



*THE ZOOLOGICAL SOCIETY OF LONDON*

# Annual Report

## 1961

# 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. A supplemental Charter, extending and modifying the original Charter, was granted in 1948.

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 1961

*The Council has pleasure in presenting  
its one hundred and thirty-third Annual Report  
to the Annual General Meeting of the Society  
to be held on Friday 27th April 1962  
at 4 p.m. in the Society's Offices  
at Regent's Park*

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IN THE POCKET ON BACK COVER

THE ZOOLOGICAL SOCIETY OF LONDON

*Patron*

HER MAJESTY THE QUEEN

*Council 1961-1962*

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Sir Edward Hulton

S. Wilson Kitchen, Esq.

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The Rt Hon. The Earl of Mansfield, *Vice-President*

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Errol I. White, Esq., C.B.E., Ph.D., D.Sc., F.R.S., F.L.S.

Professor John Z. Young, M.A., F.R.S.

## GENERAL REPORT FOR THE YEAR

In presenting its report for the year 1961 the Council is particularly pleased to note, in introduction, both the continuing excellence of the health and welfare of the animals in the Collections, and the new high level of attendances at Whipsnade. It is equally gratifying to report on further developments in the Society's educational and research activities, as well as the progress which has been made in Phase II of our rebuilding programme for the Gardens in Regent's Park.

It is the responsibility of the Council not only to seek the resources which will allow the implementation of plans that have already been accepted by the various authorities we have to consult but, lest the momentum of redevelopment should be reduced, also to look well ahead to the design of future buildings. Each new house we embark upon has its own problems of structure and design according to the strength, behaviour and best methods of display of the animals it has to shelter. There is also the aesthetic problem to contend with. When the Regent's Park Gardens were first laid out at the beginning of the nineteenth century, at a time when they were much less extensive than they are now, the architecture and design of our buildings and cages followed the mode of that period. The Lion House, which was built in the 1870's, in turn fitted the tastes of its age, even though at the time it was more condemned than praised. Our Reptile House is, in appearance, a product of the 1920's. The buildings we design now have, so far as possible, not only to fit the best aesthetic conceptions of our own age but also to project themselves forward to the taste of our successors. The Council is thoroughly aware of the fact that there is seldom, if ever, unanimity in matters of artistic appreciation, and that the responsibility it carries, when it puts forward proposals for new buildings and new landscaping, is therefore considerable. We are fortunate in the professional advice we receive in these matters, in the assistance we are given by the Public Authorities we consult, including the Royal Fine Art Commission, and in the devoted service given by those Fellows who are members of the Committees where all these matters are constantly discussed.

One of the most complicated buildings we now have to embark upon is a new Small Mammal House. In order to allow adequate time for research the Council has already commissioned Professor Misha Black, Professor of Industrial Design

(Engineering) at the Royal College of Art, to design a building in which nocturnal, jumping, burrowing and flying mammals can be suitably exhibited and studied.

During the year the Crown Estate Act 1961 came into force. This new Act entails certain important changes in the administration of the part of Regent's Park at present occupied by the Society. Under its terms, overall responsibility is now placed upon the Minister of Works, who is empowered both to grant leases to the Society for the land already occupied and also, in circumstances to be decided by the Minister, to lease to the Society up to a further ten acres of adjoining land in Regent's Park. In due course this provision of the Act should enable the Society to redevelop the southern boundary as envisaged in the Casson Plan.

The Council wishes to record its deep appreciation of the further grants received from Foundations on behalf of the Society's research activities. The Nuffield Foundation gave an additional sum of £40,000 to meet increased building costs for the Nuffield Institute of Comparative Medicine, the progress of which is recorded on page 27; the Wellcome Trust gave £60,000 to establish an Institute of Comparative Physiology, while the Ford Foundation increased their support of the programme of research in animal reproduction by a supplementary grant of approximately £34,000.

The Wellcome Institute of Comparative Physiology will be built on the vacant site between the Hospital and the new Works building, and will consist of a series of new laboratories, including two to replace those that were built more than fifty years ago, and which, despite their many defects, have still to be used. Dr I. W. Rowlands has been appointed Senior Research Fellow in Reproductive Physiology, and will be in charge of the Institute, taking up his appointment on the 1st January, 1962.

Five other Research Fellows and two Research Students in the physiology of animal reproduction were also appointed during the course of the year. All these appointments have been made possible by the grant from the Ford Foundation. Until new laboratory space is available in the Gardens, accommodation has been found for the Society's Fellows and Students in other institutions. Here the Council is much indebted for the co-operation received from the Agricultural Research Council; from the Fisheries Laboratory, Ministry of Agriculture, Fisheries and Food, Lowestoft; from St Mary's Hospital Medical School; the Royal Veterinary College, London, and the Department of Zoology and Comparative Anatomy, University of Oxford.

In July the Council gave a Dinner in the Zoological Gardens, Regent's Park, to mark the occasion of H.R.H. The Duke of Edinburgh's Presidency and to celebrate



Orang-utan born in the Gardens, Regent's Park, March 1961. *W. G. Vanderson, Fox Photos*





Blackbuck in the Gardens, Regent's Park. *W. G. Vanderson, Fox Photos*



Kori Bustard.  
*W. G. Vanderson, Fox Photos*

the progress of its rebuilding programme. The Prime Minister, other members of Her Majesty's Government, the Leader of the Opposition, the President of the Royal Society, and representatives of other learned Societies were among the company, all of whom regretted that an accident a few days before the Dinner prevented the President from attending. The Council is much encouraged that the Society's affairs enjoy the interest and sympathy of so many eminent representatives of political, scientific and other aspects of our national life.

The World Wildlife Fund was launched in September. The Council indicated its support of this development, not only because the Fund emphasizes the part which zoos can play as a repository of the world's fauna, but also because it encourages conservation in those territories of the world where the continued existence of wild animals is in danger. To this end H.R.H. The Duke of Edinburgh, in his capacity as President of the Society, accepted the Presidency of the Trustees of the British National Appeal for the World Wildlife Fund. Mr. Jack Cotton added to his benefactions by donating, through the Society, the sum of £10,000 to the new Fund.

New annual awards to be presented by the Society for contributions to zoology were announced in August. They are:

*The Prince Philip Prize*, to be awarded to a pupil of zoology in any school in Great Britain, Northern Ireland, the Channel Isles, and the Isle of Man, on the basis of an account of some practical work in the field of animal ecology. This Award, in which the President has taken a personal interest, will be a sculpture in bronze by Mr Henry Moore, C.H.

*The Stamford Raffles Award*, commemorating the Founder of the Society, to be awarded to an amateur zoologist for contributions to zoology, or to a professional zoologist for contributions which extend beyond his field of specialization.

*The Thomas Henry Huxley Award*, to be awarded to a post-graduate research student in any university of Great Britain and Northern Ireland, for outstanding original work in zoology submitted as a Doctor's thesis.

These two latter awards, which will also be sculptures by Mr Henry Moore, have been made possible by the generosity of Granada TV Network. Mr Moore has equally generously agreed that a limited edition of each sculpture may be made, thus establishing the awards for some years.

In addition, the Council proposes to re-institute the annual presentation of the Society's Medal for scientific merit, which was first established in 1938.

No general review would be complete without the Council recording, on behalf of the Society as a whole, its appreciation of the help and guidance received during the year from the President, whose invitation to hold the July Meeting of the Council at Buckingham Palace was an honour unique in the history of the Society.

The Council also wishes to refer again to the work of the many Fellows, from both the Ordinary Fellowship and the Scientific Fellowship, who serve on committees and who devote so much time and thought to the development of the Society's activities. By the nature of the Society's constitution much of the work of the Council is based on the recommendations of its numerous committees, some of which are standing committees and others *ad hoc* bodies set up to consider special problems. The considered advice thus received enables the Council properly to carry out its function as a governing body of a national institution, and it takes this opportunity of thanking the chairmen and members of all committees for their work during the year.

While this report was in preparation the Council learned, with deep regret, of the death of Dr Sheffield Neave, who was Secretary of the Society from 1942 to 1952. During his long association with the Society, as a Fellow from 1909, as a member of Council from 1933 to 1956, and as Chairman of the Zoological Record Committee 1950-58, Dr Neave brought to the administration a scientific skill and knowledge which stood the Society in good stead during and after the difficult war-time years. His wisdom and support as an 'elder statesman' during more recent years has been much valued by the Council, who mourn the loss of a deeply respected colleague.

## THE MEMBERSHIP

### *Officers and Council*

H.R.H. The Duke of Edinburgh accepted the Presidency at the Annual General Meeting held on Wednesday, 26th 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:

The Rt Hon. Lord Glenconner

Cecil A. Hoare, Esq., D.Sc., F.R.S.

Sir John Ritchie, C.B., B.Sc., F.R.C.V.S., D.V.S.M., F.R.S.E.

Air Chief Marshal Sir James Robb, G.C.B., K.B.E., D.S.O., D.F.C., A.F.C., F.S.A.

Frank Yates, Esq., Sc.D., F.R.S.

The Fellows elected as members of Council to fill these vacancies and that created by the resignation of Viscount Boyd of Merton were:

E. Michael Behrens, Esq.

A. H. T. Chisholm, Esq., C.B.E., M.A.

Sir James Duncan, Bt, M.P.

Air Vice-Marshal G. Silyn Roberts, C.B., C.B.E., A.F.C., M.Sc., F.R.Ae.S.

W. H. Thorpe, Esq., M.A., Ph.D., Sc.D., F.R.S.

Professor John Z. Young, M.A., F.R.S.

Professor J. E. Harris resigned from the Council in June 1961, owing to pressure of other work. In accordance with the procedure laid down in the Bye-laws, Professor R. J. Pumphrey was appointed to this vacancy.

### *Roll of Members*

At the end of the year there were 3,664 Fellows and 1,411 Associates.

### *Obituary*

The Council regrets to report the death not only of Dr Sheffield Neave but also of:

F. Martin Duncan, Esq., Librarian 1919–1939

Martin A. C. Hinton, Esq., Member of Council 1937–1942, 1945–1949, Vice-President 1939–1942, 1945–1949.

Professor Charles H. O'Donoghue, Member of Council 1950–1954, Vice-President 1951–1952.

Lt-Col. Sir Dealtry C. Part, Member of Council 1945–1949, 1950–1954.

## FINANCE

### *Review of the year*

The Revenue Account for 1961 again shows a small surplus. Gate receipts were about average at Regent's Park, but reached a new record at Whipsnade where takings from car admissions and other services also showed a substantial increase over the previous year. Both Catering Departments had a good year as also did Zoo Restaurants Limited.

On the other hand expenditure continued to rise, being approximately 11% higher than in 1960. This was mainly due to further small increases in salaries and wages, to considerably enhanced costs of maintenance, to a larger amount spent on minor improvements and to an increase in scientific expenditure.

There was a sharp rise in expenditure on Capital Account, the main items at Regent's Park being the rebuilding of the Giraffe House, the development of the Canal Banks, including the new Bridge, and the extension of the Horticultural Department. At Whipsnade the principal item was the first stage of the new Entrance, including a subway under the main road.

Chart 1 (opposite) shows graphically the effect of the Council's decision in 1958 to improve and develop the Regent's Park Gardens on modern lines.

### *Admission Charges*

Despite the relatively favourable results of 1961 the Council decided that in order to keep abreast of rising expenditure it would be necessary to raise admission charges, both for the London Zoo and Whipsnade. The new rates which were announced to the press in October and which came into force from 1 January 1962, provide, however, for special cheap rates during the winter and for the cheap rate on Mondays, already in force at Regent's Park, to be extended to Whipsnade. The necessity for the increased charges emerges clearly from Chart No. 2.

### *Rebuilding Fund donations*

The Council gratefully acknowledges the contributions which have been made towards the Rebuilding Fund during 1961, including £500 from H.I.M. The Shah of Persia; £500 from Sir Alfred Beit; £250 from Lord Faringdon, and £100 from the late Miss K. M. Horsfall.

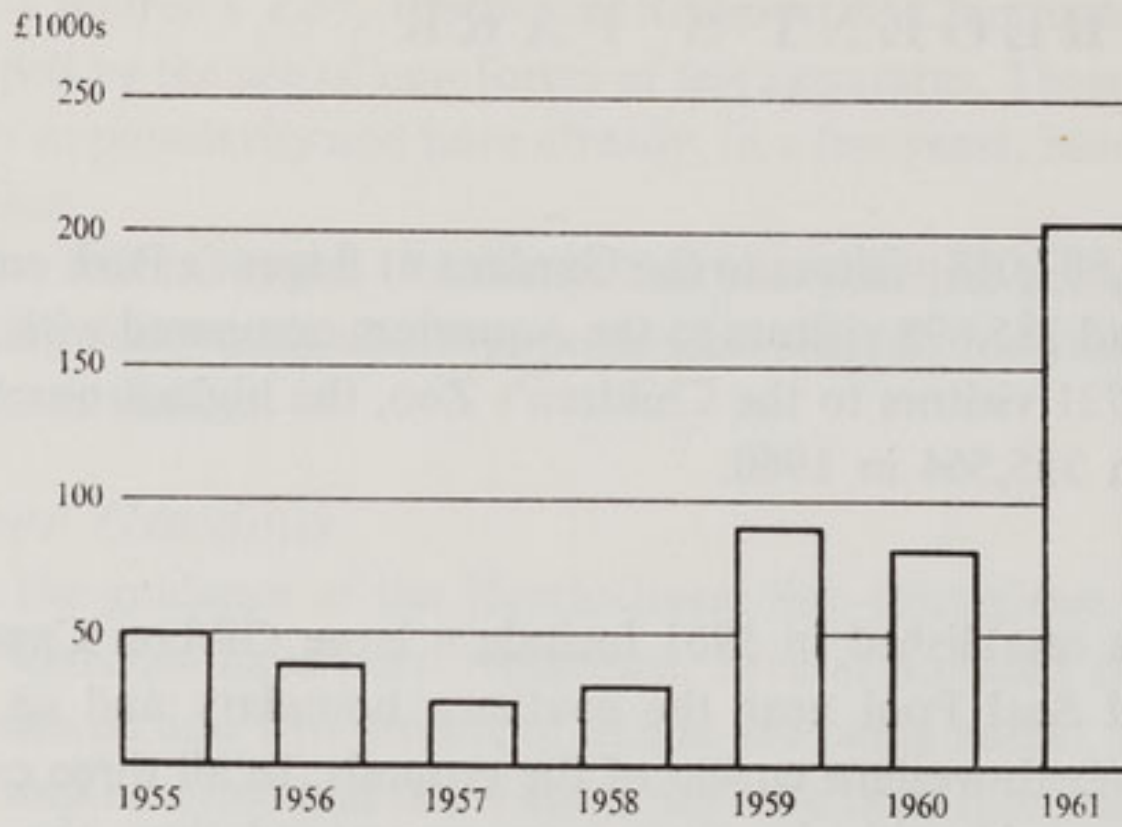


CHART 1. Capital expenditure on new works in the seven years 1955-1961.

