## R E P O R T S

OF THE

# COUNCIL AND AUDITORS <br> OF THB <br> <br> ZOOLOGICAL SOCIETY <br> <br> ZOOLOGICAL SOCIETY OF LONDON, 

 FOR THE YEAR 1922.PREPARED FOR THE ANNUAL GENERAL MEETING, TO BE HELD ON

MONDAY, APRIL 30тн, 1923.

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## REPORT OF THE COUNCIL

for the year ending 31st December, 1922.

## ANNUAL GENERAL MEETING.

1. The Ninety-fourth Annual General Meeting of the Society will be held on Monday, April 30th, 1923, 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-laus, 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 Meating.
8. Roll of Members.-The number of Fellows and Fellows-Elect on January 1st, 1922, was 5,234, and on January 1st, 1923, was 5,425.


* This entry relates almost entirely to Fellows elected at the December Meeting, who did not pay their dues until January, 1923.

4. Foreign Members:-The following, of whom all but H.H., the Prime Minister of Nepal were already Corresponding Members, were elected Foreign Members:-
H.II. Maharaja Bahadur Rana General Sir Chandra Shum Shere, G.C.B., G.C.S.I., G.C.M.G., G.C.V.O., D.C.L., Prime Minister of Nepal, Nepal.

Heer F. E. Blaauw, Gooilust, 's Graveland, Noord Holland.

Monsieur Guillaume Grandidier, 2, Rue Goethe, Paris, France.

Edmund B. Wilson, Esq., Ph.D., Professor of Zoology, Columbia University, New York, U.S.A.
5. Corresponding Members.-The following were elected to fill vacancies in the List of Corresponding Members during 1922:-

Dr. F. Baker, Superintendent of the National Zoological Park, Washington, U.S.A.

Harry Burrell, Esq., La Mascotte, Doncaster Avenue, Kensington, Sydney, New South Wales.
W. K. Dods, Esq., Hon. Secretary, Zoological Gardens, Calcutta.

The Count Nils F. Gyldenstolpe, Naturhistoriska RiksMuseum, Frescati, Stockholm, Sweden.

Charles Hedley, Esq., Australian Museum, Sydney, New South Wales.

Dr. Paul Kammerer, Biologische Versuchsanstalt, Vienna.
P. E. Mitchell, Esq., Political Officer, Tanga, Tanganyika Territory.

Heer Anton Frederik Johan Portielje, Inspector, Zoological Gardens, Amsterdam.
C. F. M. Swynnerton, Esq., Game Warden, Tanganyika Territory, Dar-es-Salaam.

Edgar Waite, Esq., South Australian Museum, Adelaide, South Australia.
6. Imperial Fellows :-The following were elected as a first list of Imperial Fellows :-

The Rt. Hon. William Ferguson Massey, P.C., Prime Minister of New Zealand, Wellington, New Zealand.

The Rt. Hon. William Morris Hughes, P.C., Prime Minister of Australia, Kew, Melbourne, Victoria, Australia.

General The Rt. Hon. Jan Christiaan Smuts, P.C., Prime Minister of the Union of South Africa, Doornkloof, Irene, near Pretoria, Transvaal.

The Rt. Hon. William Lyon Mackenzie King, C.M.G., LL.D., M.P., Prime Minister of Canada, The Ronborough, Ottawa, Canada.
7. List of Fellows.-A revised edition will be published during the Summer of 1923. Any corrections should be sent to the Secretary before A pril 30th, 1923.
8. Lectures to School Teachers.-The scheme for the instruction of School Teachers, arranged in 1910 by the Council in co-operation with the Education Committee of the London County Council, was continued. Mr. Frank Balfour-Browne, M.A., F.Z.S., F.R.S.E., conducted a complete course in spring, 1922, of four lectures with lantern demonstrations in the Society's Meeting Room, followed by tours in the Gardens to give the Teachers, in groups of 25 , a demonstration for each lecture. By agreement with the London County Council, it has been decided to suspend these courses for the present as a large proportion of the London School Teachers have already taken advantage of them.
9. Medals.-No Medal was conferred in 1922.
10. Scientific Grants. - The Council made a donation of $£ 10$ to the National Trust towards the preservation of Wicken Fen and of $£ 30$ to the Conjoint Board of Scientific Societies.
11. Scientific Meetings.-The usual twelve meetings for scientific business were held. The Society's Rooms were also lent to the British Ornithologists' Union, to the Avicultural Society, to the Society for the Protection of the Wild Fauna of the Empire, to the Central Veterinary Society and to the Royal Society for the Protection of Birds.
12. Scientific Publications.-The Abstract was issued as usual. The Transactions, suspended during the war, have not yet been resumed. Of the Proceedings, Part IV of 1921 was issued on January 27th, 1922; Part I of 1922, on April 11th, 1922 ; Part II on June 28th, 1922; Part III on September 28th, 1922, and Part IV on February 15th, 1923. The irregularity in publication which could not be avoided during the war, has now almost ceased.

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

|  |  | Plates. |  | Pages. |
| ---: | ---: | ---: | ---: | ---: |
| 1913 | $\ldots$ | 113 | $\ldots$ | 1104 |
| 1914 | $\ldots$ | 75 | $\ldots$ | 1077 |
| 1915 | $\ldots$ | 21 | $\ldots$ | 712 |
| 1916 | $\ldots$ | 22 | $\ldots$ | 756 |
| 1917 | $\ldots$ | 11 | $\ldots$ | 338 |
| 1918 | $\ldots$ | 3 | $\ldots$ | 310 |
| 1919 | $\ldots$ | 23 | $\ldots$ | 499 |
| 1920 | $\ldots$ | 19 | $\ldots$ | 656 |
| 1921 | $\ldots$ | 35 | $\ldots$ | 887 |
| 1922 | $\ldots$ | 57 | $\ldots$ | 1276 |

13. Zoological Record.-Further progress has been made in dealing with the arrears due to the war. Volume fifty-seven, containing the literature of 1920, was published on August 15th, 1922. The Council record with deep regret that Dr. David Sharp, F.R.S., editor of the annual volumes of the Zoological Record since 1892, died on August 27th, 1922, in his eighty-second year. He had greatly improved the volumes in completeness, accuracy and promptness of issue, revising the work of all the sectional Recorders and himself acting as Recorder of Insects.

Mr. W. L. Sclater, M.A., F.Z.S., had already been appointed to succeed Dr. Sharp who had stated his intention of resigning on the completion of Volume 57. Volume 58, containing the literature of 1921, is in the press under Mr. Sclater's editorship.

In the Annual Report for 1921, the Council reviewed the history of the Zoological Record and stated that, owing to the increasing cost of preparation and publication, the Society could not undertake the responsibility of production unless a sufficient number of Zoologists and Libraries showed their sense of the value of the Record by subscribing for copies. Circulars were sent to Zoological Institutions, Universities, Libraries and Societies in most parts of the world, and also to very many individual
workers. The results were disappointing. A close estimate of the cost of the volume now in preparation amounts to $£ 1,900$; only 257 subscribers, old and new, have been registered, so that, allowing for trade sales, the receipts cannot be estimated at more than $£ 800$, leaving a deficit of $£ 1,100$ to be met by the Society. The Council have agreed to undertake the responsibility for the volume now in preparation, and have also sanctioned the compilation of the volume dealing with the literature of 1922 , as well as of the Insecta for 1923. But they have decided not to pay for the printing and publication of these, or of subsequent volumes, unless substantial aid comes from other sources, especially from institutions or persons to which Zoological Bibliography is of more direct concern than to this Society.
14. Garden Guide and Picture Post Cards.-The twentieth edition of the Garden Guide was issued in 1922, and in the course of the year 63,303 copies were sold. Since 1903, when the Guide became the property of the Society, 970,204 copies have been sold. The twentyfirst edition, revised, and with many new photographs, will be published about Easter. Of picture post cards, 241,793 were sold in 1922.
15. Exchange List.-A full list of the Institutions, ete., 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. Imperial Society of Naturalists, Petrograd.
1919. California Academy of Sciences, San Francisco, U.S.A.
1920. Great Britain, The Ministry of Agriculture, Department of Fisheries. Naturhistorisches Staatsmuseum, Vienna. The Straits Branch of the Royal Asiatic Society.

## 1921. The Philippine Journal of Science, Manila. <br> 1922. Musée Zoologique de l'Université et de la Ville, Strasbourg.

16. Library.-The Visitors' Book was signed by 542 Fellows and persons introduced by them, and 1,413 volumes were borrowed under the usual regulations.

The following is a list of the additions made to the Library during the past year :-

## PRESENTED.

## Donor.

Adexander, Sir Claud, Bt.
Boubier, Maurice.
British Association for the Advancement of Science.
British Museum, Trustees of.

## Donation.

The Park Cattle Society's Herd Book. Vols. I, II. 1919, 1921.
L'oiseau et son milieu, 1922.
The British Association for the Advancement of Science: A Retrospect, 18311921.

Terra Nova Report, Zoology. Vol. II, No. 11, Hirudinea.
Vol. IV, No. 4, Rhabdopleura.
Vol. VI, No. 2, Foraminifera.

## Geology,

Vol. I, No. 2, Fish Remains.
Library Catalogue, Vol. VI.
Index Animalium, Section II, Part 1.
Monograph of the Lacertidae, Vol. II.
Catalogue of the Selous Collection of Big Game.
Catalogue of Cretaceous Bryozoa, Vol. IV.
Summary Guide to the Exhibition Galleries. 2nd edition.
Guide to Anthropology. 4th edition.
Guide to Mammals. 10th edition.
Guide to the Horse Family. 2nd edition.
Guide to Whales, Porpoises and Dolphins. 2nd edition.
Guide to Reptiles and Batrachians. 3rd edition.
Guide to the Fossil Remains of Man. 3rd edition.
Guide to the Fossil Reptiles, Amphibians and Fishes. 10th edition.
Economic Series.
No. 2.
The Louse as a Menace to Man. No. 13.

Mites Injurious to Domestic Animals.

Champion, G. C. Memoirs on the Coleoptera: Vol. X. By Thos. L. Casey.
Child, B. T. Die Krankheiten der Aquarienfische. By W. Roth.
Dighton, Adair, F.Z.S. The Greyhound and Coursing. By Adair Dighton.
The Englishman's Dog in the Tropics. By H. H. King.
Photography for Bird-Lovers. By Bentley Beetham.
The Minds and Manners of Wild Animals. By W. T. Hornaday.
The Study of Animal Life. Revised edition. By J. A. Thomson.
Doello-Jurado, Prof.' Primera Reunión Nacional de la Sociedad M. Argentina de Ciencias Naturales Tucumán.
Duncan, F. Martin, F.Z.S.

Finn, Frank, F.Z.S.
Flower, Major S. S., F.Z.S.

Animals of the Sea. By F. Martin Duncan.
The Boy's Own Book of Pets. By F. Finn. The Boy's Own Aquarium. By F. Finn.
Catalogue of Malayan Fishes. By Theodore Cantor. 1850.
Catalogue of the Mammalia in the Museum of the Hon. East India Company. By Thomas Horsfield. 1851.
The Mammals of India. By T. C. Jerdon. 1867.
Nachrichten von Island Grönland und der Strasse Davis. By Johann Anderson. 1746.

