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The
Rhododendron Society
Notes.



REPRINTED BY
THE PACIFIC RHODODENDRON SOCIETY

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RHODODENDRON, CAMELLIA
& MAGNOLIA GROUP



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 Rothchild for their esteemed counsel, and to Thomas V. Donnelly our printer.

Our greatest appreciation to Dan E. Mayers of Lorient, 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 Rhododendron Society Notes.

MEMBERS' NOTES FOR THE YEAR 1916.

INDEX.

- PAGE.
2. RHODODENDRON CAUCASICUM, REPORT UPON, BY G. W. E. LODER AND J. C. WILLIAMS.
 14. RHODODENDRON CAUCASICUM, HYBRIDS OF, BY SIR EDMUND LODER, Bart.
 16. BORDE HILL, RHODODENDRONS AT, BY LIEUT.-COLONEL STEPHENSON CLARKE, C.B.
 18. EAST BERGHOLT, PROVISION OF SHELTER AT, BY CHARLES ELEY.
 21. HOOKER, SIR J. D., PORTRAITS OF, ETC., BY CHARLES ELEY.
 22. HYBRIDIZATION, FAILURES AT, BY SIR EDMUND LODER, Bart.
 23. LAMELLYN, RHODODENDRONS AT, BY E. J. P. MAGOR.
 25. LOGAN, WIGTOWNSHIRE, RHODODENDRONS AT, BY KENNETH McDouALL.
 27. CASTLE KENNEDY, WIGTOWNSHIRE, RHODODENDRONS AT, BY THE RT. HON. SIR HERBERT MAXWELL, Bart.
 29. MONREITH, WIGTOWNSHIRE, RHODODENDRONS AT, BY THE RT. HON. SIR HERBERT MAXWELL, Bart.
 31. RHODODENDRON ARBOREUM AND ITS CULTURE, BY LIEUT.-COMMANDER J. G. MILLAIS.
 35. RIVERHILL, SEVENOAKS, RHODODENDRONS AT, BY LIEUT.-COLONEL J. M. ROGERS.
 36. ROSTREVOR HOUSE, CO. DOWN, RHODODENDRONS AT, BY LIEUT.-COLONEL SIR JOHN ROSS OF BLADENSBURG, K.C.B.
 39. CHINESE RHODODENDRONS IN CORNWALL, BY P. D. WILLIAMS.

The Rhododendron Society Notes.

REPORT UPON RHODODENDRON CAUCASICUM AND ITS HYBRIDS.

It will be remembered that at a meeting of the Rhododendron Society, held on October 12th, 1916, it was decided that a small Committee should be appointed to enquire as to the known forms of pure Rhododendron caucasicum species ; and secondly, as to what hybrids of interest have been raised, and why the work was given up. Messrs. J. C. Williams and G. W. E. Loder consented to report upon the species, and Sir Edmund Loder agreed to deal with the hybrids.

With regard to Rhododendron caucasicum, attention is naturally drawn to this species and to its hybrids, by the Rhododendron which perhaps gives pleasure to the greatest number of people of all the countless Rhododendron species and hybrids, namely, Rh. Nobleanum.

Readers of gardening books and papers, and visitors to gardens in the different parts of the country, will have been struck by the evidence that R. caucasicum flowers early in the year, and again late in the year, also by the wide area over which it is grown. They will probably have noticed the evidence in many places of considerable work by hybridisers in former days, whilst in recent times it has been abandoned. The hybrids we know well from this cross all hold their own and rather more, and there is none of the harshness in colour which is so often the brand of the catawbiense crosses.

The caucasicum species and many of its hybrids have a few very marked features common to most of them. In the first place, the very erect form of the seed truss, also the readiness with which most of them will strike from cuttings, compared with other large leaved varieties (an instance of which, with regard to Cunningham's white, is given by Mr. Watson, on page 72 of his book, in the " Present-Day Gardening " series). There is a strong tendency to produce a yellow strain in their colouring, of which there are many forms ; and also the inclination, referred to above, to give flower in the autumn as well as in the spring. Further, the varieties which are apparently nearest to the true species, ripen their seed earlier than any other Rhododendron, in some cases the pod will burst in July.

The following hybrids, not yet in commerce, have been raised by Messrs. Cunningham & Fraser :—

CAUCASICUM × CAMPYLOCARPUM.

CAUCASICUM × THOMPSONI.

Cunningham's SULPHUR × CAMPYLOCARPUM.

The Rhododendron Society Notes.

So far as is known, these have not yet flowered.

By the courtesy of their respective writers, to whom the thanks of the Society are due, it has been possible to attach to this report three letters from Professor Bayley Balfour, two from Mr. P. D. Williams, and an extract from a letter of Mr. E. H. Wilson's, all of which are of great interest.

There is also included the results of a search of a number of books in which references to *Rh. caucasicum*, its varieties and its hybrids, are to be found. They could, no doubt, be added to. As far as they go, they do not disclose much information about the hybrids, which, as Mr. Bean points out (Vol. II., p. 349), are so numerous in gardens.

G. W. E. LODER.

J. C. WILLIAMS.

January, 1917.

Mr. W. J. Bean, in a letter to Mr. Eley dated 20th July, 1917, writes:—

“In the most interesting and valuable article on *R. CAUCASICUM* and its hybrids, I am afraid that I am made to appear as having considered *R. CAUCASICUM* and *R. CHRYSANTHUM* to be varieties of one species. The fault no doubt is mine in not having made it sufficiently clear in my book at the place cited, but, as a matter of fact, I have never regarded them as other than perfectly distinct species.” See page 4, §3.

The above note constitutes the only material difference between the so-called 1st and 2nd editions of Vol. I., Part I. of the Society's Notes.—C. C. E.

The Rhododendron Society Notes.

REFERENCE TO RHODODENDRON CAUCASICUM, BY VARIOUS AUTHORITIES, COLLATED BY G. W. E. LODER and J. C. WILLIAMS.

RHODODENDRON CAUCASICUM, PALLAS. SYN. RH. CAUCASEUM.

Introduced in 1803.

Plate in Pallas "FLORA ROSSICA," 31 (published 1784).

„ Bot. Mag., 1145.

Mr. W. J. Bean, in "TREES AND SHRUBS HARDY IN THE BRITISH ISLES," Vol. II., p. 349, gives the following information:—

RH. CAUCASICUM, 2 feet, flowers yellowish-white or with a pale lilac tinge, produced during June, and the following varieties and hybrids are enumerated:—

CHRYSANTHUM, PALLAS. There is a plate of this in Pallas "FLORA ROSSICA," No. 31. From Siberia and N.E. Asia, nearly allied to Rh. caucasicum, yellow flowers, and differs in its smaller leaves, quite smooth on both surfaces. Very unsatisfactory in cultivation, and never seen in flower by Mr. Bean.

CAUCASICUM PICTUM. "Nearly allied to" caucasicum.

CUNNINGHAM'S WHITE, raised by James Cunningham, of Comely Bank, about 1830, between caucasicum and ponticum album. (Syn. caucasicum album.)

NOBLEANUM (caucasicum \times arboreum). Bot. Reg. 1820.

PULCHERRIMUM (caucasicum \times arboreum), Bot. Reg. 1820.

ROSA MUNDI. "Very near caucasicum in leaf and habit."

STRAMINEUM. Pale yellow flowers. Bot. Mag., 3422.

SULPHUREUM (caucasicum \times arboreum album). Raised at Cunningham and Fraser's Nursery, Comely Bank, Edinburgh.

VENUSTUM. Raised by Mr. W. Smith, of Norbiton, near Kingston, between caucasicum and arboreum.

JACKSONI. "An identical plant," said to come from caucasicum crossed with Nobleanum, raised by Mr. Jackson, also of Kingston.

(N.B.—Professor Bayley Balfour writes that there are *two* Rhododendrons known as Jacksoni in gardens, and states that Rh. chrysanthum is quite a distinct species. See letter dated 8th November, 1916, attached.)

Schneider, in Vol. II., p. 482 (published 1912), gives Flavidum, Regel, as a variety of caucasicum, and enumerates the following hybrids:—

CAUCASICUM \times CATAWBIENSE.

"CUNNINGHAM'S WHITE" (no parentage given).

CAUCASICUM \times PONTICUM="CAUCASICUM HYBRIDUM."

CAUCASICUM \times ARBOREUM=PULCHERRIMUM and NOBLEANUM.

RH. CHRYSANTHUM, PALLAS, is given as a separate species not as a variety of caucasicum.

The Rhododendron Society Notes.

Loudon, in "ARBORETUM ET FRUTICETUM," Vol. II., p. 1138 (published 1838, gives :—

CAUCASICUM, PALLAS, with a small wood-cut. The flowers are described as "purple or white."

And the following varieties :—

STRAMINEUM, HOOK. "Flowers straw-coloured."

PULCHERRIMUM, LINDL. (arboreum × caucasicum). "A hybrid raised by Waterer, of Knaphill, in 1832." Bot. Reg., 1820.

NOBLEANUM, HORT., "a hybrid very much like the preceding one in all respects except that its flowers are of a brilliant rose colour." Bot. Reg., 1820.

The plate of pulcherrimum above referred to (1820, in the Botanical Register), is like what would presumably be called Nobleanum. In the corner of the plate is *one flower* of a darker colour, said to be Nobleanum.

At the Ordinary Meeting of the Royal Horticultural Society, on February 5th, 1838, "Mr. George Glenny exhibited a Rhododendron said to have been raised by himself from seed. It did not appear different from a variety raised some years since by Mr. Waterer, of Knaphill, and called in the gardens Rh. pulcherrimum."

Pritzel refers to the following plates connected with caucasicum :—

CAUCASICUM, PALLAS, PALLAS FLOR., ROSS, 31 Guimpel Fr. Holzgew 121. Bot. Mag., 1145.

CAUCASICUM variety STRAMINEUM. Bot. Mag., 3422.

CAUCASICUM variety HYBRIDUM ALBUM. Bot. Mag., 3811.

CAUCASICO-ARBOREUM, HORT., MAUND BOT., 4. 157. This shows a pink-white Rhodo. with spotted throat and is stated to have been raised by Mr. Smith, of Norbiton. It is synonymous with venustum. See Sweet, series 2.t.285.

CHRYSANTHUM, PALLAS, PALLAS FLOR. ROSS. 30.

WOODV. MED. Vol. III., p. 149 (the plate is much the same as that in Pallas).

BERL. JAHRB. 1811. 2.

GUIMPEL FR. HOLZGEW. 123.

HAYNE. 10.27.

NEES DUSSELD. 216.

GUINPEL ET SCHL. 42.

In addition to the above there is a plate of caucasico-venustum "ROSALBA" in Flore des serres, Vol. X., plate 1038. This shows a pink-white flowered rhododendron, but no account is given of its origin.

In "GARTENFLORA," Vol. XVIII., 1869, p. 113, reference is made to Rhodo. caucaseum-splendens and Rhodo. caucasicum albo-roseum, but no mention is made of their origin, and there is no plate.

In "GARTENFLORA," Vol. XVI., 1867, p. 322, a description is given of Rhodo. caucasicum, Pallas, variety flavidum, and a plate, No. 560, which shows a

The Rhododendron Society Notes.

Rhodo. light-yellow in colour with green spots in the throat. Regal in his note on this Rhodo. appears to draw distinctions between *flavidum*, *stramineum*, and *chrysanthum*.

Maund's "BOTANIC GARDEN," Vol. X., contains plates of *Rhododendron caucasicum-ponticum*, 903, which represents a white flower with pink spots, and *Rhododendron caucasicum*, 947, having much the same flowers, only spotted yellow.

From Nicholson.

"RH. CAUCASICUM=rose coloured outside, white within, spotted green at the throat. August (flowering ?), height 1 ft. Caucasus, 1803, B.M., 1145.

"RH. C. FLAVIDUM (yellowish flowered), fl. straw colour, spotted with green."