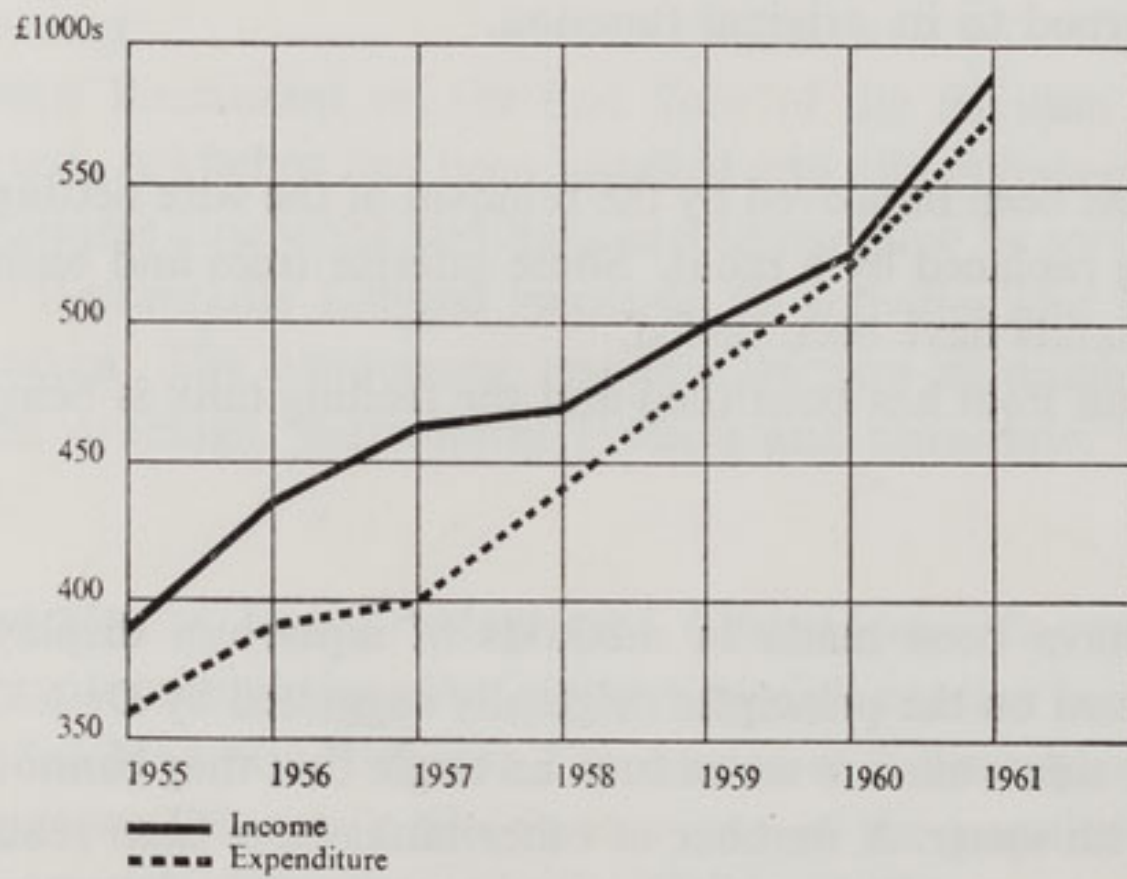


CHART 2. Income and expenditure in the seven years 1955-1961.

## ZOOLOGICAL GARDENS, REGENT'S PARK

### *Visitors*

During 1961 there were 1,887,088 visitors to the Gardens at Regent's Park compared with 1,833,938 in 1960, and 385,698 visitors to the Aquarium compared with 366,726 in 1960. There were 467,731 visitors to the Children's Zoo, the highest number ever recorded, compared with 355,564 in 1960.

### *Mammal Section*

New mammal enclosures established in 1961 include a large Gibbon Cage in the Main Gardens, a Baikal Seal Pool near the southern boundary and an Agouti Paddock in the extreme north-western corner of the grounds. In all three cases, the animals have benefited considerably by their new accommodation, the gibbons tirelessly displaying their gymnastic capabilities and the agoutis rearing their young in view both of the visitors to the Gardens and the general public on the road outside the Zoo.

The old Otter Pond, used until recently for seals, has now been equipped with heated quarters and returned to its original function.

### *Bird Section*

The Three Island Pond has been improved by the removal of the wire netting fences, the perimeter fence being replaced by a moat. Some inferior trees and bushes have been removed and the islands have been turfed.

The floor of the Penguin Pool has been tiled and the feeding tank is being reconditioned.

### *Aquarium*

Further improvements have been made in methods of aquarium display. These include a new tank designed on the principles originally suggested by Dr J. Garnaud of Monaco, in which the side walls are set at such an angle that they cannot be seen when the tank is filled with water. A number of other tanks have been rebuilt

Notable additions to the collection were an Australian Lungfish flown from Queensland in thirty-three hours, and two species of shark, which were sent by the Steinhart Aquarium, San Francisco, and arrived in thirty hours.

Further improvements have also been made to the reserve accommodation in the Aquarium.

### *Children's Zoo*

In the Children's Zoo, the demonstrations of Chimpanzee intelligence have been developed by the use of new forms of test apparatus. These exhibitions are increasing steadily in popularity and have already, in a few years, become established as a major attraction.

A new feature in the Children's Zoo this year has been an educational 'juke box' providing short talks about popular Zoo animals for visitors to the Children's Zoo Exhibition Hall.

### *Flower Gardens*

Under the guidance of the Horticultural Sub-Committee various borders and parts of the Gardens have been replanned. Several hundred new varieties of roses have been planted and new strains of dahlia are being added. The display of dahlias has been much admired and many enquiries have been received from visitors. The Society is grateful to Colonel I. Hughes Hallett for his gift of three young plants of *Paulownia*, which will be planted on the Canal Banks; to Mr R. J. Lewis; The Royal Botanic Gardens, Kew; Sir Lancelot Royle and Lady Anne Tree for their generous gifts of plants and seed.

### *Catering*

The Staff Restaurant on the first floor of the Pavilion Building has been greatly improved. A kitchen has been installed and all equipment and furnishings renewed. Three course luncheons and light snacks can now be served.

Zoo Restaurants Limited increased its activities and many more functions were undertaken. The banqueting services are now so much in demand that the most popular evenings, particularly Fridays and Saturdays, are booked several years ahead.

### *Animals at the Zoological Gardens, Regent's Park*

Important presentations that deserve special mention include the following:

On 3rd May His Highness The Ameer of Bahawalpur presented a young female Chimpanzee ('Reema'). She is now one of the popular members of the group of demonstrating chimpanzees in the Children's Zoo.

On 10th July His Majesty King Hussein of Jordan presented a young female Caracal Lynx (*Felis caracal*) named 'Gigi'. The young animal had been reared in the Royal Palace at Amman; since its arrival at Regent's Park it has grown rapidly and has been provided with a young male as a mate.



On 12th September His Highness the Maharaja of Baroda presented a magnificent pair of young Tigers (*Felis tigris*), named 'Laxmi' and 'Vilas' after the Maharaja's Palace.

On 2nd December a male Arabian Oryx (*Oryx leucoryx*) was presented by His Highness Shaikh Ahmad bin Ali al Thani, Ruler of Qatar. This gift is particularly valuable to the Society as there is already a female of this rare species in the Collection and it is hoped to breed from the pair.

Notable births during 1961 include a female Orang-utan and a Pygmy Marmoset. In both cases this was the first breeding success with these species at Regent's Park. Puma cubs were once again exhibited in the Lion House and, in addition, there were Lion cubs for the first time in some years. Other births include a Feline Douroucouli, Ring-tailed Lemurs and Sealions. The most notable additions that were new to the Collection were a pair of Spotted Dasyures and a Malayan Pangolin.

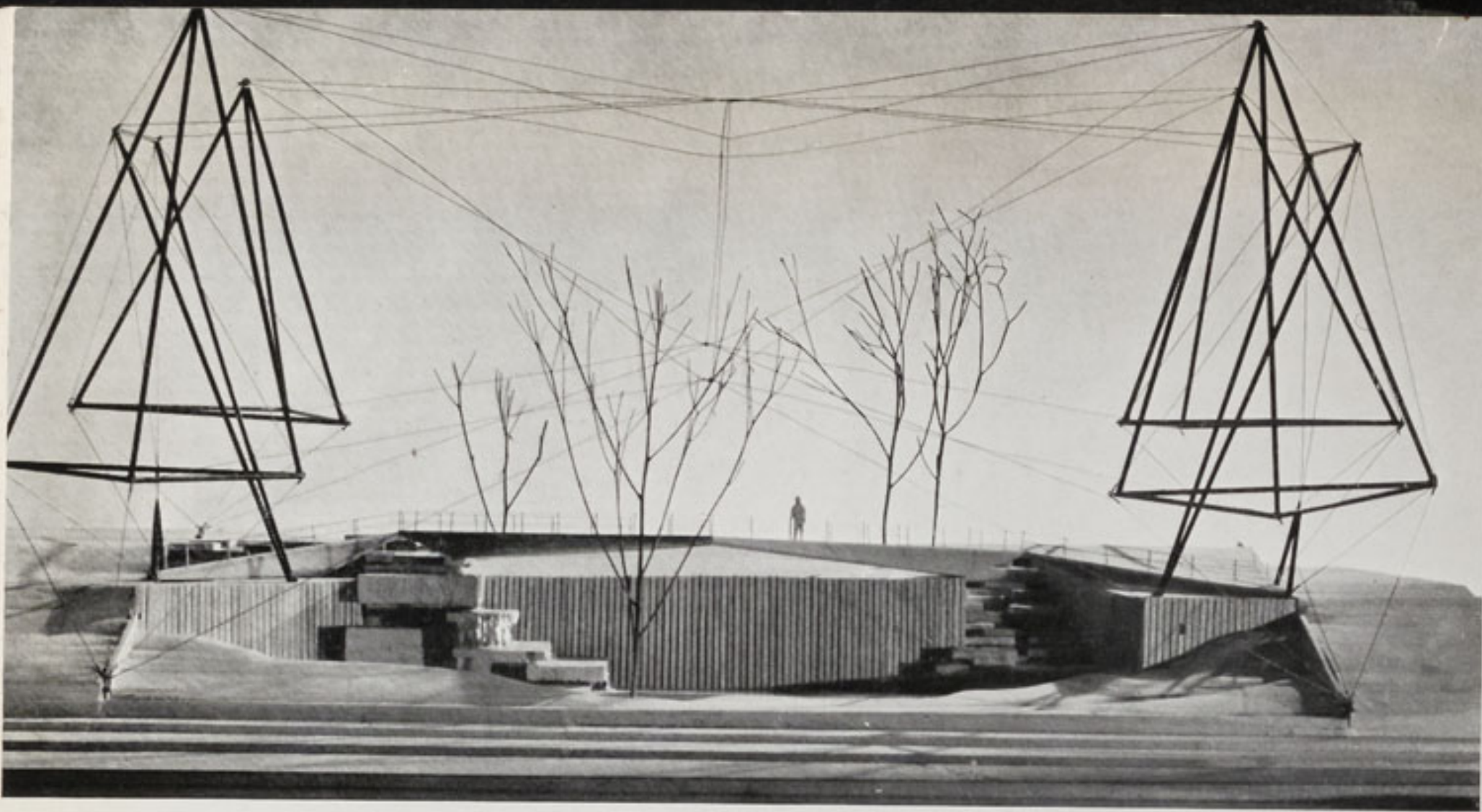
The Lesser Flamingo, *Phoeniconaias minor*, the Kori Bustard, *Choriotis kori struthiunculus*, the Crimson Finch, *Rhodospingus cruentus*, and the Montezuma Oropendola, *Gymnostinops montezuma*, are forms of particular interest not previously in the Collection. Two young Ostriches of the southern race, *Struthio camelus australis*, were received during May.

*Animals of all kinds (except Fish and Invertebrates) at Regent's Park*

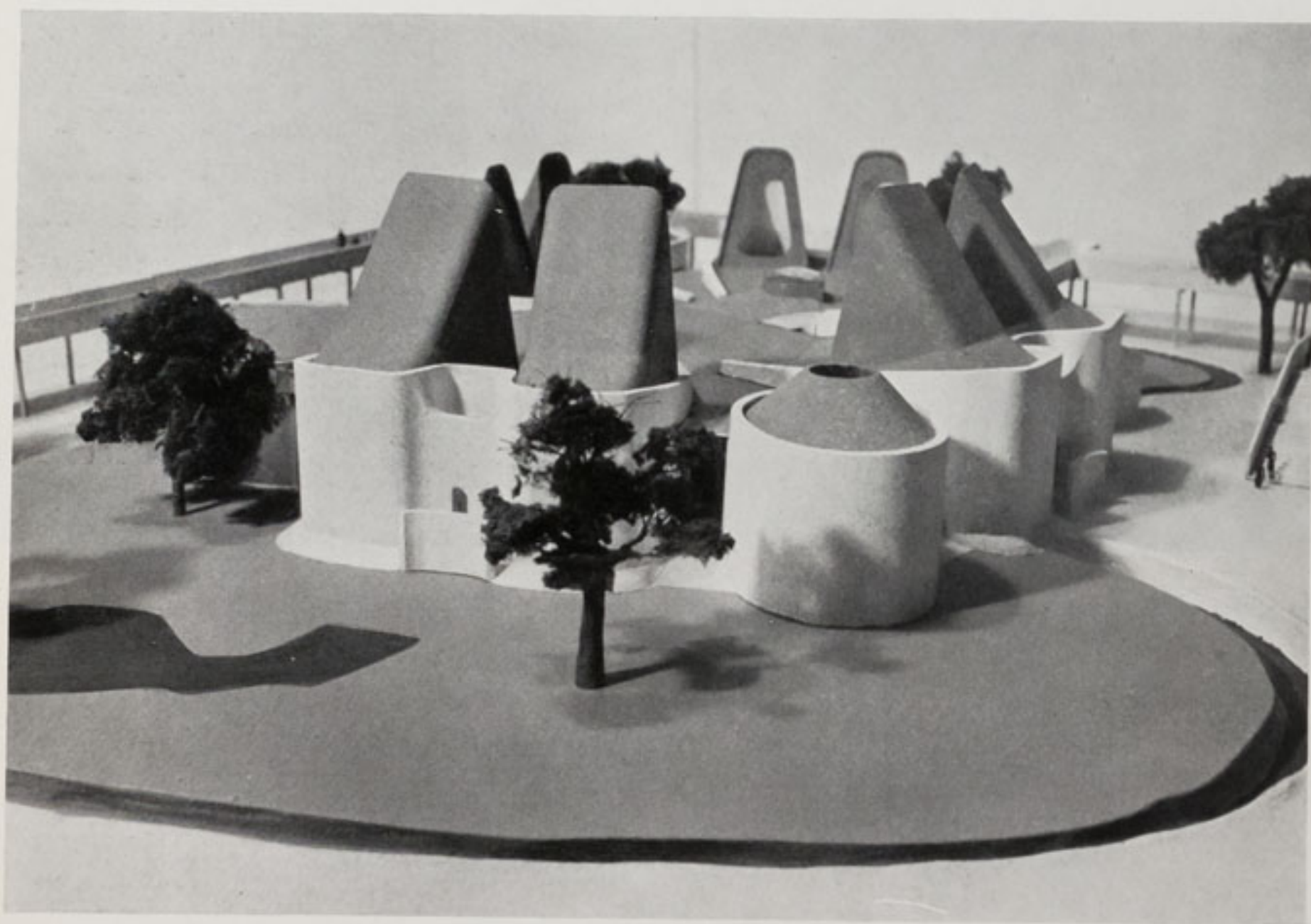
On 1st January, 1961	2,845
Received in 1961 by presentation, exchange, deposit and purchase, and transfer from Whipsnade	867
Born in the Menagerie during 1961	162
	<hr/> 3,874
Died, sold, sent in exchange or returned to depositors, and transferred to Whipsnade during 1961	933
	<hr/> 2,941
In the Gardens on 31st December, 1961	



Polar Bear cubs born at Whipsnadé Park, December 1960. *Keystone Press*



Model showing the structure of the new Aviary to be built on the north bank of the Canal



Preliminary study model of the Elephant Pavilion (see page 17)

## REDEVELOPMENT PLAN

### *'The New Zoo'*

Satisfactory progress in the redevelopment plan for Regent's Park was made during 1961.

The main centre of building activity has been the Middle Gardens, where the new wings of the Giraffe House have been completed and occupied, thus enabling the reconstruction of the main part of the Giraffe House to begin. The necessary repair to this 130-year-old structure, which is a building scheduled for preservation, has proved more extensive than was originally thought, but the whole project should be completed by the middle of 1962.

In the meantime the new footbridge over the Canal has been finished, apart from the approaches which will now be included in the general development plan of the Canal Banks. Under this plan new accommodation, below and on either side of the Giraffe House, is being provided for deer, antelope, zebra and camels. Work on this part of the scheme, rendered possible by Mr Jack Cotton's generous gift, has made good progress during the year and should be finished before the end of 1962, thus enabling the present Antelope House to be demolished and the building of the new Elephant Pavilion to begin.