Beschreibung des Grönländischen Wallfischfangs und Fischerey. By Cornelius Gisbert Zorgdragers. 1750.
Recherches pour servir a l'Histoire des Mammiferes. 2 Vols. By H. Milne Edwards. 1868 a 1874.
The Wild Elephant. By J. Emerson Tennant. 1867.
The Royal Tiger of Bengal. By J. Fayrer. 1875.

Monograph of the Asiatic Chiroptera. By G. E. Dobson. 1876.
Recherches Anatomiques, Zoologiques et Paléontologiques sur la Famille des Chevrotains. By Alphonse Milne Edwards. 1864.
Reise nach Mossambique. Zoologie I. Säugethiere. By Wilhelm C. H. Peters. 1852.

Gurney., R, F.Z.S. Undersogelser over vor Almindelige Rejes (Palamon fabricii. Rtk.) Biologi og Udviklingshistorie. By Th. Mortensen.
Hall, Robert.
Нegh, E.
Janet, Charles
Australian Bird Maps. By Robert Hall.
Les Termites. By E. Hegh.
Considérations sur l'Etre vivant. Parts I and II. By Charles Janet.
Mitchell, Dr. P. Minds and Manners of Wild Animals. Chalmers. By W. T. Hornaday.
New Zealand, The
High Commissioner FOR.

The Naturalisation of Animals and Plants in New Zealand. By the Hon. George M. Thomson.

Pellegrin, M. Jacques Les Poissons des Eaux douces de l'Afrique du Nord Française, Maroc, Algérie, Tunisie, Sahara. By M. Jacques Pellegrin.
Ponting, Herbert G. The Great White South. By Herbert G. Ponting.
Sonntag, Dr. C. F. Cunningham's Manual of Practical Anatomy. Revised and Edited by A. Robinson. 6th edition.

## PURCHASED.

Baker (E. Stuart). Birds. Vol. I, Fauna of British India. 2nd edition. 1922.
Bannerman (David). The Canary Islands. 1922.
Barns (T. Alexander). Wonderland of Eastern Congo. 1922.
Bonhote (J. Lewis). Vigour and Heredity. 1915.
Brooks (C. E. P.). The Evolution of Climate. 1922.
Dobell (Clifford), and O'Connor (F. W.). The Intestinal Protozoa of Man. 1921.
Everts (Jhr. Ed.). Coleoptera Neerlandica. 3 Vols. 1903-1922.
Encyclopedia Britannica. 3 Vols. 12th edition.
Flattely (F. W.), and Walton (C. L.). The Biology of the Sea-Shore. 1922.
Howell (G. C. L.). Ocean Research and the Great Fisheries. 1921.

Kofoid (C. A.), and Swezy (O.). The Free-living Unarmoured Dinoflagellata. 1921.
Pearce (E. K.). Typical Flies. 2nd series. 1921.
Phisalix (Marie) Animaux venimeux et Venins. 2 Vols. 1922.
Witherby (H. F.). British Birds. Index to Vols. I-XII. 1922.

Periodicals and Zoological Works in course of publication, of which parts were added to the Library for the first time in 1922 :-

The Canadian Field Naturalist.
Genetica.
17. Card Catalogue.-The Librarian and his Assistant have made further progress with the Subject Card Index and the Geographical (Zoological) Card Index of the Works in the Library. A Cabinet to contain the Card Index has been purchased, and Sections of the Index, as they are completed, will be placed therein for the use of Fellows.
18. Cinematograph Records.-Mr. Martin Duncan has made further film studies of some of the rarer animals in the Gardens. Series of these have been shewn at Scientific Meetings, and the negatives are carefully preserved. An arrangement has been made with British Instructional Films, Ltd., to take and market cinematographie studies of the animals, from which it is hoped that a profit will accrue to the Society.
19. Prosectorium.-Dr. Sonntag has continued to act as Anatomist, with general supervision of the Prosectorium, and Dr. Lucas as Pathologist. Mr. Ortlepp, who has done valuable work for the Society as Honorary Parasitologist, was compelled to resign from pressure of other duties. By the kindness of Professor R. T. Leiper, Dr. Khalil, a Researeh Student at the Royal School of Tropical Medicine, carried on the collection and examination of parasites until a more permanent arrangement could be made. Later in the year, on the advice of the Prosectorial Committee, the Council approved of a scheme by which Prof. R. T. Leiper, working through a panel of experts, should be responsible for the collection and identification of parasites at the Gardens. As before, type specimens of new species are to be presented to the British Museum (Natural History) in the name of the Society, and other material is to be dealt with as the Society directs.

Reports from Dr. Sonntag, Dr. Lucas and Professor Leiper follow :-

Dr. C. F. Sonntag, the Society's Anatomist, reports : "During the year five papers, based on the examination of parts of 3 Primates, 25 Cetacea, 2 Sirenia, 126 Ungulata, 3 Edentata and 7 Marsupialia have been published in the Society's Scientific Proceedings. These included studies of the nervous system and tongue, and the first of a series of monographs on the Primates.

The following workers have carried out research work on their own account, or have helped me with the dissection of large animals :-Dr. Doreen Stranger, Miss Knobel, Miss Kahan, and Messrs. Negus, Flintau, Awrounin, Henderson, Meneces, McCormick and Vaithianathan.

Anatomical material has been sent for research or teaching purposes to :-

University College.-Professor J. P. Hill, Professor G. Elliot Smith, Drs. Dart, Hunter, Shellshear and Harris.

The Royal College of Surgeons.-Sir Charles Ballance and Mr. K. Walker.

Guy's Hospital.-Professor Johnstone.
University College Hospital.-Sir Thos. Lewis and Mr. Barrington.

Cambridge University.-Professor Wilson and Mr. Appleton.

King's College for Women.-Dr. Esdaile.
Shropshire Orthopadic Hospital.-Dr. Smith.
Specimens have also been sent to the British Museum, Tring Museum and the National Museum of Wales."

Dr. Lucas, the Society's Pathologist, reports: "My own work on mycotic disease has continued. I am now directing my attention towards identifying the toxic principle contained in Aspergillus fumegatus. Some further organisms isolated from animals dying in the gardens have been identified.

The collection of slides showing examples of pathological histology has been increased and as far as possible normal histological specimens have been prepared for the sake of comparison. These last have been made from animals dying from some accidental cause.

The following institutions have received pathological material :-The Lister Institute, The Royal Army Medical Corps College, Millbank, The National Uollection of Type Cultures.

The following individuals have received material:Dr. Walshe, University College Hospital ; Dr. M’Nee, University College Hospital; Dr. Manson-Bahr, The London School of Tropical Medicine; Dr. Robertson, The London School of Tropical Medicine; Sir Frank Colyer.

Professor R. T. Leiper reports:-"The collection and identification of parasites has been carried out under my supervision. In accordance with the scheme accepted by the Prosectorial Committee, I have arranged for daily visits to the Prosectorium by various members of my staff at the London School of Tropieal Medicine. Monthly reports upon the parasites found have been submitted to the Committee. The following workers have participated in the scheme during 19\%2: Dr. J. Goodey, Dr. G. M. Vevers, Dr. M. Khalil, Dr. A. J. Hesse, Mr. W. M. T. Cameron, M.R.C.V.S., Mr. R. J. Ortlepp, Mr. J. C. Ross, B.Sc., Mr. G. Griffiths, M.R.C.V.S. and the late Mrs. R. Markbreiter, B.Sc.
"A number of papers have appeared in the Scientific Proceedings of the Society based on the material collected and the types of new species have been presented in the name of the Society to the British Museum (Natural History)."
20. Sanatorium.-During the War, the Sanatorium could not be fully used. It has now been refitted both as a quarantine station and for the treatment of sick animals. It is to be in the immediate charge of Drs. Sonntag and Lucas in collaboration with the Curators and Professor Wooldridge, F.Z.S., Honorary Consulting Veterinary Surgeon to the Society.
21. Visitors to the Gardens.-The total number of visitors to the gardens in 1922 was $1,427,849$, the third largest in the history of the Society. The following Tables give comparative figures:-

> Visitors to the Gardens.

| 1913 | $\cdot$ | $1,157,974$ | 1918 | . | 855,477 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1914 | $\cdot$ | $1,055,208$ | 1919 | . | $1,515,042$ |
| 1915 | $\cdot$ | $1,058,728$ | 1920 | . | $1,590,642$ |
| 1916 | . | $1,084,249$ | 1921 | . | $1,386,745$ |
| 1917 | . | 898,758 | 1922 | . | $1,427,849$ |

Visitors on Bank Holidays.

|  |  | 1921. | 1922. |  |
| :--- | :---: | :---: | :---: | :---: |
| Easter Monday | $\ldots$ | $\ldots$ | 48,480 | 59,532 |
| Whit Monday | $\ldots$ | $\ldots$ | 32,103 | 34,186 |
| First Monday in | August | 30,517 | 47,578 |  |
| Boxing Day | $\ldots$ | $\ldots$ | 3,620 | 5,585 |

Visitors on Sundays and Week-days.

$$
\text { 1921. } 1922 .
$$

$\begin{array}{lllll}\text { Sundays } & \ldots & \ldots & \ldots & 136,475 \\ \text { Week-days } & \ldots & 134,227 \\ \text { Wer } & 1,250,270 & 1,293,622\end{array}$
22. Admission to the Gardens.-The Gardens are open daily throughout the year (except Christmas Day, when they are closed) from $9 \mathrm{a} . \mathrm{m}$. until sunset, or $8 \mathrm{p} . \mathrm{m}$., when sunset is later. The arrangements for admission are as follows :-

Fellows.-Every Fellow, Honorary Member, Foreign Member, Imperial Fellow or Corresponding Member 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.

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, and admission by payment is not allowed. 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.
The following reduced prices for Excursion Tickets for Parties of not less than 25 for any fixed date (except Sunday) may now be obtained upon application at the Society's Office, Regent's Park, N.W.8, and if the date chosen for the visit to the Gardens should, through unforeseen circumstances, be found unsuitable, the set of Tickets, upon being returned to the Society's office, will be made available for another day during the year of issue.

Adults.
25 to 100 at 11d. each.
101 to 200 at 10d. each. 201 to 300 at 9 d . each.
301 and upwards at 8 d. each.
Cheap Orders for the admission from 9 a.m. to 1 p.m. of Children from Council or Grant-aided Schools on Tuesday, Wednesday, Thursday or Friday (except during Easter and Whitsun weeks) may now be obtained :(1) For a party of 25 or less Children, with one or two Teachers, three shillings (3s.) ; (2) for a party of 26 to 50 Children, with two teachers, five shillings (ढs.) ; and any number additional to 50 Children at the rate of one penny (1d.) each child, and fivepence ( $\check{\mathrm{d}}$. ) each Teacher. The Children, with their Teachers, must be out of the Gardens by 1 p.m.
23. Retirement of the Superintendent.-Mr. R. I. Pocock, F.R.S., Superintendent and Curator of Mammals since 1904, stated his wish to retire on reaching his sixtieth year in March, 1923. The Council accepted the resignation with regret and granted him a pension at the rate of $£ 600$ a year. Mr. Pocock came from the British Museum (Natural History) with a high reputation as a scientific zoologist. He quickly gained and retained the personal regard and esteem of members of suceessive Councils, of his colleagues and subordinates on the Society's staff. He acquired a very wide knowledge of the species and varieties of mammals, and by his researches, chiefly on the external characters and classification of mammals, he has added to knowledge and to the scientific reputation of the Society.
24. Gardens' Staff.-In view of Mr. Pocock's retirement, the Council asked the Garden Committee to report on the future organisation of the Gardens' staff. The report having been considered, the Council in January of 1923 appointed as Superintendent Dr. G. M. Vevers, M.R.C.S. (Eng.), L.R.C.P. (Lond.), F.Z.S., then Beit Research Fellow at the London School of Tropical Medicine. Dr. Vevers is already well acquainted with the Gardens and has acted as Honorary Parasitologist to the Society for nearly two years. He will be chief of the Gardens' staff and has undertaken to devote his scientific work in future to problems relating to animals which can be studied better in a collection of living animals than in a museum or laboratory.

