite distinct from RH. DECORUM and from RH. DISCOLOR; it proves to be a dense shrub of medium growth, with globular flower-buds and pretty mauve-pink flowers in June, developing chiefly on the

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inner branches—a good doer in a variety of situations, but again a shy flowerer. It is a desirable garden plant.

RH. OVATUM came from Veitch under Wilson's seed number 938W. This plant, however, died, and others came subsequently under number 1391W. It is a plant that does not impress one with its personality. It is now a compact little shrub 18 inches high and 2 feet across, with small leaves looking a bit shabby, because its young growths are never quite perfect, and are apt to bleach.

It flowers rather sparsely with quite a pretty flat pale pink bloom, but again the flowers are not impressive. In fact, although one likes it when one sees it, one can easily forget that one has it. It has always been in a sunny place, and not in the best of soil. It might be well to try a plant in the shade and in better soil.

RH. THAYERIANUM came under number 4273W as a seedling from the Arnold Arboretum. One plant flowered at Bodnant for the first time in 1925, a fairly good pink-and-white flower. It is better set with bud for 1926.

The habit of this Rhododendron is most distinct and beautiful. The leaves are stiff and spiky-pointed to a degree—indeed, it would be painful to walk through a thicket of it. It is hardy and tolerant, but a very slow grower.

RH. VILLOSUM has a leaf of that soft and velvety texture that seems to betoken a very tender plant, but it is in fact quite hardy; most of the plants have flowers of a pale washy purple, but a certain number have flowers of a rich deep plum-purple, and these latter are very well worth growing. A plant of the first sending (1862W of 1904) is now a large bush some 7 feet high, and a profuse flowerer every year. This is of the dark-flowered type.

It does not do to dismiss all the purple TRIFLORUMS as poor garden plants on account of their colour; for although most of them, certainly, are poor, there are of others besides VILLOSUM odd plants which have a really splendid colour: these should be propagated to replace their weaker brethren. Indeed, planted with yellow Azaleas and RH. AMBIGUUM (LUTESCENS is too early, and should go with RIREI) they might almost rival the wonderful combination at White's Nurseries—Rhododendron Purple Splendour and Azalea Unique.

SOME EXPERIENCES IN THE RAISING OF RHODODENDRONS FROM SEED.

A great disaster overtook our first attempt at raising Rhododendrons from seed, for the sand we used for the compost into which the seedlings were pricked out was sea sand from nearby sandhills, and although the salt had perhaps been washed out since it had been blown in from the shore, the lime from shells and limestone cliffs remained. Consequently, of the seedlings on which it was tried, those from Farrer's expedition, there survived in quantity only DECORUM, MEGACALYX, and KYAWI.

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Since then we have used proper silver sand, but in an effort to be in the fashion we have also tried sowing both in live moss and in peat-moss litter. In both cases germination has been quite first-class, but we have found that the process of weaning the seedlings into the soil in which they must eventually grow is a great shock to them.

The skilled plantsman who supervises them advances the theory that it is best to accustom seedlings when young to the soil of the garden, and he therefore uses for the seedlings one part of the garden loam, one part of sand, and three parts of leaf-soil from the woods. As the seedlings advance and are transplanted, the proportion of loam is gradually increased until as young plants they are practically in the ordinary garden soil.

Last spring we sowed of certain Kingdon Ward Rhododendron seed one-half of each packet in our mixture and one-half in peat-moss litter. The sowings were done on the same day and the pots stood side by side; the seeds germinated perhaps slightly better and grew certainly faster in the peat-moss litter; both lots were pricked off on the same day into our standard mixture, and now, nine months after sowing, the peat-moss seedlings have easily been beaten in size and vigour by the others.