*The Elephant Pavilion* (a photograph of the preliminary study model appears opposite) has been designed by Sir Hugh Casson, Neville Conder and Partners to house four elephants and four rhinoceroses in paired pens, each with access to a sick bay pen and to a moated external paddock. The elephants will have both outdoor and indoor pools. The building has been designed to display these massive animals in the most effective way. The public either circulates on an S-shaped route through the building, or can stand aside from the through circulation in stepped viewing bays opposite each pen.

The original plans for the North Gardens were modified during the year, to include the large Aviary which the Council commissioned Mr Antony Armstrong-Jones, now Lord Snowdon, to design, and which it is hoped to build during 1962 on a site just west of the new bridge. The Aviary (a photograph of the model is shown) will measure 150 feet by 63 feet by 80 feet high. It will house various kinds of birds from differing natural habitats such as Ibises, Lesser Flamingos, wading birds and

Turacos. It will be enclosed with black aluminium wire mesh  $1\frac{1}{8}$ " by 6", and will include a cliff face and waterfalls. The public will be able to walk through the aviary on an elevated path.

Apart from the projected new Children's Zoo at the western end, the whole of the rest of the north bank of the Canal will be devoted to birds, and will include a new Pheasantry and some new paddocks for cranes and other large birds.

### *Scientific Buildings*

The planning of the two new scientific buildings referred to earlier in this report – the Nuffield Institute of Comparative Medicine and the Wellcome Institute of Comparative Physiology – continued during the year, and building in each case is expected to begin in 1962. The Nuffield building will incorporate two new Meeting Rooms for the Society, one to seat 200 and a smaller room to seat 50, the two being joined for the larger meetings. Provision is also being made for cloakrooms and lavatories and a small room for visiting lecturers. The entrance to this part of the building will be separate from the Institute proper.

### *Other Improvements*

In addition to the work on the redevelopment plan, a number of improvements were made elsewhere during the year. Apart from those mentioned in the preceding sections, new modern buildings were provided for the Horticultural Department, and the area between the greenhouse and the Canal was laid out as reserve flower beds. Signposting of the Gardens on a new system was completed, and a start was made on re-labelling the mammal exhibits. A new public address system was installed for use in emergencies. The East Service Gate was reconstructed and the North and South Gates re-signed and redecorated.

## WHIPSNADE PARK

### *Visitors*

The number of visitors to Whipsnade Park during 1961 was 756,758, compared with 641,446 in the previous year. This is the highest attendance at Whipsnade since the Park opened in 1931, being some 90,000 more than in the previous record year of 1959.

230,977 people visited the Children's Zoo compared with 175,904 in 1960, this also being a higher number than in any previous year.

The number of cars brought into the Park by visitors in 1961 was 37,703 compared with 29,183 in 1960.

### *Occurrences of Special Interest*

The important births at Whipsnade include twin Polar Bears, one Reindeer, one Banteng, two Moose, two Hippopotamuses, one Giraffe and a Severe Macaw.

The Polar Bear cubs were born at Whipsnade in December 1960. They were not seen by the keeper until the end of January when it was confirmed that there were two animals and not one. This is the first time two Polar Bears have been born and reared successfully in the United Kingdom.

Three Reindeer were transferred, in January, to Whipsnade after completing 12 months quarantine in London and a calf was born in May; this is the first time Reindeer have been bred at Whipsnade.

The Banteng is the first to be born in this country.

The two Moose are the first twins of this species to be born in this country (the first single Moose was born at Whipsnade in 1960).

The Severe Macaw hatched in July is believed to be the first to be hatched and successfully reared in this country.

### *Developments and Works*

The subway under the main road from the Car Park to the Zoo entrance was completed during the summer. Work on the rebuilding of the entrance itself has begun, and when completed in the early summer of 1962 will provide gates on separate axes for pedestrians and vehicles respectively. A new Zoo shop, catering kiosks, cloakrooms and other necessary service buildings are being incorporated in the entrance complex.

The annual programme for the replacement of high wire fences by ditches and low fences has been continued. Fences on the road side of Home Paddock, Dagnall Paddock and Holly Frindle have been completed and a new pond constructed in Dagnall Paddock.

A large Picnic Shelter, including a milk bar and counter for the sale of soft drinks and sandwiches, is being built on the edge of the Downs near the Polar Bear enclosure.

### *Animals at Whipsnade Park*

#### GENE BANK

The Council has decided that disappearing breeds of British and foreign domestic animals should be kept at Whipsnade in order to establish a 'gene bank' of rare and disappearing breeds. Longhorn Cattle, Cotswold Sheep and some rare breeds of poultry have been established, in addition to the Chartley Cattle, Norfolk Horned Sheep and Manx Loghtan Sheep which have been kept for some time. It is intended to add to this gene bank of rare domesticated animals as opportunity permits.

#### *Animals of all kinds (except Fish and Invertebrates) at Whipsnade Park*

On 1st January, 1961	1,952
Received in 1961 by presentation, exchange, deposit and purchase, and transfer from Regent's Park	565
Born in the Park during 1961	200
	<hr/>
	2,717
Died, sold, sent in exchange or returned to depositors, and transferred to Regent's Park during 1961	497
	<hr/>
In the Park on 31st December, 1961	2,220
	<hr/>

## SCIENTIFIC ACTIVITIES

### *Scientific Meetings*

Eight Scientific Meetings were held during the year, at which 69 papers accepted for publication were communicated or read in title. Many other communications were made at the meetings: Dr W. H. Potts showed a film of game animals of East Africa, and remarked on their role as hosts of the tsetse fly; Dr Desmond Morris and Jan van Hooff discussed the concept of submission in animal behaviour; Dr Fae Hall showed a film on locomotion in vertebrates; Dr W. C. Osman Hill made observations on the Platyrrhine genus *Brachyteles*; Professor Thomas W. M. Cameron discussed the phylogeny of Southern Hemisphere mammals based on a study of their parasites; O. Graham-Jones and Dr W. C. Osman Hill described the pregnancy and parturition in an Orang-utan in the Society's Gardens; The Hon. Ivor Montagu showed colour slides of the Peking Zoo; a film taken on a zoological expedition to Palestine was commented on by Dr D. L. Harrison; a film depicting the life of a scorpion was presented by Colonel M. F. W. Willoughby; colour transparencies illustrating hybridization in marmosets were shown by Dr W. C. Osman Hill; M. Lyall Watson discussed food 'washing' behaviour in the raccoon; O. Graham-Jones, E. H. Tong and Martin Senior described the tranquillizing of a pregnant Hippopotamus at Whipsnade Park.

### *Symposia*

Symposia were held on 8th March, 3rd May and 8th and 9th November. The subject of the March Symposium was 'Aspects of disease transmission by ticks' and was arranged in collaboration with Dr D. R. Arthur of King's College University of London; the May Symposium, entitled 'Biological Acoustics', was organised in association with the Committee for Biological Acoustics; the two-day Symposium in November was held jointly with the Association for the Study of Animal Behaviour, the subject on the first day being 'Evolutionary Aspects of Animal Communication', and on the second 'Imprinting and Early Learning'. All Symposia, which were open to any scientist as well as to Fellows of the Society, were very well attended and included in the audience a number of scientists from abroad.



## *Publications*

### PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF LONDON

Two volumes of the Proceedings, each consisting of four parts, were published: Volume 136 was completed on the 14th June and Volume 137 on the 4th December. The sixty-eight papers contained in these volumes cover a variety of subjects in general, experimental, morphological and systematic zoology, including: R. M. APPLEBY, 'On the cranial morphology of ichthyosaurs'; K. M. BACKHOUSE and P. J. G. SMART, 'The mechanism of wave riding in porpoises'; J. N. BALL, 'On the food of the brown trout of Llyn Tegid'; R. BASSINDALE, 'On the marine fauna of Ghana'; RUTH E. M. BOWDEN and J. L. SCHEUER, 'Comparative studies of the nerve supply of the larynx in eutherian mammals'; J. I. CAMPBELL, 'The anatomy of the nervous system of the mesothorax of *Locusta migratoria migratorioides* R. & F.'; D. B. CARLISLE, 'Locomotory powers of adult ascidians'; A. J. E. CAVE, 'The retrolingual gland of the elephant'; 'The frontal sinus of the gorilla'; PHILIP S. CORBET, 'The food of non-cichlid fishes in the Lake Victoria basin, with remarks on their evolution and adaptation to lacustrine conditions'; J. C. COULSON and E. WHITE, 'An analysis of the factors influencing the clutch size of the kittiwake'; R. G. DAVIES, 'The postembryonic development of the female reproductive system in *Limothrips cerealium* Haliday (Thysanoptera: Thripidae)'; H. J. DE S. DISNEY, B. LOFTS and A. J. MARSHALL, 'An experimental study of the internal rhythm of reproduction in the red-billed dioch *Quelea quelea* by means of photostimulation, with a note on melanism induced in captivity'; J. M. DODD and C. K. GODDARD, 'Some effects of oestradiol benzoate on the reproductive ducts of the female dogfish *Scyliorhinus caniculus*'; C. J. DUNCAN, 'The reproductive system of the amphibious snail *Succinea pfeifferi* Rossmassler'; FRANK EVANS, 'Responses to disturbance of the periwinkle *Littorina punctata* (Gmelin) on a shore in Ghana'; R. F. EWER, 'The anatomy of the anomodont *Daptocephalus leoniceps* (Owen)'; R. N. T-W-FIENNES, 'Report of the Pathologist for the years 1959, 1960'; H. FOX, 'Quantitative analysis of normal growth of the pronephric system in larval Amphibia'; GEOFFREY FRYER, 'The parasitic Copepoda and Branchiura of the fishes of Lake Victoria and the Victoria Nile', 'Larval development in the genus *Chonopeltis* (Crustacea: Branchiura)'; I. GRIFFITHS, 'The form and function of the fore-gut in anuran larvae (Amphibia, Salientia) with particular reference to the *Manicotto glandulare*'; J. C. HARTLEY, 'A taxonomic account of the larvae of some British Syrphidae'; R. W. HAYMAN, 'The Red goral of the North-east Frontier Region'; J. E. HILL, 'Fruit-bats from the Federation of Malaya'; W. RUSSELL HUNTER

'Annual variations in growth and density in natural populations of freshwater snails in the west of Scotland'; 'Life cycles of four freshwater snails in limited populations in Loch Lomond, with a discussion of infraspecific variation'; WILLIAM G. INGLIS, 'The oxyurid parasites (Nematoda) of Primates'; P. B. N. JACKSON, 'The impact of predation, especially by the tiger-fish (*Hydrocyon vittatus* Cast.) on African freshwater fishes'; J. G. E. LEWIS, 'The life history and ecology of the littoral centipede *Strigamia* (= *Scolioplanes*) *maritima* (Leach)'; J. R. LEWIS and H. T. POWELL, 'The occurrence of curved and unguulate forms of the mussel *Mytilus edulis* L. in the British Isles and their relationship to *M. galloprovincialis* Lamarck'; B. LOFTS and C. BOSWELL, 'Seasonal changes in the distribution of the testis lipids of the Caspian terrapin *Clemmys caspica*'; O. LŪSIS, 'Postembryonic changes in the reproductive system of the slug *Arion ater rufus* L.'; P. J. MILLER, 'The external appearance and systematic position of *Gobius forsteri* (Teleostei-Percomorphi)'; B. MORRIS, 'Some observations on the breeding season of the hedgehog and the rearing and handling of the young'; JOHN MOYSE, 'The larval stages *Acasta spongites* and *Pyrgoma anglicum* (Cirripedia)'; F. R. PARRINGTON, 'The evolution of the mammalian femur'; G. B. SHARMAN, 'The embryonic membranes and placentation in five genera of diprotodont marsupials'; CHARLES R. STASEK, 'The ciliation and function of the labial palps of *Acila castrensis* (Protobranchia, Nuculidae), with an evaluation of the role of the protobranch organs of feeding in the evolution of the Bivalvia'; E. A. STEEL, 'Some observations on the life history of *Asellus aquaticus* (L.) and *Asellus meridianus* Racovitza (Crustacea: Isopoda)'; OLIVE S. TATTERSALL, 'Report on some Mysidacea from the deeper water of the Ross Sea'; H. G. VEVERS, 'Observations on the laying and hatching of octopus eggs in the Society's Aquarium'; G. P. WELLS, 'A new lugworm from Woods Hole, hitherto included in *Arenicola cristata* (Polychaeta)'.

#### TRANSACTIONS OF THE ZOOLOGICAL SOCIETY OF LONDON

A large monograph entitled 'Scientific results of an inquiry into the ecology and economic status of the Nile Crocodile (*Crocodilus niloticus*) in Uganda and Northern Rhodesia' by Dr Hugh B. Cott was published on 10th April as Part 4 of Volume 29 of the 'Transactions'.

#### SYMPOSIA OF THE ZOOLOGICAL SOCIETY OF LONDON

Numbers 4 and 5 of the Symposia were published. The fourth number, entitled 'Tuberculosis in Animals', published on 26th April, contains the papers and discussions at the Symposium held on 24th May, 1960. The communications

presented and discussed at the Symposium on 'Vertebrate Locomotion' held on 9th November, 1960, are contained in No. 5 published on 23rd August.

#### NOMENCLATOR ZOOLOGICUS

The compilation of the supplementary volume of 'Nomenclator Zoologicus' containing the names of new genera and subgenera from the literature for 1946-1955, is making progress under the honorary editorship of Dr A. Tindell Hopwood.

#### ZOOLOGICAL RECORD

Volume 95, recording the zoological literature published mainly in the year 1958, was published in October. Thirteen sections of Volume 96, a record of the literature for 1959, have been published and the remaining sections are in the press. Of Volume 97, recording the 1960 literature, three sections - Mammalia, Aves and Comprehensive Zoology - were published and the sections Reptilia, Arachnida, Brachiopoda and Echinodermata are in the press.

With the publication of Volume 95 the issuing of the 'Record' as a bound volume ended. From Volume 96 onwards the separate sections will be sent to subscribers on publication, thus avoiding considerable delay. With the completion of each volume, a title-page and binding case will be forwarded to subscribers.

The photolithographic reprinting of Volumes 26 to 30 (1890-1893) having been completed during the year, the first thirty volumes of the 'Record', which have long been out of print, are now available in this edition.

The published literature in the zoological sciences continues to increase, and the Society is indebted to the individual Recorders for the invaluable service they give in the production of the bibliography.

The cost of production of the 'Record' is constantly rising and the publication still depends to a great extent on donations to the Zoological Record Fund, a complete list of which is given in Appendix 8.

#### INTERNATIONAL ZOO YEARBOOK

The International Zoo Yearbook has proved itself a success after only one issue. The first volume, published during 1960, was favourably received both by Zoo Directors and by specialist magazines, and it is obvious that the Yearbook has filled a gap in zoo literature. Volume II, published during 1961, is a considerably more substantial publication than the first volume, containing more than twice as many pages, photographs and line drawings. The Editors of the Yearbook are deeply



One of the twin Moose calves born at Whipsnade Park, May 1961. *The Zoological Society of London.*



Sealion pups born in the Gardens, Regent's Park, June 1961. *W. G. Vanderson, Fox Photos*

grateful to the many institutions and individuals who have provided material and made the new, expanded edition of the Yearbook possible.

Volume II is in three sections. Section I is devoted to the topic of keeping elephants, hippopotamuses and rhinoceroses in captivity; in addition to articles by Zoo Directors on new methods of housing and caring for these animals, it contains a register of all the Asian and White Rhinoceroses known to have been kept in captivity. Section II, a review of new developments in the zoo world, includes articles by well-known zoo authorities on a number of subjects. Section III contains reference lists including, amongst others, the recent veterinary work and zoological research undertaken by zoos; the species of birds of the world in danger of extinction, and the species of mammals, birds, reptiles and amphibians bred by zoos during 1960. Special features include an international survey of animal restraint techniques, with particular reference to tranquillizer and paralytic drugs, and a longevity survey of mammals that have been exhibited at the London Zoo.

