

REPORTS
OF THE
COUNCIL AND AUDITORS
OF THE
ZOOLOGICAL SOCIETY
OF LONDON,
FOR THE YEAR 1932,

PREPARED FOR THE ANNUAL GENERAL MEETING

TO BE HELD ON

FRIDAY, APRIL 28TH, 1933,

AT 4 P.M.

PRINTED BY
WATERLOW & SONS LIMITED
LONDON, DUNSTABLE & WATFORD.

1933.

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REPORT OF THE COUNCIL

for the year ended 31st December, 1932.

ANNUAL GENERAL MEETING.

1. The Council has pleasure in presenting the hundred and fourth Annual Report to the General Meeting of the Society, to be held on Friday, April 28th, 1933, at 4 p.m., at the Offices of the Society, in the Gardens, Regent's Park, N.W.8.

2. PROCEDURE AT THE ANNUAL GENERAL MEETING.

(By-law, Chapter VIII, Sections 1 and 2.)

SECT. I. Notice of the time and place of the Annual General Meeting shall be advertised by the Council in four or more of the public Newspapers, at least fourteen days before the same shall take place.

SECT. II. The course of proceeding at the Annual General Meeting, after the Chair has been taken, shall be as follows:—

1. The reading of the Minutes of the previous Annual Meeting.
2. The appointment of Scrutineers and opening of the Ballot.
3. Presentation of the Auditors' Report, previously issued to Fellows.
4. Discussion of the Auditors' Report.
5. Presentation of the Council's Annual Report, previously issued to Fellows.
6. Discussion of the Council's Annual Report.
7. To receive the Report of the Scrutineers on the result of the Ballot.

No other business shall be transacted at such Meeting.

3. TREASURERSHIP.—On October 5th, 1932, the late Mr. Charles Drummond, Treasurer of the Society since

1881, died, to the great regret of the Society. His father and grandfather had previously held the same office, the former, Robert Drummond, from 1858 to 1881, and the latter, Charles Drummond, from 1831 to 1858.

At the Meeting of Council held on October 19th, 1932, on the motion of the Chairman, Field-Marshal the Viscount Allenby, the following resolution was passed unanimously and ordered to be recorded in the minutes and communicated to the late Mr. Drummond's widow:—

“That the Council record their deep regret at the death of the late Mr. Charles Drummond, Treasurer of the Society since 1881, who, by his personal qualities, the interest he took in the Society, and the help he had given it, had endeared himself to all the Members.”

4. NEW TREASURER.—At the Meeting of Council held on November 16th, 1932, it was agreed to fill the vacancy in the Treasurership of the Society until the Annual General Meeting, by appointing Major Albert Pam, O.B.E., a Fellow of the Society since 1893, who had served on the Council almost continuously since 1907, and had given much financial advice to the Society.

5. CENTENARY VOLUMES.—The following volumes, prepared for the Centenary, are now on sale at the Office at a reduced price:—

Centenary History of the Zoological Society of London,
With many Portraits. Written by the Secretary.
Price 10s. net.

List of the Animals, 1826-1927. Being a Classified List of all the Species of Vertebrated Animals living in the Society's Gardens from 1826 to 1927 inclusive, giving for each Species the Scientific Name, the various Synonyms or other Scientific Names that have been applied to it, popular, local and trade Names where known, the habitat, a reference to the original description and where possible to a figure and popular description.

Vol. I.—Mammals. By Major Stanley Smyth Flower, O.B.E., F.Z.S. Price 10s. net. Vol. II.—Birds. By George Carmichael Low, M.A., M.D., F.R.C.P., F.Z.S. Price 10s. net. Vol. III.—Reptiles, Amphibians and Fishes. By Major Stanley Smyth Flower, O.B.E., F.Z.S., Malcolm Arthur Smith, M.R.C.S., L.R.C.P., F.Z.S., and Edward George Boulenger, F.Z.S. Price 10s. net.

6. ROLL OF FELLOWS.—The number of Fellows and Fellows-Elect on January 1st, 1932, was 8,307, and on January 1st, 1933, was 8,035. In 1932, 381 Fellows were elected or re-admitted as compared with 438 in 1931.

The Council would remind Fellows that the present financial stress affects the Society as well as individuals. They hope that Fellows who have resigned recently will apply for restoration to the List as soon as possible and that existing Fellows will use efforts to obtain new members.

	1931.	1932.
Compounders at £30 (Elected before Dec., 1906)	368	336
Compounders at £45 (Elected after Nov., 1906)	389	399
Compositions remitted	14	12
Paying annually £3	7,218	6,957
Dormant (paying £1 since 1911) ...	259	267
Do. subscriptions remitted ...	11	11
*Admission Fees unpaid	48	53
	8,307	8,035

* This entry relates almost entirely to Fellows elected at the December Meeting, 1932, who did not pay their dues until the following January.

7. FOREIGN MEMBERSHIP.—The following Corresponding Member was elected a Foreign Member :—

Professor Gustave Gilson, Professor of Zoology, the University, Louvain, Belgium.

8. CORRESPONDING MEMBERSHIP.—As described in the Annual Report for 1924 (Paragraph 5), the Society, on the initiation of Council, formed a new class of Corresponding Members, with the object of giving some of the privileges of the Society to professional Zoologists, especially those holding junior posts out of London, at the reduced subscription of £1 1s. a year and without entrance fee. Full particulars and proposal forms can be obtained from the Office.

The rules for Corresponding Members of the original class have not been altered. Candidates, who must not be resident in Great Britain or Ireland, are selected by Council usually at the November Meeting, and are afterwards submitted to ballot. They are persons of British or Foreign nationality who are either Zoologists of distinction, or have done the Society special service or have otherwise assisted in promoting its objects.

9. NEW CORRESPONDING MEMBERS (*Division I., Residents Abroad*).—The following were elected to fill vacancies on the List :—

Eric C. Johnson, Esq., c/o, The United Africa Company, Bathurst, Gambia, West Africa.

R. E. Moreau, Esq., Secretary and Librarian of the East African Agricultural Research Station, Amani, viâ Tanga, Tanganyika Territory, East Africa.

T. W. Hugh-Jones, Esq., Lobitos, viâ Talara, Peru, South America.

Dr. Henry B. Bigelow, Director of the Woods Hole Oceanographic Institute, Woods Hole, Mass., U.S.A.

Professor H. de Winiwarter, Institut d'Anatomie,
University of Liège, Liège, Belgium.

10. NEW CORRESPONDING MEMBERS (*Division II., Professional Zoologists*).—The following were elected:—

Miss Penelope M. Jenkin, M.A.
Bernard George Peters, M.Sc., Ph.D.
Arthur Steel, M.Sc.

11. MEDALS.—JOAN BEAUCHAMP PROCTER MEMORIAL MEDAL. Following a suggestion made at one of the Monthly Meetings of the Society by Mr. R. V. Glover, F.Z.S., the Council resolved to found a Medal in memory of the late Miss Joan Procter. The Medal is an oblong plaque designed by Mr. Alan G. Wyon, and on the face has the profile of Miss Procter in relief, and on the reverse the following inscription:—

“Awarded by the Zoological Society of London in memory of Joan Beauchamp Procter for additions to knowledge of Herpetology.”

The name of the recipient and the date of the award will be engraved on the rim of each medal awarded.

The Medal can be struck in gold, silver or bronze, and is to be awarded for work on living or extinct Reptiles or Amphibians carried out in any country by any person of any nationality, on the recommendation of a Committee of five appointed by the Council.

The Gold Medal is to be awarded only in very special cases for work of a high order, as a rule extending over a period of years.

The Silver Medal is to be awarded not more than once in three years, for scientific work of a distinguished character. The Bronze Medal is to be awarded only on comparatively rare occasions, for such work as collecting and observing in the field or for the care of reptiles or amphibians in captivity. Keepers are eligible.

12. LIST OF FELLOWS AND MEMBERS.—A revised edition will be published early in June, 1933. Any corrections should be sent to the Secretary before April 30th, 1933.

13. SCIENTIFIC GRANTS.—The Council made a donation of £10 to the National Trust towards the preservation of Wicken Fen, of £25 to the Society for the Preservation of the European Bison, and of £2 to the British Correlating Committee for the Protection of Nature. It also paid the Life Composition on behalf of Mr. William Nicholson, who had been of assistance to the Society in many ways.

14. LOAN OF THE SOCIETY'S ROOMS.—The Society's Rooms have been lent to the Association of British Zoologists, the British Ornithologists' Union, the Avicultural Society, and the Society for the Preservation of the Fauna of the Empire, to which also office accommodation has been given.

15. THE FAUNA SOCIETY.—The Council commend the Society for the Preservation of the Fauna of the Empire, mentioned in the last paragraph, to the notice of Fellows. There are few parts of the world in which modern fire-arms, modern facilities for travel, the spread of civilization and the extension of agriculture are not reducing the numbers and even endangering the existence of wild animals. The objects of the Fauna Society are to collect information on, and to stimulate interest in, the preservation of wild animals, directly in the British Empire and by co-operation with similar Societies in other countries. It pays special attention to the formation and maintenance of Reserves and Sanctuaries for Wild Animals. It maintains close touch with the departments of Dominion and Colonial Governments concerned with the conservation of wild life and has correspondents throughout the Empire. A record of its work will be found in its Journal. The Society is making steady progress and the number of its members

increased during the last three years from 730 to 938. Fellows of the Zoological Society are invited to become members of the Fauna Society and so to extend its activities. The annual subscription is 10s., and applications should be addressed to the Secretary of the Fauna Society, c/o The Zoological Society of London.

16. SCIENTIFIC MEETINGS AND PUBLICATIONS.—The *Abstract* was issued as usual. The *Transactions*, suspended during the War, have been resumed, the Council having given the Publication Committee power to re-open them for memoirs deemed of unusual scientific value, and requiring *quarto* illustrations. Volume XXI, of which Part IV was published in 1931, has been left open to be completed as suitable memoirs may be accepted.

Of the *Proceedings*, Part I, 1932, was issued on March 30th, 1932; Part II on July 8th, 1932; Part III on September 10th, 1932; and Part IV on January 6th, 1933.

In the following table are given the number of plates and pages of the *Proceedings* for the last ten years:—

		Plates		Pages
1923	...	15	...	1097
1924	...	68	...	1176
1925	...	51	...	1585
1926	...	65	...	1314
1927	...	59	...	1009
1928	...	54	...	1044
1929	...	47	...	770*
1930	...	90	...	1080
1931	...	142	...	1418
1932	...	105	...	1084

*The first volume in the new format with larger pages.

17. ZOOLOGICAL RECORD.—The complete Volume, No. 68, dealing principally with the literature of 1931, was

published on October 5th, 1932. It contains a Supplementary List of Abbreviations with Titles of Periodical Publications containing papers dealing with matters of Zoological importance. Of the Divisions, Amphibia and Reptilia, and Vermes were published on June 6th, Insecta on June 22nd, Protochordata and Porifera on July 9th, Pisces on July 13th, Mollusca on July 20th, Mammalia and Brachiopoda on July 28th, Cœlenterata on August 8th, Protozoa on August 25th, Arachnida and Crustacea on September 10th, Echinoderma on September 11th, Aves on September 14th, Comparative Zoology on September 26th, and Names of New Genera and Species on September 29th.

Volume 69, dealing with the literature of 1932, is in active preparation.

18. ZOOLOGICAL RECORD : PRICES.—On account of the greatly increased cost of production it was found necessary to fix the price of the Annual Volumes, from Volume 58 onwards, at £3 (or Subscription price, paid in advance, £2 10s.). As it is recognised that many individual workers do not require the whole volume, it has been arranged to sell the separate Divisions, in paper covers, at the following prices :—

SEPARATE DIVISIONS.

	<i>s.</i>	<i>d.</i>
Comprehensive Zoology	3	0
Protozoa	3	0
Porifera or Spongida	2	6
Cœlenterata	2	6
Echinoderma	4	0
Vermes	3	6
Brachiopoda and Bryozoa	2	6
Mollusca	5	0
Crustacea	3	0
Arachnida and Myriopoda	4	0

*Insecta complete	15	0
Protochordata	2	0
Pisces	3	6
Amphibia and Reptilia	3	0
Aves	7	6
Mammalia	3	0
List of New Genera with Supplementary List of Abbreviations and Journals ...	2	6

* This Division is now published only by the Imperial Institute of Entomology, 41, Queen's Gate, S.W.7.

As the demand did not justify the additional cost, the experiment of sub-dividing the Division Insecta was dropped after Volume 67.

19. ZOOLOGICAL RECORD: FINANCE.—Beginning with Volume 59 (literature of 1922), the Society undertook to continue responsibility for the *Record* if its loss on each volume did not exceed the sum of £500. The assistance given by other Societies and Institutions is shewn on the Table printed on page 15.

It has been arranged to keep accounts of the *Record* from Vol. 59 in the form of a "Zoological Record Fund" made up to the 31st of December each year. To this are credited all receipts (subscriptions and sales of the current Volume and of other Volumes from 59 onwards) received within the year, including the Society's own contribution of £500. From it is deducted the cost of production. The Record Fund now shows a balance sufficient to cover the cost of an annual issue, thus providing "capital" for the undertaking. Societies, Institutions and individuals who wish the *Record* to be maintained are requested to give their support in the form of annual donations to the "Record Fund."

It will be seen that the position has improved, but the loss on each volume is still very heavy, much in excess of the contribution of £500 per annum made by this Society.

STATE OF "RECORD FUND" AT DECEMBER 31ST, 1932.

	£	s.	d.	£	s.	d.
Balance from Vol. 67 (Annual Report, 1931, page 13)				2,223	1	4
Donations to Vol. 64-67 received in 1932				380	5	0
Donations to Vol. 68 received in 1932 :—						
Zoological Society of London	500	0	0			
American Ornithologists' Union	15	0	4			
Entomological Society	25	0	0			
Holland, The Rev. W. J.		5	2			
Linnean Society	15	0	0			
Smithsonian Institution	31	1	0			
				<u>586</u>	<u>6</u>	<u>6</u>
Donations to Vol. 69 received :—						
Rathbun, Miss M. J.	2	0	0			
Schmitt, W. L.	2	0	0			
Shoemaker, C. R.	2	0	0			
				<u>6</u>	<u>0</u>	<u>0</u>
				<u>£3,195</u>	<u>12</u>	<u>10</u>
Cost of Vol. 68 (exclusive of Office Expenses) :—						
Letterpress	1,318	14	3			
Editor	200	0	0			
Recorders	350	0	0			
Searching, and Assistance to Recorders ...	194	19	0			
Distribution	22	16	5			
Slips for recorders	10	2	6			
	<u>£2,096</u>	<u>12</u>	<u>2</u>			
Subscriptions to Vol. 68 to December 31st, 1932 ...	790	10	0			
Sales of Vol. 68 to December 31st, 1932	214	1	3			
	<u>1,004</u>	<u>11</u>	<u>3</u>			
Loss on Vol. 68				<u>1,092</u>	<u>0</u>	<u>11</u>
				<u>£2,103</u>	<u>11</u>	<u>11</u>
Add amount received for subscriptions to, and sale of Vols. 59-67 since last ad- justment				183	3	5
Balance of Fund to Vol. 69 ...				<u>£2,286</u>	<u>15</u>	<u>4</u>

The full list of Donations since the inception of the "Record Fund" to December 31st, 1931,
is as follows:—

	Vols. 59/64.	Vol. 65.	Vol. 66.	Vol. 67.	Vol. 68.	Vol. 69.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Acad. Nat. Sci., Philadelphia ...	96 10 8	...	...	...	...	...
American Entomological Society, Philadelphia...	10 5 5	5 0 0	...	...	...	...
American Ornithologists' Union ...	57 9 4	10 4 7	10 5 7	15 0 4	15 0 4	...
Association of Economic Biologists ...	15 5 0	...	...	...	...	...
Barbour, Dr. T. (Mus. Comp. Zool., Camb., Mass.)	175 0 0	50 0 0	50 0 0	50 0 0	50 0 0	...
Blanchard, F. N. ...	...	...	8 0	...	...	...
British Association ...	285 0 0	50 0 0	50 0 0	50 0 0	...	...
British Museum of Nat. Hist. ...	1200 0 0	200 0 0	200 0 0	200 0 0	...	...
British Ornithologists' Club ...	67 10 0	11 5 0	22 10 0	...	...	...
British Ornithologists' Union ...	67 10 0	...	...	...	...	...
Brooklyn Entomological Society of New York	5 0 0	...	...	...	...	...
California Academy of Sciences ...	21 11 0	5 0 0	...	...	...	...
Challenger Society ...	31 10 0	3 3 0	3 3 0	3 3 0	...	...
Cockerell, Prof. T. D. A. ...	7 12 0	1 0 6	2 0 0	...	...	...
Conchological Society ...	6 6 0	2 2 0	2 2 0	...	...	...
Entomological Society ...	150 0 0	25 0 0	25 0 0	25 0 0	25 0 0	...
Entomological Society of America, Indiana ...	16 0 0	5 2 7	5 2 10	...	...	...
Geological Society ...	30 0 0	15 0 0	15 0 0	...	...	...
Hawaiian Entomological Society ...	19 2 11	...	4 14 6	...	...	...
Henshaw, S. (Mus. Comp. Zool., Camb., Mass.)	27 8 11	...	...	...	...	...
Holland, The Rev. W. J....	...	...	...	...	0 5 2	...
Hornbold, Dr. A. G. ...	19 18 0	5 0 0	5 0 0	...	...	...
Linnean Society ...	75 0 0	...	25 0 0	15 0 0	15 0 0	...
Linnean Society of New South Wales ...	60 0 0	...	...	...	...	...
Liverpool School of Tropical Medicine ...	21 0 0	...	5 5 0	...	...	...
McIntosh, Dr. W. C. ...	13 13 0	5 0 0	5 0 0	...	...	...
Malacological Society ...	8 3 0	...	...	...	...	...
Marine Biological Association, Plymouth ...	31 10 0	5 5 0	5 5 0	...	...	...
Michigan, University of ...	41 1 0	20 10 9	20 10 5	27 2 0	...	...
New York Zoological Society ...	...	...	...	20 11 4	...	...
New York Academy of Science ...	...	...	...	27 17 11	...	...
Quekett Microscopical Club ...	15 15 0	...	...	...	...	...
Rathbun, Miss M. J. ...	2 7 9	1 0 0	1 0 0	2 0 0	2 13 7	2 0 0
Royal Canadian Institute ...	10 16 1	...	5 2 6	...	...	...
Royal Microscopical Society, Fellows of...	3 0 0	...	...	...	...	...
Royal Society ...	100 0 0	...	25 0 0	...	...	...
Royal Society of Trop. Med. and Hygiene ...	60 0 0	10 10 0	10 10 0	...	...	...
Schmitt, W. L. ...	3 12 6	1 0 0	1 0 0	2 0 0	2 13 6	2 0 0
Seaman's Hospital Society ...	40 0 0	...	...	...	...	...
Shoemaker, C. R. ...	1 17 4	1 0 0	1 0 0	2 0 0	2 13 7	2 0 0
Smithsonian Institution ...	...	20 9 0	20 0 0	...	31 1 0	...
South African Biological Society ...	10 7 6	...	...	...	...	...
Van Name, Dr. W. G. ...	5 3 1	5 2 1	...	...	...	...
Wellcome Bureau of Scientific Research ...	90 0 0	15 0 0	15 0 0	...	...	...
Zoological Society of London ...	3,000 0 0	500 0 0	500 0 0	500 0 0	500 0 0	...
	5,902 5 6	972 14 6	1,034 18 10	939 14 7	644 7 2	6 0 0

20. GARDEN GUIDE AND PICTURE POSTCARDS.—The twenty-ninth edition of the Garden Guide was issued in 1932, and in the course of the year, 51,312 copies were sold. Since 1904, when the Guide became the property of the Society, 1,571,641 copies have been sold. The thirtieth edition of the Guide, which will also cover the Aquarium, has been prepared for issue early in 1933. Of picture postcards 189,689 were sold in 1932.

Of a separate guide to Whipsnade, 64,157 were sold in 1932. A new edition is in preparation. In the same year 80,118 picture postcards were sold at Whipsnade.