"Damping-off" troubled us a good deal this autumn, a disease perhaps partly due to the fact that the house (an old lean-to house facing south) was not the most suitable for the purpose, and partly to the impossibility of watering so many pans and boxes by dipping and our therefore having to use the old method of the can. But the can has a small spout, and great care is taken not to wet the seedlings overhead more than can be helped. By dipping, one is certain of keeping the foliage dry, but it is arguable that by this process one wets the soil where it is already wettest, namely, at the bottom, and that this may produce sourness unless the compost is very porous. However, to keep the "damping-off" in check, we fixed to the roof a small electric fan of the long-bladed type with suitable resistances in the circuit so that it ran very slowly—so slowly that one could almost count the revolutions. This fan has run continuously; and certainly *post hoc*, and I believe *propter hoc*, damping-off has been reduced to almost negligible proportions.

I have observed with care the young growth made by certain seedlings standing in the full draught right under the fan, and certainly the current of air has exercised no ill effect on them, as I at first feared it might do. The atmosphere of the house has quite a different feel from that in any of the other houses—being much more fresh and more like the open air.

I may add that the cost of the fan was under £10 (the house being already wired for lighting purposes), and that the amount of current used must be very trifling.

In regard to the planting-out of the seedling Rhododendrons from the frames to the open, we have come to the conclusion that it is hard to beat the end of July or the beginning of August as the most suitable time. A seedling in a frame starts to grow very early in the spring; to plant it out before it starts is to plant it out in midwinter into cold, wet soil and exposed to all the

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risks of frost. In May, the month usually chosen, the soil is warmer, but the seedling is now in full growth, and cold winds and even late frosts may blight or destroy the growth; we found that seedlings planted out one May lost quite a year of progress due to check from unexpected cold winds. In June you are faced with the probability of drought and hot sun, and if plants are in the open even the best of watering and shading do not give the moist air which is so helpful to their fresh growths, and which can to some extent be provided in a frame.

By August, however, the sun is past its hottest, helpful night dews are to be expected, there is no very long period of watering until the autumn rains arrive, and, above all, while the bulk of the growth has been made under shelter, the check of moving tends to stop late growth, and thus to a greater extent the plants are able to meet the winter frosts with shoots and buds properly ripened.

As the frames are vacated by the older seedlings those from the house occupy them, and much the same considerations apply (although not with quite the same force) to this move also. A proportion of the seedlings raised have been one's own hybrids, and different batches naturally differ much in vigour. If one looks at the seed-pans or the seedling boxes, one can tell at a glance any that contain plants which have in them the strain of the FORTUNEI series—be the parent FORTUNEI itself, DECORUM, AUCKLANDII, or AURICULATUM, for these plants are twice the size of any others at the same date from sowing. Again, certain crosses are "ne'er-do-weels"—at any rate in the seedling stage; they are the offspring of parents unsuitably mated, even although that unsuitability has not rendered the pod abortive or the seed sterile.

Among such crosses I notice particularly SOULIEI×AUCKLANDII and CALOPHYTUM×BARBATUM, of both of which a large batch germinated. The seedlings make very poor, slow growth, and there is a great mortality.

Of another cross, MUCRONULATUM×MOUPINENSE, all died but one plant (obviously the hybrid, as it is evergreen), but this one plant is perfectly strong and healthy.

HENRY D. McLAREN.

BODNANT, 1925.

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NOTES FROM LAMELLEN.

The first event of real interest this year was the flowering early in April of G. H. Johnstone's hybrid, CAUCASICUM var. STRAMINEUM \times NERIIFLORUM. I had noticed the little plant 6 inches high in the nursery bed with a bud on it, which something had partially eaten, so I took it up and potted it. Owing to the injury and the fact that it was a first flower on a seedling, its merit cannot be finally judged. But it is a very pretty little flower of a distinct and charming shade of pink. The influence of R. NERIIFLORUM is visible in the leaves, and still more so in the very remarkable calyx.

There are, then, in the specimen described 6 flowers to the truss, 5-lobed campanulate, $1\frac{1}{5} \times 1\frac{1}{2}$ inch with deeply cut lobes; the filaments are blush, the stamens brown, the style white, and the stigma greenish.

