



THE ZOOLOGICAL SOCIETY OF LONDON

ANNUAL REPORT

1962

THE ZOOLOGICAL SOCIETY OF LONDON

The Society was founded in 1826 by Sir Stamford Raffles, Sir Humphry Davy (President of the Royal Society) and other eminent naturalists,

for the advancement of Zoology and Animal Physiology and the introduction of new and curious subjects of the Animal Kingdom, and was incorporated by Royal Charter in 1829.

The Society's Gardens in Regent's Park, which were first opened to the public in 1828, now cover an area of 36 acres. Of the original features and buildings designed by Decimus Burton, the old Camel House with its clock tower, the Ravens' Aviary and the Giraffe House are still in existence. In 1927 the Society acquired 500 acres of farm and down land at Whipsnade and has developed them into a Zoological Park where there is a minimum of housing and a maximum of open spaces for the animals.

The existence of the Zoological Society as an Institution under a Royal Charter depends on the fulfilment of the object for which it was founded. Being primarily a scientific society it undertakes and encourages scientific research in zoology by members of its staff and by visiting scientists, and also spreads zoological knowledge through its educational activities. Scientific Meetings, commencing at 5 p.m., are held in the Meeting Room on the second Tuesday in the months February to June and October to December. At these meetings the results of new research are communicated and discussed, and specimens and films of zoological interest are exhibited. Symposia on special subjects are arranged on other dates, which are notified as occasion arises. The Society owns one of the finest zoological libraries in the world, containing approximately 100,000 volumes, including many complete sets of scientific journals.

The *Proceedings*, published eight times a year, in octavo, forms the main organ of the Society for the publication of the papers read at the Scientific Meetings and also notices of all business transacted at these meetings. The papers cover all fields of zoology and are fully illustrated with plates and text figures. The *Transactions* are published at irregular intervals, and contain such of the communications made to the Scientific Meetings as are better adapted for publication in quarto form because of the illustrations required. A third publication, entitled *Symposia of The Zoological Society of London*, first published in 1960, records the papers read at the Symposia.

The *Zoological Record*, a comprehensive bibliography of zoological literature with subject and systematic indices, is published annually by the Society; it is available either as a complete volume or separately in 20 parts dealing with the different animal groups.

The *Nomenclator Zoologicus* contains the names of all the genera and subgenera in zoology from the 10th Edition of Linnaeus 1758 to the end of 1945, with a bibliographical reference to the original description of each. The work contains approximately 250,000 entries, and is published in 5 volumes.

The *International Zoo Yearbook*, providing authoritative information on developments in the Zoo world and a comprehensive reference section of Zoos, is published annually.

THE ZOOLOGICAL SOCIETY OF LONDON

REPORT
OF THE COUNCIL
FOR 1962

*The Council has pleasure in presenting
its one hundred and thirty-fourth Annual Report
to the Annual General Meeting of the Society
to be held on Thursday 16th May 1963
at 3.30 p.m. in the Society's Offices
at Regent's Park*

THE ZOOLOGICAL SOCIETY OF LONDON

Patron

HER MAJESTY THE QUEEN

Council 1962-1963

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The Most Hon. The Marquess of Willingdon

G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch.

Professor G. Payling Wright, D.M., F.R.C.P.

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IN THE POCKET ON BACK COVER

GENERAL REPORT

1962 has been an important year in the history of the Society. In common with all Institutions which enjoy a legal status by virtue of a Royal Charter our objectives, as well as the framework of our government and administration, were set out in our first Charter, which was granted by the Crown in 1829. Certain amendments to this document were embodied in a Supplemental Charter granted in 1948. The experience of the past 10 years revealed, however, that some of the provisions of both these Charters had become obsolete, and that other necessary powers, among them important ones relating to finance, had been provided for in neither. After careful review and detailed consultation, the Council formulated the terms of a new draft Charter and Byelaws. These were approved by the Fellowship in July, a majority of 98% out of 1,393 voting in favour, and the Council was authorized to petition H.M. The Queen for the grant of this new Charter to the Society.

Towards the end of 1962 the Council were informed that, subject to a few textual amendments, Her Majesty had graciously signified her approval, both of the Charter and of the Byelaws scheduled to it. The new Charter was sealed and became effective on 15th January 1963.

All the changes which have been made stem from the fact that in the course of its development the Society has had a far greater public impact, and the character of its work has become far more diverse, than could ever have been envisaged when it was founded. The changes of the past few years have been particularly striking. For example, the terms of the Crown Estate Act of 1961 empower the Minister of Works to grant to the Society a lease of the Crown Land which we occupy in Regent's Park, thus giving us a measure of security we have never enjoyed before. It also authorizes him, under certain conditions, to lease the Society an additional 10 acres of adjoining land. Both these provisions of the Act are an indication of the importance of the Society's work in the public life of the country. Equally, the large grants we have recently received for research purposes from the Nuffield and Ford Foundations, and from the Wellcome Trust, are an indication of the part the Society is expected to play in 'the advancement of zoology'.

Such developments do more than encourage the Society in its efforts to advance the zoological sciences, which is the central purpose of our Charter. They also made it essential that our new constitution should be framed in terms which would ensure the effective administration of the Society's activities and the proper control of its resources. These were the purposes underlying the constitutional changes which the Council recommended and which, with the approval of the Fellowship, have now been incorporated in our new Charter.

A copy of the 1963 Charter, Byelaws, and the Regulations made under the authority of the Charter is enclosed with this Report. As they are in large degree self-explanatory, it is only necessary to mention the major reforms which have been effected.

Of those which concern the structure of the Society, the most important are the provisions whereby the President is elected for a five-year term of office and the Treasurer and the Secretary (who must be a Scientific Fellow) are elected for seven-year terms of office. The Council itself must consist of roughly equal numbers of Ordinary and Scientific Fellows. In this way the continuity of administration which is essential for effective management is assured.

The Council is also empowered to invite the Privy Council, Ministers of the Crown, Local Authorities and the Governing Bodies of Universities to nominate up to a total of three representatives to serve on the Council. The guidance which the Society has received from these national and public bodies has always been invaluable; the strengthening of our links in the way suggested will help develop a field of co-operation which, in the light of present-day conditions, is essential.

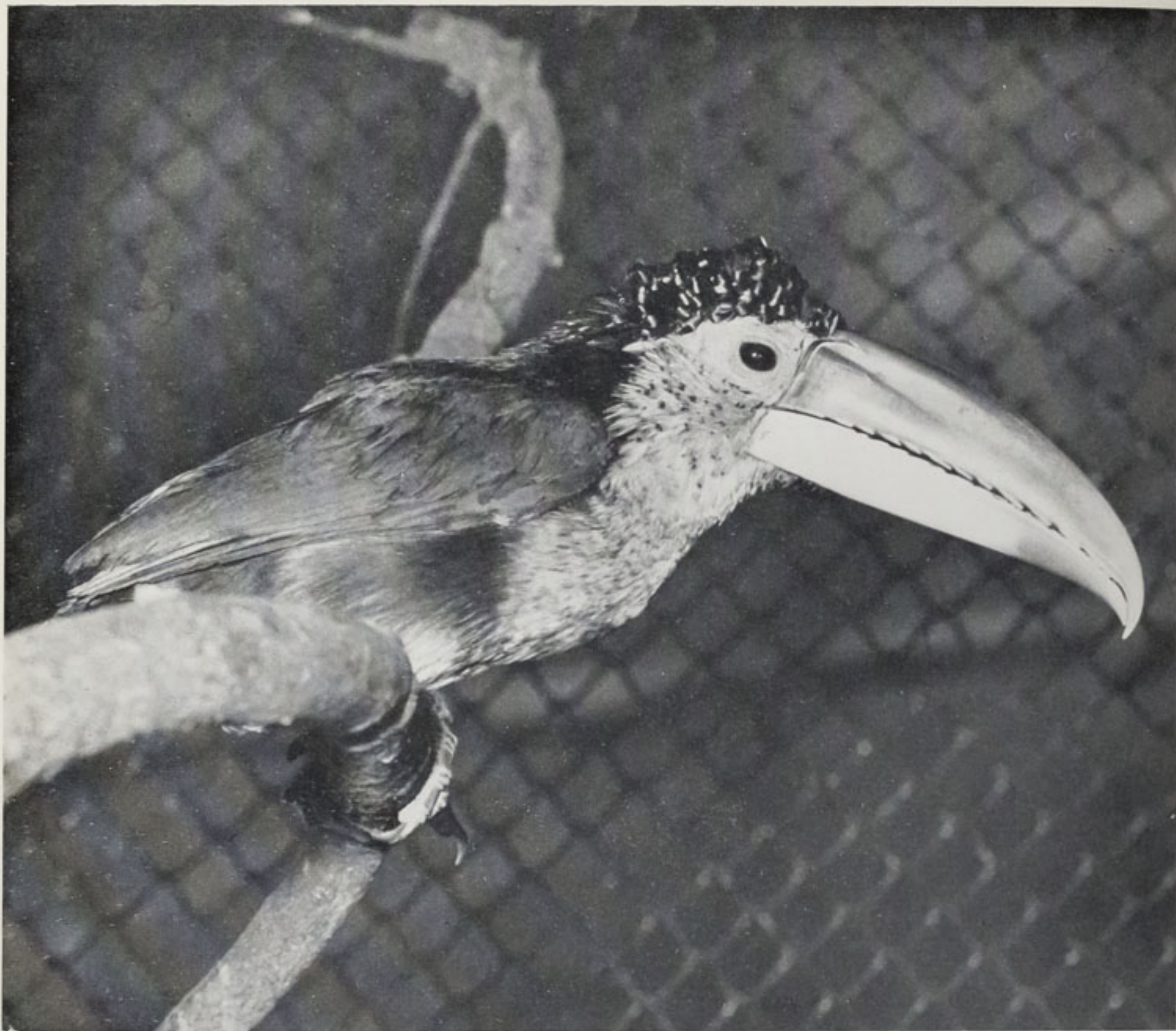
Alterations to our Charter, but not to our Byelaws, have always been subject to the approval of the Privy Council. Under the terms of the new Charter, the Byelaws, or the repeal or alteration of any Byelaw, will also need the approval of the Privy Council before becoming effective. This is a safeguard which is now invariably included in the constitution of all newly chartered bodies.

Of the amendments affecting the administration of the Society and the management of its affairs, by far the most important are the specific provisions controlling the investment of its funds and authorizing the Society to borrow money if this should at any time become necessary.

The reform of the constitution which has been completed this year will, without doubt, provide a sound basis for the future development of the Society.



'Toto', young African Elephant,
in the Gardens, Regent's Park.
W. G. Vanderson, Fox Photos



Curl-crested Aracari in the Gardens,
Regent's Park. Native to South America.
Helen Simpson, Woman's Mirror

THE MEMBERSHIP

Officers and Council

H.R.H. The Duke of Edinburgh again accepted the Presidency at the Annual General Meeting which was held on Friday, 27th April. Dr T. C. S. Morrison-Scott was re-elected Treasurer and Professor Sir Solly Zuckerman was re-elected Secretary.

The following members of Council retired :

Professor J. Dixon Boyd

Sir Edward Hulton

Mr Peter Scott

Professor J. Eric Smith

Professor J. Z. Young

The Fellows elected as members of Council to fill these vacancies were :

Professor E. C. Amoroso

Professor E. J. W. Barrington

The Marquess of Willingdon

Dr G. E. W. Wolstenholme

Professor G. Payling Wright

Roll of members

At the end of the year there were 3,688 Fellows and 1,473 Associates.

On her resignation as Honorary Parasitologist the Council records its deep appreciation to Dr Annie Porter (Mrs H. G. Fantham) for her many services to the Society over a very long period. They much regret that at the time of writing this report she was seriously ill.

FINANCE

Review of the year

The development programme upon which the Council embarked in 1959 is now at its peak and is making very heavy demands on the financial resources of the Society.

As will be seen from the audited Accounts, enclosed with this Report, the revenue account for 1962 ended with a deficit on the year's working of £5,500. This was disappointing, as we had hoped that the higher admission charges which took effect in March would enable us to show a substantial surplus. However, as with most other similar institutions, the poor summer weather reduced attendances during the year at Regent's Park and at Whipsnade by over 350,000 and, although the actual gate takings were higher, receipts from catering and other activities fell with the large drop in attendances.

On the expenditure side, the cost of salaries and wages again went up, and more money than usual was spent on the purchase of animals, most of which were destined to stock the new houses. In addition the first contribution of £18,500 was made to a new fund – the Buildings Replacement Fund – intended to provide for the ultimate replacement of the buildings which are regarded as 'permanent' under our development plan, i.e. existing buildings scheduled to remain in being, together with all new buildings erected. This fund should obviate for our successors some of the financial difficulties we have had to face.

The main items of capital expenditure at Regent's Park related to the Giraffe House, the Canal Bank development, the Cockatoo Aviary, the new Pheasantry and the first stage of the Northern Aviary. At Whipsnade the most important work was the new entrance, with its ancillary shops and lavatories.

The principal capital receipt resulted from the sale of the freehold of 31 Prince Albert Road. Bought by the Society in 1946 for £14,500, this house has since been used to accommodate three members of the staff. The value of the site was clearly such, however, as to make it uneconomic to

continue to use it for this purpose, and the Council decided to sell the freehold and use the proceeds – about £100,000 – for development purposes.

Rebuilding Fund Donations

The Council gratefully acknowledges the contributions received during 1962, including £2,000 from Sir Edward Hulton, £5,000 from His Highness the Amir of Kuwait, and £846 from the late Mrs B. F. Fogden, towards the Rebuilding Fund; £1,400 from the British Aluminium Company and an anonymous gift of £50,000 towards the Northern Aviary.

ZOOLOGICAL GARDENS REGENT'S PARK

Visitors

During 1962 there were 1,640,514 visitors to the Regent's Park Gardens compared with 1,887,088 in 1961. Of this number 341,264 visited the Aquarium and 438,531 the Children's Zoo; the corresponding figures for 1961 were 385,698 and 467,731 respectively.

The Collection

Mammal section. The young female African Elephant 'Toto', purchased this year, has proved a great attraction. A special paddock was constructed on the main lawn where this young animal, which is extremely docile and friendly, met the visitors each day during the summer.

Two rare gibbons have been received – a male Siamang, and a female Hoolock which it is hoped to pair with the male Hoolock already in the collection.

The opportunity occurred during the year to purchase a young female Mountain Gorilla which it was hoped to mate with 'Reuben', the male Mountain Gorilla which had been in the collection since 1960. In order to secure the female, however, it was also necessary to purchase a young male. All the gorillas had settled down well, but unfortunately, during the extremely hard weather at the end of the year, both 'Reuben' and the second young male succumbed to pneumonia.

A new exhibit has been attracting much public interest outside the South Mammal House. Here the old Marmot enclosure has been renovated to give the public an uninterrupted view of these attractive animals and their burrowing activities.