21. EXCHANGE LIST.—A full list of the Institutions, etc., on the Exchange List of the Society's Publications was printed in the Report for 1902. Since that date the following additions have been made:—

- 1904. The Carnegie Museum, Pittsburgh, Pa., U.S.A.
- 1915. The University of Illinois, U.S.A.
- 1916. Ministry of the Belgian Colonies.
- 1919. California Academy of Sciences, San Francisco, U.S.A.
- 1920. The Straits Branch of the Royal Asiatic Society.
Naturhistorisches Staatsmuseum, Vienna.
- 1921. The Philippine Journal of Science, Manila.
- 1922. Musée Zoologique de l'Université et de la Ville, Strasbourg.
- 1923. L'Institut Océanographique, Monaco.
- 1924. The Science Society of China, Nanking.
Deutscher naturwissenschaftlich.-med. Verein für Böhmen.
Société des Sciences Naturelles du Maroc.
Société Neuchâteloise des Sciences Naturelles.
Royal Society of South Australia.

1925. L'Académie Polonaise des Sciences et des
Lettres, Cracow, Poland.
La Société des Naturalistes de Leningrad,
Leningrad, Russia.
Imperial College of Tropical Agriculture,
Trinidad.
1926. No addition.
1927. No addition.
1928. Académie des Sciences de l'Ukraine, Kiew,
U.S.S.R.
Johns Hopkins Institute for Biological Re-
search, Baltimore, U.S.A.
1929. No addition.
1930. No addition.
1931. No addition.
1932. No addition.

22. LIBRARY.—The Visitors' Book was signed by 319 Fellows and persons introduced by them, and 1,186 volumes were borrowed under the regulations.

The following is a list of the chief additions to the Library during the past year:—

PRESENTED.

<i>Donor.</i>	<i>Donation.</i>
BANNERMAN, D. A., F.Z.S.	The Birds of Tropical West Africa. By David Armitage Bannerman. Vol. II., 1931.
BERNAU, E. G., F.Z.S.	European Butterflies and Moths. By W. F. Kirby. 1882.

- BOULENGER, E. G., F.Z.S. Problems of Relative Growth. By Julian S. Huxley. 1932.
Do you speak Chimpanzee? By Geo. Schwidetzky. 1932.
- BURR, DR. MALCOLM. The Birds of Croatia-Serbia. By Spiro Brusina. 1888-1892.
- BURSEY, MRS. ADA M.C., F.Z.S. The Book of Amber. By Geo. C. Williamson. 1932.
- COLE, MRS. W.H. British Zoology. By Thos. Pennant. 1776.
- COLYER, SIR FRANK, K.B.E., F.Z.S. Abnormal Conditions of the Teeth of Animals in their Relationship to Similar Conditions in Man. 1932.
- DELACOUR, J., F.Z.S. Les Oiseaux de l'Indochine Française. By J. Delacour and P. Jabouille. 4 vols. 1931.
- FITTER, R. S. R., F.Z.S. Dogs and their Ways. By Chas. Williams. 1863.
The Romance of Natural History. By P. H. Gosse. 1st and 2nd ser. 1862.
- GLADSTONE, HUGH S., F.R.S.E., V.P.Z.S. Catalogus Rerum Naturalium Raris-
simarum. A. A. H. Lichtenstein.
Edited by W. B. Tegetmeier. 1882.
- GRANDIDIER, G., F.M.Z.S. Zoologie de Madagascar. By G. Grandidier and G. Petit. 1932.
- HINGSTON, MAJOR R. W. G., F.Z.S. A Naturalist in the Guiana Forest. By R. W. G. Hingston. 1932.
- HOBLEY, CHAS. W., C.M.G., C.M.Z.S. Wild Life Commission of Malaya. Report of the Commission. 3 vols. 1932.
- HOPKINSON, DR. E. C.M.G., D.S.O., F.Z.S. Summary of Breeding Records to date (Mid-1932). By Emilius Hopkinson. 1932.

- JONES, SURGEON—
CAPT. K. H., F.Z.S. Sport and Science on the Sino-Mongolian Frontier. By Arthur de Carle Sowerby. 1918.
- Longbottom, J.,
F.Z.S. Natural History—Animals. By Geo. Jennison. 1929.
- MacBride, Prof.
E. W., F.R.S.,
V.P.Z.S. The Riddle of Migration. By Wm. Rowan. 1931.
- RESEARCH BOARD
OF THE UNION OF
SOUTH AFRICA. The Mammal-like Reptiles of South Africa, and the Origin of Mammals. By Robert Broom. 1932.
- ROGERS, CYRIL H.,
F.Z.S. The Naturalist's Library. Edited by Sir Wm. Jardine. 1833-1843.
Gleanings from the Natural History of the Ancients. By the Rev. M. G. Watkins. 1885.
- ROULE, PROF. LOUIS,
F.M.Z.S. Manuel de Pisciculture. By Louis Roule. 1933.
Les Poissons et le Monde vivant des Eaux. Vol. V. 1932.
- STEELE, HENRY J. B. Guide to the Gardens of the Zoological Society of London. By D. W. Mitchell. 3rd edtn. 1859.
Guide to the Gardens of the Zoological Society of London. By P. L. Sclater. 1901.
- SUNAMOTO, E. The Elephant. By E. Sunamoto. Vol. I (Printed in Japanese). 1932.
- WOODWARD, SIR
ARTHUR SMITH,
F.R.S., F.Z.S. Evolutionist and Missionary—John Thomas Gulick, Portrayed through Documents and Discussions. By Addison Gulick. 1932.
- YEARSLEY, P.
MACLEOD, F.R.C.S.,
F.Z.S. Sound Conduction and Hearing. By Zund-Burquet. (Translated by Macleod Yearsley). 1932.

- YOUNG, G. E. Life of a Scotch Naturalist (Thos. Edwards). By S. Smiles. 1877.
Trespassers. By the Rev. J. G. Wood. 1875.
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23. CATALOGUE OF THE LIBRARY. The Librarian and his Assistant have compiled a new Card Catalogue of the Periodicals, British and Foreign, in the Library, which is now available.

24. PROSECTORIUM.—This Department continues to do great service to the Society, directly by inquiries into the causes of death of animals in the collection, and indirectly by increasing knowledge in Anatomy, Pathology and Parasitology. Anatomical and pathological material has been distributed to many private workers and institutions.

25. PATHOLOGY.—Lt.-Col. A. E. Hamerton reports :—
“ A total of 904 cases of death comprising 241 mammals, 481 birds, 182 reptiles and amphibians were investigated by necropsy during the year.

“ The death ratio per average strength is 32·7 per cent for mammals and 31·7 per cent for birds, as compared with a death rate of 34·7 per cent and 30·8 per cent among mammals and birds respectively during the previous year. Of the total deaths 32·4 per cent, comprising 84 mammals, 138 birds and 71 reptiles died during their period of acclimatisation, i.e., within six months of their arrival in the Gardens.

“ No epizootic disease spread in the collection ; two sporadic cases of ‘ cat distemper ’ occurred, one in the valuable snow leopard, another in a Scottish wild cat ; both were fatal, but the disease was kept under control and no other felines became infected.

“ The commonest causes of death are :—

1. Diseases of the Respiratory System ; 133, or 14·5 per cent.
2. Diseases of the Digestive System ; 153, or 16·9 per cent.
3. Injuries and Accidents ; 146, or 16·1 per cent.

“ The incidence of respiratory disease, which has remained almost stationary for some years, has declined considerably because of the exceptionally mild sunny weather during the last quarter of the year.

“ An increase in the incidence of diseases of the digestive system is recorded. The losses from injuries and accidents are less by 3.1 per cent and coincide with a marked reduction in the rat population of the Gardens due to effective poisoning.

“ Other prevailing diseases are noted as follows :—

“ *Tuberculosis* caused the deaths of 6 mammals, 20 birds, 2 reptiles and 3 amphibians. The mortality from tuberculosis in mammals is only 2.48 per cent of the total deaths in this class ; it is the lowest recorded since 1924 ; the highest was 12.5 per cent in 1926. No case of tuberculosis occurred among the primates this year, whereas in 1926 the Society lost 43 primates from this disease alone.

“ The progressive reduction in the incidence of tuberculosis among primates is attributable to better conditions in housing and feeding ; these would be of little avail, however, if tuberculous animals were liable to be introduced into the houses. The chance of this occurring is reduced to a minimum by a rigid system of quarantine whereby newly arrived primates are kept under daily observation in the Sanatorium for several months. Cases of imported tuberculosis are thus frequently detected and eliminated. Unfortunately it is impracticable to apply the same degree of quarantine and inspection to all newly-arrived animals.

The occurrence of 5 cases of tuberculosis among reptiles and amphibians is notable. Material from these animals was sent to Dr. Stanley Griffith of the Field Laboratories, Cambridge, who is carrying out a detailed investigation into the nature and properties of the tubercle-like bacilli found in tuberculous lesions in cold-blooded animals.

“ *Mycosis* accounted for the deaths of 1 mammal, 27 birds and 3 amphibians.

“ The mammalian case was in a red kangaroo that died of *Streptothrix nocardiosis* infection of the lower jaw. A slight increase in the avian deaths from mycosis was due to an extensively infected consignment of small birds from overseas, most of which died within a few days of arrival. Among the avian cases of mycosis were two puffins that were blown into London by winter gales. One was caught in Finsbury Circus and brought immediately to the Gardens, the other was caught at Hampstead ; both died of mycosis of the lungs within 3 weeks of being captured. It is hardly conceivable that the birds were infected in their wild state ; the rapidity with which they become infected and destroyed by the fungus when their natural resistance is lowered by privation is remarkable.

“ *Rickets and Allied Bone Diseases.*—Of 26 mammals that died from rickets, 12, including South American monkeys, civets, genets and small insectivorous mammals, did not show symptoms until after their arrival, but all the mammals bred and reared in the Gardens were free from rickety disease. Four birds and 2 reptiles, all hand reared, died from osteomalacia.

“ Subjects of special pathological interest are dealt with in my Annual Report to be published as usual in the Scientific Proceedings ; they may be mentioned briefly as follows :—

“ *Diseases of the Blood and Circulatory System*—accounted for death in 26 animals of which 3 were mammals, 18 birds, and 5 reptiles.

“ One mammal and 5 birds died from valvular disease of the heart. Aneurism of the aorta caused the death of 1 mammal. Two reptiles succumbed to the effects of extensive calcification of the arterial system.

“ *Disease of the Urinary System.*—Eight mammals, 20 birds and 4 reptiles died from kidney disease.

“ A kangaroo died from stone in the bladder, a nylghaie and a gharial died from stones in the kidney.

“ Three tropical birds died from verminous nephritis due to infestation of the kidneys with a species of fluke.

“ *Diseases of the Liver and Gall bladder*—Caused the deaths of 7 mammals, 17 birds, and 3 reptiles. Two cheetahs and a Pallas's cat died from cirrhosis of the liver, a disease commonly found in these animals.

“ *New Growths* were found in 4 mammals, 2 birds, and 1 reptile.

“ Of the 7 deaths from tumours only two were due to cancerous growths, namely the case of the tigon (a hybrid tiger and lion) that died from sarcoma of the liver, and a macaw that died from carcinoma of the kidney.

“ *Animal Parasites* destroyed 55 animals of which 12 were mammals, 18 birds, and 25 reptiles. All were infected with their parasites on arrival.

“ Material and specimens have been sent to workers specialising in the various branches of pathology and parasitology at the undermentioned institutes, who in return have given valuable advice and assistance which I gratefully acknowledge :—

Royal College of Surgeons.

Royal College of Veterinary Surgeons.

London School of Hygiene and Tropical Medicine.

Pathological Dept., St. Bartholomew's Hospital.

Pathological Dept., University College Hospital.

Pathological Dept., King's College Hospital.

Bland Sutton Institute of Pathology, Middlesex Hospital.

Wellcome Bureau of Scientific Research.

The Field Laboratories, Cambridge.”

26. ANATOMICAL RESEARCH FELLOW. — Dr. S. Zuckerman, who was appointed Anatomical Research Fellow in 1927 and took up his duties on January 1st, 1928, was reappointed annually until the end of 1932, thus having held the Fellowship for five years, the maximum period for which it is tenable. As can be seen from the accounts published each year in the Annual Reports, Dr. Zuckerman carried out the duties of the post with vigour and success, preserving and distributing material from the Prosectorium to workers who would make good use of it and to Museums and educational Institutions. He also made researches of high value and originality, particularly on the anatomy, breeding habits and psychology of apes. He has taken up a research appointment in Yale University Medical School, U.S.A., and carries with him the best wishes of the Council and of the large number of scientific friends whom he has made whilst the Society's Research Fellow.

On the advice of the Prosectorial Committee the Council has given the Research Fellowship for one year from January 1st, 1933, to Dr. Burgess Barnett, the Curator of Reptiles.

27. ANATOMY.—Dr. S. Zuckerman, the Society's Anatomical Research Fellow, reports :—

I. “ During the past year anatomical material was prepared and sent to many institutions and private workers in the United Kingdom and Canada.

II. “ Research has been continued on the analysis of brains and body weights; on the menstrual cycle and reproductive physiology in Primates; and on colour discrimination in Primates.

III. “ Demonstrations have been given before the Scientific Meetings of the Zoological Society and the Royal Anthropological Institute.

“ Part has been taken in the discussions on ‘ Primates and Early Man ’ at Section D of the York Meeting of the British Association.

“ A lecture was delivered before the Cambridge Natural History Society.

IV. “ The following papers have been completed :—

(a) ‘ The Menstrual Cycle of the Primates. Part V. The Cycle of the Baboon.’ Proc. of the Zool. Soc., London, 1932, pp. 139–191. (With Dr. A. S. Parkes.)

(b) ‘ The Spinal Accessory Nerve of the Giraffe.’ Proc. of the Zool. Soc., London, 1932, pp. 767–769. (With Professor Francis Kiss.)

(c) ‘ The Comparative Physiology of the Menstrual Cycle in the Primates.’ British Medical Journal, 1932.

(d) ‘ The Classification of the Family *Hominidae*, with special reference to the Pekin *Sinanthropus* fossils.’

(e) ‘ The Menstrual Cycle of the Primates. Part VI. Further Observations on the Breeding of Primates, with special reference to the Suborders Lemuroidea and Tarsioidea.’ Proc. of the Zool. Soc., London, 1932, pp. 1059–1075.

(f) ‘ The Taxonomy and Phylogeny of the Primates.’ Royal Anthropological Institute.

A fuller exposition of this has been prepared and is in the press. It will be published in the spring of 1933 by Kegan Paul.”

28. HELMINTHOLOGY.—Professor R. T. Leiper, F.R.S., reports :—“ The animals dying in the Gardens during the past year, with the exception of rare specimens reserved by the Anatomist for morphological studies, have been examined for parasitic entozoa by the Society’s Pathologist.

The material collected has been provisionally identified and reported upon quarterly to the Prosectorial Committee. The identifications have been undertaken by a panel of parasitologists formed by the staff and associated workers of the Helminthological Department of the London School of Hygiene and Tropical Medicine. The material has, as far as possible, been utilised for the study of life-cycles where no intermediate host is required. The following have participated in the scheme :—Dr. B. G. Peters, Ph.D., Professor R. T. Leiper, F.R.S., Miss P. A. Clapham, B.Sc., and Dr. Scott Gladstone-Solomon, Ph.D.”

29. SANATORIUM.—This was refitted in 1922 as a quarantine station and a hospital for the treatment of sick animals. It is in charge of Dr. G. M. Vevers, the Superintendent of the Gardens, who receives valuable advice from Professor G. H. Wooldridge, F.R.C.V.S., F.Z.S., Honorary Consulting Veterinary Surgeon to the Society, from Lt.-Colonel Hamerton, the Society's Pathologist, and from the Curators.

After-treatment of animals which have undergone operations of various kinds has been in the hands of Mr. Hicks and the Sanatorium Staff, who are to be congratulated on their successes in many difficult cases.

Fellows and other visitors are not admitted to the Sanatorium or Sanatorium Yard, as many of the animals in them are under quarantine.

30. ISOLATION WARD.—The Isolation Ward, made in 1931 by bricking-off a portion of the North Mammal House, is used for cases of cat distemper and similar diseases apt to assume epidemic form. The ward is in charge of a specially qualified keeper, and other members of the Staff, Fellows, or visitors, are prohibited from entering it.

31. ILLNESS OF MALE GORILLA.—Special reference must be made to the severe illness of the very fine young male gorilla, purchased with a young female in August, 1932.

On November 15th it was reported sick, and examination showed that it had a high temperature and that one lung was nearly solid with inflammation and had lost its resonance. The condition would have been regarded as extremely serious in a human being, and was dangerous in the extreme. Lt.-Colonel Hamerton, the Society's Pathologist, and Dr. Vevers, acted as Medical Attendants, but as usual in similar cases the treatment consisted almost entirely of assiduous nursing. Keeper R. S. Smith watched it every night and keeper F. Jones every day until November 27th when the gorilla was taken off the sick list. The Council ordered the service cards of Smith and Jones to be marked for their excellent work, and made a money gift to them. It is of interest to note that the gorilla, as a result of its treatment during its illness, became much more tractable and affectionate.

32. OPTHALMOLOGY.—The work in this Department has been continued by the Society's Consulting Ophthalmologist, Miss Ida Mann, D.Sc., M.B., B.S., F.R.C.S., during the past year. A number of interesting cases of eye disease have been successfully dealt with, both in the Regent's Park Sanatorium and at Whippsnade. In many cases new or modified operations have been devised for species to which human ophthalmic surgery was not entirely applicable. As an example of this may be mentioned the procedure adopted in the case of a python in which it was necessary to excise the eye for panophthalmitis. In previous cases of this disease the eye has been removed and the gap allowed to scar over. In the present case a hollow skin-lined socket was induced and the snake provided with an artificial eye, thus materially improving its appearance and increasing its attractiveness for show purposes. This operation has since been repeated on another python with equal success.

Extraction of cataract continues to form the major portion of the ophthalmic work. A capuchin and two Humboldt's woolly monkeys were successfully treated and

are now back in their original cages. A kinkajou suffering from senile cataract was treated, with improvement in sight, but the smaller mammals apparently give less good results than the monkeys.

Various cases of conjunctivitis were treated (*e.g.*, a fox, a teguexin and a tree frog) during the year, but there has been no serious outbreak of the disease in the Reptile House this year.

An interesting case occurred at Whippsnade in the autumn. One of the full-grown ostriches developed a purulent conjunctivitis and a corneal ulcer. On examination it was found that the condition was due to the non-functioning of the *membrana nictitans* which was prevented from passing across the eye by the presence of a swelling at the inner canthus. This tumour was removed under local anæsthesia and proved to be a hæmangioma. The nictitating membrane worked freely afterwards and the corneal condition cleared up completely, the bird now being free from discomfort and fit for exhibition again.

33. VISITORS TO THE GARDENS.—The total number of visitors to the Gardens in 1932 was 1,552,535. The following Tables give comparative figures:—

Visitors to the Gardens.

1923 .	1,613,125	1928 .	2,225,662
1924 .	2,057,146	1929 .	2,047,090
1925 .	1,823,613	1930 .	2,101,438
1926 .	1,937,935	1931 .	1,816,052
1927 .	2,158,208	1932 .	1,552,535

Visitors on Bank Holidays.

	1931	1932
Easter Monday	66,252	53,893
Whit Monday	68,771	41,109
First Monday in August ...	43,440	31,667
Boxing Day	3,849	2,198

Visitors on Sundays and Week-days.

			1931	1932
Sundays	...	...	185,803	170,239
Week-days	...	...	1,630,249	1,382,296

The smaller number of visitors in 1931 was attributed more to the succession of wet Saturdays and Sundays during the season, than to the general economic condition of the country. On the whole, however, the weather in 1932 was favourable and the further drop doubtless reflects the general economic depression. There is nothing to suggest that the opening of the Whippsnade Zoological Park has lowered the number of visitors in London.

