



NOTES FROM THE
ROYAL BOTANIC GARDEN
EDINBURGH

VOL. XVI

Including Numbers LXXVI-LXXX

1928-1932

With Plates CCXXIV-CCXXXV and One Figure in the Text

Crown Copyright Reserved

EDINBURGH
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
SOLD AT THE GARDEN

And to be purchased directly from H.M. STATIONERY OFFICE at the following addresses
120 GEORGE STREET, EDINBURGH, 2 ; ADASTRAL HOUSE, KINGSWAY, LONDON, W.C.2
YORK STREET, MANCHESTER ; 1 ST. ANDREW'S CRESCENT, CARDIFF
15 DONEGALL SQUARE WEST, BELFAST
or through any Bookseller



NOTES FROM THE ROYAL BOTANIC GARDEN EDINBURGH

Dates of the several Numbers of this Volume.

Number LXXVI, pp. 1-50 for March, 1928.

Number LXXVII, pp. 51-134 for June, 1928.

Number LXXVIII, pp. 135-170 for February, 1931.

Number LXXIX, pp. 171-232 for October, 1931.

Number LXXX, pp. 233-316 for October, 1932.

List of Contents to Volume XVI, 1928-1932.

	PAGE
The Royal Botanic Garden - - - - -	i
List of Staff at March, 1932 - - - - -	ii
Rules and Regulations - - - - -	iii
Historic Notice - - - - -	vi
Regius Keepers - - - - -	x
Principal Gardeners from 1756 - - - - -	xi
Features of the Garden. With Key Plan - - - - -	xii
Teaching in the Garden - - - - -	xv
Enumeration of Visitors, 1889-1931 - - - - -	xviii
The Sections of the Genus <i>Primula</i> . By William Wright Smith and George Forrest (with Plates CCXXIV-CCXXV) - - -	I
A Revision of the Chinese Species of <i>Lysimachia</i> , with a New System of the whole Genus. By Dr. H. Handel-Mazzetti -	51
New or Noteworthy Chinese <i>Magnolieae</i> . By J. E. Dandy, M.A. (with Plate CCXXVI) - - - - -	123
<i>Briggsia Kurzii</i> (Clarke) W. E. Ev. Comb Nov. By W. Edgar Evans, B.Sc. - - - - -	133
Note on <i>Coluria longifolia</i> Maxim. By W. Edgar Evans, B.Sc. -	134
<i>Allia praesertim Sinensia nova vel minus cognita</i> . By H. K. Airy-Shaw, B.A. - - - - -	135
New Species of <i>Viola</i> from South-East Asia. By Wilhelm Becker	147
Some Notes on the Genus <i>Codonopsis</i> Wall. By J. A. Nannfeldt (with Plates CCXXVII-CCXXX and one Figure in the Text) - - - - -	149
Supplementary Notes on Chinese and other Species of <i>Androsace</i> . By Dr. H. Handel-Mazzetti - - - - -	161
Supplementary Notes on Chinese Species of <i>Lysimachia</i> . By Dr. H. Handel-Mazzetti - - - - -	167
New Species of Asiatic <i>Lepidote Rhododendrons</i> . By John Hutchinson, F.L.S. - - - - -	171
A New <i>Gordonia</i> from Yunnan. By J. M. Cowan, M.A., D.Sc. -	184
Further New Species and Varieties of Asiatic <i>Rhododendrons</i> . By Harry F. Tagg, F.L.S. (with Plate CCXXXI) - - -	185
A New <i>Rhododendron</i> of the <i>Glaucum</i> Series. By Harry F. Tagg, F.L.S. - - - - -	211
The Contribution of China to European Gardens. By William Wright Smith - - - - -	215
A New <i>Sarcosperma</i> from Upper Burma. By J. M. Cowan, M.A., D.Sc. - - - - -	222
Additions to the Genus <i>Primula</i> . By William Wright Smith -	223
The Genus <i>Wendlandia</i> . By J. M. Cowan, M.A., D.Sc. (with Plates CCXXXII-CCXXXV) - - - - -	233

THE ROYAL BOTANIC GARDEN, EDINBURGH.

THE Royal Botanic Garden, Edinburgh, is one of two Gardens maintained by the State in the United Kingdom, the other being the Royal Gardens at Kew in England. It occupies an unequally-sided quadrilateral area of 60.737 acres (bounded upon all sides by public roads and dwelling-houses) on the north side of Edinburgh—about a mile from the shore of the Firth of Forth. Its highest point, at Inverleith House—the official residence of the Regius Keeper of the Garden—towards the north-west, is 109 feet above sea-level, and thence the ground falls away on all sides. The lowest point—a depression 48 feet above sea level, with an east and west trend through the middle of the Garden—is the site of an old bog, and the ground rises again to the south of the depression. The surface soil is generally alluvial sand resting on clay at considerable depth. In the lower part of the area the clay comes to the surface.