In October Head Keeper Newson joined an expedition organized by the Nature Conservancy to the Orkneys, where three adult seals – a bull and two cows – were collected. All three animals have settled down well in the Seal Pond where they make a fine display. The Society is grateful to the

Nature Conservancy for their invitation to take part in the expedition and for the assistance given by the leader, Mr Edward Smith.

In preparation for the new buildings on the Canal Bank, a large collection of ungulates has been purchased, including two Giraffes, four Cape Buffalo, four White-bearded Gnu, four Common Zebra and a pair of Onager.

The breeding record of the Lion House has been particularly good. Five Pumas, one Tiger, one Chinese Leopard and a Lion were successfully reared during the year.

Other important additions to the mammal collection include a pair of Royal Antelope, four Mountain Beavers, five Rock Hyrax, one Malay Tapir and one West Indian Manatee.

Bird section. The breeding of the Cattle Egret and the Kenya Eagle Owl, which have not previously bred in European collections, are of particular interest.

Some of the species new to the collection include the Sickle-winged Guan, Hume's Bar-tailed Pheasant, Spur-winged Plover, an Eagle Owl (*Bubo vosseleri*), Maned Owl, Vieillot's Barbet, D'Arnaud's Barbet, Curl-crested Aracari and Red-billed Oxpecker.

Aquarium. Two tanks in the sea-water hall have been entirely rebuilt and fitted with new rockwork. One of these incorporates a new device designed to give the effect of storm clouds passing overhead; with suitable lighting this gives a truer picture of the appearance of life on the sea floor.

The extent of the collection has been fully maintained, and in particular there have been many additions to the marine invertebrates. Among those new to the collection is the sea-urchin *Cidaris cidaris*, trawled from depths of over 1,000 ft off the west coast of Europe. Considerable success has been achieved in the rearing of young Dogfish and Nursehounds.

Children's Zoo. The Chimpanzee demonstrations continue to attract large crowds and the Chimpanzee Den has become a well-established feature of the Children's Zoo. The Pets Exhibition Hall has also been successful, both in summer and winter, and is being improved with new charts and labels. A new small experimental house with reversed lighting systems, where bushbabies and related animals will be exhibited, is being built and will be open in the coming season.

<i>Animals of all kinds (except fish and invertebrates) at Regent's Park</i>	
On 1st January 1962	2,941
Received in 1962 by presentation, exchange, deposit and purchase, and transfer from Whippsnade	775
Born in the Menagerie during 1962	242
	<hr/>
	3,958
Died, sold, sent in exchange or returned to depositors, and trans- ferred to Whippsnade during 1962	1,306
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In the Gardens on 31st December 1962	2,652
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Flower gardens

In spite of the very late season the spring and summer bedding displays were of a high standard and many appreciative comments were received from visitors.

The reserve flower beds, laid out between the Greenhouse and the Canal when the retaining wall along this section of the Canal Bank was completed, have greatly improved the facilities of the nursery section of the Horticultural Department.

The Society is grateful to Mr R. J. Lewis and to Sir George Taylor, Director of the Royal Botanic Gardens, Kew, for their generous gifts of plants and seeds.

Catering

During the winter season the kitchens of the Regent Cafeteria, which had been in need of modernization for some time, were completely reorganized and new equipment was installed. The redecoration of the part of the Cafeteria open to the public is being carried out this winter.

Zoo Restaurants Limited, which was formed in 1956 in order to augment the Society's revenue by making it possible to use the restaurant facilities when the Gardens are not open to the public, undertook many more functions than in previous years. It is clear that the evening banqueting service which is provided has established itself fully and that the demand is increasing.

In the International Culinaire competitions held at Olympia, Mr L. R. F. Spanner, the head chef, was awarded a Bronze Medal for his entry in Class 10 of the competition. His entry was placed fourth amongst all those from the British Isles and Europe.

REDEVELOPMENT PLAN

The plans for the complete redevelopment of the Gardens in Regent's Park, which were embarked upon in 1959, are now well on the way to implementation.

The first phase – the construction of new administrative buildings and the improvement of the Catering Department – has virtually been completed, and the London Zoo now has an up-to-date animal hospital, supplies buildings, modern workshops, stores and garage, a small but well-equipped education building, and the necessary restaurant facilities to cater for all sections of the public.

Phase 2, now in progress, covers the development, for purposes of animal display, of the south bank of the Regent Canal and the construction on the north bank of the large aviary designed by Lord Snowdon. This will be known as the Northern Aviary. The main project in Phase 3, due to begin in 1963, will be the new Elephant Pavilion. Phase 4, a new Small Mammal House for which Professor Misha Black is to be the architect, will, it is hoped, follow in 1965.

By the end of 1962 the development of the south bank of the Canal was nearing completion. The Giraffe House had been restored, its interior modernized and its two wings rebuilt on virtually their original lines. But although it was completed, it could not be reopened to the public because of the difficulties of access caused by other major work in the vicinity. It is expected, however, that the whole of this section of the Gardens will be on view by Easter 1963, the Northern Aviary being completed a few months later.

Other improvements made during the year included a large Cockatoo Aviary in the Main Gardens to replace the former aviary, the site of which is required for the Institute of Comparative Medicine, and a new Pheasantry adjoining the Children's Zoo to replace part of the Pheasantry demolished in the North Gardens. Both are already proving attractive to visitors. A large part of the cost of the Cockatoo Aviary was met by the legacy received by the Society from the late Miss Margaret Salusbury.

Towards the end of 1962 work started on the two large scientific buildings

to which reference was made in last year's Report. The Institute of Comparative Physiology, which is to provide research laboratories for the Society's own staff and visiting scientists as well as for Research Fellows appointed under the Ford Foundation Grant, is being built alongside the Hospital, with which it will directly communicate. A new building adjoining the Main Office will house the Institute of Comparative Medicine and new meeting rooms for the Society, thus enabling the present meeting room to be converted for library use, and freeing badly needed space in the offices.

In addition to the major works described above, the following further improvements have been put in hand.

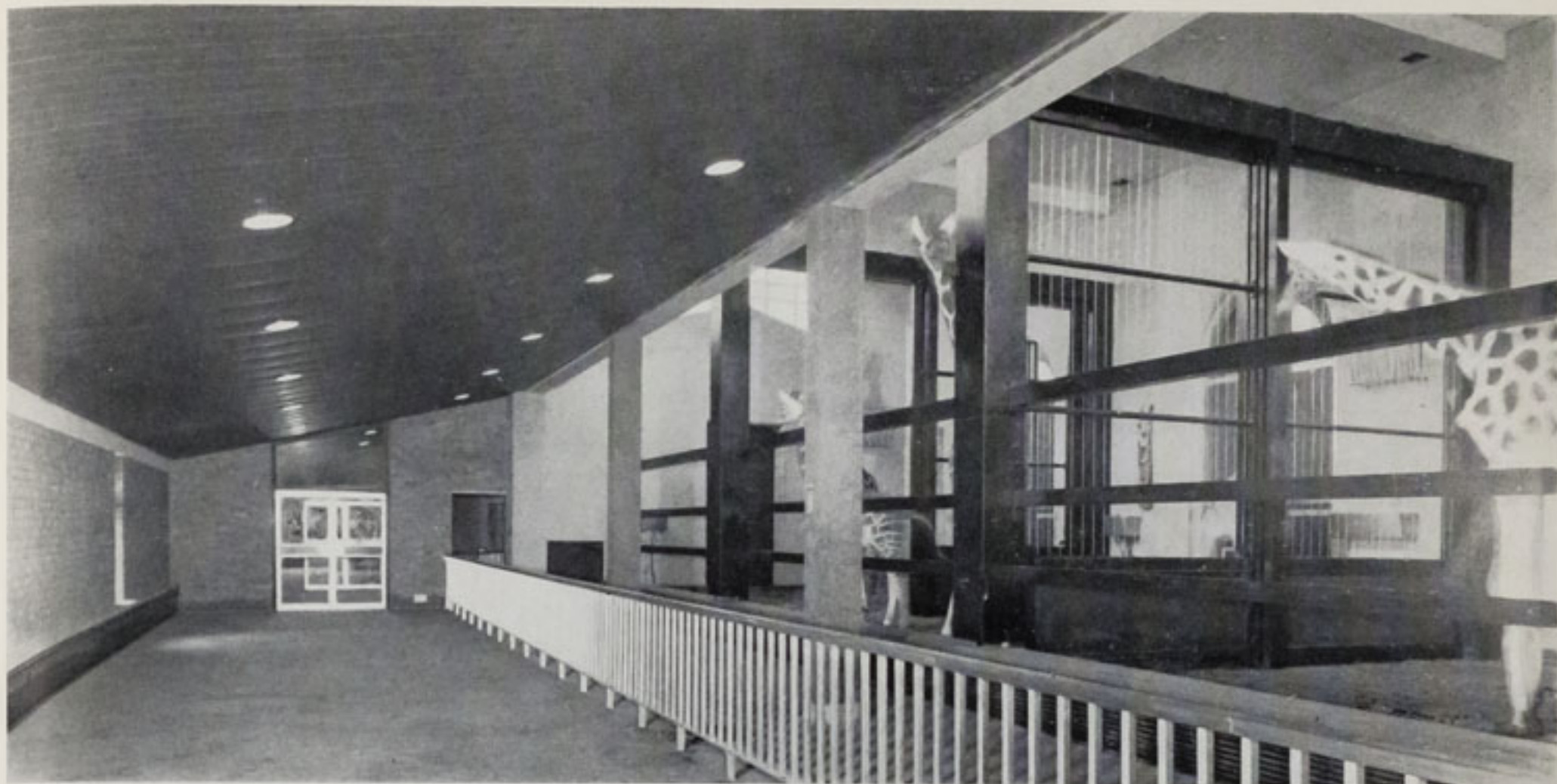
A new social club, to replace the building recently used as such, has been started on the plot between the Horticultural Department and St Mark's Bridge. Facing it across the Canal a small block is being erected containing two flats for senior officials, with a basement for office and storage space. The flats will take the place of the old Superintendent's house which had to be demolished as part of the Middle Garden development.

For some time the zoo shop has proved inadequate on busy days. A new shop affording much more counter and display space is being erected at the south end of the rose garden facing the Broad Walk.

A Wolf Wood, on similar lines to the one at Whippsnade, is being planned for the large paddock behind the Film Unit. It will be viewed from a path running the whole length of the paddock from the Tropical Bird House to the South Gate, and the wolves will, of course, also be visible to people in the Park.

After trial of many different methods of renovation of the surface of the Mappin Terrace enclosures, in order to make them watertight, a major repair programme has been put in hand, the intention being to carry out the work during successive winters.

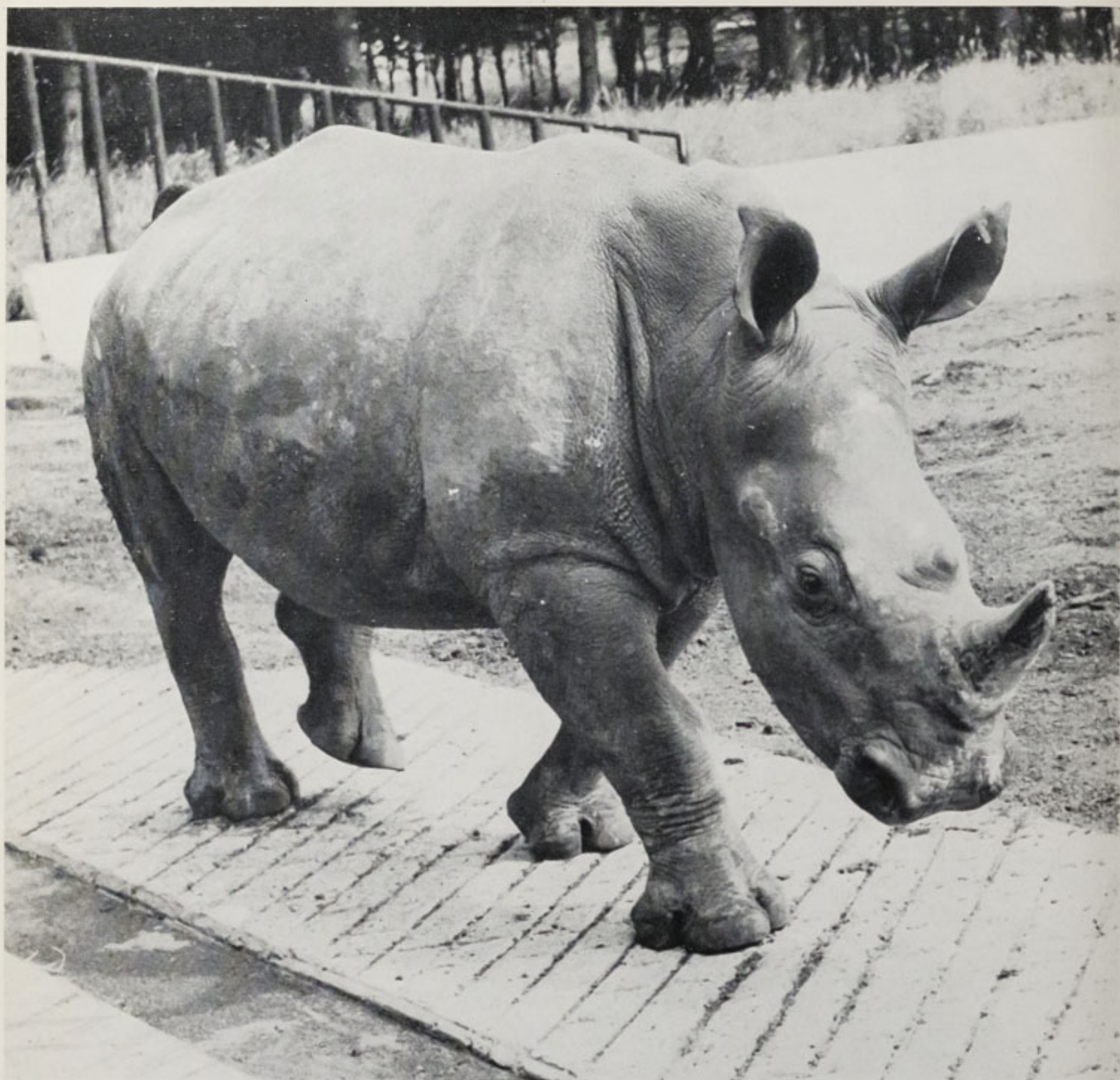
Finally, a long-term programme of work on the drainage system in Regent's Park Gardens has been started. This is designed to modernize the somewhat haphazard system which has grown up over the last hundred years, and to connect the drains of the Gardens, by a duct under the Canal, to the main sewer in Prince Albert Road.