34. **ADMISSION TO THE GARDENS.**—The Gardens are open daily throughout the year (except Christmas Day, when they are closed) from 9 a.m. until sunset, or 8 p.m. when sunset is later, except on Thursdays and Saturdays from June 22nd to August 12th, when they will be open until 11 p.m. (*see par. 35*). The arrangements for admission as follows :—

Fellows.—Every Fellow may enter with two visitors by signing his or her name in the Gate-Book, but is not entitled to admit more than two visitors in this way on the same day. The husband or wife of a Fellow may use this privilege in the absence of the Fellow, but both husband and wife may not admit visitors on the same day. Honorary, Foreign and Corresponding Members have personal admission only.

Fellows' Tickets.—Fellows, unless they have exercised the option stated below, receive each year 40 undated green cards, available on any Sunday or Week-day up to January 31 of the year following the year of issue, and also available for the Aquarium, and 20 white cards available on any Week-day up to January 31. For 20 green tickets they may receive a book of dated Sunday orders, each admitting two persons, valid only for the

days printed on them, and for 20 white tickets, a similar book of Week-day orders, each valid only for the week printed on them. Expired tickets cannot be used or exchanged.

Other Visitors.—On SUNDAYS only when personally accompanied and signed for as above, or on presentation of tickets. Written messages or the visiting cards of Fellows cannot be accepted. On WEEK-DAYS, when personally accompanied and signed for as above; on presentation of tickets; or by payment. The prices for admission by payment are as follows:—

Mondays throughout the year, except Bank Holidays, 6d. each person. Bank Holidays, 1s. each adult; 6d. each child under 12 years. Other days, except Sundays, 1s. each adult; 6d. each child under 12 years. Infants in arms are admitted free.

Excursion Party Rates.—Excursion Tickets for parties of not less than 25 persons for any fixed date (except Sunday) may be obtained upon previous application, at the rates given below. Should the date chosen for the visit to the Gardens be found unsuitable, the tickets, upon being returned, will be re-dated for another day during the year of issue. Payment for admission at the reduced prices cannot be accepted at the turnstiles.

All inquiries regarding reduced terms of admission should be made at the Office.

ADULTS.	CHILDREN UNDER 14 YEARS OF AGE.
25 to 100 @ 11d. each.	25 to 100 @ 5d. each.
101 to 200 @ 10d. each.	101 & upwards @ 4d. each.
201 to 300 @ 9d. each.	
301 & upwards @ 8d. each.	

Where parties consist of adults and children the total number of the party is taken to decide the rate for each class.

Elementary Schools.—*Cheap Orders* for the admission from 9 a.m. to 1 p.m. of children from Elementary Council Schools on Tuesday, Wednesday, Thursday or Friday (except during Easter and Whitsun weeks) may be obtained for parties of not less than 25 Children and one Teacher at the rate of one penny for each child and fivepence for each Teacher. There must be at least one Teacher to every 25 children. The Children, with their Teachers, must be out of the Gardens by 1 p.m. School orders admitting to the Aquarium on Tuesdays only between 9 a.m. and 11 a.m. are issued at the same price.

Biology Students.—Students of Zoology or Animal Physiology at Secondary or Collegiate Schools or University institutions may be admitted to the Gardens and the Aquarium at the rate of 6d. each on Tuesdays, Wednesdays, Thursdays and Fridays, with their teacher, if the Society, through written application to the Secretary, is satisfied that visits are in connection with a serious course in Zoology or Animal Physiology.

Applications must be made at least a week in advance, addressed to the Secretary, Zoological Society of London, by the teacher of the students in question, giving full particulars of the specific purpose for which the visits are required in connection with the course, and if they are granted it will be understood that the visits are made only for the purpose in question.

35. THURSDAY AND SATURDAY EVENINGS.—The experiment of opening the Gardens on Thursday evenings, now tried for several years, appears to give pleasure to Fellows and the public; it also allows a number of persons occupied during the day to see the collection. It is impossible to state the exact numbers of visitors, as many who came during the day remained until evening. The total number booked in on the seventeen Thursday evenings from June 2nd to August 25th, 1932, inclusive, after the figures for the day had been taken as usual, was 27,782, of which 10,038 entered by Fellows' signatures or tickets,

16,638 were adults paying one shilling each, and 1,106 were children paying sixpence. The Gate money was £859 11s., and £163 10s. at the Aquarium. The experiment is to be repeated this year on Thursday and Saturday evenings from June 22nd to August 12th inclusive, the charge for the Aquarium being one shilling on Thursdays and sixpence on Saturdays after 8.30 p.m., except for Fellows.

On Saturday evenings, in addition to the ordinary more expensive dinner, a special dinner at 2s. 6d. is to be served.

Dinners at 4s. 6d. only will be served in the Fellows' Restaurant during the season on the Thursday and Saturday evenings on which the Gardens are open till 11.0 p.m.

It would greatly assist the Catering Department if Fellows wishing to dine there on those nights would very kindly advise the Management the day before, or on the same day before noon. This would be particularly helpful on Saturdays, which it is intended to be a popular evening.

The Management would also be glad to receive cancellations before 6.0 p.m. for tables reserved for the evening.

36. AQUARIUM.—The popularity of the Aquarium was well maintained. Although it was visited by a smaller public than in 1931, 17 per cent. of the visitors that entered the Gardens passed through its turnstiles, a percentage which is exactly the same as in 1931.

The Aquarium was again opened on Thursday evenings from June to September at the reduced charge of 6d.

Numerous collections were received from the coast of Madeira. The Society is again much indebted to Mrs. E. B. Carter, F.Z.S., for organising the capture of the specimens and also to the Union Castle Mail Steamship Company for their services in transporting them to England in the specially built tanks on their Royal Mail Steamships "Winchester Castle" and "Windsor Castle."

The total number of visitors to the Aquarium was 273,504 as compared with 322,848 in 1931.

Visitors to the Aquarium.

	1931	1932
Sundays	38,136	37,307
Week-days	284,712	236,197
Easter Monday... ..	6,611	5,852
Whit Monday	5,731	4,622
August Bank Holiday ...	3,567	3,163
Boxing Day	625	362

37. **AQUARIUM: RULES FOR ADMISSION.**—Fellows retain their privilege of taking two visitors personally with them on Sundays, and if they desire to admit or to send others, they may provide them with additional green tickets or purchase Aquarium tickets from the Office in advance for them. In consequence of the change in the Law, visitors already in the Gardens on Sundays are now permitted to enter the Aquarium by paying 1s. each for adults and 6d. each for children.

The rules for admission to the Aquarium are printed on the inside page of back cover.

38. **AQUARIUM RESEARCH FELLOWSHIP.**—This has been suspended for the present, but the Council is prepared to consider the claim of a candidate who would submit a suitable programme of work.

39. **INSECT HOUSE.**—Visitors have shewn much interest in the Insect House during the year, the cases displaying the large tropical silk-moths, bird-eating spiders, sacred scarab beetles, praying mantids, etc., and the outdoor butterfly cage, attracting considerable attention. Worthy of special mention have been the following:—Giant millipedes and tropical migratory locusts from East Africa; Leaf insects, remarkable for their resemblance to the food-plant, from Ceylon. Breeding of silk-moths, locusts, leaf insects, as well as other insects, met with considerable success, the exhibition of their immature stages being an

additional attraction. Two new decorative pools, designed for the better display of the ever-popular aquatic insects, have been installed.

40. MEDICAL ATTENDANCE AT THE GARDENS.—With numbers of visitors to the Gardens, sometimes reaching 2,000,000, and with a numerous staff, illness and accidents requiring "first-aid" assistance inevitably take place. There is a well-equipped Red Cross Room attached to the Prosectorium to which cases are taken. On week-days from 10 until 5 and on Saturdays from 10 until 1, Lt.-Colonel A. E. Hamerton, the Pathologist, gives first-aid, and Dr. B. Barnett, the Anatomist, who also is a qualified medical man, also gives assistance. Dr. G. M. Vevers, the Superintendent, who also is a medical man, and Mr. C. H. Hicks, the Superintendent's Assistant, who is highly trained in first-aid, are never both away from the Gardens. The Prosectorium Assistant is also skilled in first-aid dressing.

The Council has arranged with the St. John's Ambulance Brigade that members of their trained staff should attend at the Gardens on Bank Holidays and on Saturdays, Sundays and Mondays during the busy season. The Council pays a food allowance to the staff and makes a donation to the funds of the Brigade. This arrangement has been found to give a practical casualty service.

41. GARDENERS' DEPARTMENT.—Under the direction of Mr. W. Wall, Head Gardener, the usual standard of excellence in flower display has been maintained. In addition to the routine work of the Gardens, two new herbaceous borders were made on the lawn opposite the Cattle Sheds. Several new beds were added to the flower garden. A large number of flowering shrubs were planted to replace old or unsightly evergreens in various parts of the Gardens.

42. WORKS DURING 1932.—In addition to ordinary maintenance, the following works were carried out, in all

cases except where stated, by the Works' Department of the Gardens under the supervision of Mr. W. Ball, Clerk of Works.

Lavatories.—During the early part of the year a new lavatory for men was made behind the Small Cat House, and the Ladies' lavatory in the island site near the Jackals' Enclosure was enlarged.

Lion House.—The floors of the remaining two large outside cages of the Lion House were picked up and raised. The old and insanitary rockwork was removed and new sleeping quarters were constructed.

Kangaroo Sheds.—Extensive repairs were carried out to the inside dens of these sheds; the floors were relaid and the drainage put in order.

Aquarium.—In addition to extensive repairs to the ferro-concrete structure of the Mappin Terraces over the Aquarium, a tidal pool was constructed at the west end of the Tropical Hall.

Band-Stand.—A new band-stand was constructed opposite the new Restaurant building.

Birds of Prey Aviaries.—Extensive repairs were carried out to the concrete and brickwork of the aviaries. The roof of the back shelters has been renewed where necessary.

Offices.—The cast-iron balustrade surrounding the upper storey of the Society's offices had in many places burst the stonework of the balcony and had to be removed. The stonework was made good with artificial stone. This work was carried out by contractors under the supervision of Mr. J. J. Joass, architect of the building.

Automatic Feeding Machines.—Two automatic machines, one for feeding the sea lions, the other for feeding the Barbary sheep, were installed at the Sea Lion Pond and

Mappin Terraces respectively. The work was carried out by Messrs. William White & Co., Electrical Engineers, to the design of Mr. G. H. Baillie. The machine at the Sea Lion Pond, on the putting of 6d. in a coin box, sounds a siren and propels three pieces of fish into the deepest part of the pond. The other machine, on the Mappin Terraces, for one penny, sounds a siren and discharges a handful of oats or maize on the summit of one of the mountains of the terraces, whereupon the Sheep run up the hill and consume the food. Both machines have been a success. They are a source of revenue and they amuse the public and interest the animals.

Antelope House.—The decayed slate roof was treated with a bitumen preparation which appears to be successful.

Giraffe House.—The southern half of the slate roof of this house was re-covered with asbestos tiles.

Lemur House.—The pair of gorillas, "Mok" and "Moina," purchased by the Society in August, were installed in the Lemur House (old Experimental Monkey House) pending the construction of a new house to accommodate them. The following alterations were carried out:—

Animals' portion made fly-proof.

Plate glass screen erected between visitors and animals.

Electric exhaust fans and additional electric radiators installed.

Canvas curtains fixed on outside cage as a protection against draughts.

Slat flooring of hardwood laid over the concrete floor.

Swings fixed inside and outside.

Fly-proof cupboard and cooking range installed.

Outdoor Cage for Coatis and Monkeys.—This cage was rewired. The floor was raised and the drainage improved, and the old sleeping boxes were replaced by more hygienic structures.

Refreshment Department.—In addition to many small works carried out in this department, a new electric service lift was installed in the restaurant to work between the buffet and the Fellows' dining room.

Hippopotamus House.—The sleeping dens were divided by partitions to add to the accommodation of the house.

Electrical Intake Room.—An intake room was constructed near the Elephant House to supply the Middle Gardens with electricity.

Painting, cleaning and disinfection have been carried out in the following houses during the year :—

Hippo House.

Keepers' Lodge.

Small Birds' House.

Tea Pavilion and Band-stand.

Monkey House (outside and inside cages).

All lavatories.

All refreshment bars.

New restaurant.

Clock Tower.

Diving-Bird House.

Portion of Cattle Sheds.

Antelope House (interior dens).

Reptile House.

Rodent House.

Library and Offices.

Canal Bank Parrot Aviary.

Prosectorium.

Propagating frames and greenhouses.

Monkey and Coati cage.

44. **ELECTRICAL DEPARTMENT.** Under the supervision of Mr. H. P. Davolls, the Society's Engineer, the electrification of the Gardens is gradually being extended. The illumination of the Gardens on Thursday evenings was particularly successful, especially the flood-lighting of the trees and buildings. In addition to routine upkeep of apparatus and wiring, the Electrical Staff have assisted in the installation of the automatic feeding machines, electric lifts, and supply for Middle Gardens.

45. **LITTER.** The efforts made to prevent the scattering of litter in the Gardens and at Whipnade continue to have some success, but it may be necessary to use the powers under the Society's Act of Parliament and prosecute in a few cases. On the 29th of January, 1933, the last Sunday on which the 1932 green tickets were valid, the Gardens were unusually full and the visitors careless in the extreme.

46. **NEW GORILLA HOUSE.** Although it had not been intended to carry out any large new work in 1932, the Council, after the purchase of a very fine pair of young gorillas in August, decided to arrange for the construction of a new House suitable for gorillas or other large anthropoid apes. The Lemur House, designed originally as an experiment in the housing of delicate apes and monkeys, with a few alterations described in paragraph 43, gave reasonably sufficient accommodation whilst the gorillas were still young and when the weather was clement enough for them to spend much of the days in the out-door cage. But both the cage and the house were small, and when the apes had to be kept indoors the space for visitors was inadequate.

As usual the sites available were few and the most suitable was the area in the Middle Garden formerly occupied by the Parrot House. The Secretary proposed that a building should be constructed on that site divided into two nearly equal parts. The northern half was to be the permanent dwelling of the gorillas, arranged so that even the winter sun should shine directly into it. The southern half was to be a large cage, arranged so that in good weather it would

be the open-air play-ground of the gorillas, but capable of being closed in bad weather and used as a hall for visitors. A movable glass screen as well as bars should divide the two portions. When the cage was closed, there would be good space in it for visitors ; when the cage was open and occupied by the gorillas there would be abundant space outside it for the public.

Mr. B. Lubetkin, a Russian architect of the British Firm, Messrs. Tecton, Ltd., solved the problem in a brilliant fashion. He designed a circular house, divided into a northern portion as the permanent quarters for the apes and a southern half which is an open-air cage. A revolving metal screen is concealed behind the northern half when the cage is open, but by a gearing can be revolved in a few minutes so as to close the cage and transform it into a hall for visitors. The northern half is constructed in reinforced concrete with a lining of cellular concrete which has high insulating qualities. Cork insulation in the roof prevents condensation and economises heat. It is lighted by a clerestory window admitting the maximum of winter sun. Heating and ventilation are carried out by an air-conditioning plant which washes the air free from fog, dust and germs, humidifies it and sets it in motion at the rate of fifty feet a minute. Additional heat is supplied by three incandescent lamps which give the comfort of direct sunlight.

Sir Leonard Hill, F.R.S., kindly revised and gave advice on the systems of heating and ventilation, and so far as can be foreseen, every device for the health and comfort of the apes, for their easy management by the keepers, and for the safety and convenience of the public has been included in the design.

The new house is essentially a scientific mechanical contrivance adapted to specific purposes, and the architects have tried rather to emphasise this purpose than to conceal it by architectural "features."

After the general lines of the design were approved, much time was occupied in arranging details with the

Secretary, the Superintendent of the Gardens and the Curator of Mammals, and also in forcing it within the restricted provisions of the London Buildings Act. In the last respect we have to acknowledge much patient consideration from the District Surveyor. It was not possible to ask for tenders until late in November and the work was begun in December. It was interrupted by the frost in January and February but it is hoped that the House will have been occupied before the issue of this Report.

47. BAND.—A Committee, appointed by Council, was given powers to select a Band and to arrange for performances on the same general lines during the season of 1933 as in 1932. In accordance with their decision, the Band of the 65th (8th London) Field Brigade, Royal Artillery, has been engaged and will play on Saturday and Sunday afternoons from May 27th, 1933, to August 27th, 1933, inclusive.

On Thursday and Saturday evenings from June 22nd to August 12th, inclusive, when the Gardens are open late, the same Band will give performances.

48. REFRESHMENT DEPARTMENT. ACCOUNTS. — As stated in the Annual Report for 1930 (par. 47, p. 39) it was decided, as part of the policy of bringing the Refreshment Department more directly under the Central Office, that Messrs. W. B. Keen and Co., the Society's General Auditors, should audit also the Catering accounts, the change to be made when the new Manager took up his duties. At the same time, it was decided that in future the accounting year of the Refreshment Department should be from January 1st to December 31st, thus coinciding with the other accounts of the Society. The Refreshment Department Accounts, therefore, cover the whole of 1932.

The gross profit for the actual year 1932 amounted to £32,190 6s. 2d., and the manufacturing and other working expenses for the same period, including feeding the staff, Manager's salary, rent to the Society, licence duties, etc., amounted to £27,635 13s. 4d., leaving a trading profit of

£4,554 12s. 10d. After making the usual allowances for depreciation, allotting receipts from the lavatories, etc., on the same lines as in previous years, and deducting the Manager's commission, there was a net profit to the Society amounting to £4,620 17s. 6d. This result is satisfactory, if it be remembered that the rent paid to the Society is now £4,000 instead of £1,000, the total number of visitors to the Gardens smaller than in 1931 and the financial conditions generally more difficult.

Out of the net profit, the sum of £924 9s. 9d. has been allotted to repay the Works' Department for work carried out at the Refreshment premises and an honorarium of £100 has been paid to Mr. E. G. Boulenger for his supervision. The balance of £3,596 7s. 9d. has been passed to the General Account.

49. REFRESHMENT DEPARTMENT. MANAGEMENT.—As explained in the Council's Report for 1930 (par. 47, p. 38) the Council, after the death of the late Manager, appointed a Refreshment Department Committee consisting of Colonel the Lord Alastair Innes-Ker, D.S.O., Major Albert Pam, O.B.E., the Secretary, Mr. H. G. Maurice, C.B., Captain H. E. Hills, and Major D. D. Milne (the two latter being Fellows of the Society with professional knowledge of catering), Dr. G. M. Vevers and Mr. E. G. Boulenger. On the recommendation of that Committee, Mr. Nicholas Melero was appointed Manager of the Department for a year from January 1st, 1931, and it was further arranged that Mr. E. G. Boulenger, in consultation with the Secretary, should give advice to Mr. Melero especially with respect to the better kinds of catering and service.

The Council are satisfied that Mr. Melero has carried out his duties with great efficiency, especially in view of the generally adverse conditions, and he and Mr. Boulenger have been reappointed for 1933.

50. DE ARROYAVE TRUST FUND. The Capital of this Trust Fund is held by the Trustee of Charitable Funds (see Annual Report of the Council for 1931, page 45, Par. 50.)

The income received by the Society during 1932 amounted to £3,699 8s. 5d, and on the last page of the Report of the Auditors at the end of this Report there is printed a statement of the purposes to which it was assigned by the Council.

51. WHIPSNADÉ ZOOLOGICAL PARK. The Report covers the first full year, as in 1931 the Park was open to the public only from May 22nd. It is highly satisfactory that notwithstanding the general depression in the country there were more visitors in the season than in the corresponding months of 1931. Although the first interest aroused by the opening of a new institution had passed off, the popularity of the Park showed signs of increasing steadily.

<i>Whipsnade Visitors.</i>				1931.	1932.
				(7 months.)	
Sundays ...	...	...	...	110,147	183,153
Week-days	...	...	...	230,164	321,496
				<hr/>	<hr/>
Total	...	...	...	340,311	504,649
				<hr/>	<hr/>
Whit-Monday	...	...	...	26,946	14,288
August Bank Holiday	...	...	...	5,665	8,811
Christmas Day	...	...	...	46	7
Boxing Day	...	...	...	520	225
Easter-Monday	...	...	...	—	6,919

The weather was unfavourable on the four Bank Holidays.