Mr. D. Seth-Smith, formerly Curator of Birds and Inspector of Works, has been promoted to be Curator of Mammals and Birds, Mr. E. G. Boulenger is to be Curator of the Aquarium and of the Reptiles, and Miss Cheesman is continued in her appointment as Curator of Insects.

The duties of the various classes of keepers and other employees are being considered by the Garden Committee in consultation with the new Superintendent and the Curators.
25. Works.-Considerable alteration has been made to the entrance gates to allow for more rapidly dealing with
large crowds on busy days. Two additional exit turnstiles have been provided, one near the Main Entrance and one near the North Entrance.

Unsightly banks have been cleared away near the South and North Entrances.

The pond behind the Fellows' Pavilion has been repaired and an island formed in it for Penguins.

The large new Tea Pavilion was finished and opened for use early in the season. Old sheds and shrubberies in front of this were cleared away. The Refreshment Rooms have been oleaned and painted where necessary, and all the outside Bars repaired and painted.

The Summer Aviary was thoroughly repaired and painted, the shelters moved into less conspicuous places, and turfed rides formed.

The heating apparatus serving the Reptile House, Tortoise House and Sanatorium, which had given trouble for some years past, has been re-designed and re-piped to provide a better and more economical circulation. That of the Lion House has also been renewed on an improved plan.

The old platform and steps for Elephant riding have been replaced with new ones of wrought iron, and a ticket office formed in the end of the Lion House.

An outdoor enclosure for Raccoons, octagonal in plan, and constructed of light reinforced concrete, has been formed near the Lion House.

The old tile floor of the Elephant House has been taken up and a new floor of granolithic laid.

A new Otter Pond, planned without the use of bars, has been formed near the northern approach to the Western Tunnel.

The Antelope Paddock was fitted with a series of cages and paddocks for the exhibition of H.R.H. the Prince of Wales's Indian and Malayan collections.

A store-room for books, fitted with steel shelves, has been formed in the basement of the Society's Offices.

The service lavatory at the back of the new. Tea Pavilion has been entirely renovated.

The Wolves' Dens have been thoroughly repaired and painted. The outer cages of the Apes' House have been re-wired and painted.

The fence of the Cattle Sheds has been cleaned and painted and the drains in the paddocks made good.

The wooden palings of the Boundary Fence have been secured by stout wire and new gates made and fixed opposite the Parrot House.

One den in the Lion House has been lined with green glazed tiles.

One of the paddocks in front of the Mappin Terraces has been surrounded with a strong fence, the floor laid with concrete and a shelter formed, to accommodate a pair of musk oxen.

The floor of the Butcher's Shop has been relaid with asphalt and a new 25 cwt. windlass installed.

The southern approach to the old Tunnel has been widened and the Tunnel itself cleaned and painted.

An old tank at the end of the Diving Birds' House has been removed and an aviary formed for wading birds.

The Western Aviary has been cleaned, painted and distempered.

The footpath in front of the Birds of Prey Aviary has been widened to 20 feet.
26. New Works for 1923.-The service accommodation at the Fellows' Pavilion, at present insufficient for quick service on crowded days, is being greatly enlarged, and additional seating accommodation for Fellows is being provided. An area is being cleared between the Reptile House and the Wolves' Den to provide accommodation for a cheap tea and light refreshment service. In many parts of the Gardens, walks are being widened, unsightly shrubberies removed, and the surface is being improved by "tar-mac" and dressings of tar.

A bore-hole is being sunk down to the deeper layer of the chalk to provide an adequate supply of pure water. Apart from the Aquarium, no new works on a large scale
are contemplated, but a special effort is to be made to put all the existing buildings, enclosures and fences into a thorough state of repair.
27. Aquarium.-In the Report for 1921 (par. 24) the Council stated that they had decided to complete the Mappin Terraces by the construction of a first-rate aquarium for fresh-water and marine animals, that they were engaged in working out the details and hoped to be able to begin construction in the course of 1922. In response to a suggestion made by a Fellow at the Annual Meeting, it was agreed that the plans should be explained at a General Monthly Meeting, when more time would be available. This course was accordingly followed. Although by the constitution of the Society, the formal consent of the Fellows was unnecessary, it was thought that a definite motion would give a better opportunity for discussion, and at the General Monthly Meeting on May 17 th, 1922 , the Secretary gave notice that at the Meeting on June 21st, 1922, he would move on behalf of the Council "That this Meeting of Fellows approves the scheme to establish an Aquarium at the Gardens as described in general outline by the Secretary on behalf of the Council to-day." Notice of the motion was sent to all Fellows residing in the London postal area, and at the Meeting on June 21st the motion was passed.

Under the direction of a special committee, the plans were worked out in detail, Mr. J. J. Joass, the Society's architect, advising on general construction and Sir Alexander Gibb and Partners advising on the engineering side. Valuable advice was received from Dr. E. J. Allen, F.R.S., F.Z.S., Director of the Plymouth Laboratory of the British Marine Biological Association, Heer A. F. J. Portielje, C.M.Z.S., Inspector of the Amsterdam Aquarium, Dr. Charles H. Townsend, Director of the Aquarium of the New York Zoological Society, and many other experts. Mr. E. G. Boulenger was sent to Antwerp, Amsterdam and Berlin, to obtain information on special points. It was found possible to accept tenders before the end of the year, and the work of construction is now so far advanced that there is a good prospect of opening the Aquarium in the autumn, 1923.

The Aquarium, placed under the Mappin Terraces, will contain a fresh-water hall, a sea-water hall and a tropical room as well as the large service accommodation required. The tanks on the north side of the curve will have both daylight and electric light, those on the inner side only electric light. The filters and storage tanks will be underground and high level reservoirs will be placed under the peaks of the mountains of the Terraces. The circulating and aerating machinery will be driven by electricity, and the heating will be by steam.

The total cost of the Aquarium, including equipment and initial stocking, will be almost exactly $£ 50,000$. The Council decided to meet this by disposing of the Society's property at 3 , Hanover Square, which realised $£ 23,000$ net, and by borrowing the remainder from the Bankers. The Council wish to record their gratitude to the President, His Grace the Duke of Bedford, K.G., F.R.S., and to the Fishmongers' Company who generously agreed to guarantee the loan. It is proposed to repay the loan by a sinking fund of $£ 5,000$ per annum, to include interest and capital. The arrangements for admission have not yet been decided. The initial stock of salt water is to be obtained from the North Sea. Experience at other Aquaria shows that it will not have to be renewed frequently.
28. H.R.H. The Prince of Wales's Nepal and Malayan Collbctions.-The Prince of Wales, during his visit to the East in 1921-22, accepted collections of animals from Nepal and Indo-Malaya. His offer to present these to the Society was very gratefully accepted. In accordance with the precedent of H.M. The King's Indian and Malay Collections, it was arranged to exhibit these separately during the summer of 1922. The large Antelope Paddock and the outer enclosures of the Antelope House were specially prepared for the collections. The Nepal animals arrived in April in charge of Mr. Doctor, C.M.Z.S., Curator of the Victoria Gardens, Bombay, and the Malay animals in May, in charge of Dixon, headkeeper of small mammals, who had been sent out by the Society to return with them. The Society is specially indebted to the Bombay Natural History Society and to Mr. B. C. Ellison, C.M.Z.S., and Mr. S. H. Prater,
C.M.Z.S., for the great assistance given with the reception of the Nepal collection at Bombay and its care until it could be shipped home. They are equally indebted to Major J. C. Moulton, F.Z.S., of the Raffles Museum, Singapore, for great aid given in connection with Malay animals.

Among the more valuable of the additions thus made to the collection were a young orang-utan, a white-handed gibbon, four black leopards, a young elephant and rhinoceros, five Argus pheasants, a large python and four cobras. A very large number of visitors inspected the collections.
29. Gardeners' Department.-Under the capable superintendence of Mr. W. Wall, appointed head gardener in 1921 on the retirement of Mr. John Young, the floral display was well maintained and a good deal of planting and improvement to shrubberies was carried out.
30. Band.-On the advice of a special committee, the Council have decided to try to improve the quality of the performances of music given during the season. In 1923 the Band of the 65th (8th London) Brigade, R.F.A., will play in the Gardens on Saturday and Sunday afternoons from the last Saturday and Sunday in May to the last Saturday and Sunday in August.
31. Refreshment Department.-The Accounts have been audited, as usual, by Messrs. Edward Moore \& Sons. The gross profits for 52 weeks amounted, after feeding the Staff, to $£ 29,72310 \mathrm{~s}$. 3d. The working expenses for the same period amounted to $£ 13,90916$ s. 10 d., leaving a trading profit of $£ 15,81313 \mathrm{~s}$. 5 d . After making the usual allowances for rent, depreciation, and licence duties, etc., and allotting the receipts from the lavatories on the same lines as last year, and deducting the Manager's salary and percentage, there was a net profit to the Society amounting to $£ 9,13318 \mathrm{~s}$. 10d. Of that amount, the sum of $£ 33318$ s. 10 d . was allotted to repaying the Works Department for work carried out at the Refreshment Rooms. The balance of $£ 8,800$ has been carried forward, but out of this $£ 2,000$ must be reserved towards the payment of Income Tax, Schedule D.

At the request of the Council, the Committee of Auditors appointed in January, 1922, held a special meeting to audit the accounts of the Refreshment Department. The results of their investigations have been incorporated in the accounts of the Society for the current year.

The New Tea Pavilion, opened to the public last August, at once proved its usefulness and caused a great increase in the takings of the department in that quarter of the year. The service and seating accommodation at the Fellows Pavilion is being enlarged.
32. Coloured Labels.-The coloured labels, painted in fusible enamels on tiles, appear to stand the weather successfully and their use is being extended as quickly as possible.
33. Menagerie.-The collection of animals in nearly every section is now as fine as at any time in the history of the Society, but constant efforts are being made to improve it.

The following tables show the total changes in the Menagerie in 1920, 1921 and 1922:-

Number of Animals in the Gardens on December 31st, 1920-192\%.

|  |  |  |  | 1920. | 1921. | 1922. |
| :--- | :--- | :--- | :--- | ---: | ---: | ---: | ---: |
| Mammals | $\ldots$ | $\ldots$ | $\ldots$ | 563 | 696 | 758 |
| Birds $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 1,618 | 1,878 | 1,865 |
| Reptiles, etc. | $\ldots$ | $\ldots$ | $\ldots$ | 549 | 759 | 664 |
| Totals | $\ldots$ | $\ldots$ | $\ldots$ | $\underline{2,730}$ | $\underline{3,333}$ | $\underline{3,287}$ |

Additions to the Collection, 1920-1922.
Presentation. Purchase. Deposit. Exchange. Birth. Total.

| 1920 | $\ldots$ | 803 | 885 | 547 | 76 | 165 | 2,476 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1921 | $\ldots$ | 891 | 609 | 730 | 64 | 140 | 2,434 |
| 1922 | $\ldots$ | 1,198 | 559 | 462 | 42 | 187 | 2,448 |

Animals bred during 1922.
1922.