There are two entrances to the grounds—one upon the east side from Inverleith Row into the **Garden**, the other upon the west side from Arboretum Road into the **Arboretum**. The entrance to the **Laboratories, Lecture Halls, Library**, and to the **Office** for Garden business is from Inverleith Row.

The **Garden** is open daily from 9 a.m. on Week-days and from 11 a.m. on **Sundays** until sunset.

The **Plant-Houses** are open from 1 p.m. until 5 p.m., or until sunset if this be earlier.

The **Museum** is open on Week-days from 9 a.m. until 5 p.m. and on **Sundays** from 1 p.m. until 5 p.m.

The **Herbarium** is open on Week-days from 9 a.m. until 5 p.m., excepting **Saturday**, when it is open until 1 p.m.

The **Library** is open on Week-days from 9 a.m. until 5 p.m., excepting **Saturday**, when it is open until 1 p.m.

The **Office** for transaction of business with the Public and with Tradesmen is open on Week-days from 9 a.m. until 5 p.m., excepting **Saturday**, when it is open until 1 p.m.

[Notes, R.B.G., Edin., March, 1932.]

**Staff of the Royal Botanic Garden, Edinburgh,
at March, 1932.**

ESTABLISHMENT.

Regius Keeper	William Wright Smith, M.A., F.L.S., F.R.S.E.
Assistant Keeper	John Macqueen Cowan, M.A., D.Sc., F.L.S., F.R.S.E.
Assistant in Herbarium	William Edgar Evans, B.Sc., F.R.S.E.
Assistant in Laboratory	Matthew Young Orr, F.R.S.E.
Assistant in Library	James Todd Johnstone, M.A., B.Sc.
Assistant in Museum	Harry Frank Tagg, F.L.S.
Assistant in Studio	Robert Moyes Adam, F.L.S.
Curator	Laurence Baxter Stewart
Assistant Curator	Roland Edgar Cooper, F.R.H.S.
Clerical Assistant	Jean Brockie
Do.	David Ramsay Oliver
Shorthand-Typist	Edna Louise Linsell
Medical Officer	James Walter M'Donald, M.B.

Senior Foreman	David Wilkie
Foreman of Arboretum	Charles Lamont
Foreman of Glass Department	James John Campbell
Foreman of Herbaceous Department	

REGULATIONS made by the Commissioners of His Majesty's Works and Public Buildings pursuant to the Parks Regulation Acts, 1872 and 1926.

THE Interpretation Act 1889 applies for the interpretation of these regulations as it applies for the interpretation of an Act of Parliament.

“ Unauthorised person ” means, in relation to any act prohibited by these regulations, any person not entitled or required to do the act, either—

- (a) in the execution of his duty as a police constable or as a park-keeper or other person employed by or under the Crown ; or
- (b) in the execution of any contract made between the Crown and himself or his employer ; or
- (c) by virtue of an authorisation in writing granted by the Commissioners of Works.

1. No unauthorised person shall enter into or remain in any part of the Garden or Arboretum during any time appointed for closing the same.

2. Children under ten years of age are not admitted unless accompanied by a parent or suitable guardian.

3. No unauthorised person shall ride or drive in the Garden or Arboretum or bring in any cycle, wheel-barrow, truck or other vehicle, except that a bath-chair or perambulator may be brought in with the written permission of the Regius Keeper.

4. The owner or any person for the time being in charge of a dog shall not permit it to enter the Garden or Arboretum.

5. No person shall bring into the Garden or Arboretum any flowers, bag, basket or parcel.

6. Picnic parties are not allowed.

7. No person shall wilfully interfere with the comfort or convenience of any other person using or enjoying the Garden or Arboretum.

8. No alms, donations, contributions or subscriptions of any kind shall be made or given, solicited or collected in the Garden or Arboretum.

9. No unauthorised person shall sell or offer for sale or hire in the Garden or Arboretum any article, commodity, pamphlet, programme or thing.

10. No person shall exhibit, distribute, sell or offer for sale in the Garden or Arboretum any indecent print, picture, book or article.

11. No unauthorised person shall put up, fix, exhibit or distribute in the Garden or Arboretum any advertisement, post-bill or other paper or any printed matter or affix them to any tree, fence, post, railing or gate of or in the Garden or Arboretum.

12. No unauthorised person shall walk upon any shrubbery, flower-bed or lawn or any other land specially enclosed or the entry on which is prohibited by notice.

13. Visitors are to enter and leave the plant-houses by the doors according to the notices affixed thereon.

14. No person shall smoke in the plant-houses or have therein any lighted tobacco or other thing which may be harmful to the houses or the plants therein.

15. No person shall destroy or injure any tree, shrub or plant or pluck any flower, bough or leaf or injure or deface any building, structure, seat, railing or other property in the Garden or Arboretum or enclosing any part thereof.

