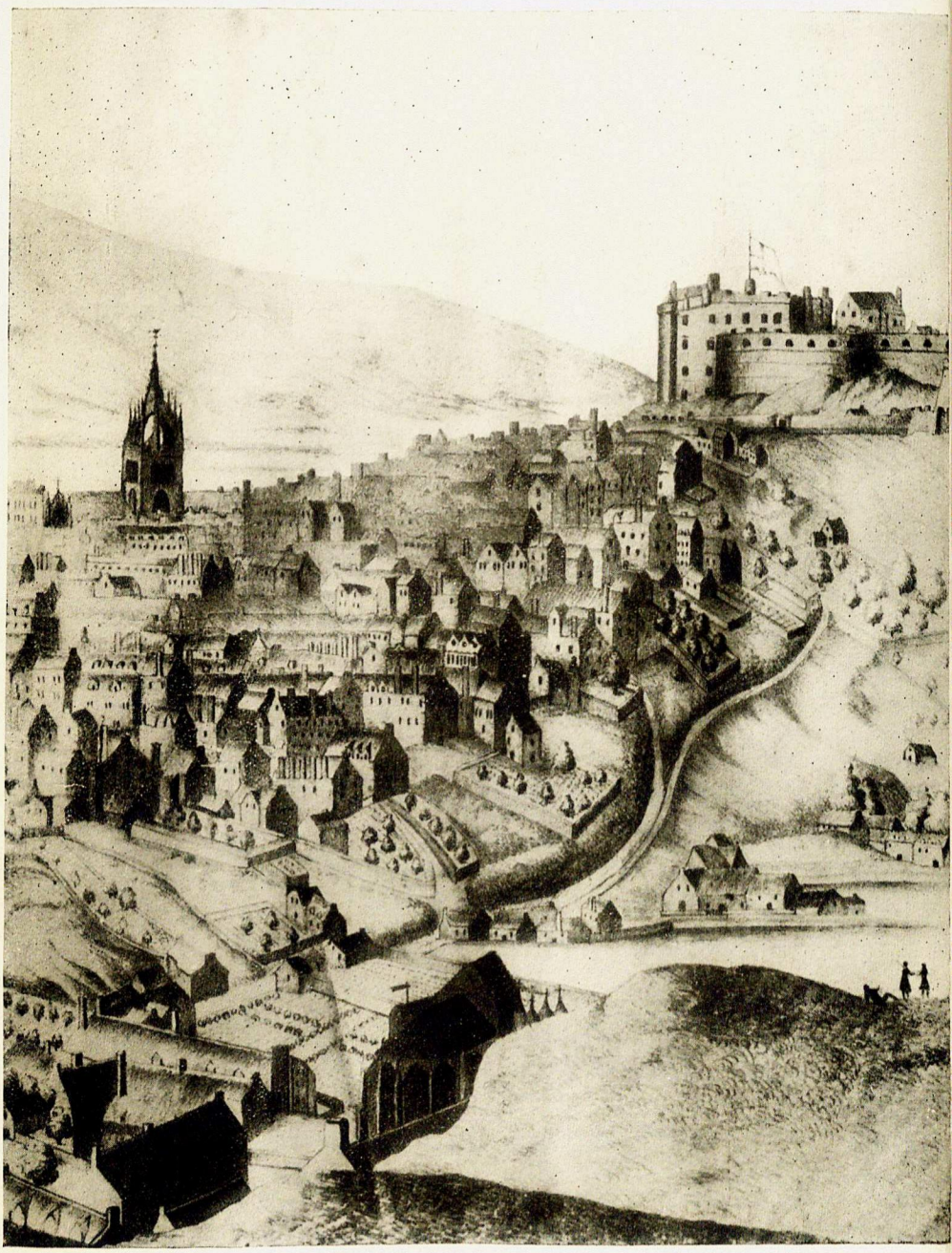
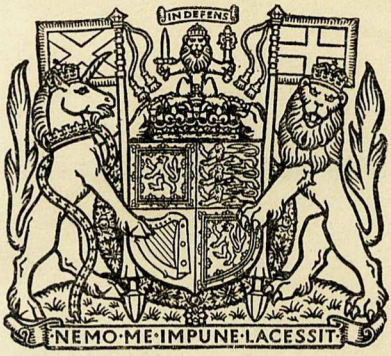


