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The Rhododendron Society Notes.



REPRINTED BY
THE PACIFIC RHODODENDRON SOCIETY

ACKNOWLEDGEMENTS

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RHODODENDRON, CAMELLIA & MAGNOLIA GROUP





THE PACIFIC RHODODENDRON SOCIETY

"Dedicated to the Hobbiest 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 Lorien, Wadhurst, England for providing the originals and the inspiration. Without his assistance this project would never have become a reality.

The Pacific Rhododendron Society 1976

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ARTICLES

CONTRIBUTED TO THE

GARDENERS' CHRONICLE AND GARDEN,

1879-1884.

BY

J. H. MANGLES.

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

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The following articles on Rhododendrons were contributed by the late Mr. J. H. Mangles to the Gardeners' Chronicle and to the Garden between 1879 and 1884. A few not from his pen, have been added, as they relate to the same subject. They have been reproduced almost without alteration, verbal corrections alone having been made. Professor Isaac Bayley Balfour has kindly contributed some notes, which bear his initials. I have been asked to add an index. This I have done, but it should be explained that it makes no pretence to being exhaustive, the references in many cases being too scattered and discursive.

It only remains for me to tender, on behalf of the Rhododendron Society, very grateful thanks to Miss Mangles and Mrs. Daffarn, and also to the proprietors of the Gardeners' Chronicle and Garden for permission to reprint the articles. I must add an expression of my indebtedness to Professor Balfour not only for the notes but for much help in editing the articles.

GERALD W. E. LODER.

NOVEMBER 4TH, 1917.

JAMES HENRY MANGLES.

James Henry Mangles was born in 1832. He was the eldest son of Charles E. Mangles, Chairman of the London and South Western Railway, and he also occupied a seat at the Board of that Company for some years.

His cousin, James Mangles, a captain in the Royal Navy, studied the Swan River plants, and was a friend of Lindley. The genus Manglesia (now merged in Grevillea), is named after James Mangles and his brother Robert, who also introduced many West Australian plants.

James Henry Mangles studied for the Bar but did not practise. He settled at Valewood, near Haslemere in Surrey, and became an ardent gardener. He was elected a Fellow of the Linnean Society on April 24th, 1874, and served for a few years on the Council of the Royal Horticultural Society, where he did much useful work. He died at Valewood, after a painful illness, on August 24th, 1884, at the age of 52.

Mangles devoted himself chiefly to Rhododendrons, and took a special interest in hybridising. He must have begun his hobby at an early age, for in the article dated July 19th, 1879, he states that nearly 20 years previously Sir William Hooker one day at Kew gave him some pollen from a scarlet ARBOREUM, then in the Temperate house, with which he made "his first very hackneved experiment in Rhododendron hybridising," by applying it to R. PONTICUM. He continued his work for many years, and though he met with failures, time has shown that he was abundantly successful. It is melancholy, however, to have to record that he lived to see very few of his hybrids flower. One was "ALICE MANGLES" (AUCKLANDII × PONTICUM), which he exhibited in 1882. It is unfortunately not possible to trace the parentage of many of his hybrids, but a perusal of the following articles will show that he operated chiefly with Himalayan species, and especially with Aucklandii (Griffithianum). He was greatly encouraged in his work by his friend Mr. Anderson-Henry, of Edinburgh, also an enthusiastic hybridiser, and he never missed an opportunity of visiting gardens in all parts of the country where Rhododendrons were cultivated. At Valewood he erected shelters or houses with removable canvas roofs, which he called his "cathedral houses," and in these he kept the more tender plants. At his death these became the property of his brother, Mr. H. A. Mangles, who removed them to Littleworth Cross, near Farnham, and on his dying in 1908, they were left to his sister, Miss Mangles, who has not only cultivated them with assiduous care, but has added largely to the collection.

On August 13th and 14th, 1911, a very destructive heath fire occurred between Aldershot and Guildford, which destroyed some 2,000 acres of vegetation; it reached Littleworth and approached to within 50 yards of the house, which was in great danger; as it was, a part of the garden was destroyed, including many Conifers and rare Rhododendrons.

The remainder of Mangles' collection was left at Valewood in the possession of his daughter, Mrs. Daffarn, who takes a great pride in them.

It is not the purpose of this short sketch to attempt a description of the many fine Rhododendrons at Valewood and Littleworth. Amongst the hybrids are "GLORY OF LITTLEWORTH," "LITTLEWORTH CORALLINA," "CLARA MANGLES," "ISABELLA MANGLES," "DAPHNE DAFFARN," "MARGARET SPENCE," "MISS STILLMAN," "CLEOPATRA," and "ROSE QUEEN," some of which have from time to time been exhibited at the Shows of the Royal Horticultural Society; they must be seen to be properly appreciated.

All Rhododendron lovers will join in a tribute of gratitude to the memory of one whose name will always be associated with devoted work in connection with the cultivation of that genus.

G. W. E. L.

LIST OF ARTICLES ON RHODODENDRONS By J. H. MANGLES, Valewood, Haslemere.

Year.					
1879		 GARDENERS'	CHRONICLE		 June 7th.
1879		 "	,,		 June 14th.
1879		 "	,,		 June 21st.
1879		 ,,	,,		 July 5th.
1879		 **	**		 July 19th.
1879		 i,	**		 August 2nd.
1881		 **	• •		 January 22nd.
1881		 **	,,		 March 5th.
1881		 **	.,,		 March 19th.
1881		 **	,,		 April 9th.
1881		 **	,,		 May 7th.
1881		 **	. ,,		 May 28th.
1881		 **	**		 June 12th.
1881		 **		: .	 June 18th.
1881		 **	,,		 July 9th.
1881	• •	 **	,,		 July 9th.
1881		 **	**		 July 23rd.
1882		 **	,,		 March 4th.
1882		 ,,	,, ,		 April 8th.
1881		 THE GARDEN			 September 24th.
1881		 "			 November 26th.
1882		 **			 April 8th.
1884		 			 March 15th.

The following articles referring to Mr. Mangles's Rhododendrons are included, though not written by him:—

1881	 	GARDENERS' CHRONICLE	 	April 9th.
1881	 	THE GARDEN	 	October 15th.
1881	 	THE GARDEN	 	July 23rd.
1882	 	GARDENERS' CHRONICLE	 	April 29th.
1882	 	THE GARDEN	 	

GARDENERS' CHRONICLE, June 7th, 1879.

RHODODENDRONS.

It may perhaps interest some of your readers if I give a short account of a visit I recently paid to the garden of Mr. I. Anderson-Henry, the veteran horticulturist and hybridiser of the North.

My friendship with Mr. Henry commenced some years ago. Our love of Rhododendrons brought us together, and Rhododendrons were to me the principal attraction in his garden, although he has many other curiosities, as is well known, from all parts of the world, and is just now devoting his chief attention, I think, to Primul 5. My friend's devotion to Rhododendrons dates back as far as the year 1850. In 1848, Sir Joseph Hooker had discovered a new world of floral beauty in the Sikkim mountains, and Mr. Henry threw himself at once into the fascinating pursuit of rearing and hybridising.

RHODGDENDRON "HENRYANUM" (FORMOSUM X DALHOUSLÆ) was one of his earliest and most successful hybrids. This plant had the honour, wholly exceptional in the case of a hybrid, of being figured in the BOTANICAL MAGAZINE, and did much to attract attention to the new denizens of our cool greenhouses—scented Rhododendrons.

Those who have not seen and studied these comparatively new floral treasures can have no idea of their value. Somewhat difficult of culture, they repay most fully the care and attention of their devotees; and, thanks to hybridisers like Mr. Henry, they now present much variety as well as purity and fragrance.

I can never forget the astonishment and delight with which I beheld for the first time R. CALOPHYLLUM in bloom in the Temperate-house at Kew; and R. EDGEWORTHII and R. DALHOUSIÆ among species, and R. "PRINCESS ALICE" (EDGEWORTHII × CILIATUM) and R. "HENRYANUM" among hybrids are nearly equally glorious; and what can be grander than an expanded truss of R. ARGENTEUM, or more elegant than the fringed R. VEITCHIANUM? I offered a few years since to one of our most celebrated poets a scented Rhododendron, but the plant was not in bloom at the time, and a crimson hardy variety was preferred. The other day my friend reminded me of my offer. He had seen PRINCESS ALICE in bloom, and was over head and ears in love with scented Rhododendrons.

But to return to Mr. Anderson-Henry's plants, R. Falconeri was in fine bloom, and a spurious form of R. Argenteum. The former, when grown under glass, bears enormous leaves, but grown in the open air, as I saw it a day or two ago at Mr. Rogers', of River Hill, the leaves are smaller and much less tomentose underneath. Mr. Henry's fine plant bore flowers with a delicious scent, and of unusual size. I have never seen flowers of any hybrid from this species.

In 1869 Mr. Standish stated that he could not cross with the pollen of R. Falconeri, and the reason, as he thought, was that the pollen-tubes were too large to penetrate to the ovules. Perhaps some of your readers can throw light on the subject.

My own experience seems to show that it is not impossible to cross with this species; but many times I have gathered large capsules, so crossed, which contained nothing but chaff.

Sir J. Hooker says, I think, that R. FALCONERI replaced R. ARGENTEUM as he ascended the mountains. Both are nearly hardy, but both start into growth too early in the spring.

In the Temperate-house at Kew, I think there is a hybrid between R. ARGENTEUM and R. ARBOREUM. They are clearly closely allied, and few things could be more interesting than a breed of hybrids inheriting the grandeur of R ARGENTEUM (in foliage and flower) with the hardiness and variety of colour of some of our arboreum hybrids.

It is, indeed, a problem for Rhododendron growers to solve, to throw colour into the white Sikkim, and especially the scented species. Mr. Darwin alludes to the "singular fact that white varieties generally transmit their colour much more truly than other varieties. The fact probably stands in close relation with one observed by Verlot, viz., that flowers which are normally white rarely vary into any other colour."*

I was too early to see Mr. Henry's R. Jenkinsh (almost the same as calophyllum) in bloom. R. Hookeri was nearly over. R. formosum (alias Gibsonii) was, however, in full beauty. This, crossed with R. Edgeworthii, has produced R. "Sesterianum." An equivalent of "Princess Alice," by which latter Messrs. Veitch anticipated Mr. Henry's seedling, was also in bloom, as well as R. Boothii, and a curious hybrid with yellow flowers. My host has also fine plants of Rhododendrons Maddenii, Dalhousle, Aucklandii or Griffithianum, "Countess of Haddington," and many others, each of

- * The genetics and chemistry of flower colour has been and is now the subject of scientific experimental investigation. See works of Dr. Meeble and others.—I.B.B.
- There is some consusion over the origin of R. "Sesterianum" and R. "Princess Alice." Here, and again in his Article of August 2nd, 1879, Mr. Mangles gives the parentage of "Sesterianum" as formosum x Edgeworthii. On January 22nd, 1881, after quoting Focke's words "R. formosum Wall: Q x Edgeworthii, Hook: f. f. . . . is R. 'Sesterianum,' Veitch. 'Princess Alice' (Veitch & Son) is similar," Mr. Mangles says: "I have always understood and believed that the true pedigree of 'Princess Alice' is ciliatum Q x R. Edgeworthii f." and then gives the story of the making of this cross by Anderson-Henry, c. cross in which he had been anticipated by Veitch in their "Princess Alice." Thus to Mangles "Sesterianum" was formosum x Edgeworthii and he repeas this in his Article of May 7th, 1881, where he adds the informatio. that "Sesterianum" was raised by Rinz & Co., of Frankfort-on-the-Maine. Focke makes "Sesterianum" a Veitchian hybrid, possibly misled by the fact that it was awarded a First-class Certificate by the R.H.S. in 18-2 (see Proceedings R.H.S. II., 1862, p. 246), when exhibited by Veitch as a veitch of Edgeworthii and Ciliatum. But in the Kew H. indist (Tender Dicotyledons, p. 589, Ed. 1900), R. "Sesterianum" is given as ciliatum x Edgeworthii. (See article on p. 10.)

which deserves a notice to itself; but what interested me most of all was a hybrid, which, according to my friend's notes, would seem to mix the blood of no less than three Rhododendrons, viz., Dalhousiæ, ciliatum and Nuttalii. A plant he gave me two years ago blossomed this year with me grandly, provoking my curiosity as much as my admiration, and giving exquisite delight to all who saw it.

Mr. Henry has several of the strain, and this may well console him for the loss of another hybrid, which perished lately, at the age of twenty-five, without once blossoming.

Both sides of the picture should be shown.

Rhododendron breeding requires time and patience, but Mr. Henry has never ceased to regard the Rhododendrons as his prime favourites, and his enthusiasm and his talk gave me the fullest encouragement. All his notes, I should add, as over and over again his plants and his pollen have been, were at my service.

I know that there are many, Mr. Boscawen and Mr. Luscombe, for instance, who are on the same track as Mr. Henry and myself, and I see no reason why Rhododendrons should not have a literature to themselves as well as many less lovely flowers.

If these few lines tend to such a result I shall be well pleased, and if you can spare the space, I should like some day to add a few notes on the following subjects: Messrs. Veitch's new strain of Rhododendrons at Chelsea, the Kew Rhododendrons, the Rhododendrons at River Hill, Sevenoaks, my own humble experience in hybridising, and, if it will not frighten you, many others.

J. H. M.

GARDENERS' CHRONICLE, June 14th, 1879.

The hardier varieties of Rhododendrons are, as I write these lines, dazzling my eyes with crimson of every hue, to say nothing of the purples and the whites, and cry out against any preference for the tenderer sorts. "Barclayanum," and "Brayanum," and "Brayanum," and "Lady Eleanor Cathcart," and "Mrs. Holford," and "Mrs. Clutton," and a host of my own seedlings, deprecate partiality; but the Messrs. Waterer and others have done so much to popularise these plants, and they are so universally cultivated, that I have preferred to give precedence to the less familiar, and even more glorious, scented species. All sorts and kinds should, however, be kept clearly in view by the hybridist, and by those who wish to enjoy Rhododendrons in all their fulness. I remember reading, many years ago, of a Miss Walker, of Drumsheugh, near Edinburgh, who by combining hardy and tender sorts in her cool conservatory, managed to have one Rhododendron at least in bloom there all the year round. Her list included fifty species and varieties.

Miss Walker,* I am told, is dead, and her residence swept away and the site built over; but her example is well worthy of note by Rhododendron growers.

Since her time what additions have been made to the genus!

In prolonging the Rhododendron season into the dull autumnal and winter months, many have been the acquisitions, and none perhaps more brilliant or more complete than Messrs. Veitch's new strain, which may be seen at Chelsea, and of which more anon.

But Miss Walker's list deserves a few more words.

First in it stands R. "Nobleanum," in many varieties, blooming from October till April.

In January R. Atrovirenst (one of the parents of that most useful early hybrid R. "PRÆCOX," alias "EARLY GEM") appears upon the scene; then R. CILIATUM, of which there are lilac (see Sir J. D. Hooker's Himalayan Rhododendrons) blush, and pure white varieties; then R. Arboreum, and a succession of hardy kinds till we reach R. Glaucum, so curious with its aromatic leaves, and so comely with its pink or dappled bells. Between the two, R. Ciliatum and R. Glaucum, Mr. Davies, of Ormskirk, has raised a hybrid, blushing and elegant, and fairly hardy.

"APPLE-BLOSSOM," a name I do not understand, comes next; and then R. FORMOSUM, which (sometimes called GIBSONII) resembles a scented white AZALEA, but often is streaked or tinged with pink. R. JAVANICUM takes us to another race of Rhododendrons, and into quite another region, which, however,

- Miss Mary Walker (d. March 4th, 1870), of Drumsheugh, left her land and fortune to Trustees for the benefit of the Scottish Episcopal Church. St. Mary's Cathedral, Edinburgh, was built out of the bequest.—I.B.B.
- † Was it Atrovirens or Dauricum that with ciliatum produced PRECOX? I think Dauricum-Atrovirens is by many regarded as merely a form of Dauricum, but it is a very different plant and a rare one.—I.B.B.

our great English botanist now regards as the central birthplace of the genus, the Malayan Archipelago. This splendid species, with its large truss of bright orange flowers, is not often seen. Last year it bloomed finely at Kew, and I have seen at Messrs. Veitch's multitudes of young plants. In vain I have tried to cross it with the hardy varieties, though it has been mated with nearer relations, as will appear presently; but last year, I am told, it refused to cross either way with R. Jasminiflorum. R. Edgeworthii, the pollen-parent of R. "Princess Alice," and R. Dalhousiæ, the pollen-parent of R. "Countess of Haddington," bloomed with Miss Walker, in May; and their large white scented blossoms must have been noble company for the crimson and the purple of "Brayanum" and "Sir Isaac Newton" and others in the list, R. Jenkinsh opened in June and lasted till the end of July. The dwarf and curious R. anthopogon bloomed through August; and R. Maddenii, which very nearly resembles Jenkinsh, kept up the succession till October 18th.

Such is the abbreviated record of a year of Rhododendrons. Some may perhaps think this a narrow and monotonous view of floral culture; and yet, with the largest love for many plants, it may be well, even for an amateur, to devote primary attention to one or two, as Mr. Radclyffe to his roses, his strawberries, and his peaches, or Mr. Wilson to his lilies.

Having a few groups of plants under constant and minute attention, it is wonderful how familiar one grows with habits and peculiarities. With some botanical knowledge (and all horticulturists should, if possible, be botanists,) amateurs may, by careful and recorded observation, offer much assistance to science.

The days have gone by when, as Dean Herbert relates, naturalists frowned on hybridisers. Both have found that the more they learn of Nature, the more, it seems, remains to be learnt; and Rhododendrons offer to both a large field for observation and experiment.

New species come pouring in apace from all climates and from many parts. Your pages recorded, the other day, a whole new series of Rhododendrons from the Malayan Archipelago and New Guinea; while, to go to the other extreme, Regel's Gartenflora, Vol. XXVI., figures and describes an alpine novelty from the Baikal Mountains, a species "zwischen R. lapponicum und R. davuricum." [R. parvifolium, Adams.]

The variety and the range of the Rhododendrons are indeed wonderful. You may bring them from a tropical climate, or from the snow-line, where R. NIVALE patiently waits days and weeks, in storm and fog, for one sunny hour, in which its pollen may do its work. They bear flowers, some of them, as large as magnolia grandledge, and others more tiny than a buttercup; some are trees, others like the humblest herb; some are evergreen, others deciduous, and others again half-and-half. Their leaves are nearly as various as their names, and I have often amused my guests by a study of their foliage, from R. Falconeri down to R. Lepidotum. And yet, not only does the botanist know their close alliance, but the hybridiser is constantly discovering strange likings and antipathies among them, which may some day lead to the disclosure of new truths.