"C. STRAMINEUM (straw coloured), fl. straw colour, fulvous coloured within (oblong 3422)."

Paxton, Vol. II., p. 231, date 1836.

"RH. CAUCASICUM and its two varieties usually grow from 2 to 3 ft. high, but rarely exceed 2 ft., except in very favourable situations."

Bot. Mag., Vol. XXVII., plate 1145, date 1808.

"RH. CAUCASEUM. A low shrub, branches spread on the ground, nearly naked, the leaves as well as the flowers being chiefly on the assurgent extremities . . . Leaves ovate, quite entire with margins rolled back . . . roughish on the upper surface and covered with a fine pale rust coloured down underneath . . . having a weak scent of sweet briar when rubbed. . . ."

There is so great an affinity between this species and *Rhododendron chrysanthum*, that Pallas seems to doubt if they ought not to be considered mere varieties. It is a native of the most elevated parts of Mount Caucasus, on the verge of the regions of perpetual snow.

Mr. Loddiges informs us that (*Rh. caucaseum*) it is far less shy than *Rhododendron chrysanthum*, which although it has been much longer in his possession, he has never been able to flower but very imperfectly.

Bot. Mag., plate 3422, date 1836.

"The *Rhododendron caucasicum* would appear to be subject to so much variation in the size and colour of the flowers if we judge from the only figures I am acquainted with, that in the "FLORA ROSSICA," and that in the "BOTANICAL MAGAZINE"; in the former which we may consider as the colour of the flowers of the *native* plant, they are comparatively small, and entirely of a delicate pink or rose colour; in Curtis's figure they are as large as those of *Rh. arboreum*, pure white within, spotted with green and tinged with a deep shade of blush on the outside."

"In our Glasgow Botanic Garden, and some other collections in Scotland, there is cultivated as the *caucasicum*, the extremely beautiful variety here figured than which I can conceive no plant more desirable or more ornamental for an American border or shrubbery. At this (April, 1835), notwithstanding a most unpropitious spring, our bushes, one of which is two feet high and three feet

The Rhododendron Society Notes.

in diameter, have the extremities of their fine leafy branches terminated with an umbel of large beautiful straw-coloured flowers, forming a striking contrast with the rich scarlet of other kinds of Rhododendron already beginning to show their blossoms in the same border. If the Rh. Chrysanthum had been a common plant in our collections, I should have thought our present one might have been an offspring from it and the true Caucasicum," etc., etc., etc.

From Withers.

RHODO CAUCASICUM. A pretty spreading or decumbent Caucasian species, about 1 ft. high. Leaves lance-shaped, ovate or obovate, rusty beneath. Flowers in August, rosy outside, white within, spotted with green, more or less bell-shaped. There are varieties with white, rose, and pale yellow flowers.

RHODO CHRYSANTHUM. A dwarf Siberian shrub, with linear lance-shaped leaves, rusty beneath, and narrowed into a long stalk. Flowers in summer, golden yellow, about 1 in. across, broadly bell-shaped, in terminal clusters. To keep this plant in good condition, it should always have a good layer of Sphagnum Moss around the stems and covering the soil.

PROFESSOR BAYLEY BALFOUR TO MR. J. C. WILLIAMS.

19th October, 1916.

DEAR MR. WILLIAMS,—It is splendid that you and Mr. G. Loder are tackling RH. CAUCASICUM and its forms, and I hope you will shed light upon a complex problem. You have a starting point in two species—the Caucasian RH. CAUCASICUM and the Siberian RH. CHRYSANTHUM. The former white and pink flowered and with a fine velvety indumentum. The latter yellow flowered and with an inconspicuous hardly developed indumentum upon an evident reticulately veined leaf surface. They were species of early introduction—CAUCASICUM said to be 1803, CHRYSANTHUM 1796. There were few hybridising species available for some years after these appeared. That they were frequently crossed I have little doubt, and I have as little doubt that the yellow colour of all the so-called CAUCASICUM is derived from CHRYSANTHUM. Whence otherwise could it come? There was of course FLAVUM and the colour factor of FLAVUM may have held in RH. CAUCASICUM after other influences, if they ever impressed CAUCASICUM, had disappeared. But the essential in all descents from CAUCASICUM seems to me to be that a yellow CAUCASICUM is a hybrid. I think Hooker's suggestion under t. 3422, of the Bot. Mag. is not far wrong—CAUCASICUM variety STRAMINEA of the figure "might have been an offspring from it (CHRYSANTHUM), and the true CAUCASICUM." Both bloods are in it. And you must remember that though RH. CHRYSANTHUM is a rare plant—the dourest of the dour—yet it does flower occasionally, as it did here this season, and that it is to be found in cultivation. A nice plant of it came to me this year from a nurseryman under the name CAUCASICUM. That the so-called CAUCASICUM in cultivation is a mongrel I have had proof abundantly. Never have we got a pure bairn from CAUCASICUM seed acquired in different quarters—anything from pink flowered to yellow flowered offspring. I have now a nice pan of it from

The Rhododendron Society Notes.

Petrograd seeds, of which I have hopes, and that I may see the true CAUCASICUM at last. Further evidence of its hybrid character is to be found in the indumentum. Not one of the plants that we have had as CAUCASICUM has typical CAUCASICUM indumentum. All of them show an approach to CHRYSANTHUM. Apart from the indumentum the somatic characters of cultivated CAUCASICUM are more those of CAUCASICUM than of CHRYSANTHUM. Perhaps ROSA-MUNDI is the most chrysanthoid in body of the named hybrids, and it is essentially caucasicoid in flower.

Bot. Mag., tab. 1145, is a curious plant. No true CAUCASICUM has a venation such as is shown on the leaves of the illustration. The plant recalls several unnamed hybrids which have been in cultivation for half a century here.

To your question then: How many forms of CAUCASICUM are in cultivation? I would answer—to my knowledge, none! There are only hybrids.

In illustration of the mixed progeny that comes from CAUCASICUM, here is a scheme based upon what I have learned from Mr. Fraser, of Cunningham and Fraser:—

CAUCASICUM ♀ (yellow)	}	× red ARBOREUM=	NOBLEANUM.
		× white ARBOREUM=	}
			white NOBLEANUM
			CUNNINGHAM'S SULPHUR (1882)
			CUNNINGHAM'S WHITE (1820-30)

I gather that the CAUCASICUM white ARBOREUM cross gave dominant white NOBLEANUM and recessive CUNNINGHAM'S SULPHUR.

The female parent in all was evidently the hybrid, not the true pink CAUCASICUM. This you will recognise is most important.

Mr. Fraser tells me that all these CAUCASICUM crosses give fertile seed and breed true. Certainly CUNNINGHAM'S SULPHUR comes true from seed, and probably it is recollection of comment upon this that has left the impression upon your mind of its being a true species.* It seems to me that here as in others of these long cultivated plants, a new record will have to be begun if we are to solve the problem of their real relationships. Systematic breeding from plants raised from seed of undoubted true wild species must be carried out.

ISAAC BAYLEY BALFOUR.

PROFESSOR BAYLEY BALFOUR TO MR. J. C. WILLIAMS.

ROYAL BOTANIC GARDEN, EDINBURGH,

28th October, 1916.

DEAR MR. WILLIAMS,—The seedling caucasicums have reached you, I am glad to hear, and I hope are to prove to be the true species. Their source is promising. I hope I have not misled you about Rh. chrysanthum, by speaking of it as Siberian. I did not intend to convey that chrysanthum is limited in distribution to Siberia. Its spread is geographically and phyletically interesting.

* Cunningham's yellow at the Edinburgh Botanical Gardens having been found there to come true from seed, it is possibly a true species.—J.C.W.

The Rhododendron Society Notes.

The archives of the Petrograd Herbarium will have to be searched to obtain a complete picture of the area which it is recorded as covering. The information I have gathered tells of its occurrence from the Altai on the west, eastwards along the snow ridges of Sajan, then around Lake Baikal and down the Amur, in fact, along the Siberian-Mongolian-Manchurian Divide. Thence into Kamtchatka and the Islands of the Behring Sea, and southwards into Yeso, and the high hills in Central Japan. The distribution is quite a natural one in the light of what we conjecture of the peopling by plants of this surface of the earth. The pharmaceutical virtues of chrysanthum has probably led, as Pallas says, to its distribution by man beyond the bounds to which nature would have allowed it to spread. There are several stations for it in Japan. I saw it in the Alpine Garden at Nikko, in the neighbourhood of which it grows, and have a good specimen from the Nikko Hills, sent to me by Mr. Mochiguki, the custodian of the Garden. But its best home in Japan is the Hiva and Etchm range further west than Nikko, the high hills of which I was only able to gaze on with longing eyes. I have not seen the * article by Wilson, of which you speak, and shall look out for it.

I. BAYLEY BALFOUR.

PROFESSOR BAYLEY BALFOUR TO MR. G. W. E. LODER.

ROYAL BOTANIC GARDEN, EDINBURGH,

8th November, 1916.

DEAR MR. LODER,—Thank you very much for letting me see the notes upon RH. CAUCASICUM, which I take it pretty well include all that is on record about CAUCASICUM. RH. CHRYSANTHUM is quite a distinct species. You refer to the colour of the flower in Pallas's figure, and the contrast with the description is striking, but I note that those white-pink Rhododendrons often take on, as they olden, this lilac colour.

As regards my mention of the two JACKSONI's, our old JACKSONI, which has been here as long as I can remember, is a plant which strikes me as being a secondary hybrid from NOBLEANUM. It is a more useful plant than NOBLEANUM. It comes into flower about a fortnight later, and therefore, more often misses the early spring frosts. It forms trailing branches and large trusses of flowers slightly paler than NOBLEANUM, and sometimes slightly fringed. It is the freest of flowerers, and never fails. Many years ago I wanted more of it, and bought in the market the JACKSONI of commerce, but it proved to be altogether a different plant—really not very different from CAUCASICUM PICTUM. One of our expert Rhododendron growers here told me that this form is the modern JACKSONI. It is worthless compared to the old JACKSONI.

NOBLEANUM was raised by Cunningham and Fraser here, at the same time as by the Nobles, in the south, and to this day, Cunningham and Fraser maintain that they had it first, and their parentage to me is yellow CAUCASICUM crossed with red ARBOREUM. There is one feature in NOBLEANUM which your investigation might throw light upon, and which might also throw light upon your investigation.

* The GARDEN MAGAZINE, for June, 1916, published New York.

The Rhododendron Society Notes.

As you will have noticed, RH. NOBLEANUM is invariably eaten by beetles. So marked a feature is this of the plant that at a distance you can recognise a NOBLEANUM or a plant with NOBLEANUM blood in it by the gnawed leaves. The old JACKSONI has this feature only in a limited degree. ARBOREUM does not show this character markedly. Whence did NOBLEANUM get it? There must be something particular in its leaves which has an attraction for the beetle, because you will find plants of NOBLEANUM so eaten in the midst of other rhododendrons which do not show a single scar. I have no data for a conclusion, but it seems to be likely that the character has come from the female parent of NOBLEANUM, and as the female parent of NOBLEANUM was a yellow CAUCASICUM, and must, therefore, have been a cross between CAUCASICUM and, I believe, CHRYSANTHUM one should look for the character in those two species. I do not know that we have really true CAUCASICUM here, and our material of CHRYSANTHUM is too scant to give any data for conclusion, but I think those growers who have plants of CAUCASICUM true, and of CHRYSANTHUM, should examine them carefully and see if either or both of them show particularly this feature of being gnawed by beetles.

I do not know that my seedling CAUCASICUM from Petrograd are certainly the true species, but the source gives one confidence in believing that they may be.

I return herewith your MS, the results of the whole investigation will be most interesting.

I. BAYLEY BALFOUR.

EXTRACT FROM A LETTER OF MR. E. H. WILSON TO MR. J. C. WILLIAMS,
dated 9th November, 1916.