52. WHIPSNADÉ PARK. RULES FOR ADMISSION.—*Fellows.* The following regulations, approved at the General Meeting of the Society on May 20th, 1931, are in force:—

Fellows have personal admission without payment to Whipsnade during the hours that it is open to the public by signing their names in the Gate-book, but without the right of taking in friends; Green tickets, Sunday Orders or Transferable Ivory tickets, valid at the Gardens, are also valid at Whipsnade, but not week-day white tickets or orders. Fellows may purchase from the London Office tickets for Whipsnade at 5s. for 6.

The Public.—Visitors who are not Fellows of the Society are admitted on Sundays and Week-days at the price of one shilling each for adults and sixpence each for children under twelve, but children are admitted only when accompanied by adults who are responsible for their behaviour and safety.

Times of Admission.—The Park is open daily throughout the year from 10 a.m. until "lighting-up" time. A notice at the Gates states the time of closing each day.

Excursion Parties.—Special rates of admission to Whipsnade are given on the same terms as to the Gardens in London. (See Paragraph 34, p. 31 of this Report.)

53. WHIPSNADE PARK. REGULATIONS AND BY-LAWS.—The Park is under two sets of regulations, our own By-Laws and By-Laws which have been approved by the Secretary of State for Home Affairs and have legal force. Of the former the most important is that the Society disclaims responsibility for any damage caused to visitors who go too close to the fences and barriers or who try to stroke or touch any of the animals. In the London Gardens we try to make such accidents impossible so far as this can be done by specific warning notices, close wiring, double barriers, and so forth. In the new Park the cost of providing such precautionary structures would be prohibitive because of the much larger size of the enclosures, and the natural appearance of the Park would be spoiled by them. Accordingly the following general warning has been placed at the Gates, and Fellows and other visitors are allowed admission only on the condition implied in the notice:—

Warning to Visitors.—Whipsnade Zoological Park is designed to supply the most natural possible conditions for keeping wild animals in captivity. In consequence, all visitors are warned that the Society disclaims responsibility for any damage caused to visitors who go too close to any of the fences or barriers or who endeavour to touch or to feed any of the animals. Visitors are also warned

that they are allowed to bring in children under twelve only on the condition that they make themselves personally responsible for the safety of the children.

Copies of the By-Laws are posted at the Gates. Any person offending against any of them is liable on summary conviction to a penalty not exceeding £5. Any officer or servant of the Society may after due warning exclude or remove from the Park any person whom such officer or servant has reasonable ground for believing to have infringed any of the By-Laws, or behaved in a riotous or disorderly manner or in a manner likely to cause a breach of the peace.

The co-operation of visitors is requested with regard to the observation of the By-Laws, and in particular to those forbidding the leaving of any litter, the teasing or molesting of the animals, or plucking or damaging wild flowers.

54. WHIPSNADDE PARK. *Cars*.—When the Park was opened it was possible to buy only three acres of ground suitable for making a Car Park, and this proved insufficient. The twelve additional acres purchased in 1931 were brought into service by considerable work in draining and preparing the ground. The Coaching section was increased to hold seventy-five coaches and two shelters for visitors waiting for buses were constructed, one capable of holding 500 and the other 300 visitors. A Kiosk for cheap teas and light refreshments for chauffeurs and other workers was also constructed and has proved a great convenience. On the busiest day in the year 2,007 private cars, 553 motor cycles, 294 bicycles and 61 coaches were accommodated.

The fees for parking are one shilling each for private cars, sixpence each for motor cycles, and twopence each for "push" cycles. Petrol, oil, water and small motor accessories can be obtained in the Car Park, and minor repairs can be carried out by the staff mechanic.

Motor-cars, bicycles, horse carriages or similar means of transport are not allowed to enter the Park except on Mondays, not Bank Holidays, throughout the year, and

daily, except Saturdays and Sundays, in November, December, January and February, when private cars are allowed to circulate in the Park from 10 a.m. until 2 p.m. at the charge of five shillings each car, in addition to the entrance fees of the visitors.

Motor-'buses carry visitors round Central Avenue from a starting place near the Whipsnade Gate to Terminus Circle near Ouseley Kiosk; the cost of tickets, which are valid all day, is sixpence for each adult and threepence for each child.

55. WHIPSNADÉ PARK. *Routes to.*—Since the new road from the main gate to Watling Street, between Markyate and Dunstable, was completed, there is excellent road access from the north through Dunstable and from London through St. Albans and Markyate. Regular 'bus services run from London, and from the railway stations at Luton.

56. WHIPSNADÉ PARK. *Catering.*—Under the direction of Mr. A. Schorno, Catering Manager since January 1st, 1932, the catering arrangements have been greatly improved, and the accommodation at the Central Restaurant and the Kiosks has been much extended.

A notice is placed inside the Whipsnade Gate giving the refreshment arrangements for each day.

There are six fully licensed Refreshment Stations inside the Park, the licensed hours being from noon until 3 p.m. and from 5 p.m. until 10 p.m. on week-days, and on Sundays from 1 p.m. until 3 p.m. and from 6 p.m. until 9 p.m.

At the *Central Restaurant at Hall Farm*, hot luncheons, dinners and teas at various prices are served.

At the *Fellows' Pavilion* on the edge of the Downs near the end of Duke's Avenue, luncheons and teas are served, and cold dinners can be served in the season if application be made in advance.

The use made of this Pavilion, which is on one of the most beautiful sites in the Park, has been disappointing. It has been decided for the present to allow Fellows to give

admission to it to their friends on week-days by a dated card or letter.

At *Ouseley Kiosk* on the edge of the Downs, near Bison Hill, luncheons and teas are provided.

At *Triangle Kiosk*, on the edge of the Downs near Triangle Wood, at *Holly Frindle Kiosk* also on the edge of the Downs at the extreme south end of the Park, and at *Avenue Kiosk* at the end of Central Avenue, light refreshments and teas are served.

Open-air spaces are provided at each Kiosk for visitors who wish to bring their own refreshments, but picnicking is not permitted in other parts of the Park.

Large parties can be catered for if arrangements are made in advance. Letters should be addressed to the Catering Manager, Whipsnade Park, Dunstable, Beds.

57. WHIPSNADE PARK CATERING DEPARTMENT.
Accounts.—The Catering Department Accounts for the year 1932 have been audited by Messrs. W. B. Keen & Co. The Gross Profit for the year amounted to £12,087 1s. 11d. and the manufacturing and other working expenses for the same period (including feeding and lodging the staff, Manager's salary, licence duties, etc.) amounted to £10,055 19s. 5d., leaving a trading profit of £2,032 2s. 6d. After charging the cost of additions, renewals and repairs and crediting the receipts from lavatories, etc., there was a net profit due to the Society of £1,723 12s. 7d.

Out of the net profit the sum of £275 2s. 11d. has been allotted to the Works' Department towards the cost of work carried out at the Catering premises. The balance of £1,448 9s. 8d. has been passed to the General Account.

58. WHIPSNADE PARK. *Management and Staff.*—The Park is under the direct control of a Committee consisting of the President and Secretary of the Society, the Chairman of the Garden Committee and two other members of the Council. It meets at Whipsnade monthly, and is also attended by the Superintendent of the London Gardens,

the Superintendent of Whipsnade Park (who is technically subordinate to the London Superintendent) and the Catering Manager. The staff is now as follows :—

Superintendent—Capt. W. P. B. Beal.

Catering Manager—Mr. A. Schorno.

Clerk of Works—H. Simmons.

Engineer—A. C. W. Corbett.

Clerk—F. S. Morris.

Headkeeper—A. Macdonald.

Policeman—H. Hamilton.

Keepers—Twelve.

Others in uniform—Part-time Keepers,
Park Patrol, Car Park Attendants,
with remainder of time on Works
and Gardening. } Twenty-five.

Head Gardener—W. E. Puddle.

Gardeners—Four (others in winter).

Gatekeepers—Two.

Motor Mechanics—Two.

Chauffeurs—Two.

Storekeeper—One.

Butcher—One.

Works—Twelve (others part-time and in winter).

Electricians—Two.

Housekeeper at Bothy—One.

The Bedfordshire County Police have been of great assistance to the Society. Two constables are detailed for permanent duty at Whipsnade and control the traffic outside our gates. At week-ends and on Bank holidays these numbers are considerably increased. It is by their co-operation that we are able to deal with the car traffic expeditiously.

The local Boy Scouts have supplied four Rovers to assist in the prevention of litter on Sundays.

59. WHIPSNADDE PARK. *Labour Scheme*.—The arrangement with the Ministry of Labour, under which a great part of the development of the Park was carried out, came to an end for financial reasons on July 13th.

60. WHIPSNADDE PARK. *Accidents and First Aid*.—Although accidents directly due to the animals have been few, attention has been required on many occasions by visitors and by members of the staff. The Area Commandant of the Local Section of the St. John's Ambulance Brigade has placed at our Ambulance Station every Sunday throughout the summer one non-commissioned Officer, two Privates and one Sister, and doubled these numbers on the Whitsun and August Bank Holidays.

61. WHIPSNADDE PARK. *Development*.—The twelve acres purchased alongside the original Car Park have been fenced, enclosed by a plantation, drained, and added to the Park. The boundary fence between Whipsnade Common and Birchmore's Field has been set back to give to the Commoners .67 of an acre to compensate for the ground taken in widening the new road. The twenty-eight acres purchased on the east side of Sir Peter's Way have been fenced in, and a lighter fence has been put round about thirty acres leased on the south side of our boundary. A large horse-shoe shaped area on the undeveloped part of the estate has been fenced for planting to surround a future lake.

62. WORKS, 1932. *General*.—The first-class roads inside the Park, over three miles in total length, have been repaired and tarred where necessary and the minor roads and foot-paths, in all over seven miles in length, have been kept in order and where necessary widened. Much labour and material has been spent on improving the surface of the Car Park. Additional fencing has been put up to confine the unenclosed deer to the undeveloped part of the Estate and prevent them from raiding the gardens and young plantations at night. The picnic areas at Holly Frindle

and Triangle Kiosks have been greatly enlarged and additional litter baskets provided. A Rain Shelter capable of accommodating 200 people has been placed in Whipsnade Wood and a number of new shelters and stables for the animals have been constructed.

Works.—Special. Catering Departments.—The gravel court in front of the Cloisters at the Farm Restaurant was roofed over with glass to give seating accommodation for 300 additional persons. The Loggia attached to the Restaurant was provided with a movable glass front and electric heaters were installed. A second Army Hut, containing twelve cubicles and provided with a bath, wash-hand basins and a hot water supply, was erected and fitted for the accommodation of temporary waitresses. A wing was added to the Cloisters building to provide a dormitory of six cubicles, a bath-room and lavatory accommodation for the resident male staff, and at the back of the Loggia a dressing-room with lavatories was provided for waitresses. The Fellows' Pavilion had the kitchen accommodation extended and a Tea-shelter added. Ouseley Kiosk was provided with a new shelter 70 feet long, and a kitchen, refrigerator and pantry. A large cold storage chamber was provided for the Central Restaurant.

Superintendent's House.—This building, designed by Messrs. Richardson & Gill and erected by Messrs. Marriott, of Rushden, Northants, was completed early in the year and subsequently a lawn and flower garden were laid out in front of it. In addition to quarters for the Superintendent and his family the house contains the Estate Office and a small laboratory.

Polar Bears' Pond.—As the Polar bears had been turning their enclosure into a mud-bath, the whole of the area was covered with concrete, the pond enlarged, and the shelter replaced by a concrete house. To improve the appearance the concrete surface was faced with a layer pigmented with green and brown.

Lions' Dens and Tiger Pit.—When the chalk pit described on page 54 of last year's Report was lined with concrete to make it suitable for large carnivora, the Whipsnade Committee obtained the sanction of Council for a parallel experiment. A very large dell hole with grass, trees and bushes was surrounded by iron bar fencing fifteen feet high with an overhang of spikes projecting inwards for four feet. At one side a concrete platform for visitors was constructed, three caves were built into the bank, and catch-up enclosures, a small pond and a wooden shelter were provided. Four docile lions which were bought with Messrs. Bostock's menagerie, were placed in this early in the year and have thriven, increasing in weight and improving in coat. The enclosure has been much admired by the public and as the dell is sheltered from the wind, the animals have stood the winter in it extremely well. But it is suitable only for the exhibition of thoroughly tame animals and would not be suitable for a breeding pair.

The Tiger Pit has been constructed from a chalk quarry, the sides and floor of which it was necessary to line with concrete. It is provided with an island platform and a small pond and under the terrace for visitors are four dens on the ground floor and two immediately under the terrace walk. The dens can be heated and there is every convenience for handling breeding animals. The Tiger Pit has been occupied by a pair of tigers since May, 1932, and these have put on weight and improved greatly in appearance. Both experiments have been successful for their different purposes and doubtless when funds are available it would be an advantage to have a summer enclosure for tigers like the lions' enclosure and a winter and breeding enclosure for lions resembling the tiger pit.

White Lion on the Downs.—This has not yet been completed as the ground for the head had to be built up about fourteen feet from the level, to get it into the plane of the body, and the mound has to settle before being finished.

Ponds.—Mr. Tom Smith of Lambourne, Berks, completed the construction of small ponds at the Beaver Enclosure, the Water Garden near the Farm, Round Close Paddock, Hall Craft Paddock and Lay Meadow. The sites for these were either ponds already in existence which required cleaning and puddling, or areas in which rain-fall naturally collected.

Sir Peter's Way.—The whole of this road, nearly three-quarters of a mile in length, which will form a beautiful avenue of approach from the Dagnall Gate, has been bottomed with hard core and supplied with drains.

Kiosk at Main Gate.—A small Kiosk has been placed at the Main Gate for the sale of Guides, Postcards and other light articles, and a letter-box, cleared twice daily, has been provided for the convenience of visitors.

Water-supply.—A Water-tower has been put up to give sufficient pressure to some of the higher parts of the Estate. The bore-pipe of the deep well was lengthened by 42 feet so that there are now 392 feet of bore pipe. The pumping-plant worked $2,765\frac{1}{2}$ hours during the year, an average of about 8 hours a day, and pumped 3,451,725 gallons of water. Two 750 gallon tanks were erected at the Bothy for conservation of rain-water.

Fire.—Fire practice drills have been held twice monthly.

New Sewage Plant.—As the original sewage plant was found to be overworked, a new plant, on the same plan, but three times the size has been installed. The effluent after leaving the various filter-tanks, instead of draining into the chalk, is led to a lagoon surrounded by willows and planted with water-plants. The effluent appears to be entirely inoffensive. The original set of filters has been retained so as to serve in emergencies.

Engineering and Electrical Plant.—Under the supervision of Mr. Corbett, the engine of the pumping station and the electrical systems have been maintained in good order. The cables inside the Park have been extended to supply additional points and much electrical apparatus has been

provided for the various branches of the Catering Department.

63. WHIPSNADÉ PARK. *Works*, 1933.—Unfortunately financial conditions did not warrant arranging a programme of new Works at Whipsnade during 1933, although some, such as the provision of a Monkey-Hill, a Paddock for Gnus and a breeding paddock for Bison are urgent. Additions have already been made to the lavatory accommodation at the Central Restaurant; a third Army Hut for waitresses is being erected and Triangle Kiosk is being reconstructed on a larger scale.

64. WHIPSNADÉ PARK. *Gardening*.—Under the very capable direction of Mr. W. E. Puddle much work has been done in nursing the existing plantations, encouraging wild flowers, growing cuttings, making seed-beds, and making more formal flower beds near the Central Restaurant. The President has presented a large number of trees, shrubs and seeds. Partly by purchase and partly by donation large quantities of daffodils, foxgloves, primroses and wild orchids have been planted. Every effort is being made to increase the beauty of Whipsnade by attention to the natural vegetation.

65. WHIPSNADÉ PARK.—*Agriculture*.—The hay crop was poor owing to the bad weather, and the grass cut from eighty acres had to be burned. Roots and clover did well, and several lorry-loads of this produce were sent to the London Gardens. Ninety acres of the undeveloped land were laid down to permanent pasture.

The flock of Cheviot wethers, kept for grazing purposes, has been reduced to 75. A breeding flock of 25 Border Leicester ewes has been purchased, and these are expected to lamb in early Spring.

The methods employed for keeping rats down are trapping, shooting, poison, and gas. The known number of rats taken was 892, the number that are killed by poison and gas is not known, but must be considerable. The rat

problem during 1932 was not as big as it was in 1931. The number of moles trapped was 81. The number of grey squirrels killed was 7 ; of stoats 15.

Rabbits.—814 rabbits have been supplied to the London Gardens.

66. WHIPSNADE PARK.—*Menagerie.*—The general health of the animals was good. The same species as were on exhibit for 1931 were on view in 1932, additions being Tigers, Polar Bears, Porcupines, Anoa's, Dingos, Tibetan Mastiffs, Chillingham Wild Cattle, Beavers, Soay and Spanish Sheep, Alligators and Japanese long-tailed Fowl.

The President and Mr. A. Ezra have both been generous donors of animals.

The chief losses have been :—1 Bison, 2 Nylghaie, 1 Chillingham Cow and 1 stallion Grévy's Zebra, all from injuries received in fighting ; and 1 Bactrian and 1 Arabian Camel, 1 Polar Bear and 2 Nylghaie, from disease.

Numerous births have taken place. Jean, the Pygmy Hippo who spends the summer here, gave birth at the London Gardens. The Chinese Water Deer have in two years trebled their numbers—it was noticed that many triplets were born this year.

The Wolves have doubled their original number and are becoming an ever-increasing pack. The Sarus Cranes laid several eggs and reared one bird. The Emus also laid several eggs during December.

Bostock's Menagerie, purchased in 1931, arrived early in January. The collection has been broken up. The four lions, and Dixie the elephant, were specially valuable additions.

On deposit are four Beavers, on loan from the Department of Forests, Ontario, Canada.

The principal sales include one Elephant and six Lions.

Large numbers of caterpillars and cocoons, as well as adult insects suitable to the locality were distributed, but so far without visible result.

67. CHILLINGHAM WILD WHITE CATTLE.—As described in the Report for 1931, p. 58, paragraph 65, the Council, in view of the grave danger threatening the existence of the unique herd of English White Park Cattle at Chillingham Castle, Northumberland, agreed to contribute the sum of £100 a year for seven years towards their support. Three Trustees, Sir Peter Chalmers Mitchell, *Chairman*, Viscount Grey of Fallodon and Mr. Hugh S. Gladstone, with the approval of Council, took a lease from the Earl of Tankerville of the Park and Cattle for a period of seven years at £500 per annum of which £250 was the rental value and £250 towards the cost of maintenance. The Trustees issued the following appeal:—

PRESERVATION OF CHILLINGHAM PARK WILD CATTLE.

Viscount Grey of Fallodon, Mr. Hugh S. Gladstone, and Sir Peter Chalmers Mitchell, Trustees appointed for the purpose by the Council of the Zoological Society of London, have taken from the Earl of Tankerville a lease for seven years at a rental of £500 per annum of the Park at Chillingham Castle in Northumberland with the object of preserving the famous herd of White Park Cattle. The Council of the Zoological Society of London, recognising the unique interest of the herd, and the impossibility of the owner, under present financial conditions, being able to maintain it, have promised a contribution of £100 per annum for seven years from the funds of the Society.

The Trustees now appeal for assistance in raising the balance required. Contributions, in the form of single donations or of annual subscriptions, should be addressed to The Secretary, Zoological Society, Regent's Park, London, N.W.8, and cheques should be made payable to the Zoological Society. It will be arranged that subscribers

will have the entry to the Castle Grounds to a place from which the Cattle may be seen, although it is not safe for visitors to enter the Park itself.