Miss Walker's list, though sufficiently tempting, gives a very imperfect indication of the materials for culture now available. I saw, for instance, at Messrs. Veitch's, a beautiful hybrid raised by Mr. Luscombe, between R. Fortunei and R. Thomsoni, yet neither of these noble species appear in the list. Again, no collection would now be tolerable without R. Griffithianum alias (?) Aucklandii, whose splendid open cup-like corolla and minute stamens offer so striking a contrast to the trumpet-shaped calophyllum, with its large and numerous stamens, streaming with pollen, though both are strongly scented.

About a month ago a hybrid at the Lawson Company's nurseries, raised by Mr. Scott between this R. Griffithianum and the hardy late variety "John Waterer," (arboreum × (probably) catawbiense), was shown to me, and it seemed worthy, I thought, of both parents.

I have been hybridising in the same line, and I would say that no Rhododendron grower would now be worthy of the name if he or she did not possess the various species, for instance, named above.

I have prosed on, I find, at so great a length, that I must reserve for another paper my note on the Chelsea strain, instead of tacking it on to the end of this.

J. H. M.

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GARDENERS' CHRONICLE, June 21st, 1879.

The strain of Rhododendrons raised by the Messrs. Veitch, of Chelsea, has opened, so to say, a new vista to Rhododendron growers, at least to such of them as have a warm greenhouse. I have mentioned my astonishment and delight at the vision of R. CALOPHYLLUM in the Temperate-house at Kew; but I was scarcely less impressed on being first introduced to the house at Messrs. Veitch's, where, with due precautions, their seedlings were guarded from the vulgar eye and the risk of mischance. Mr. Taylor, to whom their existence and their rearing are principally due, was (and I may say is) not a little proud of his productions, and well he may be.

What met my eyes as I entered the house (it was a dull and gloomy November day several years ago), was a neat compact batch of seedlings with good dark green and glossy foliage, and on one of them several trusses of expanded flowers, such as I had never seen before. The colour was a peculiarly striking crimson, the truss many-flowered; and each well-poised member of the umbel showed itself to perfection. The shape of the flower was something between salver-shaped, funnel-shaped, and bell-shaped, as botanists would say, all of which may be loosely rendered by "a Brobdingnagian crimson jasmine." I examined the flowers, and found that, like R. FALCONERI, they had little or no calyx; that the anthers, though those of hybrids, were nevertheless well furnished with pollen; and that the leaves showed through a lens the scales and pitted marks peculiar to certain Rhododendrons with which I was well acquainted. The colour I have said was peculiar, and this is a feature of the strain, for the red and crimson are totally different from the reds and crimsons of the hardier varieties; and the coral, orange, and yellow are scarcely to be found outside the limits of the strain, or the parents which produced it. Seedlings of all the above and other colours have unfolded their blossoms since my first visit. Each year has produced some new varieties; I think the last was the MAIDEN'S BLUSH, which, as a tiny plant, with one truss of large and most striking flowers, was exhibited at the great horticultural show a very few weeks ago.

One of the most beautiful of them all is × R. "TAYLORI," of a brilliant colour, and named most appropriately after the founder of the race. "Duchess of Edinburgh" was my first friend, and never ceases to delight me. "Duchess of Teck" is light buff shaded with orange; "Prince Leopold," a mixture of fawn and rose and yellow; "Duke of Edinburgh" is coral-pink; "Princess Royal" (the oldest of the family), blushing or rosy-pink; and "Princess Alexandea," pure white. The plants thrive best in very small pots, which points to their epiphytal tendencies; they bloom freely when small, and I have seen them blooming in many different months, in the depth of winter and in the blaze of a seasonable midsummer. A horticulturist should not content himself with collecting and cultivating pretty flowers, but he should, as far as in him lies, learn their native places, their history, their botanical peculiarities

and affinities, and in the case of hybrids, their parentage. I should consider, then, this paper very worthless were I not to say something in it as to the parentage of the plants which I have been praising.

Mr. Taylor, at my request, has given me the following particulars, which no doubt are substantially correct, though they differ slightly from a list published in the GARDEN in 1875. I understand that the first-named of the two plants is the seed-bearer.

First Crossing: R. JAVANICUM and JASMINIFLORUM, the produce being R. "PRINCESS ROYAL," R. "PRINCESS HELENA."

Second Crossing: R. "PRINCESS ROYAL" and JASMINIFLORUM, the produce being R. "PRINCESS ALEXANDRA."

Third Crossing: R. Lobbii and Javanicum, R. Lobbii and "Princess Royal," R. Lobbii and "Princess Helena," R. Lobbii and Brookeanum, the produce being the various hybrids which the Messrs. Veitch have hitherto shown and distributed.

Now, I can fancy some of my readers, after the study of this genealogy, sighing that I have left them just as wise as I found them; that of R. JASMINIFLORUM they know no more than the name indicates; of R. JAVANICUM no more than I told them in a former paper; and of R. LOBBII and BROOKEANUM (figured in the GARDENERS' CHRONICLE, 1871, p. 236), absolutely nothing at all.

The truth is, that these species are but seldom cultivated; and as to the two last, people may hunt far and wide and yet not see them. Do I then need any apology for repeating information which doubtless has already appeared in this journal, but which seems very much in point in a series of papers written to encourage the cultivation of Rhododendrons as a special study?

R. Jasminiflorum, which, as the best known, I take first, is figured and described in the Botanical Magazine, Vol. LXXVI., t. 4524. It was introduced from Mount Ophir, Malacca, and was exhibited at Chiswick, from the Nursery of the Messrs. Veitch, in 1850; and this is what Sir William Hooker said of it: "Many of the flowers excelled it in splendour; but the delicacy of form and colour of the flowers (white with a deep pink eye), and probably their resemblance to the favourite Jessamine (some compared them to the equally favourite Stephanotis), attracted general notice.

"So unlike, indeed, are they to the ordinary form of Rhododendron blossoms that a reporter in recounting the prizes of the day seemed to imply that it was probably no Rhododendron at all." The leaves of this species are very thick and substantial, the growth dwarf, the habit most floriferous, and the flowering, under favourable circumstances, nearly continuous. Plants, well set with blossom-buds, are easily to be procured at a very moderate price. Such was the first pollen parent of the new strain.

R. JAVANICUM is figured in the BOTANICAL MAGAZINE, Vol. LXXV. (1847), and Sir W. Hooker thus describes it: "On communicating this splendid plant to me for figuring in the BOTANICAL MAGAZINE, Messrs. Veitch & Sons, its possessors, remark that it is certainly one of the finest things ever introduced to

our gardens, and in this opinion we think all will agree who see the present representation, and more especially those who have the privilege of beholding, as we now do, the plant itself with its beautiful glossy bright green foliage and orange-coloured flowers (twelve in a bunch), here and there marked with red spots, and again spotted as it were, with the dark black-purple coloured anthers, which lie generally five on each side towards the lower side of the mouth of the corolla. . . . Blume discovered it on the Mountain Salak, in Java; Dr. Horsfield on the volcanic range extending through Java, in dense forests, at an elevation of 4,000 feet above the level of the sea."

Hence we are not surprised to learn from Mr. Veitch that it succeeds well under the mere shelter of a greenhouse. (See also GARDENERS' CHRONICLE, 1848, p. 172.) Such was the first seed-bearing parent of the new strain.

It may seem an astonishing thing (and I am told that it astonished Dr. Lindley), that an orange-coloured and a white flower should produce between them a flower rosy-pink in colour, as "PRINCESS ROYAL" (see the pedigree), undoubtedly is. But I think that the puzzle is solved by referring to Bennett's Pl. Jav. Rar., p. 85, t. 19, where R. Javanicum is represented of a crimson colour; so that we may take it, and it has been stated, that R. Javanicum is variable in colour, and that those who raise seedlings may hope to be delighted by the various tints which are in the blood of the species.

I am afraid, however, that large blossoming plants of R. JAVANICUM are rare, though smaller ones may be readily procured. The habit of the species is to bloom when small, and to bloom freely, and few things are more beautiful than a plant of it.

Mr. Veitch hoped that it would bloom all the year round, but in this respect his hopes have not been realized. I must postpone my remarks on the remaining parent species till I send you another paper.

J. H. M.

GARDENERS' CHRONICLE, July 5th, 1879.

In my last I described Messrs. Veitch's new strain of Rhododendrons, and explained that the two species first used as parents were R. JASMINIFLORUM as pollen-parent and R. JAVANICUM as seed-bearing parent.

Later on Mr. Taylor mingled the blood of two other species in the strain, viz., R. Lobbii (named after Mr. Lobb, the collector for Messrs. Veitch), and R. BROOKEANUM (named after the well-known Rajah Brooke, of Sarawak). These two species, as will be seen, are stated to be closely allied with R. JAVANICUM.

In devoting a few words to their description I am merely, so to say, going over the ground I myself traversed when I admitted their progeny into the list of my favourites.

As there was, and is, very great difficulty in procuring, or even in seeing the blossoms of the parents, I wished to find plates and accounts of what had produced so much beauty, and, as fond friends do, to trace the features of the parents in the children, or to marvel at the differences. I am bound to confess that I have never yet seen in the flesh the flowers of either R. LOBBII or R. BROOKEANUM, nor do I know where they are to be seen. Dried specimens of Rhododendrons are wholly unsatisfactory.

R. LOBBII is mentioned in the GARDENERS' CHRONICLE, of October 14th, 1871, as a brilliantly flowered stove shrub, with bright crimson flowers, introduced from Borneo by Messrs. Veitch & Sons. It is figured in the FLORAL MAGAZINE, plate 10, and is there depicted of a bright yellow colour; but Messrs. Veitch have two coloured representations of the plant they used in breeding, one painted for them by Mr. Chandler, and the other in one of their own catalogues.

In these the flowers are red, and not very showy, and in size approaching nearer to R. Jasminiflorum than R. Javanicum. In Regel's Gartenflora, Vol. X., R. Lobbianum is thus spoken of: "Dieser schöne Strauch mit gelber Blume steht in der Mitte zwischen R. Javanicum und R. Brookeanum und wurde sogar Anfangs nur als eine Varietät dieser letzten Art betrachtet. Th. Moore hält sie jedoch für eine gute Art" (stands between R. Javanicum and R. Brookeanum). (The R. Lobbianum, Moore, Floral Magazine, F.10 (1861), is not the same as the red-flowered plant alluded to in the above paragraph. It was exhibited by Messrs. Veitch as R. Brookeanum flavum, but being judged distinct, was named R. Lobbianum when figured. How another plant came to be so called we cannot tell, but the latter was never published. At the time of the appearance of these hybrids, this bright red small-flowered plant was said to be an unnamed species from Borneo.—I. Moore).

R. BROOKEANUM is figured in various quarters; in the GARDENERS' CHRONICLE, for February 25th, 1871, and the JOURNAL OF THE HORTICULTURAL SOCIETY OF LONDON, Vol. III., p. 81, uncoloured; and in the BOTANICAL MAGAZINE, Vol. LXXXII., tab. 4935, and elsewhere, coloured.

The best authority quotes the following description by the discoverer of the plant: "I shall never forget," says Mr. Low, "the first discovery of this gorgeous plant; it was epiphytal upon a tree which was growing in the water of a creek. The head of flowers was very large, arranged loosely, of the richest golden yellow, resplendent when in the sun; the habit was graceful, the leaves large. The roots are large and fleshy, not fibrous, as those of terrestrial Rhododendrons. It is the least common of the genus in the island (Borneo), and has many varieties, which differ in having larger flowers and leaves, the former of a more or less red colour." Dr. Lindley (see Journal of the Horticultural Society of London, quoted above), says: "The species is allied to R. Javanicum"; and the Botanical Magazine calls "R. Javanicum the nearest ally to the present."

If R. LOBBII and R. BROOKEANUM are in reality closely allied with R. JAVANICUM, and (see the Gartenflora) also with one another, the great triumph and curiosity of the new strain lie not so much in the fact of the breeding between these allied species (though closely allied species will not always interbreed), as in the union of R. JASMINIFLORUM with two of them (see pedigree in last paper).

It will be also observed that both "PRINCESS ROYAL" and "PRINCESS HELENA," being hybrids, bred again with R. Lobbii, which is interesting; and I should be glad to know whether the progeny in these cases produced pollen as freely as I know some of the strain do. The most general symptom of hybridity is well known to be abortion of the anthers, and absence of pollen, the stamens being apparently more susceptible than the pistil. That it was no easy task to unite R. Javanicum with R. Jasminiflorum may be gathered from what I said the other day of the utter failure, in a very competent quarter, of an attempt to breed, both ways, between the two. I tried myself, I find, in 1877, to breed with pollen of R. Javanicum on R. Jasminiflorum, but without success. Experience has taught me, however, that one attempt, or even two of the kind, are by no means conclusive.

My friend, Mr. Anderson-Henry, has expressed strong views (see Gardeners' Chronicle, April 13th, 1867), on the occurrence of certain happy atmospheric moments for the union of vegetable species. "Never try such things," he said to me the other day, "when an east wind is blowing." Gaertner says: "Die Sommer-Wärme und die Morgen-Zeit sind der Bastard-Befruchtung vorzüglich günstig."

Without committing myself to these views, it is impossible to deny that some causes do contribute in an (at present) occult manner to the fertilization of flowers; certain flowers of a truss of a Rhododendron, for instance, accepting fertilization and others refusing it; and a plant one year taking a cross which next year it seems to decline. All good horticulturists should keep their eyes and their note-books open for the observation of such phenomena, which they may feel certain are not the mere results of chance.

The Messrs. Veitch's success, and the failure elsewhere, may, however, possibly be explained by the existence of numerous varieties of R. JAVANICUM, some of them perhaps inclined to a union with R. JASMINIFLORUM, and others

disinclined. And the same variation may exist in the case of R. JASMINIFLORUM (Mr. Anderson-Henry has a blush-coloured variety). Indeed, extraordinary variation seems to be a feature of the Malayan Rhododendron flora; Dr. Beccari (Malesia, part III.), saying: "Dalle mie osservazioni particolari apparisce che quasi ogni cima di montagna in Borneo ha le sue forme speciali che non sembrano diffondersi nemmeno sulle montagne prossime." The results of Mr. Taylor's labours seem most encouraging for fresh experiments in the same field.

A great variety of floral beauty, very novel and very striking, has been attained by intercrossing with four Malayan species, three of those species being said to be closely allied with one another. Let no one suppose, however, that there are not many more species to be drawn from the same region for the instruction of botanists, the delight of horticulturists, and the material for hybridisers. Dr. Beccari mentions twenty-seven species inhabiting the Malesian and Papuan Archipelago, and one of them, R. Konori, discovered in New Guinea, he says: "Essa è forse la più bella specie di Rhododendron dell' Arcipelago." Of the Bornean Rhododendrons alone he says: "Con le specie da me adesso descritte i Rhododendron conosciuti di Borneo ammontano a 15 specie ben distinte."

As to the possibility of crossing this Malesian tribe with other members of the genus, inhabiting other regions of the globe, I know next to nothing, and should be very grateful for information.

The Messrs. Veitch have from time to time most kindly and liberally supplied me with pollen of their hybrid strain. I find that in 1876 I used it upon four different Rhododendrons, on Azalea amæna, three kinds of Azalea indica, and Azalea pontica of five varieties, wholly without result. In 1877, I used it upon two seedlings of R. molle (what used to be Azalea mollis, at Kew, is now R. molle), and on various Azaleas and Rhododendrons and hybrids, again without success.

In 1878, I used it upon R. MULTIFLORUMXCILIATUMXVIRGATUM, CILIATUM, FORMOSUM, MADDENII, GLAUCUM, MOLLE, "PRINCESS ALICE," and "SESTERIANUM," and on Azalea amæna and many others.

This year I have used it upon most of the above again, and also upon R. Dalhousiæ, calophyllum, pendulum, "Lady Sefton," Gibsonii hybridum, and glaucum hybridum (the last three raised by Mr. Davies, of Ormskirk), Boothii, campylocarpum, lepidotum, triflorum, and a number of hardy hybrids and others.

So far (and I have omitted my work with Malayan species), I see no sign of success; but I must not yet wholly despair as to the experiment of this year.

I have found, by careful observation, that a month, on an average, is the time required for the journey of the quickening influences of the pollen down the style of Rhododendrons and Azaleas, and the resulting and (with a lens) obvious expansion of the ovary. All botanists know that plants differ very much in the time required for this operation; and perhaps some day you will give me leave to explain how Rhododendrons differ among themselves.

In conclusion, I hope that I have not wearied out both you and your readers with my long yarns about Rhododendrons. If not, I should be glad some day to add a few lines on what seems to be the realization of a hope expressed in my first paper, viz., that hybridisers might find means to infuse scent into our hardy varieties, or colour into the scented. I have received a grand collection of blossoms from the Lawson Nursery Company, Edinburgh, of plants raised by Mr. Scott, which are well worthy of notice. A few weeks ago I saw the plants growing in the open air in the Nursery, and the blossom of one was shown to me. I have now more than a dozen varieties before me, in the finest condition, scented and coloured, beautiful, and most interesting.

J. H. M.

GARDENERS' CHRONICLE, July 19th, 1879.

Nearly twenty years ago I walked with Sir William Hooker through the gardens at Kew, and in the Temperate-house he gave me some pollen of the finest scarlet RHODODENDRON ARBOREUM there, with which I made my first essay in hybridising. This ARBOREUM variety was, and is, notable for size and colour, and also for the specially hold and martial habit of the stamens, which, like bayonets, seem to threaten an intruder. As there was nothing else at the moment available, the pollen was applied to flowers of R. PONTICUM. So potent was its influence that, although I used none of the nice precautions now deemed indispensable (excision of the anthers and careful isolation of the plants), the cross was effected, and many seedlings raised, all of which show the ARBOREUM blood strongly in their foliage. Several have bloomed, and so far prove the prepotency of the Indian (perhaps because the pollen-parent) over the Pontic race. Others, and these the greater number, still refuse me a single blossom, but they are large and hearty plants. This, my first and very hackneyed experiment in Rhododendron hybridising, set me thinking about the geographical distribution and probable alliances of the different species of the genus. The Himalayan and Nilgherry R. ARBOREUM breeds easily and freely (nay, perhaps prepotently) with the Pontic, and with the American CATAWBA species, and, I believe, with R. MAXIMUM, from America also. But try it with some of the "scaly" species, and the attempt will often be an utter failure, although many of these "scaly" species are geographically its close neighbours. Close neighbours, however, rarely interbreed with fertility; for, if they did so, they would be very apt (Primrose and Cowslip case notwithstanding) to disappear. But to return to the ARBOREUM crosses above mentioned, they produce thoroughly fertile offspring. I have somewhere read that Mr. Standish reported that many of these reproduced themselves quite truly, and my own experience is nearly the same.