16. No person shall deposit, throw down or leave (otherwise than in receptacles provided for the purpose) in the Garden or Arboretum or any lake, pond, fountain or ornamental water therein, any dead animal, or any bottle, tin, container, any broken glass or crockery, waste paper or any refuse of any nature whatsoever.

17. No unauthorised person shall use or carry arms or play any game or music, or practise gymnastics or athletics in the Garden or Arboretum.

18. No assembly of persons is permitted in the Garden or Arboretum, unless conducted in a decent and orderly manner and to the satisfaction of the Regius Keeper.

19. No person shall sketch or take photographs or any cinematograph film with any stand-camera or apparatus without the written permission of the Regius Keeper.

20. No public address shall be delivered in the Garden or Arboretum.

21. No performance or representation, whether spoken or in dumb show or mechanically produced or reproduced, shall be given in the Garden or Arboretum without the written authorisation of the Commissioners.

22. No person shall sit, lie, rest or sleep on any seat or in any part of the Garden or Arboretum in an indecent posture or behave in any manner reasonably likely to offend against public decency.

23. Brawling, fighting, gambling, betting, playing with cards or dice, begging and telling fortunes are prohibited in the Garden or Arboretum.

24. No intoxicated person shall enter or remain in the Garden or Arboretum.

25. No person in an offensively unclean or verminous condition shall enter or remain in the Garden or Arboretum or lie upon or occupy any of the seats.

26. No person shall use indecent or obscene language in the Garden or Arboretum.

27. No unauthorised person shall discharge any firearm, and no person shall wantonly throw or discharge any stone or missile to the damage or danger of any person, or make any bonfire or throw or set fire to any firework in the Garden or Arboretum.

28. No unauthorised person shall harry or illtreat any animal, bird or fish, or take or attempt to take any bird, fish or egg, or set any trap or injure or destroy any bird or animal in the Garden or Arboretum.

29. Climbing trees, railings or fences or the fastening thereto of ropes or swings is prohibited in the Garden or Arboretum.

30. Any person found by a park-keeper or police constable committing a breach of these regulations shall on demand made by such park-keeper or police constable give his correct name and address.

Dated the 23rd day of December, 1927.

The Common Seal of the Commissioners of His Majesty's Works and Public Buildings was affixed to these Regulations by the direction of the First Commissioner and in my presence.



LIONEL EARLE,
Secretary.

HISTORIC NOTICE.

IN the year 1670 a small portion of ground, known as St. Ann's Yards, lying to the south of Holyrood House, and usually let to market gardeners by the Hereditary Keeper of Holyrood House, was occupied by two eminent Edinburgh physicians, **Andrew Balfour** and **Robert Sibbald**, for the making of a Physic Garden, and **James Sutherland** was appointed to the "Care of the Garden." This was the foundation of the Royal Botanic Garden of Edinburgh, which is therefore, after that of Oxford (founded in 1632), the oldest in Great Britain. The Garden was stocked with plants from the private Garden of Dr. Andrew Balfour, in which for some years he had been accumulating medicinal plants, and also in great measure from that at Livingston in West Lothian, the laird of which, Patrick Murray, was much interested in the growing of useful plants. Shortly thereafter, but at what precise date has not yet been ascertained, Sutherland became custodian of the Royal Garden, which lay on the north side of the Palace, and it became a Physic Garden for instruction, whilst the original plot in St. Ann's Yards was, apparently, given up.

In 1676 the same physicians acquired from the Town Council of Edinburgh a lease of the Garden of Trinity Hospital and adjacent ground for the purpose of a Physic Garden in addition to the Garden already existing at Holyrood, and they appointed the same James Sutherland (1639?—1719) to be "Intendant" of this Garden. The site of this Garden, which for convenience of reference may be called the Town's Botanic Garden, was at the base of the Calton Hill to the east of the North Bridge, and it is now occupied by a portion of the Waverley Station of the London and North Eastern Railway. The name Physic Garden attached to a street in the vicinity was for long a reminiscence of the existence of the Garden at this spot.

About 1702 another Botanic Garden was established in Edinburgh in the ground immediately adjacent to the College Buildings, apparently on the site of the present South College Street. This was the College Garden, and of it James Sutherland became also custodian.

Thus in the early years of the eighteenth century there were in Edinburgh three distinct Botanic or Physic Gardens—one

at Holyrood, the Royal Garden; one around Trinity Hospital, the Town's Garden; and one beside the College, the College Garden—all under the care of James Sutherland.