The colour is deep, clear rose-pink (*Répertoire de Couleurs*, shade 3), with a few very inconspicuous spots. And the calyx is most remarkable. Exactly the same colour as the corolla, it extends sometimes almost to the top of this, yet it is very irregular and deeply cut. One of the beauties of the flower is that it has a flush of deeper colour on the exterior.

At the same time bloomed two plants introduced by Forrest—I'm ashamed to say, in their original seed-pans. One of them, 21344F, has flowers like FASTIGIATUM, but with a pink style. They are lavender-blue and in fives at the end of the shoots. The plant seems more erect in growth and the leaves are much longer and narrower.

The other, 21487F, both in flower and leaf resembles R. SCINTILLANS, but the single bloom in the box was almost white, with just the faintest tinge of blue. R. SCINTILLANS, however, has sometimes very pale flowers, and this species may hereafter produce darker ones. It flowered again in the autumn, and was pronounced to be SCINTILLANS FORMA.

Also at this time flowered a seedling THOMSONII with large, very dark red blooms, 7 to the truss, and remarkable in having on the upper lobes a heavy black spotting.

April 20 produced a pleasant surprise in the flower of Rhododendron No. 314 (DR. STOCKER \times CAMPYLOCARPUM), a plant with nice intermediate foliage and a flat truss of 6 primrose flowers, resembling R. MRS. KINGSMILL in shape and size, but more distinctly yellow. They measured 2×3 inches, and the colouring was somewhat more pronounced on the exterior. A very beautiful flower, to which I have given the name DAMARIS after my youngest daughter.

During the third week in May there was at last a flower on R. 6772F TALIENSE, which was sown in 1911. Eleven bells to the truss, white with a distinct yellow tinge and a strong spotting of crimson on the upper lobes. The shape of the corolla—5-lobed $1\frac{7}{8} \times 2\frac{1}{2}$ inches—was peculiar, being rather

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broadly campanulate and swelling out below the lobes, which were but little divided and prettily crimped at the edges. Style and filaments greenish-white, stigma yellow-green, stamens (10) light brown, and calyx almost non-existent. I only found the flower when nearly over, and therefore couldn't send it to be verified.

Another flower was that of R. "CAMPKEW" (CAMPYLOCARPUM × KEWENSE), and in this there were 8 to the truss on rather long pedicels, creamy white with crimson spotting, $2\frac{1}{10} \times 3$ inches, 5-lobed campanulate, style and filaments yellowish-white, stamens dark brown, stigma reddish, calyx small. Leaves in shape favouring CAMPYLOCARPUM, but much larger. Quite a nice flower.

Soon after a low-growing, spreading rogue from Chinese seed, but from which box there is no record, made its initial effort. The leaf is dark green above and has a thick, smooth cinnamon tomentum beneath, is about 3 inches long by $1\frac{1}{4}$ across, and is ovate-lanceolate. Flowers 9 to the truss, violet-rose with spotting of the same colour but darker, 5-lobed $1\frac{7}{10} \times 2$ inches, lobes rather deeply cut and very precise and regular. Filaments white, stamens (10) light brown, style yellowish-white, stigma red, calyx small and deeply cut. I sent this to Edinburgh for identification, and it proved to be the true R. BALFOURIANUM, *Diels*.

First week in June presented us with the first flower of R. "BRACHDIS" (BRACHYCARPUM × DISCOLOR). Fourteen to the truss, blush with yellow-green spotting, 5 to 7-lobed $2\frac{1}{10} \times 3$ inches, campanulate, stamens (14) light brown, filaments white, style greenish-white, stigma greenish-yellow. A pretty flower of delicate colour, with the refinement of R. BRACHYCARPUM and the size of DISCOLOR, but I'd hoped it would have been later.