This fact has often made me doubt whether the parents should be specifically distinguished at all. Such a question, however, is a question for the future, but one which we must keep open. If the Pontic and American species breed so freely with R. Arboreum, why not, thought I, with other Indian species, at all events with those "unscaly" species, which do not seem to hail from the Malayan Archipelago? Procuring, then, the pollen of R. Aucklandii and applying it, I watched the capsules swelling with portentous speed, outstripping those fertilized by the seed-bearers' own pollen. Moreover, the capsules, when ripe, were full of good seed, which in oft-repeated experiments freely germinated and grew, leaving to me only the patient (in Rhododendron raising the almost pathetically patient) part of waiting for a blossom.

Thus instructed on the subject, I soon detected some similar seedlings in the gardens of the Lawson Company three years ago. The foliage the told me their tale; but Mr. Scott, their raiser, has since, after an absence of en years, returned to vouch their ancestry, and to see many of them bloom for the list time.

When I was in Edinburgh, in the May of this year, I examined the batch growing in the open garden, with many trusses half, and one fully expanded. The plan's seemed quite hardy, and the numerous blossoms which I have since received were very perfect and unscathed by frost.

The parents are stated to be R. AUCKLANDII (pollen-parent) and "JOHN WATERED," a so-called "hardy hybrid" (seed-bearer); and knowing both parents very intimately, I have no doubt whatever that the statement is correct.

The calyx and the scent, and the diminished stamens—which, by the way, are full of pollen—as well as the larger flowers and the looser truss, bespeak unmistakeably the pollen-parent, which in the case of alleged hybrids is the parent to be always specially doubted.

Quite apart from their beauty, I think these seedlings deserve notice in your paper, as tending possibly to throw some light on the subject of Rhododendron alliances, in such a "confronts" (?) of the species as Dr. Beccari thinks so desirable.

I hope that Mr. Scott has tested their fertility inter se; for "John Waterer" being a hybrid between R. Arboreum and probably R. Catawbiense (Mr. Waterer cannot inform me precisely), these seedlings, it will be observed, unite the blood of three species. "John Waterer" is a very late blossoming, deep crimson variety; and be the parentage what it may, the crimson colour is derived from R. Arboreum, and the hardiness and late habit, etc., from another type (? Catawbiense).

The late habit was very properly selected to correct the early tendency of R. Aucklandii, with only partial success however, for the blood of R. Arboreum uniting with that of R. Aucklandii (both precocious) has apparently compelled the seedlings to bloom much earlier than might have been anticipated from the tardy habit of "Joiin Waterer." I would advise all Rhododendron lovers, who do not know R. Aucklandii, to lose no time in examining Sir Joseph Hooker's book, and better still, to visit Kew next May, in which month R. Aucklandii is generally in bloom there. Magnificent, however, as is the portrait, taken from blossoms in their native land, it is scarcely worthy of the plant as since grown in England. Nor does the description quite do justice to its merits; for instance, it is called "scentless," whereas the Gardeners' Chronicle, of May 18th, 1878, very properly describes the flowers as "of the richest fragrance."

Again "flowers from three to five together in a truss" are far below the standard.

Your issue, quoted above, describing flowers grown by Mr. Boscawen, says: "It is difficult to find an adjective sufficiently expressive of the majestic loveliness of the flower. The truss consists of nine flowers, each on a delicately frosted or primrose stalk, and having at the base a large pink calyx and a broad open bell-shaped corolla five inches and more across; of a clear white colour."

Mr. Boscawen's plant, as I understand, grew and flowered in the open air (but in Cornwall), and I, 600 feet above the sea, and far more to the North, have found the species, in some senses, hardy. During the past winter I adopted the plan of breaking off and examining the buds every week or two. The autumnal

and winter frosts had no ill effects; all went well till Easter, but then the too precocious buds, though scarcely showing they were swelling, received within the fatal and blackening stroke.

It is curious to observe how Mr. Scott's seedlings vary from nearly white to a deep rich crimson. For my own information I have made an elaborate note of all the peculiarities, but I need not trouble you with it here.

Suffice it to add that the pollen-parent by no means asserts an universal supremacy; although, as it contributed one-half of the blood as against one-fourth each of the two other factors, such a result might have been expected. The habit of the plants is compact and bushy, the size of the flowers midway between the parents, the scent fainter than that of R. Aucklandh, but very perceptible. If these seedlings prove to be as hardy southwards as they have shown themselves to be in Edinburgh, they will be real beauty-acquisitions to all Rhododendron cultivators, beyond their interest from a scientific point of view.

The moral of this paper is that there is much to be done and much to be learnt in the cultivation of my favourite plant.

The cross which I have celebrated may have been (perhaps by Mr. Luscombe, perhaps by Mr. Boscawen), effected elsewhere, but I would use it merely as an illustration of the deep and varied interest which gathers around these floral experiments. How many subjects have been glanced at which might provoke to unending thought and observation a whole army of Rhododendron growers, or, indeed, earnest cultivators of any plant. As we advance, Nature is always presenting fresh problems for solution. So much the better, provided we arm ourselves with intelligent and industrious research, and German concentration, to meet the emergency.

3. H. M.

GARDENERS' CHRONICLE, August 2nd, 1879.

The "pray do" with which you responded to the proposal in my first (I have now arrived at my sixth) paper, to relate some of my own hybridising experiences. as well as the following passage from the pen of Mr. Thiselton-Dyer, must be my excuse for again troubling you. Mr. Dyer, in your issue of February 2nd, 1878, alluding to Mr. Parkman's communication on Lily hybridising, called it "an excellent example, which it is much to be wished that other hybridisers would follow," and he added that "they should record for the benefit of science the results of even their unsuccessful attempts." In the spring of last year, I was hybridising with many Rhododendrons, and among others, using a plant of R. FORMOSUM as seed-bearer. R. FORMOSUM is well known as a white scented variety, not hardy, and found by Sir J. Hooker growing in the Khasia Mountains at the low elevation of 2,000 feet (see HIMALAYAN JOURNAL). It is said to be nearly allied with R. VEITCHII, from Moulmein, whose splendid fringed blossoms charmed so many at the shows of the year, and also with R. Championæ,* which was "found growing abundantly among rocks in a ravine at Fort Victoria, Hong-Kong," in 1849 (see BOTANICAL MAGAZINE, t. 4609). but of which I know nothing further, and should be glad of information. On the above-mentioned plant of R. FORMOSUM I touched flowers (in pairs, which are far better than single flowers for detecting errors), with pollen of R. Arboreum, MOLLE, "PRINCESS ALICE," GLAUCUM, AUCKLANDII, JENKINSII, FALCONERI, EDGEWORTHII, "DUKE OF EDINBURGH" (one of Messrs. Veitch's new strain), and of AZALEAS AMENA, PONTICA, and INDICA. Two pairs only of the capsules swelled, viz., those touched with the pollen of R. EDGEWORTHII and JENKINSII.

The rest fell off about a month after the corollas. As to the cross with R. Edgeworthii, I felt but little interest, for I knew that it had been effected long ago, and that \times R. "Sesterianum" and others were the result; but the cross with R. Jenkinsii appeared to me novel. It promised also to be useful, considering the extreme beauty of the species, and the following very correct description of it in Regel's Gartenflora: "Scheint zu den sehr daukbar blühenden Arten zu gehören, indem unsere 2 Fuss hohe Pflanze auf der Spitze jedes ihrer 3 Aeste eine Blumendolde trägt."

The four capsules continued to swell during the summer and autumn, and in October it was difficult to detect the smallest difference between them. They had attained a full size, and seemed to ripen gradually during the winter months, still maintaining apparently perfect equality. At the end of January of this year, the two Edgeworthii capsules dehisced, and were found to contain abundance of plump well-ripened seed. The two Jenkinsh capsules kept closed, turning brown, however, at the apex, and seeming to ripen downwards.

On February 1st these last were gathered and opened. They contained chiefly what I may call (as Mr. Parkman does) chaff; but in one capsule I found

^{*} When and by whom has the alliance of R. Formosum and Champions been suggested?—I.B.B. See Lemaire Jardin Fleuriste, Tom. I., pl. 208.

one, and in the other two abnormally inflated and tailed seeds, which seemed still unripe. On the same day the whole contents of these two Jenkinsii capsules were sown, that is to say, were laid, as is usual with Rhododendron seed, on the surface of peat soil, the pots being covered with panes of glass. On February 22nd the contents of one of the Edgeworthii capsules were sown also, and both lots were kept under precisely the same conditions in a greenhouse.

On March 16th the EDGEWORTHII seeds were seen with the aid of a lens to be sprouting, and the radicles to be descending into the soil. On April 28th the plumules were distinctly showing, and now, at the end of July, the young plants are pricked out, some of them bearing three or four leaves besides the cotyledons.

Meanwhile the Jenkinsii seeds for seven weeks made no sign; but, whereas the chaff was soon covered with mildew and disappeared, the three seeds retained a living, though somewhat rotten appearance.

On March 22nd two of them were observed to be protruding radicles, and the third soon followed suit. Early in April, however, two rotted off without further progress, the other living on, but advancing very slowly in growth.

On May 9th what served for cotyledons was fully expanded, and this proved to be a cornucopia-shaped sort of cup, thick and succulent as in some of the Hepaticæ. The cup lived on to the present time, with little or no apparent growth, and without the smallest sign of a plumule; indeed it seems obvious that there is none. I shall continue to guard and watch this abortion, although I have not the faintest hope of its further development. I need scarcely add that I have repeated the experiment this year with pollen of R. Jenkinsii.

At the present time I have many well-swelled capsules on two plants of R. formosum, and I await the result with curiosity.

The above is a very fair example of the disappointment which often awaits the hybridiser; but, let me add, a good illustration also of the very interesting phenomena which hybridising enables him to study. The effect of foreign pollen on the capsule and seed of the female parent is often remarkable, stimulating one or both up to a certain point, and yet very imperfectly, or not at all, effecting fertilization.

The pollen of R. Falconeri, for instance, has a most astonishing effect on some of the other Rhododendrons. For several years I have watched the process with increasing wonder. In about half of the time usually required the capsules, stimulated by this pollen, swell and continue swelling until they have attained a large size. Then they ripen as rapidly as they have swelled, but generally contain only chaff, or at best, much chaff mixed with a few perfect seeds. Other foreign pollen seems to act in a different way. The capsules swell hopefully, but, instead of chaff, the cells contain long leathery bodies, which would seem to be abnormally developed placentas, while the ovules have not been developed at all, not even into chaff. The effect on the ovules is well illustrated by the Jenkinsh cross I have detailed above, and reminds me of what I have often seen in the capsules of crossed Lilies—all chaff, with the exception of one or two bloated, unripe, and ill-shaped seeds. Your readers are probably aware of the many interesting remarks on the subject by Gaertner and

other writers, but each writer has dealt with his own class of plants, and each class has probably its own peculiarities, so that it is dangerous to generalize too much from particular instances.

With regard to Rhododendrons, almost a volume might be written on the various influences of various pollens. Mr. Anderson-Henry is quite right in saying that some pollen seems to burn or poison the stigma to which it is applied; other pollen burns as it goes, and yet fertilizes. Some works slowly and yet more effectually than the speedy worker, and some seems to require frequent application to the stigma to produce any result. Perhaps the most curious observation I have made is the tendency of the pollen of one Rhododendron on another Rhododendron to produce seedlings with three instead of the normal number of cotyledons.

But I have trespassed long enough on your space for the present with my special subject.

J. H. M.

GARDENERS' CHRONICLE, January 22nd, 1881.

I received Focke's work (DIE PFLANZEN-MISCHLINGE) a few days before your article on it appeared.

I quite agree that it is a very important contribution to the literature relating to hybridising, and contains evidence of much labour and care, although, of course, it has its errors and omissions.

I naturally turned first to what I may call my own department, viz., "Rhododendrons." There I found a great deal very accurately stated, and it is in no spirit of disrespect that I point out two errors or bad guesses which I think deserve notice, because they relate to plants commonly grown here and on the Continent, and, I may say, general favourites with many of us. I allude to "PRINCESS ALICE" and "COUNTESS OF HADDINGTON."

With regard to the former, Focke writes: "R. FORMOSUM, WALL ?, X EDGEWORTHII, HOOK f. &, mit schönen weissen Blumen ist R. 'SESTERIANUM,' VEITCH. 'PRINCESS ALICE' (Veitch & Sons), ist ähnlich."

Now, I have always understood and believed that the true pedigree of "PRINCESS ALICE" is R. CILIATUM Q, X EDGEWORTHII 3. The following extract from a paper read by Mr. Anderson-Henry in 1867, as President of the Botanical Society of Edinburgh (I think reprinted by you at the time), (see p. 379, 1867), will, I am sure, interest many of your readers:—

"When the lovely and fragrant R. Edgeworthii first bloomed in this country, all were eager to see its beauty and perfume transfused into dwarfer and hardier forms. Some tried the cross by making Edgeworthii the female or seed-bearer, others by making it the male. I tried in both ways; but for my own part all those efforts failed when I attempted the cross on the Edgeworthii. But while it would not be brought to bear hybrid seed, I had no great difficulty in effecting a cross from its pollen on R. Ciliatum, another of Dr. Hooker's beautiful Sikkim species, having all the desirable requisites of hardihood, dwarf habit, and free-flowering tendency, and, singularly enough, just as I had obtained and sent off blooms of this brood to lay before the Committee of the Horticultural Society of London, Messrs. Veitch, of Chelsea, anticipated me in having a plant of this identical cross first exhibited before that Committee, which is now well known and generally cultivated under the name of Rhododendron 'Princess Alice.'"

As to "Countess of Haddington" × Focke writes: "R. formosum, Wall Q, × Dalhousiæ, Hook, f. J, hat blassroth (R. formosum) angehauchte Blüthen die so gross sind wie bei R. Dalhousiæ, Botanical Magazine, 5322. 'Countess of Haddington' Hortul, scheint dasselbe zu sein."

Here again is an error, the female parent of "Countess of Haddington" being R. Ciliatum, and not R. formosum. Thus one of your contemporaries wrote many years ago:—

"Among new plants by far the most striking was the lovely seedling R. 'Countess of Haddington,' exhibited by Mr. Lees, of Tynninghame Gardens. This is a real gem, being a cross between R. CILIATUM and DALHOUSIÆ, showing the stiff compact habit of the former, with vastly superior foliage, and the sweetness and beauty of the latter." I quote this passage as the first to hand, but the pedigree has been often given correctly, and I think the plant speaks for itself.

J. H. M.

GARDENERS' CHRONICLE, March 5th, 1881.

Perhaps you may find room for a few more words about Rhododendrons before their season is fully upon us. During the past year I have taken every opportunity that offered to inspect and to study them, and a few remarks, critical and explanatory, may not be unacceptable to some of your readers, who have not inspected for themselves. During the above period no species perhaps has more excited my admiration than R. Veitchianum, which ought to flourish freely wherever Indian Azaleas are grown. The finest plants I have seen are at Messrs. Veitch's. They flowered magnificently last year, and Mr. Minns, the foreman in charge, showed me them again the other day, bursting into bloom in company with Azaleas, red and white. No lover of Rhododendrons should omit a visit, if possible.

Other nurserymen, however, have plants (I have seen them at Messrs. Henderson's, Mr. Parker's, at Tooting, and elsewhere), and your issue of last week describes a grand specimen of one of the varieties at York. Wherever they are to be seen I can only repeat my advice, to go and inspect them. Nothing can exceed the purity, the elegance, and the grandeur of the best specimen flowers. One variety has the edges crisped (and this I think is the more beautiful); the other, R. Veitchianum lævigatum, is smooth, but both are magnificent, and bloom when quite small plants. The flowers are three or four times as large as those of an Azalea, pure white, scented, graceful, and delicate beyond expression.

It is no wonder that Messrs. Veitch obtained the highest honours when they re-exhibited this beautiful species; for, strange to say, although exhibited so far back as 1857, it had dropped out of British admiration, and was almost re-imported from the Continent.

The species comes from Moulmein. It is figured in the BOTANICAL MAGAZINE, t. 4992, and is there described as bearing flowers, "full five inches across."

Its nearest ally is said to be R. formosum, and in this I fully acquiesce. I have, moreover, proved that the two will interbreed. On the Continent they graft on R. CALOPHYLLUM, a strong vigorous species, which itself, however, yields to none in beauty and fragrance.

R. Veitchianum comes from Moulmein, and coming from so far south I have great hopes that it may prove a link between the Himalayan Rhododendrons and those from the Malayan Archipelago, if, indeed, the two are ever to be united. I am speaking now horticulturally, and not botanically, and with all respect for the views of Mr. C. B. Clarke; but I trust that gardeners will not yet despair of raising hybrids between the two races, although the difficulty seems very great.

R. VEITCHIANUM is, and must remain, a greenhouse species. Allow me to add a few words about a hardier and most lovely Rhododendron.

R. FORTUNEI, as I saw it growing in the open air at River Hill, Mr. Roger's place, ought to be the ancestor of a splendid race of hardy plants, scented, floriferous, and coloured. Mr. Luscombe has, or had, the same excellent type, scarcely inferior (the BOTANICAL MAGAZINE says superior) to R. AUCKLANDII. The variety at Kew, on the other hand, is vastly inferior, and indeed contemptible.

Such is an illustration of the puzzles connected with Rhododendron judging. R. Aucklandii presents the same diversity of type (see remark in Hooker's Rhododendrons); so does R. Dalhousiæ, R. Thomsonii, and, indeed, nearly every species.

It is impossible to mention R. FORTUNEI without adding a few words on R. Aucklandii, which I seem this year to have proved to be absolutely hardy against winter frosts. The two species are very nearly allied, although the latter comes from Sikkim, and the former from a remote part of China; but then we know next to nothing of the country lying between.

Mr. Boscawen grows magnificent trusses of R. Aucklandii in the open air, of which the Gardeners' Chronicle (see number of May 18th, 1878), says: "It is difficult to find an adjective sufficiently expressive of the majestic loveliness of the flower"; and Mr. Otto Forster has kindly sent me a photograph of a plant which, in his winter garden at Augsburg, bore 122 trusses of bloom. Unfortunately there is no illustration that I know of which does justice to the splendour of the flower. As the Gardeners' Chronicle, cited above, remarks, even Sir J. Hooker's plate falls very far short of the reality.