Interior of Giraffe House, the Gardens, Regent's Park: January 1963.
W. G. Vanderson, Fox Photos



Mountain Beaver or Sewellel,
the first to be received in the
Gardens, Regent's Park.
Zoological Society of London



White Rhinoceros, received at Whipsnade Park, July 1962. *Central Press Photos Ltd*

WHIPSNADE PARK

Visitors

As in Regent's Park, the number of visitors to Whipsnade Park was less during 1962 than in 1961, there being 642,077 compared with 756,758. There were 196,199 visitors to the Children's Zoo compared with 230,977 in 1961.

General developments

On the night of the 27th July the offices and the caretaker's flat above them were totally destroyed by fire, and the resident Caretaker tragically lost his life. Temporary arrangements have been made to provide office accommodation in the buildings near the restaurant and an additional hut is now being built. It will, however, be necessary to provide permanent office accommodation as soon as possible, and plans are in hand. The new hut, which will be in use during the period of building, will eventually be used as an education centre.

The new entrance, which provides gates on separate axes for pedestrians and vehicles, was completed during the summer and has proved very successful. The enlarged zoo shop premises have been in use and the increased sales have reflected the improved service and facilities which can be provided in modern premises.

A house and paddock for the White Rhinoceroses are being built, and the policy of providing ditches and low fences for all paddocks was further implemented by the construction of ditches in Spicer's Field and in Woodfield Paddock.

The farmland is gradually being turned over from arable farming to pasture for the collection of disappearing breeds of domestic animals established last year. In addition to the Longhorn Cattle, Cotswold Sheep, Chartley Cattle, Norfolk Horned Sheep, Manx Loghtan Sheep and certain rare breeds of poultry already established, Lincoln Longwool Sheep have been purchased.

The Collection

The important births at Whipsnade include one Polar Bear, one Sarus Crane, two Manchurian Cranes, four Common Rheas, three Tigers, three Pumas, one Grévy Zebra, five White-tailed Deer, two Crested Porcupines and one Brazilian Tapir.

A pair of White Rhinoceroses (*Diceros simus*) was purchased from the Natal Parks, Game and Fish Preservation Board.

In spite of extra precautions to guard against the cold, the herd of Grévy Zebras, purchased in 1959, suffered the loss of four adults and one foal during the spell of bitter weather at the end of the year, when snow-drifts up to 8 ft occurred in the Park.

Animals of all kinds (except fish and invertebrates) at Whipsnade Park

On 1st January 1962	2,220
Received in 1962 by presentation, exchange, deposit and purchase, and transfer from Regent's Park	111
Born in the Park during 1962	521
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	2,852
Died, sold, sent in exchange or returned to depositors, and trans- ferred to Regent's Park during 1962	688
	<hr/>
In the Park on 31st December 1962	2,164
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SCIENTIFIC ACTIVITIES

Scientific meetings

Eight Scientific meetings were held during the year, at which 74 papers accepted for publication were communicated or read in title. Many other communications were made at the meetings: Dr Maurice Burton discussed and illustrated methods of identifying unknown animals; a film of the birds of East and Central Africa was introduced by Mr J. J. Yealland; Mr John Hooper exhibited and commented on his film on bats 'Rings on their wings'; the respiratory adaptations in the scombroid fishes were described by Mr N. B. Marshall; the meeting ceremony of the Black-headed Gull was described by Dr G. H. Manley; an analysis of 'animal popularity' was made by Dr D. J. Morris; a film showing the courtship and mating behaviour in the Rufous Grasshopper, a scorpion, the Ten-spined Stickleback and the Great-crested Grebe was shown by Dr Fae Hall; why animals are attracted by artificial light sources was the subject of a talk by Mr J. van Hooff; and Dr Vernon Reynolds described the social organization and behaviour of forest-living chimpanzees.

Symposia

Symposia were held on 8th February, 12th to 14th April, and the 28th and 29th November. The Symposium in February on 'Comparative aspects of neurohypophysial morphology and function' was arranged in collaboration with Professor H. Heller of the University of Bristol.

The subject of the Symposium held in April was primatology, and was arranged conjointly by the Anatomical Society of Great Britain and Ireland, the Society for the Study of Human Biology and the Zoological Society of London. It was divided into four sessions. The first was devoted to primate behaviour in the wild and in captivity, the second to functional anatomy in the primates, the third to characters of genetic interest in the primates, and the final session to film studies of primate behaviour.

The third Symposium, on cardiovascular anatomy and pathology, was organized by Professor R. G. Harrison of the Department of Anatomy, University of Liverpool, and Professor K. R. Hill of the Department of Pathology, the Royal Free Hospital, London. Communications on

cardiovascular anatomy were presented and discussed on the first day, and on cardiovascular pathology on the second day.

All Symposia, which were open to any scientist who wished to attend as well as to Fellows of the Society, were very well attended and included in the audience many scientists from abroad.

Publications

Proceedings of The Zoological Society of London. Two volumes of the *Proceedings*, each consisting of four parts, were published: Volume 138 was completed on the 6th June and Volume 139 on the 14th December. The 78 papers and abstracts contained in these volumes are representative of a wide variety of subjects in the zoological sciences including: R. McN. ALEXANDER, 'The structure of the Weberian apparatus in the Cyprini'; E. C. APPLEBY, 'Mycosis of the respiratory tract in penguins'; J. N. BALL and J. W. JONES, 'On the movements of the Brown Trout of Llyn Tegid'; G. M. BUDD, 'Population studies in rookeries of the Emperor Penguin *Aptenodytes fosteri*'; A. J. E. CAVE, 'The pedal scent gland in *Rhinoceros*'; 'Burchell's original specimens of *Rhinoceros simus*'; R. F. CHAPMAN, 'The ecology and distribution of grasshoppers in Ghana'; MALCOLM R. CLARK and G. E. MAUL, 'A description of the "scaled" Squid *Lepidoteuthis grimaldi* Joubin 1895'; R. PHILLIPS DALES, 'The polychaete stomodeum and the interrelationships of the families of Polychaeta'; H. FOX, 'Study of the evolution of the amphibian and dipnoan pronephros by an analysis of its relationship with the anterior spinal nerves'; OLIVER GRAHAM-JONES and W. C. OSMAN HILL, 'Pregnancy and parturition in a Bornean Orang'; D. J. GREATHEAD, 'The biology of *Stomorhina lunata* (Fabricius) (Diptera: Calliphoridae), a predator of the eggs of Acrididae'; K. R. L. HALL, 'Numerical data, maintenance activities and locomotion of the wild Chacma Baboon, *Papio ursinus*'; 'The sexual, agonistic and derived social behaviour patterns of the wild Chacma Baboon, *Papio ursinus*'; C. J. O. HARRISON, 'An ethological comparison of some waxbills (Estrildini), and its relevance to their taxonomy'; A. E. HAWKINS and P. A. JEWELL, 'Food consumption and energy requirements of captive British shrews and the mole'; R. A. HINDE and T. E. ROWELL, 'Communication by postures and facial expressions in the Rhesus Monkey (*Macaca mulatta*)'; J. W. JONES and H. EVANS, 'Salmon rearing in mountain tarns - a preliminary report'; A. JOYNER, 'Reproduction and larval life of *Nerine cirratulus* (Delle Chiaje) family Spionidae'; JANET KEAR, 'Food selection in finches with special reference to interspecific differences'; O. J. LEWIS, 'The phylogeny of the

crural and pedal flexor musculature'; B. LOFTS, 'Cyclical changes in the interstitial and spermatogenetic tissue of migratory waders "wintering" in Africa'; LORD MEDWAY, 'The relation between the reproductive cycle, moult and changes in the sublingual salivary glands of the Swiftlet *Collocalia maxima* Hume'; DESMOND MORRIS, 'The behaviour of the Green Acouchi (*Myoprocta pratti*) with special reference to scatter hoarding'; RICHARD NEWELL, 'Behavioural aspects of the ecology of *Peringia* (= *Hydrobia*) *ulvae* (Pennant) (Gasteropoda, Prosobranchia)'; R. WYNNE OWEN and R. T. PEMBERTON, 'Helminth infection of the Starling (*Sturnus vulgaris* L.) in Northern England'; T. E. ROWELL and R. A. HINDE, 'Vocal communication by the Rhesus Monkey (*Macaco mulatta*)'; EYVOR E. SANDISON, 'The populations of *Balanus amphitrite* var. *stutsburyi* on the Guinea Coast'; H. N. SOUTHERN, 'Survey of Bridled Guillemots, 1959-60'; OLIVE S. TATTERSALL, 'Report on a collection of Mysidacea from South African off-shore and coastal waters (1957-59) and from Zanzibar (1961)'; G. P. WELLS, 'The warm-water lugworms of the world (Arenicolidae, Polychaeta)'; P. J. P. WHITEHEAD, 'The relationship between *Tilapia nigra* (Günther) and *T. mossambica* Peters in the eastern rivers of Kenya'; ROGER A. WHITEHEAD, 'The life history and breeding habits of the West African cichlid fish *Tilapia mariae* and the status of *T. meeki*'; J. H. WICKSTEAD, 'Food and feeding in pelagic copepods'; J. Z. YOUNG, 'Courtship and mating by a coral reef Octopus (*O. horridus*)'.

Transactions of The Zoological Society of London. Two further parts of Volume 29 of the Transactions were published. Part 5, a monograph by Lord Richard Percy entitled 'The post-notochordal tail in Dipnoi and Urodela', was published on 17th April, and Part 6, 'A revision of the genus *Pygophora* Schiner (Diptera: Muscidae)', by R. W. Crosskey, on 30th August.

Symposia of The Zoological Society of London. Numbers 6, 7, and 8 of the Symposia were published. The sixth number entitled 'Aspects of disease transmission by ticks', published on 9th May, contains the proceedings of the symposium held on 8th March 1961. Number 7, entitled 'Biological acoustics', published on 16th October, contains communications presented and discussed at the symposium held on 3rd May 1961. The proceedings of the symposium held jointly with the Association for the Study of Animal Behaviour, on the 8th and 9th November 1961, were published on 8th November in Number 8, entitled 'Evolutionary aspects of animal communication: Imprinting and early learning'.

Nomenclator Zoologicus. The preparation, by the Honorary Editor, Dr A. Tindell Hopwood, and by Miss Marcia A. Edwards, of the supplementary volume of 'Nomenclator Zoologicus' containing the names of new genera and subgenera from the literature 1946-55 is nearing completion, and it is hoped to publish the volume next year.

Zoological Record. Volume 96, recording the zoological literature which was published mainly in the year 1959, was completed in May with the issue of the title page and binding case. This volume, the first printed in the larger format, comprises 1,323 pages against the 2,223 pages of the preceding volume, thereby reducing the bulk of the volume and making reference considerably easier.

Nine sections of Volume 97, a record of the literature for 1960, have been published and a further seven sections are in the press. Three sections, Comprehensive Zoology, Aves and Mammalia of Volume 98, recording the literature for 1961, have been published and the sections Arachnida and Echinodermata are in the press. The income received from sales and subscriptions remains insufficient to cover the costs of producing this bibliography, its continued publication still depending to a large extent on donations to the Zoological Record Fund. A complete list of the donations received during 1962 is given in Appendix 8, page 53.

With the continued increase in the published literature of the zoological sciences, the task of preparing material for this bibliography is a heavy burden and the Society is greatly indebted to the individual Recorders whose work makes possible the publishing of this important bibliography.

International Zoo Yearbook. During 1962, Volume III of the Yearbook was published. Since Volume II had been so highly praised, both in the national press and in specialist journals, it was felt that the Yearbook should be made available to a wider market and its publication was therefore put into the hands of Messrs Hutchinson, the Society retaining complete editorial control.

One of the main themes of the new Yearbook is the importance of zoos in relation to the conservation of rare species of animals. The introduction stresses the responsibility of zoos, in association with animal conservation organizations, to establish in captivity breeding groups of animals whose natural habitats are threatened. Preservation of the natural habitats is obviously desirable but where conditions are unstable or where, for some reason, rare animals have already been brought into captivity, it is vital that zoos should draw up a co-ordinated breeding policy. The first step in this

direction was to discover which zoos have rare animals in their collections and, with this in mind, a census of rare mammals living in zoos was conducted, the results being published in the Yearbook.

As before, the Yearbook is divided into three sections. Section I contains a number of articles dealing with the special topic of small animals in captivity, with particular reference to the problems involved in exhibiting nocturnal animals. Section II consists of 58 articles on a wide variety of zoo topics, ranging from architecture to public services and publicity, care, nutrition and breeding of animals, and veterinary work and zoological research. Section III, the Reference Section, provides information about the zoos and aquaria of the world (430 are listed), changes in zoo and aquaria staff, zoological research undertaken by zoos and aquaria, animal breeding successes during 1961, and universities with zoology departments. In addition to the rare mammal census, special features include a survey of the breeding seasons of mammals living in the Society's collections between 1828 and 1961, and a series of articles on national quarantine regulations in relation to the transmission of animal diseases.

Once again, the Society and the editors are very grateful to the numerous organizations and individuals who have contributed to the Yearbook, and to the periodicals which have given permission for articles to be reprinted from their pages.

Awards for contributions to zoology

Following the Annual General Meeting H.R.H. The Duke of Edinburgh presented the following awards:

The Scientific Medal for distinguished work in zoology, to Dr A. J. Cain and to Dr R. A. Hinde.

The Stamford Raffles Award for contributions to zoology, to Dr W. S. Bristowe.

The Thomas Henry Huxley Award for original work submitted as a Ph.D. thesis, to Dr I. B. Wilson.

The Prince Philip Prize to Michael Kerry Garrett, for his essay on 'Aspects of marine animal ecology'. The essays submitted by Alan John Riley and Anthony Philip Thorley were highly commended.

Research

Dr H. G. Vevers, the Curator of the Aquarium and Invertebrates, has continued his work with Professor N. Millott of Bedford College, on the axial

organ of echinoids. This investigation has been extended to include observations on the fate of minute granules fed experimentally through the mouth and injected through the peristomial membrane.

He has also worked at the Plymouth Laboratory with Dr G. Y. Kennedy of the Cancer Research Laboratory, Sheffield, on a fluorescent pigment in the test of the echinoid *Arbacia lixula*.

Dr D. J. Morris, the Curator of Mammals, has continued his analysis of human reactions to different animals species. A sample of over 22,000 answers to questions on the animals which are liked and disliked has been analysed. He has also started work on an analysis of the social behaviour of the Hyrax.

Mr Malcolm Lyall Watson of Westfield College, University of London, who is carrying out behaviour research at the Gardens under the direction of Dr Morris, has completed a study of the food-washing behaviour of raccoons and has made further studies on the hoarding behaviour of the Green Acouchi.

Mr Jan van Hooff of Utrecht University, has spent several months at the Gardens, continuing his study of facial expressions in primates. With Dr Morris, he is also working on a general study of the concept of submission in animal behaviour.