Sutherland from the first made use of the Royal Garden for giving "instruction in Botany to the Lieges," and received a royal warrant appointing him Botanist to the King in Scotland, and empowering him to "set up a Profession of Botany" in this Garden. When the Town's Garden was created the Town Council appointed him to lecture on Botany as Professor in the Town's College, now the University of Edinburgh. In 1683 he published his "*Hortus Medicus Edinburgensis, or a Catalogue of the Plants in the Physical Garden at Edinburgh*," from which and from other published notices we learn that between two and three thousand plants were in cultivation. There are no data available from which to determine how these plants were distributed between the several Gardens at the date of publication of Sutherland's catalogue.

In 1706 Sutherland resigned the care of the Town's Garden and the College Garden as well as his Professorship in the University, but, remaining King's Botanist, he retained the care of the Royal Garden at Holyrood. Charles Preston (1660-1711) was appointed his successor by the Town Council, and there were thus established rival Gardens and rival Professors of Botany in Edinburgh. Charles Preston was succeeded in 1712 in his offices by his brother George Preston (1656-1749). Neither of the Prestons had ever the care of the Royal Garden.

Sutherland's appointment as King's Botanist, Keeper of the Royal Garden, and Regius Professor of Botany was held during the pleasure of the Sovereign, and on the death of Queen Anne in 1714 he was not continued in office by George I.

In 1715 **William Arthur** (1680-1716) received a commission as successor to Sutherland, but as he was implicated in an unsuccessful Jacobite plot to seize the Castle, he did not hold the office long.

He was succeeded in 1716 by **Charles Alston** (1685-1760).

In 1724 the College Garden, having fallen into disorder, was turned to other uses; and in 1729, George Preston having retired, the Town Council appointed, as his successor in the charge of the Town's Garden and as Professor of Botany in the University, Charles Alston, who as King's Botanist had already the

charge of the Royal Garden and was Regius Professor of Botany. Through him, after separation for a quarter of a century, the Royal Garden and the Town's Garden were again combined under one Keeper, and the Regius Professorship of Botany and the University Professorship were similarly united. They have so continued to the present time.

In 1763, the Royal Garden and the Town's Garden, proving too small and otherwise unsatisfactory, **John Hope** (1725-1786), who had succeeded Alston in his offices in 1761, proposed a transference of the two to a more congenial site in which they could be combined. At first it was intended to secure ground to the south of George Watson's Hospital—the area upon which much of the present Royal Infirmary is built—but this not being possible, five acres of ground to the north side of Leith Walk, below the site now occupied by Haddington Place, were chosen. As Hope proposed to transfer the collections in the Royal Garden to the new Garden he was able to secure the support of the Treasury to his scheme, and the selected ground was leased in name of the Barons of Exchequer. At the same time the Town Council agreed to contribute £25 annually to the support of the Garden, the sum being the amount of rent expected from the letting of the old Town's Garden. The plants from both Gardens were transferred to the ground at Leith Walk, and from this date there has been only one Botanic Garden in Edinburgh. The site thus secured for the Garden proved, however, only a temporary one.

Daniel Rutherford (1749-1819), who in 1786 succeeded Hope in his offices, cast about him for a spot in which more ground would be available for the extension of the Garden; and eventually in 1815 nine and a half acres of the land lying to the east of Holyrood Palace, and forming the ground of Belleville or Clockmill, was fixed upon as a site. This selection gave rise to controversy, which was prolonged, and Rutherford died before any arrangements for the transference of the Garden had been made.

Robert Graham (1786-1845), his successor, appointed in 1820, preferred the more open site of the Inverleith property which the Garden now occupies, and fourteen acres of the Field or Park of Inverleith, known as Broompark or Quacplesink,

were purchased by the Barons of Exchequer from Mr. James Rocheid, its owner, in 1820, the lease of the Leith Walk Ground being sold. By 1823 all the plants had been transferred to the new Garden.

In 1858, during the Keepership of **John Hutton Balfour** (1808-1884), who succeeded Graham in 1845, a further addition by purchase from the proprietor of Inverleith, of a narrow belt of two and a half acres was made to the Garden on the west side; and in 1865 the Caledonian Horticultural Society having resigned to the Crown its lease of the ten acres of adjoining ground which it had occupied since 1824 as an experimental Garden, this ground was also made part of the Botanic Garden. The area of the Garden was again extended in 1876, when the Town Council purchased from the Fettes Trustees twenty-seven and three-quarter acres of Inverleith property on the west side of the Garden and transferred it to the Crown for the purpose of making an Arboretum in connection with the Garden; the Crown at the same time purchased Inverleith House and two and a half acres of additional ground.

In 1879, **Alexander Dickson** (1836-1887) became Queen's Botanist, Regius Keeper and Professor, and held these appointments until his death in 1887. During his term of office the Arboretum was opened to the public.