The Old Trinity Hospital, Physic Garden
Seen in the Foreground

Copy of old print published in the Reign of Queen Anne



NOTES FROM THE ROYAL BOTANIC GARDEN EDINBURGH

VOL. XIX

Including Numbers XCI-XCV

1933-1938

With Plates CCXLVIII-CCLVIII and Twenty-one Figures 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; York House, Kingsway, London, W.C.2;
26 York Street, Manchester 1; 1 St Andrew's Crescent, Cardiff;
80 Chichester Street, Belfast;
or through any bookseller

1938

DATES OF THE SEVERAL NUMBERS OF THIS VOLUME.

Number XCI, pp. 1–62, for August 1933.
Number XCII, pp. 63–134, for November 1935.
Number XCIII, pp. 135–198, for July 1936.
Number XCIV, pp. 199–278, for October 1937.
Number XCV, pp. 279–330, for July 1938.

LIST OF CONTENTS TO VOLUME XIX, 1933–38.

PAGE

The Royal Botanic Garden i
Instruction and Research ii
Regius Keepers iv
Principal Gardeners from 1756 v
List of Staff vi
Enumeration of Visitors viii

The History of the Royal Botanic Garden, Edinburgh—Early History. By John Macqueen Cowan (with Frontispiece) . 1

The History of the Royal Botanic Garden, Edinburgh—The Prestons. By John Macqueen Cowan 63

A Study of the Anatomy of Trichopus zeylanicus Gaertn. By Eric Vernon Watson (with Plates CCXLVIII–CCLII and two figures in the text) 135

The Rhododendrons of Ceylon, South India, and Manipur. By John Macqueen Cowan (with Plate CCLIII) . . . 157

New Primulas from the Himalaya, Tibet, China, and Burma. By William Wright Smith 167

A Remarkable Alpine Lobelia from Bhutan. By John Anthony (with Plate CCLIV) 175

On the Identity of Premna corymbosa Rottl. et Willd. and Premna integrifolia Linn. By Harold Roy Fletcher . . . 177

Some New Asiatic Rhododendrons discovered by Kingdon Ward. By John Macqueen Cowan 179

Regeneration from Mutilated Leaves in Monocotyledons. By Edward Edmund Kemp (with Plate CCLV) . . . 187

New or Noteworthy Plants which have flowered in the Royal Botanic Garden, Edinburgh, during 1934 191

New or Noteworthy Plants which have flowered in the Royal Botanic Garden, Edinburgh, during 1935 194

New Primulaceae from Southern Tibet. By William Wright Smith 199

Rhododendrons of Bhutan and Tibet collected by Ludlow and Sherriff. By J. M. Cowan 221

On the Value for Diagnostic Purposes of Certain of the Anatomical Features of Conifer Leaves. By M. Y. Orr (with Plates CCLVI–CCLVIII) 255

The Rhododendron Bud and its Relation to the Taxonomy of the Genus. By James Sinclair (with three figures in the text) . 267

PAGE

A Simple Method of Dehydration. By M. Y. Orr . . . 272
New or Noteworthy Plants which have flowered in the Royal Botanic Garden, Edinburgh, during 1936 . . . 273
A Note on Genista fasselata Decne. By Alistair Foggie . . 275
Notes on the Moss Collections of the Royal Botanic Garden, Edinburgh. By Hugh Neville Dixon (with fourteen figures) 279
A Decade of New Labiatae from India, Burma, and Tibet. By S. K. Mukerjee (with a figure) 303
Additions to the Primula-Flora of Tibet. By William Wright Smith 309
Records of Bhutan Rhododendrons found by Ludlow and Sherriff in 1937. By John Macqueen Cowan 315
A New Wendlandia from Indo-China. By John Macqueen Cowan (with a figure) 323
A Note on the Indian and Chinese Species of the Genus Sibbaldia, Linn. By D. Chatterjee 325
A New Cremanthodium from Tibet. By Harold Roy Fletcher . 328
New or Noteworthy Plants which have flowered in the Royal Botanic Garden, Edinburgh, during 1937 329

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 60·78 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 (except Christmas Day) from **9 a.m.** on **Week-days** and from **11 a.m.** on **Sundays** until sunset (during " Summer Time " one hour before sunset).