Mr R. N. Fiennes, the Pathologist, made good progress during the year on the research project on cardiovascular diseases. The hearts and arteries of mammals, birds and reptiles dying at Regent's Park were submitted to detailed examination by Dr R. Finlayson of St Bartholomew's Hospital. The comparison of the condition of arteries in free-living wild animals with those kept in captivity is essential to the proper evaluation of results, and two valuable collections of arteries from free-living wild animals have been secured for study. This was made possible by a grant of £200 from the Department of Technical Co-operation, and the financial assistance given by the Society in support of an expedition from the Royal Veterinary College to East Africa.

Mr J. Sparks of Queen Mary College, University of London, under the joint guidance of Mr J. J. Yealland and Dr D. J. Morris, has continued his study of the behaviour of estrildine finches in the research accommodation made available for him.

Dr L. E. Richdale has continued his work on the biology of tubinarine birds further to his field work in New Zealand.



Tiger cubs born at Whippsnade Park,
July 1962.



Small-scaled Tree Pangolin from Sierra Leone received in the Gardens, Regent's Park, June 1962.
W. G. Vanderson, Fox Photos

Institute of Comparative Medicine

Dr L. G. Goodwin, M.B., D.Sc., was appointed first Director of the Institute, which will be associated with the name of Lord Nuffield. At present Head of the Wellcome Laboratories of Tropical Medicine, Dr Goodwin will act in an advisory capacity from 1st January 1963 until he assumes full responsibility on 1st January 1964.

Mr R. N. Fiennes, the Society's Pathologist, was designated as Head of the Pathology Department in the Institute, but will also continue to be in charge of the diagnostic work at Regent's Park.

The plans for the Institute's laboratories were approved and building started before the end of the year.

The Council gratefully acknowledges a gift of £3,500 from Shell Petroleum Company Ltd.

Research in animal reproduction

As reported in previous years the Society has received a large grant from the Ford Foundation to endow Research Fellowships and Studentships, in order that a systematic programme of research in animal breeding could be undertaken. Laboratories for this and other research work sponsored by the Society will become available in 1964 when the Wellcome Institute of Comparative Physiology, now being built alongside the Hospital, will be completed.

Meanwhile it was arranged that the Research Fellows and Students who were appointed in 1961 should work in the laboratories of other institutions, and the Council is very grateful to all those who have co-operated by providing laboratory space.

The Senior Research Fellow, Dr I. W. Rowlands, has worked throughout the year at the Agricultural Research Council Institute of Animal Physiology, Babraham, Cambridge, and has now moved, temporarily, into the Department of Animal Husbandry, Royal Veterinary College, London, to direct the development of the Institute at closer range.

In collaboration with Drs R. M. C. Dawson and T. W. Scott at Babraham, Dr Rowlands has investigated the concentration of various phospholipids in exudates from different portions of the epididymis of the rat to discover whether any biochemical change can be detected in the spermatozoa during the time they acquire their fertilizing capacity, which takes place during their passage through this organ. He has also investigated the mechanism underlying the regulation of luteal activity in guinea-pigs, in collaboration

with Dr J. S. Perry. The results have indicated that the growth and maintenance of the corpus luteum is not dependent on a pituitary luteotrophin. This work will be continued in Babraham.

Further surveys have been made of the population of the Bank Vole and Long-tailed Field Mouse on Skomer Island by Dr P. A. Jewell and Mr P. Fullagar, and a start has been made on the histological study of the material collected on Skomer during 1961-62. A small colony of laboratory-bred Skomer Voles has been established at Babraham. This colony will eventually be brought to London to be studied alongside colonies of field mice (*Apodemus sylvaticus*) and the Yellow-necked Mouse (*Apodemus flavicollis*), which are now being maintained by Dr Jewell at the Royal Veterinary College. A number of regional varieties, including some island forms of *A. sylvaticus*, have been cross-bred and full breeding and growth records have been kept. These animals will provide material for comparative studies on growth and breeding. In addition further information is being gathered by Dr Jewell on the seasonal breeding cycle of the field mouse in the region of Potters Bar, Herts.

Dr Jewell's study of the biology of the Soay Sheep of St Kilda has continued; a visit to the island was made in March to obtain information on birth weights of male and female and of single and twin lambs. The number of these sheep on the island is steadily rising and it is hoped that the observations being made will help to elucidate the factors controlling the size of the population.

Dr Jewell was granted special leave from August to October to visit Africa and the Society provided financial assistance for him to travel to Uganda, Kenya and the Rhodesias. He visited several National Parks and Game Reserves to observe large mammals in their natural environment. A full report of this visit has been prepared.

Trials have been carried out at Whipsnade on the use of the projectile syringe for firing an immobilizing drug into large animals as a means of capture and observation at close quarters. Another trial of this method of capture was carried out on the Red Deer on the island of Rhum. The results are very promising although several technical improvements require to be made.

Dr D. R. S. Kirby's work at the Department of Zoology in Oxford on the invasive capacity of the mammalian trophoblast has led to attempts to determine the way in which this structure destroys various extra-uterine host tissues, and the factors which control the rate and extent of the invasive processes associated with the implantation of the embryo. Dr Kirby has also

been observing the growth of extra-embryonic membranes, especially the yolk-sac, of conceptuses transplanted to the abdominal cavity. He has shown that the yolk-sac continued to grow and expand in the absence of a living embryo or placenta. Preliminary experiments have indicated that the yolk-sac grown in this way is able to carry out the active transport of ions. Ions are transported across this membrane.

Dr G. H. Manley has been working in Regent's Park on reproductive behaviour in the lower primates. Despite difficulties experienced in obtaining a supply of these animals for this work, and also of keeping some of them alive and healthy, some headway has been made in the comparative study of reproductive and allied behaviour in this group.

Attention has been concentrated upon the Lorisoidea and *Tupaia glis*, with additional material collected from species of lemur. The sexual and social behaviour patterns, urination and agonistic responses provide considerable evidence of a more or less close relationship between lorisoid species. Copulation has been observed in several species and changes in the external genitalia and behaviour associated with oestrous cycles are being closely followed.

Dr A. D. Woodhead at the Fisheries Laboratory, Lowestoft, Suffolk, is concerned with studies on various aspects of reproduction in fish and, in particular, the cod. Previously she has reported on the presence of an inhibitory or anti-gonadotrophic factor in extracts of the pituitary gland of the cod, which was demonstrated by the simultaneous injection into immature rats of such an extract and a potent gonadotrophic extract from the pituitary gland of mammals. The inhibitory factor could not be detected in the blood or any other tissue of cod which was tested. At present a histological examination is being made of the ovaries of young rats that have received the above treatment to investigate more precisely the nature of the inhibitory factor.

Cod collected from the environmentally isolated areas of the Barents Sea have been shown by Dr Woodhead to have different growth and maturation rates. These observations are being related to time of onset of fecundity and age at first mating.

Dr Woodhead has extended her studies to include the relation of the thyroid gland to reproduction in some elasmobranchs, particularly the Spur-dog. In these animals, in contrast to teleosts, the thyroid is a discrete gland and its weight provides a good measure of its activity. A marked fall in weight of the gland occurred in December to January, when the pups are shed. Quantitative histological studies of the gland showed that at this

time the thyroid appears exhausted. The thyroids of pregnant Spur-dogs were also examined. Gestation in this species lasts two years and, in general, the thyroid of Spur-dogs in their second year of pregnancy was more active, suggesting a link between this gland and the process of reproduction. A marked seasonal cycle, which did not appear to be directly related to reproduction, also occurred in the thyroids in all females. It is thought that part of this cycle of activity is related to migration, as has been found in the Arctic cod. Initial studies on the foetal thyroids indicate that they do not reflect the changes occurring in the thyroid of the pregnant female.

Previous observations made by Dr Woodhead on the growth and reproductive capacity in Siamese Fighting Fish have been analysed and used to compare with similar data obtained from further batches of these fish reared in water containing varying concentrations of thyroxine. Other Siamese Fighting Fish have been used to observe the regressive changes in the gonads during senility.

Dr Lorna Kellas resigned her Fellowship to take up a lectureship in histology at the University of Liverpool in May 1962. Before leaving she had been studying the reproductive organs of various wild and domestic ruminant species.

Mr G. Clough has changed the subject of his dissertation at Cambridge to a study of reproduction in the hippopotamus, to make use of a large amount of material which will become available as the result of a cropping scheme now in operation at the Queen Elizabeth Park, Uganda. Arrangements were made for him to spend one year in this Park, beginning November 1962, working under the supervision of Dr R. M. Laws, and to collect and preserve the material for histological study on his return to Cambridge. Transport costs from London to Uganda are being defrayed by the Smuts Memorial Fund.

Mr D. B. A. Symons, working at the Royal Veterinary College, has been unable to obtain a regular supply of semen to carry out his original programme of work on the morphology of cat spermatozoa; the project was abandoned after four months. An investigation of the location of hyaluronidase in mammalian spermatozoa using the Coon's fluorescent antibody technique was substituted. Fluorescence was observed to be localized on the acrosome, and spermatozoa which had lost their acrosome did not fluoresce. Various controls are being used to test the specificity of the reaction. Mr Symons resigned his Studentship on 31st December to take up a Research Assistantship in the School of Agriculture, Cambridge, where he will continue this interesting work.

Since the middle of the year a histological service operated by Mrs J. Snelling has been founded at the Royal Veterinary College, for the use of the Research Fellows and Students.

Clinical departments

The total number of cases passing through the Hospital during 1962 was 241 and the average recovery rate 77.26%.

It is interesting to note that a relatively larger percentage of fatal illness is now found to be due to disorders of old age.

The table below shows comparative recovery rates of notified cases for the past seven years.

<i>Year</i>	<i>%</i>	<i>Year</i>	<i>%</i>	<i>Year</i>	<i>%</i>	<i>Year</i>	<i>%</i>
1955	58	1956	67	1957	76	1958	75
1959	81	1960	85	1961	79		

Forty-one animals passed through the quarantine station, and the Out-patient Department dealt with 136 new cases, including 35 budgerigars, 24 monkeys and 77 other mammals, birds, and reptiles.

There are no particular developments to record in the veterinary work at Whipnade Park, which has been of a routine nature and directed primarily towards preventive medicine and the maintenance of general health.

Pathology laboratory

During the year 502 autopsies were made on animals from amongst the resident acclimatized populations which died in the Gardens. A further 570 autopsies were made on newly arrived unacclimatized animals and on animals received from external sources.

Diagnostic reports were made during the year on 616 specimens from living animals. The typing of organisms recovered from cases of enteric disease has continued.

Specimens for pathological examination (skin, lungs, kidneys, serum specimens, blood and bile) have been supplied to a number of external workers with whom close contact has been maintained.

Pending the opening of the Institute of Comparative Medicine, which will offer greater facilities, no new research projects have been started. Meanwhile the histological library has been extended, and work on the card index of wildlife disease has progressed.

Whipsnade Park

Mr Martin Senior and Mr V. J. A. Manton carried out 387 autopsies, 172 on birds, 213 on mammals and 2 on reptiles.

Prosectorium

With the resignation of Dr W. C. Osman Hill, the routine work of the Prosectorium has been transferred to the Pathology Laboratory.

Library

4,520 books were borrowed by Fellows, Associates and scientific institutions during the year, and the reference facilities were extensively used by Fellows, Associates, members of the staff, research students, the staff of the TV and Film Unit and scientists from abroad.

A number of photographs, mainly of animals exhibited for the first time in the Society's Gardens, were added to the photographic library. During the year many of the photographs contained in this collection were reproduced in the Society's publications, in numerous books and periodicals, and also in TV programmes.

Conferences and visits, etc.

Major-General C. J. G. Dalton, the Controller, and Mr E. H. Tong, Director, Whipsnade Park, attended the Annual Conference of the Directors of Zoological Gardens in Great Britain, which was held in Bristol.

Dr L. Harrison Matthews took part in the symposium arranged during September in Paris by the Special Committee for Antarctic Research. He also visited the menagerie of the Jardin-des-Plantes, Vincennes Zoo and Clerès Zoological Park. Dr Matthews continued to serve as a member of the Board of Studies in Zoology and Comparative Anatomy in the University of London.

Dr H. G. Vevers visited the Stazione Zoologica at Naples in May and gave a paper to the staff and visiting research workers on the maintenance of *Octopus vulgaris* in an inland aquarium. He also visited the zoos at Naples, Rome, Turin, Basle and Paris and the new aquarium in Turin. In September he contributed a paper on 'Adornment by colour in man and other animals' to the Institute of Biology symposium on 'Colour and life'.

Mr E. H. Tong attended the Annual Conference of the International Union of Directors of Zoological Gardens held in San Diego. While in the United States Mr Tong visited zoos at Los Angeles, Chicago, Milwaukee,

Detroit, Cleveland, Buffalo, New York, Catskill, Baltimore, Washington and Philadelphia, and read a paper at the Annual General Meeting of the Buffalo Zoological Society on the advantages and disadvantages of a zoological park, such as Whipsnade, and the need for such a park to ensure the preservation of rare species.

Mr O. Graham-Jones, the Veterinary Officer, attended the 4th International Symposium on Diseases in Zoo Animals in Copenhagen, and gave a paper on the restraint and anaesthesia of primates. Mr R. N. Fiennes also attended.

Mr O. Graham-Jones also visited the zoos in Basle, Zurich and Frankfurt.

Mr Fiennes attended the 1st International Congress on Wildlife Diseases in New York and subsequently visited Philadelphia and Washington, a grant towards the expenses having been made by the World Health Organization in respect of his study of comparative aspects of cardiovascular disease.

Mr J. J. Yealland, the Curator of Birds, was elected editor of the Bulletin of the British Ornithologists' Club. The Bulletin was first published in 1892 'to facilitate the publication of scientific information connected with ornithology'. Mr David Seth-Smith, then Curator of Birds, was editor from 1915 until 1920.

In 1959 the British Standards Institution set up a committee to make recommendations on the crating of animals for transportation by air. The Society was represented on this committee and its three sub-committees by the Curator of the Aquarium, the Veterinary Officer and the Curator of Birds. Recommendations have now been published and the committee will continue to meet periodically in order to advise on any modifications that may be required as a result of the changing stowage conditions which are brought about by new designs in aircraft.

EDUCATIONAL ACTIVITIES

Lecture-demonstrations for school pupils

The educational programme for secondary schools undertaken at the London Zoo during the spring and autumn terms continues to develop very successfully and during the year 19,212 pupils, mainly from schools and technical colleges in London and the Home Counties, attended. Many of the schools and colleges which participate have done so since the inception of the scheme five years ago, but an increasing number of other educational establishments are also sending parties of pupils. This is satisfactory and indicates that this activity is meeting a real need in helping schools to present zoology as the study of living – as well as dead – animals.

The short summer programme of lecture-tours of Whippsnade Park was again booked to capacity, attracting secondary school pupils from as far afield as Northampton and Birmingham.

A new feature of the summer term at Regent's Park was a series of talks for the older pupils from junior schools. These schools visit the Gardens in considerable numbers during the summer and any attempt to make their visits a more useful part of the general teaching syllabus is obviously worth while. Groups of school pupils aged from 9 to 11 were invited to attend an introductory talk and worksheets were provided so that the pupils could make their own observations in the animal houses which they visited.