He was succeeded by **Sir Isaac Bayley Balfour** (1853-1922), during whose term of office the Botanic Garden reached its present extended development as a centre of botanical and horticultural research and instruction. In the necessary re-arrangements the outstanding features have been the removal of the dividing wall between the Arboretum and the Botanic Garden, the laying out of the Arboretum according to the various genera of trees and shrubs, the formation of a noteworthy rock garden and the extension of a herbaceous border along the North side of the Garden. The plant-houses have in many cases been re-built and largely added to. Complete reorganisation of the laboratories and Garden offices with additional accommodation and equipment has permitted of the establishment of a botanical school which has attracted and continues to attract many research workers and students of Botany and Horticulture.

REGIUS KEEPERS (R.K.)
from the date of
FOUNDATION OF THE GARDEN.

JAMES SUTHERLAND . . .	Born 1639? R.K. 12th January, 1699.* Not confirmed, 1714. Died 24th June, 1719.
WILLIAM ARTHUR . . .	Born September, 1680. R.K. 10th May, 1715. Died 1716.
CHARLES ALSTON . . .	Born 24th October, 1685. R.K. 30th June, 1716. Died 22nd November, 1760.
JOHN HOPE.	Born 10th May, 1725. R.K. 13th April, 1761. Died 10th November, 1786.
DANIEL RUTHERFORD . . .	Born 3rd November, 1749. R.K. 20th December, 1786. Died 15th December, 1819.
ROBERT GRAHAM	Born 7th December, 1786. R.K. 31st January, 1820. Died 7th August, 1845.
JOHN HUTTON BALFOUR . . .	Born 15th September, 1808. R.K. 8th November, 1845. Retired, 1880. Died 11th February, 1884.
ALEXANDER DICKSON	Born 21st February, 1836. R.K. 28th April, 1880. Died 30th December, 1887.
ISAAC BAYLEY BALFOUR . . .	Born 31st March, 1853. R.K. 5th April, 1888. Retired, 5th April, 1922. Died 30th November, 1922.
WILLIAM WRIGHT SMITH . . .	Born 2nd February, 1875. R.K. 21st April, 1922.

* This is the date of a Royal Warrant from William III., and no earlier one has been found.

Principal Gardeners (P.G.) from the Year 1756.

(The names of those preceding Williamson are not yet known.)

JOHN WILLIAMSON	.	.	.	P.G. 1756? Died September, 1780.
MALCOLM M'COIG	.	.	.	P.G. 1st January, 1782? Died 25th February, 1789.
ROBERT MENZIES	.	.	.	P.G. 1st October, 1789. Died 22nd January, 1800.
JOHN MACKAY	.	.	.	Born 25th December, 1772. P.G. February, 1800. Died 14th April, 1802.
GEORGE DON	.	.	.	Born October, 1764? P.G. 1st October, 1802. Resigned 31st December, 1806. Died 15th January, 1814.
THOMAS SOMMERVILLE	.	.	.	Born 1783? P.G. 1807? Died 17th March, 1810.
WILLIAM M'NAB	.	.	.	Born 12th August, 1780. P.G. April, 1810. Died 1st December, 1848.
JAMES M'NAB	.	.	.	Born 25th April, 1810. P.G. 1st January, 1849. Died 19th November, 1878.
JOHN SADLER	.	.	.	Born 3rd February, 1837. P.G. 13th January, 1879. Died 9th December, 1882.
ROBERT LINDSAY	.	.	.	Born 7th May, 1846. P.G. 3rd March, 1883. Retired 31st March, 1896. Died 24th September, 1913.
ADAM DEWAR RICHARDSON	.	.	.	Born 12th September, 1857. P.G. 1st April, 1896. Resigned 31st May, 1902. Died 5th January, 1930.
ROBERT LEWIS HARROW	.	.	.	Born 26th March, 1867. P.G. 1st June, 1902. Resigned 30th September, 1931.
LAURENCE BAXTER STEWART	.	.	.	Born 7th February, 1876. P.G. 1st October, 1931.

FEATURES OF THE GARDEN.

THE Plan of the Garden reproduced in this booklet shows the grounds as laid out at the present time. Within its sixty acres the principal features are the collections of trees and flowering shrubs, especially the Rhododendrons and the groups of garden Azaleas; the very large assemblage of alpine and other herbaceous perennials, in particular, species of *Primula*, *Gentiana*, and *Meconopsis*, and the collections of exotic plants under glass.