Chillingham Park has been enclosed for many centuries, and its area, approximately 700 acres surrounded by a wall, remains almost in its original wild condition of rough pasture and woodland. The herd now consists of 44 animals. Statements, to which it would be unwise to give full credence, have been made that the cattle are direct descendants of the Aurochs, or primitive wild ox of Britain, but in any case the herd has existed in the Park for several centuries and is the most interesting and most genuine of the unique White Park Cattle of this country. The animals are white in colour with the insides of the ears and the muzzles now red, although formerly black. They are rather small in size and have rough and curly coats and small, upwardly-directed, black-tipped horns. They are wild animals, the strongest bull acting as king of the herd until he has been fought and displaced by a younger rival. The cows retire to the woods to calve and leave their young hidden for nearly a fortnight, returning regularly to suckle.

The Park supplies sufficient food in summer, but in autumn and winter hay is taken to the herd in carts, and it is only in these carts that it is safe for strangers to approach the herd. The lease includes the housing and wages of a keeper, and Lord Tankerville himself has undertaken to supervise the herd.

(Signed) P. CHALMERS MITCHELL, *Chairman.*
 GREY OF FALLODON.
 HUGH S. GLADSTONE.

In addition to the Society's contribution of £100, subscriptions and donations amounting to £447 17s. 0d., were received. The certified accounts with vouchers for the year showed that out of the £250 advanced for maintenance during the year 1932, £196 had been expended, showing a balance of £54, to which has to be added £57 14s. 0d., the fees of visitors to the Park, leaving a balance of £111 14s. 0d. to be carried forward towards the cost of maintenance in 1933

(see p. 98). The Trustees, however, as the result of visits to the Park, and on the advice of a local expert, have sanctioned the special expenditure of £88 on the treatment of the land with lime and salt to improve the grazing. There is therefore urgent need for further subscriptions and donations to the Chillingham Park Cattle Maintenance Fund.

68. MENAGERIE.—The Society is as usual much indebted to Fellows, Corresponding Members, Private Donors, and to Institutions, Societies and Shipping Companies for their most kind help in maintaining the collection of animals by gifts and by assistance in transport. Specially to be mentioned in respect of 1932 are H.G. the Duke of Bedford, President of the Society, Mr. Alfred Ezra, F.Z.S., Mr. Eric C. Johnson, C.M.Z.S., The Hon. Anthony Chaplin, F.Z.S., Mr. G. C. Upstone, C.M.Z.S., Mr. Stanley Woodward, C.M.Z.S., Mr. S. S. Morris, C.M.Z.S., Mr. Frank Nurse, C.M.Z.S., the Bombay Natural History Society, the Zoological Gardens of Calcutta, Messrs. Alfred Holt & Co., Messrs. Henderson & Co., the Ellerman Line, the P. & O. Steamship Co., the Union-Castle Steamship Co., Messrs. Elders & Fyffes, and the British India Steam Navigation Co., through Messrs. Gray, Dawes & Co., and Messrs. Mackinnon, Mackenzie & Co.

69. COMMISSARIAT.—In the following table are given the quantities of the principal kinds of food, etc., consumed in the Gardens in 1932 :—

Class.	Description.	Number or Quantity
Fodder, etc...	Hay	159½ tons.
" ..	Clover	116½ tons.
" ..	Straw	98 tons.
" ..	Tares	23,818 bundles.
" ..	Peat-Moss Litter ..	42 bales.
Grain, etc. ..	Oats	440½ qtrs.
" ..	Bran	126¼ qtrs.
" ..	Wheat	45 qtrs.
" ..	Wheat-Mixture ..	35½ qtrs.
" ..	Barley Meal	15 cwts.
" ..	Maize	26 qtrs.

Class.	Description.	Number or Quantity.
Grain, etc. ..	Locust Beans	79 cwts.
" ..	Rice	74 cwts.
" ..	Canary Seed	20½ qtrs.
" ..	Hemp Seed	15 qtrs.
" ..	Millet	4¾ qtrs.
" ..	Millet Spray	57 bunches.
" ..	Sunflower-seed	19 qtrs.
Fish ..	Plaice	2 tons, 1½ cwts.
" ..	Herrings and Whiting	43 tons, 19¼ cwts.
" ..	Shrimps	1,914 pints.
Flesh ..	Horse-flesh	198 tons.
" ..	Goats	20.
Milk ..	Condensed—Sweetened	6,048 lbs.
" ..	" Unsweetened	2,112 lbs. & 456 gals.
Nuts ..	Spanish	201 qts.
" ..	Monkey	132 cwts.
" ..	Brazil	142 lbs.
" ..	Mixed	205 lbs.
Fruit and Vegetables	Bananas	184,076.
" ..	Apples	7 tons, 6¾ cwts.
" ..	Grapes	2 tons, 13¼ cwts.
" ..	Oranges	14,689.
" ..	Dates	18¼ cwts.
" ..	Currants	10¾ cwts.
" ..	Sultanas	52 lbs.
" ..	Lettuce	16,933.
" ..	Greens	1,201½ bushels.
" ..	Carrots	4 tons, 5¾ cwts.
" ..	Potatoes	23 tons 15¾ cwts.
" ..	Onions	8½ cwts.
" ..	Mangolds	35 tons.
Miscellaneous	Biscuits	15 tons, 11 cwts.
" ..	Biscuit Meal	4 tons, 6 cwts.
" ..	Honey	51 lbs.
" ..	Bread	5 tons, 19¼ cwts.
" ..	Eggs	19,800.
" ..	Sugar	357 lbs.
" ..	Ant-eggs	448 lbs.
" ..	Mealworms	686 lbs.
" ..	Dried Flies	476 lbs.
" ..	Egg Yolk	140 lbs.
" ..	Golden Syrup	201 lbs.
" ..	" Marmite "	Many jars.

70. NUMBERS OF THE COLLECTION.

Animals in the London Gardens on December 31st, 1932.

Animals of all kinds (except Fish and Invertebrates) on January 1st, 1932	...	...	...	...	3,811
Animals of all kinds (except Fish and Invertebrates) received in 1932 by presentation, exchange, deposit, purchase or birth	...	...	...	...	2,158
					<hr/> 5,969
Animals of all kinds (except Fish and Invertebrates) dead, sold, sent in exchange, or returned to depositors in 1932	...	...	...	...	2,085
Animals of all kinds (except Fish and Invertebrates) in the Gardens on December 31st, 1932	...	...	...	...	<hr/>3,884

Additions to the Collection, 1930-32.

	Presentation.	Purchase.	Deposit.	Exchange.	Birth.	TOTAL.
1930 ...	1,313	1,634	297	102	337	3,683
1931 ...	718	837	294	92	278	2,219
1932 ...	960	587	182	118	311	2,158

Animals at Whipnade on December 31st, 1932.

Mammals	...	...	...	...	462
Birds	...	...	...	...	257
Reptile	...	...	...	...	1

[In the case of the Chinese Water Deer and the Muntjac, loose in the Park and breeding freely, the numbers are only an estimate.]

71. BRED IN THE LONDON MENAGERIE. 1932.

Mammals.

January	1	Scimitar-horned Oryx ♂ (<i>Oryx algazel</i>), reared.
March	12	Dingos (<i>Canis familiaris dingo</i>), 11 reared.
„	1	Cape Buffalo ♀ (<i>Syncerus caffer</i>), died 2 days after birth.

- March 1 Anoa ♂ (*Anoa depressicornis*), reared.
- „ 1 Hartmann's Mountain Zebra ♂ (*Equus zebra hartmannae*), died 5 days after birth.
- „ 1 Salt Desert Cavy (*Dolichotis salinicola*), reared.
- April 1 American Bison ♂ (*Bison bison*), reared.
- „ 2 Brown Lemurs (*Lemur fulvus*), reared.
- „ 1 Anoa (*Anoa depressicornis*), reared.
- „ 2 Short-headed Flying-Opossums (*Petaurus breviceps*), reared.
- „ 1 Lechwe Waterbuck ♀ (*Kobus leche*), reared.
- „ 3 Indian Wolves (*Canis pallipes*), reared.
- May 1 Black Lemur (*Lemur macaco*), reared.
- „ 1 Yak ♂ (*Poephagus grunniens*), reared.
- „ 1 Reindeer ♀ (*Rangifer tarandus*), reared.
- „ 1 Short-headed Flying-Opossum (*Petaurus breviceps*), reared.
- „ 1 Black Wallaby (*Macropus ualabatus*), reared.
- „ 1 Pudu Deer (*Pudu puda*), reared.
- „ 6 Wolves (*Canis lupus*), 4 reared.
- „ 1 American Bison ♀ (*Bison bison*), reared.
- „ 1 Californian Sea Lion (*Zalophus californianus*), died when 5 months old.
- „ 1 Hybrid Himalayan Ibex × Goat (*Capra sibirica* × *C. hircus*), reared.
- „ 1 Persian Gazelle (*Gazella subgutturosa*), reared.
- „ 4 Portuguese & Indian Wolves (*Canis lupus* × *C. pallipes*), died when young.
- June 1 Californian Sea Lion (*Zalophus californianus*), reared.
- „ 1 Hybrid Sooty × White-crowned Mangabey (*Cercocebus fuliginosus* × *C. torquatus*), died when 5 months old.

- June 1 Red Kangaroo (*Macropus rufus*), died when
6 months old.
- „ 1 Llama ♂ (*Lama glama*), reared.
- „ 1 Brown Capuchin Monkey (*Cebus fatuellus*),
reared.
- „ 1 Sumatran Porcupine (*Hystrix longicauda*),
reared.
- „ 1 Persian Gazelle (*Gazella subgutturosa*), reared.
- „ 1 Salt Desert Cavy (*Dolichotis salinicola*), died
soon after birth.
- „ 2 Hangul Deer (*Cervus hanglu*), 1 reared.
- „ 1 Hybrid Punjab × Cyprian Wild Sheep (*Ovis
vignei* × *O. ophion*), reared.
- „ 3 Prairie Marmots (*Cynomys ludovicianus*),
reared.
- July 5 Polecats (*Putorius putorius*), reared.
- „ 1 Hog Deer (*Hyelaphus porcinus*), reared.
- „ 1 Pigmy Hippopotamus ♀ (*Choeropsis liberien-
sis*), reared.
- „ 1 Crab-eating Monkey (*Macaca irus*), reared.
- „ 1 Eland Antelope (*Taurotragus oryx*), reared.
- August 1 Syrian Hyrax (*Procavia syriaca*), reared.
- „ 1 Cape Buffalo ♂ (*Syncerus caffer*), died day after
birth.
- „ 1 Pig-tailed Monkey (*Macaca nemestrina*),
reared.
- September 2 Grey Squirrels (*Sciurus carolinensis*), 1 reared.
- „ 2 Lion cubs (*Felis leo*), reared.
- „ 1 Shetland Pony ♂ (*Equus caballus*), reared.
- „ 1 Blackbuck (*Antilope cervicapra*), reared.
- October 4 Fat-tailed Gerbils (*Pachyuromys duprasi*),
3 reared.

- October 1 Grey Squirrel (*Sciurus carolinensis*), died soon after birth.
- November 1 Nylghaie (*Boselaphus tragocamelus*), reared.
- „ 1 Pygmy Hippopotamus ♀ (*Choeropsis liberien-
sis*), reared.
- December 1 Matschie's Tree Kangaroo (*Dendrolagus
matschiei*) reared.
- „ 2 Indian Fruit Bats (*Pteropus giganteus*), reared.
- During 1932. { 22 Shaw's Jirds (*Meriones shawii*), 21 reared.
2 Mouflon (*Ovis musimon*), 1 reared.
3 Grecian Wild Goats, 2♂, 1♀ (*Capra hircus*),
died when young.
5 Thar, 3♀, 2♂ (*Hemitragus jemlahicus*), 4 reared.
4 Barbary Wild Sheep, 3♂, 1♀ (*Ammotragus
lervia*), reared.
8 Fat Sand Rats (*Psammomys obesus*), 5 reared.

Birds.

- May 2 Black-footed Penguins (*Spheniscus demersus*),
reared.
- June 2 Red-rumped Parrakeets (*Psephotus hæmatono-
tus*), 1 reared.
- „ 2 Night Herons (*Nycticorax nycticorax*), reared.
- „ 3 African Sacred Ibis (*Threskiornis æthiopicus*),
reared.
- „ 4 Carolina Ducks (*Aix sponsa*), reared.
- July 1 Elegant Grass Parrakeet (*Neonanodes elegans*),
reared.
- „ 10 Yellow-billed Ducks (*Anas undulata*), 8 reared.
- „ 4 Cockatiels (*Leptolophus hollandicus*), 2 reared.
- „ 3 Hybrid Yellow-rumped × Barnard's Parra-
keets (*Platycercus flaveolus* × *Barnardius
barnardi*), reared.

- August 2 Diamond Ground Doves (*Geopelia cuneata*),
1 reared.
- „ 3 Bronze-winged Pigeons (*Phaps chalcoptera*),
reared.
- „ 1 Californian Quail (*Lophortyx californica*),
reared.
- September 4 Maned Geese (*Chenonetta jubata*), 3 reared.
- „ 1 Illiger's Macaw (*Ara maracana*), reared.
- „ 1 Bronze-winged Pigeon (*Phaps chalcoptera*),
reared.
- 34 Budgerigars (White var.) } (*Melopsittacus un-*
15 Budgerigars (Cobalt var.) } *dulatus*) all
9 Budgerigars (Green) } reared.
- 10 Masked Lovebirds (3 Blue var.) (*Agapornis*
personata), 8 reared.
- During 1932. { 17 Fischer's Lovebirds (*Agapornis fischeri*),
reared.
- 4 Nyasaland Lovebirds (*Agapornis lilianæ*),
reared.
- 4 Hybrid Nyasaland & Fischer's Lovebirds
(*Agapornis lilianæ* × *A. fischeri*), 2 reared.
- 3 Hybrid Masked & Fischer's Lovebirds (*Agapornis personata* × *A. fischeri*), reared.

Reptiles.

- January 14 Broad-headed Water Snakes (*Homalopsis buccata*), 11 reared.
- February 1 Cunningham's Skink (*Egernia cunninghami*),
died when 3 days old.
- November 7 False Mocassins (*Natrix sipedon*), reared.
- „ 17 Jackson's Chameleons (*Chamaeleon jacksonii*),
died when young.
- December 2 False Mocassins (*Natrix sipedon*), reared.

72. ANIMALS BRED AT WHIPSDNADE. 1932.

January to March	} 9 Goats (<i>Capra hircus</i>), used for food.
February	3 Lion cubs (<i>Felis leo</i>), died soon after birth.
„	1 Spotted Deer (<i>Axis axis</i>), reared.
April	3 Barbary Sheep (<i>Ammotragus lervia</i>), died when young.
„	4 Mouflon (<i>Ovis musimon</i>), 1 reared.
„	12 Soay Sheep (<i>Ovis aries var.</i>), 7 reared.
„	1 Yak ♂ (<i>Poephagus grunniens</i>), died when 4 days old.
May	1 Chartley Calf ♂ (<i>Bos taurus</i>), reared.
„	2 Common Peafowl (<i>Pavo cristata</i>), reared.
„	1 Llama ♂ (<i>Lama glama</i>), reared.
May & June	} 5 Highland Calves (<i>Bos taurus</i>), reared.
May, June & August	} 4 Shetland Ponies, 2♂, 2♀ (<i>Equus caballus</i>), reared.
June & August	} 8 Red Deer (4 White var.) (<i>Cervus elephas</i>), reared.
July	5 Wolves, 1♂, 4♀ (<i>Canis lupus</i>), reared.
„	9 Fallow Deer (<i>Dama dama</i>), reared.
August	2 Swamp Deer (<i>Rucervus duvaucelii</i>), reared.
September	9 Bennett's Wallabies (<i>Macropus ruficollis bennetti</i>), reared.
„	1 Thigh-striped Wallaby (<i>Macropus thetidis</i>), reared.
„	1 Llama ♀ (<i>Lama glama</i>), reared.
October	2 Nylghaie ♂♀ (<i>Boselaphus tragocamelus</i>), died soon after birth.
„	1 Spotted Deer (<i>Axis axis</i>), reared.

73. LIST OF SPECIES NEW TO THE COLLECTION IN 1932.
(The figures placed before each name indicate its approximate position in the New Vertebrate List.)

I.—MAMMALS.

- 162 a. *Macroscelides rozeti* Duvernoy. North African Elephant-Shrew.
Hab. North Africa.
a-b. Purchased July 21st, 1932.
- 264 a. *Herpestes auropunctatus persicus* Gray. Persian Spotted Mongoose.
Hab. Iraq.
a-b. Deposited June 4th, 1932.
- 424 a. *Sciurus stramineus nebouxii* Is. Geoff. Neboux's Squirrel.
Hab. Peru.
a. Presented by Dr. Burgess Barnett, C.M.Z.S., June 3rd, 1932.
- 483 a. *Cricetus auratus* Waterhouse. Golden Hamster.
Hab. Aleppo.
a-b. Presented by Professor E. Hindle, F.Z.S., April 8th, 1932.
- 507 b. *Lemniscomys zebra* (Heuglin). Zebra Mouse.
Hab. Gold Coast.
a-b. Presented by G. C. Upstone, Esq., C.M.Z.S., March 31st, 1930 (but not identified until July, 1932).
- 507 c. *Lemniscomys pulcher* (Wroughton). Beautiful Striped Mouse.
Hab. Southern Nigeria.
a-d. Presented by H. L. Sich, Esq., July 5th, 1932.
- 772 a. *Elaphodus cephalophus ichangensis* Lydekker. Ichang Tufted Deer.
Hab. Szechwen, China.
a. Purchased December 15th, 1932.

II.—BIRDS.

- 209 a. *Lagonosticta rara* (Antin.). Rare Fire Finch.
Hab. North-east Africa.
 a-b. Deposited December 5th, 1932.
- 344 a. *Phlogothraupis sanguinolenta* (Less.). Black-and-Red Tanager.
Hab. Mexico.
 a. Purchased May 11th, 1932.
- 515 a. *Poospiza nigrorufa* (d'Orb. & Lafr.). Black-and-Red Warbling Finch.
Hab. Paraguay.
 a. Presented by R. de Quincey, Esq., April 28th, 1932.
- 604 a. *Ptilotis virescens* Vieillot. Singing Honey-Eater.
Hab. Australia.
 a. Presented by the Hon. Anthony Chaplin, F.Z.S., September 15th, 1932.
- 605 a. *Meliornis novæ-hollandiæ* (Lath.). New Holland Honey-Eater.
Hab. Australia.
 a-b. Purchased June 27th, 1932.
- 646 a. *Eopsaltria australis* Shaw. Southern Yellow Robin.
Hab. South-east Australia.
 a. Deposited July 8th, 1932.
- 771 a. *Thamnolæa cinnamomeiventris albiscapulata* (Rüpp). Abyssinian Cliff Chat.
Hab. North-east Africa.
 a-b. Presented by the Hon. Anthony Chaplin, F.Z.S., October 7th, 1932.
- 809 a. *Pomatorhinus tickelli* Blyth. Tickell's Scimitar Babbler.
Hab. Tenasserim.
 a. Presented by Sydney Porter, Esq., F.Z.S., July 28, 1932.

- 863 a. *Cyornis tickellia* Blyth. Tickell's Blue Flycatcher.
Hab. India.
 a. Deposited April 26th, 1932.
- 868 d. *Xanthopygia xanthopygia* (A. Hay). Tricolor
 Narcissus Flycatcher.
Hab. China and Japan.
 a. Deposited October 13th, 1932.
- 881 a. *Agriornis solitaria* ScL. Solitary Tyrant.
Hab. Andes of Ecuador.
 a. Presented by the Hon. Anthony Chaplin,
 F.Z.S., September 15th, 1932.
- 1399 a. *Parabuteo unicinctus* (Temm.). One-banded
 Buzzard.
Hab. Tropical South America.
 a. Presented by T. W. Hugh-Jones, Esq.,
 C.M.Z.S., December 4th, 1932.
- 1402 a. *Astur polyzonoides* (Smith). Little-banded Gos-
 hawk.
Hab. South Africa.
 a. Presented by Alfred Ezra, Esq., O.B.E.,
 F.Z.S., April 25th, 1932.
- 1461 a. *Butastur teesa* (Franklin). White-eyed Buzzard.
Hab. India.
 a-b. Received in exchange April 21st, 1932.
- 1533 a. *Nannopterum harrisi* Rothsch. Flightless Cor-
 morant.
Hab. Galapagos Islands.
 a. Presented by the Rt. Hon. Lord Moyne,
 P.C., D.S.O., F.Z.S., December 20th, 1932.
- 2286 a. *Penelope granti* Berlepsch. Grant's Guan.
Hab. British Guiana.
 a-b. Presented by Lt.-Cdr. J. Rushbrooke, R.N.
 May 7th, 1932.