### *Research*

Dr H. G. Vevers, the Curator of the Aquarium, has continued his studies, in collaboration with Professor N. Millott of Bedford College, on the nature and function of the axial organ of echinoids. During the year work in this field has included the experimental removal of the axial organ and a further study of its histochemistry.

He has also continued, in the Aquarium Laboratory, the work on aquarium sea water originally done in collaboration with the late Dr J. H. Oliver. The analyses of nitrogen content have been done by Mrs M. Pond, B.Sc., to whom the Society is very grateful.

Dr D. J. Morris, the Curator of Mammals, has carried out research into the behaviour of the Green Acouchi (*Myoprocta pratti*). He has also, through the courtesy of Granada TV Network, been able to make a detailed analysis of the relative popularity of different species of animals. Information was obtained through the medium of a TV programme from the Gardens, Regent's Park, which provided data from approximately 50,000 children throughout the British Isles. A brief preliminary report of the findings was published in the International Zoo Yearbook, Volume II.

Under the supervision of Dr Morris, research has been carried out by Mr J. van Hooff of Utrecht University on the evolution of facial expressions in mammals and the significance of these expressions as communication systems, and by Mr Malcolm Lyall Watson on manipulation techniques in the feeding behaviour of various

mammal species, with special reference to the food 'washing' behaviour of raccoons and the hoarding behaviour of *Acouchis*.

A special investigation into the jumping capacities of small mammals has been carried out by Mr W. Baldock, the Zoological Technician, under the guidance of Dr Morris, in connection with the requirements of the projected Small Mammal building.

Research facilities have been made available for Mr J. Sparks of Queen Mary College, London University, for studies of the behaviour of Estrildine Finches. This work is being carried out under the joint guidance of Mr J. Yealland, the Curator of Birds, and Dr D. J. Morris.

Dr W. C. Osman Hill, the Prosector, completed his studies on the Platyrrhine Monkeys and has commenced work on the Old World Primates, with special reference to the genus *Cercopithecus*. Interim work on fresh material acquired by the Prosectorium continues and a number of preliminary reports have been made for the Scientific Meetings.

During the year the Pathologist, Mr R. N. Fiennes, has made card indices of world literature on diseases of wild animals, transferred the old *post mortem* records of the Society, extending back for more than fifty years, to punched cards, and arranged a reprint library. When the Nuffield Institute for Comparative Medicine is opened increased facilities for research will be available and it is important that the archives should be in a condition in which they can be readily used.

A survey on the incidence of cardio-vascular diseases in animals dying at Regent's Park has been continued in collaboration with Dr C. Symons of the Royal Free Hospital and Dr R. Finlayson of St Bartholomew's Hospital. Dr du Boulay, Consultant Radiologist to St Bartholomew's Hospital and the National Hospital for Nervous Diseases is now making a survey of the comparative anatomy and condition of the arteries of the head and neck. Dr H. Lehmann has been making a comparative study of the chemistry of haemoglobin from different animals.

Work on the comparative anatomy of the *posterior vena cava* has continued and some confirmatory studies by means of angiography have been made by Dr Symons.

Studies of the condition of aspergillosis in penguins has continued. In particular, arrangements were made for the retention of bodies of penguins dying during the voyage of the s.s. *Southern Harvester* from the Antarctic to this country. Of thirty-eight penguins received all were affected with aspergillosis, showing that this disease is not necessarily contracted after arrival in this country.

Clinical research in the Hospital, directed towards estimating the efficiency and desirability of ataractic drugs, has continued. Their use has been extended, with particular success, to quieting the newly-arrived animal, the casualty rate in this group being thus reduced to practically nil. The combined use of ataractic drugs and muscle relaxants has led to even higher standards of anaesthesia.

As an aid to restraint, the use of paralysing drugs given by injection or by flying syringe is under constant survey. During the year the Veterinary Officer, Mr O. Graham-Jones, co-operated with the Ministry of Agriculture, Fisheries and Food in the investigation of disease in a herd of wild deer in Leicestershire, and gained much experience in the use of the flying syringe.

### *Nuffield Institute of Comparative Medicine*

The Planning Group of the Nuffield Institute of Comparative Medicine, under the chairmanship of Professor G. Payling Wright, completed its work and the Council accepted the design prepared by the architects, Llewelyn Davies & Weeks and John Musgrove.

During November a conference was convened by the Institute on comparative aspects of arterial diseases. Sir Roy Cameron, Chairman of the Committee for the Nuffield Institute, took the Chair and the conference was opened by Professor Sir Solly Zuckerman. Many distinguished medical and veterinary scientists were present, including Dr M. Kaplan and Dr Z. Fejfar of the World Health Organization; Dr D. K. Detweiler, Head of the United States Comparative Cardio-vascular Studies Unit; Sir Howard Florey, President of the Royal Society; Sir Harold Hims-worth, Secretary of the Medical Research Council; Air Vice-Marshal Sir Aubrey Rumball, Deputy Director, Royal Air Force Medical Services; Sir John Ritchie, Chief Veterinary Officer, Ministry of Agriculture, Fisheries and Food; and Mr Leslie Farrer Brown, Director of the Nuffield Foundation.

As the Nuffield Institute of Comparative Medicine is the only institute in this country whose objects are to combine veterinary, zoological and human medical studies, its contribution to the study of disease can be of great importance.

The Council gratefully acknowledges gifts of £2,000 from Unilever Limited in support of the projected research programme in arterial disease, £500 from Glaxo Laboratories Limited towards the cost of equipment and £500 from the Gulbenkian Foundation for a sculpture by Kenneth Martin to be erected in the Nuffield Institute.



## *Wellcome Institute of Comparative Physiology*

In addition to the appointment of Dr I. W. Rowlands, M.Sc., Ph.D. as Senior Research Fellow, the following appointments were made:

### RESEARCH FELLOWS

DR P. A. JEWELL, M.A., Ph.D., B.Sc.

To study the breeding biology of Soay sheep on St Kilda, and the reproductive performance, under laboratory conditions, of various forms of *Apodemus*.

DR LORNA M. KELLAS, B.Sc., Ph.D.

Histological and histochemical study of the intra-epithelial granular cell which occurs in the placenta of ruminants. She will also study the gonads and reproductive tracts of the giraffe.

MR D. R. S. KIRBY, B.Sc.

Post-doctoral Fellowship to study the effects of abnormal environments on the development of the embryo, and to investigate the cells of the trophoblast and the uterine factors which limit their invasive powers.

DR G. H. MANLEY, B.Sc., D.Phil.

Research on an analysis of the reproductive behaviour of the lower primates.

MRS A. D. WOODHEAD, B.Sc.

Research into the physiology of reproduction in fish.

### RESEARCH STUDENTS

MR G. CLOUGH, B.Sc.

Research for a Ph.D. thesis on odoriferous glands in mammals, with special reference to olfactory stimulation in reproduction.

MR D. B. A. SYMONS, M.Sc.

Research for a Ph.D. thesis on the reproductive processes in male carnivores, with special reference to the cat.

## *Clinical Departments*

### VETERINARY SECTION, REGENT'S PARK

A total of 258 cases passed through the Hospital and 42 animals through the quarantine station, during 1961. The recovery rate of animals under treatment was at the satisfactory level of 80%.

The Out-patient Department dealt with 274 cases, which included 51 budgerigars, 33 monkeys, and 190 other mammals, birds and reptiles.

#### WHIPSNADE PARK

Veterinary activities during 1961 have again been directed primarily towards preventive medicine and the maintenance of general health. Tranquillizers have been increasingly used for animals transported to and from the Park, particularly when timid animals, such as Chinese Water Deer, are exported.

#### PATHOLOGY LABORATORY

455 specimens from living animals were examined during the year; 459 *post mortem* examinations were made on animals dying at Regent's Park from amongst the resident acclimatized population; 49 *post mortem* examinations were made from amongst newly-arrived animals which died from conditions associated with capture, shipment and acclimatization.

Health surveys were made by means of examination of faecal specimens for pathogenic organisms on all animals and birds in the Bird House, Parrot House, Pheasantry and Monkey House.

#### WHIPSNADE PARK

Messrs Senior and Halnan carried out 243 necropsies, 130 on birds, 110 on mammals and 3 on reptiles.

#### PROSECTORIUM

Besides specimens preserved for the use of the Society, the Prosectorium has continued to supply a considerable amount of material to other institutions, including museums and teaching departments of universities, both at home and abroad, as well as to individual scientific workers. Results of researches upon this material continue to appear in various scientific publications.

The exhibit in the Education Centre has been completed by the staff of the Prosectorium.

The Senior Technician, Mr K.A. T. Denham, took part in a Nature Conservancy expedition to the Orkneys. The expedition was concerned with a census of Grey Seals and there were opportunities to preserve certain anatomical material.

Anatomical material from a Lesser Rorqual (*Balaenoptera acutorostrata*), stranded in the Thames in July, was dissected and preserved. Results of the study of this material, part of which was used in the exhibit in the Education Centre, will be published in due course.

### *Library*

4,255 books were borrowed from the Library during the year. 166 books and 5,147 parts of serial publications were added to the stock. Extensive use was made of the Library by Fellows, Associates, members of the staff, research students, the staff of the TV and Film Unit and scientists from abroad; in addition many enquiries received from the general public were answered.

A number of photographs, mainly of animals exhibited for the first time in the Society's Gardens, were added to the Society's photographic collection. A representative selection of the photographs of mammals and reptiles was mounted in albums.

### *Conferences and Visits*

The Scientific Director, Dr L. Harrison Matthews and Mr E. H. Tong, Director, Whipsnade Park, attended the Annual Conference of the International Union of Directors of Zoological Gardens at Rome. They broke their journey to visit seven continental zoos en route. Dr Matthews continues to serve as a member of the Board of Studies in Zoology and Comparative Anatomy (including paleo-zoology) in the University of London. He attended the XIV General Assembly of the International Union of Biological Sciences at Amsterdam, as a delegate of the Royal Society.

Dr Matthews gave papers at the Norwich meeting of the British Association for the Advancement of Science, the Symposium on 'The better uses of the world fauna for food' of the Institute of Biology and the annual meeting of the Association of British Zoologists.

The Controller, Major-General C. J. G. Dalton, spent three weeks in the United States, during which he visited ten of the leading American zoos with a view to studying administrative methods and present techniques in zoo design.

The Pathologist, Mr R. N. Fiennes, and the Veterinary Officer, Mr O. Graham-Jones, attended the International Conference of Zoo Pathologists at Cologne. A joint paper was presented on 'Parasitic Diseases in Snakes'.

Mr Fiennes and Mr Graham-Jones also attended the British Veterinary Association Conference at Oxford where demonstrations on comparative aspects of arterial diseases, and on orthopaedic procedures in exotic animals, were presented.

Mr E. H. Tong attended the Centenary of the Dresden Zoo and visited the zoos in East and West Berlin and Hamburg.

The Veterinary Officer has been awarded the Harry Steele-Bodger Memorial Fund Travelling Scholarship for 1961-62 by the British Veterinary Association; the funds from this award will be used partly to finance a tour of continental zoos to examine their veterinary facilities.

Mr K. A. T. Denham has been re-elected Secretary of the Federation of British Aquarist Societies.

## EDUCATIONAL ACTIVITIES

### *Lecture-Demonstrations for School Pupils*

During 1961 a total of 20,026 pupils took part in educational visits to the London Zoo and Whipsnade Park.

Lecture-demonstrations at Regent's Park during the Spring and Autumn Terms were well attended. New topics introduced included 'The Pentadactyl Limb' and 'Adaptive Radiation in Birds', while some of the topics which have proved successful in the past were re-introduced. A number of exhibits set up in the Lecture Hall to illustrate such themes as 'Flying Animals' and 'Arboreal Animals', have proved to be of great interest to visiting schools.

During the year the educational work of the Society has been extended by the introduction, during the Summer Term, of guided tours at Whipsnade Park for pupils from secondary schools. These tours proved to be very popular and many teachers commented favourably. Two tours, one demonstrating herbivorous mammals and the other carnivorous mammals were offered. Most of the instruction was given during the tour and not at a preliminary lecture, as in Regent's Park; worksheets were also provided to encourage pupils to observe with care.

Vacation courses have been organised for University students reading zoology in London, Oxford, Cambridge and Reading Universities. A course for Primary School teachers was held at which the use of the Zoological Gardens in teaching younger children was discussed. So many teachers wished to attend this course that it was found necessary to repeat it; the number of teachers attending both courses, each of which lasted two days, was 187.

### *Young Zoologists' Club*

Members of the Club have played an increasingly active role in its affairs during 1961, thus showing their interest in many aspects of natural history and their desire to increase their knowledge through the observation of the living animals.

The Spring edition of the Club magazine consisted largely of articles written by members, on such subjects as 'Keeping and Breeding the Common Lizard', 'Bush Baby Manners', 'Martin, the House Martin', 'Breeding and Rearing the Dwarf Gourami', and 'Why I want to be a Conchologist'. Meetings have been held at which

members have given talks and exhibited collections illustrating their interest in zoology, and a group has been meeting regularly under the leadership of Mr. J. Newmark to carry out a survey of the numbers of wild birds on the lake in Regent's Park.

Entries for the Club competitions have maintained the high standard which we have learned to expect, and show that within the field of their own specialized interests young people reveal an amazingly mature approach.

### *TV and Film Unit*

The 'A to Zoo' series of films mentioned in the 1960 Report were transmitted in the Children's Hour up to July 1961. It is satisfactory that this series and also the previous Animal Story series have been shown extensively overseas, not only in Commonwealth countries, but also in Scandinavia, Egypt, Holland and Italy.

In addition to the films, 'Zoo Time' outside broadcasts were transmitted from the Zoo during 1961.

It has been decided that in future only the 'Zoo Time' broadcasts shall be transmitted in the Children's Hour, freeing the Film Unit to concentrate on rather more detailed and informative programmes for adult audiences.

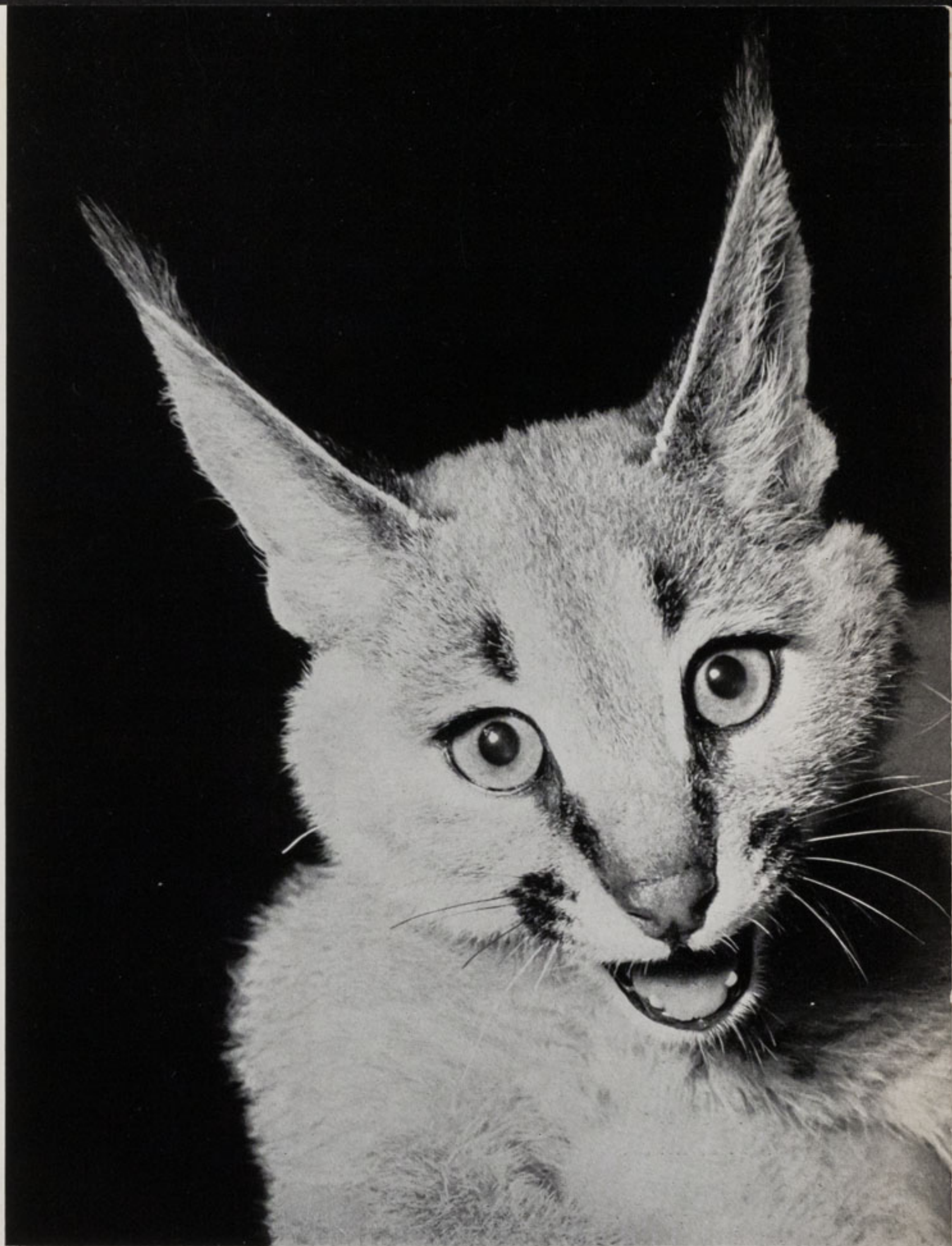
The Unit has been fortunate in obtaining some unique film sequences of courtship, mating and other behaviour of Bullheads, Newts, Scorpions, Wolf Spiders, Great-crested Grebes, to mention only a few. These will be incorporated in programmes to be transmitted in 1962.