The Rock Garden.—In this, one of the largest and most outstanding rock gardens in Britain, there has been brought together a collection of well over 3,000 species with representatives from almost every part of the world. Of the many plants, natives of different countries here found growing together, it is possible to mention only a few. There is, for instance, from Northern Europe, *Daphne Blagayana*; from the Mediterranean region and the Pyrenees, *Ramondia pyrenaica*, *Cistus monspeliensis*, *Erinacea pungens*, and *Genista hispanica*; from Asia Minor, Palestine, and Persia, *Iris reticulata* and *Puschkinia scilloides*; from Northern Asia, *Rhododendron camtschaticum* and *Sedum Ewersii*; from Tibet, dwarf Rhododendrons such as *Rhododendron nivale*; from the Himalayas, *Codonopsis ovata*, *Primula Mooreana*, *Gentiana ornata*, and *Meconopsis grandis*; from Western China, *Aster Forrestii*, *Gentiana sino-ornata*, *Nomocharis saluenensis*, and *Rhododendron moupinense*; from Eastern China and Japan, *Astilbe simplicifolia* and *Patrinia palmata*; from Australia and Tasmania, *Leptospermum pubescens* and *Pernettya tasmanica*; from New Zealand, *Veronica monticola*, *Celmisia spectabilis*, and *Ranunculus Lyallii*; from the Falkland Islands, *Oxalis enneaphylla*; from South America, *Calceolaria tenella* and *Desfontainea spinosa*; from Mexico, *Yucca gloriosa*; from North America, *Pentstemon* species, *Lewisia Cotyledon*, *Epigaea repens*, and *Cornus canadensis*; from South Africa, *Hartogia capensis* and from Northern Africa, *Ranunculus calandrinoides*. At every season of the year there are some plants in flower, but during the month of June the display is at its best.

A **Moraine**, near the northern approach to the Rock Garden, has been designed for the cultivation of plants which require a very sharp drainage. The soil has been excavated to a depth of between two and three feet, and the cavity is filled with rough boulders overlaid with granite chips to a depth of about eight inches. There is practically no soil in the moraine, and here plants from dry areas, especially those of the cushion type, which resent damp at the collar, grow exceedingly well.

To the south of the Rock Garden is the memorial to the renowned Swedish botanist, Linnaeus, which was erected by John Hope, Regius Keeper from 1761 to 1786.

The Wild Garden lies immediately to the west of the Rock Garden. It is a woodland garden with winding grassy paths and well illustrates the value of shade for the growing of certain plants, especially those which in their native country experience, during their growing season, a period of thick mist or heavy rains. Under the shelter of the trees is a dense undergrowth of Rhododendrons, and in the bays bordering the paths and among the shrubs are herbaceous plants, particularly many species of *Primula* and *Meconopsis*.

From February to August the Rhododendrons are in bloom, but the wealth of blossom is richest in May and June. Early in the season a great colony of wild Hyacinths and in July the Giant Lily from the Himalayas (*Lilium giganteum*) add greatly to the charm of the Wild Garden.

In the eastern part of the Garden is the **Pond**—an artificial lake partly maintained by underground springs—fringed on its northern bank by a row of dark-foliaged yews. Here a collection of marsh-loving plants is to be found, and throughout the summer the banks are richly coloured with masses of the rarer Chinese *Primulas* in flower. Growing in the water is another representative of the *Primula* family, *Hottonia palustris*, the Water Violet.

Further north, beyond a fine specimen of *Pyrus rotundifolia*, is the Rose Garden.

The Arboretum.—The whole of the western portion of the Garden, known as the Arboretum, is devoted mainly to trees and shrubs. These are arranged roughly according to genera, and the positions of the more important are indicated upon the plan. The larger Himalayan Rhododendrons, including *R. Hodgsonii*, *R. Falconeri*, *R. Thomsonii*, and some of the newer introductions from China, such as *R. fictolacteum*, *R. neriiflorum*, *R. Souliei*, *R. strigillosum*, and *R. lacteum*, are to be found near the top of the hill in the vicinity of Inverleith House. Here, too, is a hedge of the hybrid *Rhododendron praecox*, which, from about the first week of February till the end of March, gives a strip of fifty yards of blossom, when there is little else in flower. From the higher ground—at the point marked No. 26 on the plan—a fine panoramic view of the city of Edinburgh, flanked on the east by Arthur's Seat and on the west by the Pentland Hills, is obtained. On the slopes immediately below the view point are specimens of the

curious graft hybrid *Laburnum Adamii* with the purple of the *Cytisus*, the yellow of the *Laburnum*, and motley-coloured flowers all upon the same tree. On this bank the majority of the *Rhododendrons* are hybrids. Noteworthy are the large clumps of such species as *Rhododendron Metternichii*, *R. Smirnowii*, *R. Vaseyi*, and *R. ciliatum*. Near the West Gate there is a fine display of *Crocuses* in spring.

The Herbaceous Border on the north boundary of the Arboretum contains many species and varieties both of perennials and annuals. This part of the Garden is at its best in July.

The Students' Collection in front of the glasshouses is a series of beds in which plants are arranged for study according to their systematic relationships. On the western wall bounding this area there is a memorial to the late Sir Isaac Bayley Balfour.