Mammals.
Oct. 27. 2 Lions (Felis leo), one found dead; one died next day.
Oct. 30. 4 Lions (Felis leo), all died next day.
Dec. 31. 1 Polar Bear (Thalarctos maritimus), died Jan. 6, 1923.
May 27. 1 Califormian Sea Lion (Otaria califormiana), reared.
Aug. 3. 1 Hairy-rumped Agouti (Dasyprocta prymnolopha), reared.
Nov. 26. 1 Hairy-rumped Agouti (Dasyprocta mymmnolopha), died next day.
Aug. 8. 1 Hybrid Hairy-rumped and Golden Agouti (Dasyprocta prymnolopha $\times$ D. agouti), reared.
Dec. 6. 2 Hybrid Hairy-rumped and Golden Agouti (Dasyprocta prymnolopha $\times$ D. agouti), reared.
June 19. 3 Cape Hyrax (Procavia capensis), reared.
July 9. 1 Kiang i (Equus liang), reared.
Feb. 12. 1 Nylghai (Boseluphus tragocamelus), reared.
Feb. 22. 2 Nylghais (Boselaphus tragocamelus), one died July 23, 1922 ; one reared.
April 21. 2 Bennett's Gazelles (Guzella bennetti), born dead.
July 1. 1 Thar $\delta$ (Hemitragus jemlaicus), reared.
July 2\%. 1 Thar (Hemitragus jemlaieus), reared.
May 9. 1 Grecian Ibex (Caprocegagrus), died June 24, 1922.

May 9. 2 Grecian Ibexes (Capra agagrus), born dead. May 14. 2 Grecian Ibexes (Capra agagrus, born dead.
May 29. 3 Hybrid Caucasian and Himalayan Ibexes (Capra cylindricornis $\times$ C. sibirica), reared.
June 9. 1 Hybrid Caucasian and Himalayan Ibex (Capra cylindricornis $\times$ C. sibirica), died July 16, 192\%.
June 13. 1 Hybrid Caucasian and Himalayan Ibex (Capra cylindricornis $\times$ C. sibirica), reared.
Mar. 8. 1 Barbary Sheep (Ammotragus lervia), reared.
Mar. 19. 2 Barbary Sheep (Ammotragus lervia), reared.

April 14. 2 Barbary Sheep (Ammotragus lervia), reared.
Sept. 19. 1 Barbary Sheep (Ammotragus lervia), reared.
Mar. 17. 1 Hybrid Soa Sheep and Sardinian Mouflon (Ovis aries $\times 0$. musimon), reared.
April 28. 1 Hybrid Soa Sheep and Sardinian Mouflon (Ovis aries $\times$ O.musinon), reared.
July 4." 1 Soa Sheep (Ocis aries), reared.
May 5. 2 Spanish Sheep (Ovis aries), reared.
June 28. 1 Japanese Deer (Cervus sika), reared.
April 20. 1 Thamin Deer (Cervus eldi), reared.
June 18. 1 Sambur Deer (Rusa unicolor), reared.
April 10. 1 Hog Deer (Axis porcinus), reared.
Oct. 14. 1 Indian Muntjac (Muntiacus muntjak vaginalis), reared.
June 10. 2 Virginian Deer (Odocoilens virginianus), reared.
Nov. 7. 1 Javan Mouse Deer (Tragulus javanicus), died Dec. 255th, 1922.
June 20. 1 Napu Mouse Deer (Tragulus napu), died July 7th, 1922.
June 30. 1 Red Kangaroo (Macropus rufius), died July 7th, $192 \%$.
June 7. 1 Bennett's Wallaby (Macropus bennetti), reared.
1922.

Birds.
July 16. 2 White-cheeked Bulbuls (Otocompsa lencogenys), one reared.
July 2. \& Zebra Finches (Teniopygiu castanotis), reared.
Oct. 1. 2 Black-winged Grackles (Giraculipica melanoptera), one reared.
May 19. 2 Leadbeater's Cockatoos (Cacatua leadbeateri), reared.
Feb. to 14 Budgerigars (Melopsittacus undulatus), all Nov. $\quad$ reared.
June 27. 2 Sacred Ibises (Ibis ethiopious), one died Oct. 11th, 1922 ; one reared.
Oct. 2. 1 Sacred Ibis (Ivis athiopica), died Oct. 4th, 1922.

July 21. 9 Egyptian Geese (Alopochen regyptiacus), all reared.

June 3. 9 Carolina Ducks (Lampronessa sponsa), all reared.
July 10. 3 Carolina Ducks (Lampronessa sponsa), all reared.
June 3. 1 Chilian Teal (Nettium flavirostre), reared.
Sept. 17. 6 Gambel's Quails (Lophorty.x gambeli), four reared.
Aug. 31. 3 Common Pheasants (Phusiamus colchicus), reared.
July 19. 15 Gold Pheasants (Chrysolophus pictus), reared.
July 19. 9 Amherst's Pheasants (Chrysolophus amherstice), reared.
July 19. 2 Hybrid Siamese and Silver Pheasants (Lophura diardi $\times$ Genneus nycthemerus), reared.
July 19. 2 Manchưrian Crossoptilons (Crossoptilon manchuricum), one reared.
Aug. 31. 4 Hybrid Burmese and Black-winged Peafowl (Pavo muticus $\times P$.nigripennis), all reared.
July 2. 2 Talpacoti Ground-Doves (Chamapelia talpacoti), reared.
July 2. 3 Dwarf Turtle Doves (Onopelia humilis), reared.
Sept. 17. 2 Crested Pigeons (Ocyphaps lophotes), reared. Reptiles.
July 15. 1 Grooved Tortoise (Testudo calcarata), reared. Aug. 13. 20 Brown Water-Snakes (Tiopidonotus taxispilotus), 14 reared.

List of the Species new to the Collection exhibited during 1922.
(The figures placed before each animal indicate its approximate position in the List of Animals.)
I.-MAMMALS.

15 b. Presbytes siamensis Miiller and Schlegel. Siamese Langur.
Hab. Trenganu, Malay Peninsula,
a-c. Presented by H.R.H. The Prince of Wales, K.G., F.Z.S., May 22nd, 1922.

246 b. Vulpes ferrilatus, Hodgson. Tibetan Fox. Hab. Nepal.
a. Presented by H.R.H. The Prince of Wales, K.G., April 7th, 1922.
435 b. Thomomys bulbirorus, Richardson. Pocket Gopher. Hab. Berkeley near San Francisco.
$a-b$. Presented by The Zoological Gardens, Rotterdam, Aug. 14th, 1922.
562 c. Cephalophus spadix, True. Abbott's Duiker.
Hab. Usambara, Tanganyika Territory.
$a-b$. ठ.8. Presented by H. E. Sir Horace A. Byatt, K.C.M.G., Hon. Member Z.S., April 1st, 1922.

672 a. Tragulus napu, F. Cuv. Napu Mouse-Deer.
Hab. Malay Peninsula.
Presented by H.R.H. The Prince of Wales, K.G., May 22 nd, 1922.

## II.-BIRDS.

159 a. Saltator atricollis, Vieill. Black-throated Saltator. Hab. Bahia, Brazil. a. Purchased, Oct. 26th, 1922.

199 a. Uroloncha leucogastra, Blyth. White-bellied Finch. Hab. Trenganu, Malay Peninsula.
a. Presented by H.R.H. The Prince of Wales, K.G., May 22nd, 1922.
225 a. Buarremon brunncinucha Lafr. Chestnut-capped Buarremon.
Hab. S. Mexico.
a. Purchased, July 26th, 1922.

359 a. Fringillaria tahapisi Smith. Rock Bunting. Hab. S. Africa.
a. Presented by the Hon. Mrs. Charles Winn, F.Z.S., Sept. 26th, 1922.
370 a. Cassicus uropygialis Lafr. Colombian Red-rumped Hangnest.
Hab. Colombia.
a-b. Presented by W. K. Pomeroy, Esq., F.Z.S., May 6th, 1922.
517 h. Thalurania furcata Gmelin. Cayenne Wood Hum-ming-bird.
Hab. French Guiana.
a. Presented by Mons. Jean Delacour, F.Z.S., June 14th, 1922.

552 a. Ortholophus leucolophus Sharpe. White-crested Hornbill.
Hab. W. Africa.
a. Presented by Major Harold W. Sidley, June 12th, 1922.
687. Brotogerys jugularis apurensis Delacour. Apure Tovi Parrakeet.
Hab. Apure, Venezuela.
a. Presented by Mons. Jean Delacour, F.Z.S., June 15th, 1922.
852 c. Scops bakikamana lettia Hodgs. Nepal Scops Owl.
Hab. Darjeeling.
a. Presented by H. Stevens, Esq., Mar. 11th, 192』.

971 b. Cerchneis timnunculus saturatus Blyth. Indian Kestrel.
Hab. Darjeeling.
a. Presented by H. Stevens, Esq., Mar. 11th, 1924.

1051 c. Mesophoy.x intermedia Wagler. Wagler's Egret.
Hab. Malacca.
a-e. Presented by H.R.H. The Prince of Wales, K.G., May 22nd, 1922.
1054 a. Gorsachius melanolophus Raff. Black-crested Bittern.
Hab. Kedah, Malay Peninsula,
a. Presented by H.R.H. The Prince of Wales, K.G., May 22nd, 1922.
1216 e. Ptilopus fasciatus Peale. Rose-crowned FruitPigeon.
Hab. Samoa Islands.
a. Deposited, Jan. 1st, 1922.

1247 b. Columba grisea Bp. Grey Pigeon.
Hab. Borneo.
$a-b$. Presented by H.R.H. The Prince of Wales, K.G., May 22nd, 1922.

1360 a. Synocus plumbeus Salvad. Plumbeous Quail.
Hab. S.E. New Guinea.
a-k. Deposited, Jan. 21st, 1922.
1541 a. Antigone sharpei Blanf. Sharpe's Crane.
Hab. Kedah, Malay Peninsula.
a. Presented by H.R.H. The Prince of Wales, K.G., May 22nd, 1922.
1553 b. Cursorius gallicus Gm. Cream-coloured Courser.
Hab. Egypt.
a-g. Purehased, Oet. 14th, 1922.

## III.-REPTILES.

234 a. Chalcides armitagei E. G. Blgr. Armitage's Skink. Hab. Gambia.
a. Presented by H. E. Capt. C. H. Armitage, C.M.G., D.S.O., F.Z.S., Aug. 15th, 1922.

244 c. Chamoeleon gracilis Hallow. West African Chameleon.
Hab. Gambia.
a. Presented by H. E. Capt. C. H. Armitage, C.M.G., D.S.O., F.Z.S., July 18th, 1922.

321 b. Chlorophis irregularis Leach. Green Tree-Snake.
Hab. Gambia.
a-b. Presented by H. E. Capt. C. H. Armitage, C.M.G., D.S.O., F.Z.S., Aug. 15th, 1922.

343 a. Prosymna meleagris Reinh. Reinhardts' Snake.
Hab. Mongalla, Sudan.
a. Presented by The Rev. A. Shaw, C.M.S., Sept. 2nd, 1922.
378 b. Dendraspis angusticeps Smith. Mamba.
$H a b$. E. Africa.
a. Purehased, Aug. 11th, 1922.