The chart on page 33 shows the expansion of the work of the Education Department since it was established, the total number of pupils taking part in the educational demonstrations in the current year being 30,572.

Courses have been organized for university students, and student teachers have paid frequent visits to our Education Centre in order to observe teaching methods.

Young Zoologists' Club

During 1962 members have continued to play an active part in the affairs of the Club, and the activities are increasing rapidly.

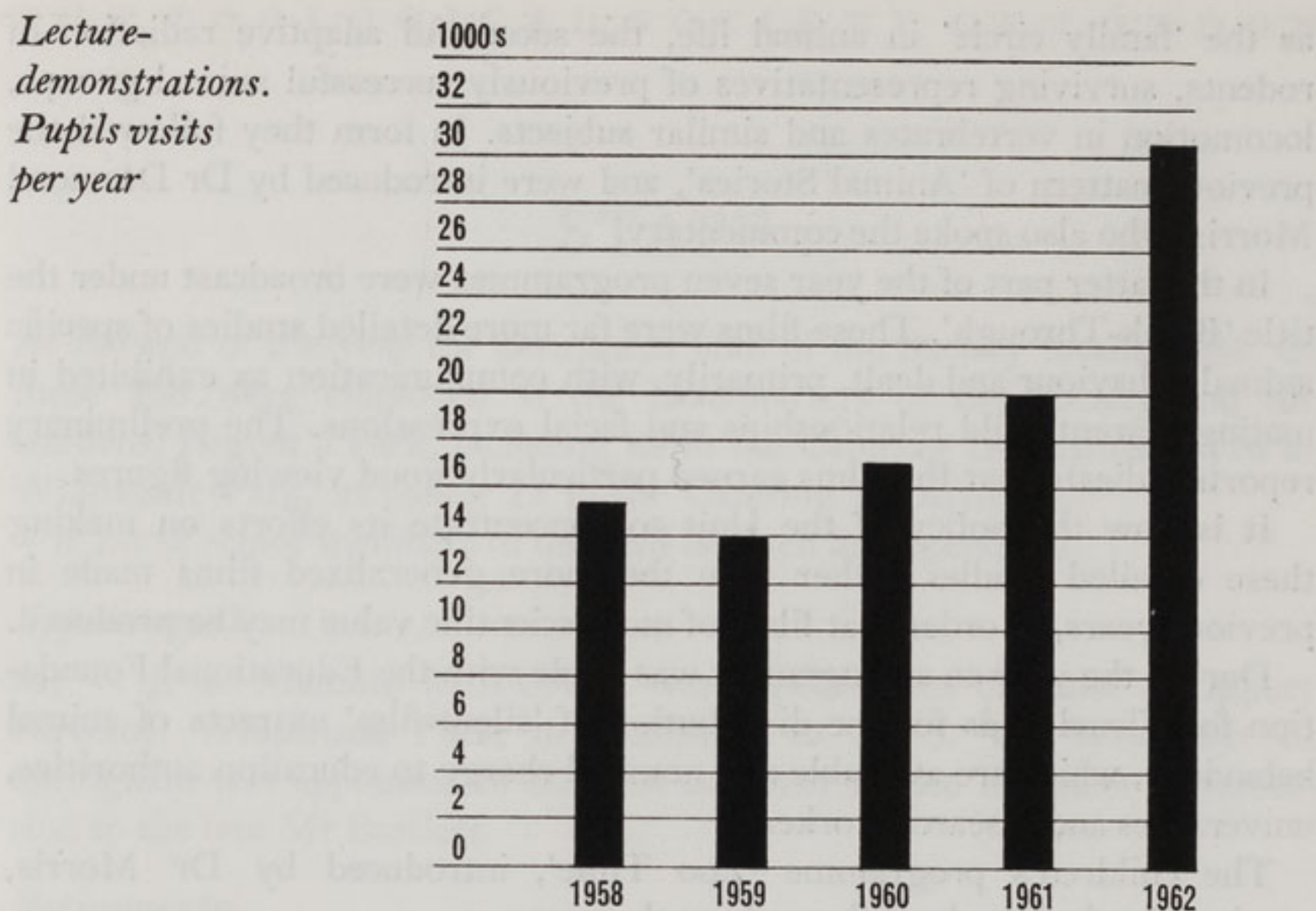


Eagle Owl, *Bubo vosseleri*, in the Gardens,
Regent's Park. A rare species from the
Amani Forest, Tanganyika.

W. G. Vanderson, Fox Photos



Malayan Tapir, Whipsnade Park.
Associated Press Photo



One group, under the leadership of Mr John Newmark, meets regularly to study the waterfowl on the lake of Regent's Park. Expeditions have been organized to Surrey and the Blackwater Estuary to collect specimens for the Insect House. Under the guidance of the Education Officer many members have visited the Gardens, Regent's Park, on Saturday mornings to learn how to photograph animals.

Indoor meetings, which are held during school holidays, have been well attended, and have included talks, films and a 'Brains Trust'. Meanwhile, those who live at too great a distance to attend meetings have been kept in touch with Club affairs through the *Zoo Magazine*, which has contained valuable articles by Mr Maxwell Knight, Mr Peter Scott, Professor C. M. Yonge and many others. The Council is grateful to contributors, and to other Fellows and friends of the Society for their consistent help and encouragement.

TV and Film Unit

During 1962, 19 filmed programmes designed for adults were transmitted in the late evening, 12 being shown in the first part of the year under the general title 'Animal Story'. These dealt with fairly broad subjects, such

as the 'family circle' in animal life, the successful adaptive radiation of rodents, surviving representatives of previously successful animal groups, locomotion in vertebrates and similar subjects. In form they followed the previous pattern of 'Animal Stories', and were introduced by Dr Desmond Morris, who also spoke the commentary.

In the latter part of the year seven programmes were broadcast under the title 'Break-Through'. These films were far more detailed studies of specific animal behaviour and dealt, primarily, with communication as exhibited in mating, parent-child relationships and facial expressions. The preliminary reports indicate that the films earned particularly good viewing figures.

It is now the policy of the Unit to concentrate its efforts on making these detailed studies rather than the more generalized films made in previous years, in order that films of more scientific value may be produced.

During the year an arrangement was made with the Educational Foundation for Visual Aids for the distribution of 'silent-film' extracts of animal behaviour, which are available at a nominal charge to education authorities, universities and research workers.

The children's programme 'Zoo Time', introduced by Dr Morris, continued to be broadcast throughout the year.

Christmas lectures

During the Christmas holidays three meetings were held for the children of Members of the Society and their friends, and were very well attended. Dr Maurice Burton spoke on 'Mysterious Loch Ness and its Monsters', and Mr Norman B. Marshall on 'The Voices of Fishes'. At the third meeting Walt Disney's film 'The Vanishing Prairie' was shown.

STAFF

At the end of the year the permanent staff of the Society totalled 484. Of these 368 were employed at the headquarters of the Society and the Gardens, Regent's Park, including 89 in the Catering Department; 116 at Whipsnade Park, including 11 in the Catering Department.

A list of senior members of the staff is given in Appendix 2.

Appointments

Mr V. J. A. Manton, M.R.C.V.S. was appointed to the post of Deputy Director, Whipsnade Park, in succession to Mr J. W. West. Mr R. Springham was appointed to the post of Boiler House Engineer in succession to the late Mr Bartlett.

Retirements

Dr W. C. Osman Hill relinquished his appointment as Prosector.

Several members of the staff retired on pension during 1962, including the following:

Mrs E. De Marco, Cashier, after 41 years' service.

Head Keeper F. E. G. Jones, after 33 years' service.

Head Keeper G. F. Newson, after 36 years' service.

Head Keeper R. S. Smith, after 38 years' service.

The Council records its regret at the premature retirement on pension, on account of ill health, of Mr F. C. Akhurst, who had been Overseer of the Aquarium since 1955, and in the service of the Society since 1925.

Obituary

The Council also records with deep regret the tragic death of Mr J. Forbes in the fire that destroyed the offices at Whipsnade, and the death, in January, of Mr L. F. Bartlett, the Resident Boiler House Engineer at the Gardens, Regent's Park.

Awards

The Society's Bronze Medal was awarded to Mr A. T. Wilson, Hospital Superintendent, in recognition of his long and meritorious service.

Other staff matters

During the year it was decided to link the Aquarium and Invertebrates Sections under the curatorship of Dr Vevers. Upon Mr Akhurst's retirement the post of Overseer of the Aquarium was therefore abolished and Mr G. J. Ashby was appointed to the new post of Overseer of the Aquarium and Invertebrates.

The reorganization of the Menagerie into more efficient and economical units is progressing well. The concentration of the hoofed animals in the Middle Gardens and on the south bank of the Canal will enable this plan to be carried a stage further.

In common with other trades and professions, particularly those within the Local Authority Service with which the Society is closely aligned, some increases in wages and salaries were granted in 1962.

ACKNOWLEDGMENTS

The Council records its gratitude for the invaluable assistance given by the members of its committees, whose unfailing help and expert knowledge make the Council's task possible.

The Society is indebted to the many Fellows, Corresponding Members and others who have sent specimens for the Collections. The gifts received are recorded in Appendix 5. Many other interesting animals have been received in exchange from Zoological Societies and Institutions and the Society is grateful for their valuable co-operation.

Senhora Hermione Blandy de Freitas Martins and Senhor João de Freitas Martins, c.m.z.s., of Madeira, have continued to take a lively interest in the Society's Aquarium and sent valuable collections of marine animals.

The following have rendered valuable assistance to the Veterinary Officer: Professor G. Howe; Professor W. Miller; Astra-Hewlett Ltd; The Royal National Orthopaedic Hospital, Stanmore; The Royal Veterinary College; Dr K. Tolderlund of the Statens Serum Institut, Copenhagen; The Wellcome Laboratories; the Pfizer Laboratories Limited; John Wyeth and Sons; the C.I.B.A. Laboratories and the Glaxo Laboratories.

The Society is grateful to the following for assistance at Whippsnade: Mr J. E. N. Sloan, Parasitologist of the Cooper, MacDougall & Robertson Field Research Station at Berkhamsted, for identification of parasites; Dr H. D. Holt, Director of the Public Health Laboratory, Luton, for bacteriological investigation; Dr J. Brian Shaw of the Luton Chest Clinic; Dr J. Kelsall Thomas of Dunstable; The Ministry of Agriculture, Fisheries and Food at Weybridge; Dr P. Jewell, Ford Research Fellow, and Mr P. Keene of the Royal Veterinary College; the Cooper, MacDougall & Robertson Field Research Station at Berkhamsted for providing sheep for animal feeding, and for the treatment of footrot in Norfolk-horned Sheep; Mr M. Howard for his gift of David Low's 'The Breeds of the Domestic Animals of the British Isles'; and Mr G. B. Stratton for his gift of 'The Royal Natural History'.

The Society's thanks are due to the following ministries and public institutions for their assistance in a variety of ways: The Admiralty, the Ministry of Agriculture, Fisheries and Food, the Board of Trade, H.M. Customs & Excise, the British Museum (Natural History), the Royal Botanic Gardens, Kew, the Public Health Departments of the Corporation of the City of London, and of the Metropolitan Boroughs of Hampstead and St Marylebone, Chelsea Hospital for Women, Guy's Hospital, Queen Charlotte's Hospital and St Mary's Hospital, Paddington.

In the sphere of shipping and transport the following companies and corporations have given valuable co-operation: Air France, the American Express Company Incorporated, the Antwerp Steamship Company Limited, Ben Line Steamers Limited, the Booker Line, British European Airways, the British India Steam Navigation Company Limited, the British Overseas Airways Corporation, British Railways, British United Airways Limited, Brown, Jenkinson & Company Limited, Cutting & Company Limited, the Donaldson Line Limited, the Elder Dempster Lines Limited, Hernu Peron & Stockwell Limited, Killick Martin & Company Limited, the London Transport Executive, McAndrews & Company Limited, Wm. H. Muller & Company Limited, Munro Transport, J. F. Obree & Son Limited, Pan American World Airways, the P. & O. Steam Navigation Company Limited, the Port Line Limited, Qantas Airways, the Royal Dutch Airlines, the Royal Mail Lines Limited, Sabena Belgian World Airlines, the Shaw Savill Line, Frank C. Strick & Company Limited, the Union-Castle Mail Steamship Company Limited, the United Shipping Company Limited, J. B. Westray & Company Limited and Mark Whitwell & Son Limited.

As in the past, the Society is grateful to the Rt Hon. The Earl of Leicester for his kindness in providing evergreen oak for the giraffes. Thanks are due to Mr G. Palmer for making possible the importation of sugar cane for the elephants, and also to the following who have presented quantities of bamboo for the Giant Panda: Mrs C. L. Arnold, Mr H. A. Bartlett, Mr E. W. S. Berry, Mrs E. H. Eckersley, Miss D. Leschallas, Mrs G. Matthews, The Polkerris Boy Scout Troop, Mr T. P. Vandeleur, Mrs S. E. Williams.

S. Zuckerman

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Terms of reference: To consider matters relating to the layout, appearance, animal housing, and amenities other than catering, of the Society's Gardens, Regent's Park, and Whipsnade Park; to consult where necessary with other committees and to report to Council, so that the advice of the committee can be taken into account in planning future maintenance and development.