The **Plant-Houses** consist of a long range to the north of the Students' collection, composed of a Central Green-house (No. 11), from the sides of which two Corridors run east and west. In the Entrance Porch (No. 12) to the Central Green-house is a collection of Insectivorous Plants. From the Eastern Corridor two houses project to the south—one (No. 14) occupied by Cacti and other plants of Dry Regions, the second (No. 13) containing Economic Plants both of Tropical and Temperate Regions. Ending the Corridor is a house (No. 15) occupied by *Rhododendrons*; opening from it is another in which an indoor rockery has been built for Alpine Plants (No. 16) which do not thrive in the open. To the south side of the Western Corridor are attached two houses—one (No. 10) for Orchids, the other (No. 9) for Plants of Tropical and Warm Regions. The western end of the Corridor opens into a domed house (No. 6) where Tropical Ferns are planted out. Attached to it are two houses running southwards, one of which (No. 8) is occupied by Tropical Plants, and the other (No. 7) is used for Heaths and Hardwooded Plants. From the northern wing of this domed house opens another (No. 5) devoted to monocotylous Plants of Tropical and Warm Regions, specially Aroids, Scitamineae, Liliaceae, and Amaryllidaceae. Out of this opens the house (No. 4) for Bromeliads, and beyond are Pitcher Plants in house No. 3. Behind the western end of the Front Range there is a large Temperate House (No. 1) for Palms, Tree-ferns, and Coniferae, and a Tropical Palm-house (No. 2).

Adjoining Inverleith Row there is a group of buildings which includes the **Laboratories** (No. 20), the **Lecture Hall** (No. 21), the **Library** (No. 19), and the **Office** (No. 18) for transaction of business with the public.

The **Museum** (No. 22), temporarily housed in two huts, contains a series of exhibits illustrating the form and life-history of plants, and these are arranged so as to facilitate their use in teaching.

The **Library** contains over seventeen thousand volumes. The leading botanical and horticultural periodicals are received and may be consulted by the public. Books are not lent from the Library.

The **Herbarium** is situated in the southern portion of the Garden at the place marked (No. 23) on the plan. It contains a fair representation of the Floras of the world, and is particularly rich in representatives of the Asiatic floras.

Ladies' Cloak-Rooms are situated at the points marked (No. 27) on the plan. **Gentlemen's Cloak-Rooms** will be found at the two points marked (No. 28).

TEACHING IN THE GARDEN.

In the year 1892 the Board of Agriculture, then recently established in England, assigned a small grant to the Royal Botanic Garden towards the institution of a Course of Instruction in the Sciences underlying the Practice of Horticulture and Forestry for the benefit of young men desiring to become Gardeners and Foresters. The fact deserves record, because it marks the introduction into Scotland of a systematised effort to provide scientific instruction in Gardening and Forestry.

The Course of Instruction in theory and in practical work extends to three years, and the curriculum includes Botany, Propagation of Garden Plants, Plant Pathology, Chemistry and Physics, Entomology, Soils and Geology, Meteorology, Surveying and Mensuration, Book-keeping, Horticulture, and Forestry.

Student-gardeners (probationers) who are admitted to this course must have had practical experience in gardening or forestry, must be not over 25 years of age, they must furnish a medical certificate of fitness, and must be unmarried and remain so during their period of service. A grant in aid (subsistence allowance) will be given to each Probationer.

Forms of application for admission to this course with full particulars can be obtained from the Regius Keeper, Royal Botanic Garden, Edinburgh.

Lectures to the Public.

The Regius Keeper from time to time gives lectures which are open to the public.

Research.

The **Laboratories** are open to anyone desirous of undertaking Botanical Research.

Specimens for Private Study.

Specimens for private study are supplied, as far as the resources of the Garden will permit, to visitors, teachers, and students who make written application to the Regius Keeper. Application forms may be obtained at the office of the Garden, and should be handed in at least two days before the specimens are required.

Plants and Seeds are not sold from the Garden.

Publications.

In 1900 appeared the first number of *Notes from the Royal Botanic Garden, Edinburgh*, for the purpose of publishing reports upon the condition and progress of the Garden, records of scientific investigations carried on in the Garden, and notices of matters of interest relating to plant-life which have come under the observation of the Staff. The *Notes* are available in exchange for publications of kindred institutions, and are on sale at the gates of the Garden and may be purchased either directly or through any Bookseller from H.M. Stationery Office (Scottish Branch), 120 George Street, Edinburgh. The parts are not issued at fixed periods. Sixteen volumes have been completed.

A short descriptive *Sketch of the Garden* may be purchased at the gates.

A **Seed List** containing the names of the plants cultivated from which seeds have been collected during the year is published in December. The seeds are available for exchange.