It is surprising to me to learn through your letter of October 14th, that anyone should consider Rh. chrysanthum a form of Rh. caucasicum. Rh. chrysanthum as I know it on the high mountains of Northern Japan, is a low shrub with pale yellow flowers, and I cannot see that it has anything to do with Rh. caucasicum, with its white and pink flowers as figured in Bot. Mag., tab. 1145. As far as my studies go, I have no knowledge of any Caucasian plant being represented by form or variety in the flora of Eastern or North-Eastern Asia.

EXTRACT FROM A LETTER OF MR. P. D. WILLIAMS TO MR. C. C. ELEY,
dated 6th January, 1917.

The late Mr. Claud Daubuz, a neighbour of mine, sent the grafts of what he called Rh. Nobleanum venustum to Rogers, a nurseryman, of Southampton, and doubtless he can supply plants.

It is more upright than some forms of Nobleanum. This plant is the earliest flowering form of Rh. Nobleanum, and paler than most, assuming that it is a form of Nobleanum, and I group it with Nobleanum.

The Rhododendron Society Notes.

Rh. venustum I do not know as a separate plant, but Nobleanum venustum is a plant of character, and also earlier and paler than our other forms of Rh. Nobleanum. It is now opening, and I will try to send you a flower next week.

The only Rh. Jacksoni that I know is the form that Smith, of Darley Dale, sells, it is sprawling, but flowers in late April or early May.

The darkest form of Rh. Nobleanum (it is not Nobleanum, I am told), is known as Altaclarensis. This too, Smith had; it is a long way from a blood-red, but brighter than the usual Nobleanum, still near enough to be grouped with it for a layman. This may be the Jacksoni "Crimson Scarlet," sold by Smith, of Darley.

Loudon, Vol. II., 1136, says that Nobleanum is a caucasicum hybrid. In Vol. IV., I see Altaclarensis listed by Richard Forrest, of Kennington, at 21/-, and venustum, by Lawson & Sons, of Edinburgh, at 30/-, and I believe that they were the best forms that came out of the cross.

P. D. WILLIAMS.

A LETTER FROM PROFESSOR BAYLEY BALFOUR TO MR. C. C. ELEY, dated *January 16th, 1917.*

DEAR MR. ELEY,—It always gives me pleasure to have letters from you about plants. If I help you by giving such information as I can, I too, benefit by information which you give to me, and by having to bring to focus derelict facts. Moreover, I am kept humble by finding there is so much to learn, even about groups to which I have given special study for some years.

The Rhododendron truss arrived to-day. RH. VENUSTUM, D. Don is a hybrid (CAUCASICUM \times ARBOREUM), raised by Mr. Wm. Smith, in 1829 (see Sweet's Brit. Fl. Gard., ser. 2, III., 1835, 285). The original description makes it a dwarf shrub, not exceeding 8 inches in height. Nothing is said about the CAUCASICUM used, and as you know the CAUCASICUM (seed parent) of NOBLEANUM and the early crosses was a yellow CAUCASICUM and, therefore, not CAUCASICUM, but a hybrid probably CAUCASICUM \times CHRYSANTHUM. The figure in "Sweet" recalls our true JACKSONI, but the flower is paler.

NOBLEANUM is as you know a hybrid (YELLOW CAUCASICUM \times RED ARBOREUM).

The name NOBLEANUM VENUSTUM has not come my way before, but I need not discuss it as a whole or in its halves, because Mr. P. D. Williams' Rhododendron has nothing to do with either NOBLEANUM or VENUSTUM.

It is one of the crowd of hybrids (CATAWBIENSE \times ARBOREUM), which were raised in the twenties, thirties and forties of last century, before the Sikkim flood. ARBOREUM is said to have come in about 1818, and every gardener in the country fell victim to the temptation of using it as a pollen parent for hybrids. Some have survived, e.g., RUSSELLIANUM; most have disappeared under their first names, reappearing some of them under new names through subsequent raisers.

The Rhododendron Society Notes.

Here we have a number of them (stems six or more inches). Cunningham and Fraser had quite a field of them until recently. In our neighbourhood is a relic, still hale and hearty, of the past, in Mr. Grieve, nearly nonagenarian, a great Rhododendron hybridist, and I sent Mr. Harrow with your truss to him for a name. SHERWOODIE, he said at once (CATAWBIENSE \times ARBOREUM). I have no record of the name, and shall have search made for it. (See note below.) The merit of this hybrid is early flowering as Mr. P. D. Williams says.

ALTACLARENSE is a well-known hybrid (CATAWBIENSE \times PONTICUM \times ARBOREUM RED). You will find a full history of this in the Botanical Register XVII (1835), t. 1114. It was raised by Gowen, at Highclere, in 1826. It has no right to have the name NOBLEANUM attached to it. It is too well known under its own name to be renamed JACKSONI "CRIMSON-SCARLET," by Smith, of Darley Dale.

I hope the RH. JACKSONI will thrive.

ISAAC BAYLEY BALFOUR.

In a subsequent letter to Mr. Eley, dated 21st January, 1917, Professor Bayley Balfour writes:—

"I see that the correct name is Rh. Sherwoodianum—not Sherwoodiæ—my miswriting. Lawson's Catalogue, 1858, has 'Rh. Sherwoodianum, lilac-rose spotted,' which is not very descriptive of Mr. P. D. Williams' specimen, but who shall dispute about this?"

LETTER FROM MR. P. D. WILLIAMS TO MR. C. C. ELEY,
dated 1st February, 1917.

LANARTH, ST. KEVERNE, R.S.O., CORNWALL.

DEAR ELEY,—I returned your caucasicum papers hurriedly without a covering letter. They are most interesting. Whether my plant is venustum or not seems open to argument, but I do think that it is not a catawbiense but is a caucasicum hybrid, the seed pods point to it. Mr. Peter Veitch talks of Rh. venustum in his books previous to 1863, as "variety of Nobleanum spotted," also "shaded deep pink or rose, compact truss, neat and good." This I think my plant answers to, and it is very probable that it came from Veitch, of Exeter. We have no really old men in Cornwall now who are well up in such things, but I am confident that my father and Mr. Daubuz (who were always very reliable about plant names), invariably called this plant Nobleanum venustum.

Can you put a query in the notes asking if anyone has any knowledge or even recollection of such a plant? I would also ask for information on "Rh. cinnamoneum var. Cunninghami" (cinnamoneum \times maximum), raised by Mr. G. Cunningham, of the Nursery, Liverpool. Wonderful truss, pure white, purple spots, leaves covered with abundant resinous secretion rendering them sticky to the touch.

P. D. WILLIAMS.

The Rhododendron Society Notes.

EXTRACT FROM A LETTER FROM PROFESSOR BAYLEY BALFOUR TO
MR. J. C. WILLIAMS, dated 21st January, 1917.

DEAR MR. WILLIAMS,—In the matter of RH. CAUCASICUM, I see that Lawson's (Charles Lawson & Sons, prominent nurserymen of Scotland, in the middle of last century), give in their Rhododendron Catalogue of 1858 (I have no doubt that the preparation of this was the work of Mr. William Gorrie, a noted gardener of that date who was their Manager), the following :—

RH. CAUCASICUM, Pallas. Native of the Caucasian Mountains, near the perpetual snow line. Height 1 ft. to 2 ft. Peat soil, in cool, partly shaded situations.

CAUCASICUM ALBUM. Fine early white.

ANGUSTIFOLIUM. White.

INVOLUTUM. Straw-coloured.

PICTUM. Peach colour, much spotted with red.

PURDIE'S WHITE. Shaded with rose.

ROSEUM. Rich rose.

STAMINEUM. Pale straw-colour.

VENUSTUM.

VENUSTUM was first described by David Don, in Sweet's "BRITISH FLOWER GARDEN," as a plant of 8 inches high.

Lawson's also have the following :—

"CHRYSANTHUM, fine yellow."

McLelland, of Newry, whom Smith, of Newry, succeeded, has in his catalogue of 1881-1882, the following :—

CAUCASICUM. Yellowish-white (wants shade).

„ ALBUM. (Cunningham's white), dwarf.

„ PICTUM. Pink dark spots."

Evidently CAUCASICUM was at that date in the trade a "yellowish-white." CAUCASICUM ALBUM is too the same as CUNNINGHAM'S WHITE.

ISAAC BAYLEY BALFOUR.

The Rhododendron Society Notes.

RHODODENDRON CAUCASICUM AND HYBRIDS.

CONTRIBUTED BY SIR EDMUND LODER, Bart.

The earliest figure I can find of *Rhododendron caucasicum* is in Pallas' "FLORA ROSSICA," published in 1784. The coloured plate shows pale lilac flowers, but the description says "alba vel subrubens."

Pallas also gives a coloured plate of *Rhododendron chrysanthum*, which I take to be a near relation of *Rhododendron caucasicum*. *Rhododendron Przewalski* must also be nearly related.

Another early coloured plate of *Rhododendron caucasicum* was published in the "BOTANICAL MAGAZINE," about the beginning of the last century. Plate 1145. Here the corolla is shown white, within tinged with rose on the outside surface.

Some years later, in 1835, there was published in the "BOTANICAL MAGAZINE," a coloured plate, No. 3422, of *Rhododendron caucasicum* var. *stramineum* showing a straw-coloured flower. It is like the form figured as *Rhododendron caucasicum*, in Maund "BOTANIC GARDEN," No. 947.

I do not know who was the first to make crosses with *Rhododendron caucasicum* and other species, but Mr. Peter Veitch, of Exeter, tells me that he has an old Nursery List Book of his grandfather's time, and he finds under No. 157, *Rhododendron caucasicum* hybrid=*Rh. ochroleucum*. There is unfortunately no record of the other parent.

There is also mentioned *Rhododendron caucasicum* *Ramsayanum*.

In this old list book there is much evidence of hybrid work with *Rhododendron caucasicum*, but the notes are not there which would show parentage.

A man named Abbey has raised hybrids of *Rhododendron caucasicum* and *Rhododendron Aucklandi*, and Mr. Peter Veitch has bought this stock. So far he has only distributed one of these hybrids, viz. "Dr. Stocker."

In Vol. X., No. 1038 (1855), "FLORE DE SERRES," there is coloured plate of a very beautiful *Rhododendron* under the name of *RH. ROSALBA* (*Rhododendron caucasicum-venustum*), but no details of its parentage are given. It is possible that this is the source of the well-known *Rh. venustum*, which is probably identical with *Rh. Jacksoni* (*Rh. caucasicum* × *Rh. arboreum*). The other equally well-known hybrid, *Rh. Nobleanum*, being *Rh. arboreum* × *Rh. caucasicum*.

Among the earlier hybrids is *Rh. govenianum*, which is a cross between *Azalea nudiflora* and a hybrid between *Rh. ponticum* and *Rh. caucasicum*.

Some years ago I bought in Edinburgh, a quantity of hybrids of *Rhododendron caucasicum*. "*Rh. Stanwellianum*" = *Rh. caucasicum* × *Rh. catawbiense*. "*Rh. Stanwellianum robustum*" = *Rh. caucasicum* × *Rh.*

The Rhododendron Society Notes.

campanulatum robustum, also Rh. Thomsoni \times Rh. caucasicum, and Rh. arboreum album \times Rh. caucasicum. All these are very good.

I think it is obvious that many of the light coloured Rhododendrons now common in gardens are crosses of Rh. caucasicum. Such as "Snowball," "The Bride," "caucasicum pictum," "Cunningham's White."

A Rhododendron from Comely Bank, Edinburgh, called Rhododendron sulphureum is said to be a hybrid between Rhododendron caucasicum and Rhododendron arboreum album.

In my opinion, this plant is not a hybrid, but a seedling variety of Rhododendron caucasicum.

I believe J. C. Williams has some large plants of Rh. caucasicum stramineum \times Rh. campylocarpum. My plants of the same cross are smaller. It will be of interest to put on record the early ripening of this seed.

In this climate Rhododendron seed is usually ripe in early spring, but in the middle of October I found the seed pods open, and about half the seeds gone. This would be four to five months earlier than I should have expected to find ripe seed. This is the only case of the kind which has occurred here.