Short film sequences of animal behaviour, for use in universities to supplement the normal curriculum for advanced students, have been prepared.

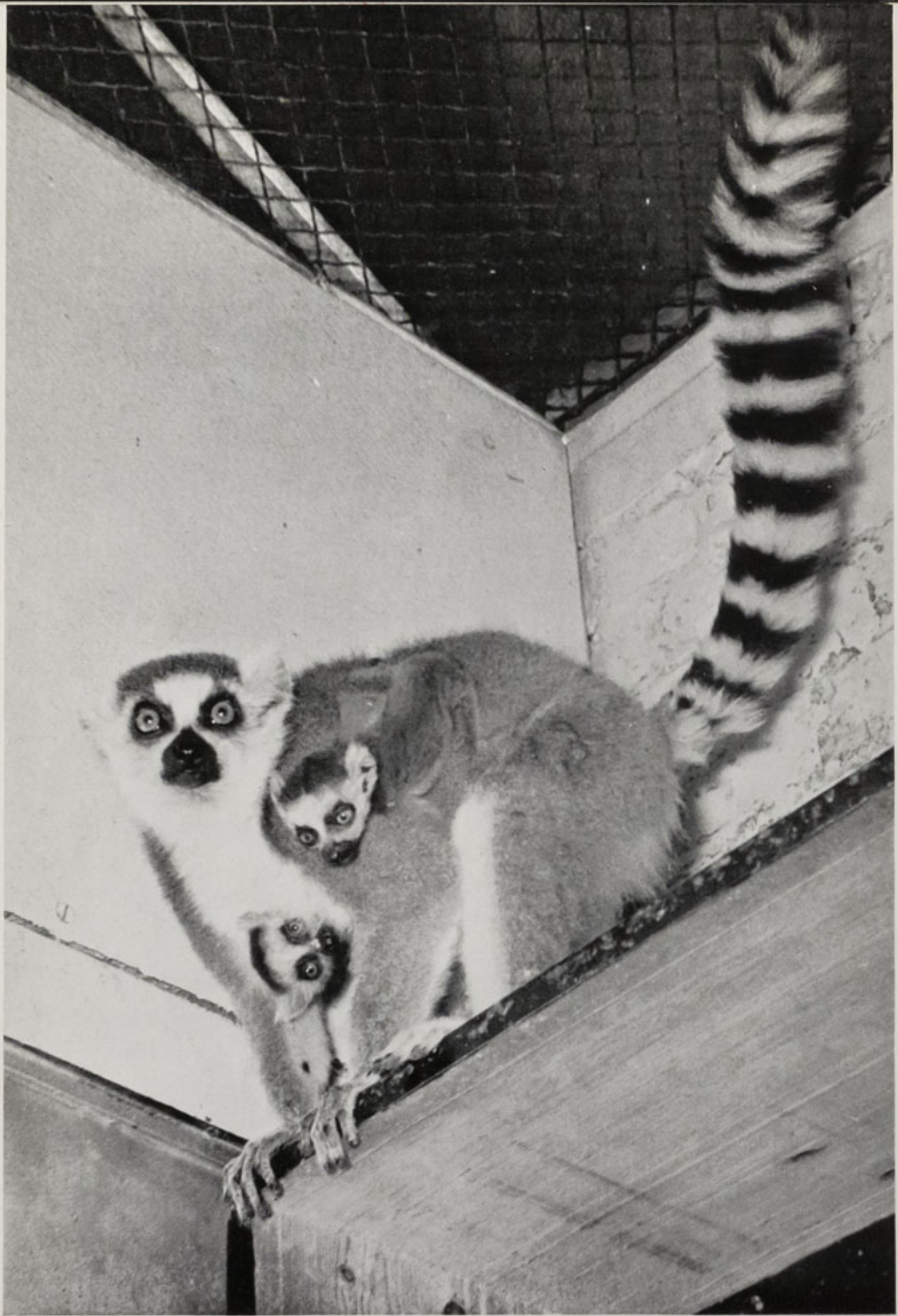
The Unit's library of zoological film has now passed the impressive figure of half a million feet. Much work is entailed in keeping this vast collection properly indexed, and ensuring its best use and ready availability to interested scientists.

### *Christmas Lectures*

During the Christmas holidays three meetings were held for the children of Fellows and Associates of the Society and their friends. The subjects of these meetings – 'Whales, Porpoises and Dolphins' by Dr Kenneth Backhouse; 'Saving the World's Wild Life' by Mr Peter Scott; and the film 'Serengeti shall not die' – all proved very popular.



Caracal Lynx 'Gigi' presented by H.M. King Hussein of Jordan. *W. G. Vanderson, Fox Photos*



Ring-tailed Lemur twins born in the Gardens, Regent's Park in March 1961.

*W. G. Vanderson, Fox Photos*

## STAFF

At the end of the year the permanent staff of the Society totalled 473. Of these, 358 were employed at Regent's Park, including 85 in the Catering Department, and 115 at Whipsnade Park, including 16 in the Catering Department.

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

### *Retirements*

The following employees retired on pension during 1961:

A. Bransom, Works Section, Whipsnade Park, after 32 years' service.

W. J. Dennis, Policeman, Whipsnade Park, after 15 years' service.

Miss P. Harley, Housekeeper, Regent's Park Catering Department, after 13 years' service.

H. Lane, Head Porter, Regent's Park Catering Department, after 12 years' service.

W. A. Swain, Deputy Head Keeper, Regent's Park, after 41 years' service.

J. N. Turvey, Works Section, Whipsnade Park, after 31 years' service.

### *Obituary*

The Council records, with great regret, the death on 25th November of Mr Anthony Hodgson, who had not recovered consciousness since the artesian well accident in December, 1960. This young and popular keeper will be sadly missed both by the Society and by his many friends and colleagues.

### *Promotions*

Mr L. Gladman, Senior Head Keeper, was appointed to the new post of Deputy Overseer at Whipsnade Park, whilst Mr C. H. Bailey was promoted to the Head Keepership of the Elephant Section.

### *Awards*

The Society's Bronze Medal has been awarded to two members of the staff, Mr H. Corbett and Mr L. G. Smith. Mr Corbett received the award for long and meritorious service in the Society's scientific laboratories, and Mr Smith for assiduous care in the keeping of apes and monkeys.



The Council is proud to record that Testimonials on Vellum were awarded by the Royal Humane Society to four members of the staff, Messrs G. Callard, R. Poland, S. B. Savage and H. Ward, for their efforts to save the men involved in the artesian well accident. In addition, Resuscitation Certificates were awarded to a further six members of the staff.

### *Other Staff Matters*

The working week of manual employees was reduced to 42 hours during 1961. This has been achieved without the employment of additional labour or any curtailment of the times the Gardens at Regent's Park and Whipsnade are open to the general public.

## ACKNOWLEDGMENTS

The Society is indebted for gifts of specimens to H.H. The Maharaja of Baroda, Dr W. P. Crowcroft, Mr J. O. D'eath, Mr H. J. Disney, Mr G. B. Eastmure, Mr E. P. Gee, C.M.Z.S., Professor Milton Hildebrand, H.M. King Hussein of Jordan, Mr G. H. Newmark, Mr J. R. Newmark, Mr P. J. Oppenheimer, Mr G. Randau, Flight Lieutenant W. B. Russell, Captain D. Scorgie, Dr K. C. Searle, C.M.Z.S., Mr T. Spence, H. H. Shaikh Ahmad bin Ali al Thani, and Lady Anne Tree.

In addition the following Zoological Societies and Institutions have made valuable gifts or sent interesting animals to Regent's Park on an exchange basis: The Royal Zoological Society 'Natura Artis Magistra', Amsterdam, the Zoological Gardens of Arnhem, The Zoological Gardens at Cologne, The Zoological Gardens of Copenhagen, The Zoological Gardens at Jerez de la Frontera, The Nature Conservancy, The Paignton Zoological and Botanical Gardens, The Royal Zoological Society of Scotland, The Zoological Gardens, Surabaya, The Zoological Gardens at Turin, The Zoological Gardens of West Berlin, The Wildfowl Trust, and The Zoological Society of Trinidad and Tobago.

Senhora Hermione Blandy de Freitas Martins and Senhor João de Freitas Martins, C.M.Z.S., of Madeira, who have continued to take a lively interest in the Society's Aquarium, sent valuable collections of marine animals.

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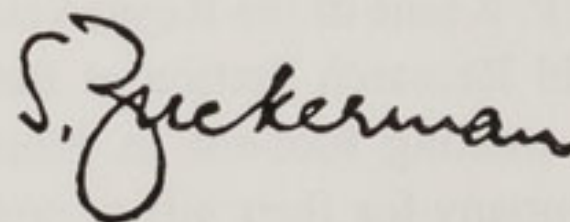
The Society is grateful to the following for assistance at Whipsnade: Mr J. E. N. Sloan, Parasitologist of the Cooper, MacDougall & Robertson Field Research Station at Berkhamsted, for identification of parasites; Dr H. D. Holt, Director of the Public Health Laboratory Service, Luton, for bacteriological 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 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 treating foot-rot in Norfolk Horned Sheep, and The British Cod Liver Oil Company for their gift of cod liver oil.

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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, Pacific Steam Navigation Company, 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, Mr A. Cake, Mrs E. H. Eckersley, Miss D. Leschallas, Miss P. K. McLeod, Mrs G. Matthews, The Odney Club, The Polkerris Boy Scout Troop, Mrs E. E. Thomas, Mr T. P. Vandeleur, Mrs S. E. Williams.

Mr Ivan Seymour has rendered valuable assistance by providing a continuous supply of earthworms for the kiwi.



SECRETARY

## APPENDIX 1

### *Committees 1961-62*

#### **Gardens and Park Committee**

*Terms of Reference:* To consider matters relating to the layout, appearance, animal housing, and amenities other than catering, of the Regent's Park Gardens 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.

#### *Members of Committee:*

A. H. T. Chisholm, C.B.E., M.A.	Michael W. Perrin, C.B.E., M.A., B.Sc., F.R.I.C.
The Rt Hon. The Earl of Cranbrook, C.B.E., M.A., F.L.S.	Air Vice-Marshal G. Silyn Roberts, C.B., C.B.E., A.F.C., M.Sc., F.R.Ae.S.
Lady Antonia Fraser	Raymond Russell, F.S.A.
S. Wilson Kitchen	Peter Scott, C.B.E., D.S.C., M.A., <i>Chairman</i>
The Rt Hon. The Earl of Mansfield	Lady Anne Tree
Lady Bridget Parsons	<i>Secretary:</i> Major-General C. J. G. Dalton, C.B., C.B.E.

#### **Collections Policy Committee**

*Terms of reference:* To make proposals to Council on the distribution of animals as between Regent's Park and Whipsnade Park; to consult where necessary with other Committees, and to advise on new purchases.

#### *Members of Committee:*

G. C. L. Bertram, M.A., Ph.D.	Sir Landsborough Thomson, C.B., O.B.E., M.A., D.Sc., LL.D.
The Rt Hon. The Earl of Cranbrook, C.B.E., M.A., F.L.S.	W. H. Thorpe, M.A., Ph.D., Sc.D., F.R.S.
E. P. F. Field	Prof. G. C. Varley, M.A., Ph.D.
Maxwell Knight, O.B.E., F.L.S., <i>Chairman</i>	Errol I. White, C.B.E., Ph.D., D.Sc., F.R.S., F.L.S.
The Hon. Ivor Montagu	<i>Secretary:</i> H. Gwynne Vevers, M.B.E., M.A., D.Phil., Sec.L.S.
E. A. Bradford Pratt	
H. N. Southern, M.A.	

#### **Animal Welfare and Husbandry Committee**

*Terms of reference:* To advise Council on matters relating to animal welfare and husbandry both in Regent's Park and Whipsnade Park, particularly in relation to the work of the Society's Veterinary Officer and Pathologist.

#### *Members of Committee:*

Professor E. C. Amoroso, M.B., B.Ch., Ph.D., B.A.O., F.R.S.	Maxwell Knight, O.B.E., F.L.S.
E. Cotchin, D.Sc., M.R.C.V.S.	J. R. Napier, M.R.C.S., L.R.C.P.
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Cecil A. Hoare, D.Sc., F.R.S.	J. E. N. Sloan, B.Sc.
Professor A. St G. Huggett, M.B., B.S., Ph.D., D.Sc., F.R.S.	Professor A. N. Worden, M.A., B.Sc., M.R.C.V.S., F.R.I.C., F.L.S.
Major C. W. Hume, M.C., B.Sc.	<i>Secretary:</i> R. N. Fiennes, M.A., M.R.C.V.S.

### Breeding Policy Committee

*Terms of reference:* To report on the breeding records of animals in the Society's Collection, and to make recommendations about any measures whereby the breeding of rare and other animals can be improved.

*Members of Committee:*

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Professor F. W. Rogers Brambell, B.A., Ph.D., D.Sc., F.R.S.  
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*Chairman*  
W. Lane-Petter, M.A., M.B., B.Chir.  
Sir John Ritchie, C.B., B.Sc., F.R.C.V.S., D.V.S.M., F.R.S.E.  
H. V. Thompson, B.Sc.  
*Secretary:* L. Harrison Matthews, M.A., Sc.D., F.R.S.

### Education Committee

*Terms of reference:* To advise Council on all matters relating to the Society's educational activities.

*Members of Committee:*

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Professor J. Dixon Boyd, M.A., M.D., D.Sc., *Chairman*  
Professor W. S. Bullough, D.Sc.  
Maxwell Knight, O.B.E., F.L.S.  
Sir Francis Knowles, Bt., M.A., D.Phil.  
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John R. Newmark  
T. H. Savory, M.A.  
Geoffrey Schomberg  
Professor J. Eric Smith, M.A., Sc.D., F.R.S.  
D. J. Stanbury, B.Sc., A.R.C.S., F.R.E.S.  
Errol I. White, C.B.E., Ph.D., D.Sc., F.R.S., F.L.S.  
*Secretary:* Miss E. Owen, O.B.E.

### Zoological Research Committee

*Terms of reference:* To advise and assist Council in all matters of zoological research, relating to the collections in the menagerie or otherwise, which do not fall within the sphere of other Committees of the Society.