III.—REPTILES.

- 207 a. *Anolis grahami* Gray. Graham's Anolis Lizard.
Hab. West Indies.
 a. Presented by A. Giles, Esq., June 9th, 1932.
- 223 a. *Amblyrhynchus cristatus* Bell. Marine Iguana.
Hab. Albemarle Island, Galapagos Group.
 a-d. Presented by the Rt. Hon. Lord Moyne,
 P.C., D.S.O., F.Z.S., December 20th, 1932.
- 235 a. *Callisaurus draconoides* Blainville. Zebra-tailed
 Lizard.
Hab. Eastern U.S.A.
 a-b. Purchased November 14th, 1932.
- 271 b. *Amphibolurus reticulatus* Gray. Reticulated
 Lizard.
Hab. Australia.
 a. Presented by G. B. Chapman, Esq., F.Z.S.,
 March 16th, 1932.
- 468 b. *Silybura phillipsii* Nicholls. Phillip's Thistle-
 tailed Earth Snake.
Hab. Ceylon.
 a-b. Presented by W. W. A. Phillips, Esq., F.Z.S.,
 November 24th, 1932.
- 534 a. *Coluber constrictor flaviventris* Say. Yellow-bellied
 Racer.
Hab. Kansas.
 a. Presented by Dr. Charles Burt, May 21st, 1932.
- 719 a. *Trimeresurus trigonocephalus* Daudin. Ceylon Pit
 Viper.
Hab. Ceylon.
 a. Presented by W. W. A. Phillips, Esq., F.Z.S.,
 November 24th, 1932.

736 a. *Crotalus pricei* Van Denburgh. Price's Rattlesnake.

Hab. South-western U.S.A.

a-b. Purchased August 14th, 1932.

IV.—AMPHIBIANS.

68 a. *Bufo granulatus* Spix. Granulated Toad.

Hab. Eastern South America.

a. Purchased October 20th, 1932.

98 b. *Hyla baudinii* Gunther. Baudin's Tree Frog.

Hab. Central America.

a. Presented by A. White, Esq., September 27th, 1932.

98 c. *Hyla pardalis* Spix. Variable Tree Frog.

Hab. Brazil.

a-f. Purchased October 20th, 1932.

109 b. *Ceratophrys americanus* Dum. & Baird. Brown Escuerzo.

Hab. South America.

a-b. Purchased January 19th, 1932.

109 c. *Ceratophrys stolzmanni* Steindachner. Stolzmann's Escuerzo.

Hab. Peru.

a. Presented by Dr. Burgess Barnett, C.M.Z.S., June 3rd, 1932.

V.—FISHES.

244 a. *Salarius atlanticus* (Cuv. & Val.) Madeira Blenny.

Hab. Coast of Madeira.

a. Purchased August 4th, 1932.

276 a. *Lophius piscatorius* (Linn.). Angler Fish.

Hab. Coasts of Europe.

a. Purchased October 4th, 1932.

74. LIST OF DONORS.

I.—TO LONDON GARDENS.

- H.M. THE KING, 1 Chinese Silver Pheasant.
- ALLEN, Mr. & Mrs. A., 1 Chimpanzee.
- AMARAL, Dr., 1 Ridged Escuerzo.
- ANDRADE, F. V. C. de Costa, F.Z.S., 1 Nepal Hill Myna.
- AUCKLAND, The Lord, F.Z.S., 2 Southern Hill Mynas.
- BAHAWALPUR, H.H. THE NAWAB SAHIB BAHADUR OF,
G.C.I.E., K.C.S.I., K.C.V.O., F.Z.S., 2 Tigers.
- BANNERMAN, Mrs. David, 1 Java Sparrow.
- BARCLAY, J., 1 Guilding's Parrot.
- BARKER, Sir David Wilson-, 1 Field Vole.
- BARNATO, Miss Diana, 1 Common Waxbill.
- BARNETT, Dr. Burgess, C.M.Z.S., 3 Crab-eating Foxes,
1 Ring-tailed Coati, 1 Kinkajou, 1 Neboix's Squirrel,
3 Peruvian Stone Curlews, 1 Stolzmann's Escuerzo,
2 Giant Toads, 3 Peruvian Crested Lizards, 4 Bod-
daert's Snakes, 2 White and Brown Snakes, 2 Fer-de-
Lance, 1 Surinam Lizard, 2 Yellow-spotted Lizards,
1 American Sharp-nosed Crocodile, 1 Rough Terrapin.
- BEAUMONT, M., 1 Merrem's False Viper, 1 Harlequin Coral
Snake.
- BEAVAN, A. C., 1 Nose-horned Viper (in conjunction with
STANLEY F. WOODWARD, C.M.Z.S.).
- BECKETT, T. R., B.Sc., 1 Gambian Oribe, 1 Red-flanked
Duiker.
- BENSON, J. T., 6 Bull Snakes, 7 False Mocassins, 1 Milk
Snake, 1 Elegant Garter Snake, 2 Coach-whip Snakes,
2 Snapping Turtles, 23 Painted Terrapins, 12 Speckled
Terrapins, 1 Blandings' Turtle, 3 Sculptured Terrapins.

- BERKELEY, R. G., 1 Reeves's Pheasant.
- BEWES, Mrs. Barbara, 2 Bay Duikers.
- BILLINGS, Dr. W. C., F.Z.S., 2 Crimson-eared Waxbills,
1 Combasou, 2 Black-headed Mannakins, 1 Grey
Singing Finch, 1 Cut-throat Finch, 1 Saffron Finch,
1 Bronze-winged Mannakin, 2 Avadavats, 2 Orange
Weaver-Birds, 1 African Silver Bill, 1 Zebra Finch.
- BINNING, Lady, 1 Red-faced Lovebird.
- BLYTH, H. F., 1 Wiegmann's Gecko.
- BOODLE, Mrs. Walter, 1 Red-faced Lovebird.
- BOUCHER, E. G., 1 Moorish Gecko.
- BRADBEAR, W. Mason, 1 Red-faced Lovebird.
- BRIDGEMAN, Miss, 1 European Pond Tortoise.
- BRIGHTON AQUARIUM, 7 Gurnards.
- BROOKES, Dr. Clifford, F.Z.S., 1 Brown Capuchin Monkey.
- BROOKES, Mrs. Clifford, 1 All-Green Parrakeet.
- BROWN, J. S., 1 Green Sunbird.
- BROWN, Mrs. S. G., 1 Guinea Baboon, 1 Sacred Baboon,
1 Blue and Yellow Macaw, 1 Orange-winged Parrot,
2 Humboldt's Woolly Monkeys.
- BRUCE, Miss A., 1 Brazilian Hangnest.
- BRYDSON, R. J., 1 Basilisk Chameleon.
- BULLOCH, W. J. D., 1 Sharp-nosed Crocodile.
- BUNKER, J. A., 1 Green Turtle.
- BURGESS, A., 1 Barn Owl.
- BURKARDT., A. J., 1 Common Pheasant.
- BURT, Dr. Charles, 2 Yellow-bellied Racers.
- BUSH, C. W., 1 Moholi Bush Baby.

- CAIRNS, The Hon. Douglas H., 1 Rice Grackle.
- CALLARD, Miss, 1 European Pond Tortoise.
- CANTI, J. A., 1 Smooth Snake, 13 Wall Lizards, 1 Viviparous Lizard.
- CASSELS, Master, 1 European Pond Tortoise, 1 Spanish Terrapin.
- CHAPLIN, The Hon. Anthony, F.Z.S., 1 Rufous-crowned Roller, 4 White-cheeked Finch Larks, 2 Abyssinian Cliff Chats, 1 Southern Yellow Robin, 1 Spinebill, 1 Solitary Tyrant, 1 White-plumed Honey-eater, 1 Singing Honey-eater, 1 Yellow-throated Honey-eater, 2 Yellow-tufted Honey-eaters, 3 White-naped Honey-eaters, 1 Hooded Siskin, 2 Yellow-shouldered Hangnests, 10 Thick-billed Cardinals, 12 Abyssinian Pigmy Falcons, 2 Dufresne's Waxbills, 1 Festive Tanager, 1 Yellow-winged Sugar-Bird, 2 Lined Finches, 2 Australian Waxbills, 8 White's Tree Frogs, 1 Carpet Python, 1 Cape Snake, 2 Dark Snakes.
- CHAPMAN, G. B., F.Z.S., 2 Bearded Lizards, 1 Reticulated Lizard, 4 Serins.
- CLARK, Mrs. L. H., F.Z.S., 1 Humboldt's Woolly Monkey.
- CLARKE, A., 1 Bell's Hinged Tortoise, 3 Moreau's Lizards.
- CLARKE, Mrs., 1 Pekin Robin.
- CLARKE, W. J., F.Z.S., 1 Avadavat.
- COCHRAN, Miss Doris, 2 Collared Lizards, 1 False Mocassin, 4 Painted Box Tortoises.
- COCHRANE, Capt. E. O., R.N., 1 Guilding's Parrot.
- COLE, Mrs., 1 Hawfinch.
- COLLIER, F. S., 1 Chimpanzee.
- COLLIN, H. A., 3 Rufous-necked Weaver Birds, 1 Black-faced Weaver Bird.

- CONNOR, Col. Sir Frank, F.R.C.S., 1 Grass Snake.
- COUSINS, J. Bevan, 1 Grey Parrot.
- CROFT, Mrs., 1 British Bullfinch.
- CROOK, G. G., 1 Red and Blue Macaw.
- CUBITT, Dr. H. G. F., F.Z.S., 1 Twelve-wired Bird of Paradise, 1 Pileated Jay, 1 Sulphur and White-breasted Toucan.
- CUNDALL, Frank, 2 Jamaican Hutias.
- CURTIS, W. Valentine, 1 large Pike.
- DALLING, T., M.R.C.V.S., 1 Spotted Salamander.
- DAVIES, T. J., 1 Pallas's Glass Snake.
- DAWSON, J. K., 1 Cheetah.
- DELACOUR, J., F.Z.S., 1 Edward's Pheasant, 1 White-fronted Sheld Duck.
- DENNIS, C. B., 3 Grass Snakes.
- DE QUINCEY, R., 1 Black and Red Warbling Finch.
- D'ESTY, M. G., 1 Pallas's Glass Snake.
- DE VON & Co., 1 Fat Dormouse.
- DHAR, The State of, 2 Tiger cubs.
- DICKIE, Tom, 2 Painted Quail.
- DICKSON, Mrs., F.Z.S., 3 Lesser Egyptian Jerboas.
- DOTTRIDGE, E. S. G., F.Z.S., 1 Budgerigar.
- DU MAURIER, Sir Gerald, F.Z.S., 2 Magpies.
- DUNCAN, F. Martin, F.Z.S., 1 Sparrow Hawk.
- DUNLEATH, The Lady, 1 Fischer's Lovebird, 1 Pied Crow Shrike.
- DUNNING, Miss, 1 Small-lobed Chameleon.
- EASTTY, A. M., 1 Puffin.

- EDMUNDS, Mrs. Arthur, 1 Fischer's Lovebird.
- ELLIS, Mrs. R. B., 1 Bosman's Potto.
- ELPHICK, Dr. G. J. F., F.Z.S., 1 Levaillant's Parrot.
- EVANS, Miss Joan, 1 Violet-eared Waxbill.
- EVANS, Miss Muriel, 1 Brown Capuchin Monkey.
- EZRA, Alfred, O.B.E., F.Z.S., 1 Red-faced Uakari Monkey,
1 Bronze-winged Pigeon, 1 Little-banded Goshawk.
- FAIRLIE, Mrs. Joan, 1 Marmoset.
- FARMER, Miss, 1 British Goldfinch.
- FARRELL, Mrs. G. H., 1 Gambian Oribi.
- FITZGERALD, L. D. E. F. Vesey-, 2 American Scops Owls.
- FLEMMING, Dr., 1 Pin-tailed Whydah Bird.
- FLOOD, Percy F., 1 Bay Duiker.
- FORD, Miss Vina, 1 Ring-necked Parrakeet.
- FROST, W. J. C., 1 Common Nightingale, 1 Rifle Bird,
1 Blue-tailed Pitta, 1 Golden-fronted Fruitsucker.
- FULLER, E., 1 Harvest Mouse.
- FULLERTON, Vice-Admiral E. J. A., C.B., D.S.O., 2 Giant
Tortoises.
- FULLERTON, The Hon. Mrs., 1 Leaf Insect and 100 Eggs.
- GAMBLE, Miss K. A., 1 West-African Quail Finch.
- GARDINER, Miss, 1 Orange-cheeked Waxbill, 2 Common
Waxbills.
- GAY, Miss G. E., 1 Greek Tortoise.
- GILES, A., 12 Gray's Anolis Lizards, 1 Jamaican Lizard,
1 Graham's Anolis Lizard.
- GILES, F. W., 1 American Sharp-nosed Crocodile.

- GODDARD, Mrs., 1 Blood-breasted Pigeon.
- GORDON, G. A., 1 Brazilian Hangnest.
- GREEN, E. Ernest, 60 Cocoons of Pine Processionary Moth.
- GRIFFIN, Mrs., 1 Delalande's Gecko.
- GUTHRIE, W., 1 Helmeted Terrapin.
- HAGUE, Miss, 1 Common Waxbill, 1 Common Fire Finch,
1 Nutmeg Finch, 1 Zebra Finch, 1 Crimson-eared
Waxbill, 1 Combasou.
- HAMILTON, Dr. W., 1 Musk Lorikeet, 1 Purple-crowned
Lorikeet, 1 Swift Parrakeet.
- HAMPE, A., 1 Loo Choo Jay.
- HASELTINE, Herbert, 5 Grey Monitors.
- HAY, A. K. Petrie, 4 White-crowned Pigeons.
- HAY, Lady, 1 Fox.
- HAYNES, Mrs. A. S., 1 Reticulated Python (albino).
- HAYWOOD, Col. A. H. W., 3 Black and White Cobras.
- HEALTH, Ministry of, 1 Roseate Cockatoo.
- HEDLEY, Mrs., 1 Silky Cowbird.
- HEPBURN, Sir John Buchan, Bt., 1 Common Sheld Drake.
- HINDLE, Prof. Edward, F.Z.S., 2 Golden Hamsters.
- HODGE, Miss E. M., 1 Mexican Conure.
- HOLDER, N. F., F.Z.S., 1 Alligator.
- HOLMES, Mrs. Carl, F.Z.S., 1 Virginian Cardinal, 2 Rock
Thrushes, 1 Dusky Thrush, 2 Pekin Robins, 1 Masked
Grass Finch, 2 Java Sparrows, 1 Green Singing Finch,
1 Northern Mocking Bird, 1 Nonpariel Finch, 1 Cut-
throat Finch, 2 African Silver Bills, 1 Paradise Whydah
Bird, 1 Zebra Finch, 2 Orange Weaver Birds, 1 Black-
cap, 1 Golden-fronted Fruitsucker.

- HOLMES, Frank, 1 Arabian Fox.
- HOLMES, Mrs. Frank, 1 Arabian Fox.
- HOWELL, Miss W. M., 1 White-nosed Monkey.
- HUGHES, Lt.-Cdr. A. M., R.N., 1 Royal Python.
- HUGHES, Mrs. M. A., 1 Budgerigar (White var.).
- IMPERIAL INSTITUTE OF ENTOMOLOGY, A Collection of
Tropical Migratory Locusts and Eggs.
- JOHNSON, Eric C., C.M.Z.S., 1 Chimpanzee, 1 Lion cub, 1
Leopard cub, 1 Caracal Lynx, 2 Crested Porcupines,
1 Ashy Jackal, 1 Harnessed Antelope, 21 African
Pythons, 16 Bosc's Monitors, 1 Puff Adder, 3 Nile
Crocodiles, 1 Nile Monitor.
- JOHNSTON, J. H., 1 Zebra Waxbill, 2 Common Waxbills,
2 Orange-cheeked Waxbills, 1 Crimson-eared Waxbill,
1 Shining Weaver Bird.
- JOHNSTONE, Mrs. M. A., 1 Leadbeater's Cockatoo.
- JONES, T. W. Hugh-, C.M.Z.S., 1 Brazilian Carrion Hawk,
1 Banded-tailed Urubitinga, 1 One-banded Buzzard.
- KERBEY, Capt. J. H., 1 Cape Gannet.
- KING, Mrs. Shuttleworth, 1 Fischer's Lovebird.
- KINGDON, Sir Donald, 1 Gambian Goshawk.
- LAWSON, Mrs., F.Z.S., 1 Tui Parrakeet.
- LEE, C. E. G., 1 European Hedgehog.
- LEGOOD, G., 1 Silver-grey Opossum.
- LETSON, Mrs., 1 Red-crested Cardinal.
- LICH, H. Brinne-, 6 Java Sparrows, 4 Madagascar Weaver
Birds, 6 Barred Doves, 12 St. Helena Waxbills,
4 Yellow-vented Seed-eaters.
- LIVINGSTONE, D. R., 1 Rhesus Monkey (albino).

Locock, Capt. E. A., F.Z.S., 2 Crimson-eared Waxbills, 2 Blue-breasted Waxbills, 2 Lavender Finches, 2 Orange-cheeked Waxbills, 1 Common Waxbill, 1 Zebra Waxbill, 1 Avadavat.

Love, Richard G., 1 Small-lobed Chameleon.

Loyd, Mrs. A. T., 3 Lesser Egyptian Gerbils, 1 Dormouse.

Luxmoore, Flying Officer A. N., R.A.F., 1 Syrian Bear.

Macbride, G. E. D., 1 Kuhl's Tortoise.

McCrae, David, 1 Jackson's Chameleon.

McDonald, W., 1 Stump-tailed Lizard.

McDonnell, Miss H. J., 2 Red-faced Lovebirds.

Macklin, Dr. C. H., F.Z.S., 2 Californian Quail, 1 Crested Pigeon.

McMillan, Dr. A., 1 Blue-breasted Waxbill, 1 St. Helena Waxbill.

Mann, Dr. W. M., 1 Blood Python.

Maude, Major, 1 Roseate Cockatoo.

Meira, Dr. Sergio, 1 Capybara, 1 Jaguarondi Cat, 1 Hawk-headed Parrot.

Mellor, A., 1 Peregrine Falcon, 1 Short-eared Owl.

Melville, R., 1 Delalande's Gecko.

Mennell, E. N., 4 Gray's Frogs.

Merriman, R. Owen, 1 Spiny Soft-shelled Turtle, 2 Painted Terrapins, 3 False Moccasins, 1 Milk Snake.

Millard, F. W., 1 Woodcock.

Miller, A., 1 White-backed Vulture.

Miller, F., 5 British Great Spotted Woodpeckers.