The **Plant-Houses** are open daily 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., July 1938.]

Instruction and Research.

Botanical Department of the University.

From the foundation of the Garden, in 1670, 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.

Instruction Course for Student Gardeners.

In the year 1892 the Board of Agriculture 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.

A Diploma is awarded to Student Gardeners, probationers, who obtain a high percentage (75 per cent.) of marks in the examination of the course and who show proficiency in their practical work.

Applicants for admission 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.

Facilities for Research.

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

The Museum, 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. It contains a fair representation of the floras of the world, and is particularly rich in representatives of the Asiatic floras.

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 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. Nineteen volumes have been completed.

The Royal Botanic Garden, Edinburgh—a brief descriptive and illustrated account (1s. net) and **Map with a Key Plan and Index to the Royal Botanic Garden, Edinburgh** (3*d*. net) may be purchased at the gates of the Garden or from H.M. Stationery Office.

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.

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.), Head Gardeners (H.G.) or Curators from the Year 1756.

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. Curator 13th January 1879. Died 9th December 1882.
ROBERT LINDSAY . . .	Born 7th May 1846. Curator 3rd March 1883. Retired 31st March 1896. Died 24th September 1913.
ADAM DEWAR RICHARDSON .	Born 12th September 1857. H.G. 1st April 1896. Resigned 31st May 1902. Died 5th January 1930.
ROBERT LEWIS HARROW . .	Born 26th March 1867. H.G. 1st June 1902. Curator 1st February 1924. Resigned 30th September 1931.
LAURENCE BAXTER STEWART .	Born 7th February 1876. Curator 1st October 1931. Died 30th January 1934.
ROLAND EDGAR COOPER . .	Born 16th June 1890. Curator 10th March 1934.

Staff of the Royal Botanic Garden, Edinburgh, at July 1938.

Regius Keeper	Sir William Wright Smith, Kt., M.A., D. ès Sc., F.L.S., F.R.S.E.
Assistant Keeper	John Macqueen Cowan, M.A., D.Sc., B.A.(Oxon), 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	Harold Roy Fletcher, B.Sc., Ph.D.
Assistant in Studio	Robert Moyes Adam, F.L.S.
Curator	Roland Edgar Cooper, F.R.H.S.
Assistant Curator	David Wilkie
Clerical Assistant	Jean Brockie
Do.	David Ramsay Oliver
Shorthand-Typist	Edna Louise Linsell
Medical Officer	James Walter M'Donald, M.B.

Senior Foreman	William Gregor MacKenzie
Foreman of Arboretum	Charles Lamont
Foreman of Glass Department	James John Campbell
Foreman of Propagating Department	Edward Edmund Kemp

Staff of the Botanical Department of the University of Edinburgh.

Professor of Botany . .	Sir William Wright Smith, Kt., M.A., D. ès Sc., 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 . .	John Anthony, M.C., M.A., B.Sc.
Lecturer on Botany . . .	James Lindsay Salmond Smith, M.A., B.Sc.
Lecturer on Plant Physiology and Agricultural Botany . . .	Alexander Nelson, B.Sc., Ph.D., N.D.A., F.R.S.E.
Assistant	Arthur Stanley Boughey, B.Sc.
Assistant	Eric Vernon Watson, B.Sc., Ph.D.

Visitors to the Royal Botanic Garden, Edinburgh, 1889-1937.

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	258,499	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	22,423	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
1932	1,001,055	426,023	18,887	265	575,032	6,555	45
1933	993,139	414,428	20,133	508	578,711	6,022	135
1934	944,549	428,170	18,460	162	516,379	5,492	99
1935	891,766	397,542	20,327	59	494,224	8,900	87
1936	947,091	386,672	18,545	265	560,419	6,220	32
1937	875,425	372,620	17,586	250	502,805	5,770	41
Total	34,467,671	18,087,982	..	..	16,379,689	..	..

* Numbers in this year for nine months only.