Fourth week in June there was a first flower on a plant I bought years ago at Coombe Wood. It is low and spreading in habit, with stout branches, and leaves oblong-lanceolate in shape, clad beneath with a thick brown, spongy indumentum, $4\frac{1}{2} \times 1\frac{7}{10}$ inches, including a short petiole of hardly half an inch. The flowers, 8 to the truss, are 5-lobed campanulate, rather swollen in the tube, $1\frac{7}{10} \times 2\frac{3}{10}$ inches, deep lilac-rose darker on the outside, with a strong dark crimson spotting on the upper lobes. Filaments and style yellowish-white, stigma yellowish-green, stamens (10) almost black. This I sent to Edinburgh, where it was identified as a very fine dark form of R. WASONII.

Second week in July came a first flower on a plant for which I am indebted to Mr. L. de Rothschild. It came under the number 21506F, described in the *Field Notes* as being of the CEPHALANTHUM series. This, however, is obviously LAPPONICUM, and a good one at that. For there are 6 or 7 flowers to the truss of a rich blue purple, whilst the imbedding of the base of the filaments in a sort of fine wool gives the appearance of a white eye. The individual flowers are very widely campanulate, $1\frac{3}{8}$ inches across, the filaments being the same colour as the corolla, and the style red purple. The stigma has a brownish tinge, and the stamens are light brown. On referring the flower to Edinburgh it is said to be R. CANTABILE.

Two more LAPPONICUMS bloomed in September, and were identified as follows: R. K.W. 4456, a form of IMPEDITUM, and not a very good one as to

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colour, if one may judge from an autumn flower; and K.W. 4102 is R. TELMATEIUM.

So far as my chance observations go, there is promise of a remarkable lot of new flowers on species and hybrids for next spring, *pace* the weather. And I hear the same in other quarters.

Can any one tell me what exactly is the small, fat, white grub with a yellow-brown head, which gets into the seed-boxes and eats the Rhododendron roots; and also if any means has been discovered of dealing with it before it is too late?

E. J. P. MAGOR.

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RHODODENDRONS AT INVERERNAN.

This place, which Mr. H. J. Tennant recently bought from Mrs. Forbes, is near the head of Strathdon in Aberdeenshire. It lies well above the 1000-foot contour, but is sheltered by hills rising to 2000 feet. It is quite away from the influence of the sea, being over thirty miles from the nearest sea water. The climate is crisp and bright, with a rainfall of about 33 inches. The soil is light, and most of the uncultivated ground is covered with heather. Mrs. Tennant kindly took me to see the place, which illustrates in a most interesting manner the growth to be expected at an elevation unusually high for a British garden.

Mr. Charles Christie has kindly supplied me with notes which show that the exotic trees and shrubs date from 1863 to 1865. They appear all to have been bought in Aberdeen nurseries by Sir John Forbes, who died as recently as 1906. Several plants of *RH. CAMPANULATUM* have reached the height of 12 feet or more, with a spread of 20 feet, and massive gnarled stems. These plants are in perfect health, and had bloomed profusely last summer. We found no other Rhododendron species, but many of the earlier hybrids have reached large proportions, and all appear to flower generously. There are also fine specimens of Nootka cypress and a striking group of Nordmann firs, which show no sign of chermes. Lilacs had bloomed well. The common red fuschia was in flower at the time of our visit.

Mrs. Tennant's own garden at Edinglassie (elevation 1100 feet) was brilliant with sweet peas and a great variety of herbaceous plants and annuals. The roses were at the height of their first bloom, and strawberries and raspberries were in full swing. In inland sheltered valleys, with a reasonably good soil, elevation seems to make little difference to herbaceous plants and shrubs except that in most cases they flower a month to six weeks later. Tree growth, on the other hand, is decidedly slow, and sycamore and beech show a marked superiority to other hard woods. The slow-growing coniferous timber is of excellent quality, and closely resembles the best material imported from Scandinavia.

JOHN STIRLING-MAXWELL.

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THE SERIES TRIFLORUM.