- MILLER, R., 2 Bird-eating Spiders.
- MOLLEN, T. A., 1 Common Viper.
- MOLYNEUX, Miss, 12 Harvest Mice.
- MORRIS, J. J., C.M.Z.S., 1 Spectacled Caiman, 2 Great Tegus, 1 Algerian Hedgehog, 3 Gallot's Lizards, 3 Delalande's Geckos, 1 Brazilian Tree Frog, 50 Madeira Wall Lizards, 8 Spotted Bladder Frogs, 1 Giant Toad, 3 Thick-tailed Opossums.
- MOULTON, C. H., 1 Bearded Lizard.
- MOYNE, The Rt. Hon. Lord, P.C., D.S.O., F.Z.S., 5 Galapagan Doves, 1 Flightless Cormorant, 4 Marine Iguanas, 1 Toque Monkey, 1 Crab-eating Monkey.
- MURRAY, Mrs. Dewar, 8 Yellow-winged Sugar Birds, 1 Guiana Quilt.
- MURRAY, R., 1 Snowy Owl.
- NOBLE, F. G., 1 Large Malay Flying Squirrel.
- NURSE, Frank, C.M.Z.S., 2 Bushbuck, 3 Crested Porcupines, 1 Rusty-spotted Genet, 1 Hippopotamus, 1 Black and White Hornbill, 2 Egyptian Kites, 1 Bataleur Eagle.
- ODDY, Miss G. B., 1 Red-crested Cardinal.
- ONSLow, The Earl of, P.C., F.Z.S., 1 Stoat.
- ORMROD, Miss, 2 Jackson's Chameleons.
- OTTO, F. A., 6 Wall Lizards, 4 Spotted Salamanders, 1 Alpine Newt, 1 Green Toad, 2 European Tree Frogs.
- PACKE, Miss Claudia, 1 Hamster.
- PALMER, K. S. Hayes, 50 Pupae of Various African Moths.
- PALMER, Mrs., 1 Lion Marmoset.
- PAM, Major Albert, O.B.E., F.Z.S., 3 Larvae of Poplar Hawk Moth.

- PARFITT, L., 1 Long-eared Owl.
- PARKER, Windsor D., F.Z.S., 1 Zebra Finch.
- PATTERSON, The Rev. A. B., 1 Chimpanzee.
- PEDDER, Mrs., 1 Roseate Cockatoo, 2 Greek Tortoises.
- PEEL, Miss H., 1 Green Lizard.
- PEET, Lt.-Col. L. M., 12 Cocoons of Atlas Moth.
- PERROTT, Mrs. St. George, 1 Ring-tailed Lemur.
- PERRY, A., 1 Hermann's Tortoise.
- PHILLIPS, Miss Margaret E., 1 Bosman's Potto.
- PHILLIPS, W. W. A., F.Z.S., 2 Phillip's Thistle-tailed Earth Snakes, 2 Knob-nosed Lizards, 1 Ceylon Pit Viper.
- PLOWMAN, Miss B., 2 Budgerigars (Blue var.), 2 Budgerigars (Yellow var.), 1 Budgerigar (Green), 1 Red-faced Lovebird.
- PLUMMER, T. T., 1 Mona Monkey.
- PORTER, Sydney, F.Z.S., 2 Silver Eyes, 1 Tickell's Scimitar Babbler, 1 Sayaca Tanager.
- PRENTICE, Masters Tom and Stephen, 4 Kingfishers.
- PRITCHARD, P. F., 1 White-crested Tiger Bittern.
- RADCLIFFE, Lt.-Col. A. Delmé, D.S.O., F.Z.S., 1 Jackdaw.
- REEVE, Capt. J. S., F.Z.S., 2 Shovellers.
- REYNARDSON, Mrs. Birch, 1 Grey Mongoose.
- RICE, Miss Audrey, 1 Green Lizard, 1 Spotted Salamander, 1 European Tree Frog.
- RITCHIE, Capt. A. T. A., M.C., F.Z.S., 30 Jackson's Chameleons, 1 Bell's Hinged Tortoise, 2 Banded Mongooses.
- ROBINSON, Mrs. Clarice, 1 Red Howling Monkey.
- ROSE, H. H., 13 Young Green Turtles.

- ROTH, Mrs. R., 4 Crested Newts.
- ROYAL BOTANIC GARDENS, A collection of Common Million Fish.
- RUSHBROOKE, Lt.-Cdr. J., R.N., 1 Harpy Eagle, 2 Sulphur and White-breasted Toucans, 3 Red-billed Toucans, 2 Grant's Guans, 1 Piping Guan.
- RUSSELL, Mrs. G., 2 Hairy Armadillos, 3 Spotted Salamanders.
- SELBY, Mrs., 1 Gouldian Finch.
- SHEPHERD, A., 1 Greenland Falcon.
- SICH, H. L., 4 Beautiful Striped Mice.
- SICH, Miss, 3 Ruffs, 1 Little Bittern.
- SIERRA LEONE, H. E. The Governor of, 1 Pygmy Hippopotamus.
- SKINNER, A., 1 Bosman's Potto.
- SOMERLEYTON, Lord, P.C., G.C.V.O., F.Z.S., 1 Buzzard.
- STEVENS, Mrs., 2 Snow Buntings.
- STEWART, Dr. and Mrs. C. L., 2 Yellow-vented Seed-eaters.
- STIRLING, Major Reginald, 1 Blackbird (Fawn var.).
- STONE, H., 10 Harvest Mice.
- STOREY, Mrs. P. F., 1 Puffin.
- SUDAN GOVERNMENT, Chief Entomologist of, A collection of Locusts and Eggs.
- SWETMAN, J., 18 Cocoons of Indian Moon Moth.
- TAILBY, Mrs., 2 Budgerigars (Blue var.), 1 Budgerigar (Cobalt var.), 2 Budgerigars (Green).
- TELFER, Miss, 1 European Pond Tortoise.
- TERRY, P. M., 2 Axolotls, 5 Japanese Newts.

- THORNTON, Miss D. M., 1 European Squirrel.
- TORONTO PARKS DEPT., 4 Blanding's Turtles, 8 Painted Terrapins.
- TOWNSEND, Dr. H. S., 1 Bosman's Potto.
- TRAVERS, Frank, 3 Pygmy Chameleons.
- TRENCH, Miss, 1 Senegal Chameleon.
- TUNLEY, Allen A., 1 Levaillant's Parrot.
- TURNER, Richard, 1 Starred Tortoise.
- UPSTONE, G. C., C.M.Z.S., 1 Olive Baboon, 1 White-nosed Monkey, 1 African Civet Cat, 1 Pardine Genet, 2 White-spotted Squirrels, 1 Pygmy Mouse, 2 Cape Palmas Mannakins, 3 Bronze-winged Mannakins, 1 Green Singing Finch, 3 Tambourine Doves, 1 Bronze-spotted Dove, 1 Schweiger's Hinged Tortoise.
- UTHWATT, W. R. E. Andrewes, 2 European Otters.
- VAN DERBURGH, R. J., F.Z.S., 1 Hermann's Tortoise.
- VAN GELDER, Mrs., F.Z.S., 1 White-collared Mangabey.
- VEVERS, Dr. G. M., F.Z.S., 1 Reeves's Terrapin.
- VINDEN, E. L., 1 Delalande's Gecko.
- VINE, C., 1 Hermann's Tortoise.
- VINSON, Mrs., 1 Grey Squirrel (albino).
- WALKER, G. R., 1 Asiatic Chipmunk, 1 Cut-throat Finch, 1 Olive Finch, 1 Pileated Finch, 2 Saffron Finches, 1 Common Waxbill, 1 Scarlet Tanager.
- WALTONS, Messrs. T., Ltd., 1 Sumichrast's Night Mouse.
- WARD, Sub.-Lt. G. C., R.N.R., 1 Indian Cobra.
- WARWICK, The Countess of, F.Z.S., 2 Humboldt's Woolly Monkeys.
- WAUD, Capt. Reginald, F.Z.S., 1 Red-crested Pochard, 1 Falcated Teal.

WELDON, R., 1 Jackdaw.

WELFORD, N. T., 1 Wall Lizard.

WELLS, H., 2 Northern Vipers.

WHITBREAD, Mrs. R. E., 1 Humboldt's Woolly Monkey.

WHITE, A. J., 2 White-mouthed Mud Terrapins, 1 Cainana Rat Snake, 2 Boa Constrictors, 1 Baudin's Tree Frog, 1 Spiny-tailed Iguana, 2 Dominican Tree Frogs.

WICKS, K. E. B., 1 Rhesus Monkey.

WILLIAMS, Miss G. M., 1 Cockatiel.

WILSON, The Rev. C., 1 Puffin.

WINDSOR, E., 2 Yellow-vented Seed-eaters, 8 St. Helena Waxbills, 3 Orange Weaver Birds.

WITHER, Mrs. H. S. Bigg, F.Z.S., 2 Little-masked Weaver Birds.

WOOD, Mrs. M. H., F.Z.S., 2 Indian White-Eyes, 1 Ceylon Red-vented Bulbul.

WOODWARD, Stanley F., C.M.Z.S., 1 Gambian Goshawk, 4 Puff Adders, 2 Night Vipers, 2 Meleager Snakes, 3 Royal Pythons, 1 African Python, 1 Nile Crocodile, 1 Bosc's Monitor, 1 Pigmy Wood Toad, and 1 Nose-horned Viper (in conjunction with A. C. BEAVAN).

WRIGHT, Miss A. Lucas, 2 Greek Tortoises.

WRIGHT, R. D. Cory, 1 Hairy Armadillo, 1 Black-faced Spider Monkey.

YOUNG, D. W. Thorpe, 2 Bird-eating Spiders.

II.—To WHIPSNADDE PARK.

BEDFORD, H.G. The Duke of, K.G., F.R.S., President, 4 Nylghaie.

BURCH, W. H., 2 Tortoises.

- DITMAS, Major Doyne, 3 South American Ducks.
- DWIGHT, Mrs. K., 6 White Fantail Pigeons.
- EZRA, Alfred, O.B.E., F.Z.S., 2 Indian Elephants, 1 Brush Turkey.
- GIBBINS, W. B., 6 Spanish Sheep.
- LODER, Lady, 2 Canadian Beavers.
- MEW, Miss B. H., 1 Horse (for work in the Park).
- POWIS, The Earl of, D.L., J.P., 1 Hybrid Black × Mute Swan.
- RUSSELL, L. R., 4 Chinese Geese.
- TANKERVILLE, The Earl of, F.Z.S., 2 Chillingham White Cattle.

75. STATE OF THE FINANCES.—The Report of the Auditors of the Accounts for 1932 is issued to Fellows, bound with this Report.

76. ASSETS 1931 AND 1932.—At the end of the year the total Assets of the Society amounted to £191,902 3s. 7d., an increase of £14,193 10s. 7d. on the corresponding figure for 1931. The Assets do not include the de Arroyave Fund (see paragraph 82).

77. PENSIONS FUND.—The Pensions Fund, instituted in 1926, increased in 1932 by £228 8s. 11d., being the amounts of the composition fees of five compounders who had died in the course of the year, and £3 8s. 11d., the profits from the sale of matches. It now amounts to £3,556 13s. 2d.

78. LIABILITIES 1931 AND 1932. — The liabilities amounted to £48,488 16s. 8d., a decrease of £4,621 9s. 8d. on the corresponding figures for 1931.

79. BALANCE 1931 and 1932.—The balance, a surplus of assets over liabilities, amounted to £143,413 6s. 11d., an increase of £18,815 0s. 3d. on the corresponding figure for

1931, representing the sum of the increase in assets (paragraph 76) and decrease in liabilities (paragraph 78).

80. INCOME 1931 AND 1932.—There was a total decrease of income, amounting to £11,121 12s. 8d. representing the difference between the decrease in income in London, amounting to £16,950 12s. 3d., and the increase in income from Whipsnade.

81. EXPENDITURE 1931 AND 1932.—There was a total decrease of £9,366 2s. 0d., due to reduced expenditure at Regent's Park.

82. DE ARROYAVE FUND.—The Capital of this is shewn separately, as it is a Trust Fund and not part of the assets of the Society (see p. 98).

83. The Council wishes to acknowledge the assistance received during the past year from the members of the Committee of Publication, upon whom devolved, in accordance with the By-laws, the arrangement and supervision of the Society's Scientific Publications.

84. The Council has finally to ask you to thank those Fellows of the Society who have audited the Accounts for the past year.

Signed (for the Council),

P. CHALMERS MITCHELL,

Secretary, Zoological Society, London.

Zoological Society,

Regent's Park,

London, N.W.8.

March 15th, 1933.

REPORT OF THE COMMITTEE OF AUDITORS OF THE ACCOUNTS

OF THE

ZOOLOGICAL SOCIETY

OF LONDON,

APPOINTED 18th JANUARY, 1933.

To

23rd February, 1933.

The Zoological Society of London,
Regent's Park, N.W.8.

In accordance with Chapter X of the By-laws, we have examined the Accounts of the Society for the year ended 31st December, 1932, as presented to us by Messrs. W. B. Keen & Co., the Chartered Accountants appointed to assist us in our duties. We report to the Society that at that date the Total Assets amounted to £191,902 3s. 7d., and the Liabilities to £48,488 16s. 8d. The General State of the Funds of the Society therefore showed a surplus of Assets over Liabilities amounting to £143,413 6s. 11d., subject to the estimated values of some of the Assets. The Cash in the Bankers' hands and at the Office amounted to £9,695 1s. 9d.

For the further information of the Fellows of the Society a Balance Sheet and Income and Expenditure Account for the year are annexed hereto. These have been audited and are certified by Messrs. W. B. Keen & Co. The accounts include the result of the working of the Catering Departments in London and Whippsnade for the year. We have examined the Statements of Account and in our opinion the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Funds of the Society (subject to the estimated values of some of the Assets) according to the best of our information and the explanations given to us and as shewn by the Books of the Society.

(Signed) J. E. SAUNDERS (*Chairman*).

R. V. GLOVER.

H. A. JUDGE.

SYDNEY A. KEMP.

ERNEST POULTER.

ALBERT SHERRIFF.

HARRY WILMOT.

Corresponding
Figures,
31st Dec., 1931.

LIABILITIES.

£	s.	d.		£	s.	d.	£	s.	d.
			To Sundry Creditors for Provisions, Materials and General Expenses						
	6,674	19 9	General Account	4,818	11	1			
	1,818	5 7	Catering Departments	1,887	11	2			
8,493	5	4					6,706	2	3
520	15	5	„ Subscriptions, etc., received in advance				516	8	11
			„ Reserve for Cost of "Zoological Record," being special donations towards Vols. 59 and onwards :—						
			Balance at 1st January, 1932	2,223	1	4			
			Add Donations received during year	472	11	6			
				2,695	12	10			
			Deduct Amount transferred to Income and Expenditure Account during year	408	17	6			
2,223	1	4					2,286	15	4
			Drummond's Branch, Royal Bank of Scotland, Regent's Park Catering Department Building Loan—						
			Balance at 1st January, 1932	38,545	0	0			
			Deduct amount repaid during year	3,170	0	0			
38,545	0	0					35,375	0	0
			„ Pensions Fund—						
			Amount set aside from Compositions Funds—						
			Balance at 1st January, 1932	3,328	4	3			
			Add Further transfer to 31st December, 1932, of Fees of deceased Compounders	225	0	0			
			Profit on Sale of Book Matches	3	8	11			
3,328	4	3					3,556	13	2
			„ Chillingham Cattle Fund, Trustees of—						
			Balance as per Account				47	17	0
53,110	6	4					48,488	16	8
			„ Balance being Excess of Assets over Liabilities—						
			Composition Funds—						
			Balance at 1st January, 1932	17,955	0	0			
			Add 15 Fees at £45 received during year	675	0	0			
				18,630	0	0			
			Deduct Fees transferred to Pensions Fund	225	0	0			
17,955	0	0					18,405	0	0
			Animals Purchase and Insurance Fund—						
			Balance at 1st January, 1932	4,231	15	5			
			Add Interest received from Investments	177	7	8			
				4,409	3	1			
			Deduct Transfer to Income and Expenditure Account re Purchase of Gorillas	1,100	0	0			
4,231	15	5					3,309	3	1
£75,297	1	9	Carried forward				£21,714	3	1
							£48,488	16	8

Corresponding
Figures,
31st Dec., 1931.

ASSETS.

d.	£	s.	d.		£	s.	d.	£	s.	d.
				By Freehold Property Whipsnade Park—						
				Cost of Land and Buildings, including Re-						
				demption of Land Tax and Tithes at						
				1st January, 1932	68,663	9	1			
				Add Transfer from Development Account ...	10,269	9	5			
					<u>78,932</u>	<u>18</u>	<u>6</u>			
				Deduct Amount borrowed from Composition						
				Funds (see page 89)	13,844	4	4			
	53,282	16	3					65,088	14	2
				„ Plant, Fittings and Furniture—						
				In Buildings and Enclosures at Regent's						
				Park and Whipsnade Park (not valued) ...	—					
				In Catering Departments	3,122	2	11			
	3,122	2	11					*3,122	2	11
				„ Animals belonging to the Society :—						
				Regent's Park—						
				Balance at 1st January, 1932	35,338	12	6			
				Add Net Increase at 31st December, 1932	911	7	6			
					<u>36,250</u>	<u>0</u>	<u>0</u>			
				Whipsnade Park—						
				Balance at 1st January, 1932 6,570 0 0						
				Add Net Increase at 31st						
				December, 1932	1,894	12	6			
					<u>8,464</u>	<u>12</u>	<u>6</u>			
	41,908	12	6					*44,714	12	6
	28,480	15	0	„ Books in Library				*28,480	15	0
				„ Stocks in hand—						
				General Account—						
	600	0	0	Publications	*600	0	0			
	500	0	0	“ Zoological Record ”	*500	0	0			
	506	15	6	Electrical Sundries (at cost)	387	0	7			
	418	16	7	Official Guides, Regent's Park (at cost) ...	248	19	2			
	105	16	0	Do. Whipsnade Park (at cost) ...	127	11	3			
	344	11	8	Picture Post Cards, Regent's Park (at cost)	237	10	8			
	—			Do. Whipsnade Park (at cost)	68	12	6			
	26	3	10	Photographic Films, etc. (at cost)	25	14	3			
	—			Book Matches (at cost)	29	19	5			
	58	9	11	Petrol, Oil, etc., Whipsnade Car Park (at cost)	77	17	2			
	1,551	9	3	Catering Departments—Provisions, etc. ...	*2,033	14	4			
								4,336	19	4
				„ Debts due to the Society (since received or con-						
				sidered good) :—						
				General Account—						
	150	0	0	Arrears of Fellowship Subscriptions						
				£985 16s. 6d., estimated to realise ...	200	0	0			
	200	0	0	Arrears of Admission Fees (Fellows)						
				£265, estimated to realise	200	0	0			
	197	5	9	Arrears of Subscriptions to “ Zoological						
	1	7	6	Record ”	198	0	0			
	312	10	6	Arrears of Subscriptions to Publications ...	1	5	0			
				“ Zoological Records ” Sales £174 8s. 9d.						
				estimated to realise... ..	137	7	10			
	£131,767	13	2	Carried forward	£736	12	10	£145,743	3	11

* As per valuations by Society's Officials.

Corresponding
Figures,
31st Dec., 1931.

LIABILITIES.

£	s.	d.		£	s.	d.	£	s.	d.
75,297	1	9		21,714	3	1	48,488	16	8
			Brought forward ...						
			To Balance being Excess of Assets over Liabilities—						
			<i>continued—</i>						
			Aquarium Reserve Fund—						
			Balance at 1st January, 1932	6,419	17	5			
			Add Receipts from Sale of Ivory						
			Tickets during year... ..	20	0	0			
6,419	17	5					6,439	17	5
			Depreciation of Investments Reserve						
			Fund—						
			Balance at 1st January, 1932	*1,536	8	6			
			Deduct Transfer to General						
			Purposes Account	1,536	8	6			
1,536	8	6							
			Regent's Park Catering Department						
			Plant and Renewals Fund—						
			Balance at 1st January, 1932	1,955	7	4			
			Add Further transfer from						
			Profit for the year	300	0	0			
1,955	7	4					2,255	7	4
			General Purposes Account—						
			Balance at 1st January, 1932	92,499	18	0			
			Add Depreciation of Invest-						
			ments Reserve Fund—						
			Balance transferred	1,536	8	6			
			Add Increase in value of						
			Animals—						
			Regent's Park	911	7	6			
			Whipsnade Pk.	1,894	12	6			
				2,806	0	0			
			Add Income Tax Recovered for						
			the years 1927/8 to 1930/31						
			(less expenses)	14,561	1	6			
			Add Excess of Income over						
			Expenditure during year ...	1,600	11	1			
92,499	18	0					113,003	19	1
							143,413	6	11

£177,708 13 0

£191,902 3 7

*NOTE.—At Minimum Stock Exchange quotations at 30th December, 1932, the Securities held were valued at £25,364 15 6 showing an appreciation of £5,685 10 10 on original cost.