## IV.-BATRACHIANS.

21 a. Ceratophrys cultripes Reinh. Shovel-footed Ceratophrys.
Hab. Morro Velho, Brazil.
a. Presented by George Chalmers, Esq., C.M.Z.S., May 30th, 1922.
49 b. Rhacophorws buergeri Schleg. Buerger's Tree-Frog.
Hab. Washikaguchi, Japan.
$a-m$. Presented by Tomisaburo Nagai, Esq., Aug. 12th, 1922.

## V.-FISH.

66 d. Barbus semifasciolatus Günther. Striped Barbel.
Hab. S. E. India.
a-b. Presented by J. R. Shattock, Esq., Oet. Sth, 1922.

66 b. Barbus phutunio Hamilton. Dwarf Barbel.
Hab. E. Indies.
$a-b$. Presented by J. R. Shattoek, Esq., Oct. 8th, 1922.

66 c. Barbus conchonius Hamilton. Red and Gold Barbel. $H a b$. E. Indies.
add. Presented by J. R. Shattock, Esq., Oct. Eth, 1922.

Pterophyllum scalar Guv. \&E Val. Angel Fish.
Hab. Brazil.
abb. Purchased, Jan. 30th, 1922.
Nurica danrica malayensis Bleeker. Malay Fish. Hab. Malay States.
a-b. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Narica danrica malabarica Bleeker. Malabar Fish.
Hab. Malabar Coast.
abb. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Platypoecilus maculates nigra Günther. Black Spotted Fish.
Hab. Mexico.
abb. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Givardinus reticulatus Fig. Spotted Fish.
Hab. C. America.
abb. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Badis badis Hamilton. Blue-finned Fish. Hab. India.
abb. Received in Exchange, Sept. 29th, 1922.
Chirodon arnold Blgr. Arnold's Fish.
Hab. Central America.
$a-b$. Received in exchange, Sept. 29th, 1922.
Neotroplus carpintis Jordan \& Snyder. Spotted Cichlid.
Hab. Mexico.
$a-b$. Presented by J. R. Shattock, Esq., July 27th, 1922.

Acara corruleo-punctata Steindch. Blue Cichlid.
Hab. S. America.
abb. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Etroplus maculates Bloch. Blotched Cichlid. Hab. Mexico.
abb. Presented by J. |R. Shattock, Esq., Oct. 8th, 1922.

Geophagus brasiliensis Heekel. Brazilian Cichlid. Hab. Brazil.
a-b. Presented by J. R. Shattock, Esq., Oct. 8th, 1922.

Haplochilus latipes (golden var.) Schlegel. Golden Cyprinodon.
Hab. JЈapan.
a-b. Presented by J. R. Shattock, Esq., Oct. Sth, 1922.

Limia nigrofasciuta Regan. Black-banded Cyprinodon.
Hab. Haiti.
a-b. Presented by J. R. Shattock, Esq., July 27th, 1922.

Carapus fasciatus Pallas. Perambulating Fish. Hab. Brazil.
a. Purchased, June 15th, 1922.

## DONORS.

H.R.H. the Prince of Wales, K.G., F.Z.S. 1 OrangUtan, 1 White-handed Gibbon, 1 Dusky Langur, 3 Siamese Langurs, 5 Common Macaques, 4 Pigtailed Macaques, 4 Slow Loris, 3 Tigers, 4 Black Leopards, 2 Clouded Leopards, 4 Leopard Cats, 2 Tibetan Mastiffs, 1 Himalayan Fox, 1 Tibetan Fox, 1 Sumatran Civet, 2 Binturongs, 1 Himalayan Bear, 1 Sun Bear, 1 Bicoloured Squirrel, 1 Prevost's Squirrel, 2 Hoary-headed Squirrels, 5 Long-tailed Porcupines, 2 Brush-tailed Porcupines, 1 Indian Elephant, 1 Indian Rhinoceros, 4 Sambur Deer, 4 Javan Mouse-Deer, 4 Napu Mouse-Deer, 3 Domestic Sheep, 1 Kashmir Goat, 2 Nonpareil Finches, 2 White-headed Mannikins, 2 Java Sparrows, 2 Sharptailed Finches, 1 White-bellied Finch, 1 White-billed Hornbill, 1 Blue-crowned Hanging-Parrakeet, 1 Pagoda Owl, 1 Malayan Hawk-Eagle, 1 Goshawk, 2 White-neeked Storks, 5 Wagler's Egrets, 1 Blackcrested Bittern, 3 Javan Adjutants, 2 Indian Adjutants, 15 Green-winged Doves, 23 Spotted Turtle-Doves, 1 Barred Dove, 2 Grey Pigeons, 1 Southern Fruit-Pigeon, 8 Nutmeg Fruit-Pigeons, 1 Jambu Fruit-Pigeon, 4 Blue-tailed Fruit-Pigeons,

5 Painted Quails, 1 Black-breasted Button-Quail, 8 Chukar Partridges, 5 Crowned Wood-Partridges, 1 Wood Francolin, 3 Long-billed Francolins, 2 Himalayan Monauls, 1 Koklass Pheasant, 2 Nepal Kaleege Pheasants, 5 Argus Pheasants, 4 Rufoustailed Fireback Pheasants, 1 Vieillot's Fireback Pheasant, 4 Javan Peafowls, 5 Common Peafowls, 1 Red Jungle Fowl, 1 Sharpe's Crane, 3 Whitebreasted Gallinules, 1 Water Cock, 2 Hawk-billed Turtles, 1 Baska Water-Tortoise, 3 Spinose LandEmys, 3 Oldham's Terrapins, 1 Porose Crocodile, 1 Bengal Monitor, 4 Reticulated Pythons, 1 Indian Python, 1 Blood Python, 4 Black Cobras, 1 Hamadryad.
Abbey, Lady Ursula. 1 Kea Parrot.
Apcar, Mrs. Laura. 2 Avadavats.
Armitage, H.E. Capt. C. H., C.M.G., D.S.O., F.Z.S., 3 Patas Cercopitheques, 2 Guinea Baboons, 1 Afriean Civet, 2 African Porcupines, 1 Nagor Antelope, 2 Harnessed Antelopes, 1 Gambian Oribi, 1 Alian's Wart Hog, 2 Triangular-spotted Pigeons, 1 Bateleur Eagle, 1 Saddle-billed Stork, 4 Collared Guinea Fowls, 3 Ostriches, 2 Derbian Sternotheres, 1 Senegal River-Turtle, 1 Broad-fronted Crocodile, 12 Nilotic Monitors, 1 Gambian Skink, 2 West African Chameleons, 1 Rufescent Snake, 1 Hissing SandSnake, 1 Egg-eating Snake, 2 Emerald Tree-Snakes, 3 Land Crabs.
Arnold, Mrs. 1 Green Cercopitheque.
Austin, Miss Maud. 1 Brown Capuchin.
Baily, Mr. William Shore, F.Z.S. 1 Hobby, 1 Textor Weaver-bird.
Balla $\begin{gathered}\text { die, Mr. J. de. } 1 \text { Blue \& Yellow Macaw. }\end{gathered}$
Bannister, Mr. G. H. 2 Slowworms, 13 Common Vipers, Barclay, Mr. H. Hay. 1 Little Owl.
Baring, The Hon Caryl. 1 Spotted Salamander.
Barker, Mrs. Raymond. 2 Bramble Finches, 2 Ohaffinches, 2 Redpolls, 1 Linnet, 1 Greenfinch, 1 Hybrid Canary.
Baroda, H. H. Maharaja The Gaekwar of, G.C.S.I. G.C.I.E. 2 Indian Elephants.

Bartlett, Mr. A. R. 1 Pig-tailed Macaque.

Baskin, Mrs. F. E. Lougheed, F.Z.S. 1 Slender-billed Cockatoo.
Batten, Mr. Harry Mortimer, F.Z.S. 1 Badger.
Beaver, Mr. Hugh. 1 Roseate Cockatoo.
Bell, Mrs. D. 1 Rosella Parrakeet.
Bendix, Mrs. Carl A. 1 Brown Capuchin.
Binning, The Rt. Hon. Lady. 2 Bullfinches.
Bishor, Miss G. E. 1 Roseate Cockatoo.
Blake, Mr. E. T. 1 Short-headed Phalanger.
Bone, Mrs. A. 1 Greater Sulphur-crested Cockatoo.
Borradalle, Capt. C. 1 Abyssinian Cercopitheque, 1 Caffer Cat.
Boulter, Mr. C. Stainton. 1 Orange Weaver-bird, 1 St. Helena Waxbill, 1 Blue-breasted Waxbill, 1 Zebra Finch, 1 Avadavat.
Brealey, Capt. Vietor Sheldriek. 1 Brown Capuchin.
Bretherton, Mrs. Cyril. 1 Bearded Tit.
Bridgewater, Master Bentley. 1 Green Lizard.
Broadhurst, Miss D. Ida. 1 Pardine Genet.
Вкооке, Mr. H. С. 3 Brooke's Black Rats.
Broom, Dr. Robert, D.Sc., F.R.S., C.M.Z.S. 3 Lobed Chameleons.
Brown, Mr. G. S. 1 Common Marmoset.
Brown, Mr. J. 6 Green Turtles.
Bullard, Mr. Alfred. 1 Common Hare.
Burrell, Sir Merrick R., Bt., C.B.E. 1 Hen-Harrier.
Büttikofer, Dr. Johann, D.Sc., C.M.Z.S. 1 Pocket Gopher.
Byatt, H. E., Sir Horace Archer, K.C.M.G., H.M.Z.S. 2 Abbott's Duikers, 2 V ociferous Sea-Eagles. 2 Tufted Umbres.
Campbell, Mr. Archibald M., F.Z.S. 3 Greater Amethyst Sunbirds, 5 Shining Weaver-birds, 2 Queen Whydahbirds, 1 Bronze-winged Mannikin, 2 Tui Parrakeets. Campbell, Sergt. F. 1 Rhesus Macaque.
Canada, The Government of. 2 American Bisons.
Carnarvon, The Earl of. 1 Sparrow-Hawk.
Carruthers, Miss A. M. 1 Brown Capuchin.
Carter, Col. Bertram. 1 Green Cercopitheque.
Cater, Miss Joan. 1 Grey Mongoose.
Cathcart, Mr. Alan. 1 Anubis Baboon.