Some years ago I raised a large batch of seedlings of Rh. ochroleucum (which is a hybrid of Rh. caucasicum), and Rh. Aucklandi. The notable point about this batch is its extreme unevenness.

Some are fine plants, of vigorous growth, handsome foliage and large loose truss.

Other plants of the same batch are miserable things, with thin yellow foliage and stunted growth.

After a sufficient trial these have been rooted up and thrown away, but the reason why they should differ from the others has not been discovered.

EDMUND GILES LODER.

The Rhododendron Society Notes.

NOTES ON RHODODENDRONS AT BORDE HILL, DURING 1916.

CONTRIBUTED BY LIEUT.-COLONEL STEPHENSON CLARKE, C.B.

During the very mild January, *Rh. Dauricum* bloomed better than I have seen it bloom here before, a plant of a deciduous variety as usual being far better than a nearly evergreen one in the same bed. Before the winter had ended or rather before it began in March, a species bought from J. Veitch & Sons, Coombe Wood, as *RHODODENDRON KIREI* bloomed for the first time, the individual flowers if not as large as those of *SUTCHUENENSE*, were larger than those of any other campanulate flowered Chinese *Rhododendron* that has flowered here, *DAVIDI*'s and *FARGESI*'s flowers being certainly smaller; the blossoms were, it must be confessed, of a colour approaching that of *PONTICUM*, still I thought it quite pretty, and it came at a season when there was little competition from other varieties.

In the early spring, blooms were produced here for the first time by *RH. GRANDE*, and *RH. ELSÆ*, the latter I believe a hybrid from the former, if so, it improved on its parent, as it produced ten large trusses for its first effort against one on *GRANDE*. Another debutante was *RH. HOOKERI*, but on this plant only one truss opened, the other buds having dropped after the snowstorms in March.

A plant of *RH. FARGESI* and another of *RH. DAVIDI* were covered with buds. Early in the winter, thinking to make certain that the flowers should open undamaged by weather, I had them taken up and planted in tubs, and then removed to a cold orchard house, a disastrous error, as nearly all the buds dropped, while the few trusses on a *FARGESI* left in the open border, opened unblemished by weather; at the same time that I moved these plants I potted up the survivor of a pair of *RH. SOULEI*, bought from J. Veitch & Sons. This plant opened one truss of flowers, but apparently the shift has disagreed with it, and while it was never a thriving *Rhododendron*, I fear that now it means dying like its fellow. Two or three *RH. AUCKLANDI*, under a north wall produced flowers uninjured by frost, which in this garden is unusual; we missed our usual crop of blossoms on the *Edgworthi* hybrids, *FRAGRANTISSIMUM*, *LADY A. FITZWILLIAM*, etc., as they had failed to bud, and *RH. MADDENI*, which had formed its buds well, dropped them after the March snowstorms, a considerable disappointment, as it is usually a great success on an east wall; generally opening its flowers after the other large flowered species are over.

Some hybrids between *FORTUNEI* and *CAMPYLOCARPUM* were attacked by some rodents (probably field mice or voles), and badly gnawed at the collar, though not sufficiently deep to kill the plants; the check induced two of them to flower prematurely; the flowers opened well and were of the colour of ivory.

These were not the only *rhododendrons* injured in my garden by animals this year, the rabbits damaged several seedling *ARBOREUMS*, raised from a favourite rose coloured variety. These plants were a foot to 18 inches high, and

The Rhododendron Society Notes.

were planted among a number of other ARBOREUMS of different varieties, none of which were touched by them ; and we have never had ARBOREUMS injured by rabbits before, except by the low trick of burrowing underneath them.

I should like to ask if others have noticed the very effective way in which the hairy variety of RH. BARBATUM catches wasps, the gum from the buds exuding on to the bristles "bird limes" them; in 1915, numbers were caught and died on the buds of my plant. I have never observed this to happen on the ordinary variety.

My plants of RHODOTHAMNUS CHAMÆCISTUS had dwindled to one, so remembering a success with Daphne Blagayana I layered all the shoots, and it made astonishing growth afterwards ; I hope that this promises success for the future. RHODODENDRON INTRICATUM, and other very dwarf species have also been a difficulty here. I am trying the same method with INTRICATUM, and I think that the result so far is promising.

As regards difficulties, since all efforts to coax RH. NUTTALLI, DALHOUSIÆ and CILICALYX through the winter have been abandoned, very few if any rhododendrons have been lost in winter, but I annually lose a few plants, generally dwarf varieties, such as INTRICATUM, EDGARIANUM, and PRIMULINUM, during the autumn, while I am away in Scotland. I cannot help thinking this is largely due to drought. I lost also last September a plant, recently moved, of RH. ARBOREUM BLOOD RED, bought from Reuthe, and I have found this variety before apparently resent removal, though when established it generally does well, and its flowers are but rarely damaged by frost.

I trust the length, and I fear very humdrum nature, of these notes may be pardoned by my readers.

STEPHENSON R. CLARKE.

5th February, 1917.

The Rhododendron Society Notes.

SOME NOTES ON THE GARDEN AT EAST BERGHOLT PLACE.

CONTRIBUTED BY CHARLES ELEY.

This garden consists of a small ancient garden and the additions which have been made to it since 1875, the greater part of which has been done from 1900 onwards.

The site, about 130 feet above sea level, is an exposed one for the most part, consequently a large part of the work has consisted in planting, undertaken to secure that shelter which is necessary to the comfort of most plants, and almost vital to the successful growing of rhododendrons.

With the exception of a few old hardy hybrids, there are no rhododendrons here more than about twelve years old, and the only point worthy of note is that a fair number of the Himalayan varieties are progressing steadily, having been planted here about nine years, and are believed to constitute the only plants of their kind in this dry and cold neighbourhood. There are also a good number of small rhododendrons from the collections of Henry, Wilson, and Forrest, for most of which the owner is indebted to members of the Rhododendron Society. It follows from this that there is little to recount regarding the rhododendrons here, and what little of interest in this respect there may be, may well wait until, in some future year, Notes are again required.

But in order to qualify for a copy of the Society's Notes, even if it has to be taken with a blush, the writer will attempt some remarks upon the composition of shelter belts in gardens, in the hope that it may provoke other members to enlarge upon the possibilities.

Visitors for the first time to that Meccah of gardeners, Cornwall, must often have been driven by despair to the conclusion that they would do well on their return to burn all their books and to begin anew.

On recovery from the first shock, consideration will force upon them that the amazing results produced there are fundamentally based upon an almost prodigal use of that shelter which is so conspicuously absent from the design of most English gardens, particularly old ones, and is absent, no doubt, for the reason that the makers did not contemplate the cultivation of rare trees or shrubs, but strove to obtain a fine and comfortable frame for their homes, supplying the necessary colour by the use of bulbs, roses and, in later times, of herbaceous plants.

Naturally, it is necessary that the plants for shelter purposes should be ornamental, quite hardy and absolutely dense to the ground; neither greedy of soil, nor of attention; of requisite height, easy to obtain cheaply, and if possible "rabbit proof."

So much for the counsel of perfection, now for the other thing.

Leaving the favoured west altogether out of consideration, one plant alone, the common laurestinus, seems to fill the bill, and that requires to be trans-

The Rhododendron Society Notes.

planted early in the season to avoid failures, and is of somewhat slow growth. Still, what a plant it is! Next in order of merit one would place *Arundinaria metake*, the best of all for situations under trees, even beeches; but deficient in height and slow except in moist and loamy soil; *A. anceps* runs it close, and has the advantage in height, colour and grace, but its habit of "running" needs a ditch or some preventive, which rubs off some of the gilt.

The mention of growth beneath beeches, calls to mind the fact that that dreary plant, *Thuja dolabrata*, will undertake this duty if required. In light soil, the large leaved variety (and some of the variegated ones), of the common holly is hard to beat, but it needs protection from rabbits for some years, and indeed always unless foliage is maintained close to the ground, as of course it should be for shelter. *ESCALLONIA MACRANTHA* is quite hardy here in situations which are bone dry in winter, e.g., on the top of a sunk fence.

Perhaps "too slow" will be the verdict of many in regard to the above list, and this charge brings into notice the common laurel (v. *rotundifolia* for choice), of many merits, and probably the most universally used for the purpose, but, and a large "but" too, it has many disadvantages also. The rapidity of its growth is almost certainly the main reason for its use as a wind-screen, because its tendency to get leggy compels work with the knife, or even the detestable shears. But, if room allows, the laurel can be planted with a "front" of other small evergreen plants (e.g., *Mahonia aquifolium*—the easiest and most effective combination known to the writer), which will obviate the necessity of maiming a plant which demands to be left in peace to display its really grand form.

The mention of the combination of two or more plants for this purpose opens up much ground, and a subject upon which the writer would be very glad to know the experiences of other members. Does anyone know a plant suitable to front *Arbutus unedo*, and which would not be crushed out as time went on? But amongst the plants which suggest themselves for the front row of such work the following may be mentioned:—

PERNETTYA MUCRONATA. This plant requires a cool bottom, and is inclined to run, but it is apparently quite "rabbit proof." Always neat and with charming berries.

ULEX NANUS on dry soils, uninteresting, but dense and easy of control.

The old-fashioned Scotch roses.

BOX, BAY, ELÆAGNUS PUNGENS AUREA-VARIEGATA.

GYNERIUM makes a fine ground block, of which the variety sold as "monstrosum" is perhaps the best.

Among plants not so easily obtainable are the evergreen *Cotoneasters*, varieties *buxifolia* (10 ft. to 12 ft.), *pannosa* (10 ft.), and *amoena* (3 ft. to 5 ft.).

BERBERIS STENOPHYLLA is preferable to *BERBERIS DARWINII*, in that it maintains density with much less attention, but is not so attractive at all seasons.

The barberries have an evil reputation as soil robbers. but *B. Sargentiana*, said to form a dense upright thicket 6 ft. in height, and *B. Verruculosa* (2 ft. to

The Rhododendron Society Notes.

4 ft.), should prove useful. Also *B. gagnepainii*, *B. levis* and *B. Hookeri*, all of which are distinctive enough to give a valued change of form and colour. The two last genera appear to be rabbit proof.

That desirable weed, the evergreen privet, is omitted from this list, as well as the aucubas, and also that large army of evergreens which tend to assume the form of a triangle standing on its apex.

If great height is required, and leaving aside all deciduous trees, the following are invaluable :—

PSEUDOTSUGA DOUGLASHI VAR. *GLAUCA* (the type is omitted because of the immense room that it demands, and its liability to damage by wind).

PICEA OMORIKA and *PICEA SICHENSIS*.

Of course *PINUS LARICIO* and *P. AUSTRIACA*, are an unbeaten combination, with the latter planted in front. Rabbits love *Pinus austriaca*, but *P. laricio* seems immune except when planted in very bare ground.

LIBOCEDRUS DECURRENS or *JUNIPERUS CHINENSIS*, either as a mammoth hedge or in an irregular group.

CUPRESSUS MACROCARPA, of which the golden variety is believed to be hardier than the type, and singular in this respect.

CUPRESSUS LAWSONIANA VAR. *FRASERI*.

All these plants are it is feared very "ordinary," but they have proved the best of garden helps in this excessively dry climate.

While putting these Notes together, the mind of the writer has been beset by a vision of many grandmothers bearing in their hands baskets of eggs. These have now assumed a threatening attitude, and cry in unison, "Take a copy of the Notes, by all means, but for goodness sake, stop talking."

CHARLES ELEY.

February, 1917.

The Rhododendron Society Notes.

PORTRAITS OF SIR J. D. HOOKER, ETC.

CONTRIBUTED BY CHARLES ELEY.

I was indebted to Mr. J. C. Williams for a copy of "THE GARDEN MAGAZINE," for June, 1916, published by Doubleday, Page & Co., Garden City, New York (price, 15 cents).