*Members of Committee:*

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E. H. Ashton, B.Sc., Ph.D.  
A. d'A. Bellairs, M.A., M.R.C.S.  
Professor J. J. C. Buckley, D.Sc.  
Professor W. S. Bullough, D.Sc.  
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Professor D. V. Davies, M.A., M.B., B.S.  
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W. H. Thorpe, M.A., Ph.D., Sc.D., F.R.S.  
Frank Yates, Sc.D., F.R.S.  
Professor John Z. Young, M.A., F.R.S.  
*Secretary:* L. Harrison Matthews, M.A., Sc.D., F.R.S.

### Committee for the Nuffield Institute of Comparative Medicine

*Terms of reference:* To advise on all matters connected with the Institute.

*Members of Committee:*

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*Chairman*  
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R. E. Glover, M.A., D.Sc., F.R.C.V.S.  
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Professor G. Payling Wright, D.M., F.R.C.P.  
*Secretary:* R. N. Fiennes, M.A., M.R.C.V.S.

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*Terms of Reference:* To serve as an editorial board and to promote the development of the Society's scientific publications.

#### *Members of Committee:*

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Francis C. Fraser, D.Sc., F.L.S.      Professor J. Eric Smith, M.A., Sc.D., F.R.S.  
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H. W. Parker, C.B.E., M.A., D.Sc.      *Secretary:* L. Harrison Matthews, M.A., Sc.D., F.R.S.  
N. D. Riley, C.B.E.

### Zoological Record Committee

*Terms of reference:* Appointed by Council in 1887 to take over the work of the Zoological Record Association to produce and publish an annual volume of the 'Zoological Record'.

#### *Members of Committee:*

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Cecil A. Hoare, D.Sc., F.R.S., *Chairman*      Cyril J. Stubblefield, D.Sc., F.R.S.  
H. W. Parker, C.B.E., M.A., D.Sc.      *Secretary:* L. Harrison Matthews, M.A., Sc.D., F.R.S.  
E. O. Pearson, M.A.

The President, Treasurer and Secretary are *ex officio* Members of all Committees.

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*Consulting Architect:* Sir Hugh Casson, M.A., R.D.I., F.R.I.B.A., F.S.I.A.      *Honorary Consulting Ophthalmologist:* Sir Benjamin Rycroft, O.B.E., M.D., Ch.B., D.O.M.S., F.R.C.S.  
*Consulting Landscape Architect:* Peter F. Shephard, B.Arch, F.R.I.B.A., A.M.T.P.I., F.I.L.A.      *Consulting Veterinary Surgeon (Whipsnade):* Martin Senior, M.R.C.V.S.  
*Honorary Parasitologist:* Mrs. H. G. Fantham (Dr Annie Porter), D.Sc., F.L.S.      *Honorary Consultant:* Geoffrey M. Vevers, F.R.C.S.  
*Honorary Herpetologist:* A. d'A. Bellairs, M.A., D.Sc., M.R.C.S.      *Adviser on Labour Relations:* E. Bishop, O.B.E.  
*Medical Referee:* J. P. Horder, M.A., M.B., B.Ch.(OXON.), M.R.C.P.(LOND.)

## APPENDIX 2

### Staff

#### HEADQUARTERS

##### Scientific Staff

*Scientific Director:* L. Harrison Matthews, M.A., Sc.D., F.R.S.

*Curator of the Aquarium (Acting Curator of Reptiles, Acting Curator of Invertebrates):* H. Gwynne Vevers, M.B.E., M.A., D.Phil., Sec.L.S.

*Curator of Birds:* J. J. Yealland, F.L.S.

*Curator of Mammals:* D. J. Morris, B.Sc., D.Phil.

*Veterinary Officer:* O. Graham-Jones, F.R.C.V.S.

*Prosecutor:* W. C. Osman Hill, M.D., F.R.S.E., F.L.S.

*Pathologist:* R. N. Fiennes, M.A., M.R.C.V.S.

*Librarian and Clerk of Publications:* G. B. Stratton, M.B.E., A.L.S.

##### Administrative Staff

*Controller:* Major-General C. J. G. Dalton, C.B., C.B.E.

*Chief Accountant:* W. N. Pickford, M.M., A.C.I.S.

*The Private Secretary:* Miss Grace E. Gay

*Architect:* F. A. Stengelhofen, L.R.I.B.A.

*Establishments Officer:* C. H. Johns, D.P.A.

*Head of General Department:* Miss E. Owen, O.B.E., B.A.

*Education Officer:* M. K. Boorer, B.Sc.

#### REGENT'S PARK

##### Administration

*Catering Manager:* W. N. Hill, F.H.C.I.

*Supplies Officer:* C. G. Nicholls, M.P.O.A.

*Transport Executive:* C. G. Harwood

*Head Gardener:* H. Hemmings

*Gardens Executive:* L. M. Flewin

*Clerk of Works:* F. J. Myers

##### Overseers

*Aquarium:* F. C. Akhurst

*Insects:* G. J. Ashby

*Birds:* J. Ward

*Reptiles:* A. R. Lanworn

*Mammals:* H. Vinall

*Deputy Overseer Mammals:* B. W. Smith

##### Head Keepers

*Pheasantry:* R. Barrow

*Antelope and Zebra:* A. J. Cotterill

*Insects:* R. P. Humphrys

*Elephants:* F. E. G. Jones

*Bird House:* D. G. Newson

*Aquatic Birds and Birds of Prey:* G. F. Newson

*Children's Zoo:* W. E. Peckett

*Giraffe House:* H. G. N. Robinson

*Lion House:* T. W. Sangster

*Ostrich House and Eastern Aviary:* A. E. Scrivener

*Parrot House:* A. F. Shambrook

*Camel House and Mappin Terrace:* R. S. Smith

*Small Mammals:* H. W. Styles

*Aquarium:* H. L. Ward

*Bears and Mappin Terrace:* S. Morton

##### Senior Head Keepers

*North Mammal House:* J. C. T. Alldis

*Cattle Sheds:* J. Pullen

*Monkeys:* L. G. Smith

*Hospital Superintendent:* A. T. Wilson

#### WHIPSNADE PARK

##### Administration

*Director:* E. H. Tong, F.L.A.S.

*Assistant to the Director:* E. D. Day

*Catering Manager:* E. G. Rhodes

*Head Gardener:* R. Tully

*Overseer:* O. C. Chamberlain

*Deputy Overseer:* L. Gladman

*Clerk of Works:* A. C. W. Corbett

##### Head Keepers

*Bird Section:* R. Hazzard

*Bear Section:* A. Matthews

*Carnivores Section:* F. Meakins

*Elephant Section:* C. H. Bailey

*Giraffe Section:* L. Warner

*Pheasant and Parrakeet Aviaries:* B. Simmons

*Camel Section:* G. Stanbridge

*Head Attendant, Children's Zoo:* Miss G. Impey

## APPENDIX 3

*Publications by Society's Staff*

- ASHBY, G. J. (1960) The maintenance of some invertebrates in captivity.  
*J. Anim. Technicians Assoc.*, **11**, no. 1.
- FIENNES, R. N. T-W- (1961) Zoo medicine and human medicine.  
*New Scientist* **9**, 674.
- FIENNES, R. N. T-W- (1961) Report on the Nuffield Institute of Comparative Medicine Conference on Arterial Diseases.  
*Vet. Rec.* **73**, 1365.
- HILL, W. C. Osman (1961) Vascular specializations in Platyrrhine monkeys.  
*Z. wiss. Zool.* **165**, 113-139.
- HILL, W. C. Osman (1961) Article *Lemuroidea* in *The Encyclopaedia of the Biological Sciences*, ed. P. Gray, New York.
- HILL, W. C. Osman (1961) Abominable Snowmen, the present position.  
*Oryx* **6**, 86-98.
- HILL, W. C. Osman (1961) Hybridization in marmosets.  
*Proc. zool. Soc. Lond.* **137**, 321-322.
- HILL, W. C. Osman (1961) Lobster-claw deformity in a Drill (*Mandrillus leucophaeus*).  
*Bibliotheca Primatologica: Festschrift für Prof. Dr A. H. Schultz.*
- JONES, O. Graham- (1961) Tuberculosis in zoo animals.  
*Symp. zool. Soc. Lond.*, no. 4, 69-79.
- JONES, O. Graham- (1961) Anaesthesia of the budgerigar and the monkey.  
*Advances in Small Animal Practice* **2**, 122-124.
- JONES, O. Graham- (1961) Administering medicine to small birds.  
*Vet. Rec.* **73**, 331.
- JONES, O. Graham- (1961) International survey of animal restraint techniques  
*International Zoo Yearbook*, **2**, 300-302
- JONES, O. Graham- (1961) Veterinary attention to captive wild animals.  
*Vet. Rec.* **73**, 186.
- JONES, O. Graham- (1961) Notes on the common tortoise.  
*Vet. Rec.* **73**, 313.
- JONES, O. Graham- (1961) Some clinical conditions affecting the North African tortoise ('Greek tortoise') *Testudo graeca*.  
*Vet. Rec.* **73**, 317.
- JONES, O. Graham- (1961) The exotic pet and the owner: the need for caution.  
*J. small animal Prac.* **1**, 234-235.
- MATTHEWS, L. Harrison (1961) Hibernation in mammals and birds.  
*Brit. med. Bull.* **17**, 9-13.
- MORRIS, Desmond (1961) Experimental burrows for small mammals.  
*International Zoo Yearbook* **2**, 70-71.
- MORRIS, Desmond (1961) Automatic seal-feeding apparatus.  
*International Zoo Yearbook* **2**, 70.
- MORRIS, Desmond (1961) An analysis of animal popularity.  
*International Zoo Yearbook* **2**, 60-61.
- MORRIS, Desmond (1961) Active life for zoo animals.  
*New Sci.* **10**, 773-776.
- MORRIS, Desmond (1961) Primates' aesthetics.  
*Nat. Hist. New York* **70**, 22-29.
- MORRIS, Desmond (1961) Eiertickers en eiergooiers.  
*Artis* **7**, 126-128.
- TONG, E. H. (1961) Breeding of the Great Indian Rhinoceros at Whipnade Park  
*International Zoo Yearbook* **2**, 12-14
- VEVERS, H. G. (1961) Observations on the laying and hatching of Octopus eggs in the Society's Aquarium.  
*Proc. zool. Soc. Lond.* **137**, 311-315.



## APPENDIX 4

*List of Genera, Species and Subspecies new to the Collection***Mammalia**

- 176b *Crocidura hirta* (Peters). Zambesi Lesser Red Musk Shrew. (Southern Rhodesia)  
 176c *Crocidura suaveolens bicolor* (Bocage). White-toothed Shrew. (Northern Rhodesia)  
 \*191a *Epomops buttikoferi* (Matschie). Büttikofer's Epauletted Fruit Bat. Sierra Leone  
 440a *Callosciurus bocourti* (Milne-Edwards). Bocourt Squirrel. (South-East Asia)  
 497c *Rattus rattus sladeni* (Anderson). Sladen's Rat. (China)  
 518c *Dipodomys heermanni* (Le Conte). Heermann's Kangaroo Rat. California  
 518d *Dipodomys merriami* (Mearns). Merriam's Kangaroo Rat. California  
 518e *Dipodomys deserti* (Stephens). Desert Kangaroo Rat. California  
 \*545a *Lagurus lagurus* (Pall). Steppe Lemming. (European U.S.S.R. and Kazakhstan and Western Siberia)  
 857a *Manis javanica* (Desmarest). Malayan Pangolin. (Malaya)  
 935a *Dasyurus hallucatus* (Gould). Spotted Dasyure. Australia

**Aves**

- \*1709a *Dupetor flavicollis flavicollis* (Latham). Yellow-necked or Black Bittern. (East and South-eastern Asia)  
 \*1551a *Phoeniconaias minor* (Geoffroy). Lesser Flamingo. (Africa, Madagascar and India)  
 2180b *Francolinus erckeli* (Rüppell). Erckel's Francolin. (North-eastern Africa)  
 1937a *Porzana fusca erythrothorax* (Temminck & Schlegel). Chinese Ruddy Crake. (Eastern Asia)  
 1773a *Choriotis kori struthiunculus* (Neumann). Kori Bustard. (Eastern Africa)  
 1134b *Forpus passerinus spengeli* (Hartlaub). Spengel's Parrotlet. (Colombia)  
 930b *Melanerpes pucherani pucherani* (Malherbe). Flame-crowned Woodpecker. (Central America and North-western parts of South America)  
 778a *Oenanthe hispanica hispanica* (Linné). Black-eared Wheatear. (Mediterranean area and West Africa)  
 819a *Dryonastes poecilorhyncha berthemyi* (David & Oustalet). Rufous Laughing Thrush. China  
 \*543a *Rhodospingus cruentus* (Lesson). Crimson Finch. (Ecuador and North-western Peru)

\* Genus new to the collection

- 303a *Calospiza schranki* (Spix). Schrank's Tanager. South America (Upper Amazonia)  
 355b *Coereba flaveola luteola* (Cabanis). Caribbean Bananaquit. (Trinidad, Tobago and Northern parts of South America)  
 \*128a *Gymnostinops montezuma* (Lesson). Montezuma Oropendola. (Central America)

**Pisces**

- Triakis semifasciatus* Girard. Leopard Shark. North-east Pacific  
*Heterodontus francisci* Girard. Hornshark. North-east Pacific  
*Gnathonemus petersi* (Günther). Elephant-Trunk Fish. Tropical Africa  
*Gnathonemus tamandua* (Günther). Tamandua Mormyrid. Tropical Africa  
*Hemigrammus erythrozonus* Durbin. Glowlight Tetra. British Guiana  
*Hemigrammus nanus* (Lütken). Silver-tipped Tetra. South America  
*Hyphessobrycon griemi* Hoedemann. Griem's Tetra. South America  
*Barbus arulius* (Jerdon). Golden Barb. India  
*Barbus filamentosus* (Cuvier and Valenciennes). Filament Barb. India and Thailand  
*Barbus schwanenfeldi* (Bleeker). Tinsel Barb. S.E. Asia  
*Barbus stoliczkanus* (Day). Stoliczka's Barb. Burma  
*Brachydanio nigrofasciatus* (Day). Spotted Zebra Fish. India  
*Plecostomus punctatus* (Cuvier & Valenciennes). Spotted Sucker Catfish. South America  
*Plecostomus rachovi* Regan. Rachow's Sucker Catfish. South America  
*Muraena unicolor* (De la Roche). Black Moray Eel. Atlantic and Mediterranean  
*Hippocampus guttulatus* (Cuvier). Sea Horse Atlantic and Indian Oceans  
*Pomoxis nigromaculatus* (Le Sueur). Calico Bass. Eastern North America  
*Hemichromis fasciatus* Peters. Banded Cichlid. Tropical West Africa  
*Typhlosynbranchus boueti* Pellegrin. West Africa