Chalmers, Mr. George, C.M.Z.S. 4 Giant Toads, 1 Shovel-footed Ceratophrys.
Chambers, Mrs. Ellen, F.Z.S. 1 Pig-tailed Macaque.
Chambers, Miss E. 1 Budgerigar.
Chapman, Mr. G. B., F.Z.S. 2 Red-faced Weaver-birds, 2 Shining Weaver-birds, 2 Paradise Whydah-birds, 2 Crimson Finches, 2 Double-banded Finches, 2 Common Fire Finches, 2 Orange-cheeked Waxbills, 2 Golden-breasted Waxbills, 1 Superb Tanager, 1 Blue-beared Jay, 1 Dove.
Cheesman, Capt. R. E., I.A., C.M.Z.S. Sce Cox, Sir Percy.
Child, Mr. B. T. 12 Sword-tail Fish.
Clark, Mr. F. W., F.Z.S. 1 Common Hedgehog.
Clarke, Mrs. Leycester. 1 Algerian Tortoise.
Clarke, Mrs. Ursel M. 1 Little Owl.
Glinton, Lt. L. S. 1 Striped Hyæna.
Condington, Mr. J. I. 2 Adorned Terrapins.
Cohen, Lady Waley. 2 Paradise Whydah-birds, 2 Blackheaded Mannikins,
Cole, Mrs. Nina J. Chaloner, F.Z.S. 2 Laughing Kingfishers.
Colfman, Mr. C. B. 1 Nilotic Crocodile.
Collins, Lt.-Commander Rutherford. 1 Grison.
Connell, Mr. C. 1 Little Owl.
Сооке, Mr. P. S. 1 Rhesus Macaque.
Cox, Mr. Edward W. 1 Buzzard.
Cox, H.E. Maj.-Gen. Sir Perey, G.C.M.G., K.C.S.I., F.Z.S., and Cheesman, Capt. R. E., C.M.Z.S. 2 Persian Gazelles, 1 White-tailed Eagle, 1 Wood Pigeon, 2 Ostrich Eggs, 2 Egyptian Eryx, 1 Lacertine Snake.
Cox, Mr. R. 1 Laughing Kingfisher.
Craig, Mr. A. Walker. 1 Leadbeater's Cockatoo.
Cunningham, Master Danson. 2 Green Turtles.
Curtis, Mr. Arthur, F.Z.S. 2 Black-banded Geese.
Daniel, Capt. 1 Great Kangaroo.
Davies, Miss Gladys. 1 Budgerigar.
Davis, Mr. E. A. 1 Broad-fronted Crocodile.
Davis, Mrs. L. C. 2 Pekin Robins.
Deedes, Major H. G. 1 Long-nosed Crocodile, 1 Nilotic Terrapin.

Delacour, Mons. Jean, F.Z.S. 1 Mouse-tailed Agouti, 1 Apure Tovi Parrakeet.
Dennis, Mrs. Cyril. 1 Orange Weaver-bird, 1 Masked Weaver-bird.
Despott, Mons. Giuseppe, C.M.Z.S. 18 Wall Lizards.
Dickson, Major. 1 Gmelin's Sheep, 1 Wild Boar.
Dillon, Miss Ina. 1 Derbian Zonure.
Dowden, Mr. W. J. 1 Alexandrine Parrakeet.
Downie, Engineer-Lt. W., R.I.M. 1 Greater Sulphurcrested Cockatoo.
Dunsford, The Viscount. 1 Ocelot.
Ebbut, Mr. -. 5 Common Snakes.
Ehbiot, Mr. K. H. Riversdale. 1 Pennant's Parrakeet.
Elliott, Mrs. H. 1 Rhesus Macaque.
Ezra, Mr. Alfred, O.B.E., V.P.Z.S. 49 Indian Fruit Bats, 2 Australian Flower-peckers, 6 Pink-winged Rose Finches, 1 Black-winged Grackle, 1 Dial-bird, 2 Dwarf Turtle-Doves, 2 Tigrine Turtle-Doves, 2 Indian Palm-Doves, 1 Hybrid Peafowl, 2 Verticillated Geekos, 2 Changeable Lizards, 2 Indian Pythons, 3 Indian Eryx, 4 Indian Rat-Snakes, 2 Indian River-Snakes, 2 Clifford's Snakes, 2 Ornamented Tree-Snakes, 2 Hamadryads, 13 Russell's Vipers, 3 Indian Cobras, 2 Common Kraits, 1 Banded Krait.
Falkner, Mr. Guy R., F.Z.S. 2 Indian Green-winged Doves, 1 Raven.
Favarger, Mr. Henri, F.Z.S. 2 Otters.
Favret, Mr. Primo. 1 Spot-billed Toucanet.
Finnis, Mrs. 1 Common Chameleon, 2 European TreeFrogs, 1 Sunfish.
Foster, Mr. W. J. 4 Badgers.
Fur Farms, The British. 1 Canadian Skunk.
Gainfort, Mrs. Kathleen S. 2 Black-headed Caiques.
Garry, J. Cozens, F.R.C.V.S. 1 Hedgehog.
Grars, Mr. C. M. 1 Bonnet Macaque.
Gibi, Sir Alexander, G.B.E., C.B., F.Z.S. 2 Peregrine Falcons.
Giles, Lt.-Col. Frank L., R.E. 1 Macedonian Wolf.
Goode, Mr. J. 1 Little Owl.
Goodenough, Miss Cecilia, 1 Meerkat.
Goodman, Mr. W. 1 Green Singing Finch.

Golightly, Mrs. Alan. 1 White-thighed Guereza.
Graham, Sir Richard James, Bt., F.Z.S. 2 Wigeon, 8 Common Teal.
Grandy, Mrs. L. 1 Slender Mongoose.
Grant, Nurse Sybil A. 1 Grey Mongoose.
Gray, Mr. H. 1 Rhesus Macaque.
Greenwood, Mr. Charles. 1 Green Cercopitheque.
Groser, Mr. F. S. 2 Indian Wild Boars.
Grossmith, Mrs. J. L. 6 Budgerigars, 11 Californian Quails.
Gunn, Mr. F. E. 1 Woodcock.
Hacket, Mr. D. H. 1 Flap-necked Chameleon.
Hall, Miss M. Radelyffe, F.Z.S. 1 Red Squirrel, 1 Redcrested Cardinal.
Hamilton, Mrs. 1 Little Owl.
Hammond, Mr. B. R. 1 Bonnet Macaque.
Handley, Mr. E. H. 1 Black-handed Spider Monkey.
Harding, Mr. W. A. H., F.Z.S. 1 Blue and Yellow Macaw.
Harrison, Miss. 1 Delalande's Gecko.
Hart, Mr. J. 1 Algerian Tortoise.
Haserick, Mr. Arthur A., F.Z.S. 1 Albino Mozambique Cercopitheque.
Hatfield, Major K. G. Stacy. 1 Peregrine Falcon.
Havely, Mr. C. E. 1 Kestrel.
Hawes, Mr. E. M., F.Z.S. 1 Javan Mynah.
Hawkes, Miss. 1 Squirrel Monkey.
Наусоск, Mr. H. B. 1 Bonnet Macaque.
Hayden, Mr. J. W. 1 Kestrel.
Hibberdine, Mr. A. W., F.Z.S. 1 Blue-fronted Amazon.
Hinds, Mr. W. H. 1 Porose Crocodile.
Hing, Mrs. M. U. 1 Collared Peccary.
Hobhouse, Miss Neill. 1 Bullfinch.
Hodge, Mr. A. E., F.Z.S. 1 Speckled Terrapin.
Ноцвrooк, Miss H. 1 Rhesus Macaque.
Holloway, Mr. Arthur W. H. 1 Grey Mongoose.
Holt, Messrs. John \& Co., Ltd. 1 Cheetah.
Hopkinson, Dr. E., C.M.G., D.S.O., F.Z.S. 6 Textor Weaver-birds, 2 Rufous-necked Weaver-birds, 10 Yellow-backed Whydah-birds, 2 Grey-headed Sparrows, 2 Broad-tailed Babblers, 1 White-bellied Amethyst Starling.

Hughes, Mr. W. J. 1 Bare-eyed Cockatoo.
Humphreys, Miss. 1 Red Squirrel.
Hunter, Mrs. Edward. 1 Grey Parrot.
Impey, Mrs. 1 Red and Blue Macaw.
Ivee, Mr. B. R. 3 Common Snakes.
James, Mrs. A. 1 Common Marmoset.
Johnson, Mr. A. H. 1 Rosy-billed Duck, 1 Yellowbilled Duck.
Johnston, Mrs. Lawson. 2 Red-erested Cardinals, 2 Quaker Parrakeets.
Jones, Mrs. Bence. 1 Saffron Finch.
Jones, Mr. H. W. 1 Tiger, 2 Leopard Cats.
Jones, Mr. W. Murray. 1 Orange-winged Amazon.
Joyce, Mr. Arehibald, 1 Blue-fronted Amazon.
Kay, Mrs. A. 1 Green Cercopitheque.
Keats, Mr. William B. G. 2 Rooks.
Kellock, Mr. T. H. 1 Budgerigar.
Kelify, Dr. Howard A. 2 Bull Snakes, 2 Chicken Snakes, 2 Chained Snakes, 3 False Moccasins, 1 Brown Water-Snake, 2 King Snakes, 2 Boyle's King Snakes, 2 Copperheads, 2 Confluent Rattlesnakes 1 Horrid Rattlesnake.
Kendle, Mrs. E. 1 Grey Mongoose.
Kitchen, Mrs. W. 1 Alexandrine Parrakeet.
Kitchener, Mr. H. J. 1 Roach.
Knox, Miss F. L. 1 Roseate Cockatoo.
Koster, Mr. D. A. 1 Green Cercopitheque.
Kruse, Mrs. 1 Ring-tailed Lemur.
Lampson, Sir Curtis George, Bt. 1 Gambian Pouched Rat.
Langridge, Mr. John, F.Z.S. 1 Mantell's Kiwi.
Law, Mr. William Moran, F.I.C.S. 1 White-nosed Coati. Lawrence, Mr. S. J. 4 Tench, 12 Roach, 10 Perch, 8 Pike.
Learoyd, Mr. Cyril G., M.R.C.S., L.R.C.P. 4 Barred Doves.
Leigh, Lady Norah M., C.B.E. 1 Feline Douroucouli.
Leutchford, Mr. C. 1 Indian Muntjac.
Lewis, Miss. 1 Ring-necked Parrakeet.
Lewis, Miss S. Waller. 1 Greater Sulphur-crested Cockatoo.
Little, Lt.-Col. A. G., C.B.E. 1 Bullfinch.
Longman, Mr. R. C. 1 Common Macaque.

Loveridge, Mr. Arthur, C.M.Z.S. 2 Tufted Umbres. Lucas, Dr. Nathaniel, S., F.Z.S. 2 Red-crested Cardinals. Lucas, Miss E. R. 3 Orange Weaver-birds, 1 Redbeaked Weaver-bird, 1 Three-coloured Mannikins, 1 Bronze-winged Mannikin, 2 Indian Silverbills, 2 Nutmeg Finches, 1 Zebra Finch, 1 Common FireFinch.
Lucas, Capt. Jocelyn, M.C. 1 Badger.
Lulfan, Miss R. 1 Green Lizard.
Linch, Mr. Henry J., F.Z.S. 1 Bush Dog.
Lyon, Miss Isabelle M. J. 2 Bullfinches.
Mace, Mr. Alfred. 1 Badger.
Mack ay, Miss E. K. 2 Orange-cheeked Waxbills, 1 Common Waxbill, 3 Golden-breasted Waxbills, 2 Common Fire Finches, 1 Orange Weaver-bird, 2 Layard's Bulbuls.
McDonagh, Miss Muriel. 1 Rhesus Macaque.
McLean, Mr. Colin. 1 Hooded Crow.
MacMecoll, Mr. A. T. 1 Crab-eating Raccoon.
MacNeile, Miss. 1 Three-coloured Tanager.
Мадdock, Mr. A. T. 1 Green Cercopitheque.
Magniac, Capt. Hollingworth. 1 Wild Cat.
Malone, Mrs. E. G. L'Estrange. 1 Grey Squirrel.
Marshall, Mrs. C. 1 Rhesus Macaque.
Marteau, Miss E. 1 Pekin Robin.
Marten, Mr. R. N. 1 Diamond Bass, 2 Dwarf Gourami.
Maund, Mrs. G. Oakley, F.Z.S. 1 Algerian Tortoise, 2 Chinese Goldfish.
Mavrogordato, Mr. G. M. 1 Green Cercopitheque.
Mayurbhanj, H. H., The Maharaja of, F.Z.S., 1 Lioness.
Millar, Mr. Harold, C.M.Z.S. 1 Verreaux's Amethyst Starling.
Mitchell, Miss J. 1 Yellow-backed Lory.
Mitford, The Hon. E. R. 2 Porose Crocodiles.
Monckton, Mr. George E. 1 Pig-tailed Macaque.
Morgan, Mr. J. 1 Crimson-eared Waxbill, 1 Common Waxbill, 1 Black-cheeked Waxbill, 1 St. Helena Waxbill, 2 Golden-breasted Waxbills, 1 Dufresne's Waxbill 2 Bronze-winged Mannikins, 1 Zebra Finch. Moseley, Mr. W. J. C. 1 Ring-tailed Opossum.
Mother Superior of the Convent Maria Répavatoire. 1 Green Woodpecker.
Mudie, Capt. D. C. 1 Leopard.