J. H. M.

GARDENERS' CHRONICLE, March 19th, 1881.

The rich and glossy foliage of R. Aucklandii is one of its charms. "The bush" is described as being in its native haunts "copiously leafy," a character by no means too common among Himalayan Rhododendrons.

R. FORTUNEI has inferior foliage, more flimsy, and generally paler; but the two species are so often confounded when judged by the leaves that it may be worth while to be a little more particular. Purchasers of the rarer Rhododendrons can very seldom see in blossom the plants they propose to buy. The first thing, therefore, for a fancier is to study to recognize the leaves. Many nurserymen have collections of young Rhododendron plants raised from unnamed seeds sent from India (I know of several most inviting collections of this sort, and notably one at Mr. W. Bull's, at Chelsea), and tallies get frequently misplaced among plants which live so many years before blooming; hence a critical knowledge of the foliage is very desirable, almost absolutely necessary, for a fancier.

The faculty is acquired by practice, and excites sometimes great astonishment, as I have found, among the uninitiated. I have taken some trouble in procuring and comparing the foliage of the two species named above.

The leaves of R. Aucklandii, are thicker, darker, larger, and more elongated than those of R. Fortunei, and I have observed that the veins branch from the mid-rib at a wider angle. The under side of the leaf, examined under a lens, seems moreover of a coarser texture. This is my experience, but I speak subject to correction, for a comparison of the plates and descriptions in the Botanical Magazine, and Sir J. Hooker's Rhododendrons, is enough to drive one to despair.

Rhododendron species are undoubtedly variable even in their native wilds, but there remains for the writers of the future much to be done in classification and correction of nomenclature. Perhaps some of your readers know whether the two species I have named interbreed. I do not know, but it seems most probable. Both breed very freely with our hardy hybrids, with R. PONTICUM, and I should imagine with R. ARBOREUM. I have already, in your columns, sung the praises of a breed raised between R. Aucklandii and the hardy hybrid "John Waterer," in the Lawson Nursery.

Last spring, I received a truss from one of the seedlings possessed of even a stronger perfume than that of R. Aucklandii, the scented parent (trus more than confirming the views of Dean Herbert and Gärtner), and yet perfectly hardy.

A plant of the same cross is now swelling for blossom here under; lass, and very numerous plants of almost similar parentage are planted in the woods in every possible aspect. It is curious and interesting for a naturalist to observe the prepotency of R. Aucklandii, the pollen parent, in the character of the leaf.

In the flower, so far as I have been able to observe, the crimson of "JOHN WATERER" has a hard task to contend with the white of R. AUCKLANDII, although the seedlings vary much in respect of colour.

I have another strain, however, kindly supplied by my friend, Mr. Anderson-Henry, in which the contest is between species and species, and not between species and hybrid. The cross in this case is between R. Aucklandii, and R. Thomsonii, the latter being the seed-bearer. The donor says most truly with regard to this breed: "The vigour of Thomsonii's progeny is wonderful, the leaves being enormous." I believe they have not yet bloomed, but Mr. Luscombe has bloomed several seedlings of a cross between R. Thomsonii and R. Fortunei, the fame of which has reached German science, and one of which at least is, in my humble opinion, truly splendid, although inclining to the paler tints. I have some plants of this strain which I hope to bloom, under glass, in a week or two.

Meanwhile Mr. Luscombe (than whom there has been no more enthusiastic Rhododendron grower), informs me that "his first flowering plant disappointed him sadly, but three really good ones, out of twelve or fourteen, have quite satisfied him."

One seedling, named DEVONIENSE, has been presented to Mr. Harry Veitch, and Mr. Luscombe has some hundreds still to bloom. It remains to be seen whether these plants will prove hardy under our skies.

I shall have great interest in pitting the FORTUNEI hybrids of Devonshire against the Aucklandii hybrids of Edinburgh, and both of them against my own hybrids of both strains, hopefully trusting to Gärtner's dictum: "most hybrids can bear a more intense degree of cold than their parents, and have more tenacity of life."

It is known that the late Mr. Standish raised seedlings between R. Aucklanding and some of his hardy varieties. Two of these appeared last year at the Horticultural Gardens, and one received a First-class Certificate.

Nothing was said as to their parentage, but to a practised eye it was obvious. The plants were not very well grown, but were said to have stood the severity of winter. They should be shown in better form again.

R. Thomsonii, mentioned above, and named after the distinguished and lamented botanist, whom I had the pleasure and the honour to know, deserves more favour than it seems generally to find. The brilliant crimson of its colour is well nigh unrivalled, and the graceful fall of its bells in a well-grown plant is indeed beautiful. It has shortcomings, nevertheless, which invite to diligent culture for improvement. Seed of this species has been often introduced from various localities in India, and among others by Mr. Elwes, and, still better, plants have been raised from English-grown seed.

Enthusiastic hybridisers seem to forget how much in the way of variety and improvement may be effected by merely breeding their species in Europe true for several generations.

Under the altered circumstances of cultivation and climate, seedlings of Rhododendrons, although bred true, vary in an extraordinary degree. Long ago Sir W. Hooker observed that "no one who has cultivated the Himalayan Rhododendron on a large scale can fail to be struck with the numerous sports which have already started off from R. CILIATUM, DALHOUSIÆ, CAMPANULATUM, and Arboreum, and which will no doubt soon be accounted as species by nurserymen." The accuracy of this observation has been abundantly preved by much that I have heard and seen.

As far as I can gather, England and Scotland and Ireland, and Belgium and Germany and Italy, will soon have interesting and differing tales to tell.

GARDENERS' CHRONICLE, April 9th, 1881.

What shall I say of R. Dalhousie, named after the unfortunate Lady Dalhousie, who died of sea sickness on her voyage home from India? The large scented flowers, often compared with the white Lily, L. candidum, command universal admiration; but then the habit of the plant is frequently so bad, so leggy, and so shapeless, that people tire of growing it. The reason of the habit is well explained by the frontispiece to Sir J. Hooker's SIKKIM RHODODENDRONS, where the plant is seen as an epiphyte on the branches of a tree, stretching out to reach the light. Alter the habitat, and you may perhaps modify the habit.

As a fact I have seen many specimens of R. Dalhousiæ, shapely and fairly compact, and in a few more generations of plants we may probably reap the fuller result of terrestrial cultivation.

Several other Himalayan Rhododendrons, as distinguished from the Malayan species, often grow as epiphytes, although Focke seems ignorant of the fact.

- R. EDGEWORTHII, PENDULUM, and NUTTALLII are instances; whereas on R. CAMPYLOCARPUM an Orobanche in turn grows parasitically.
- R. Dalhousiæ is comparatively familiar to the Anglo-Indian, for it is one of the four species which grow in the vicinity of Darjeeling. This is probably the species which Colonel Godwin Austen saw growing on trees in parts of Assam. In the HIMALAYAN JOURNALS,† we find the following description: "On the branches of a Magnolia, and on those of Oaks and Laurels, R. Dalhousiæ grows epiphytically, a slender shrub bearing from three to six white lemon-scented bells, 41 inches long, and as many broad, at the end of each branch. In the same woods R. Arboreum is very scarce, and is outvied by the great R. Argenteum, which grows as a tree 40 feet high, with magnificent leaves 12 to 15 inches long, deep green, wrinkled above and silvery below, while the flowers are as large as those of R. Dalhousiæ, and grow more in a cluster. I know nothing of the kind that exceeds in beauty the flowering branch of R. ARGENTEUM with its widespreading foliage and glorious mass of flowers." It suffices to say, in passing, that R. Dalhousiæ, under cultivation, has improved upon this description, whereas R. ARGENTEUM has fallen short. But of this latter I shall have more to notice presently.

Here is another description of R. Dalhousiæ: "Epiphytes were rarer" (at Pacheem, near Darjeeling, at an elevation of nearly 7,300 feet), "still I found white and purple Cœlogynes and other Orchids, and a most noble white Rhododendron, whose truly enormous and delicious lemon-scented blossoms strewed the ground."

^{*} Susan, wife of first Marquis of Dalhousle, Gov.-Gen. of India, 1847-56.
She died 6th May, 1853.

[†] Vol. I., p. 126.

Seed of this Rhododendron reached England for the first time in the spring of 1850, and to the astonishment of everybody a plant bloomed in March, 1853. This circumstance marks the fact of the amenability of R. Dalhousiæ to forcing. Alternate hot and cold were applied to the seedling, and finally inarching on R. PONTICUM, and the blossoms produced were first-rate. The German writer mentioned above accounts for the comparative neglect of hybrids among Indian Rhododendrons by pointing to the great variety of true species. He might have added the extreme beauty of many of these, although not of all (for some, to be presently mentioned, are singularly plain). It may almost seem, for instance, a profanation to think of refining the ineffable delicacy of R. Veitchianum, or gilding the golden glory of R. JAVANICUM, and yet I do not envy the cultivator who has no ambition to leave his own mark among his flowers, for the sake of science as well as for his own. But the truth is that Rhododendrons do not, as a rule, easily submit to hybridising. Hundreds of experiments have utterly failed with me, and, among others, I have not yet persuaded R. DALHOUSLE to bear seed under the influence of foreign pollen, but the other way the cross has been often effected.

The first view I had of R. Dalhousiæ was many years ago, when a flowering branch arrived from the garden of a friend in Scotland, and it is in Scotland still that Sikkim Rhododendrons are chiefly worshipped.

Miss Walker's Rhododendron Almanac was compiled in Scotland, and many private collections nowadays compete with hers. The Messrs. Dickson, of Edinburgh, grew innumerable trusses of R. Dalhousia (see the Journals of bygone years). The GARDENERS' CHRONICLE recorded the other day the triumph of Messrs. Downie & Laird, and my friend, Mr. Anderson-Henry, may be said to have made Edinburgh the Mecca of the Faithful, to which we all turn when we think of our favourite flower. Mr. Henry earned the very rare distinction of having a hybrid he raised between R. DALHOUSLE and R. FORMOSUM figured in the BOTANICAL MAGAZINE.* If I remember rightly, Sir J. Hooker wrote to say that the hybrid (and such it undoubtedly was) reproduced the native type of flower better than the true-bred seedling of R. DALHOUSIE. I have plants and plates of both the flowers before me as I write, and the hybrid is undoubtedly an acquisition. Unlike many hybrids, R. "HENRYANUM" (FORMOSUM X DALHOUSLE) so named in the trade, is not barren. With the pollen of R. NUTTALLII it has produced a very grand flower, and with that of R. VEITCHIANUM another grand flower of a very different type. Indeed the peculiarity of the hybrid progeny of R. Dalhousiæ would seem to be their fertility. R. "Countess of Haddington" is a hybrid between R. DALHOUSIÆ and R. CILIATUM, and has proved fertile. I have raised seedlings from this hybrid, and have now bursting into bloom a seedling raised by Mr. Parker, of Tooting, named R. "MAGNIFLORUM," bred, I am assured, from "COUNTESS OF HADDINGTON" fertilized with pollen of R. EDGEWORTHII. It should be observed that there are various types of R. Dalhousiæ in cultivation; in some the flowers are inferior, greenish, or dirty yellow, in others the bad

habit is exaggerated. In Gartenflora, Vol. XIV., 21, a R. "Lindleyi," raised by Stanwick, is mentioned, which seems to be a dwarf type of R. Dalhouslæ.

In two different places double flowers* of R. Dalhousiæ have been produced. I have not seen them, but they are much praised, and indicate the tendency of the species towards variation. Mr. William Bull and Messrs. Henderson have some interesting seedlings. The best grown plant of the species known to me in the neighbourhood of London is now about to bloom in the Nursery of the Messrs. Jackson, of Kingston; but I shall be very glad to hear of other fine specimens, and any peculiarities connected with them.

Mr. Knight, of Floors Castle, reported a double-flowered R. Dalhousiæ in the Gardeners' Chronicle, for June 5th, 1880.

GARDENERS' CHRONICLE, May 7th, 1881.

Any one who studies the genus Rhododendron will very soon find a foliar distinction which will strike him forcibly. He will learn to divide his species into those with scaly leaves, and those with leaves without scales.

There is perhaps also an intermediate class, containing those which bear scales on the under, but not on the upper surface of the leaf. The student will find that geographically these classes can be only roughly divided. They are united in the Himalayas on perhaps a fair equality. The scaly type prevails in the Malayan region, the scaleless in America, where, however, R. Punctatum and others of the different type are found. The tropical and alpine species are mostly scaly, the temperate mostly scaleless. The arborescent Rhododendrons are, I believe, scaleless, while the shrubby ones, and the dwarfs, and the epiphytes are very often scaly. As to the annually deciduous species they are, I think, all scaleless. Although the nature of these scales is by no means the same, yet they present a tolerable uniformity, and afford certainly a very valid character, all the more because they have a tendency to spread to the flower-stalk, the calyx, and even the corolla.

Most interesting to the naturalist, they are useful to the hybridiser, for they may reveal the tale of a successful cross in the first development of the plumule of a seedling. For the present it must suffice to say that these scales differ from the hairs, tomentum, glands, and bristles which beset the leaves of so many Rhododendrons at various stages of growth, and which last give so singular an appearance to R. BARBATUM and R. CHAMPIONÆ. They furnish, moreover, an excellent illustration of the desirability of examining younger leaves and younger plants than are often found in a herbarium, for the older leaves and the older plants are apt to shed their scales in a misleading way, as is very accurately pointed out by Beccari in his MALESIA. I venture to think, for astance, that R. NUTTALLII would not have been excluded from Maximowicz's "lepidota" had the young, and indeed, the old leaves of small seedling plants been examined, as I am now examining them, under a lens, and the profusions of beautiful crimson, brown and green scales observed on the upper surface of the leaf, as well as underneath (the BOTANICAL MAGAZINE says the leaves "are much paler beneath, and there partially covered with numerous minute circular peltate resinous scales") been seen. If embryology is important, so is the observation of the condition of young plants and young leaves, and the greenhouse may well supplement the herbarium; but awaiting the forthcoming number of the Flora of British India, I will not venture to say more. R. Edgeworthh, which I wish to discuss with your readers, must plead my excuse for this long introduction.

In no botanical description have I found any indication that it belonged to the scaly type of Rhododendron, as from its breeding affinities was clearly to be

surmised. In the case of other species the scales are always treated as an important character, and properly so; but with R. Edgeworthii it is the rugosity of the leaves, the profusion of tomentum, so that in breeding between it and R. Formosum, for instance, it might have been inferred from the books that a cross had been effected between a scaleless and a scaly species.

Nevertheless, on carefully rubbing away the tomentum from the undersurface of a mature leaf, and placing the leaf under a microscope, I found plenty of scales; and further on examining the young leaves of seedling plants, I found also scales on the upper surface. When I come to describe the hybrids raised from this species, the importance of these facts will be apparent.

But first, a few more words of description for the species itself, which bears a name classical for Englishmen. It is in fact named, not after the well-known authoress herself, but after her brother,* an Indian civilian of botanical tastes and acquirements, whose book on pollen and other writings are probably known to my readers. The character of the foliage of R. Edgeworthii has already been partly indicated. The leaves are comparatively small, rugose or wrinkled, covered underneath with a thick rusty tomentum, which spreads to the stalks and branches.

They have been compared to those of R. PENDULUM (? CAMELLIÆFLORUM) and R. RUGOSUM, and are highly ornamental as well as the flowers. These last are very large for a plant of so dwarf a habit, as large or nearly so, as those of R. Dalhousiæ, and more strongly and deliciously scented. The tube of the corolla is not so long, and the general shape more open and cuplike. There is an excellent illustration in Hooker's Sikkim Rhododendrons, and a very inferior one in the Botanical Magazine. The tinge of colour in the white is generally rose instead of yellow, as in R. Dalhousiæ. Although also an epiphyte, but growing generally upon Pines, its habit is unlike, and the character of the root seems different from that of R. Dalhousiæ, which resembles in this respect the Bornean and Javan races as described by Mr. Low. It is a species which ought to be grown in many greenhouses, requiring just the temperature suiting Indian Azaleas, or a cooler one.

I have grown plants out-of-doors, and they have survived several winters, but not comfortably. Small plants are easily procured from the nurseries, but larger ones are scarce. In fact, it is only of late that the taste for Sikkim Rhododendrons has revived. I have lately seen at Messrs. Williams', of Holloway, a fine large plant (among other fine Rhododendrons), naturally grown, which shows that it need not be tortured and twisted round a wire trellis in the usual horrible way. There is a very interesting plant also at Kew, under the trusty care of Mr. Binder in the Temperate-house. It stands in a bed at the north-east corner, and is all the more interesting because surrounded by the most unlikely congeners, almost a pigmy among giants, and so different in appearance and habit. There, behind it, stands the stately R. Arboreum, a forest tree; R. Barbatum and Aucklandii, tall saplings; mighty bushes of R. Calophyllum and R. Jenkinsii of two or more types; R. Maddenii, larger still; and R. formosum, of goodly proportions. Further on is seen R. Fortunei,

the miserable, and R. fulgens used to stand beside, but has now disappeared; nor let the visitor omit to notice the grand leaves of R. Nuttalli, and of a young plant of R. Aucklandii, and then let him come back to R. Edgeworthii, inferior to none, though less imposing.

R. Edgeworthii is in truth so beautiful and so unique that it must have required some courage to think of blending it with other species, unless for the sake of experiment, or to infuse hardiness. My sympathies, however, are not exclusively with the champions of natural species, nor with the hybridisers, but with both. I am for giving fair play to both, and it is not because I admire enthusiastically R. Edgeworthii that I would depreciate such an excellent and useful hybrid as R. "Princess Alice," bred from R. Ciliatum, with pollen of R. Edgeworthii. The hybrid is certainly hardier, freer in blooming, more compact, and scarcely, when well grown, inferior in flower.

I have lately in your columns described the double origin of this plant. More dwarf, and perhaps more sweet-scented, are the various hybrids raised between our species and R. Multiflorum. R. "Sesterianum" was raised by Rinz & Co., of Frankfort-on-the-Maine, from R. formosum (otherwise Gibsonii), with pollen of R. Edgeworthii. It is a truly excellent and lovely flower, with a yellow instead of a roseate tinge. Many types of the same cross are in cultivation, of which "Duchess of Buccleuch," as grown by Messrs. Downie & Laird, of Edinburgh (to whose grand show of Rhododendrons I must presently relate my visit), is perhaps the best.