## APPENDIX 5

*List of Donors of Animals to the Society*

## REGENT'S PARK

- Adams, C., 1 Quaker Parrakeet  
 Aistrop, J., 1 Cuban Tree Frog  
 Alder, M., 4 Wall Lizards  
 Ansell, W. F. H., 3 African Pythons  
 Archibald, Miss S., 1 Indian Grey Mongoose  
 Attenborough, Master R., 2 Ring-tailed Lemurs
- Bailey, S., 8 Stag Beetles and 3 larvae  
 Ballantyne, Colonel H., 1 Nile Soft-shelled Turtle  
 Barbary, R., 8 *Aphyosemion bivittatum*, 1 *Hemichromis fasciatus*, 41 *Panchax playfairi*  
 Barber, J., 5 Pike, 8 Pope  
 Barnes, Miss S., 1 Pin-tailed Whydah Bird, 1 Avadavat  
 Baroda, H. H. The Maharaja of, 2 Tigers  
 Beattie, A. J., 1 European Pond Tortoise  
 Bishop, Mrs I., 2 Java Sparrows  
 Breach, L., 1 European Hedgehog  
 Bristowe, Dr W. S., 3 Malayan Giant Toads, 2 *Liphistius batuensis*, 4 *Liphistius desultor* and 2 cocoons, 1 *Liphistius malayanus*, 1 *Scytodes magnus*, 2 *Theuranonema nobile dolichopoda*  
 British Overseas Airways Corporation, 2 Humboldt's Penguins, 6 Californian Quail  
 Broomhall, Miss J., 1 Quaker Parrakeet  
 Brown, Mrs E. C. Norman-, 1 Greek Tortoise  
 Burgers' Natuur-Dierenparken, 1 Lion  
 Burlington, G. W., 1 Grass Snake  
 Butterworth, M., 1 Mediterranean Chameleon
- Campbell, Master J., 3 Short-tailed Voles  
 Carr, Mrs V. Whitaker, 1 Lapwing  
 Chandler, Mrs J., 1 Senegal Bush Baby  
 Channing, Mrs Y., 1 Diamond Sparrow, 1 Gouldian Finch (Black-headed), 1 Virginian Cardinal  
 Chaplin, A., 1 Privet Hawk Moth  
 Chapman, F/O. S. D., 1 Spectacled Cayman  
 Clark, D. J., 2 *Dytiscus marginalis*, 6 *Hydrophilus piceus*  
 Collas, Miss P., 1 Orange-headed Ground Thrush  
 Cooper, Miss J., 2 Rainbow Trout  
 Cork Manufacturing Co. Ltd., 1 Eyed Lizard  
 Cottrell, M., 1 Brazilian Hang-nest  
 Coulson, L., 2 Greek Tortoises  
 Coulter, R., 1 Centipede, 1 Millipede  
 Coundon, D., 1 Spectacled Cayman  
 Cousins, E. B., 1 Spider, *Brachypelma vagans*  
 Cowburn, E., 3 European Spotted Salamanders  
 Crowcroft, Dr P., 2 Zambesi Lesser Red Musk Shrews
- Cullum, T. V., 2 Spectacled Cayman, 1 Nile Monitor, 2 Pallas's Glass Snakes, 1 African Python, 1 Boa Constrictor, 1 Hallowell's Rhomb Snake, 1 Aesculapian Snake, 2 South American Bull Frogs, 1 Braided Tree Frog, 1 Orange-banded Wood Toad
- Davies, Mrs P., 1 Goldfinch  
 Davy, J., 1 Pallas's Glass Snake  
 D'eath, J. O., 2 New Zealand Scaup, 3 Kori Bustards  
 Demelleau, Dr J., 1 Nile Crocodile  
 Desmoulins, Master A., Stick Insect eggs  
 Diaz, Mrs S., 1 Southern Flying Squirrel  
 Dineen, T., 1 Himalayan Yellow-backed Sunbird  
 Disney, H. J., 1 Cape Clawless Otter, 2 Gambian Pouched Rats  
 Drew, Miss Jean, 1 Quaker Parrakeet
- Eastmure, G. B., 1 Indian Porcupine  
 Edney, Professor E. B., 1 *Latrodectus indistinctus* and 4 cocoons  
 Edwards, J., 2 Jirds, 4 Spiny Mice (not yet identified)  
 Elders & Fyffes, Ltd., 1 Cameroons Bushy-tailed Dormouse  
 Elling, Mrs M. C., 1 Crab Spider, *Torania variata*
- Farner, H., 1 Centipede  
 Farwell, Ian G., Larvae of *Melitaea cinxia*  
 Flynn, D., 1 Cricket, *Brachytrypes* sp.  
 Ford, R. L. E., 11 Stag Beetles  
 Foreman, M. J., 2 Elegant Terrapins  
 Fowler, Mrs. A., 1 Military Starling  
 Frank, R., 1 Greek Tortoise
- Gant, H. R., 3 Adders  
 Garner, Mrs K., 1 Carolina Anolis Lizard  
 Gates, Father R. H., 1 Golden-fronted Fruitsucker  
 Gee, E. P., C.M.Z.S., 1 Golden Cat  
 Gibbs, M., 3 Catfish  
 Gilkes, A., 1 Nepal Hill Myna  
 Granada Television Unit, 3 Kissing Gouramis  
 Grindley, W., 1 American Catfish
- Hall, H. J., 7 European Hedgehogs (♀ with 6 young)  
 Hamilton, B., 1 Sucking Catfish  
 Hart, R., 1 Nile Crocodile  
 Hayton, W. L., 1 Grey Squirrel (albino)  
 Hearl, H. E., 1 Chimpanzee

Heasman, L. C., 2 Rock Bass  
Henderson, Miss L., Emperor Moth caterpillars and cocoon  
Hildebrand, Professor Milton, 2 Heermann's Kangaroo Rats, 1 Merriam's Kangaroo Rat, 1 Desert Kangaroo Rat  
Hindmarsh, P., 1 Adder  
Hobart, Animals and Bird Protection Board, 2 Tasmanian Devils  
Hooper, Mrs B., and Oxford, Miss D. J., 1 Graceful Chameleon, 4 Field Crickets, 1 Cricket, *Brachytrypes* sp., 1 Cockroach, 1 Chafer Beetle, 3 Hunting Spiders, *Lycosa* sp., 1 *Latrodectus* cocoon, 1 Trapdoor Spider  
Hubbard, J., 1 Water Rail  
Humphreys, D., 5 Goldfish  
Hunt, Mrs J., 1 White-winged Parrakeet  
Hutt, W. H., 2 Common Tench

Inge, Miss P. 5 Black Axolotls  
Ionides, C. J. P., c.m.z.s., 2 Common Green Mambas, 2 Nose-horned Vipers  
Isaacson, Mrs F., 71 Goldfish

Jackson, F/L. R. N., 1 Angwantibo  
Jacobs, George J., 8 Red-vented Bulbuls, 1 Hodgson's Golden-backed Woodpecker  
Jay, Dr John R., 2 Pumas  
Jones, R. Astley-, 1 Bicheno's Finch, 1 Red-crested Cardinal  
Jones, T., 3 Scintillating Copper Pheasants, 1 Bronze-tailed Peacock Pheasant  
Jones, T. S., c.m.z.s., 1 Bell's Hinged Tortoise  
Jordan, H.M. King Hussein of, 1 Caracal Lynx

King, Miss Joan D., 1 Weasel  
Kitson, Mrs W., 1 Greek Tortoise, 1 Hermann's Tortoise  
Knobel, Miss E. M., 1 Diademed Parrot  
Knott, Mrs E. H., 1 Greek Tortoise

Lane, The Hon. Mrs. G., 2 *Buthus occitanus*, 5 *Leiurus quinquestriatus*, 1 *Nebro hierochonticus*, 1 *Orthochirus innesi*, 1 *Prionurus bicolor*  
Latham, Mrs M., 1 Giant Earthworm  
Lawrence, A., 1 Greek Tortoise  
Leney, D. F., 2 Golden Tench, 1 Golden Rudd  
Llewellyn, Sir Rhys, 3 Sucking Catfish, 30 Variegated Platies  
Lockyer, Mrs A., 1 Greek Tortoise  
Losse, G. F., 2 Grass Snakes, 1 Aesculapian Snake  
Luck, Master Rolf, 1 Mantis ootheca, 1 Spider (not yet identified)

Macnab, A. C., 1 Perch  
Major, Mrs O. S., 1 Millipede

Marsdon, Mrs M., 1 Rufous-necked Weaver, 1 General Hardwicke's Dabb Lizard  
Marshall, J., 1 Bird-eating Spider, *Tapinauchenius* sp.  
Mawer, L., 2 Golden Orfe  
Maxwell, P. H., 1 Great-billed Parrakeet  
Menzies, J. I., 3 Büttikofer's Epauletted Fruit Bats, 1 Green Turtle, 2 *Typhlosynbranchus boueti*  
Miles, Master S., 3 Pygmy Chameleons  
Miller, J., 1 Flap-necked Chameleon, 1 Garfish, 4 Corkwing Wrasse, collection of young flatfish, cuttlefish eggs  
Miller, P. L., 8 *Hydrocyrius columbiae*, 1 *Lethocerus cordofanus*  
Mitchell, Mrs G. E., 1 Greek Tortoise  
Moore, N. D. H., 1 Baltimore Oriole, 1 Pine Siskin, 1 Nonpareil Bunting  
Mulligan, Mrs D., 1 Green Lizard

Newmark, G. H. and J. R., 1 Schrank's Tanager, 1 Blue-rumped Tanager, 1 Black-eared Tanager, 1 Yellow-rumped Tanager, 2 Crimson Finches, 1 Himalayan Yellow-backed Sunbird, 1 Chestnut-bellied Nuthatch, 1 Flame-crowned Woodpecker, 1 American Five-lined Skink, 1 American Glass Snake, 2 Florida Green Water Snakes, 3 Florida Water Snakes, 1 Ribbon Snake, 1 Corn Snake, 1 Chicken Snake, 2 Four-lined Chicken Snakes, 1 Pygmy Rattlesnake, 1 Southern Leopard Frog, 2 Narrow-mouthed Toads  
Nicholson, Master M., 3 Meller's Chameleons  
North, Miss R., 1 Quaker Parrakeet

Oliphant, J. M., Ootheca of *Sphodromantis lineola*  
Oppenheimer, P. J., 1 Potto

Parker, Miss G., Stick Insect eggs  
Pengelly, S. R., 1 Raccoon  
Petter, Dr W. Lane-, 4 Steppe Lemmings  
Phelps, G., 1 Water Rail  
Phillips, L. R., 2 Senegal Bush Babies  
Pithie, C., 1 Spider, *Brachypelma vagans*  
Plowman, Mrs J., 2 Mediterranean Chameleons  
Pomian, M., 1 Adder  
Powditch, R. J., 1 Egyptian Mongoose  
Powell, Miss E. M. H., 1 Ring-necked Parrakeet  
Praag, H. Van, 1 Perch  
Prestwich, A. A., 2 Green Imperial Pigeons, 2 Nutmeg Fruit Pigeons, 6 Auriculated or Violet-eared Doves, 1 White-fronted Bronze-winged Pigeon, 1 Lemon Dove  
Price, R., 1 Polecat  
Priestley, Mr and Mrs N. de B., and Strong, Mr and Mrs G., 1 Cheetah

- Prosser, Mrs E., 1 Paradise Whydah Bird, 1 Red-collared Whydah Bird, 1 Crimson-crowned Weaver, 2 Orange Weavers, 1 Napoleon Weaver, 1 Taha Weaver, 3 Red-billed Weavers, 3 Diamond Sparrows, 1 Combassou, 2 White-headed Mannikins, 3 Black-headed Mannikins, 1 Chestnut-breasted Finch, 2 Nutmeg Finches, 1 Star Finch, 3 Long-tailed Grass Finches, 1 Little Weaver, 1 Cuban Finch, 2 Olive Finches, 1 Green Singing Finch, 1 Saffron Finch, 2 Indigo Buntings, 2 Spengel's Parrotlets, 2 Cockatiels  
 Pudner, Miss J., 1 British Bullfinch  
 Pudney, J., 2 Reeves's Pheasants
- Qatar, H.H. Shaikh Ahmad bin Ali al Thani, Ruler of, 1 Arabian Oryx
- Randau, G., 1 Pucheran's Emerald Humming Bird, 1 Stripe-breasted Star-throated Humming Bird, 1 Ruby-and-Topaz Humming Bird  
 Reynolds, R. R., 1 Squirrel Monkey  
 Riley, A. E., 1 Indian Grey Mongoose  
 Ritchie, I., 3 Golden Hamsters  
 Rix, Mrs E., Stick Insects  
 Roberts, Mr and Mrs M., 1 Black-headed Conure  
 Robertson, Alan, 4 Great Field Rats  
 Rorke, Daniel W., Pupae of *Gonometa postica*  
 Rose, H. A., 1 Senegal Bush Baby  
 Rothschild, Kate and Nicholas de, 1 Mediterranean Chameleon  
 Roufelle, D., 2 Lavender Finches, 2 Painted Quail  
 Roulston, John R., 1 Grey Squirrel  
 Royal Army Service Corps, 20 Company, 1 Herald Snake  
 Royal Society for the Prevention of Cruelty to Animals, The, 1 Mink  
 Royall, J. M. C., 1 Greater Sulphur-crested Cockatoo  
 Russell, F/L. W. B., 3 Angwantibo  
 Rymkiewicz, Mrs J., 2 Golden Tench
- Scorgie, Captain D., 1 Red-footed Gannet, 1 Christmas Island Frigate Bird  
 Scott, D., 16 Goldfish  
 Searle, Dr K. C., C.M.Z.S., 1 Brown Stump-tailed Monkey, 1 Yellow Baboon, 1 Ruddy Mongoose, 2 Finlayson's Squirrels, 3 Bocourt Squirrels, 6 Sladen's Rats, 1 Chinese Blue Pie, 1 Javan Myna, 3 Rufous Laughing Thrushes, 1 Chinese Koel, 2 Javan Parrakeets, 1 Baikal Teal, 1 Chinese Pond Heron, 1 Yellow-necked or Black Bittern, 1 Chinese Ruddy Crane, 2 Red-crested Wood Quail, 1 Hamadryad
- Setton, R., 1 Starred Agama  
 Shanahan, Mrs L., Larvae of Great Owl Moth  
 Simmonds, J. W., 1 Geoffroy's Tamarin  
 Sinclair, A. E. W., 1 Long-necked Terrapin  
 Sinclair, R. L., 1 Egyptian Dabb Lizard, 1 Horned Cerastes Viper, 13 Scorpions (Buthidae), 1 Hunting spider (Sparassidae)  
 Smith, E. A., 2 Grey Seals  
 Smith, Dr M. R., 1 Lesser White-nosed Monkey  
 Smith, Miss P. Gordon-, 1 Mediterranean Chameleon  
 Smith, R., 6 Stag Beetles  
 Somali Republic, British Consulate General, 2 Leopard Tortoises  
 Spence, T., 1 Whooper Swan, 1 Picazuro Pigeon, 1 Olive Pigeon, 2 Pink-headed Doves, 1 Dwarf Turtle Dove, 1 Green Peafowl  
 Steinhart Aquarium, San Francisco, 2 Leopard Sharks, 1 Hornshark  
 Stirling, J., 1 Adder  
 Stopps, G., 2 Aylesbury Ducks  
 Story, J., 1 Serval  
 Summonds, L. A., 2 Grass Snakes  
 Surabaya Zoological Gardens, 2 Rothschild's Grackles, 2 Fairy Bluebirds
- Taylor, Miss D., 1 Eyed Lizard  
 Tree, Lady Anne, 1 Lanceolated Jay  
 Tribe, A. R., 3 Mice (not yet identified)  
 Tyler, Mrs D., 1 Slender Loris
- Ulla, M., 1 Nepal Hill Myna  
 Unite, T., 1 Spectacled Cayman
- Valloton, Madame Pierre-Rene, 2 Diamond Doves  
 Vary, M., 1 Common Tench
- Watkins, G. R., 1 Common Eel  
 Wells, M. J., 1 Bare-eyed Cockatoo  
 Wenham, Mrs W., 1 Greek Tortoise  
 Whimster, Dr I. W., 1 Nile Monitor, 2 Small-spotted Zonures, 1 Braided Tree Frog, 2 Spotted Tree Frogs, 8 Scorpions, *Hadogenes troglodytes*  
 Wignall, Miss S., 1 Pekin Robin, 1 Golden-fronted Fruitsucker  
 Wing, Miss D., 1 Pekin Robin  
 Wood, Warren C., 8 Coypus  
 Wren, Mrs E. K., 1 Greek Tortoise  
 Wright, Mrs E., 1 Fulvous Whistling Duck
- Yealland, J. J., 1 Dahlia Anemone

## WHIPSNADE PARK

Chipperfield, R., 1 Snapping Turtle  
Ferguson, W. C., 1 Lar Gibbon  
Hopkins, Miss A., 1 Muntjac  
Jackson, J., 1 Zebra Finch  
Manders, Mrs, 42 Budgerigars  
Perth Zoological Gardens Board, 6 Emus

Sackville, Mrs, 1 Ring-necked Parrakeet  
Senior, Martin, 5 Reeves's Pheasants, 5 Lady Amherst's  
Pheasants, 1 Swinhoe's Pheasant  
Taylor, Dr, 4 Black Swans  
Wright, Mr, 1 Red-eared Terrapin