Of the many series into which the genus *Rhododendron* has so far been divided, it is doubtful if there is one which has proved itself more adaptable to British gardens generally than that of *TRIFLORUM*. In fact, one might even be rash enough to prophesy that in another decade, when the prevailing headlong *Rhododendron* rush has somewhat subsided, this interesting series will be found to provide some of the most reliable and decorative members of the entire genus. A happy combination of lightness and uprightness of growth, general hardiness and soundness of constitution, and a lavish profusion of flower, ranging in colour from pure white through yellow, shades of pink, lilac, and purple to a violet blue, is one that cannot fail to make a strong appeal to horticulturists generally. The members of this series are plants with few fads. Culturally they prove highly accommodating, and luxuriate in typical "ericaceous soil"; while as regards aspect they are, generally speaking, lovers of the sunnier and more exposed positions, where young wood can ripen freely and best develop its naturally floriferous character. Opinions may differ as to whether certain richly coloured species, such as the finer forms of *AMESIAE*, *AUGUSTINII*, *VILLOSUM*, and *YANTHINUM* are not seen to better advantage in comparatively shaded situations. No doubt the deeper shades of lilac, purple, and blue make their strongest appeal when viewed in the duller light that follows sunset, and a selection of plants so coloured may well be reserved for woodland clearings, though not entirely at the expense of the sunnier positions, where their richness of colouring is so admirably contrasted by the lighter shades that predominate in any representative group.

In the best forms of *R. AUGUSTINII*—a plant of variable colouring—comes a shade of "blue" which approximates very closely to a true blue; and of such, a well-flowered specimen—particularly the variety with widely expanded corolla—presents a picture of exceptional grace and charm. A judicious selection of seedlings grown from such a variety would well repay the raiser, and might indeed result in a *Rhododendron* concerning whose blueness there could be no shadow of doubt in the mind of even the most critical observer. As it is, the "best blue" *AUGUSTINII* of catalogues too often betrays a distinct suspicion of lilac in its composition. Where shapeliness is lacking, all members of this series respond readily to an appropriate shortening of lateral growths, and are invigorated by a periodical thinning-out of old wood.

The species generally are free seeders, and thus present no problem to the propagator. Individual varieties may also be increased by cuttings taken from young wood in early autumn. In the writer's garden self-sown seedlings are springing freely from rocky crevices, and lead to a prospect in cross-fertilisation of much interest.

When considering the question of arrangement the planter will do well, if 100 per cent. results are desired, to distinguish carefully between a congested crowd and a tasteful group where opportunity is afforded for the due develop-

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ment of individual specimens into pyramids of bloom 6 to 8 feet tall. In extensive beds and borders, irregular of outline, where decorative shrubs of moderate symmetrical growth are desired, the TRIFLORUMS will be found singularly suitable, and admirably adapted to massed effect by reason of their comparative uniformity of habit and delicacy of colouring. Nowhere, possibly, will they be seen to better advantage than when freely and irregularly grouped in association with members of the Prunus and Erica genera. A background of cherries and a foreground of dwarf heaths, with a few of the taller-growing species intermixed, provide a combination which might well lend spring-time distinction to any garden.

The series, divided into five subseries, comprises some fifty distinct species, of which perhaps not more than one-half will be found in general cultivation. Of these the type species R. TRIFLORUM was introduced by Hooker from Sikkim more than seventy years ago. The remainder are of Chinese origin, and mainly result from the collections of Messrs. Wilson and Forrest in comparatively recent years.

For general garden purposes the following selection of twelve species may be found adequate to the requirements of the average cultivator. The flower colouring is in some cases variable, in others somewhat indefinite, so description is more than usually difficult.

- R. Amesiae—reddish-purple.
- Augustinii—shades of lilac and blue.
- charianthum—rosy lilac.
- chartophyllum praecox (so-called)—white.
- Davidsonianum—shades of rosy lilac.
- lutescens—yellow. Young leaf bronze.
- oreotrepes—lilac and rose. Glauous foliage.
- triflorum—greenish-yellow.
- villosum—deep red purple.
- yanthinum—lilac purple.
- yunnanense—white or pale pink, crimson spots.
- zaleucum—white to pale lilac rose. White under side to leaf.

H. ARMYTAGE MOORE.

December 1925.

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RHODODENDRONS AT BRODIE CASTLE.