R. "MAGNIFLORUM," between R. EDGEWORTHII and "COUNTESS OF HADDINGTON," was raised by Mr. Parker, of Tooting, and has produced with me open flowers, pure white, and of a large size. And last, but not least, I must mention R. "Forsterianum," raised by Mr. Otto Forster from R. Veitchianum fertilized with pollen of R. EDGEWORTHII.

Of this last I have had excellent experience, having seen for the last two years or more, plants of great beauty at Messrs. Veitch's; but a short time since a case, 8 feet long, reached me from near Vienna, containing several very fine plants, presented to me by my munificent friend. So well were the plants packed that in a few days after their arrival they were in full bloom and the admiration of everybody. The flowers were of an exquisite lemon or primrose tinge, very large and scented, and inherited the ineffable delicacy of R. Veitchanum, with more substance—in fact, they were more like a Rhododendron and less like an Azalea, although all are Rhododendrons now.

The foliage is intermediate, but it is a curious fact that none of the hybrid progeny of R. Edgeworthii inherit, when mature, the thick tomentum under the leaf, but when young most of them show it. In mature plants it is best to examine the pedicel for traces of Edgeworthii blood. I must now close with two practical observations.

1st.—In all the hybrids from R. Edgeworthii, of which I know, our species has been the pollen parent, never the seed-bearer.

2nd.—All the well-known and vigorous hybrids are derived from unions with scaly species. Unions with scaleless species are, I confess, not unknown to me, but they are far more difficult to accomplish, and produce weaker offspring; whereas the seedlings of the other cross are often even more vigorous than truebred seedlings of either species. It must not, however, be supposed that I am in a position to lay down any general law, at all events at present, on this point.

J. H. M.

P.S.—Since writing the above I have been to Kew, and find that the small plant of R. Aucklandii has burst into bloom, and such bloom! Mr. Binder measured for me a single flower, and it was 6½ inches across.

Four trusses have seven flowers each, and others less. The unopened flowers have a tinge of rose.

GARDENERS' CHRONICLE, May 28th, 1881.

Being in Edinburgh early in April last, I did not omit to visit some of its Rhododendrons. Unfortunately I had not time to visit all.

To begin with my ever-hospitable host, Mr. Anderson-Henry, he had, among others, a remarkably fine plant of R. fulgens in full bloom in a cold house. The brilliant scarlet of this species is almost unrivalled, and the truss is much more compact and fuller than that of R. Thomsonii, which in colour it resembles. The leaves are clothed beneath with a dense coppery tomentum, after the manner of R. campanulatum and Batemannii. A good figure is to be found in the Botanical Magazine.* Its early habit often prevents success, when it is treated as a wholly unprotected plant; but very slight protection suffices. Mr. Henry's plant was in a pot, and not many feet high, and yet covered with a profusion of blossom. I have never seen a better type of the species.

Mr. Boscawen has also a very fine plant, but of my pleasant visit to his

plants more anon.

An interesting Rhododendron was blooming close to Mr. Henry's front door. The interest lay in the probability of its being a new species. It was labelled as having been raised from Indian seed, but we could not identify it. We thought it might be a natural hybrid. It had something of the character of R. Thomsonii, yet was very distinct. It should be watched when blooming in better form than after the late cruel winter.

This last paragraph raises a most important question, viz., how far natural hybrids prevail among Rhododendrons. We know that under cultivation many very distinct species freely interbreed and produce fertile progeny. We know that some of these species grow side by side on their native mountains. I have written to my correspondents near the spot, in the hope that they will investigate this question, which is of very great interest in connection with a genus so prolific of species growing in proximity. Sir J. Hooker, said of Sikkim: "What surprised me more than the prevalence of Rhododendron bushes was the number of species of this genus"; and Beccari said of Borneo that almost every mountain peak had its own special forms. I trust to be in a position some day to lay further information before my readers. The Rhododendrons of Messrs. Downie & Laird, of Edinburgh, are well known, but their Easter show quite astonished me. In their winter garden (which every one should visit), stood splendid plants of hardy hybrids in full bloom, such as one rarely sees anywhere, and which betokened years of care and skill. From the street the view was brilliant, and, on entering, quite dazzling. Trees 10 and 12 feet high, and many feet through, stood up and down and across the large glasshouse, and all seemed to be at their best-pictures of health and vigour, and ablaze with blossoms. I found out later that these plants were not the first, nor would they be the last, in the succession of Rhododendrons which this house displays every spring. "JOHN WATERER" and "MICHAEL WATERER" were there, of course, and

^{*} Plate 5317.

"LADY ELEANOR CATHCART," that most Pelargonium-like of Rhododendrons, "SIR JOSEPH WHITWORTH," "SIR R. PEEL," "AUGUSTE VAN GEERT," "LADY FALMOUTH," "CAMILLE DE ROHAN," and many more.

Among whites were "Mrs. John Clutton," and a very fine form or hybrid of R. Arboreum album, densely spotted. "Broughtonii," which carries the largest truss I know (except that of a stupendous hybrid in the Temperatehouse at Kew), had gone by, and been removed, together with "Grand Arab" and other early scarlets; but I saw the plants later at the nurseries.

Mr. Downie, by years of skilful treatment, has induced a habit of early blooming in these his show plants, so that now with very little heat they bloom in the earliest days of spring, keeping all their brilliancy of colour. At the back of the house I found a splendid plant of a scented Rhododendron, called "Duchess of Buccleuch," evidently a hybrid of the "Sesterianum" breed.

Large white flowers, flaked with delicate primrose, covered the bush below in hundreds, while above rose a mass of yellow buds in a later stage of bloom. Not far off was R. "FRAGRANTISSIMUM," another hybrid of a similar type, not so large, but very fragrant.

Young Mr. Laird took me out to the nurseries, where amid multitudes of herbaceous plants, the grand Rhododendron specimens are prepared for the

public eye.

I was much pleased to see the attentive care bestowed on them, and what a thorough Rhododendron fancier Mr. Downie is. He showed me plants of R. Veitchianum and Javanicum and Veitch's "Princess Royal" (which last had bloomed for six months continuously), and a very fine variety, or perhaps species (the flowers were unfortunately over), with Falconeri leaves but argenteum blossoms, which Mr. Downie had named "Lady Balfour of Burleigh." Large trees of R. Dalhouslæ and hybrid "Countess of Haddington" were not yet in bloom, but I received the last truss of the king of hardy Rhododendrons, "Broughtonii."

Mr. Laird kindly accompanied me to a private collection, where I saw that curious Rhododendron of the Malayan type, R. RETUSUM.† The flowers, small and tubular, are coral-red, not unlike those of some Fuchsias. I find that it will thrive in a temperate house, although a little more heat is desirable.

Mr. Davies, of Ormskirk, has, I hear, mated it with R. JAVANICUM. R. THOMSONII was in bloom in the same collection, and a form of CALOPHYLLUM or JENKINSII in bud, under the name of R. "WALKERI."

By this remark I do not mean to imply that Calophyllum and Jenkinshi are one and the same species, but that I am awaiting the distinctions which Mr. C. B. Clarke will probably explain.

My visits to the Botanic Garden, the Lawson Company, Messrs. Dickson, of the Pilrig Park Nurseries, and Messrs. Backhouse, of York, I hope to describe in my next.

J. H. M.

* ? EDGEWORTHH X FORMOSUM.
† Figured in Bot. Mag. 4859, and FLORE DES SERRES X. pl. 1044

GARDENERS' CHRONICLE, June 11th, 1881.

RHODODENDRONS AT LAMORRAN.

A journey from London to Truro is no joke, but I determined to take it a fortnight ago for the purpose of seeing Mr. Boscawen's Rhododendrons.*

Apart from his kind and very hospitable invitation, I felt that I was bound to pay my respects to one who had long preceded me in the culture of our favourite plants, who "had been collecting the species and hybrids for nearly forty years," and who was, doubtless, able to show me many interesting specimens, and give much valuable information. Fresh from the Rhododendrons of North Britain, I was well pleased to see those of Cornwall also. I broke my journey at Exeter, where I visited the very excellent flower show.

Mr. Robert Veitch took me over his nursery, which carried off at Kensington the other day a First-class Certificate for R. EXONIENSE. Of this hybrid (R. CILIATUM crossed by R. VEITCHIANUM) I saw a plentiful young stock. I had previously seen the show plants in town, and hailed the award as an encouragement to Rhododendron growers. If my opinion is of any value, I can testify to the accuracy of the description, having myself raised seedlings of the same cross. The size of R. VEITCHIANUM is lost, but the plant is compact, neat, and very floriferous, and the foliage is highly ornamental.

Mr. Boscawen lives some eight miles from Truro. My drive from thence lay through woods blue with Bluebells, and hedgerows pink with the red Lychnis, and then through Lord Falmouth's Park. A steep dip through woods brought me to the house, which stands near the bottom of the narrow valley, with a sheet of purest water, famed for trout, below. The Rhododendrons and the Pinuses clothe the steep slope behind the house, and the former fringe the wooded heights on the other side of the water. This narrow wooded valley opens into the valley of the river Fal, and the sea is a mile or two away. The soil is not naturally favourable for Rhododendrons, but Mr. Boscawen has found, as I have, that leaf-mould and cow-dung can do wonders. Good peat is scarce and very expensive, and yet many of the plants seemed to be models of health and vigour, with very little peat, I fancy, to grow in. The winters, too, are not so gentle,

^{*} Rev. The Hon. John Townshend Boscawen, the brother of the late Lord Falmouth and Rector of Lamorran, a very small living within the grounds of Tregothnan. He died in 1889, and his Rhododendrons and other plants were then sold. A large majority of them this passed into Cornish hands and many are still alive.—C.C.E.

nor the spring frosts so infrequent, as some dwelling further north are apt to think.

Thirty odd years ago excellent Barley grew where Pinuses and Rhododendrons now lord it over the valley. The first thing done was to plant a belt of Laurels, so as to break the wind rushing along the valley and over the water. Thus screened, I found giant specimens of the best of our well-known hardy hybrids, and many a seedling of my host's own raising. Some of these had grand trusses and striking foliage, and several seedling yellow Azaleas were very brilliant.

Here and there large bushes of R. (AZALEA) ALBUM* INDICUM proved that this plant is with Mr. Boscawen, as it is with me, as hardy as any shrub. In a quiet nook I found R. GLAUCUM in bloom. Above rose what may well be called the hanging gardens of Lamorran, and below lay the clear water, crisped by a slight breeze, and with its Water Lily plants glancing in the sun.

My first lesson was soon learnt, and that was, not to hybridise indiscriminately with R. CAMPANULATUM. My host had been exterminating many of this breed, and the faggots lay around.

Winding up the hillside, through a wild garden strewn with patches of Lilies of the Valley in full bloom, and perennials and bulbs sprouting through the grass. which had buried innumerable crocuses, and shaded now by a lofty Taxodium; sempervirens, and now by an 80 feet Pinus insignis, and now again by a Copper Beech, we slowly made our way up through the Rhododendron and Azalea jungle. It has been my fortune to wander through many a jungle, but here was a jungle with a plan. Every plant had a history and a pedigree, and the owner was at hand to name the children of his own rearing and point out their virtues with a parent's just enthusiasm. Among the seedlings I noted "Bluegown," of a bluish tint, which flowered first when Bluegown won the Derby, and "BEN," a brilliant crimson. That very fine white, "Mrs. Townshend Boscawen," which won a First-class Certificate two years ago, was not in bloom, but a sister seedling in the same style deserved and received much praise. Shaded by a tall Pine from the morning sun (that fatal morning sun which plays such havoc among frozen shoots and blossoms), stood a stout plant of R. BARBATUM, which I was very anxious to see. A melancholy interest attached to the spot, for poor Mr. Arthur Veitch had described to me in glowing terms his visit to it in March of last year, when this Rhododendron was ablaze with fiery blossom. The plant this year had refused to bloom at all, but the winter had not destroyed its vigour, nor the spring frosts cut the shoots. I hope to see it another year in all its glory. Mr. Boscawen mentioned distinctions between this plant of R. BARBATUM and another growing elsewhere in the garden. We had not time to examine them, but let me refer my host to tab. 5120 in the BOTANICAL MAGAZINE, representing R. SMITHII, a species discovered by Mr. Booth, in Bhotan, and having much affinity with R. BARBATUM. When will other owners of rare Rhododendrons take the trouble to get observed and recorded all such interesting variations, without the accumulation of which and their history the species of this genus

^{*} AZALEA LEDIFOLIA VAI. LEUCANTHA. † SEQUOIA.

can never be properly worked up? Still winding up the grassy slope, where the Rhododendrons and Azaleas were ever and anon varied by a Palm, a crimson Maple, or clumps of Lilium giganteum, with last year's flower-stalks towering aloft, we reached R. FULGENS, in great beauty, not of blossom but of foliage, the young shoots brilliant with crimson bracts.*

The plant was a picture of health, although no fine blossoms were visible, nor the curious plum-coloured capsules so characteristic of the species.

For the former I was too late, for the latter doubtless too early. Alongside, to my utter horror, stood the blackened skeleton of what I had long hoped to see, that plant of R. Aucklandii, over trusses of which the editorial pen of this journal (May 18th, 1878), had indulged in unmeasured ecstasies.

The classic plant seemed not absolutely dead, but blasted and black. Was it the frost? Was it an untimely removal? Was it lack of nourishment? My host seemed in doubt. Who can describe our lamentations over the ruins, which I am to try, however imperfectly, to replace out of my home nursery? A consolation was at hand. Hard by I spied the most charming little bush of R. CAMPYLOCARPUM I ever beheld. No wonder that Sir J. Hooker fell in love with the species! About three feet high, I think, the bush was covered thick with its primrose bells, not quite so yellow as those I had seen in Edinburgh, but exquisitely lovely. This sight alone well rewarded me for my long journey, and I must impress upon my readers that this species seems to be exceptionally hardy. With me the young shoots, often tenderer than the blossoms, have resisted frosts before which those of R. Thomsonii, its nearest ally (the sheep browse on both on their native mountains), have succumbed.

Still I must beware of falling into the common error of generalizing from an experience of only four or five plants of either species. I cannot too often repeat that seedlings from even the same batch of seed greatly vary in point of hardiness, and that different years affect different plants in an inscrutable manner. One is taken and another left, we scarcely know why. The moral of course is: "Grow plenty of specimens, and plant them in different situations."

Two plants of R. Thomsonii were next examined, and various smaller ones of Sikkim and Bhotan species, but I saw no more in bloom. Mr. Boscawen has much valuable lore on the early history of Rhododendron culture in this country, and I dare say the garden at Lamorran will often furnish me with a fact or an illustration in a future paper, but I feel I must not now trespass longer. As we retraced our steps I was able to identify for my host a flowerless branch of R. Fortunei, obtained in the neighbourhood (which I hope next year to explore with him), and I was astonished to learn that R. Formosum had weathered many winters in the open air.

A word on this before I close. R. FORMOSUM is, be it observed, a native of comparatively low mountains in a hot climate (I am now hunting up in Griffith's ITINERARY and journals and elsewhere all I can find about it), and I have always assumed it to be a tender species. It never rains, however, but it pours,

^{*} Not bracts but scales of the leaf bud .-- I.B.B.

for on my return from Cornwall I found a plant, almost leafless, but blooming, in a Torquay garden, and in the pages of a contemporary I saw last week the species recorded as hardy in Argyleshire. Moreover, Mr. Charles Smith, Jun., of Guernsey, famous for his Ixias, and a most intelligent young man, to whom it was a real pleasure to show my plants, informed me that R. FORMOSUM was hardy in his island.

It would be very interesting to obtain, and I should be grateful for any further information tending to show the hardiness of this species, which is sometimes called R. Formosum and sometimes R. Gibsonii; but let informants be careful to identify the species. I was once mightily amazed to hear that R. Maddenii was hardy; on enquiry and inspection it turned out that the plant was not R. Maddenii at all, but a hardy variety called Madden's argenteum!

GARDENERS' CHRONICLE, June 18th, 1881.

Each time I visit the Edinburgh Botanic Garden I admire them more and more, although on the first occasion Professor Balfour kindly did the honours, and showed me all the treasures, including magnificent views over the modern Athens. But I must confine myself to Rhododendrons, as I saw them early in April.

In the shrubberies there was blooming R. DAURICUM, which often gives, and gave me this year, a gleam of brilliant colour across the snow. This species and Rhodora canadensis should be oftener seen than they are. I did not observe very many signs of havoc among the hardy Rhododendrons. Indeed, I have learnt to envy, in some respects, the climate of North Britain for these plants. The foliage of many, however, and the buds of some, told the tale of the cruel winter through which we have passed, but from which we are emerging, if the truth be told, better than we expected.

In the houses I found that Rhododendrons were not neglected, R. NIVEUM and several of the Arboreum and CAUCASICUM type were in bloom, and there was good promise of bloom from R. NUTTALLII and DALHOUSIÆ. I have since received stamens of both these species, but containing little or no pollen, strikingly different in this respect from those received from South Britain.

I observed last year the same imperfect development of the stamens of R. NUTTALLII, received from Edinburgh. Is it attributable to the climate, in which I am told KALMIA LATIFOLIA has ceased to bloom?

A large plant of R. "WALKERI" (so-called) came, I believe, from the famous collection of Miss Walker, which was broken up and sold at her death.

In a house in the garden of the Lawson Company the beautiful primrose bells of R. CAMPYLOCARPUM were opening. Sir J. Hooker says of this that "when loaded with its inflorescence of surpassing delicacy and grace it claims precedence over its more gaudy congeners, and it has always been regarded by me as the most charming of the Sikkim Rhododendrons."

Messrs. Dickson & Co. take a lively interest in the culture of greenhouse Rhododendrons. A very fine plant of R. Thomsonii was in bloom, and there were large specimens of R. Longifolium* and R. Hodgsonii, which last is a rare and beautiful species. R. Longifolium is perhaps the shyest among all the shy bloomers of Sikkim Rhododendrons, and I do not recommend it to elderly amateurs, to whom, however, the grand foliage, silver beneath, offers no slight compensation.

Grafting may doubtless mend this habit, but I have painful recollection of the many years Mr. Binder, of the Temperate-house at Kew, and I, have watched for bloom on our respective seedling plants of the species. Messrs. Dickson

R. LONGIFOLIUM was one of Booth's plants, see Article from THE GARDEN, April 8th, 1882, below.—I.B.B. Figured in Bot. Mag. 6948.

have many more Rhododendrons which well deserve notice, and among others a seedling hybrid with scented leaves, the blossoms of which were kindly sent to me here, but arrived, unfortunately, in too imperfect a condition to enable me to judge of their excellence.