Corresponding
Figures,
31st Dec., 1931.

ASSETS.

£	s.	d.		£	s.	d.	£	s.	d.
131,767	13	2	Brought forward	736	12	10	145,743	3	11
			By Debts due to the Society (since received or considered good)— <i>continued</i> :—						
			General Account— <i>continued</i> —						
166	15	6	Publication Sales	159	7	0			
583	17	7	Garden Sales	326	14	2			
25	13	0	Income Tax Recoverable	9	10	0			
332	2	4	Ministry of Labour Grant re Labour Scheme	—					
338	8	11	Miscellaneous	341	19	7			
160	15	2	Catering Department—Miscellaneous	78	12	0			
							1,652	15	7
			„ Rates, Insurances, etc., paid in advance						
			708 16 7 General Account	790	19	9			
			398 18 10 Catering Departments	346	0	1			
1,107	15	5					1,136	19	10
			„ “Zoological Record” Compilation Fees, etc., paid in respect of Vol. 69, not yet published				150	13	6
132	13	0	„ Investment of Pensions Fund (at cost)—						
3,328	4	3	£4,690 8s. 4d. Conversion 3½ per cent. Stock				3,553	4	3
			„ Investment of Composition Funds (at cost)—						
			Whipsnade Park (Part Purchase Price)	13,844	4	4			
			£254 14s. 9d. London County 3½ per cent. Stock	254	0	10			
			£5,719 13s. 6d. Conversion 3½ per cent. Stock	4,216	14	10			
17,865	0	0					18,315	0	0
			„ Investment of Animals Purchase and Insurance Fund (at cost)—						
			£6,068 17s. 10d. Consolidated 2½ per cent. Stock				3,290	0	0
4,040	0	0							
			„ Investment of Aquarium Reserve Fund (at cost)—						
			£8,056 2s. 6d. Conversion 3½ per cent. Stock				6,409	17	5
6,409	17	5							
			„ Investment of Depreciation of Investments Reserve Fund—						
			£2,194 2s. 11d. Conversion 3½ per cent. Stock Transferred to Composition Fund in part repayment of amount borrowed for purchase of Whipsnade Park.						
1,536	8	6							
			„ Investment of Regent's Park Catering Department Plant and Renewals Fund (at cost)—						
			£2,505 8s. 2d. Conversion 3½ per cent. Stock				1,955	7	4
1,655	7	4							
			„ Cash at Bank—						
			General Accounts	1,746	19	7			
			Catering Departments	6,292	8	1			
			Do. Plant and Renewals Fund	300	0	0			
			Composition Fund	90	0	0			
			Animals Purchase and Insurance Fund	19	3	1			
			Aquarium Reserve Fund	30	0	0			
			Pension Fund	3	8	11			
				8,481	19	8			
			„ Cash Floats—						
			General Account				648	10	0
			Catering Departments				240	1	4
							888	11	4
			„ Cash in Office—						
			General Account				266	13	1
			Catering Departments				57	17	8
							324	10	9
8,258	1	5					9,695	1	9
177,708	13	0					191,902	3	7

INCOME AND EXPEN

FOR THE YEAR ENDED

Corresponding
Figures,
31st Dec., 1931.

INCOME.

£	s.	d.	REGENT'S PARK.	£	s.	d.	£	s.	d.
1,840	0	0	Admission Fees (Fellows)				1,485	0	0
22,222	8	0	Subscriptions (Fellows and Professional Zoologists)				21,381	2	6
444	12	4	Interest on Investments				322	2	6
58,148	4	10	Admissions to Gardens... ..				47,852	12	6
			Admissions to Aquarium	9,162	13	4			
			Interest on Aquarium Reserve Fund Investment ...	281	19	2			
11,397	8	4					9,444	12	6
2,386	14	5	Riding Receipts... ..				2,291	12	4
—			Automatic Feeding Machines—Receipts				100	9	3
72	12	5	Bath Chairs, Hire of				65	4	11
604	6	7	Animals, etc., Sale of				241	14	1
2,551	0	6	Official Guides, Sale of				2,457	3	7
920	15	6	Picture Post Cards, Sale of				687	12	4
392	15	3	Photographic Films, Cameras, etc., Sale of ...				391	14	0
60	0	0	Transferable Ivory Tickets, Sale of				50	0	0
25	0	0	Photographers and Artists Permits, Sale of ...				23	5	0
140	0	0	Cinematograph Film Permits, Sale of				144	12	0
3	10	1	<i>Cinematograph Film Royalties</i>				—		
36	14	1	Gramophone Record Royalties				3	9	2
			“Zoological Record,” Sale of—						
			Vols. 1-58... ..	24	1	5			
			,, 59-67... ..	157	4	2			
			,, 68	214	1	3			
				371	5	5			
			“Zoological Record,” Subscriptions to—						
			Vols. 59-67... ..	25	19	3			
			,, 68	790	10	0	816	9	3
							1,187	14	8
1,435	16	9					1,211	16	1
482	17	0	Publications, Subscriptions to				429	3	6
395	8	3	Publications, Sale of				354	5	2
			Catering Department, Regent's Park :—						
4,000	0	0	Rent of Department	4,000	0	0			
932	14	6	,, Lavatories	816	12	3			
			Profit (<i>less</i> Cost of Repairs carried out by Works						
5,506	2	10	Dept., etc.)	3,596	7	9			
300	0	0	<i>Reserve for Breakages, etc., repaid</i>	—					
							8,413	0	0
4	6	0	Miscellaneous Receipts				2	4	0
£114,303	7	8	Carried forward				£97,352	15	5

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EXPENDITURE ACCOUNT.

91

31ST DECEMBER, 1932.

Corresponding Figures, 31st Dec., 1931.				EXPENDITURE.					
£	s. d.	REGENT'S PARK.		£	s. d.	£	s. d.	£	s. d.
2,055	11 4	Rents, Rates and Insurances, Gardens	...			2,073	5 9		
1,029	12 10	Income Tax, etc.—Regent's Park Catering Dept. (Schedule D)	...						
23,610	9 5	Salaries—Staff and Keepers, Gardens	...	22,589	17 8				
6,775	4 5	Do. Office	...	6,845	10 0				
						29,435	7 8		
		Pensions, Gardens	...	2,013	6 8				
		Deduct Interest on Pensions Fund Investment	...	153	16 1				
2,091	3 8					1,859	10 7		
15,230	9 4	Provisions, including Storekeeper's Wages	...			11,304	8 6		
		Animals, Cost and Carriage of	...	3,838	15 0				
		Less Transfer from Purchase and Insurance of Animals Fund	...	1,100	0 0				
3,546	16 2					2,738	15 0		
		Menagerie Maintenance:—Fuel, Water, Uniforms, Cleaning Materials, Electricity, Gas and Other Expenses	...			8,399	4 3		
10,603	18 1	Aquarium Maintenance:—							
		1,386 3 8 Exhibits, Cost and Carriage of	...	1,220	0 8				
		3,338 6 4 Salaries and Wages	...	3,206	5 6				
		59 11 8 Research Fellowship—Salary	...						
		2 18 2 Do. —Apparatus	...						
		2,677 16 5 Other Expenses	...	2,562	11 2				
		7,464 16 3		6,988	17 4				
		Less Legacy from the late Miss Isabell Wallace	...	90	0 0				
7,464	16 3					6,898	17 4		
		Prosectorium Expenses:—							
		1,645 3 2 Salaries	...	1,687	10 3				
		214 19 8 Chemical Apparatus, etc.	...	200	2 4				
1,860	2 10					1,887	12 7		
		Works Department:—Upkeep of Buildings, Paths, etc.:—							
		8,482 13 3 Wages	...	6,664	1 5				
		6,909 2 1 Materials and Sundries	...	5,502	4 10				
15,391	15 4					12,166	6 3		
		Gardeners' Expenses:—							
		3,887 12 5 Wages	...	3,695	1 7				
		1,183 2 4 Seeds, Plants, Implements, etc.	...	811	13 5				
5,070	14 9					4,506	15 0		
		Fuel, Light, etc., at Resident Curator's and Keepers' Houses and Offices	...			442	18 9		
507	13 4	House and Office Expenses, Central Offices:—							
		627 5 10 Wages of Housekeeper, Servants and Messengers	...	612	18 2				
		30 14 7 Uniforms	...	21	10 10				
		164 13 0 Fuel, Light and Water	...	146	7 2				
		182 6 7 Telephone Rental and Calls	...	199	15 10				
		511 14 4 Postages, Parcels, etc.	...	528	15 3				
		66 8 1 Refreshments at Scientific Meetings	...	65	13 9				
		270 4 1 Rates and Insurance	...	262	13 3				
£95,238	7 9	£1,853 6 6	Carried forward	£1,837	14 3	£81,713	1 8		

Corresponding
Figures,
31st Dec., 1931.

INCOME.

£ s. d.
114,303 7 8

REGENT'S PARK.
Brought forward

£ s. d. £ s. d.
97,352 15 5

£114,303 7 8

Total Income Regent's Park (see page 97) ...

£97,352 15 5

Corresponding
Figures,
31st Dec., 1931.

EXPENDITURE.

£	s.	d.	£	s.	d.	REGENT'S PARK.			£	s.	d.	£	s.	d.
95,238	7	9	1,853	6	6	Brought forward ...			1,837	14	3	81,713	1	8
House and Office Expenses, Central Offices—continued.														
			14	17	4	Books of Reference			9	5	2			
			273	7	9	Repairs, Office Fittings and Appliances			180	7	10			
			103	10	2	Sundries			102	18	10			
2,245	1	9	<hr/>						<hr/>			2,130	6	1
47	17	0	Cinematograph Expenses									17	3	4
Library Expenses :—														
			850	15	0	Salaries			851	0	0			
			816	11	7	Books and Binding, etc.			853	18	0			
1,667	6	7	<hr/>						<hr/>			1,704	18	0
733	15	9	Band Expenses									802	2	8
493	13	0	Advertisements									537	8	6
1,567	17	9	Stationery and Miscellaneous Printing									1,420	15	8
Official Guides :—														
			1,168	3	6	Printing, etc.			1,259	0	11			
			256	18	5	Less Income from Advertisements ...			189	17	7			
911	5	1	<hr/>						<hr/>			1,069	3	4
Picture Post Cards :—														
			180	12	7	Printing, etc.			108	13	9			
			12	2	0	Repairs to Machines			15	13	0			
192	14	7	<hr/>						<hr/>			124	6	9
" Zoological Records "—														
			Preparation and Printing of Vol. 68						2,096	12	2			
			Deduct Transfer from Davis Fund 76 0 0											
			Transfer from Donations											
						Reserve Account	408	17	6					
			<hr/>						484	17	6			
1,700	15	11	<hr/>						<hr/>			1,611	14	8
3,318	19	10	Publications, Cost of									2,209	13	11
280	6	5	Photographic Films, Cameras, etc., Cost of									284	17	10
128	0	6	Law Expenses and Compensation									68	13	6
Scientific Grants and Composition Fees Paid by Society														
									82	0	0			
			Less Transfer from De Arroyave Trust Fund ...						37	0	0			
37	1	0	<hr/>						<hr/>			45	0	0
4	11	0	Medals, Cost of											
2,044	17	3	Interest on Regent's Park Catering Department Loan									1,827	17	3
22	16	2	Miscellaneous Payments									5	3	7
Expenditure on Special Works :—														
						New Gorilla House (on account)			1,002	1	9			
			Less Transfer from De Arroyave Trust Fund						1,000	0	0			
			<hr/>						<hr/>			2	1	9
<hr/>														
£110,635	7	4	Total Expenditure Regent's Park (see page 97)						<hr/>			£95,574	8	6

Corresponding
Figures,
31st Dec., 1931.

EXPENDITURE.

s. d.	£	s.	d.		£	s.	d.	£	s.	d.
	470	1	4	Rent, Rates and Insurances				739	2	0
	25	9	9	Income Tax (Schedule A, Cottages, etc.)				20	1	3
	4,197	16	5	Salaries, Staff and Keepers				6,415	16	10
5 1	1,358	10	11	Provisions, including Cultivation of Land, etc.				1,846	8	5
	1,183	9	2	Animals, Cost and Carriage of				2,700	7	6
				Menagerie Maintenance:—Fuel, Water, Uniforms, Cleaning Materials, Electricity, Gas and Other Expenses				1,711	5	11
4 7	2,043	13	8	Works Department:—Upkeep of Buildings, Paths, etc.:—						
9 9				2,517 0 7 Wages	3,100	18	4			
5 4				2,230 18 10 Materials and Sundries	2,560	15	3			
4 3	4,747	19	5					5,661	13	7
4 0				Gardeners' Expenses:—						
4 1				323 8 7 Wages	811	10	2			
1 9				358 18 5 Seeds, Plants, Implements, etc.	262	12	1			
2 6	682	7	0					1,074	2	3
2 6				Office, Bothy and Cottages:—						
0 0	405	4	3	Fuel, Light, Wages, etc.				408	8	8
	283	11	6	Advertisements				382	12	6
	281	10	8	Stationery and Miscellaneous Printing				125	16	5
0 0				Car Park:—						
	642	5	1	Petrol, Oil, etc., Cost of	1,066	6	7			
	106	12	3	Hire Purchase Instalments on Pumps	98	17	4			
9 8	202	6	6	Rent, National Trust Land	—					
	951	3	10					1,165	3	11
				Official Guides:—						
7 0	412	9	6	412 9 6 Printing, etc.	664	16	9			
	—			Less Income from Advertisements	131	8	10			
	412	9	6					533	7	11
	—			Picture Post Cards:—Printing, etc.				67	8	9
	60	1	3	Bath Chairs, Purchase of				—		
	18	11	6	Field Glasses, Purchase and Maintenance of				8	6	
	127	12	6	Law Expenses and Compensation				106	13	5
	—			Miscellaneous Payments				9	0	
	17,249	12	8	Total Maintenance				22,959	6	10
				Whipsnade Park—Development of:—						
				Improvement and Extension of County Roads:—						
				Moiety of Loan Charges payable by the Bedfordshire County Council	784	6	2			
				Deduct Transfer from De Arroyave Trust Fund	784	6	2			
				Additions and Alterations to Hall Farm Premises and Kiosks, etc., Equipment of Restaurant, Kiosks, Staff Quarters, etc.	7,321	6	0			
				Construction of Lions' and Tigers' Enclosures	5,500	12	1			
				Construction of Huts, Shelters, Enclosures, Paddocks, etc.	2,697	19	10			
				Construction of Superintendent's House (Balance)	1,395	5	3			
0 6	£17,249	12	8	Carried forward	£16,915	3	2	£22,959	6	10

Corresponding
Figures,
31st Dec., 1931.

INCOME.

Corresponding
Figures,
Dec.

£ s. d.
27,222 0 11

WHIPSNADDE PARK.
Brought forward

£ s. d. £ s. d. £
33,051 0 17,249

27,222 0 11
114,303 7 8
141,525 8 7

Total Income, Whip snade Park
Total Income, Regent's Park (see page 92)

10,284
33,051 0
97,352 15
10,635
130,403 15
38,169
3,356
£130,403 15
41,525

£141,525 8 7

Corresponding Figures, Dec., 1931.		EXPENDITURE.					
£	s.	d.	£	s.	d.		
			WHIPSNADÉ PARK.				
51 0	17,249	12 8	Brought forward	16,915	3 2	22,959	6 10
			Whipsnade Park, Development of— <i>continued</i> —				
			Making Roads, Paths, etc.	2,411	19 3		
			„ Plantations	147	6 1		
			Extension of Car Park, etc.	2,137	6 2		
			„ Reservoir and Water Softening Plant	863	1 3		
			Laying Electrical Cable, Water Main and Sewers... ..	1,714	18 3		
			Cutting White Lion on Downs	475	3 11		
			Transport of Workmen and Miscellaneous Work under Labour Scheme	1,039	19 6		
			Labour Scheme Expenditure 5,856 9 4				
			Other Expenditure 19,848 8 3				
				25,704	17 7		
			<i>Deduct</i> Grant from Ministry of Labour 3,443 16 1				
			Transfer from De Arro- yave Trust Fund 1,722 2 7				
			Transfer to Capital Account 10,269 9 5				
				15,435	8 1		
	10,284	6 10				10,269	9 6
1 0							
2 15	27,533	19 6	Total Expenditure, Whipsnade Park... ..			33,228	16 4
	10,635	7 4	Total Expenditure, Regent's Park (see page 93) ...			95,574	8 6
3 15						128,803	4 10
	38,169	6 10					
	3,356	1 9	Balance being Excess of Income over Expenditure for year carried to Balance Sheet			1,600	11 1
3 15	41,525	8 7				£130,403	15 11

Corresponding
Figures,
31st Dec., 1931.

INCOME.

DE ARROYAVE TRUST

Trustees—The Official Trustees

£126,435 0 5 Consolidated

£	s.	d.		£	s.	d.	£	s.	d.
			Amount received from the Executors of the late						
			George de Arroyave Lopes (Balance)	15	4	6			
			Interest on Investment (per Official Trustees of						
			Charitable Funds)	3,129	1	0			
			Income Tax Recovered (<i>less</i> expenses)	555	2	11			
4,838	4	6					3,699	8	6

£4,838 4 6

£3,699 8 6

CHILLINGHAM TRUST

Trustees—The Viscount Grey of Falloden, K.G., P.C., Sir Peter

			Subscriptions and Donations	447	17	0			
			Contribution by the Society transferred from the						
			De Arroyave Trust Fund... ..	100	0	0			
							547	17	0
							£547	17	0

£547 17 0

DAVIS TRUST

£1,520 Southern Railway

76	0	0	Interest on Investment				76	0	0
----	---	---	-------------------------------	--	--	--	----	---	---

£76 0 0

£76 0 0

We hereby certify that we have audited the Books, Accounts and Vouchers of the Society and that the above Balance Sheet and accompanying Income and Expenditure truly set forth the position as shown by the books of the Society. We have verified the explanations we have required.

23, Queen Victoria Street, London, E.C.4.
23rd February, 1933.

EXPENDITURE.

Corresponding
Figures,
31st Dec., 1931.

TRUST FUND.

Trustees Charitable Funds.

Validated per cent. Stock.

s. d.	£	s.	d.		£	s.	d.	£	s.	d.
3	3	0		Upkeep of the De Arroyave Grave at Highgate ...	3	3	0			
—	—	—		Expenses re Inspection of Tomb at Westbury ...	3	0	0			
—	—	—		Fee re Inscription on Tomb at Westbury ...	3	3	0			
—	—	—		Law Costs, etc. ...	46	13	8			
					<hr/>					55 19 8
				Balance of Income appropriated to :—						
4,418	9	11		Whipsnade Park Development Account ...	1,722	2	7			
—	—	—		Improvement and Extension of Bedfordshire County Roads—Moiety of Loan Charges ...	784	6	2			
—	—	—		Regent's Park Special Works—Gorilla House ...	1,000	0	0			
—	—	—		Chillingham Cattle Fund—Contribution ...	100	0	0			
—	—	—		Scientific Grants ...	37	0	0			
316	11	7		Dr. Ida Mann's Paper ...	—					
100	0	0		Professor Hill's Embryology of the Echidna ...	—					
					<hr/>					3,643 8 9
4,838	4	6			<hr/>					£3,699 8 5
					<hr/>					<hr/>

CHAMATTLE FUND.

for Peter Palmer Mitchell, C.B.E., F.R.S., and H. S. Gladstone, Esq.

				Rent of Park ...	250	0	0			
				Contribution towards cost of Maintenance ...	250	0	0			
					<hr/>					500 0 0
				Balance carried forward ...						47 17 0
					<hr/>					£547 17 0
					<hr/>					<hr/>

RAVIS TRUST FUND.

Railway 5% Preference Stock.

				Applied towards Fees of Editor of "Zoological Record" ...						76 0 0
					<hr/>					£76 0 0
					<hr/>					<hr/>

of the Society for the year ended 31st December, 1932, and have found them to be in order
and that they fully and
verified the Investments and the Cash Balances and have received all the information and

W. B. KEEN & CO.,
Chartered Accountants.