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Publications by Society's Staff and Research Workers

- GRAHAM-JONES, O. (1962) Surgical repair of an umbilical hernia in a gorilla.
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- WATSON, M. LYALL (1962) The food 'washing' behaviour of captive raccoons.
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*List of Genera, Species and Subspecies
new to the Collection*

Mammalia

- 191b *Micropteropus pusillus* (Peters). Small Epauletted Fruit Bat. Sierra Leone
446b *Callosciurus hippurus* (Geoffroy). Horsetailed Squirrel. Malaya
491c *Rattus rattus flavipectus* (Milne-Edwards). Yellow-breasted Rat. South East Asia.
*557b *Aplodontia rufa* (Rafinesque). Mountain Beaver. Western North America

Aves

- *2292b *Chamaepetes unicolor* Salvin. Sickle-winged Guan. Central America
2168a *Francolinus adspersus* Waterhouse. Red-billed Francolin. Southern Africa
2238g *Phasianus colchicus karpowi* (Buturlin). Korean Ring-necked Pheasant. Eastern Asia
2240a *Syrmaticus humiae humiae* (Hume). Hume's Bar-tailed Pheasant. Hills of Northern Burma
1825a *Hoplopterus spinosus* (Linn.) Spur-winged Plover. South-east Europe, South-west Asia and Africa
*1353b *Jubula letti* (Büttikofer). Maned Owl. Tropical Africa
1353c *Bubo vosseleri* Reichenow. Eagle Owl. Amani Forest, Tanganyika
1046f *Halcyon albiventris* (Scopoli). Brown-hooded Kingfisher. Africa
*928e *Eubucco bourcieri* (Lafresnaye). Bourcier's Barbet. Costa Rica - Peru
914b *Lybius vieilloti rubescens* (Temminck). Vieillot's Barbet. West Africa
926b *Trachyphonus darnaudi darnaudi* (Prévost and Des Murs) D'Arnaud's Barbet. East Africa

- 910a *Pteroglossus beauharnaesi* Wagler. Curl-crested Aracari. South America (Upper Amazonia)
727a *Turdus ignobilis* Sclater. Black-billed Thrush South America
*703a *Cisticola tinniens tinniens* (Lichtenstein). Tinkling Grass Warbler. South-eastern Africa
515c *Pospiza ornata* (Leybold). Pretty Warbling Finch. Argentina
360a *Dacnis lineata aequatorialis* (Berlepsch & Taczanowski). Equatorial Dacnis. Ecuador
115d *Buphagus erythrorhynchus* (Stanley). Red-billed Oxpecker. Eastern parts of Africa

Reptilia

- Uromastyx asmussi* (Strauch). Dabb Lizard. Iran, Afghanistan and Baluchistan
Lampropeltis doliata micropholis (Cope). Milk Snake. Central and Northern South America

Pisces

- Scaphirhynchus platyrhynchus* (Rafinesque). Shovel-nose Sturgeon. Eastern north America
Lepisosteus platostomus Rafinesque. Short-nose Garpike. South-eastern North America
Muraena anatina (Lowe). Serpent Moray Eel. Eastern Atlantic
Muraena augusti (Kaup). Black Moray Eel. Eastern Atlantic
Aequidens latifrons (Steindachner). Blue Acara. Central and South America
Aequidens portalegrensis (Hensel) Brown Acara. Southern Brazil and Bolivia

*Genus new to the Collection

APPENDIX 5

List of donors of animals to the Society

REGENT'S PARK

- Alexander, S., 1 Crab Spider, *Torania variata*
 Applin, J., 1 Crab Spider, *Torania variata*
 Baillie, Lady, 1 Brown-hooded Kingfisher
 Baker, P., 1 Common Marmoset
 Bamji, Dr N. S., Stick Insects
 Barbary, R., 6 *Aphyosemion bivittatum*, 6 *Aphyosemion calliurum*, 1 *Acanthodoras spinosissimus*, 2 Catfish, 3 Cichlids, 2 *Ctenopoma fasciolata*, 1 *Dormitator* sp., 1 *Haplochromis* sp., 1 *Pelmatochromis* sp., 2 *Synodontis walteri*.
 Bender, Keith, 1 Gudgeon
 Bishop, B., 1 Centipede
 Bond, Kenneth E., 1 Indian Python
 Borougliis, Mrs E. K., 1 Indian Shama, 1 Green Glossy Starling
 Boswell, N. H., 2 Hermit Crabs
 Boursot, John, Eggs of Central American Stick Insects
 Bradford Pratt, E. A., 1 Lammergeyer
 Bristowe, Dr W. S., 2 large Wolf Spiders, Black Widow of Porto Santo
 Brockbanks, P., 1 Green Lizard, 1 European Tree Frog
 Brown, R. J., 1 European Pond Tortoise
 Burgess, Miss Carole, 2 Chameleons
 Burkill, Master P. H., 2 Giant Tortoises
 Carnegy, P., 1 Cockroach
 Carter, J. L. R., 2 Jerboas
 Carter, Flt Lt J. R. L., 2 Greek Tortoises, 10 Elegant Geckos, 1 Egyptian Gecko, 2 Pale Agamas, 3 Flap-necked Chameleons, 1 Eyed Skink, 3 Spine-foot Lizards, 2 Audouin's Fringe-fingered Lizards
 Carter, Dr L., 4 Connemara Sucker Fish, 1 Gurnard, 1 Lumpsucker, 1 Monk Fish
 Cazalet, P. C. D., 1 Buff-winged Trumpeter
 Cheesman, Dr D. F., 2 Surinam Snakes
 Cheney, F. S., 1 Greek Tortoise
 Clark, Dr, 7 Greek Tortoises
 Clark, R. G., 2 Bushy-tailed Dormice
 Clarke, David, 1 Iguana
 Cleave, W., 1 Spanish Terrapin
 Clifton, E. Hinton, 1 *Sagartia elegans*
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 Coggins, Dr R. F., 4 Royal Pythons, 3 Egyptian Cobras, 3 Gaboon Vipers
 Collins, C. H., 1 Elegant Terrapin
 Cooke, W. H., 1 Boa Constrictor
 Cranbrook, The Earl of, 1 Moon Rat, 1 Horse-tailed Squirrel, 1 Malayan Giant Rat, 2 Large Bamboo Rats
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 Cushon, J., 4 Marsh Frogs
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 Davies, Miss S., 1 Kestrel
 D'Eath, J. O., 2 Fulvous Whistling Ducks
 Desmoulins, Master A., 3 batches of Stick Insects
 Dibble, Peter, 1 Senegal Chameleon
 Dicker, Dr S. E., 1 Mountain Beaver
 Dix, Miss Joyce, 70 Lubber locusts, *Rhomalium micropterum*
 Duguid, Miss M., 2 Yellow-headed Conures
 Edwards, F. D., 1 Common Marmoset
 Elkan, Dr E., 22 Smooth-clawed Toads
 Ellis, G. K., 1 Garden Tree Boa
 Ellis, L., 5 European Tree Frogs
 Evans, E., 4 Pekin Robins
 Farner, H., 1 *Nephila clavata*
 Featherstone, Mrs D., 2 Elegant Terrapins, 1 European Pond Tortoise
 Phillips, R. A., 1 Cooke's Tree Boa, 1 Garden Tree Boa
 Fisher, Captain N., 1 Lobster
 Fletcher-Cook, Mrs Charles, 1 Masked Lovebird
 Foncha, The Hon. John Ngu, Prime Minister of the West Cameroons, 2 Chimpanzees
 Forster, M., 1 Jackson's Chameleon
 Fortey, J., 3 Southern Flying Squirrels
 Fraser, Sean, 1 Iguana
 French, Norman, 1 Nepal Hill Myna
 Garland, A., 1 Bird-eating Spider, 1 Long-horn Grasshopper
 Geest Industries Ltd, 1 Cooke's Tree Boa
 Gilbert, Miss L., 2 Elegant Terrapins
 Gilham, M. H., 1 Crab Spider, *Torania variata*
 Gilhespy, L. F. B., 3 Common Marmosets
 Glass, R., 1 Rook
 Goble, Marianne, 1 Stick Insect
 Goddard, J., 1 Grayling, 10 Silver Bream
 Goddard, P. A., 3 Thomas's Jirds
 Goode, Dr R., 2 Moustached Tamarin Monkeys, 2 Cotton-headed Tamarin
 Goodman, J. V., 1 Spix's Hyla
 Goodwin, D., 1 Siamang
 Gorham, S. W., 3 Sirens, 2 Mud-puppies, 1 Amphiuma
 Gowers, C. W., 1 Greek Tortoise
 Gregg, A., 1 Aesculapian Snake
 Grover, Miss A. E., Number of Stick Insects
 Guest, D. V., 1 Rufous-breasted Accentor
 Haddow, Dr A., E. A. Virus Research Institute, Entebbe, Uganda, 10 Schmidt's White-nosed Monkeys

- Harding, Mrs M., 2 Eyed Lizards
Harrison, Mrs G., 3 Greek Tortoises
Hawkins, L. W., 2 Canaries
Haynes, Mrs J., 1 Goldfinch
Hill, G. E., 2 Guinea Pigs
Hirst, Mrs S. H., 1 Elegant Terrapin
Holman, J. A. S., 1 Iguana, 1 Mediterranean Chameleon
Holmes, J., 3 Gudgeon
Horabin, I. S., 2 Dial Birds
Horwood, M. T., 1 Crimson-crowned Weaver
Howard, Mrs W. H., 1 Occipital Blue Pie, 1 Giant Whydah, 1 Green-billed Toucan, 1 Ring-necked Parrakeet (yellow var.)
Hughes, B., 1 Nile Monitor, 1 Lord Derby's Girdled Lizard, 1 Royal Python, 1 African House Snake
Hutton, G. A., 1 Red-legged Partridge
Inglis, Dr W. G., 1 Jungle Cat
Institute of Secretaries, Chartered, 1 Secretary Bird
Isaacs, Anthony, 5 Dogfish
Jackson, J., 1 Demidoff's Bush Baby
Jaguar, H.M.S., 1 Jaguar
James, Mrs E. M., 1 Hoolock Gibbon
Jeffreys, John, 1 Stick Insect
Jenkins, T. M., 7 Mediterranean Chameleons
Jenkins, Miss V., 1 Giant Toad, 2 Achatina sp.
Jersey Zoological Park, 1 Ring-tailed Coati
Jewell, C., 1 Red Squirrel
Jewell, Dr P., 7 Millipedes
Jones, E. W. H., 1 Egg-eating Snake
Joshi, P. N., 1 Jackson's Chameleon
Kelly, Major and Mrs, 1 Royal Antelope
Knobel, Miss E. M., 1 Jerdon's Chloropsis, 1 White-cheeked Bulbul, 1 Alexandrine Parrakeet
Kyle, Mrs A., 3 Greek Tortoises
Lally, James, 1 Roach
Lanworn, R., 1 *Dytiscus marginalis*, 1 Lycosid spider, 1 Spurge Hawk Larvae
Latham, Russell, 4 Imperial Scorpions
Leakey, J., 1 Blanding's Snake, 3 Leaf Vipers
Leckford Estates Ltd, 1 Chestnut-breasted Teal
Leighton, Richard, 1 Red-legged Partridge
Liat, Lim Boo, 2 Elephant's Trunk Snakes, 8 Broad-headed Water Snakes
Lindo, David A., 4 White-bellied Doves, 2 Red Ground Doves
Lofting, Miss, 1 Green-winged Macaw
Losse, G. F., 9 Adders, 2 Pleurodele Newts
Luck, Professor K., Mantids
Luck, Master Rolf, 3 Ant lions, 1 Cocoon (Lasiocampidae), 1 Dung Beetle *Heliocopris colossus*, 2 Mantis oothecae, 2 oothecae of Praying Mantis, 1 Spider sp.
Maitland, Miss M. C., 1 Cape Dove, 1 Star Finch, 1 Bluish Finch
Manton, Dr S. M., 25 King Crabs
Martin, Mrs M., 1 Mediterranean Chameleon
Mather, Miss E. S., 1 Elegant Terrapin
McCarthy, D., 1 Southern White-breasted Crake
Menzies, J., 1 Electric Catfish
Menzies, J. I., 1 Buttikofer's Epauletted Fruit Bat, 1 Small Epauletted Fruit Bat, 1 Small-scaled Tree Pangolin, 1 Abyssinian Spotted Eagle Owl, 1 Maned Owl, 1 Fishing Owl juv., 1 African Black Kite, 1 Hooded Vulture
Miller, Dr P. J., 1 *Clarias* sp.
Miller, P. L., *Achatina* eggs, 16 Belostomatids, *Lethocerus cordofanus*, 3 Mantid oothecae, 1 Millipede, 1 ootheca of *Sphodromantis centralis*
Mills, E., 1 Bull Snake
Mills, R. N., 1 Centipede, *Scolopendra morsitans*
Murray Howitt, Mr and Mrs R., 2 Talapoin Monkeys
Newmark, G. H. and J. R., 1 Equatorial Dacnis, 1 Pretty Warbling Finch, 1 Vieillot's Barbet, 5 Carolina Anolis, 2 Pine Lizards, 2 Southern Five-lined Skinks sp., 2 Striped Lizards, 3 Florida Water Snakes, 1 Corn Snake, 1 Racer, 1 Harlequin Coral Snake, 2 Pygmy Rattlesnakes, 1 American Toad, 2 Carolina Tree Frogs, 1 Cuban Tree Frog, 1 Southern Leopard Frog, 6 *Araneus quadratus*, 5 *Araneus diadematus*, 3 *Theridion pictum*, 4 *Theridion ovatum*, with young, 3 *Badister* sp., 6 *Staphylinus* sp., 4 *Gyrinus* sp., 2 *Acilius sulcatus*, 4 Beetle larvae, 3 Carabid beetles, 5 *Corixa* sp., 4 *Ilyocoris cimicoides*, 3 *Notonecta* sp., 7 Trichopteran larvae, 5 Dragonfly larvae, 6 Damselfly larvae, 6 *Metrioptera brachyptera*, 2 *Conocephalus dorsalis*, 3 *Chorthippus elegans*, Moth pupae
Nicholas, Mrs N., 1 White-crested Jay Thrush
Norton, Miss P., 1 Diamond Dove
Nursing, Royal College of, 12 Rainbow Trout
Owusu, James, Chairman, Ghana National Cultural Centre Zoological Gardens, 1 Diana Monkey, 1 Mona Monkey (albino)
Oxley, Mrs J., 2 Greek Tortoises
Paignton Zoological and Botanical Gardens, 2 Ravens
Palmer, H., 1 Greek Tortoise
Palmer, J., 1 Sheep
Palmer, J. W., 5 Eels
Palmer, Miss M. S., 1 Reinhardt's Mole-Viper
Parker, J., 1 Striped Chanchito
Parker, P. Watson, 1 Ladder Snake, 1 Smooth Snake
Partington, Miss I., 1 Senegal Bushbaby
Paulson, Mrs J., 1 Spix's Hyla
Perry, K. C., 1 Perch
Piper, Miss M., 2 Greek Tortoises
Ponder, Mrs L., 1 Greek Tortoise
Pook, Mrs S., 1 Scarlet Macaw
Potous, Paul L., 12 *Hyperolius* sp.
Potter, A. E., 1 Patas Monkey
Powell, R., 1 Fischer's Lovebird
Pratt, Mrs, 1 White-winged Parrakeet
Pringle, Dr G., 1 Eagle Owl
Proctor, W. R., 2 Field Mice, 1 Bank Vole
Purchon, Professor R. D., 1 Demidoff's Bushbaby