Before my pen leaves Scotland, let me thank Mr. Henry Knight for his remarks on hybrid Rhododendrons, and their powers of endurance. I hope before long to furnish my readers with a list of the hardiest of the hardy hybrids. I, too, have been astonished this spring to observe the glorious scarlets and purples and whites offering so brilliant a display.

On my return South, I visited Messrs. Backhouse's Nursery at York, and it was interesting to find that Mr. Backhouse, too, had a strong taste for Rhododendrons, but the Alpine species were naturally his special hobby. He was anxious to learn all about R. fulgens, which was growing, though not blooming, on his rockery, and in a private corner he showed me young plants of R. Chrysanthum, that very rare yellow species. This seemed the very place for the Himalayan Alpine kinds, such as R. Nivale and R. pumilum, and other tiny beauties to thrive in company with R. Chamæcistus and the well-known Roses des Alpes, of which I bought a white variety. From these reminders of the abodes of snow I stepped into a house, and found before me an unusually fine plant of R. Veitchianum, which carried me at once to the tropics, so truly catholic is this genus and so calculated to interest every type of horticulturist with some one or more of its 130 (see Genera Plantarum) known species!

GARDENERS' CHRONICLE, July 9th, 1881.

A lover of Rhododendrons visits, as a matter of course, Mr. Anthony Waterer's Knap Hill Nursery, near the Woking Station. So well known is this garden, that I need almost an apology for saying anything more about it; yet, perhaps some who have seen Mr. Waterer's Rhododendrons in Hyde Park and the Botanic Gardens, may fancy that they have seen all that they could see at Knap Hill. Such is not the case, however. Acres upon acres at the Nursery are covered with the finest specimens, and the most interesting and beautiful seedlings. The mass and breadth of colour, the variety of tints, the luxuriance and "abandon" of growth, the happy intermixing of Pinuses and other trees, raise the place to the dignity of one of the show places of England. As spring passes away into summer, the prevailing tints of this fairy spot shift and change like those of the dying dolphin. In the earliest days of early summer (and before), all is aglow with the crimson hues drawn by the subtle hybridist from Rhododendron arboreum and its allies. At such a time, in olden days, before the commons were curtailed, one saw with the laureate—

"A crimson cloud, That land-like slept along the deep,"

the deep being the Heather in its dark and gloomy spring attire. As summer advances, the purple tints derived from R. Ponticum and catawriense, with bold patches of dazzling white, obtain predominance. Then, too, the oranges and yellows and scarlets of the Azaleas feast the eye, and perfume fills the air. Last of Flora's gifts comes the coral Kalmia, red or pink, according as it is bud or blossom, and resting on its cool dark green foliage; and then, as notable a sight as any, the uprising and unfolding of the young and tender shoots of the tens of thousands of Rhododendron trees and bushes. Some are of the tenderest green, others yellow-brown or rich with pink or ruddy hues. Some wave bright scales which presently wither and fall away, and all cover up their now rotting and unsightly blossoms with this fresh development of beauty. I know not but that this is as interesting a sight as any.

The name of Waterer (both of the Knap Hill and Bagshot Nurseries), has been so identified with the culture and extraordinary improvement for gardening purposes of our most showy shrub, that I have often wondered that it has not been embalmed as the name of some Rhododendron species, which will live when hybrids, however showy and magnificent, have been superseded, and John and Helen and Frederic and Michael Waterer have yielded to newer names. It had rained all day till 4 o'clock, but the clouds cleared off and the sun shone as my brother and I reached Knap Hill, and did homage to the splendid Douglas Fir near the gate.

The crimson period of the garden was just changing into the purple. As proof of this, a gigantic bush of an early PONTICUM flanked by two whites at once caught the eye. The effect was surprisingly superb, and taught the lesson,

too often forgotten by planters, that much white is needed to bring out the tints, and that the common kinds may produce wonderful results when judiciously arranged.

Presently, "LADY ELEANOR CATHCART,"* although the bloom was somewhat on the wane, seemed to assert, in contradiction of the remarks above, that a hybrid might live and reign for ever. Entirely unsuperseded she certainly remains, and strange to say, has refused, so far as I know, to transmit her charms to any of her descendants, who are mostly wishy-washy in the extreme. I have always believed in the descent of this variety from R. MAXIMUM, a species curiously misnamed, and not often seen, although both late and hardy. As we passed on the colours changed at each opening. Standards and dwarfs and lusty bushes were alike loaded with bloom, and the winter and the drought had done apparently little or no harm.

In truth, an elaborate system of artificial irrigation had supplied the needful moisture, and I fancy that the hedges had warded off some of the cruel winter's rage. A nursery garden has always a somewhat formal air about it, but as we strolled from close to close, shut in by tall hedges, each seemed to sparkle like a perfect jewel, for the raindrops were upon the blossoms, and the arrangement in heavy masses suits the quality and growth of our plants. I need not say that some of the Azalea closes were heaped up, as it were, with burnished gold, or heaved with billows of vegetable fire. But the grandest view of all was from the top of the long avenue, which appeared to fade away in the dim distance, an endless vista of pines and ornamental trees, bedded in sheets of purple, crimson, and white Rhododendrons, and of every intermediate hue.

In gardens devoted to some particular plant it is interesting to see the original seedling plants of famous kinds, from which has been propagated the stock to people, so to say, the whole earth.

Mr. Waterer's firm has raised and sent out many of the best of our old and new favourites, such as "Brayanum," "Barclayanum," "Everestianum," "Stella," "Mrs. Clutton," "Mrs. Holford," "Mrs. Hankey," and "Marshal Brooks." We saw the seedling bushes of some of these dear and familiar friends, and rare trusses of "H. W. Sargent" (one of the best), "The Moor," "Sigismund Rucker," "Ralph Sanders," and others, good in flower and in foliage. Doubtless many of my readers have observed the "Marchioness of Lansdowne" (rose-colour, with very black spotting), in Hyde Park. I know very few better Rhododendrons. Of unnamed seedlings we were shown many hopeful youngsters of varying types, destined to make a noise in the world.

When one considers how this wealth of hardy hybrids springs from the blending of only two or three of our numerous species, and some of these by no means the hardiest, one is filled with astonishment at the variety and the endless progress. Well may one ask whether the other species, as yet almost untouched, may not yield, in due time, as rich a harvest; but I must return to this fruitful

The pink of this hybrid appears to be unique. Is the parentage known? My enquiries suggest MAXIMUM × ARBOREUM.—C.C.E.

subject presently. In the existing strain, progress with the dazzling crimson type seems just now somewhat at a standstill, short of realizing, it must be confessed, the peculiar scarlet of the true Arboreum in a hardy form. Meanwhile, strenuous efforts are being made to produce Pelargonium-like flowers, with dark and contrasting markings, or with coloured edges and white centres, and the purples are again coming into favour. Striped flowers are scarcely yet contemplated, but I heard of a double crimson.

The Azaleas at Knap Hill are a very marked feature of the garden, I never saw a finer or more varied collection. Here we get the tints, which as yet are unattainable among the hardy hybrid Rhododendrons—orange, fiery scarlet, and yellow, and white, which is common to both, and indeed to nearly every other flower. Nothing can be more charming than a thicket of these gorgeous and perfumed plants, so different at first sight, and yet so nearly allied, or rather identical in genus, with the Rhododendrons. Year by year the size of the flowers increases and the colours vary in Mr. Waterer's skilful hands, and now he has many examples of a double race, which among other merits, last longer than the single sorts. The yellow hose-in-hose-like variety (A. NARCISSIFLORA)* has proved with me most admirable as a forcing plant.

Those who have largely grown Azaleas know that they have what may be called two seasons—the first for their flowers, the second for the autumnal tinting of their leaves.

In the autumn Knap Hill must again be lit up with brilliant colours in the Azalea grounds.

Some Azaleas turn crimson, others purple and yellow and bronze, and for a week or two delight the eye.

But, alas! the glory is short-lived. The frosts and the winds soon tear off the glowing leaves, and for the winter Azaleas cut but a sorry and meagre figure among their Rhododendron brethren.

I must now apologize to Knap Hill for many sins of omission. My remarks are merely Rhododendron notes, and not detailed accounts of anything. Having related my visit to Mr. Anthony Waterer, in the open air of Woking, I propose shortly to change the venue, and interview Mr. John Waterer, of Bagshot, and his plants under his tent in London.

^{*} R. NARCISSIFLORUM (AZALEA NARCISSIFLORA) is a double white LEDIFOLIUM sent by Fortune to Standish and Noble who named it. See GARDENERS' CHRONICLE, 1858, p. 242; Fl. d. Serres 1X. (1853-54), 82.—I.B.B.

GARDENERS' CHRONICLE, July 9th, 1881.

RHODODENDRON CALIFORNICUM.

In the American Forests Report which appeared in your last number, Professor Sargent speaks of Rhododendron Californicum, and asks "has this plant been cultivated?" Yes. It was collected by Lobb, Messrs. Veitch's collector, and shown in 1855, and has been generally distributed by that firm; it is delicate pink with very dark leaves. My plant bloomed this year. Last year I crossed it with hardy hybrid John Waterer, and have a potful of seedlings. (See Botanical Magazine, tab. 4863).

GARDENERS' CHRONICLE, July 23rd, 1881.

Of all vegetables of any size none lend themselves more freely to transplantation than Rhododendrons.

Except during a hard frost, or when the plants are actually in bloom, or when the young shoots are in the tenderest condition, there is scarcely a day in the year when they may not be transplanted with impunity.

Both the Messrs. Waterer have turned this peculiarity to most excellent account by creating each year in London what may be called a Rhododendron garden, rather than a show. The Hyde Park display is comparatively modern; but the huge tents, such as Mr. John Waterer's in Cadogan Place, are now almost to be numbered among the ancient sights of Londoners. It may seem very unnatural and inartistic to have beds, and banks, and shrubberies of planted Rhododendrons, with gravel walks and turf edgings, and the ups and downs of a real garden, confined for weeks together under canvas; but, in fact, it is very convenient in more ways than one. Many see the flowers who would not travel to the distant gardens.

The plants brought up to town in bud, open well, and safe from casualties under cover. They last much longer when thus protected from sun, and wind, and rain, and insects; and it must be added that the beauty of some of them is enhanced by the shade.

The crimsons and the pinks, the predominant colours, glow more brilliantly, I think, under canvas; the purples, on the other hand, as one might expect, are somewhat dulled by the sombre light. Be that as it may, however, few could enter into these Rhododendron temples nowadays without a cry of admiration. One seems transported into a world of colour.

"In the Zemu Valley," writes Sir J. Hooker: "Rhododendrons occupy the most prominent place, clothing the mountain slopes with a deep green mantle glowing with bells of brilliant colours. Of the eight or ten species growing here every bush was loaded with as great a profusion of blossoms as are their northern congeners in our English gardens." Before a picture such as this-I pray my readers to imagine it—a mountain valley glowing with the brilliant bells of eight or ten distinct Sikkim species—say R. fulgens, Thomsonii, arboreum, CAMPBELLIÆ, CAMPYLOCARPUM, ARGENTEUM, AUCKLANDII, and so on-before a picture such as this even Mr. Waterer's tent must pale; but the Londoner may well be proud of his little Zemu Valley in Cadogan Place, and of the skill and untiring perseverance which, far from fog and smoke, have provided this feast of colour, and then transported it bodily to his very door. Entering the tent one is almost dazzled at first by some of the rich red tints, which are saved, however, from seeming flaunting or gaudy by the masses of dark foliage whereon they rest. But crimson yields to pink, and pink melts away into creamy white in everchanging cadence, and then a bold dash of purple supplies the needful shadow. Yonder, in sooth, is the burning bush of Moses; the snow, however, of its neighbour cools down the prospect; and so the visitor

feasts awhile on the general effect of this gleaming sea of rosy colour. astonished that any combination so beautiful could be devised and accomplished by the art of man; for it is the art of man which has reared and tinted every one of these gorgeous plants in their profuse variety, which has rendered them all hardy in our vexing climate, and has finally brought them—some bending under the weight of thirty or forty winters—from afar, and now bids them bloom their best before us.

After thus enjoying the general effect, we proceed to examine particular plants, and presently we find ourselves confronted by the whole Waterer family disguised as Rhododendrons. The venerable "John Waterer," whose exact pedigree* I have often sought but never found, and his venerable spouse, "Mrs. John," are there, glowing as usual in crimson health. Their descendants are all around: "Fred Waterer" and "Michael," chips of the old block, but ruddier and stouter, as becomes their youth; "Kate Waterer," with her hazel eye; and "Helen" and "Bai Waterer," the loveliest of the flock, who, with their brother "Jack" and "Bertram Currie," have fairly outdone and vanquished that notable flower, "Alarm." Beyond the family circle, "Lord Eversley," "Mrs. John Penn," "John Walter" and others, caught my eye. I was much struck by the excellence of some of the whites, particularly on my last visit early in July. "The Queen" is very good, although "Madame Carvalho" is my favourite.

So much from the point of view of an ordinary observer, who admires beautiful flowers, or the would-be purchaser; but the true fancier will go a little deeper, and curiously notice the traces of affinity obvious in all these plants, dividing, however, into two or three currents of race.

There is, for instance, the old "CONCESSUM" type of flower (this variety was raised in Belgium), depending for its beauty on the white eye, and obliterating as much as possible the spotting of the corolla, as it is obliterated in some examples of the ARBOREUM species, and in the PONTICUM of the South of Spain.† In close relationship stand such flowers as "PRINCESS MARY OF CAMBRIDGE," and others; and collaterally, "ALARM" at the head of a host of improvements, alluded to above, with much the same colouring of the corolla, but very different in foliage and habit. Another class of flower is conspicuous for the very distinct marking on some or all of the segments of the corolla, perhaps a modification of the orange eye of the Pontic Ponticum, or the black markings of some forms of Arboreum, or the greenish of Caucasicum or maximum. A third class is of the "self" type, and depends for effect on the distinctness and beauty of one colour, without much contrast or relief except that of its own foliage. These last are naturally most effective in large masses, and at a distance. Among them the brilliant crimsons are very numerous, and have arrived at great excellence.

As it is with the blossom so it is with the foliage, nay, one might add with the capsule and the calyx, and the arrangement of the flowers in the truss, they all speak more or less of the five or six species from which our hybrids spring. Ever since the memorable advent of R. "ALTACLARENSE" ‡ (the first of the

^{*} arboreum and (probably) catawbiense. See p. 62. † R. bæticum. ‡ (catawbiense × ponticum) × arboreum. Bot. Mag. 3423.

ARBOREUM hybrids), you have the thick, succulent, tomentose leaf derived from the Indian stock. Somewhat flimsy, on the other hand, but copious and wind-withstanding, is the leafage derived from R. PONTICUM, which asserts its presence in some of our best whites. I'aler, blunter, rounder leaves, with revolute edges, speak of CATAWBIENSE and CAUCASICUM blood, the former predominating in many of our hardiest favourites, and the latter generally imparting a very short petiole, and a dwarf and early habit.

R. MAXIMUM may manifest its influence by viscid stalks, a tight truss, leaves curiously curled together in frosty weather, and an uncomfortable habit of prematurely thrusting up its leaf-shoots among the blossoms.

Traces of CAMPANULATUM'S densely tomentose leaf (the species was selling some forty years ago at five guineas the plant), are to be found in some gardens. These and such-like discriminations may perhaps appear rather too nice and speculative in view of the complicated crossing and re-crossing, which has taken place among our modern Rhododendrons. Nevertheless no speculations are misplaced which, in the multitude of our hybrids, make us think of the species whence they come, and lend a charm to our travels wherever Rhododendrons are found wild, even on such beaten tracks as near Gibraltar, and the countries in the neighbourhood of Constantinople. In those two spots-or, to speak more correctly, at the two ends of the Mediterranean basin, and nowhere else between (a fact commented on by M. A. de Candolle as "un fait curieux et d'une très grande importance pour la géographie botanique "), R. PONTICUM appears under diverse forms and names. On searching the authorities, say from the plate of Pallas downwards, and examining herbaria and living plants, a host of interesting questions arises which one longs some day to solve on the spot. So is it with the North American R. MAXIMUM and CATAWBIENSE, after a study of Pursh and Bigelow and Asa Gray, etc.; and so is it still more with the puzzling R. CAUCASICUM, of which so many shams are in cultivation; but the greatest subject of our would-be travels and researches is not reached until we arrive at the vast range of that last but mightiest factor, the grand R. ARBOREUM. Of this, for the present, I must say no more than that, as I apprehend its prodigious range and its numberless forms, I am persuaded that its history has yet to be written. Along the west and east Himalayan slopes, through the Khasya Hills, on the Nilgherries, in Ceylon, in Assam and Burmah, this species shows its glowing fireball now to the eternal snows and now almost to the plains. But more of this,

Before concluding, one last word for Mr. Waterer's plants. We owe him infinite thanks for the new phase of beauty which they have furnished for our gardens and our woods. With their aid many a barren hungry spot has this year been blossoming like the Rose, and while the species have been damaged by the winter, the hybrids have laughed Boreas to scorn. Nor let the jealous botanists complain of the mixing and confusion of the species.

Depend upon it that he who intelligently cultivates hybrids, or raises hybrids, will be often thinking, both at home and abroad, of the specific types; from species he will probably rise to genera, from generate to the whole science of Botany, and perhaps contribute some day to extend its triumphs and its truths.

GARDENERS' CHRONICLE, March 4th, 1882.

The Editor writes to me: "Is there any marked difference in the seedlings of Rhododendrons?"

In venturing to give an answer to this question, so far as my observation and experience among Himalayan Rhododendrons permits, I will for the present confine the word "Seedlings" to plants grown from seed imported from their native places, that is to say, plants of the first generation, and my answer must be in the negative. I believe that a packet of seed, gathered from the same species and in the same locality, will yield in Europe seedlings, not of course, absolutely uniform, but certainly showing no marked difference. This result, although often questioned, was surely to be expected, seeing that Himalayan Rhododendrons are mostly social plants, and must commend itself to the experience of our old-fashioned R. Ponticum, which, when kept apart from other species and hybrids, continues very true for many generations. Certainly, for the first generation, the seedlings of Himalayan Rhododendrons are often produced in great numbers, almost absolutely alike. Sometimes this uniformity descends to later generations, and sometimes even to hybrids.

Thus Mr. G. Shepperd has raised about 150 hybrids between R. Edgeworthii and R. formosum, most of which have bloomed, and he can see no difference whatever in any of them. I must not, however, at present go so far afield, but confine myself to the assertion that carefully collected native seed will, when grown in this country, faithfully reproduce the parent type.