It contains an excellent article on Hardy Rhododendrons, by Ernest H. Wilson, of the Arnold Arboretum.

There are six illustrations, and a considerable mass of information descriptive of new varieties, and the best method of their cultivation. It is intended mainly for gardeners in New England.

In 1915 I acquired a mezzotint portrait in the "mixed method," inscribed "Dr. J. D. Hooker, F.R.S., in the Rhododendron region of the Himalayan Mountains." This print is quite a good example of its style, and the standing figure on the right, of a native, nude to the waist, is a fine piece of scraping in pure mezzotint, and alone is enough to make one wish that the engraver, William Walker, had maintained the purity of the methods of his masters, T. Woolnoth and Thomas Lupton. This plate, published in 1854, is from a picture by Frank Stone, A.R.A., which is described as being in the possession of Lovell Reeve, Esq.

It depicts Hooker seated, receiving from a kneeling native trusses of various rhododendrons (including apparently *Rh. Falconeri*), and surrounded by other natives, some of whom may be seen collecting in the distance. The size of the plate is $22 \times 18\frac{1}{2}$, excluding the margin and inscription. William Walker was a Scottish engraver, b. 1793, d. 1867, who published a large number of contemporary portraits. It would be interesting to know if Lovell Reeve was a patron of rhododendrons.

Wishing to know if there was a state of this plate "before letters," I made enquiries at the British Museum and elsewhere, but without success. I ascertained that this print is not in the British Museum, but is in the Kew Herbarium.

The search resulted in the unearthing of the following five portraits of Dr. J. D. Hooker:—

1. T.Q.L. ; seated, looking to r. From a picture belonging to the Linnean Society. Photogravure, $11\frac{1}{2} \times 10$. Painted by H. Herkomer.
2. T.Q.L. ; seated, looking to l., vignette, with facsimile of autograph. One of the set of Ipswich Museum portraits ; lithograph, published by G. Ransome in 1851. Painted and engraved by T. H. Maguire.
3. H.L. ; seated at a table, working with a microscope. From a pen drawing. Photograph. Painted by T. B. Wirgman, in 1886.
4. A head, looking to r., vignette. Stipple. Proof before inscription. C. H. Jeens, engraver.
5. T.Q.L. ; seated, looking to l. Photogravure. Published by Walker and Cockerell, in 1897.

Can anyone add to this list ?

I understand that at the Natural History Museum, Kensington, there are a number of prints and plates illustrating rhododendrons.

CHARLES ELEY.

The Rhododendron Society Notes.

SOME NOTES ON FAILURES IN ATTEMPTS AT HYBRIDIZATION.

CONTRIBUTED BY SIR EDMUND LODER, Bart.

Failures come often, and it may be of use to note down some of them.

I have often tried to cross hardy Rhododendrons with Rh. Edgworthi, but it is only rarely that I have got any result at all.

Many times I have crossed Rh. Fortunei with Rh. Edgworthi and Rh. Edgworthi with Rh. Fortunei, but, up to date, I have never had any fertile seeds.

Nor have I succeeded in raising a cross between Rh. Aucklandi and Rh. Edgworthi. (Rh. ciliatum crosses with Rh. Edgworthi easily enough.)

I have flowered crosses between Rh. Thomsoni and Rh. Edgworthi, but result was very poor. A small truss of nearly white flowers and without scent.

A cross between Rh. Ascot Brilliant and Rh. Edgworthi is not much better, a small pink truss without scent.

For many years I have been trying to get crosses with Rh. Boothi, and with one possible exception, these attempts have all been failures. I have tried it both ways with Rh. campylocarpum, but so far without result.

We have flowered here crosses between Rh. "Loder's White" (one of Mangles's many Rh. Aucklandi hybrids), and Rh. Aucklandi, with the idea of obtaining larger flowers. The result has been disappointing, the flowers being smaller than in either parent.

This has been the case in many attempts with Rh. Aucklandi hybrids.

Perhaps some members of our Society, more skilful than I am, will be able to teach us how to succeed where I have failed.

EDMUND GILES LODER.

The Rhododendron Society Notes.

REPORT ON LAMELLYN GARDEN.

CONTRIBUTED BY E. J. P. MAGOR.

The garden is situated some six miles from the north coast of Cornwall, about nine miles from Tintagel. It is a narrow wooded valley facing north-west, and sheltered from the east by rising ground above, and to some extent from the prevailing north-west wind by a high hill intersecting its mouth.

The soil is a heavy loam for the most part, in some parts very shallow, and overlies slaty shale, save in the centre of the valley where there is blue clay underneath.

Rhododendron culture here owes its inception to a sight of *Rh. grande* (argenteum), in flower in the Temperate House, at Kew, in the year 1900. The collecting of many Sikkim and other species from various sources followed, and first attempts at hybridization were made in 1905. In this, in the raising and culture of seedlings, in a continuous supply of Chinese and other seed, I owe more than I can say to the kindness and generosity of Mr. J. C. Williams.

The best plant in the garden is *Rh. Keiskei*, which is about 1½ ft. high and 2½ ft. across. It is a Japanese evergreen plant of compact habit, and pale yellow flowers like those of *Rh. Triflorum*; but blooms much earlier, usually in February.

Rh. Veitchi and *Rh. Nuttalli* are not hardy here, and I fear that *Rh. Oxyphyllum* is hopeless. But of other tender varieties, *Rh. Championæ*, *Rh. Dalhousiæ*, *Rh. Edgeworthi* and *Rh. Cilicalyx*, have so far survived against a wall; and in the open *Rh. Hybrid Countess of Haddington*, *Rh. Hybrid Fragrantissimum*, *Rh. Hybrid Sesterianum*, *Rh. Hybrid Exoniense*, *Rh. Boothi*, *Rh. Maddeni*, *Rh. Calophytum*, and *Rh. Formosum*. *Rh. Crassum* and *Rh. bullatum*, the Chinese forms of *Rh. Maddeni* and *Rh. Edgeworthi*, seem to be hardier than their Sikkim relatives.

During the great gale of November, 1915, a very large elm tree fell on several of these sweet-scented varieties and on my only plant of *Rh. Hookeri*, and severely damaged them.

The following species flowered here for the first time this year:—

Irroratum forma, from Tali, ten to twelve flowers in a well-shaped truss, corolla openly companulate 2½ × 2 inches, white tinged with yellow at the base and much spotted.

Adenogynum (5871F), six to eight flowers in a spreading umbel, corolla very widely companulate 3 × 2½ inches, white with crimson markings. A fine flower on a dwarf plant. *Rh. Thomsoni* and *Rh. arboreum album* set fine pods of seed to pollen from this.

Adenopodum, six to eight flowers in a loose truss, corolla pale rose unspotted, 2 × 2½ inches.

Bretti (1520W), six to eight flowers in a loose truss, corolla dull white, unspotted, 2 × 2½ inches.

The Rhododendron Society Notes.

Sphaeranthum (or *ledioides* ?), (11246F), a small leaved high alpine, ten to twelve flowers in a compact umbel, clear rose, unspotted, $\frac{1}{2} \times \frac{1}{2}$ inch. A most attractive little plant with flowers resembling a daphne.

Rh. (4238W), reputed a form of *Augustinii*, flowered for the second time, and is the most beautiful lavender blue I have seen.

Rh. *prostratum* (5862F), flowered again, and I have a number of seedlings from it \times *fastigiatum*, but it is yet too early to see whether the cross has taken.

The most noteworthy of the hybrids raised here are as follows :—

Campylocarpum \times *Aucklandi*, usually with a pale lemon flower, but one plant produced this year flowers of a curious pink tinged with yellow.

(648AW) \times *Aucklandi* (Caerhays seed); *ciliatum* \times *Keiskei* (to flower 1917), *argenteum* hybrid \times *Fortunei*, *Aucklandi* \times *bullatum* (this has a poor constitution), *maximum* \times *houlstoni*, *ambiguum* \times *Keysi* (to flower 1917), *Keiskei* \times *arboresum*, *Kewense* \times *decorum*, *Keiskei* \times *lutescens*, *Cornubia* \times *Sutchuenense*, *cinnabarinum* \times *crassum*, *Kingianum* \times *Mrs. Kingsmill* (*campylocarpum* \times *Aucklandi*), *arboresum* \times *Sutchuenense*, *arboresum* album \times *campylocarpum*, *glaucum* \times *Boothi*, *Lepidotum* \times *Boothi*, *Keiskei* \times *fastigiatum*, *Mrs. Butler* \times *Augustinii*, *Decorum* \times *fictolacteum* (Verrieres seed, and a poor lot, which may not survive), *Yunnanense* \times *Cinnabarinum*, and *campylocarpum* \times *Mrs. Butler*.

Seedlings of Rh. *Wighti*, from seed kindly sent by Miss Mangles, are growing well, though slowly.

Seedlings of *Ungerni* (Tregrehan seed), proved difficult to raise, being very liable to damp off, as also were seedlings of *lanatum* (Caerhays seed).

Notable hybrids here from other sources are :—

Blood-red *arboresum* \times *Thomsoni* (Caerhays), *Loderi* (Leonardslea), though I fear this is dying; and *Smirnowi* \times *fictolacteum*, *Kewense* \times *fictolacteum*, *Harrovianum* \times *lutescens* (all from Verrieres).

Some parts of the garden are very damp, and many plants rot at the root and die, chief among them this year being the only plant of Rh. *longistylum* (1204W).

The use of moorland peat, since discontinued, would seem to be responsible for many of these deaths.

Rabbits attack a number of rhododendrons here, especially when first planted. Rh. *rupicolum* (5865F) always a difficult plant, has been the worst sufferer, but they will also eat *oleifolium*, *lanatum*, *hirsutum*, *ferrugineum*, *tenellum*, *serpyllifolium*, *trichocladum*, *fastigiatum*, *Keiskei* \times *arboresum*, *ciliatum* \times *Keiskei*, and *rubiginosum*.

E. J. P. MAGOR.

The Rhododendron Society Notes.

NOTES ON THE GARDEN AT LOGAN, WIGTOWNSHIRE, SCOTLAND.

CONTRIBUTED BY KENNETH McDOUALL.

The Rhododendrons now growing here contain most of the Indian species in cultivation, some hybrids, and a good many Chinese varieties ; the former are still in their infancy, and the latter, grown from Wilson's seed, are quite young plants. All however are growing remarkably well, and many have already flowered.

That these plants will grow and do well in this district there is little doubt, provided they are guarded against the evils, which unless protected from, would seriously damage their health ; the first, if there is wind, they must have comparative shelter from the violent gales which blow during the winter months from south-west, west, and north-west, and in the spring, east and south-east winds must be kept off. Here, where we have the sea all round us, only a mile distant to the west, and a mile away to the east, it is not possible to find a spot as sheltered as one would wish. Then late frosts which in some years occur in April and May, fortunately not often, do much damage to the young growing shoots of the Rhododendrons.

Drought also must be guarded against, especially when the plants are young, and in recent years we have experienced some dry summers here. We have to protect the plants too against roe-deer, as the bucks single out these Rhododendrons to rub their horns on, and have completely destroyed several plants in this way. They will also eat the leaves, and I have seen young Rhododendrons completely stripped of their leaves by roe-deer, and never able to recover, though the wood and buds had not been touched.

For some time I had been looking for a new site for my Himalayan Rhododendrons, where the troubles that I have just mentioned would be minimised, and felt that if they were to be moved at all the time had arrived to do it. They are now in their new quarters, moved there last November, where I think they will have many advantages over the old. I hesitated long about moving them, because they were doing so well, yet I was not quite satisfied, the situation was too low, moreover, rock was near the surface, and the soil was apt to become dry in summer, while in spring, late frosts sometimes caught the young growth. I felt there should be a remedy for these things. Before deciding upon the new site I transplanted there two Rh. Aucklandi, leaving the other where it was ; this species was the only one which always lost some of its growing shoots. The two plants received no check, while the other one suffered as usual. The success of this experiment decided me to move all the Indian Rhododendrons with the exception of Rh. arboreum. The new site is on a steep hill slope facing north-east, and is a clearing in a wood. The soil is a good sandy loam, well drained, yet retentive of moisture ; the atmosphere is moist and more than a few degrees of frost should not bother the Rhododendrons here ; the early morning sun will not shine on the plants after a night of frost. The place, too, is sheltered from the wind to a great extent though not so much as I would like. Here

The Rhododendron Society Notes.