Mornagh, Mr. W. J. 1 Uganda Chimpanzee, 1 Bateleur Eagle.
Munster Fusiliers, The Royal. 1 Abyssinian Cercopitheque.
Nagat, Mr. Tomisaburo. 13 Buerger's Tree-Frogs.
Neale, Mr. A. E. 1 Black-necked Crowned Crane.
Neale, Miss H. M. 2 Starred Tortoises.
Neate, Mr. T. S. 1 Smoky Woolly Monkey.
Nelson, Mr. G. W. 2 Pardine Genets.
Nettleton, Mr. D. 1 Slowworm.
New, Lady. 2 Senegal Touracous.
Nicholas, Capt. Philip O. 3 Giant Toads.
Nicholls, Mrs. 1 Kestrel.
Norris, Mr. K. A. 1 Crested Newt (albino).
Ogilite, Capt. Fred J. 1 Black-gloved Wallaby.
Openshaw, Mrs. E. 1 Alexandrine Parrakeet.
Orpen, Sir William, K.B.E. 1 Common Macaque.
O'Riley, Miss Irene. 1 Tawny Owl.
Otter, Mrs. 1 Barbary Sheep.
Padisison, Mr. R. H. 1 Himalayan Bear.
Palmer, Lady Mary, F.Z.S. 1 Abyssinian Cercopitheque.
Peneau, Mrs. E. 1 Common Marmoset.
Peploe, Major James Reid. 3 Alpine Marmots.
Perry, Mr. F. 1 Common Snake.
Phillips, Dr. J. G. Porter, F.Z.S. 1 Roseate Cockatoo.
Platt, Miss. 1 European Tree-Frog.
Pole-Carew, Mr. G. A. 9 Spotted Salamanders.
Pollard, Mr. John. 2 Common Marmosets.
Pomeroy, Mr. W. K., F.Z.S. 1 Pinché Marmoset. 3 Rufous Pigeons, 2 Red Underwing Doves, 4 Colombian Crested Colins, 2 Crimson-backed Tanagers, 1 Brazilian Hangnest, 2 Colombian Redrumped Hangnests, 2 Obsolete Tinamous, 1 Cayenne Rail.
Poole, Mrs. 1 Budgerigar.
Portal, Mr. Maurice, D.S.O., F.Z.S. 1 Barn Owl.
Porter, Miss C. 1 Guillemot.
Prado, Dr. Paulo de Silva. 1 Sclater's Curassow, I Crested Curassow, 2 Purplish Guans.
Pretty, Mr. C. J. 1 White-crested Cockatoo.
Price, Mrs. F. Hamlyn. 1 Barbary Turtle Dove.
Pruddah, Mr. John B. 1 Algerian Tortoise.
Pryse, Sir Lewes, Bt. 1 Polecat.

Pugh, Mr. B. 1 Red-legged Partridge.
Radziwill, H.S.H. Prince Charles. 2 Black Storks.
Rand, Mr. F. S. 1 Common Chameleon.
Rathborne, Mrs. M. F. 1 Yellow Hangnest.
Reynolds, Mrs. E. 1 Budgerigar.
Ricard, Mr. Charles, F.Z.S. 1 Greater Sulphur-crested Cockatoo.
Richardson, Mr. 1 Green Cercopitheque.
Robbins, Mr. H. 1 Albino House Sparrow, 1 Reeves's Pheasant.
Robey, Mrs. George. 1 Greater Amethyst Sunbird, 1 Malachite Sunbird.
Rooke, Miss M. 1 Blue-fronted Amazon.
Rorke, Capt. A., M.C., R.E. 1 Bonnet Macaque.
Rotterdam, The Zoological Gardens. 3 Pocket Gophers.
Row, Miss A. H. 1 Common Macaque.
St. Quintin, Mr. W. H., F.Z.S. 1 Egyptian Jerboa, 1 Bittern, 2 Falcated Ducks, 1 Himalayan Monaul.
Saunders, Mr. 1 Tayra.
Scale, Dr. J. W. 1 Turtle Dove.
Scales, Mr. T. F. 2 Rough-eyed Cayman.
Searle, Mrs. Dorothy. 1 Lesser Sulphur-crested Cockatoo.
Selby, Mr. H. 1 Jackdaw.
Sevastopoulo, Mrs. G. D., F.Z.S. 1 Sunfish.
Seymour, Miss M. L. 1 Tantalus Cercopitheque.
Shackell, Mr. R. 2 Magpies.
Shattock, Mr. J. R. 2 Black-banded Cyprinodons, 4 Golden Cyprinodons, 4 Timid Cyprinodons, 2 Gular Cyprinodons, 2 Poey's Cyprinodons, 2 Chaper's Cyprinodons, 2 Broad-finned Cyprinodons, 2 Blotched Cichlids, 4 spotted Cichlids, 2 Black-banded Cichlids, 2 South-American Cichlids, 2 Blue Cichlids, 2 Brazilian Cichlids, 2 Fighting Fish, 2 Rainbow Fish, 2 Spotted Fish, 2 Malay Fish, 2 Malabar Fish, 2 Paradise Fish, 2 Black and White-finned Fish, 2 Hybrid Sword-tail Fish, 2 Knife Fish, 2 Arnold's Fish, 2 Black-spotted Fish, 2 Blue-finned Fish, 4 Thread-finned Fish, 2 Mouth Breeders, 2 Dwarf Gourami, 2 Red-tailed Fish, 2 Cuvier's Fish, 2 Small Zebra Fish, 2 Large Zebra Fish, 2 Dwarf Barbel, 4 Rosy Barbel, 2 Striped Barbel.

Shaw, The Rev. A., C.M.S. 1 Reinhardt's Snake, 2 Puff Adders.
Sheppard, Mrs. S. 1 Green Cercopitheque.
Sherborn, Mr. C. Davies, F.Z.S. 2 Goldfinches.
Sherriff, Mr. Albert, F.Z.S. 1 Common Boa.
Shipway, Mrs. Bruce. 1 Bonnet Macaque.
Sidler, Major Harold W. 1 Crowned Hawk-Eagle, 1 White-crested Hornbill, 8 Collared Guinea-fowls.
Singh, H.H. Raja Sir Birendra, K.C.I.E. 1 Tiger.
Sitwell, Mrs. C. A. Wilmot. 1 Red-crested Cardinal.
Slater, Miss Joan. 1 Demidoty's Galago.
Smith, Mr. Claud H. 1 Raven.
Smith, Mr. Noel J. 1 Guinea Baboon.
Smith, Mr. W. J. 2 Black Rats.
Stockley, Mr. A. H. 1 Blue and Yellow Macaw.
Southcombe, Mr. Stanley, F.Z.S. 2 Green Lizards, 2 Wall Lizards, 1 Common Snake, 1 Dark-green Snake.
Sparks, Mrs. A. 1 Greater Sulphur-crested Cockatoo.
Sparrow, Miss. 1 Tawny Owl.
Squire, Mr. T. A. 2 Kestrels.
Stanyforth, Mrs. M. E., F.Z.S. 1 Red-crested Cardinal. Stevens, Mr. H. 1 Indian Kestrel, 1 Nepal Scops Owl. Stewart, Mr. F. D. 1 Mona Cercopitheque, 1 Sooty Mangabey.
Stokes, Capt. H. S., F.Z.S. 2 African White-eyes, 1 Indian White-eye, 5 Green Avadavats, 2 Redcrested Finches, 2 Bauer's Parrakeets, 2 Masked Doves.
Sutherland, Mr. R. S., F.Z.S. 1 Earl's Weka Rail. Swynnerton, Mr. C. F. M., C.M.Z.S. 1 Vociferous Sea-Eagle.
Talt, Miss Muriel R. 1 Common Wolf, 3 Spanish Ravens. Talbot-Ponsonby, Mr. C. G., F.Z.S. 1 Amherst's Pheasant, 2 Ring-necked Pheasants.
Tatchell, Mr. Leonard S., F.Z.S. 2 Black-headed Mannikins, 1 Zebra Finch, 2 Yellow Buntings.
Temple, The late Mr. W. R. H., F.Z.S. 1 Golden Agouti. Tester, Miss A. I. 1 Common Fox. Thompson, Mr. A. G. 1 Rhesus Macaque.
Thompson, Mrs. Hedley. 1 European Pond Tortoise.
Thurgood, Miss Phyllis. 1 Blue-fronted Amazon. Thursby, Mrs. Hugh. 1 Red-backed Squirrel Monkey. Tickell, Mr. J. M. M. 1 Long-eared Owl.

Tidy, Mrs. John O. 1 Bonnet Macaque.
Tilleard, Mr. R. 1 Roseate Cockatoo.
Towers, Mr. S. 1 Grey Mongoose.
Tracy, Mr. T. F. 3 Golden Orfe.
Trench, Miss Joan le Poer. 1 Spanish Terrapin.
Tucker, Mr. E. 1 Burnett's Cercopitheque.
Tupper, Mr. E. L. 1 Mona Cercopitheque.
Turrell, Mr. E. H. V. 1 Squirrel Monkey.
Twede, Mrs. C. 1 Green Cercopitheque.
Twite, Mr. Leslie. 1 Abyssinian Cercopitheque.
Upstone, Mr. G. C. 1 Mona Cercopitheque, 1 Patas Cercopitheque, 1 White-spotted Squirrel.
Urquhart, Mr. See Capt. Daniel.
Verner, The Hon. Mrs. Willoughby. 1 Bonelli's Eagle, 1 Great Eagle Owl.
Vincent, Mr. J. 1 Otter.
Vincent, Mrs. M. K. 1 Entellus Langur.
Vooght, Mr. M. C. 1 Green Cercopitheque.
$W_{\text {ait, Miss L. M. St. A., F.Z.S. }} 3$ Grey Singing Finches, 2 Green Singing Finches, 1 Grey-necked Serin, 1 Sundevall's Serin.
Warwick, The Countess of, F.Z.S. 2 Mona Cercopitheques, 1 Bonnet Macaque.
Waterston, Mr. A. Rodger. 1 Richardson's Skua.
Watling, Mr. Herbert, F.Z.S. 1 Hainan Gibbon.
Webb, Mrs. Eleanor. 1 Greater Sulphur-crested Cockatoo.
Wells, Mr. H. 1 Bull Snake.
Welsh Pearson Film Co., The. 1 Golden Eagle.
Wilkins, Mrs. G. H. C. 1 Greater Sulphur-crested Cockatoo.
Williams, Mr. A. 1 Brown Capuchin.
Williams, Miss Doris M. 1 Common Marmoset.
Williams, Mr. F. A. 1 Green Cercopitheque.
Williams, Major C. R., D.S.O., M.C., F.Z.S. 3 Abyssinian Cercopitheques, 1 Patas Cercopitheque.
Williams, Mrs. Rose Rufus. 1 Roseate Cockatoo.
Wilson, Mrs. Bowes. 1 Common Chameleon.
Wilson-Barker, Capt. Sir David, R.N.R. 1 Squirrel Dormouse, 1 Slowworm.
Winv, The Hon. Mrs. Charles, F.Z.S. 1 Indigo Bunting, 1 Nonpareil Bunting, 1 Rock Bunting.
Withers, Mrs. Henry J. 1 Mozambique Cercopitheque.
Woolward, Miss Florence. 1 Algerian Tortoise.