I may seem, perhaps, to have unduly laboured this highly probable statement. Nevertheless, the Editor's question is a very important one, even in my limited sense, and is not to be disposed of quite easily. For how comes it that in European collections there prevails such a variety of type with plants of the first generation as fairly to puzzle a connoisseur? Specialists are often justly accused of magnifying unimportant distinctions, but I hope to avoid this charge on the evidence about to be adduced. Take, for instance, R. Fulgens, which has been derived exclusively from Sikkim or close by, figured very finely in Sir J. Hooker's magnificent work from his own drawing taken on the native spot.

After awhile the seed transmitted by him to Kew produced plants and blossom, and a plate of that blossom appeared in the BOTANICAL MAGAZINE,* prepared by the very best flower artist. Now, I defy any one not to remark a most striking difference between the two portraits, and this not in colour, but in character. The BOTANICAL MAGAZINE indeed mentions one difference, and the section of the ovary suggests another; but I have seen in living plants of the first generation quite enough to make me believe both portraits correct, and each type distinct. Again, the late Mr. Gorrie was one of the first to grow Sikkim Rhododendrons, and in 1854 he was reporting on them to Sir J. Hooker, who published his reports. In these reports he noticed that he had apparently

several forms of R. Fulgens. Mr. Gorrie continued to grow Rhododendrons, and shortly before his death, in 1880, he read a paper to the Edinburgh Botanical Society, in which he gave so extraordinary an account of a so-called R. Fulgens that I thought it desirable to ask leave to inspect his plants. Among them I found one form of R. Fulgens, but it was not so named. I do not marvel, however, that Mr. Gorrie did not recognize it, but described it as "R.—? an unnamed species," for it is unlike both the types alluded to above. The plant which Mr. Gorrie named R. Fulgens may possibly be yet another form of the species; but if so, it is a fourth form. His description is as follows: "R. Fulgens—a plant which is now about twenty-five years old, and only 15 inches in height by 33 inches in diameter—has never suffered from either winter or spring frosts, nor has it yet flowered, but its compact growth and the bright verdigris-green of its young leaves render it a favourite dwarf evergreen."

Once again, Mr. Luscombe has been growing Sikkim Rhododendrons from the very first, and his plants are, or were, of the first generation. He has written to me on the subject of R. fulgens, and he tells me that his type of the species is, "not like that in Sir J. Hooker's work, but loose-flowering like R. Thomsonii." Now, considering that Sir J. Hooker's R. fulgens has a cluster of many flowers crammed closely together, and that R. Thomsonii hangs its few flowers as loosely as may be, this is saying a great deal. Mr. Anderson-Henry considers that he has two or three varieties of the species, and not many weeks ago I discovered in Mr. Roger's most picturesque nursery, near Southampton, a form which in foliage seemed different from all that I have described. But as this last was a grafted plant, I must not rely too much on its appearance. At Kew there are several types, which with the kind assistance of the authorities I propose to study during the ensuing season.

Similar remarks might be made with regard to other species, such as R. ARGENTEUM, FALCONERI, THOMSONII, and others; but I must postpone these for the present, and devote a few words to my explanation of the facts as illustrated by the example of R. FULGENS. I may be wrong, but, if so, I have the satisfaction of knowing that a most competent observer, who is much interested in the subject, will probably this very spring be in a position to confute me on the spot. The explanation, then, is this: That as the Himalayan range passes eastward through Nepal, Sikkim, and Bhotan, the genus Rhododendron becomes truly protean in form, and presents not only an extraordinary number of species in a small space, but also striking geographical varieties in very great abundance. Even R. Arboreum, which, according to Dr. Thomson, is so uniform except in colour, westward begins to yield to variation in Nepal. On some future occasion I may show how this notion of extreme variety is quite in accordance with high authority, and especially with the writings of Sir J. Hooker (who mentions the case of R. FALCONERI, R. AUCKLANDII and others), and I may then point out the curious resemblances, and yet the differences, between the Rhododendrons of Sikkim and Bhotan, which have now been brought together in the FLORA OF BRITISH INDIA. For the present I will only add that the circumstances attending the collection of Rhododendron seed, and the fact that ripe seed and blossoms are seldom to be seen together, will explain how many smaller do ferences

have escaped the observation of collectors who have gathered the same species from different localities, from different elevations, or perhaps from different sides of the same valleys. Such an explanation is surely more philosophical than the notion that so many variations have arisen—not gradually, but all of a sudden—from cultural influences. My readers will apprehend how interesting botanically it is to find such a variety of types packed together in so small a compass, for instance, as Sikkim; but they will, of course, remember the character of the country and its climate, where Alpine and almost tropical conditions occur side by side.

The Heaths at the Cape of Good Hope give an example of great variation in the same family, but Dr. Beccari's* remark on the Rhododendrons of Borneo offers the best, and a very curious, analogy. His words are very striking: "According to my personal observations it appears that almost every mountain top in Borneo has its own special forms, which do not seem to spread themselves, at least on the adjoining mountains."

^{*} Dr. Odoado Beccari's work "Malesia," to which Mangles so frequently refers, was published at Genoa in 1877-1890 (3 vols).

GARDENERS' CHRONICLE, April 8th, 1882.

RHODODENDRON DALHOUSIÆ.

Will you permit me to mention in your journal, as I did to the Scientific Committee, that I owed the truss of R. Dalhousiæ to Messrs. Downie & Laird, of Edinburgh, whose magnificent plant I saw last year in their Nursery. The greenish-yellow form, as stated by Sir J. Hooker, is the most common in cultivation, and also in its native haunts. The white form, curiously enough, is almost exactly presented by a hybrid raised by Mr. Anderson-Henry between the true species and R. FORMOSUM.

THE GARDEN, September 24th, 1881.

THE GARDEN FLORA.

Plate CCCIII.—RHODODENDRON AUCKLANDII. (Drawn in the Temperate-house at Kew, 1881).

Some years ago I wrote: "I would advise all Rhododendron lovers who do not know R. Aucklandii to lose no time in examining Sir Joseph Hooker's book, and, better still, to visit Kew in May, in which month R. Aucklandii is generally in bloom there." Those who followed this latter advice last May, surely found their reward in beholding the glorious bush, which bore the flowers figured on the accompanying plate. In the Temperate-house a fine collection of Himalayan Rhododendrons flourishes under the care of Mr. Binder, a true lover of the genus, and among them all none surpass, and few equal, the species named by Sir Joseph after Lord Auckland, once Governor-General of India, but which the Botanical Magazine, later on, described as a variety of R. Griffithianum (Wight). (See tab. 5065.)

I have examined in the Kew herbarium the specimens of R. GRIFFITHIANUM (from Wight's herbarium, from that of the late East India Company, and from Griffith himself, the discoverer), and although the flowers and the foliage are ludicrously small in comparison with our plant and the Aucklandii specimens, yet it is impossible not to observe a close technical resemblance. The same may be said of the plate in Wight's "Icones."

Whether this herbarium R. GRIFFITHIANUM has ever been cultivated is very doubtful. I have never seen it, and my friend, Mr. Anderson-Henry, who has plants labelled respectively R. AUCKLANDII and R. GRIFFITHIANUM, writes me that there is no difference between them. Further, it is extremely probable that all the plants which have hitherto bloomed in Europe are derived from Sir J. Hooker's original consignment of seed, for, although the species does grow within British territory, I believe with Mr. Sykes Gamble, conservator of Indian forests (to whom I am indebted for seed), that it is very rare and difficult to come by. Hence, for present horticultural purposes, we may keep out of sight Griffith's inferior Bhotan plant, and also the tree, 40 feet high, from which Mr. C. B. Clarke, the eminent Indian botanist, gathered specimens. With Sir J. Hooker this species is always a bush. He found it in two different localities at least, in Sikkim-Himalaya in one with large flowers, in the other, "conspicuous for the abundance rather than the large size of its blossoms." Sir Joseph seems to have gathered his seed where the larger type prevailed.

Nevertheless, the cultivated plants differ in certain respects among themselves, although the difference falls very far short of what is observable in their native haunts. The corollas are not quite alike in size or colour; in some the calyx is green, in others pink; in some there is a strong and delicious scent,

in others a scent said to be like May-blossom, and in others no scent at all (Sir Joseph describes the species as inodorous). The leafage is not uniform, and the brilliant red scales which ornament the rising leaf-shoot in some are not possessed by others. Moreover, some plants appear to have a strong tendency to abortive stamens.

Be all this, however, as it may be, there is no doubt, I think, that our plant, in its various forms, is one of the grandest ever introduced to cultivation. When it is stated that a single flower in a truss of six, seven, eight, or nine flowers is sometimes $6\frac{1}{2}$ inches in diameter, the difficulty of conveying an adequate notion of its beauty in a plate of limited size will be understood. That the leaves are sometimes nearly I foot long and copious does not lessen the difficulty.

But even this does not exhaust the marvel. I have it under the hand of my friend, Mr. Otto Forster (who among his other achievements was the first to bloom R. NUTTALLI in Europe), that, in his winter garden at Augsburg, a bush of R. Aucklandii bore in one season 122 trusses of its magnificent flowers.

Yet it is most appropriate that this and other Himalayan Rhododendrons should be described in connection with Kew Gardens under the presidency of the greatest of modern botanists. Those who have read that interesting and inimitable book entitled HIMALAYAN JOURNALS will know how in 1848 and 1849, Sir J. Hooker explored, under very great difficulties, regions before and ever since unvisited, and discovered a whole host of floral treasures, among which were our Sikkim Rhododendrons. Sikkim, indeed, proved a very nest of Rhododendrons, scarlet, purple, yellow, orange, white, scented and scentless, scaly and unscaly, in marvellous profusion, from the stately R. ARGENTEUM to the tiny R. NIVALE, from an elevation of 6,000 feet to one of 17,000 feet. Bhotan, which had been previously explored by Griffith, proved almost as prolific when ransacked by Booth. Would that both countries could be ransacked again. Meanwhile, Sir J. Hooker's magnificent plates in his RHODOR ENDRONS OF Sikkim-Himalaya, supplemented by those in the Botanical Magazine, introduce to a new world of floral beauty, of which the great proportion of the horticultural public are still nearly wholly ignorant. Sir J. Hooker transmitted seed to Kew without delay, whence it was liberally distributed. The first to bloom was R. CILIATUM, then R. DALHOUSIÆ, in the wonderfully short period of three years. R. Aucklandii, from which I must apologize for wandering, required no less than nine years. Since 1860 asscriptions of the blooming of this species have from time to time been given. From Cornwall and Yorkshire, from Scotland and Germany, and elsewhere, men have written to say how the magnificent flowers have astonished and deligated them. Und ubtedly, the greatest success was achieved by Mr. Otto Foreter, as related above; but Mr. Anderson-Henry and others frequently bloomed the plant, while her. Boscawen induced his specimen to produce most glori us trusses in the open air at Lamorran, in Cornwall. At Kew, for many years past, R. Aucklant has been a chief ornament and attraction offered by the emperate-house.

Never, perhaps, has it been seen in greater perfection than in a plant from which this plate was taken. This plant is not a seedling, but a graft on R. Arboreum, put on some few years ago.

The stock does not appear to have affected the scion, for the result is essentially a bush, not above 6 feet high, and with a very floriferous habit. On blooming this year, for the first time, it bore no less than seven trusses. Its glossy green foliage was so striking that I had written about it as well worthy of a visit long before the blossoms appeared. Whether there would be any flowers at all this year seemed to me then very doubtful (the blossom and leaf-buds are provokingly alike). Mr. Binder, however, took a more hopeful view, and he was right. Early in May, I received a kind note from Professor Thiselton-Dyer, intimating that there was something worth my seeing in the temperate-house, and so indeed it proved. No description of mine or plate can do justice to the exquisite delicacy of the corolla or the grandeur of the truss. This may appear high-flown language, but much better pens than mine have indulged in unmeasured admiration.

One well-known writer says: "It is difficult to find an adjective sufficiently expressive of the majestic loveliness of the flower." Sir J. Hooker calls it "the superb species." Mr. Otto Forster says that "nothing in the whole vegetable kingdom is more beautiful," and Mr. Anderson-Henry calls it the gem of his collection. The defects, if one may venture to say so, are perhaps the looseness of the truss and the insignificance of the stamens, which appear somewhat out of proportion with style, stigma, and everything. The cultivation of Himalayan Rhododendrons, in spite of isolated successes, is still in its infancy.

Not many in these hurried times have the patience to watch the gradual growth and eventful flowering of these glorious plants, and many, having begun, have wearied of the pursuit and turned to other subjects. A good deal of misapprehension, too, has contributed to this result. At first the plants were too rashly supposed to be altogether hardy; now they are as rashly thought to be wholly tender. The truth lies somewhere (it remains to be proved where) between; and I am glad to see that at Kew they are making fresh experiments (observe a bed recently planted near the Fern house). Some species, undoubtedly, such as R. Nuttalli (I once lost ten plants by my rashness), R. Dalhousiæ, and Maddenii, must have glass, but with the greater number of them it is not the severity of cold which injures, as I had proved over and over again with R. Aucklandii, but the early growth and the spring frosts. One mode of meeting the danger is by lifting and checking the plants in early spring, another by planting in backward aspects, and yet another by offering some slight protection, not from the cold, but from the sun and sudden thaws.

A glasshouse without any heat is certainly the best, although a great deal may be done without glass; and any one who has seen the plants in their glory will admit that they deserve a little, or rather a great deal of trouble. In truth, these are not subjects to be attempted by persons who have not energy and patience. The suitable aspect, soil, and treatment have still in many cases to be discovered, but there is this to charm away the difficulties: that these plants in a garden form a feature wholly unique; when they do flower well they create quite a sensation in the neighbourhood. Even when they do not flower, the foliage presents very great variety and beauty, and the crimson scales hanging round the young leaf-shoots of one variety of R. Aucklandii are well worth a

day's journey. This allusion to variableness in one respect leads me to express a hope that by selection of seedlings, and a wholesale practice of outdoor planting, we may arrive at even an entirely hardy form.

In Sikkim our plant occupies an elevation of from 7,000 feet to 9,000 feet, which is considerably higher than the average elevation occupied by R. Arboreum and its near allies. If R. Arboreum has not been acclimatized, yet how much of its scarlet blood flows in the veins of our splendid and entirely hardy garden hybrids.

One word, then, on the present progress of hybridising. The Garden figured in June, 1877, the beautiful blossoms of plants raised between R. Aucklandii and the hardy "John Waterer," by Mr. Scott, at Lawson's, Edinburgh. One of this breed bloomed with me this year (some time ago they were parted with as of no value), and was, very justly, much admired. I have seen many of the same strain, the individuals of which differed in the size, colour, and perfume of the flowers. Mr. Luscombe has another strain, for he wrote to The Garden in 1879: "Hybrid Rhododendrons are quite safe, especially some very fine white varieties from the Sikkim Aucklandii."

Messrs. Standish have a third, and I possess a fourth, on all of which I have written elsewhere.

There are said to be also hybrids between this species and R. Thomsonii and R. Arboreum pure. These hybrids, so far as they have proved themselves, and I know, are fertile, so that by cross breeding among them, an entirely new race, as various possibly as in the case of hybrids from R. Arboreum, may presently be produced.

Let it be remembered that the plants which we now so largely cultivate of this latter strain are not plants of the first cross. I grow from sentiment, perhaps, and as a curiosity, R. "ALTACLARENSE," the first hybrid raised from R. ARBOREUM, but how miserably tender it is! The second quarter of the century was spent in improving upon the first essay, and we now enjoy the results.

Similar efforts must be made with the offspring of R. Aucklandii, from which I have very strong hopes of seeing a race as celebrated and as popular as in the case of R. Arboreum.

THE GARDEN, November 26th, 1881.

I have received several communications relating to the article on R. Aucklandii, published in The Garden some weeks ago.

Among others the Rev. H. Ewbank kindly invited me to inspect the Rhododendrons growing in the garden of Sir W. Hutt, near Ryde, Isle of Wight. A few lines on what I saw there may be interesting to your readers. On the grass in front of the conservatory, and somewhat screened by it, stood, separately, three plants, each of a different Rhododendron species. R. Falconeri was 5 feet or 6 feet high, and I think had not flowered. There was nothing strange in finding this species perfectly hardy and healthy in the open ground, for during last summer I had seen, even in the Highlands, a much larger and finer specimen, and in various places it thrives and blossoms annually. The second plant was a bush of R. Thomsonii which had never bloomed, although of large size. Here again there was no marvel, for this often shy bloomer is quite hardy and often opens its wax-like crimson bells unharmed by spring frosts.

The third plant was one of R. NUTTALLII, cut to the ground last winter, but shooting strongly again. This did indeed astonish me, for I look upon the species, as a rule, as wholly tender, and once I lost hopelessly ten fine plants by turning them out of doors in sheltered positions.

In a windy spot among trees, a 6-feet or 7-feet specimen of R. AUCKLANDII was battling with the breeze. This had bloomed grandly where it stood in May last. From description it would appear to be one of the best types of the species, matching perhaps Mr. Boscawen's plant in hardiness and loveliness.

My friends in Scotland cannot credit the comparative hardiness of R. Aucklandii, in spite of all I have seen and written, but I was not at all astonished to find it thriving well in the Isle of Wight. Lower down the slope, which faced north and overlooked the sea, two beds of Himalayan Rhododendrons had been planted. The spots were partially sheltered by pines and shrubs. In the centre of one bed stood a fine standard of some type of R. Arboreum, said to be brilliantly scarlet, and certainly presenting the foliage features of the best and tenderest form. Round it were bushes of R. Calophyllum, Maddenii, Edgeworthii, formosum, ciliatum, and such hybrids as "Sesterianum," "Princess Alice," "Macnabianum," etc. I was told that these plants had occupied the bed for some years without any protection.

The condition of some of them, considering the character of last winter, was truly wonderful to me. R. ARBOREUM was covered with bloom buds, and the foliage fine and healthy. R. CALOPHYLLUM was also covered with bloom buds, and upon it and upon R. MADDENII were half-ripened capsules from the bloom of last summer.

These two last are not to be considered as one species, but in point of hardiness at least there is a great difference. With me the former survives,

though with ir, jury, most winters, and Mr. Chas. Smith, Jun., sent me last summer from Guernsey fine blossoms from the open ground, but R. MADDENII, with me at least, invariably and speedily succumbs. In Sir W. Hutt's garden, however, both had braved the fearful weather of last season, I will not say with equal impunity, for R. MADDENII had clearly lost some of its shoots, but both had bloomed, and had perfumed the garden, I was told, with the scent of their large white blossoms.