Indian Rhododendrons should flourish undisturbed almost as well as on their own mountains.

To mention a few of the Himalayan Rhododendrons that usually flower well here most years. RH. FALCONERI had 48 blooms last year. RH. CAMPYLOCARPUM, of which I have three plants, the flowers vary very much, one being magnificent, the other two not nearly so good either in colour or form. RH. KEYSII is very free flowering, I removed 350 bunches of seed heads last year, with six to eight pods on each ; the plant is 6 ft. high. RH. ARBOREUM, these are older than the others and always flower well, and are truly beautiful with their many shades of bright colours and handsome foliage. RH. KEWENSE in its best form is a splendid Rhododendron, so is RH. GAUNTLETTI and RH. MANGLESII. RH. EDGORTHII flowers well, it is a beautiful thing and very sweet-scented. RH. FRAGRANTISSIMA is as good. RH. "COUNTESS OF HADDINGTON" is remarkably free to flower, but this sometimes gets its buds frosted so that they do not all open. RH. DALHOUSIANUM, I think will succeed in its new quarters, for it opened its flowers well two years ago. One Chinese Rhododendron RH. DECORUM is most attractive. RH. BRACHYCARPUM, from Japan, less so.

I should be interested to know anything of Rh. auriculatum, I am told that this species from China flowers in the autumn. I know nothing of it, but have got one healthy young plant.

KENNETH McDOUALL.

February, 1917.

The Rhododendron Society Notes.

CASTLE KENNEDY, WIGTOWNSHIRE.

CONTRIBUTED BY THE RIGHT HON. SIR HERBERT MAXWELL, Bart.

This fine demesne, in which stands the modern mansion of Lochinch, the residence of the Earl of Stair (now a prisoner of war), embraces two large fresh-water lochs near the sea inlet of Loch Ryan. The grounds are very extensive; previous to the war about seventy acres were kept under mowing machines. The isthmus between the two lochs, a ridge of light gravelly loam nowhere more than 100 feet above sea level, has long been noted as an arboretum, chiefly of coniferous trees. It is here that the greater number of rhododendrons have been planted, although hundreds of fine specimens of Indian species, as well as some hybrids, are scattered along the shores of both lakes and through the surrounding woods. The soil and climate are most favourable to their growth, although much of the ground is too much exposed to wind to allow of their full luxuriance. The display of blossom in spring is remarkable, and promises to be exceptionally profuse in 1917.

The collection was begun about sixty years ago, and is more noteworthy for the size and number of the plants than for the variety of species. *Rh. arboreum* in its various forms greatly preponderates. This species was propagated in great numbers by the late Mr. Fowler, for very many years in charge of the gardens and grounds, and occurs in hundreds in all conditions of light, shade and wind exposure. *Rh. campanulatum* and *niveum* seem to have been among the earliest planted, while the less frequent species, *Rh. Thomsoni*, *barbatum*, *Batemanni* and *nobile* were probably contributed by Sir Joseph Hooker, who took much interest in the arboretum in its early years.

Unfortunately the plants have been set so near each other that, in many places, they have interfered with their proper development. They now present many distressing problems, calling for stern resolution to sacrifice splendid growths in the interest of others of equal or superior merit. Nor does the conflict lie only among rhododendrons. Conifers, Eucalyptus, Maples and other choice trees, *Eucryphia*, *Pittosporum*, *Arbutus*, *Desfontainea*, and many other charming shrubs, have been allowed to form a jungle, competing with rhododendrons, and with each other. A good deal has been done of late years, both by sacrificing fine plants of Indian rhododendrons, in order to give room to others, and also by sweeping away masses of *Rh. ponticum*, which here, as in so many other places, has overrun an undue amount of ground. But this work has been greatly retarded or suspended owing to shortage of labour, in consequence of the war.

Considerable numbers of seedlings have been raised from the better species in the grounds, and thousands of these are growing vigorously in the nurseries in charge of Mr. Hoggartu, forester, and Mr. Cruden, gardener, affording a convenient and desirable reservoir for exchange.

The Rhododendron Society Notes.

I have measured, in November, 1916, some of the larger specimens. The heights given are approximate within a few inches, one way or another. It is difficult, even with a long rod, to get the exact height of a dense growth such as rhododendrons:—

SPECIES.	HEIGHT.	GIRTH OF STEM.
RHODODENDRON ARBOREUM	21 ft.	23½ ins., straight single stem.
" " (red) ..	20 ft. 4 ins. ..	Five stems, thickest 25 ins.
" " (pink) ..	18 ft.	Single stem, 28 ins.
" " (white)	18 ft.	Single stem, 26½ ins.
" " (white)	18 ft.	Three main stems, 31, 27½ and 23 ins.
RHODODENDRON CINNAMOMEUM ..	20 ft. 4 ins. ..	Not measured.
" " ROSEUM (so named by Gill).	12 ft., a very beautiful blossom.	17 ins.
RHODODENDRON BARBATUM	17 ft.	Many stems.
RHODODENDRON FULGENS	8 ft. 9 ins. ..	Many stems.
RHODODENDRON THOMSONI	10 ft. 10 ins.	Profuse flowerer.
RHODODENDRON NIVEUM	16½ ft. ..	27 ins. below fork, at 1 ft. from ground.
" " 	15 ft. 6 ins. ..	Several stems.
RHODODENDRON BATEMANNI	17 ft.	Four stems, main one 32 ins. at 2½ ft.
" " 	13 ft.	Several stems, exposed situation.
RHODODENDRON NOBILE	17 ft. 4 ins. ..	Ten stems, largest 17 ins. at 3 ft.
RHODODENDRON CAMPANULATUM ..	20 ft. 5 ins. ..	24 ins. below fork, at 1½ ft.
" " 	20 ft. I think this fine plant is a hybrid campanulatum × arboreum or, more probably campanulatum × cinnamomeum.	Four main stems. Girth below fork 54 ins., main stem above fork 26 ins.

The Rhododendron Society Notes.

MONREITH, WIGTOWNSHIRE.

CONTRIBUTED BY THE RIGHT HON. SIR HERBERT MAXWELL, Bart.

The climate of this district is very favourable for rhododendrons, the land being intersected by the sea in several directions, and the soil is suitable, generally light loam, with plenty of peat and sand available. The chief adverse conditions are violent winds and late spring frosts. Against the former we marshal such defences as we may ; against the latter no precautions avail.

The season of 1916 has been very propitious for growth. The spring, though cold and backward, was completely free from frost later than 28th March. On that date the blooms of *RH. BARBATUM*, *ARBOREUM*, *PRÆCOX* and *NOBLEANUM* were destroyed, but no damage was done to the young growth of these or any other species. It was very different in 1915, when a May frost blackened the young shoots of these and other species.

Of Wilson's Chinese seedlings we have as yet only flowered the following species here :—

RH. PACHYTRICHUM, opened on 1st March, pretty truss of rosy blossoms, foliage poor.

RH. DAVIDSONIANUM, opened 10th May, will probably be attractive when larger.

RH. LUTESCENS, of indifferent merit, without promise of the ornamental bark of *Rh. Triflorum*.

RH. AUGUSTINI, quite pretty, promising well when it increases in size, but the flowers appear only two or three together, not in a truss. Said to be variable in colour ; ours was a lively rose-lilac.

RH. INTRICATUM, flowers small, but numerous, and attractive from their violet colour.

RH. AMBIGUUM, not desirable, corolla washy yellow.

RH. MICRANTHUM, opened on 10th July. Flowers white in small globular trusses, individually insignificant, but so abundant as to make this a desirable shrub, blooming when other rhododendrons are over, except the American *Rh. maximum* and *viscosum*.

The following experience seems worthy of note. Hitherto, we have reckoned among the many virtues of the genus *Rhododendron* that all species were immune from attack by hares and rabbits. Having grown *RH. PRÆCOX* for many years in ground fenced against these rodents, in the autumn of 1915, we planted half a dozen fine young bushes, three feet high, in a woodland opening. Hares are by no means numerous ; the farmers take care that they should not be so ; but such as there were in that wood made hearty suppers off *PRÆCOX*. That hares were the marauders, not rabbits, was evident from the height at which the foliage had been devoured ; nor was it the work of roedeer, for the browsing was from the bottom upwards, the extreme tops being left untouched.

The Rhododendron Society Notes.

In planting rhododendrons out in grass, we find it essential to keep the soil free of grass and weeds for some distance round the stem, until the shrub has grown strong and dense enough to destroy the herbage under its own shade. Where the grounds are extensive and the plants numerous it is difficult to get this attended to, especially in these days when labour is so scarce. We have, therefore, adopted with advantage the plan of placing a heavy mulch of cut grass round the young shrubs, *taking care not to let it touch the stems*. This serves the double purpose of preventing fresh growth of grass, and of screening the roots from scorching sun.

RHODODENDRON BATEMANI. I have given the dimensions of two fine specimens of this grand species at Castle Kennedy, where it was probably sent by Sir Joseph Hooker, about fifty years ago. It is the earliest of all the large-leaved species to flower, except the hybrid **NOBLEANUM**. It began to flower in January, 1916, and when I saw it in February, it was a splendid sight, covered with *crimson* bloom. The species was described and figured in the "BOTANICAL MAGAZINE," Vol. . . , p.

RHODODENDRON NOBILE. This species also appears to have been sent by Sir Joseph Hooker to Castle Kennedy, but I can find no reference to it in any work on Indian plants. It flowers in late April and May, bright carmine. The foliage alone would justify the specific title **NOBILE**, for it is very rich. The leaves set on green petioles about half inch long, and rounded at the base measure from 5 to 7 inches long and 1½ to 2 inches broad; upper surface rather light green, not shining, with shallow transverse ripple marks running from the midrib to the margins; the backs clothed with pale fawn tomentum. Many seedlings have been raised at Castle Kennedy from the original plant; but it must always be doubtful whether the ovaries have not been affected by the proximity of hundreds of other plants of several species flowering at the same time. Two, which I have, however, now 3 or 4 feet high have the characteristic foliage, but have not yet flowered. In 1915, Lady Stair sent flowers and foliage of Rh. Nobile to Mr. Watson, of Kew, for identification. In reply, Mr. Watson wrote that there were specimens of it in Wallich's Herbarium, as named by him, but some one else made it out to be a natural hybrid between Rh. campanulatum and Rh. barbatum. It was collected wild in Bhotan. If it is a hybrid, it is strange that it should come true from seed.

Mr. T. Smith, of Newry, seems to have a large stock of **RHODODENDRON CILIATUM**, at a moderate price, viz., 12 for 30/-. Those which he sent me are very fine plants.

Last year I obtained from Messrs. Thyne, of Dundee, a herbaceous plant which is not commonly offered, viz., **ANEMONOPSIS MACROPHYLLA**, at 1/- each.

The Rhododendron Society Notes.

SOME NOTES ON RHODODENDRON ARBOREUM AND ITS CULTURE IN VARIOUS PARTS OF THE BRITISH ISLANDS.

CONTRIBUTED BY LIEUT.-COMMANDER J. G. MILLAIS.

It is probable that many Englishmen of the old "John Company" saw and admired this species in the wonderful forests of tree rhododendrons in the Sikkim Himalayas and the Neilgherries before an English Officer sent seeds home to the botanist Smith.

There seems to be no record of what Smith did with his consignment of seed, but it is certain that Wallich sent seed to Mr. Shepherd, of Liverpool, in 1814, and from this seed numerous plants were raised in conservatories, and these in time were distributed. A fresh consignment came from Colonel Sykes to Edinburgh about the year 1830, and plants were sent to Singleton, Swansea, which formed a fresh centre of distribution in Wales. It was, however, mainly owing to the efforts and explorations of Sir Joseph Hooker (1849-1860), that English gardens owe the abundance of this species in Western England and Scotland.