## ACCOUNTS.

34. State of the Finances.-The Report of the Auditors of the Accounts for 1922 is issued to Fellows, bound with this report.
35. Assets 1921 and 192\%.-The Total Assets of the Society amounted to $£ 116,382$ 10s. 2d., a decrease of $£ 7,6080 \mathrm{~s} .4 \mathrm{~d}$. on the corresponding figures for 1921. This is the net result of various changes of which the principal was the utilisation of the fund which has been accumulating for the rebuilding of the Refreshment Rooms.
36. Liabilities 1921 and 1922.-The eash liabilities amounted to $£ 5,79615 \mathrm{~s} .10 \mathrm{~d}$., a decrease of $£ 3,01018 \mathrm{~s}$. 9 d . on the corresponding figures for 1921, due chiefly to the loan from the Bankers having been extinguished by a final payment of $£ 3,000$.
37. Balance 1921 and 1922.-The balance, a surplus of assets over liabilities, amounted to $£ 110,58514 \mathrm{~s}$. 4 d ., a deerease of $£ 4,59 \mathrm{i} 1 \mathrm{~s} .7 \mathrm{~d}$. on the eorresponding figure for 1921, and representing the difference between the decrease in assets (paragraph 35) and decrease in liabilities (paragraph 36).
38. Income 1921 and 1922.-There was a net decrease in income of about $£ 600$ due chiefly to gate-money ; although the total number of visitors was larger, the restoration of the 6 d . admission on Mondays brought less money.
39. Expenditure 1921 and 1922.-There was an increase of about $£ 3,440$ in expenditure due partly to costs connected with the Prince of Wales' Indian and Malay collections and partly to increase in the number of large animals in the Gardens.
40. General State of the Finances.-The finances of the Society are in a satisfactory condition which would be more apparent if credit were taken for the large outlay on improvements and additions to the buildings in the Gardens.
41. 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.

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, N.W. 8,
March 21st, 1923.

## REPORT OF THE COMMITTEE OF AUDITORS OF THE ACCOUNTS

## OF THE

## ZOOLOGICAL SOCIETY

OF LONDON,<br>APPOINTED 17th JANUARY, 1923.

To
22nd February, 1923.
The Zoological Society of London,
Regents 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, 1922, as presented to us by Messrs. W. B. Keen \& Co., Chartered Accountants, the Auditors appointed to assist us in our duties. We report to the Society that at that date the Total Assets amounted to $£ 116,382$ 10s. 2d., and the Liabilities to $£ 5,79615 \mathrm{~s}$. 10d. The General State of the Funds of the Society therefore showed a surplus of Assets over Liabilities amounting to $£ 110,58514 \mathrm{~s}$. 4 d ., subject to the estimated values of some of the Assets. The Cash in the Bankers' hands and at the Office amounted to $£ 19,97717 \mathrm{~s} .9 \mathrm{~d}$.

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 result of the working of the Refreshment Department for the year ended 30th September, 1922, is incorporated in the Statements, the Accounts of that Department having been separately audited and certified by Messrs. Edward Moore \& Sons, Chartered Accountants. 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) Fred W. Clark (Chairman).
M. B. Andrade.
F. B. Bunny.

Julius Garratt.
Chas. H. Gittrens.
J. E. Saundrre.

John Tully.

$\begin{array}{lll}53 & 4 & 0\end{array}$
, Davis Trust Fund-
Dividends on Investment payable towards Fees Dividends on Investment payable toward
$1,720-0 \quad 0 \quad$ Reseryes for Works, \&c.
$90 \quad 0 \quad 0$
, Reserte for LibraryCaptain Treacher Bequest
," Balance, being Excess of Assets over Liabilities, viz. :-
Composition Funds-
Balance at 1st January, $1922 € 10,800 \quad 0 \quad 0$
Add 11 Fees (a) £45 re-
${ }_{1}$ ceived during year
1 Fee (a) £30 received
during year
$495 \quad 0 \quad 0$

Profit on Changing In-
vestment Securities
$\begin{array}{lll}30 & 0 & 0\end{array}$
$\qquad$
$10,800 \quad 0 \quad 0$
" Animal Insurance and Purchase Fund-
Balance at 1st January,
$1922 \quad \ldots \quad \ldots \quad \ldots \quad £ 1,17016 \quad 5$
$\begin{array}{lll}1,170 & 16 & 5\end{array}$
" Refreshment Room Rebnilding Fund-
Balance at 1st Januarv, $1922 \quad 11,96217$ \&
Add Profit on Realisation
of Investuents ...
$1,115 \quad 17 \quad 11$

Deduct Expenditure during Year $\begin{array}{ll}13,078 & 15 \quad 7\end{array}$

Balance transferred to Income and Expenditure | Account (page 55) | $\cdots$ | $£ 688 \quad 15 \quad 11$ |
| :--- | :--- | :--- | :--- | :--- |

$\begin{array}{lll}11,962 & 17 & 8\end{array}$
8

$$
\begin{gathered}
\begin{array}{c}
\text { Corresponding } \\
\text { flgures } \\
\text { s1at Dec., 1921. }
\end{array} \\
\hline \text { \& s. } \quad d .
\end{gathered}
$$

## ASSETS.

By Animals in Menagerie at Regent's Park as at 31st December, 1921

Add Net Increase at $\begin{array}{ll}31 \\ \text { st } & \ldots\end{array} \ldots \quad 17,226 \quad 0 \quad 0$
1922 at 31st December,
$17,226 \quad 0 \quad 0$
$2,122 \quad 211$
" Plant and Fittings in Refreshment Department
Freehold Property at Hanover Square as per
last Balance Sheet ...
Less Depreciation on Re - $\mathrm{Valuation}^{\text {D }}$
$30,000 \quad 0 \quad 0$
$7,000 \quad 0 \quad 0$
n Fittings in Buildings and Enclosures at the Gardens, Regent's Park (not valued)
$28,480 \quad 15 \quad 0$ Books in Library... ... ... ...
Unsold Publications
500 0 00 " Unsold Publications
$\begin{array}{rllll}500 & 0 & 0 & \text { " Stock of "Zoological Record " } \\ 500 & 0 & 0 & & \text { Stol }\end{array}$
$500 \quad 0 \quad 0 \quad$ "Stock of Official Guides (at cost)
" Petrol Users and Traders Supply, Ltd... 50 Shares of £1 each, at Cost.
" Debts due to the Society (since received or considered good) -

Rent of Freehold Property, Hanover Square Arrears of Fellowship Subscriptions, £321, estimated to realise
Arrears of Fellowship Admission Fees Publication Sales "Zoological Record ${ }^{\text {" }}$ Eales Income Tax recoverable Miscellaneous
$1,003 \quad 13 \quad 3$
$\begin{array}{lll}567 & 12 & 8\end{array}$, Rates and Insurance paid in advance ... ...
" Compilation Fees, etc., of "Zoological Record" Less Amount received from Davis Trust Fund
" Investments of Composition Funds, at Cost :
S1,443. 198. 1d., London County $3 \frac{1}{2}$ per cent. Stock ...
$£ 5,615.13 \mathrm{~s}, 4 \mathrm{~d}$. India $\dddot{3}$ i per cent Stock ... £6,654. 4s. 7 d . $3 \frac{1}{2}$ per cent. Conversion Stock

$\begin{array}{lll}1,440 & 0 & 0 \\ 5,205 & 0 & 0\end{array}$ | 5,205 | 0 | 0 |
| :--- | :--- | :--- |
| 4,693 | 4 | 3 |

$1,808 \quad 4 \quad 8$
$541 \quad 13 \quad 7$
$10,665 \quad 0 \quad 0$
$300 \quad 0 \quad 0$
$\begin{array}{lll}100 & 0 & 0\end{array}$
$305 \quad 0$
$159 \quad 18 \quad 9$
$\begin{array}{lrr}131 & 8 & 3 \\ 598 & 12 & 5\end{array}$

| 131 | 8 | 5 |
| ---: | ---: | ---: |
| 213 | 5 | 3 |


$11,338 \quad 4 \quad 3$

| Corresponding |
| :--- |
| figures, |
| 31st Dec., 1921. |

figures,
31st Dec., 1921.
$f$ s. $d$.
$32,741 \quad 8 \quad 8$

## LIABILITIES.

$\begin{array}{lllllllll} & & & & & s, & d . & \delta & 8 . \\ \text { Brought forward ... } & 12,583 & 4 & 8 & 5,796 & 15 & 10\end{array}$
To Balance, being Excess of Assets over Liabilities-continued.
", Refreshment Department-Plant and Renewals Fund
Balance at 1st January, 1922 Add further Transfer from profits for 52 weeks to 30th Sept., 1922, to be paid over

| 2,700 | 0 | 0 |
| ---: | ---: | ---: |
| 300 | 0 | 0 |
| 3,000 | 0 | 0 |
| 300 | 0 | 0 |

$3,000 \quad 0 \quad 0$ Working Capital ...
, Depreciation of Investments Reserve FundAs at 1st January, 1922 Add Profit due to changing Investment Securities
$4,967 \quad 10 \quad 3$

$$
\begin{array}{rrr} 
& 19 & 11 \\
\hline 4,968 & 10 & 2 \\
2,099 & 10 & 7 \\
\hline
\end{array}
$$

Deduct Excess of Fund carried to General Purposes
As per contra
" General Purposes-
Balanceat 1st January, $1922 £ 83,281 \quad 11$ Add-
Excess of Income over Expenditure during year.

$$
9,910 \quad 7 \quad 11
$$

Increase in value of Animals in Menagerie Reduction in Depreciation of Investments Reserve Fund

$$
\begin{array}{lll}
2,099 & 10 & 7 \\
\hline 98,833 & 10 & 1
\end{array}
$$

$3,300 \quad 0 \quad 0$

31st Drcember, 1922.



## Corresponding

 Figures,31st Dec., 1921.

| L | 8. |
| :--- | :--- |

$80,067 \quad 13 \quad 8$

## INCOME.

\& . . d.
Brought forward

INCOME.

Brought forward

## DAVIS

£1,900 London and South Western Railway

We hereby certify that we have auditid the Books, Accounts and Vouchers of the We hereby certify that we have aud accompanying Income and Expenditure and that the above Balance Sheet and accompanying Income and Exave verified truly set forth the position as
information we have required.
information we have required.
23, Queen. Victoria Street, E.C. 4 ,
22nd February, 1923.