Quick, Miss P., Stick Insects
 Quincey, Capt. R. S. de, 1 Bourcier's Barbet, 1
 Tinkling Grass Warbler
 R.A.F. Coningsby, No. 9 Squadron, 1 Indian Fruit
 Bat
 Randau, G., 2 Sun Gems
 Raynes, Mrs, 1 Diamond Dove
 Reveley, O., 5 Spix's Hyla
 Revell, Dr A. H., 1 Gunther's Short-tailed Adder
 Richardson, R. A., 1 Black-billed Thrush
 Robaz, Miss Z., 1 Starred Tortoise
 Roberts, D. R., 1 D'Arnaud's Barbet
 Roberts, J. F., 1 Roseate Cockatoo
 Rolfe, S. C., 1 Dace
 Rose, Mrs, 1 Royal Antelope
 R.S.P.C.A., Chingford, 1 Bengal Monitor
 Rydzeuski, Mr and Mrs R., 1 Mediterranean
 Chameleon
 Searle, Dr K. C., 2 Chinese Ferret Badgers, 2 Rac-
 coon-like Dogs, 1 Palm Civet (sp. inc.), 2
 Squirrels (sp. inc.), 1 Hedgehog (sp. inc.),
 2 Yellow-breasted Rats, 6 Huang's Rats, 1
 Indonesian Gibbon, 2 Blue Whistling Thrushes,
 8 White-eared Fruit Doves, 1 Brown Hawk Owl,
 2 Edwards's Lorikeets, 3 Little Egrets, 1 Indian
 Python
 Shingler, R., 2 *Pseudocreobotra walhbergi*, 1 Scorpion
 Simpkins, R., 3 Sunfish
 Simpson, J. D. G., 1 cockroach egg case, 1 young
 cockroach
 Sinclair, A. E. W., 1 Mugger, 1 Spotted Cylinder
 Snake
 Sinclair, R. L., 1 Grey Monitor, 3 Grasshoppers,
Oedipoda coerulescens, 1 Desert Beetle (Tene-
 brionidae)

WHIPSNAD PARK

Beckett, Mrs, 1 Muntjac
 Faringdon, The Earl of, 1 Common Peafowl
 (white variety)
 Helliker, H. R., 1 Roseate Cockatoo

Smart, S. R., 1 Ring-necked Parrakeet
 Smith, Mrs A. M., 1 Greek Tortoise
 Smith, F. C., 1 Common Marmoset
 Smith, G., 1 Common Marmoset
 Smith Mrs S., 1 *Clarias* sp.
 Smith, Chief Inspector V., 1 Bird-eating Spider,
Tapinauchenius plumipes
 Solomon, David, 1 Common Perch
 Stagg, Miss P., 1 Olive Baboon
 Stalley, Alan, 1 Green Monkey
 Stansfield, Mr J., 1 Long-eared Owl
 Stobart-Izzard Expedition to Iran, 1962, 1 Dabb
 Lizard, *Uromastix asmussi*
 Stokes, Miss G. E., 2 Greek Tortoises
 Sugden, Dr L., 1 Harlan's Horned Lizard, 1 South
 American Sand Toad
 Tansley, Dr K., 2 Red Squirrels
 Taylor-Smith, Mrs O., 1 Harvest Mouse
 Topping, Miss P., 1 Blue-fronted Parrot
 Tordoff, Mrs J. M., 1 Long-tailed Parrakeet, 2
 Red-faced Lovebirds
 Tower, J., 1 Long-horn Grasshopper
 Voice, G. E., Eggs of *Torania variata*
 Voller, A., 1 Broad-fronted Crocodile
 Waites, J., 1 Montane Side-striped Chameleon
 Webb, Mrs P., 1 Greater Sulphur-crested Cockatoo
 Whimster, Dr I. W., 1 Peter's Long-line Snake,
 2 *Achatina*, 1 Grasshopper, Mantis ootheca
 White, Miss D., 1 Tufted Duck
 Wright, Dr C. A., 4 *Marissa cornuarietis*
 Wootton, Mrs Z., 1 Elegant Terrapin
 Worpell, Master Jonathan, Silk Moths
 Young, F., 1 Long-horn Grasshopper, 1 *Torania*
variata and egg cocoon

Maxwell, P. H., 1 Yellow-vented Parrot
 Nesie, Mrs B. D., 1 European Hare
 Simcocks, Mr, 1 Donkey
 Smith, E. H., 2 Canada Geese

APPENDIX 6

*List of animals (excluding common domestic varieties)
born in the Society's Collection*

(The figure in brackets following an item indicates the number which have died)

REGENT'S PARK

Mammalia

- 2 Common Marmosets (1)
- 2 Pygmy Marmosets (2)
- 1 Golden Lion Marmoset (1)
- 2 Mouse Lemurs (1)
- 1 Senegal Bushbaby
- 1 Buttikofer's Epauletted Fruit Bat (1)
- 1 Malaysian Fruit Bat (1)
- 2 Lions (1)
- 5 Tigers (4)
- 1 Chinese Leopard
- 1 Jungle Cat (1)
- 5 Pumas
- 4 Dingoes (2)
- 1 Coyote
- 5 Ring-tailed Coati (4)
- 8 Golden Hamsters
- 7 Yellow-breasted Rats
- 9 Bush Rats
- 19 Arabian Spiny Mice
- 3 Gambian Pouched Rats
- 5 Coypu
- 4 Orange-rumped Agouti (3)

- 3 Green Acouchy
- 1 Yak
- 1 American Bison (1)
- 1 Big-horned Sheep (1)
- 5 Mouflon (3)
- 6 Barbary Wild Sheep (2)
- 1 White-bearded Gnu (1)
- 11 Blackbuck (1)
- 1 Reticulated Giraffe
- 2 Hog Deer
- 1 Timor Deer
- 1 Dama Wallaby

Aves

- 2 Black-footed Penguins
- 1 African Cattle Egret
- 2 Black Swans
- 4 Upland Geese
- 3 Ashy-headed Geese
- 1 Impeyan Pheasant
- 2 Pallas's Eared Pheasants
- 2 Swinhoe's Pheasants
- 7 Sonnerat's Jungle Fowl

- 4 Korean Ring-necked X Nepal Kalij Pheasants
- 7 Japanese Pheasant X *Phasianus colchicus*
- 2 Elliot's Pheasants
- 2 Common Peafowl
- 1 Sarus Crane (1)
- 1 Green-backed X Grey-headed Gallinule
- 4 Herring Gulls
- 1 Diamond Dove
- 1 Cockatiel (1)
- 2 Quaker Parrakeets
- 2 Queen Alexandra's Parrakeets
- 2 Turquoise Parrakeets (1)
- 2 Great Eagle Owls
- 1 Kenya Eagle Owl
- 1 Spotted Eagle Owl

Reptilia

- 6 Broad-headed Water Snakes (5)
- 5 Leaf Vipers (5)

WHIPNADE PARK

Mammalia

- 2 Rhesus Monkeys (1)
- 1 Lion (1)
- 4 Tigers
- 3 Pumas (2)
- 15 Canadian Timber Wolves
- 3 Raccoon-like Dogs
- 1 Polar Bear
- 7 Brown Bears
- 2 Canadian Beavers
- 7 Prairie Marmots
- 2 Crested Porcupine
- 5 Shetland Ponies (1)
- 1 Cross-bred New Forest Pony
- 1 Grevy Zebra
- 1 Brazilian Tapir
- 7 Chartley Oxen
- 6 Ankole Oxen (1)
- 2 Manx Loghtan Sheep
- 6 Mouflon (1)
- 5 White-bearded Gnu (1)
- 6 Thomson's Gazelles (1)

- 5 East African Elands (1)
- 5 Muntjac
- 8 Fallow Deer
- 6 Fallow Deer (dark variety) (1)
- 5 Spotted Deer
- 2 Hog Deer (1)
- 1 Swamp Deer
- 6 Formosan Deer (1)
- 22 Red Deer (4)
- 4 Wapiti Deer (1)
- 5 Père David's Deer (3)
- 5 White-tailed Deer
- 1 Moose
- 32 Chinese Water Deer
- 3 Bactrian Camels
- 7 Llamas (1)
- 4 Guanaco
- 15 Viet-nam Pot-bellied Pigs (2)
- 4 Collared Peccaries (2)
- 57 Bennett's Wallabies

Aves

- 4 Common Rheas
- 1 Black-footed Penguin
- 2 Whooper Swans
- 13 Greater Snow Geese
- 2 Barnacle Geese
- 9 Red-breasted Geese
- 4 Egyptian Geese
- 11 South African Shelduck
- 2 Manchurian Cranes
- 1 Sarus Crane
- 1 Demoiselle Crane (1)
- 11 Chinese Silver Pheasants
- 1 Swinhoe's Pheasant
- 27 Golden Pheasants
- 3 Lady Amherst's Pheasants
- 25 Red Jungle Fowl
- 80 Common Peafowl
- 6 Common Peafowl (black-winged)
- 31 North American Turkeys

APPENDIX 7

List of animals received

(Presented, purchased, received in exchange, deposited or born in the Menagerie)

REGENT'S PARK		
Mammalia		
<i>Primates</i>	2 Chinese Ferret Badgers	1 Defassa Waterbuck
2 Mountain Gorillas	1 Tayra	2 Impala
3 Chimpanzees	1 Badger	11 Blackbuck
1 Indonesian Gibbon	6 Ring-tailed Coati	3 Reticulated Giraffes
1 Hoolock Gibbon	<i>Pinnipedia</i>	2 Vine-leaf Giraffes
1 Siamang	3 Grey Seals	2 Hog Deer
1 Diana Monkey	<i>Rodentia</i>	1 Timor Deer
1 Mona Monkey	3 Southern Flying Squirrels	1 Bactrian Camel
2 Campbell's Mona Monkeys	3 Red Squirrels	<i>Sirenia</i>
10 Schmidt's White-nosed Monkeys	1 Horse-tailed Squirrel	1 West Indian Manatee
2 Green Monkeys	2 Pallas' Squirrels	<i>Pholidota</i>
2 Talapoin Monkeys	12 Prairie Marmots	1 Small-scaled Tree Pangolin
1 Patas Monkey	2 Bushy-tailed Dormice	<i>Marsupialia</i>
2 Rhesus Monkeys	9 Yellow-breasted Rats	1 Dama Wallaby
1 Olive Baboon	1 Malayan Giant Rat	3 Woolly Opossum
11 Common Marmosets	6 Huang's Rats	1 Mouse Opossum
2 Pygmy Marmosets	1 Harvest Mouse	<i>Domestic</i> (excluding small species)
2 Moustached Tamarin Monkeys	9 Bush Rats	1 Shetland Pony
2 Cotton-headed Tamarins	19 Arabian Spiny Mice	1 Guernsey Calf
1 Golden Lion Marmoset	2 Field Mice	6 Domestic Sheep
2 Mouse Lemurs	3 Gambian Pouched Rats	26 Common Goats
2 Senegal Bushbabies	3 Thomas's Jirds	3 Pigs
2 Demidoff's Bushbabies	1 Bank Vole	
<i>Lipotyphla</i>	2 Large Bamboo Rats	Aves
1 Moon Rat	6 Mountain Beavers	<i>Rheiformes</i>
<i>Insectivora</i>	2 Jerboas	2 Common Rheas
1 Hedgehog	2 Crested Ridge Rats	<i>Sphenisciformes</i>
<i>Chiroptera</i>	5 Coypu	2 Black-footed Penguins
1 Indian Fruit Bat	4 Orange-rumped Agouti	7 Humboldt's Penguins
2 Buttikofer's Epauletted Fruit Bats	2 Red Acouchies	<i>Ciconiiformes</i>
1 Small Epauletted Fruit Bat	4 Green Acouchies	1 African Cattle Egret
1 Malaysian Fruit Bat	<i>Lagomorpha</i>	3 Little Egrets
<i>Carnivora</i>	4 Wild Rabbits	1 Bittern
2 Lions	<i>Proboscidea</i>	1 White Stork
5 Tigers	1 African Elephant	1 Spoonbill
1 Chinese Leopard	<i>Hyracoidea</i>	7 Rosy Flamingos
3 Jaguars	5 Rock Hyrax	20 Chilean Flamingos
2 Jungle Cats	<i>Perissodactyla</i>	6 Lesser Flamingos
5 Pumas	2 Onagers	<i>Anseriformes</i>
1 Indian Leopard-Cat	4 Common Zebra	6 White-faced Whistling Ducks
1 Jaguarondi	1 Malay Tapir	2 Fulvous Whistling Ducks
1 Palm Civet	<i>Artiodactyla</i>	2 Black Swans
1 Marsh Mongoose	3 Yak	4 Upland Geese
1 Kusimanse	1 American Bison	3 Ashy-headed Geese
1 Coyote	4 Cape Buffalo	2 Chestnut-breasted Teal
2 Raccoon-like Dogs	1 Big-horned Sheep	1 Common Teal
3 Indian Otters	5 Mouflon	1 Wigeon
	6 Barbary Wild Sheep	1 Marbled Teal
	3 Asiatic Ibex	1 Cape Teal
	5 White-bearded Gnu	
	2 Royal Antelopes	

- 3 Carolina Ducks
 1 Maned Goose
 1 Scaup
 1 Tufted Duck
Falconiformes
 1 Secretary Bird
 1 African Black Kite
 1 Hooded Vulture
 1 Lammergeyer
 1 Kestrel
Galliformes
 1 Panama Curassow
 2 Sickle-winged Guans
 2 Red-legged Partridges
 2 Red-billed Francolins
 1 Partridge
 10 Common Quail
 1 Impeyan Pheasant
 2 Pallas's Eared Pheasants
 2 Swinhoe's Pheasants
 7 Sonnerat's Jungle Fowl
 1 *Phasianus colchicus*
 1 Japanese Pheasant
 7 Japanese Pheasants X
Phasianus colchicus
 2 Korean Ring-necked Pheasants
 3 Korean Ring-necked X
 Nepal Kalij Pheasants
 2 Copper Pheasants
 3 Elliot's Pheasants
 2 Hume's Bar-tailed Pheasants
 2 Common Peafowl
Gruiformes
 1 Sarus Crane
 1 Buff-winged Trumpeter
 1 Southern White-breasted Crake
 1 Green-backed X
 Grey-headed Gallinule
Charadriiformes
 2 Lily Trotters
 3 Red-wattled Lapwings
 2 Crowned Lapwings
 2 Spur-winged Plovers
 2 Black-winged Stilts
 4 Herring Gulls
Columbiformes
 8 White-eared Fruit Doves
 3 Diamond Doves
 1 Cape Dove
 4 Green-winged Doves
 4 White-bellied Doves
 2 Red Ground Doves
Psittaciformes
 2 Edwards's Lorikeets
 1 Roseate Cockatoo
 1 Greater Sulphur-crested Cockatoo
 1 Cockatiel
 1 Scarlet Macaw
 1 Green-winged Macaw
 2 Yellow-headed Conures
 2 Quaker Parrakeets
 1 White-winged Parrakeet
 1 Blue-fronted Parrot
 1 Alexandrine Parrakeet
 2 Ring-necked Parrakeets
 1 Long-tailed Parrakeet
 2 Queen Alexandra's Parrakeets
 2 Red-faced Lovebirds
 1 Fischer's Lovebird
 1 Masked Lovebird
 1 Mealy Rosella Parrakeet
 2 Turquoise Parrakeets
Strigiformes
 1 Maned Owl
 2 Great Eagle Owls
 1 Kenya Eagle Owl
 1 Eagle Owl (*Bubo vosseleri*)
 1 Spotted Eagle Owl
 1 Abyssinian Spotted Eagle Owl
 1 Fishing Owl
 1 Long-eared Owl
 1 Brown Hawk Owl
Apodiformes
 1 Blue-breasted Sapphire Humming Bird
 1 Waterton's Wood Nymph Humming Bird
 5 Pucheran's Emerald Humming Birds
 1 Short-billed Emerald Humming Bird
 1 Fairy Humming Bird
 2 Sun Gems
 2 Stripe-breasted Star-throat Humming Birds
 1 Amethyst Humming Bird
Coraciiformes
 1 Brown-hooded Kingfisher
 1 Lilac-breasted Roller
 1 Black-casqued Hornbill
Piciformes
 1 Bourcier's Barbet
 1 Vieillot's Barbet
 1 D'Arnaud's Barbet
 1 Curl-crested Aracari
 3 Green-billed Toucans
 1 Toco Toucan
Passeriformes
 1 White-cheeked Bulbul
 1 Jerdon's Chloropsis
 2 Rufous-breasted Accentors
 1 Black-billed Thrush
 2 Blue Whistling Thrushes
 1 Indian Shama
 2 Dial Birds
 1 Blue-fronted Redstart
 1 White-crested Jay Thrush
 2 Rufous-chinned Laughing Thrushes
 4 Pekin Robins
 1 Tinkling Grass Warbler
 1 Splendid Sunbird
 1 Pretty Warbling Finch
 1 Bluish Finch
 3 Isthmian Honey Creepers
 1 Equatorial Dacnis
 1 Goldfinch
 2 Common Waxbills
 1 Star Finch
 1 White-headed Mannikin
 1 Three-coloured Mannikin
 1 Java Sparrow
 1 Rufous-necked Weaver
 1 Crimson-crowned Weaver
 1 Giant Whydah
 1 Green Glossy Starling
 2 Red-billed Oxpeckers
 1 Nepal Hill Myna
 1 African Golden Oriole
 1 Occipital Blue Pie
 1 Rook
 2 Ravens
Domestic
 22 Budgerigars
 2 Canaries
Reptilia
Order Testudines
 1 Snapper
 1 Temminck's Snapper
 8 Elegant Terrapins
 1 Spanish Terrapin
 2 European Pond Tortoises
 26 Greek Tortoises
 1 Starred Tortoise
 2 Giant Tortoises
 1 Matamata Terrapin
 1 Bungoma Soft-shelled Turtle
Order Crocodilia
 1 Muggler
 1 Broad-fronted Crocodile
Order Sauria
 10 Elegant Geckos
 1 Egyptian Gecko
 3 Green Geckos
 5 Carolina Anolis
 3 Plica Lizards
 5 Iguanas
 2 Pine Lizards
 5 Harlan's Horned Lizards
 2 Pale Agamas
 2 Black-necked Agamas
 10 Mediterranean Chameleons
 9 Flap-necked Chameleons
 6 Hoehneli's Two-banded Chameleons