The second bed suggests no further remark than that it contained, among others, a plant of R. TRIFLORUM, which is an interesting and rare, but hardy species.

Next spring I hope to see all the plants again and to confirm my present report.

I must not close without noticing the striking paper of "H.H.," which appeared in The Garden, of October 15th last.* It would give me much pleasure some day to visit his very excellent collection of Rhododendrons, if agreeable to him. Some of his experiences a little puzzle me; for instance, the severe injury sustained by R. Thomsonii.

Two large plants of that species (now in my possession), one of which is 8-feet high, suffered not at all last winter in Edinburgh, and smaller plants with me were wholly uninjured. Is it perhaps R. HOOKERI, which sometimes changes names with the other, and is far more tender?

THE GARDEN, April 8th, 1882.

I am collecting various types of this Rhododendron and attempting to classify them. It is very curious how many types are to be found in this country, and it will be interesting to ascertain, if possible, whence they are derived. At Kew there are no fewer than three types, to say nothing of R. LONGIFOLIUM. a close ally, of which I have never seen the flower.

From Messrs. Downie & Laird, of Edinburgh, from Glasnevin, from France, and elsewhere, I have received many types, and several that seem intermediate between R. Argenteum and R. Falconeri. These last may be natural hybrids, for Sir J. Hooker relates how "on Tonglo, as it approaches 10,000 feet, R. Argenteum is suddenly replaced by R. Falconeri," so that in certain localities the species grow side by side. I must say, however, that Mr. Sykes Gamble, conservator of forests at Darjeeling, writes to me: "I should say R. Argenteum is pretty constant." The variations I have found are in the leaf, in the stigma, in the number of the stamens, in the lobes of the corolla, and cells of the ovary, as well as in the size, colour, and markings of the corolla. Herbarium specimens differ very much in some of these particulars, and the plates that have been published also.

The Flora of British India abolishes the name R. Argenteum as a specific name, replacing it by that of R. Grande, which was discovered by Griffith in Bhotan many years ago, so that to that country we must look for the normal type. Griffith's herbarium specimens are very small, but Wight, who named the species, says: "He (Griffith) briefly characterizes this species in a single word, 'magnifique,' which idea I have attempted to convey in the specific name."

THE GARDEN, March 15th, 1884.

In August, 1882, I paid a visit to Ireland, hoping to find some of the rarer Sikkim and Bhotan Rhododendrons surviving in the open air. The mild, damp, congenial climate seemed to promise better things than had generally happened in most parts of England and the Continent to these plants; and as I had found very interesting survivals in parts of Brittany, in Cornwall, in Wales, and in the Isle of Wight, I hoped for even brighter luck in Ireland. Some of the very grandest of the Rhododendrons are nearly hardy with us; but what a world there is in the word nearly, even in the mildest of winters! For instance, last year an 8-foot high R. ARGENTEUM bore the winter well till the fatal bitter month of March caught it in bloom and froze the flowers through and through, and stunted some of the leaf-buds, destroying absolutely, however, only those leafbuds which were in immediate contact with the bloom-buds, and which would seem to have been sympathetically affected, and so fell victims to the cold, for in the true R. ARGENTEUM the bloom-buds always open long before the leaf-buds. On the other hand, a plant of R. GRANDE under a north wall did well, and set two splendid blossom-buds, although only 4 feet high; while a much larger plant of the same species produced blossoms fit to show at South Kensington. Last winter, however, was exceptionally mild, as we all know, and in rougher years bloom-buds and leaf-buds alike may be destroyed. It does not follow that the plants are thereby killed; but more generally there takes place what Mr. Noble (whose "old experience" in this branch of horticulture is notorious) well described to me as "dwindling away." Each year, or nearly so, with some species, the main shoot of each branch is cut back by cold. Later on side shoots replace it, but the vigour of the plant is injured; its habit gets stunted and unnatural; flower-buds never or rarely form; and by-and-by the poor cripple perishes, or is put out of its misery. To see such specimens in a garden is a mournful sight, although it is scarcely less so to see their pot-bound starved brethren sweltering in some blazing conservatory. Truly, these Rhododendrons must have iron constitutions to endure the terrible treatment they often meet with both out-of-doors and in, and yet sometimes to survive. More than thirty years ago seeds and plants of the Sikkim species were distributed from Kew, and somewhat later on the Bhotan species, through Mr. Nuttall, over a great part of Europe. Many of the plants were grown awhile under glass or some protection, and then turned out to make room for more fashionable novelties. For several years I have been searching many parts of Europe to see the survivors of these plants. Here and there the original plants have been found in various conditions of preservation; but for the most part, they appear to have "dwindled away" by the process above described, or to have been choked out of existence by the common hardy Rhododendrons among which they had been planted.

Many a fruitless journey have I made to the sites of well-recorded former collections. In Ireland, however, I hoped for something better, and in the Glasnevin Gardens, to begin with, I was not disappointed.

So much has recently been written about these beautiful gardens, that I need not now dwell on the feelings of admiration with which I always view them. On my first visit, Mr. Moore (who may well be proud of the monuments of his own and his father's labours), was lecturing in one of the plant houses, where I had the pleasure and profit of hearing his remarks. When these were concluded he accompanied me, and I owe him many thanks for the interest and zeal with which he helped me to hunt the shrubberies, and to find, examine, and name several relics of "thirty years ago" still lingering in sheltered nooks and hollows, or protected, but not swallowed up, by other shrubs.

R. Hookeri, to my surprise, seemed fairly flourishing. I do not remember whether it had bloomed out of doors; there certainly were no bloom-buds.

Although I have received vague tidings of its survival elsewhere, I have nowhere else except in Glasnevin Gardens seen this rare species growing in the open air; but why I scarcely know, for it is said to grow in its native land in company with R. EXIMIUM, which is far from being very tender. R. HOOKERI is not a native of Sikkim, but of Bhotan, and it offers an excellent illustration of how the latter country furnishes so many equivalents (like, and yet unlike) of the Rhododendrons of the former.

In Sikkim, the species is R. Thomsonii, so well known and comparatively hardy, with its almost round leaves and waxen bells of blood-red flowers. In Bhotan, the equivalent is R. HOOKERI, with florets very similar in colour and shape, but much more numerous, and holding themselves differently. The calyx, moreover, is distinct, and the leaves very peculiarly so. These last are oblong, and show underneath on the nerves most curious tufts. In this respect R. HOOKERI stands quite alone, so far as I know no other Rhododendron showing this peculiarity, which is not transmitted to hybrids, of which I have raised a numerous progeny. It breeds freely with that most difficult of breeders, R. FULGENS, both ways, with many forms of R. ARBOREUM, R. BARBATUM, R. CAMPYLOCARPUM, and R. PONTICUM and the ordinary hardy hybrids, also with R. ARGENTEUM, but not with R. FALCONERI or with R. GRANDE, and this last fact confirms me in the persuasion that R. ARGENTEUM and R. GRANDE must be kept apart. My other reasons need not be mentioned here. With the scaly-leafed Rhododendrons I have only succeeded as yet in breeding with R. DAURICUM.

I have called R. Hookeri rare. At Kew there was a fine plant in the temperate-house, which died a few years ago. On my mentioning this to my most liberal friend, Mr. Anderson-Henry, he replaced the loss. To him I also owe my two finest plants, which, after what I saw at Glasnevin, I shall with comfort consign to my canvas house (about which more hereafter).

My friend, Mr. Luscombe, must have grown and bred from it, to judge by certain plants which he kindly sent me many years back. In various places I have met with it, but it is certainly rare. The flowers must not be judged of by the very poor plate in the BOTANICAL MAGAZINE. (Plate 4926).

When well and generously grown, the truss is large and handsome, as well as most brilliant in colour. Mr. Booth found it in Bhotan growing with R. EXIMIUM, which is to the Sikkim R. FALCONERI what R. HOOKERI is to the Sikkim R. THOMSONII; but R. EXIMIUM has strange vagaries of its own, which are rather puzzling, such, for instance, as deferring its spring shoots often until August, when they grow with an orange tomentum, like tawny sunflowers. R. HOOKERI, on the other hand, is early in its growth.

My next notable "find" at Glasnevin was a real veteran of R. LANATUM; but I have trespassed on your space for the present quite long enough.

GARDENERS' CHRONICLE, April 9th, 1881.

HYF UD RHODODENDRON. [Some time since Mr. Shepperd sent us flowers of a beautiful and fragrant hybrid Rhododendron, raised between R. Gibsonii and R. Edgeworthii. Anxious to get the opinion of a specialist famed for his knowledge and interest in these plants, we submitted them to Mr. Mangles, who obliges us with the following note concerning them.—Eds.] "The hybrid is, as described, a cross between Gibsonii and Edgeworthii.* The first of this cross was raised by Rinz & Co., of Frankfurt, and many years ago described in Gartenflora, XIII., p. 86, but I believe described wrongly, under the name R. 'Sesterianum.' The mistake in the description is making R. Edgeworthii the female parent. The cross was, I believe, the other way. Since then many similar hybrids have been raised and sent out under various names, although almost precisely the same thing. I have now about a hundred seedlings of the same cross three or four inches high, but I doubt if I shall improve upon R. 'Sesterianum.'"

THE GARDEN, July 23rd, 1881.

RHODODENDRON RETUSUM.

This is the name given by Mr. Mangles, Valewood, Haslemere, to the pretty small flowered shrub received last week from Mr. Luscombe. Mr. Mangles adds a few interesting particulars respecting it: "Mr. Henshall, at one time Messrs. Rollisson's collector, found it in Java. That firm hybridised it with R. JAVANICUM and raised R. 'PRINCE OF WALES' (see FLORAL MAGAZINE, plate 155). Mr. Davies, of Ormskirk, exhibited this year what seems to be the same cross under the name of R. 'DAVIESI' (see GARDEN, May 7th, 1881, p. 464). This species is not very numerous in English gardens."

THE GARDEN, October 15th, 1881.

The paper (by Mr. Mangles), published in The Garden, 24th September last, is very interesting; and as I have taken much pleasure in cultivating and hybridising Rhododendrons for about twenty-i ve years, especially with a view to acclimatize those of Sikkim and Bhotan, I think the results at which I have arrived may be acceptable to some of your readers. In order to avoid occupying too much space, I shall first give the names, as furnished to me, of those varieties which I have found perfectly hardy trees without the slightest protection, although some of those which bloom early (about March), have their flowers occasionally spoiled by the spring frosts:—

ALPINUM ÆRUGINOSUM ANTHOPOGON ARBOREUM ALBUM ROSEUM, very beautiful NEPALENSE BARBATUM, magnificent CALYCULATUM CAMELLIÆFLORUM CAMPANULATUM CAMPBELLIÆ CAMPYLOCARPUM CILIATUM CINNAMOMEUM CINNABARINUM CRISPIFLORUM, not bloomed EXIMIUM, fine, like FALCONERI FALCONERI, grand FULGENS

FALCONERI SUPERBUM, not bloomed GLAUCUM HODGSONII, grand, has not yet bloomed Hookeri KEYSEI LANATUM LANCIFOLIUM, not bloomed METTERNICHII MASSANGEI, beautiful bloom this NIVEUM NOBILE, a grand plant, never bloomed OCHRACEUM ROYLEI VIRGATUM. WALLICHII, I think same as NIVEUM. WIGHTH, I think not true

The following were more or less injured last spring. Those marked * I have not yet succeeded in acclimatizing.

ARGENTEUM, much injured, growing well, not bloomed yet.

AUCKLANDII, much injured, growing well, bloomed well, 1878, 1879, 1880. CALOPHYLLUM, apparently killed, but growing well.

*DALHOUSIÆ, do not give this up.

*EDGEWORTHII, I do not give this up. FORMOSUM (GIBSONII), much injured, but growing well.

JENKINSII, much injured, doing well. never injured in 20 years previous, KENDRICKII, I doubt its name.

LONGIFOLIUM, much injured, growing well, has not bloomed.

"LINDLEYANUM," much injured, growing well.

MADDENII, much injured, growing well (I see no essential difference between this and JENKINSII; centre of JENKINSII flower rose, of MADDENII, yellow).

NILAGHIRICUM, not bloomed, much injured.

*Nuttallii, many plants killed, I fear hopeless.

Thomsonii, much injured, but growing. WINDSORII, very much injured, but growing well.

WINDSORII LEUCANTHUM, very much injured, but growing well.

The last two plants appear to me less hardy varieties of R. Arboreum.

I have not included any European hybrids in my list, of which, between Himalayan sorts alone, I know many, and have a great number of my own rearing also, and the reason I do not give up Dalhousiæ and Edgeworthii is that I have seedlings from crosses of them which promise well to be hardy. One especially, between Edgeworthii and, I think, calophyllum, which only lost its bloom-buds last spring, I am very proud of; its fragrance is far beyond any I know, Rollisson's "fragrantissimum" and "Lindleyanum" being, so far, the best. I have named it the "Empress of India," in honour of our Queen.

GLENVILLE, FERMOY.

H. H.†

[†] Dr. Henry Hudson, whose grand-repliew, Sir Edward Hudson-Kinahan, Bart., is the present owner of Glenville Manor, where the collection remains undisturbed.—C.C.E.

GARDENERS' CHRONICLE, April 29th, 1882.

RHODODENDRONS. Numerous cut specimens were shown and commented on by Mr. Mangles. From the Royal Gardens, Kew, came a truss of R. Aucklandii (or Griffithianum vat. Aucklandii), for comparison with a hybrid variety to be mentioned hereafter; flowers of R. Maddenii, a very fragrant form, which has the merit of blooming when in a small state; and a magnificent truss of R. "Droughtonii." Mr. Mangles showed a hybrid of his own raising named "Alice Mangles," a very beautiful form, with bold oblanceolate leaves, and a magnificent, but rather loose conicle truss of large lilac nodding bells about four inches in diameter, six-lobed, and each supported on a long spreading stalk. It was raised from the pollen of R. Aucklandii on the stigma of R. Ponticum. The calyx, which in Aucklandii is broadly and irregularly cup-shaped, with shallow lobes of which two are much larger than the others, was here six-lobed, and the twelve stamens of unequal lengths. R. "Edinense" raised by Mr. Anderson-Henry from R. "Henryanum," crossed with the pollen of R. Nuttalli; R. "Henryanum" itself being a hybrid between R. Dalhouslæ and R. Formosum.

An unnamed hybrid of great interest and no little beauty was also shown by Mr. Mangles, who raised it between AZALEA MOLLIS as the male parent and R. PONTICUM.* It has something of the foliage of R. MOLLIS, but evergreen; the flowers are borne in a terminal raceme with long ascending stalks; the corollas, which measure 2½ inches across and which otherwise are like those of R. PONTICUM, are slightly hairy, as in AZALEA MOLLIS. The stamens are ten, filaments declinate of unequal length.

R. Dalhousiæ, with greenish-yellow flowers of the fashionable tint facetiously described as "Greenery-yallery, Grosvenor Gallery"; the species as growing wild in Sikkim, and as figured in Sir Joseph Hooker's Rhododendrons of Sikkim-Himalaya, being white.

A hybrid between R. CAMPYLOCARPUM, male, and R. " JOHN WATERER," with the form of flower of the former, with something of the colour and markings of the latter.

R. GLAUCUM, with small rosy-pink flowers in a dense truss, and with a strong aromatic perfume.

A hybrid between R. "HENRYANUM" (above described), and the pollen of R. EDGEWORTHII.

R. THOMSONII, with the blood-red tubular flowers supported by a large entire cup-shaped calyx.

In the margin opposite this passage is written "? R. LITTLEWORTH GLORY," see GARDENING ILLUSTRATED, December 6th, 1913, and GARDENERS' MAGAZINE, June 3rd, 1911.

From Captain Rogers, of River Hill, came R. Falconeri, with purplish flowers, a six-lobed corolla and twelve stamens. From Mr. Luscombe (gardener, Mr. Dawe), came trusses of R. Fortunei, supposed to be crossed with R. Thomsonii, but the parentage, so far as the latter species is concerned, was not obvious.

Mr. Mangles also showed flowers of a hybrid raised in Mr. Parker's nursery at Tooting, between "Countess of Haddington" and R. Edgeworthii. The flowers are large, tubular, white, with a dash of lemon at the base, and sweet-scented.

R. CHAMÆCISTUS, a dwarf Alpine lime-loving species, with charming pink flowers.

THE GARDEN, April 29th, 1882.

ROYAL HORTICULTURAL SOCIETY, April 25th.

The following new plants were awarded first-class certificates by the Floral Committee:—

Rhododendron "Alice Mangles." A splendid hybrid, raised by Mr. Mangles, Valewood, Haslemeie, between R. Aucklandii and the common R. Ponticum. The progeny is intermediate between the parents, and distinct from both. The flowers produced in a huge loose truss, nine inches high and as much across, are between four inches and five inches across, shallowly bell-shaped, of a most delicate rose-pink, flushed with a deeper hue. The foliage is large and very vigorous, indicating a fine constitution. This variety is certainly one of the most beautiful of all Rhododendrons, and probably hardy. Shown by the raiser.

RHODODENDRONS. Mr. Mangles exhibited a collection of species and hybrids, of which the following were particularly worthy of note: Hybrid between R. GRIFFITHIANUM and R. PONTICUM, partaking much of the character of the former species in flower and foliage, with ten very large pale pink flowers arranged in a pyramid, the stamens varying in number. The leaves are very large, of a rich dark green. This hybrid blossomed for the first time, and is eight years old, and is hardier and dwarfer than R. GRIFFITHIANUM. It is the first of a large series of plants raised from similar crosses. Hybrid between AZALEA MOLLIS (male) and R. PONTICUM (female), having the hairy corolla of the former, but with evergreen leaves—the converse cross will not succeed. Hybrid, raised by Mr. Parker, the offspring of the hybrid "Countess of HADDINGTON," crossed by R. EDGEWORTHII. It has large, white, scented flowers, tubular, with a dash of lemon at the base of the corolla. Of species, he exhibited R. GLAUCUM, dwarf, and densely covered with pink, bell-shaped flowers, and highly aromatic. R. Thomsonii and R. Chamæcistus, an Alpine species received from Mr. Otto Forster, from the Austrian Alps. It is a lime loving plant, with pink flowers. Mr. Mangles also showed interesting hybrids from Mr. Luscombe's gardener (Mr. Dawe); also R. FALCONERI (?) from Captain Rogers, of River Hill.