In all the mild moist-laden atmosphere of certain parts of the Western counties of England, Wales, Ireland, and Scotland, where the soil is suitable, *Rh. arboreum* and all its numerous varieties form one of the backbones of any collection of flowering trees and shrubs; and where it is happy, and a choice selection of the best varieties is used, it will give a continuous pageant of bloom from late January to mid April. In these localities it is a plant of surpassing beauty, ease of culture, and noble port, even when out of flower. Cornish gardens alone owe much of their success to this fine species, which in very suitable localities seeds itself with some freedom.

Curiously enough the finest plantations of *RH. ARBOREUM* which I have seen are not situated in this county, but in the somewhat wind-swept coast line of Western Wigtownshire. Some seventy years ago the great grandfather of the present Earl of Stair met Sir Joseph Hooker in London, and invited him to visit his home in the North. Sir Joseph was delighted with what he saw there, and at once observed the suitability of the place with its peaty soil and mild climate for Himalayan Rhododendrons.

He advised extensive planting of *Rh. arboreum*. The Earl of Stair obtained seed and raised an immense number of seedlings which in a few years he planted out in the grounds. To-day there are no less than seventy acres devoted to shrubs and trees, and the majority of these are *RH. ARBOREUM*, interspersed with a few other species, such as *RH. CAMPANULATUM*, *RH. BARBATUM* and *RH. THOMSONI*. The sight of this immense garden in flower in April almost baffles description.

The object of this short note, however, is not to appraise or study the effects which are gained by the use of this valuable rhododendron in the gardens where it is quite happy, but rather to offer some suggestion as to its size and treatment

The Rhododendron Society Notes.

in the gardens of those, like myself, living in a less favourable climate, have to use some ingenuity in its cultivation, and some selection in the varieties which we grow or try to succeed with.

It is true that the species may be well grown even in the "dry belt" from Sussex to Northumberland. This statement, however, requires a good deal of modification. If we take a line roughly from East Devon to East Cumberland, we come into an area of England where the climate is everywhere (except along the actual south coast line), much colder and drier than to the west. Except too on certain high ridges such as the green-sand belt from Hants to Dorking, we experience nearly every year in March and April the frosts that ought properly to have occurred in January to early March. Roughly speaking, therefore, RH. ARBOREUM has to endure with us, as a rule, such unfavourable conditions just at the very season when it is putting forth its flowers or starting its young growth, i.e., March to April. Wherefore, it is much easier to succeed with the species at Muncaster Castle, in West Cumberland, where it grows well every year, and is hardly ever cut like it is much further south, say at Horsham, in Sussex, where we often get a drought and 12° of frost on April 10th. Another great disadvantage is that in many seasons, certainly of late years, we have droughts in July, August, and September, which are seldom experienced in the western counties, and plants of RH. ARBOREUM not situated in very choice positions and heavily mulched with decaying leaves suffer accordingly.

However, with all these drawbacks, we have to swallow our disappointment when our plants get "cut" or dried up in two seasons out of every five, and will persevere with some measure of success. So great too is the recuperative faculty of this noble rhododendron, that if we are so fortunate as to get a really good growing spring once in every three years as we generally do, that loss of fitness is soon made good, and our plants recover, although they may not respond with quite so much vigour as in the gardens of our western friends.

To those who live in less favourable areas and who are anxious to experiment with the different varieties (or natural-hybrids) of the true species, I append a list of those which are now in cultivation with remarks on the suitability or difficulty of culture in cold or "dry-belt" gardens. Reference is only made to the flowers, and to the hardiness or otherwise of the several varieties.

RH. ARBOREUM (type). Colour of flowers varying from white to deepest crimson-scarlet. The white form, VAR. ALBUM, is not one of the hardiest or the easiest to grow. When mature it suffers much from overflowing, and should be freely dis-budded. Of this colour the variety VAR. CINNAMOMEUM is the hardiest and easiest to grow and does fairly well even at Kew. Most of the pinks, such as "Lady Falmouth," "Rosamund Millais," crispum, roseum, Wearii, and a host of others unnamed, are hardy and easy to grow. The same may be said of those of deep rose colour.

When we come to the red and deep-blood reds, the case is altogether different, for with few exceptions these are very tender, and it seems to be unfortunately the case that the finer the variety the more delicate it is. Mr. F. D. Godman has a beautiful deep-red that I should call hardy, for it never seems to be cut in his garden at South Lodge, Horsham, where it has stood over twenty-five years.

The Rhododendron Society Notes.

On the other hand, all the fine varieties sent out by Gill, Reuthe, Smith of Guernsey, and other nurserymen are, except with protection and very great care in selection of site, not even winter hardy. On the other hand the variety *KERMESINUM*, which many good judges consider the best of all, makes its growth late, and seldom gets cut in spring, although it too is very winter tender.

Personally, after succeeding with it for years, six good plants which I possessed are now destroyed. This should not, however, deter others who possess better and more sheltered gardens than mine from growing it with success. Up till now I have seen it well grown in my neighbourhood by Sir E. Loder, Mr. Charles Nix, and Colonel Stephenson Clarke.

It will stand 20° of frost, but below that we must expect to lose it. The "TREGOTHNAN" variety I find equally tender.

RH. ARBOREUM var. *ANDERSONI*, good rosy-red flowers. Hardy.

RH. ARBOREUM var. *BLUSHING BEAUTY*. A very fine variety raised by Gill, with large blush flowers. Hardy.

RH. ARBOREUM var. *CAMPBELLIÆ*. Flowers purplish-rose. Fairly hardy.

RH. ARBOREUM var. *CARNEUM*. Blush-pink flowers. Hardy.

RH. ARBOREUM var. "Mrs. Henry Shilson." A very popular variety with handsome long foliage and large rather bluish-pink flowers. This variety is by no means hardy, and except under the best conditions difficult to grow.

RH. ARBOREUM var. *NEPALENSE*. Bright red flowers, rather tender.

RH. ARBOREUM var. *NIGRESCENS*. Blackish-maroon flowers, tender.

RH. ARBOREUM var. *NILAGERICUM*. Flowers generally deep-rose, tender.

RH. ARBOREUM var. *OCHRACEUM*. Good pink flowers. Hardy.

RH. ARBOREUM var. *PUNICEUM*. Red or purplish-red flowers. Hardy.

RH. ARBOREUM var. "SIR CHARLES LEMON." A very fine variety with very dark leaves with orange-brown pubescence beneath and flowers of the purest white. Certainly one of the best varieties we have and fairly hardy.

RH. ARBOREUM var. *WEAII*. Perhaps the finest pink variety yet raised (Smith, of Penjerrick). Hardy.

RH. ARBOREUM var. *WINDSORI*. Medium crimson flowers. Hardy.

RH. ARBOREUM var. *ZEYLANICUM*. Rich pink flowers. Very tender and a slow grower. This and the next named will probably be regarded as new species.

RH. ARBOREUM var. *KINGIANUM*. Brilliant crimson flowers. Very tender.

The Chinese form of RH. ARBOREUM, namely, RH. *DELAVAYI*, is also tender in the home counties.

In this short note it is not my intention to discuss the innumerable hybrids that have been created between RH. ARBOREUM and other species and hybrids. The majority of these are now valueless, much better things have taken their places, but it is enough to mention three which have proved a real boon to British gardeners who live in cold places where moisture is always fitful. These three hybrids are "essentials" in every garden where rhododendrons can be grown.

The Rhododendron Society Notes.

RH. CAMPANULATUM var. **CAMPBELLI**. We need not discuss the origin of this fine plant, which is probably a natural hybrid between **RH. ARBOREUM** and **RH. CAMPANULATUM**. Its fine leaves and large truss of lovely pink flowers places it at once in the front rank of hardy shrubs. It flowers in April, and seems quite hardy.

RH. BODARTIANUM (**R. Smithii** album of Kew). Those also who cannot grow any white **Arboreum** will find this a colourable substitute. It bears large trusses of white flowers in April, and never gets its young growth cut.

RH. JACKSONI (Syn. **venustum**). A hybrid between **RH. ARBOREUM** and **RH. CAUCASICUM**. A lovely dwarf pink flowered shrub for the front edge of borders. Quite hardy.

Those who desire to plant this shrub (which is extremely cheap), in masses, will do well to break up the effect with such hardy dwarfs as **Rh. Jacksoni** var. **album** or **Rh. "Handsworth Early White,"** and if red is required, **Rh. "Handsworth Early Red."** The two last named are perfectly hardy, and the whole group combined with a few plants of **RH. ARBOREUM** var. **WELLSIANUM** (red), and this low hardy dwarf will form a brilliant sight in April, in places where the more tender varieties of **RH. ARBOREUM** will not flourish.

J. G. MILLAIS, Lieut.-Commander.

The Rhododendron Society Notes.

NOTES ON THE GARDEN OF RIVERHILL, SEVENOAKS.

CONTRIBUTED BY LIEUT.-COLONEL J. M. ROGERS.

As I have been soldiering for the past two years, until the last three months, and have only seen my garden since October, I fear that I cannot contribute anything of general interest.

I have here a good many Himalayan species between seventy and eighty years old, including *Falconeri*, *niveum*, *barbatum*, *Thomsoni*, *lanatum*, *fulgens*, *complanatum* of several varieties, *Hodgsoni* and *arboreum*. Several of these have died recently, and I am struck with the deterioration of many others during the last two years.

It looks to me as if this period, seventy to eighty years, was about the usual life of these plants in this country, though I know nothing of their longevity at home.

The principal enemy here is drought. Late frosts, though spoiling the show of bloom, do not seem to me to damage the plants.

In 1916, *Dahuricum* was in full flower about 15th January, and *præcox* at its best at the end of the month. These had an exceptionally good innings, as there was not frost during their flowering time.

Aucklandi has three blooms in the open for the first time here, the plant is about ten years old. A home-grown seedling of *Mimosa dealbata* also flowered profusely for the first time, and did not suffer from the blizzard of 27th March, which caught it in flower.

Of Chinese species the following flowered:—*lutescens*, *Harrovianum*, *concinnum* and *decorum* (*Spooneri*). None of these are of much account, and the last a distinct disappointment, as it is very inferior to *Fortunei* at present, and the scent is hardly perceptible.

I have a good many of Wilson's latest to exchange if anyone wants some, as my nursery has got very congested from want of labour, and I should like to know where I can get several *Intricatum*s.

J. M. ROGERS.

The Rhododendron Society Notes.

NOTES ON RHODODENDRONS AT ROSTREVOR HOUSE, CO. DOWN.

CONTRIBUTED BY LIEUT.-COLONEL SIR JOHN ROSS OF BLADENSBURG, K.C.B.

I regret I did not understand that the first set of notes were to be sent to the Rhododendron Society at the end of last year. I imagined they were not due till the end of this year, and it is only now that I have found out my mistake. I regret it the more, since not only have I deprived myself of the pleasure of preparing these notes in time, but also because it is not easy to put something hastily together that may be of interest to the members, and it is impossible to give an account of any garden recently visited, except my own. These notes will therefore, I fear, be of little value.

This place is well sheltered, and the soil is favourable to the cultivation of all trees and shrubs, and as it contains no trace of lime it is well adapted to Rhododendrons. Generally speaking we enjoy a mild winter and often have no more than four to six degrees of frost, and then only for quite short periods. We nearly always have however disagreeable spring frosts, and these are too often destructive and troublesome. I always fear the weather of March and April more than that of the dead of winter, and it is then that the plants seem to suffer most. Our summers are never very hot, and our autumns are really fine and enjoyable, and this helps to ripen the year's growth satisfactorily. But the year 1916 was not a good one, and was an exception to our usual conditions. We had a cold summer, a very wet and miserable autumn, and now a most severe winter, nothing like it I think since 1894-95. In consequence, we have little flower now, the winter rhododendrons have no chance of showing their beauty. *RH. MUCRONULATUM* pushes out an occasional bloom when the weather permits, and *RH. NOBLEANUM* is so pinched and starved that it only produces little points of red colour, looking more like undeveloped rose buds than trusses of rhododendron flower. *HAMAMELIS MOLLIS* is one of the few plants that bravely exhibits its bloom despite the cold and the inclement weather.