- 2 Jackson's Chameleons
- 1 Senegal Chameleon
- 1 Montane Side-striped Chameleon
- 2 Southern Five-lined Skinks
- 1 Eyed Skink
- 1 Green Lizard
- 3 Eyed Lizards
- 3 Spine-foot Lizards
- 2 Audouin's Fringe-fingered Lizards
- 2 Striped Lizards
- 3 Daudin's Whiptails
- 2 Grey Monitors
- 1 Bengal Monitor
- 1 Nile Monitor
- 1 Lord Derby's Girdled Lizard

Order Serpentina

- 2 Carpet Pythons
- 2 Indian Pythons
- 5 Royal Pythons
- 3 Cooke's Tree Boas
- 2 Garden Tree Boas
- 2 Anacondas
- 1 Boa Constrictor
- 1 Russell's Sand Boa
- 1 Spotted Cylinder Snake
- 2 Elephant's Trunk Snakes
- 1 Stoled Snake
- 3 Florida Water Snakes

- 2 Surinam Snakes
- 2 Great Indian Rat Snakes
- 2 Cainana Rat Snakes
- 1 Indigo Snake
- 5 Corn Snakes
- 1 Fox Snake
- 1 Aesculapian Snake
- 1 Ladder Snake
- 1 Racer
- 2 Dark Green Snakes
- 1 Diadem Snake
- 1 Bull Snake
- 1 Smooth Snake
- 1 Milk Snake
- 1 Egg-eating Snake
- 14 Broad-headed Water Snakes
- 3 Blanding's Snakes
- 1 Peter's Long-line Snake
- 2 Kirtland's Tree Snakes
- 1 Gunther's Short-tailed Adder
- 3 Egyptian Cobras
- 1 Indian Cobra
- 1 Harlequin Coral Snake
- 9 Adders
- 4 Russell's Vipers
- 1 Puff Adder
- 4 Gaboon Vipers
- 3 Nose-horned Vipers
- 2 Carpet Vipers
- 8 Leaf Vipers
- 1 Reinhardt's Mole Viper

- 2 Pygmy Rattlesnakes

Amphibia

Order Caudata

- 3 Sirens
- 2 Mud-puppies
- 1 Amphiuma
- 2 Marbled Newts
- 2 Chinese Common Newts
- 3 Californian Newts
- 2 Pleurodele Newts
- 6 European Spotted Salamanders

Order Salientia

- 35 Smooth-clawed Toads
- 2 Moroccan Toads
- 4 American Toads
- 1 South American Sand Toad
- 1 Giant Toad
- 1 European Tree Frog
- 2 Carolina Tree Frogs
- 3 Pacific Coast Hylas
- 7 Spix's Hylas
- 1 Cuban Tree Frog
- 7 Edible Frogs
- 4 Marsh Frogs
- 1 Southern Leopard Frog
- 1 Chunam Frog
- 12 *Hyperolius* sp.

WHIPSNADE PARK

Mammalia

Order Primates

- 1 Lar Gibbon
- 2 Rhesus Monkeys

Order Carnivora

- 1 Lion
- 4 Tigers
- 3 Pumas
- 1 Northern Lynx
- 2 Serval
- 2 Ocelots
- 2 Jaguarondi
- 15 Canadian Timber Wolves
- 3 Raccoon-like Dogs
- 8 Coatimundi
- 7 Brown Bears

Order Rodentia

- 7 Prairie Marmots
- 4 Alpine Marmots
- 2 Canadian Beavers
- 2 Crested Porcupines

Order Lagomorphy

- 1 European Hare

Order Perissodactyla

- 7 Shetland Ponies
- 1 Cross bred New Forest Pony
- 3 Welsh Ponies

- 2 Grevy Zebra
- 1 Grant's Zebra
- 1 Donkey
- 2 Square-lipped Rhinoceros
- 1 Malay Tapir
- 1 Brazilian Tapir
- Order Artiodactyla*
- 7 Chartley Oxen
- 6 Ankole Oxen
- 2 Manx Loghtan Sheep
- 1 Cape Buffalo
- 4 Big-horn Sheep
- 5 Mouflon
- 5 White-bearded Gnu
- 6 Thomson's Gazelle
- 5 East African Eland
- 8 Muntjac
- 8 Fallow Deer
- 6 Fallow Deer (Dark variety)
- 5 Spotted Deer
- 2 Hog Deer
- 1 Swamp Deer
- 6 Formosan Deer
- 22 Red Deer
- 4 Wapiti Deer
- 8 Père David's Deer
- 5 White-tailed Deer

- 1 Moose
- 32 Chinese Water Deer
- 2 Arabian Camels
- 3 Bactrian Camels
- 7 Llamas
- 15 Viet-nam Pot-bellied Pigs
- 4 Collared Peccaries
- 2 Pygmy Hippopotamus
- Order Marsupialia*
- 57 Bennett's Wallabies

Aves

Struthioniformes

- 4 Ostriches

Rheiformes

- 8 Common Rheas

Sphenisciformes

- 1 Black-footed Penguin

Pelecaniformes

- 2 African Darters

Ciconiiformes

- 2 Goliath Herons

- 4 Rosy Flamingos

- 12 Chilean Flamingos

Anseriformes

- 2 Whooper Swans

- 13 Greater Snow Geese

2 Barnacle Geese
2 Canada Geese
9 Red-breasted Geese
4 Egyptian Geese
1 Yellow-billed Duck
11 South African Shelduck
Galliformes
11 Chinese Silver Pheasants
1 Swinhoe's Pheasant
3 Elliot's Pheasants
27 Golden Pheasants
1 Peacock Pheasant

3 Lady Amherst's Pheasants
25 Red Jungle Fowl
80 Common Peafowl
6 Common Peafowl (black-winged)
1 Common Peafowl (white variety)
31 North American Turkeys
Gruiformes
2 Manchurian Cranes
1 Sarus Crane
1 Demoiselle Crane

4 Grey-necked Crowned Cranes
Psittaciformes
1 Roseate Cockatoo
1 Green-cheeked Parrot
1 Yellow-vented Parrot
1 Barraband's Parrakeet
4 Budgerigars

Reptilia

Order Serpentes

1 Chain King Snake

APPENDIX 8

*Donations to Zoological Record
received during 1962*

	<i>£</i>	<i>s</i>	<i>d</i>
Acadian Entomological Society	8	6	5
American Entomological Society	8	15	10
American Museum of Natural History	177	11	2
American Ornithologists' Union, for Vol. 97	17	12	9
American Ornithologists' Union for Vol. 98	17	14	0
American Society of Ichthyologists and Herpetologists	75	4	2
American Society of Mammalogists	35	8	7
Anonymous	100	0	0
Auckland Institute and Museum	5	5	0
Bombay Natural History Society	5	0	0
British Herpetological Society	2	2	0
British Museum (Natural History)	450	0	0
British Ornithologists' Club	5	5	0
British Ornithologists' Union	15	15	0
British Trust for Ornithology	2	0	0
Brooklyn Entomological Society	3	10	3
California Academy of Sciences	9	18	1
Chace, Dr F. A.	8	18	7
Challenger Society	5	5	0
Chicago Natural History Museum	17	13	10
Conchological Society of Great Britain and Ireland	2	0	0
Duke University, Department of Zoology	7	13	10
Entomological Society of Alberta	3	5	1
Entomological Society of America	71	2	3
Entomological Society of Ontario, for Vol. 97	33	16	7
Entomological Society of Ontario, for Vol. 98	32	17	2
Geological Society of London	15	0	0
International Council of Scientific Unions	535	14	3
Kennicott Club	8	16	8
Linnean Society of London	20	0	0
Linnean Society of New South Wales	11	19	0
Liverpool School of Tropical Medicine	3	3	0
London School of Hygiene and Tropical Medicine	2	2	0
Malacological Society of London	2	2	0
Mammal Society of the British Isles	2	2	0
Michigan, University of	35	10	4
Naples Zoological Station	10	0	0
New York Zoological Society	35	10	0
Paleontological Society	17	12	1
Royal Entomological Society	25	0	0
Royal Society of Tropical Medicine and Hygiene	5	5	0
Smithsonian Institution	35	10	6
Transvaal Museum	5	5	0
Wellcome Laboratories of Tropical Medicine	17	10	0
Witwatersrand, University of the	2	0	0
Total	<u>£1,922</u>	<u>2</u>	<u>5</u>

Books presented to the Library

- ACADEMIC PRESS
- BAILEY BROS AND SWINFEN LTD
- BRITISH MUSEUM (NATURAL HISTORY), TRUSTEES OF
- BRONGERSMA, L. D.
- BURGESS PUBLISHING COMPANY
- COLLINS (WILLIAM) SONS AND CO. LTD
- DATHE, HEINRICH
- DENVER MUSEUM OF NATURAL HISTORY
- ENGLISH UNIVERSITIES PRESS
- HILL, W. C. OSMAN
- HUTCHINSON AND CO. (PUBLISHERS) LTD
- HUXLEY, SIR JULIAN
- INSTITUTO MEXICANO DE RECURSOS NATURALES RENOVABLES
- Rhythmic activity in animal physiology and behaviour. By J. L. Cloudsley-Thompson. 1961
- Simba: the life of the lion. By C. A. W. Guggisberg. 1961
- Atlantide Report No. 6. Scientific results of the Danish Expedition to the coasts of tropical West Africa, 1945-1946. 1961
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Entomology, Vol. 11, nos 2-8. Vol. 12, nos 1-8. Vol. 13, nos 1-2
Geology, Vol. 5, nos 7-9. Vol. 6, nos 1-2. Vol. 7, nos 1-5
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- The morphology and taxonomy of male scale insects (Homoptera: Coccoidea). By M. S. K. Ghauri. 1962
- On the morphology and classification of the brachiopod suborder Chinetoidea. By Helen M. Muir-Wood. 1962
- A revisional study of the Masarid wasps (Hymenoptera, Vespoidea). By O. W. Richards. 1962
- Starfishes and their relations. By Ailsa M. Clark. 1962
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- Protozoan parasites of domestic animals and of man. By Norman D. Levine. 1961
- Animals of East Africa. By C. A. Spinage. 1962
- Kleines Käferbuchlein. By Heinrich Dathe. 1952
- Subantarctic Campbell Island. By Alfred M. Bailey and J. H. Sorenson. 1962
- Introduction to animal parasitology. By J. D. Smyth. 1962
- Primates: comparative anatomy and taxonomy. V. Cebidae Part B. By W. C. Osman Hill. 1962
- Whales. By E. J. Slijper. 1962
- The conservation of wild life and natural habitats in Central and East Africa. Report on a mission accomplished for Unesco. July-September 1960. By Julian Huxley. 1961
- Norges dyreliv. Edited by Bjørn Føyn and Johan Huus. 1957
- Los recursos naturales de Mexico. III. By José Alvarez and others. 1961

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KNOBEL, MISS E. M.

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The hypothalamus of the cat. By Ruth Bleier. 1961

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Haswell. Seventh edition. Vol. II. Revised and largely
rewritten by A. J. Marshall. 1962

The sacred beetle and others. By J. Henri Fabre. 1919

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- VÁRI, L. South African Lepidoptera. Volume 1. By L. Vári. 1961
- WITHERBY (H. F. AND G.) LTD Soil animals. By D. Keith McE. Kevan. 1962
- WITTING, R. C. Rowland Ward's Records of big game, XIth edition (Africa). By Gerald A. Best, François Edmond-Blanc, and R. Courtenay Witting. 1962
- ZUCKERMAN, SIR SOLLY A new system of anatomy. By Sir Solly Zuckerman. 1961

MEETINGS DURING 1963

Scientific Meetings at 5 p.m.

Tuesday, 12th February
Tuesday, 12th March
Tuesday, 9th April
Tuesday, 14th May
Tuesday, 11th June
Tuesday, 8th October
Tuesday, 12th November
Tuesday, 10th December

Symposia

Thursday, 7th March
Tuesday and Wednesday, 7th/8th May
Tuesday and Wednesday, 26th/27th November

Ordinary General Meeting at 4.30 p.m.

Wednesday, 16th January

Annual General Meeting at 3.30 p.m.

Thursday, 16th May

These meetings are held at the Offices in the Outer Circle of Regent's Park. Fellows and Associates are invited to attend the Scientific Meetings and Symposia.

The Annual General Meeting is open to Fellows only.