I am forwarding an extract from a letter of Mr. Brodie of Brodie to me regarding the behaviour of various species of Rhododendrons in the county of Elgin. I think it is of much interest, and you may care to include the extract in your current *Notes*. The first list in the short paper gives the names of Rhododendrons which have been killed outright. It is to be observed that all were very young plants. Of the eight casualties it is perhaps surprising to note that RH. AEMULORUM and RH. PSEUDO-CHRYSANTHUM are among them. I would have expected these to survive.

WILLIAM WRIGHT SMITH.

EXTRACT FROM LETTER FROM BRODIE OF BRODIE

DATED NOVEMBER 30, 1925.

I do not know if you care to have a report on the behaviour of Rhododendrons here, many of which were sent me by the late Sir Isaac Bayley Balfour and yourself; but I send it in case it is of any interest.

The following Rhododendrons were killed outright by winter cold—*all quite young plants* :—

Rh. aemulorum.
bullatum.
crassum.
giganteum.

Rh. Mackenzianum.
prophantum.
pseudo-chrysanthum.
schistocalyx.

The following have flowered and will probably succeed well; they haven't met a zero frost yet, but they have all been subjected to at least 20° :—

Rh. ambiguum.
anthopogon.
arborescens.
Augustinii.
campylocarpum.
caucasicum var. sulphureum.
chloranthum. (I am much attracted
by this.)
cinnabarinum.
Davidsonianum.
fulgens. (Flowers, of course, often
get frosted.)

Rh. haematodes.
hippophaeoides.
lutescens.
neriiflorum.
racemosum.
reticulatum (rhombicum).
rubiginosum.
scintillans.
Souliei.
telmateium.
Ungernii.
yunnanense.

The following have not yet flowered, but if flowers follow *really* good growth they should do :—

Rh. adenogynum.
arboreum.

Rh. auriculatum.
Balfourianum.

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Rh. calophytum.
 campanulatum (several forms).
 cyanocarpum.
 cyclium.
 Delavayi.
 desquamatum.
 dichroanthum.
 dolerum.
 Falconeri.
 fictolacteam.
 galactinum.
 Griersonianum.
 hypolepidotum.
 irroratum. (Young shoots get
 frosted sometimes.)
 japonicum.
 moupinense.

Rh. niphargum.
 niveum.
 nobile.
 oreotrephe.
 paramoenium.
 Reginaldii. (Young shoots occa-
 sionally frosted.)
 rhanthum.
 semibarbatum.
 sinogrande.
 Smithii.
 sutchuenense.
 Thomsonii.
 Traillianum.
 Vaseyi.
 Wardii. (Young shoots at times
 frosted.)

The following Rhododendrons are looking *very well*, but are still perhaps too small to say much about :—

Rh. aiolosalpinx.
 argenteum.
 Beesianum.
 brachycarpum.
 chaetomallum.
 coccinoeplum.
 facetum. (Made one second growth
 this year too late to ripen. It has
 not done this before.)

Rh. flavorufum.
 fulvum.
 Hodgsonii.
 porphyroblastum.
 puralbum.
 sycphocalyx.
 theiophyllum.

All the Kingdon Ward things you sent me under number are flourishing.

The following do not look well, but are alive :—

RH. AUREUM and RH. ZALEUCUM. Both seem to suffer from cold.

I put special notes to the following :—

RH. FORTUNEI and RH. DECORUM.—Both grow vigorously, but will make second growths too late. However, I expect them to do all right when they settle down to flower; this should take some of the extra vigour out of them.

RH. BRACHYANTHUM.—Has flowered, but does not look too robust, and here and there the branchlets do not look well, as though they suffered from cold.

RH. GLAUCUM.—The same remarks as for RH. BRACHYANTHUM (above).

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RH. APODECTUM and RH. DETONSUM.—Tips of branches sometimes get frosted. I have moved them to a site under an oak tree.

RH. GENESTIERIANUM. A little doubtful, but may do. I fear it is on the soft side.