Notwithstanding the unfavourable conditions prevailing, the rhododendrons have all done fairly well, and fortunately I have lost none. *RH. BARBATUM*, *CILICALYX*, *DALHOUSIÆ*, *EDGEWORTHII*, *LANATUM*, etc., reputed somewhat tender in some places, have up to now shown no signs of distress. I had *RH. NUTTALLII* out for some years, but as it was not growing satisfactorily, we luckily brought it in and put it in a large pot, and it has not been subjected to the present frost. I observed that some of the rhododendrons which flowered well in former years, and which appear to be in perfect health, did not flower properly or at all, last season. Among them I may mention *RH. INTRICATUM*, *KEISKEI*, *RIRIEI*, *SOULIEI*, and *SPINULIFERUM*, also I think *RH. THOMSONI* and *RUBIGINOSUM*, which is usually smothered in bloom. I observed the same thing with a fine specimen of *LEPTOSPERMUM NICHOLI*, now some ten feet high, and which is always covered with red, giving the impression, if looked at from a distance, as if it were painted with bullock's blood. But, generally speaking, everything else flowered in the usual way, and perhaps *RH. KEYSII*, *MICRANTHUM*, *ROYLEI* and *YUNNANENSE* showed more bloom than in ordinary years.

The Rhododendron Society Notes.

There are a certain number of the newer rhododendrons from Central China here, but they are many of them still small, and I am not in a position yet to say much about them, except that as far as foliage is concerned, some of them seem to be very remarkable and beautiful, and will, undoubtedly, be a great and pleasing addition to our garden in future. Some species of this group, introduced earlier, like *RH. SUTCHUENSE*, flower in March, when we are troubled with spring frosts, and in consequence I have but an imperfect knowledge of the bloom, but as the plants grow it is to be hoped that the inconvenience may diminish, and I have seen enough to make me anxious for a good view of these plants in their full dress. *Rh. Augustinii* flowers later, and this is a happy circumstance, as I look upon it as quite one of the best that have come to us from Central China.

Some few years ago I got *RH. CEPHALANTHUM* from Messrs. Seidel, from near Dresden. It is a very desirable little species, somewhat after the nature of *RH. ANTHOPOGON*, but differing from it both in flower, which is pure white, and in leaf. I do not know where else it can be got, and if, as I am led to believe, it is rare in cultivation, it is to be feared we are not likely to get it again, at least from Germany. It is to be hoped we may obtain seed from it.

One of the best plants here is a specimen of *RH. GRIFFITHIANUM*, which is now thirteen feet high, and the same through, and this is really a fine sight in the flowering season, and also when the young growth appears upon the plant. The bloom is well known, like a cluster of great lilies with a slight aromatic scent and more beautiful by far I think than any of the numerous hybrids which have been raised from it, and which are so justly esteemed. We had a good deal of trouble with this plant when it was first put out and when it was some three feet high. Though placed in a sheltered dell our springs were too harsh, and it was repeatedly injured. We then put a sort of muslin tent over it from, say, February to May, and gradually it increased in size and in vigour, and when it got some six or seven feet high it was quite strong enough to fend for itself. It is now left without any covering of any sort, and it flowers regularly and plentifully.

RH. MADDENI and its two varieties, *CALOPHYLLUM* and *JENKINSII*, live here very happily. I have not had the type for long, and it is still small, but the varieties have been here longer and give out their sweet scent when in flower. *Rh. camelliæflorum* is another of my special favourites, and so is *Rh. lepidotum*. There are also some of the Edgeworth hybrids that seem quite at home, and I may mention that *RH. SHILSONI* (*barbatum* × *Thomsoni*), flowered here for the first time last year.

I am interested in two rhododendrons which appear to be somewhat alike, and I am not sure whether they are different species or not; they are, however, not the same thing, and they may be only varieties of the same species. One was bought under the name of *RH. KINGIANUM*, which comes from Manipur, and the other was raised from seed that came from Ceylon, under the name of *RH. ZEYLANICUM* (or more properly *RH. ROLLISSONII*). The leaves of these two plants are very similar, but quite distinct from any other rhododendron I have seen. I do not know if these two species resemble each other, and, therefore, whether my *Rh. Kingianum* is true to name or not.

The Rhododendron Society Notes.

There is here a small specimen of *RH. FALCONERI*, and a larger one of *RH. EXIMIUM*, which is held by some to be a variety of the former, and which I think is one of the best of the genus. It flowers in April, and appears to make no further movement until July, when it begins to push. The young growth is then covered with a brown tomentum that remains on the plant until November, giving it a very remarkable and beautiful appearance and making it a conspicuous object all through the autumn.

I have never flowered *RH. OVATUM*, *PLANCH* (to distinguish this rather rare Chinese species from a more common hybrid of the same name), though I have had the plant for a good many years; it seems to grow slowly, and yet the specimen I have is quite healthy, but perhaps it is placed in too dry a spot which may account for its being more backward than ought to be the case. Its young growth however is very striking and pleasing, being of a purple violet colour, and this compensates to some extent for the want of bloom, and at a distance gives the appearance of flower.

The two Caucasian Rhododendrons *SMIRNOWI* and *UNGERNI* are both here; the latter has the strange and rather disappointing peculiarity of flowering after it has made its growth, and in this respect it differs from every other species. The leaves of both are handsome and well covered on the undersides with a thick white woolly wad. There is also a hybrid here (*Smirnowi* × *ponticum*, I think); it has the appearance of the ordinary *ponticum* or *Rose-Bay*, but the flower is red like that of the other parent.

There is one other rhododendron I should like to allude to, and I only do so because I do not know what it is exactly. It came here without a name, and is evidently one of the many varieties of *RH. ARBOREUM*. Its foliage is identically the same as that of *VAR. CINNAMONEUM*, and I thought it was it, but the flower is red not white. It is not *VAR. NILAGHIRICUM*, which has, as I think, a far finer colour than any other form of that species.

If I may in conclusion make an allusion to a plant, not a rhododendron, which appears to be hardy in a sheltered district, and to be well worthy of a place where it will live, I should like to mention *PROSTANTHERA LASIANTHOS*, coming from Australia. I venture to do this as I do not think it is sufficiently well known. The plant here is some thirteen feet high, and in July it is a sheet of bloom. It is a handsome evergreen with sweet smelling leaves, flowers in closely packed clusters, white, each a third of an inch across, with a well-marked purple throat. It has been here about ten years, and as it appears to be uninjured, up to now, by the present severe weather, although planted in the open, I hope it may be really hardy and more generally cultivated in favoured districts than has been the case before.

JOHN ROSS OF BLADENSBURG.

5th February, 1917.

The Rhododendron Society Notes.

NOTES ON CHINESE RHODODENDRONS AS GROWN IN CORNWALL.

CONTRIBUTED BY P. D. WILLIAMS.

In these few notes I do not propose in any way to give botanical detail, but merely to jot down some of my personal impressions of the garden value of a few of the Chinese Rhododendrons. In some cases this impression will be the result of seeing several years flowering, but in others the experience is much more limited.

LARGE LEAVED FORMS.

(To be at their best these ought to have absolute shelter from wind.)

Among them RH. CALOPHYTUM seems to have the handsomest flower, and is probably one of the most remarkable of all Chinese rhododendrons. It flowers in Cornwall in April. The truss is large (I think I have counted twenty-eight bells), somewhat pyramidal in form, but hollow at the top. The attractive rosy-red bells have in some forms a heavy crimson blotch, and the long pedicels are scarlet. It is a plant apparently of good habit, and a striking one even when it is not in flower. It flowered in Cornwall when six years old, which is early for the large type of rhododendron.

RH. SUTCHUENENSE. This is another with a large leaf. In Cornish gardens it flowers usually in March. In my experience it is much more variable in colour and markings than calophytum, and the truss is flatter. Some forms have a very heavy crimson blotch, and others are speckled with green. In colour the bell itself varies from pale mauve to pink or even white. The flower seems to be very susceptible to frost, although it is often under the foliage. The plant is of low spreading habit, and flowered even more quickly from the seed than calophytum.

RH. AURICULATUM. This seems to be much the latest grower and flowerer among the Chinese rhododendrons, sometimes not commencing its growth before September. The scented truss is very loose, and the pink or white bells quite large. It seems to be on the lines of Rh. Fortunei, and the plant should be valuable as a breeder. The young growth is most attractive. It was slow to begin flowering with us.

I will now take some of the *small flowered varieties*, which seem likely to be at their best grown in clumps, rather than as individual plants. In almost every case these will strike freely in July or August, and it appears desirable to select a good form, and then to increase one's plants to form a group.

RH. LUTESCENS. Although hardy in Cornwall, it flowers and starts into growth so early that it is doubtful if it will prove to be useful in colder districts. The flowers are yellow, somewhat on the lines of Triflorum, but varying considerably in shade of colour. The young growth is very beautiful, in some forms being quite crimson. The habit of the plants is straggly, inclined to be upright. In a group it is quite desirable in the milder parts of England.

The Rhododendron Society Notes.

RH. POLYLEPIS or **HARROVIANUM**. This appears to be a poor thing, very upright in habit, flowers small, purple. It flowers in April, and seems quite hardy.

RH. LONGISTYLUM seems very near to *micranthum*. The flowers in small trusses, white, and very early in February. The habit and leaf are nice, but the early flowering makes it unlikely that it will be a successful plant for gardens.

RH. YUNNANENSE and **RH. CHARTOPHYLLUM PRÆCOX** are apparently much on the same lines. They are extremely floriferous, the forms varying from mauve with crimson spots to white with crimson blotch. Plants upright, fairly rigid and semi-evergreen. They are at their best in May, and undoubtedly are a great acquisition. They seem to be more successful in the sun than many rhododendrons, but are free growers anywhere.

RH. DAVIDSONIANUM is closely allied to the above, but is nearly evergreen, and the mauve bell seems to be rarely spotted or blotched.

RH. AUGUSTINII flowers are larger than *Yunnanense*, and vary from pale mauve to dark lavender purple. Some of the flowers are most attractive, but perhaps want careful placing. The plant is evergreen, and for habit is much on the lines of *Yunnanense*, but not quite so rigid. It flowers in May, and good forms are well worth growing.

RH. OREOTREPES (see illustration in *R.H.S. Journal*, for October, 1916, p. 33). This again is a good garden plant. The mauve flowers are not so striking as the remarkable glaucous foliage which in some of the forms is quite unusual. The habit of the plant is good.

RH. HANCEANUM is a low straggly evergreen shrub of no great merit. The flowers, of a poor ivory-white or dull yellow with pink tinge, are somewhat absorbed by the protruding stamens. I have heard of a good yellow form, but I have not seen one.

RH. TRICHOCLADUM. Deciduous. The small yellow flowers are not in any way remarkable, but the grey hairy leaf (often with crimson blotches), is very attractive in the young state.

RH. MOUPINENSE flowers in February, too early to be a valuable plant, but if it escapes frost it is most beautiful. The flowers are scented and vary very much in colouring. Some forms have almost crimson buds which fade to nearly white, others are white with yellow, crimson, or even purple spots. The plant is hardy, but of a poor habit and very brittle.

RH. OVATUM is quite one of the most attractive of the small flowered rhododendrons. The flowers in my experience are pink with small spots, but I believe there are other forms. The evergreen leaves and the young growth are both very fascinating. The habit is good. I believe it was introduced by Fortune, but it had become so scarce, and it is so attractive that its re-introduction is most welcome.

P. D. WILLIAMS.