**Botanical Department
of the
University of Edinburgh.**

DURING nearly two centuries the offices of Regius Keeper of the Royal Botanic Garden and Professor of Botany in the University of Edinburgh have been held by the same person, and it has become the custom that the students of the University come to the Garden for instruction in Botany. The whole work of the Botanical Department of the University is carried out in the Garden by the University Staff, which at this date is constituted as follows :—

Professor of Botany	William Wright Smith, M.A., F.L.S., F.R.S.E.
Reader in Mycology and Bacteriology	Malcolm Wilson, D.Sc., F.L.S., F.R.S.E.
Lecturer on Forest Botany and on Indian and Colonial Forest Trees	James Lindsay Salmond Smith, M.A., B.Sc.
Lecturer on Botany	Robert James Douglas Graham, M.A., D.Sc., F.R.S.E.
Lecturer on Plant Physiology and Agricultural Botany	Alexander Nelson, B.Sc., Ph.D., N.D.A., F.R.S.E.

Enumeration of Visitors to the Royal Botanic Garden, Edinburgh, during the years 1889-1931.

ON the 1st of April 1889, the control of the Royal Botanic Garden, Edinburgh, was vested in the Commissioners of His Majesty's Works, and the Garden became subject to the "Act for the Regulation of the Royal Parks and Gardens, 1872." From the date specified the Garden has been opened to the public on Sundays, and also for an extended period on Week-days.

Year	Total in Year.	Total on Sundays.	Largest Number on a Sunday.	Smallest Number on a Sunday.	Total on Week Days.	Largest Number on a Week Day.	Smallest Number on a Week Day.
*1889...	368,219	187,457	13,935	129	180,762	3,834	50
1890...	446,540	216,345	11,262	91	230,195	4,032	65
1891...	454,083	220,543	9,445	340	233,540	3,228	76
1892...	437,205	218,233	13,581	149	218,972	2,666	43
1893...	531,232	271,893	12,860	45	259,339	3,197	40
1894...	526,948	268,793	13,515	68	258,155	3,153	28
1895...	516,608	264,497	15,227	127	252,111	5,292	26
1896...	516,407	296,576	13,517	527	219,831	3,825	30
1897...	475,210	271,730	16,001	74	203,480	3,153	20
1898...	443,289	258,449	12,840	123	184,790	3,234	39
1899...	461,686	259,424	15,161	105	202,262	2,758	30
1900...	561,359	324,856	17,700	268	236,503	3,667	53
1901...	586,461	339,229	19,256	258	247,232	4,627	45
1902...	522,363	295,892	15,561	165	226,471	5,461	60
1903...	606,184	355,310	19,583	135	250,874	4,202	41
1904...	639,066	367,290	20,719	374	271,776	3,564	42
1905...	584,546	330,995	19,859	100	253,551	2,708	60
1906...	699,558	394,030	21,959	84	305,528	3,760	44
1907...	674,208	422,899	25,601	708	251,309	3,365	40
1908...	585,171	342,106	20,549	570	243,065	2,898	39
1909...	683,243	394,861	24,334	165	288,382	3,483	71
1910...	777,864	430,776	21,813	244	347,088	3,598	80
1911...	708,943	420,163	22,765	82	288,780	3,828	66
1912...	714,170	383,476	25,930	88	330,694	3,515	81
1913...	876,585	500,205	27,398	680	376,380	4,100	59
1914...	776,280	414,518	25,521	106	361,762	5,337	62
1915...	730,761	442,179	21,155	125	288,582	3,827	55
1916...	695,364	367,713	20,227	98	327,651	3,926	41
1917...	737,070	428,752	21,531	170	308,318	3,293	59
1918...	727,782	320,450	20,811	236	407,332	3,911	39
1919...	811,937	436,055	21,775	231	375,882	6,274	52
1920...	644,856	399,398	19,340	481	245,458	3,777	84
1921...	702,481	418,832	20,892	797	283,649	4,027	48
1922...	816,272	369,636	23,979	519	446,636	3,741	71
1923...	782,175	427,155	22,424	549	355,020	4,849	108
1924...	697,463	397,918	19,964	574	299,545	3,476	128
1925...	835,955	490,029	21,893	173	345,926	4,001	38
1926...	851,904	486,653	21,725	633	365,251	3,314	68
1927...	806,928	474,763	22,109	340	332,165	4,883	96
1928...	865,559	448,476	19,840	222	417,083	5,787	41
1929...	946,630	470,900	21,319	388	475,730	6,191	114
1930...	951,949	439,001	24,284	379	512,948	9,753	46
1931...	1,036,132	394,021	18,530	868	642,111	8,367	52
Total for Forty- three years.)	28,814,646	15,662,527	13,152,119

* Numbers in this year for nine months only.

xviii

Printed under the authority of HIS MAJESTY'S STATIONERY OFFICE
by McCorquodale & Co. Limited, Printers, Caxton Works, Glasgow
Wt. 16714/66, 1,000-4/32. (G. 4).

KEY PLAN OF THE ROYAL BOTANIC GARDEN, EDINBURGH

JANUARY 1932