RH. MUCRONATUM.—Tips of shoots apt to get frosted in winter, as though they did not ripen sufficiently.

RH. SINOGRANDE has surprised me by the way it has grown. I have one leaf this year 23 inches long by 9 inches wide.

If I am alive and kicking I will report again in a year or two, when I may be able to say something more definite about the behaviour of these plants. But, on the whole, results are, so far, promising. My neighbour, Mr. Christie, has plants of RH. GRANDE and RH. AUCLANDII growing well—not yet flowered, but about 3 feet high and in the rudest health. Millais was here this autumn looking at my plants, and I took him over to Christie's place at Blackhills. He said he thought our conditions were better than his in Sussex.

EXTRACT FROM LETTER FROM BRODIE OF BRODIE

DATED DECEMBER 5, 1925.

As regards RH. GENESTIERIANUM, I may say that it had a yew branch stuck in alongside it and partially overhanging it, which precaution I have repeated this winter. This plant and R. AUREUM were the only two that had any additional protection beyond the natural shelter supplied by their surroundings, excepting some of the very small plants recently planted out from the seed-pans.

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RHODODENDRON SEEDLING RECIPES.

Through the kindness of Mr. L. B. Stewart, of the Royal Botanic Garden, Edinburgh, I am able to give two recipes which may be useful to members of the Society.

J. B. STEVENSON.

CHESHUNT COMPOUND FOR DAMPING-OFF.

Copper sulphate (finely powdered) 2 oz.
Ammonium carbonate (finely powdered) 11 oz.

To be thoroughly mixed (dry), and with no lumps, and stored before use for 24 hours in a tightly corked stone or glass jar.

Dissolve 1 oz. of the mixture in a little water (hot), and make up to 2 gallons with cold water.

How to use.—Water plants suffering from damping-off in pots or boxes with this solution. It will not cure diseased plants, but will save the rest. It will not injure living plants.

Water seed-pans and seed-boxes after planting, to prevent damping-off. One pint solution to one seed-box.

PERMANGANATE OF POTASH SOLUTION FOR RHODODENDRON SEEDLINGS.

1. A saturated solution of permanganate of potash is made by adding crystals of the permanganate salt to water until the crystals no longer dissolve at ordinary temperatures (say 55°-65° F.).

2. A diluted working solution is made by adding one fluid ounce of the saturated solution to two quarts of water.

3. This is applied to the seedlings by a "rose" spray fairly liberally, so as to wet thoroughly the soil and the seedlings.

A LIST OF MR. E. H. WILSON'S EXPEDITIONS.

FIRST EXPEDITION, FOR MESSRS. J. VEITCH & SONS.

April 1899 to April 1902.

Objective—*DAVIDIA INVOLUCRATA*.

1899. Hong-Kong through Tonking and Yunnan to Szemao, and return to Hong-Kong.

1900. February 1902. The province of Hupeh, Central China, with base at Ichang, February 1902.

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SECOND EXPEDITION, FOR MESSRS. J. VEITCH & SONS.

January 1903 to March 1905.

Objective—*MECONOPSIS INTEGRIFOLIA*.

Western Szechuan, with base at Kiating Fu.

THIRD EXPEDITION, FOR ARNOLD ARBORETUM, IN CONJUNCTION WITH ENGLISH FRIENDS HEADED BY F. R. S. BALFOUR, DAWYCK, PEEBLESSEIRE.

December 1906 to May 1909.

1907. Western Hupeh and Lushan Mts. in Kiangsi, base at Ichang.

1908. Western Szechuan, base Kiating Fu.

FOURTH EXPEDITION, FOR ARNOLD ARBORETUM, IN CONJUNCTION WITH ENGLISH FRIENDS HEADED BY F. R. S. BALFOUR, DAWYCK, PEEBLESSEIRE.

April 1910 to April 1911.

Northern and north-western Szechuan, base Chengtu Fu.

FIFTH EXPEDITION, FOR ARNOLD ARBORETUM.

January 1914 to March 1915.

Japan, from Yakushima in extreme south to northern Hokkaido and south Saghalien.

SIXTH EXPEDITION FOR ARNOLD ARBORETUM.

January 1917 to March 1919.

Japanese Empire : Korea, Formosa, Liukiu, and Bonin Islands.

SEVENTH EXPEDITION, FOR THE ARNOLD ARBORETUM.

July 1920 to August 1922.

Australasia and New Zealand, Federated Malay States, India, Ceylon, Kenya Colony and Uganda, Southern Rhodesia and Union of South Africa.

E. H. WILDING.

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RAISING HYBRID RHODODENDRONS.

I have been asked to write something on the raising of hybrid Rhododendrons. It would, I think, have been easier to do so had I not been in contact with the subject for a long while, for I should then be less conscious of how very little one can know about it; but, such as it is, I will try to tell the story.

When I started Rhododendron-growing here, about 1885, I began with the Waterer hybrids in beds, as so many others did. Amongst these was SIR J. WHITWORTH. From that I raised seedlings; later they flowered, and it was a very sharp lesson. I have many of them now in a remote corner, a terrible warning as to the result of using mongrel seed.

Then, seeing that these trade hybrids obliged us to have flower just when the London season of those days was on, and at hardly any other time of the year, I started to raise earlier-flowering forms, which was easy, for we had in this county most of Hooker's plants.

When Wilson's plants came back, Messrs. Veitch, of Chelsea, were kind enough to let me have at a nominal price in some cases, and in others as a very generous gift, the Rhododendrons of their 1901-2 and 1903-4 expeditions. As these plants came into flower, I saw the gain of having abundant pollen of species at hand, whilst a constant reading of all I could get together of what Mr. Mangles had said and written pressed me into crossing species rather than hybrids.

Then a visit or two to Littleworth, and seeing there the extraordinary high average of value in what he raised in quite a short time, and that apparently the more he crossed species and the less he admitted mixed blood, the more even was the quality of the flower, drew me more to the policy which he followed.

If that had not been enough, soon after I became interested in raising seedling Rhododendrons I also began this same very interesting form of seedling-raising with daffodils. There we had, from poverty of species, to work with mongrels, and the heartbreaking failures in doing so burnt it into one as to how much easier it was to work where you had almost limitless species to use, as in Rhododendrons.

This, of course, encouraged one to gather in species for this reason at first, and later because so many of them are so much more beautiful than any hybrids.

I have had the help of Mr. McLaren in the form of some questions which run something on the following lines:—

A. *How increased hardiness and vigour may be obtained?*

I believe that plants of similar physical outlines and wide geographical separation give vigour and hardiness, but to get it in full measure they should be grown from seed sown in the soil and climate they are to live in.

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B. *How size of bloom may be obtained ?*

I have never tried to increase the size of bloom, and think it has been carried too far now ; but as one gets older I try to increase the size of the foliage, for it is at its best before the flowers come, and that comes as I suggest in answer A.

C. *Which fail to give seed when crossed ?*

As a rough rule, a general similarity in structure, particularly the structure of the stigma anthers and the shape of the seed-pods, will cross, and they will refuse to do so if they are very different.

D. *What would you suggest as a promising field for future work ?*

This is a hard question. If I were given the chance to start now with a fair prospect of twenty years to work in, I should work for compact low-growing forms which one could group say 50 to 150 together, with colours varying in each batch, but obviously related. This has been in some measure obtained by crossing SOULIEI and CAMPYLOCARPUM, but they are not compact enough, though the colours are very nice, and vary on one plant, and indeed in one bloom.

If a further suggestion would be acceptable, and on different lines, then I would urge that the story in Mr. Wilson's Azalea book as to the origin of the Obtusum Azaleas he found in a grower's garden in the town of Kurume—obviously mainly, if not entirely, the outcome of seedling selection from one species rather than the crossing of two species—may be well worth consideration as being likely to produce remarkable results. I believe our garden pansy was developed in that way, and many other well-known plants.

J. C. WILLIAMS.