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**

- 1 Orang-utan
- 1 Pig-tailed Monkey
- 1 Feline Douroucouli
- 1 Common Marmoset (1)
- 1 Pygmy Marmoset
- 2 Ring-tailed Lemurs
- 2 Spiny Tenrecs (2)
- 2 Malaysian Fruit Bats
- 2 Lions
- 5 Jungle Cats (5)
- 2 Pumas
- 1 Wolf (1)
- 2 Ring-tailed Coatis (2)
- 2 Syrian Bears
- 2 Californian Sea Lions
- 8 Great Field Rats
- 6 Steppe Lemmings
- 18 Coypus (5)
- 5 Orange-rumped Agoutis
- 1 American Bison

- 1 Big-horned Sheep
- 5 Mouflon
- 12 Barbary Wild Sheep (5)
- 5 Blackbuck
- 2 Beisa Oryx (2)
- 1 Hog Deer
- 1 Timor Deer
- 1 Llama
- 1 Bennett's Wallaby

**Aves**

- 3 Black-footed Penguins (2)
- 1 Gannet
- 2 Red-crested Pochard
- 2 Impeyan Pheasants (1)
- 7 Pallas's Eared Pheasants (2)
- 1 Sonnerat's Jungle Fowl
- 1 Ceylon Jungle Fowl
- 2 Elliot's Pheasants
- 3 Golden Pheasants
- 2 Lady Amherst's Pheasants

- 3 Common Peafowl (1)
- 3 North American Turkeys
- 2 Sarus Cranes (1)
- 3 Herring Gulls
- 4 Crested Pigeons
- 3 Cockatiels
- 3 Quaker Parrakeets
- 6 Fischer's Lovebirds
- 2 Rosy-faced Lovebird
- 3 Turquoise Parrakeets (1)
- 2 Spotted Eagle Owls
- 3 Great Eagle Owls
- 8 Zebra Finches
- 1 Malayan Glossy Starling

**Reptilia**

- 1 Northern Blue-tongued Skink (1)
- 3 Sganzin's Tree Boas (3)
- 4 Western Diamond-back Rattlesnakes (1)

WHIPSNADDE PARK

**Mammalia**

- 5 Rhesus Monkeys (1)
- 2 Lions
- 2 Pumas (2)
- 4 Husky Dogs
- 6 Timber Wolves
- 2 Polar Bears
- 6 Brown Bears
- 6 Prairie Marmots
- 1 Canadian Beaver
- 1 Crested Porcupine
- 3 Central American Agouti
- 5 Shetland Ponies
- 1 New Forest Pony
- 1 Pygmy Donkey
- 5 Ankole Cattle
- 5 Chartley Cattle
- 1 Dexter Cattle
- 1 Banteng Cattle
- 1 Yak
- 4 Mouflon
- 1 White-tailed Gnu (1)

- 4 White-bearded Gnus (1)
- 7 Thomson's Gazelles
- 2 Elands
- 5 Nilgai (1)
- 1 Cotton's × Reticulated Giraffe
- 2 Muntjac
- 11 Fallow Deer (2)
- 4 Fallow Deer (dark variety)
- 4 Spotted Deer (1)
- 4 Hog Deer
- 1 Swamp Deer
- 2 Sika Deer
- 9 Formosan Deer (2)
- 6 Red Deer (1)
- 4 Wapiti Deer (2)
- 3 Père David's Deer
- 3 White-tailed Deer (1)
- 2 Moose (1)
- 1 Reindeer
- 55 Chinese Water Deer (2)
- 4 Camels
- 4 Llamas

- 3 Guanacos
- 22 Viet Nam Pot-bellied Pigs
- 4 Collared Peccaries
- 2 Hippopotamuses
- 72 Bennett's Wallabies

**Aves**

- 3 Common Rheas
- 1 Common Rhea (white variety)
- 4 Black-necked Swans
- 1 Barnacle Goose
- 7 Upland Geese (1)
- 3 South African Shelducks
- 8 Mandarin Ducks
- 6 Carolina Ducks
- 4 Impeyan Pheasants
- 22 Chinese Silver Pheasants
- 31 Golden Pheasants
- 8 Lady Amherst's Pheasants
- 57 Common Peafowl (7)
- 82 North American Turkeys (3)
- 1 Demoiselle Crane (1)
- 1 Masked Lovebird

APPENDIX 7

*List of Animals Received*

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

REGENT'S PARK

<b>Mammalia</b>	1 Golden Cat	1 Canadian Porcupine
<i>Order Primates</i>	1 Cheetah	26 Coypus
1 Chimpanzee	1 Two-spotted Palm Civet	5 Orange-rumped Agoutis
1 Orang-utan	1 Egyptian Mongoose	8 Green Acouchis
15 Lar Gibbons	2 Indian Grey Mongooses	<i>Order Artiodactyla</i>
1 Lesser White-nosed Monkey	1 Ruddy Mongoose	1 Banteng
1 Talapoin Monkey	1 Kusimanse	1 American Bison
1 Pig-tailed Monkey	1 Wolf	1 Cape Buffalo
1 Brown Stumped-tailed Monkey	2 Cape Hunting Dogs	1 Big-horned Sheep
3 Gelada Baboons	1 Cape Clawless Otter	5 Mouflon
1 Yellow Baboon	1 Weasel	12 Barbary Wild Sheep
1 Mandrill	1 Mink	19 Blackbuck
1 Feline Douroucoulis	2 Polecat-ferrets	2 Beisa Oryx
4 Red-faced Uakari Monkeys	8 Raccoons	1 Arabian Oryx
2 Squirrel Monkeys	2 Ring-tailed Coatis	1 Hog Deer
1 White-throated Capuchin	2 Syrian Bears	1 Timor Deer
1 White-fronted Capuchin	1 Asiatic Black Bear	3 Reindeer
1 Brown Capuchin	<i>Order Pinnipedia</i>	1 Llama
2 Common Marmosets	2 Californian Sea Lions	1 Wild Boar
3 Pygmy Marmosets	2 Grey Seals	<i>Order Edentata</i>
4 Silvery Marmosets	<i>Order Rodentia</i>	1 Malayan Pangolin
1 Geoffroy's Tamarin	1 Southern Flying Squirrel	4 Seven-banded Armadillos
4 Ring-tailed Lemurs	1 Red Squirrel	2 Nine-banded Armadillos
1 Slender Loris	2 Grey Squirrels (one albino)	<i>Order Marsupialia</i>
1 Potto	2 Finlayson's Squirrels	1 Bennett's Wallaby
4 Angwantibo	3 Bocourt Squirrels	2 Tasmanian Devils
4 Senegal Bush Babies	2 West African Ground Squirrels	2 Spotted Dasyures
4 Malay Tupaias	5 Prairie Marmots	<i>Domestic</i>
<i>Order Insectivora</i>	1 Cameroons Bushy-tailed Dormouse	5 Husky Dogs
8 European Hedgehogs	6 Sladen's Rats	6 Golden Hamsters
2 Zambesi Lesser Red Musk Shrews	3 Mice (sp. inc.)	1 Guernsey Calf
2 White-toothed Shrews	12 Great Field Rats	2 Somali Black-headed Fat-tailed Sheep
2 Spiny Tenrecs	2 Bush Rats	3 Domestic Sheep (four-horned)
<i>Order Chiroptera</i>	4 Spiny Mice (sp. inc.)	22 Goats
3 Büttikofer's Epauletted Fruit Bats	2 Field Mice	3 Pigs
2 Malaysian Fruit Bats	2 Heermann's Kangaroo Rats	3 Viet Nam Pot-bellied Pigs
<i>Order Carnivora</i>	1 Merriam's Kangaroo Rat	<i>Aves</i>
4 Lions	1 Desert Kangaroo Rat	<i>Order Struthioniformes</i>
2 Tigers	4 Gambian Pouched Rats	2 South African Ostriches
5 Jungle Cats	1 Brush-furred Mouse	<i>Order Sphenisciformes</i>
2 Caracal Lynx	2 Jirds (sp. inc.)	3 Black-footed Penguins
4 Pumas	10 Steppe Lemmings	8 Humboldt's Penguins
3 Servals	3 Short-tailed Voles	
	1 Indian Porcupine	
	1 African Brush-tailed Porcupine	

*Order Pelecaniformes*

- 1 Red-footed Gannet
- 1 Gannet
- 1 Christmas Island Frigate Bird

*Order Ciconiiformes*

- 2 Little Blue Herons
- 2 Squacco Herons
- 1 Chinese Pond Heron
- 2 African Cattle Egrets
- 2 Black-crowned Night Herons
- 1 Yellow-necked or Black Bittern
- 3 Boatbills
- 2 Hammerkops
- 2 Spoonbills
- 8 Chilian Flamingos
- 8 Lesser Flamingos

*Order Anseriformes*

- 3 Javan Whistling Ducks
- 2 Fulvous Whistling Ducks
- 1 Whooper Swan
- 2 Hawaiian Geese
- 1 Yellow-billed Duck
- 2 Chilean Teal
- 1 Baikal Teal
- 2 Bahama Pintails
- 2 Red-billed Ducks
- 2 Cinnamon Teal
- 1 Chestnut-breasted Teal
- 2 Red-crested Pochard
- 2 New Zealand Scaup

*Order Galliformes*

- 2 Scaled Quail
- 6 Californian Quail
- 1 Bob-white Quail
- 4 Erckel's Francolins
- 2 Painted Quail
- 2 Red-crested Wood Quail
- 2 Painted Spur-Fowl
- 3 Impeyan Pheasants
- 7 Pallas's Eared Pheasants
- 1 Swinhoe's Pheasant
- 1 Sonnerat's Jungle Fowl
- 1 Ceylon Jungle Fowl
- 3 Scintillating Copper Pheasants
- 2 Reeves's Pheasants
- 2 Elliot's Pheasants
- 5 Golden Pheasants
- 2 Lady Amherst's Pheasants
- 1 Bronze-tailed Peacock Pheasant
- 3 Common Peafowl
- 1 Green Peafowl
- 6 North American Turkeys

*Order Gruiformes*

- 2 Sarus Cranes
- 2 Water Rails
- 1 Chinese Ruddy Crake
- 1 Cariama
- 3 Kori Bustards

*Order Charadriiformes*

- 2 Oyster-catchers
- 1 Lapwing
- 2 Grey Plovers
- 4 Golden Plovers
- 2 Curlews
- 4 Dunlins
- 2 Ruffs
- 2 Avocets
- 1 Common Gull
- 3 Herring Gulls
- 6 Inca Terns

*Order Columbiformes*

- 2 Green Imperial Pigeons
- 2 Nutmeg Fruit Pigeons
- 1 Picazuro Pigeon
- 1 Olive Pigeon
- 6 Auriculated or Violet-eared Doves
- 2 Galapagos Doves
- 2 Pink-headed Doves
- 4 Barbary Turtle Doves (white variety)
- 1 Dwarf Turtle Dove
- 2 Barred Ground Doves
- 2 Diamond Doves
- 2 Scaly Ground Doves
- 1 White-fronted Bronze-winged Pigeon
- 4 Crested Pigeons
- 3 Lemon Doves
- 1 Jobi Island Dove

*Order Psittaciformes*

- 1 Greater Sulphur-crested Cockatoo
- 1 Blue-eyed Cockatoo
- 1 Bare-eyed Cockatoo
- 5 Cockatiels
- 8 Yellow-headed Conures
- 1 Black-headed Conure
- 7 Quaker Parrakeets
- 2 Spengel's Parrotlets
- 1 White-winged Parrakeet
- 1 Diademed Parrot
- 1 Imperial Parrot
- 1 Great-billed Parrakeet
- 1 Ring-necked Parrakeet

- 2 Javan Parrakeets
- 6 Fischer's Lovebirds
- 13 Rosy-faced Lovebirds
- 3 Turquoise Parrakeets
- 52 Budgerigars

*Order Cuculiformes*

- 1 Chinese Koel

*Order Strigiformes*

- 2 Spotted Eagle Owls
- 3 Great Eagle Owls
- 1 Short-eared Owl

*Order Apodiformes*

- 3 Ruby-and-Topaz Humming Birds
- 1 Blue-breasted Humming Bird
- 6 Pucheran's Emerald Humming Birds
- 1 Stripe-breasted Star-throated Humming Bird

*Order Coraciiformes*

- 1 Blue-breasted Kingfisher
- 4 Rollers

*Order Piciformes*

- 2 Toucan Barbets
- 1 Lettered Aracari
- 1 Flame-crowned Woodpecker
- 1 Hodgson's Golden-backed Woodpecker

*Order Passeriformes*

- 8 Red-vented Bulbuls
- 2 Golden-fronted Fruitsuckers
- 2 Fairy Bluebirds
- 1 Olive Thrush
- 1 Orange-headed Ground Thrush
- 1 Black-eared Wheatear
- 2 Black Redstarts
- 3 Rufous Laughing Thrushes
- 2 Pekin Robins
- 1 Chestnut-bellied Nuthatch
- 1 Malachite Sunbird
- 1 Wedge-tailed Sunbird
- 2 Himalayan Yellow-backed Sunbirds
- 1 Virginian Cardinal
- 1 Red-crested Cardinal
- 1 Saffron Finch
- 1 Nonpareil Bunting
- 2 Indigo Buntings
- 2 Crimson Finches
- 2 Olive Finches



1 Cuban Finch  
 1 Yellow-rumped Tanager  
 2 Black Tanagers  
 1 Schrank's Tanager  
 1 Blue-rumped Tanager  
 1 Black-eared Tanager  
 4 Caribbean Bananaquits  
 4 Blue Honey Creepers  
 2 Isthmian Honey Creepers  
 2 Montezuma Oropendolas  
 1 Baltimore Oriole  
 1 Brazilian Hangnest  
 1 Military Starling  
 1 British Bullfinch  
 1 Pine Siskin  
 1 Goldfinch  
 1 Green Singing Finch  
 4 Diamond Sparrows  
 1 Bicheno's Finch  
 1 Star Finch  
 3 Long-tailed Grass Finches  
 1 Gouldian Finch (Black-headed)  
 8 Zebra Finches  
 2 Lavender Finches  
 1 Avadavat  
 2 White-headed Mannikins  
 3 Black-headed Mannikins  
 1 Chestnut-breasted Finch  
 2 Nutmeg Finches  
 2 Java Sparrows  
 1 Buffalo Weaver  
 1 Rufous-necked Weaver  
 1 Little Weaver  
 1 Crimson-crowned Weaver  
 2 Orange Weavers  
 1 Napoleon Weaver  
 1 Taha Weaver  
 3 Red-billed Weavers  
 1 Combassou  
 1 Pin-tailed Whydah Bird  
 1 Paradise Whydah Bird  
 1 Red-collared Whydah Bird  
 1 Malayan Glossy Starling  
 2 Rothschild's Grackles  
 2 Nepal Hill Mynas  
 1 Javan Myna  
 1 Lanceolated Jay  
 1 Chinese Blue Pie

## Reptilia

### *Order Testudines*

2 Elegant Terrapins  
 1 European Pond Tortoise  
 1 Bell's Hinged Tortoise  
 11 Greek Tortoises  
 1 Hermann's Tortoise  
 2 Starred Tortoises  
 2 Leopard Tortoises  
 1 Long-necked Terrapin  
 1 Nile Soft-shelled Turtle

### *Order Crocodylia*

3 Nile Crocodiles  
 5 Spectacled Cayman

### *Order Sauria*

1 Carolina Anolis Lizard  
 2 Iguanas  
 1 Starred Agama  
 1 Lesueur's Water Lizard  
 1 Egyptian Dabb Lizard  
 4 Bell's Dabb Lizards  
 1 General Hardwicke's Dabb Lizard  
 15 Mediterranean Chameleons  
 1 Graceful Chameleon  
 11 Flap-necked Chameleons  
 1 Two-banded Chameleon  
 7 Fischer's Chameleons  
 3 Pygmy Chameleons  
 3 Meller's Chameleons  
 1 Northern Blue-tongued Skink  
 1 American Five-lined Skink  
 1 Green Lizard  
 2 Eyed Lizards  
 4 Wall Lizards  
 6 Grey Amphisbaenas  
 6 Bengal Monitors  
 2 Nile Monitors  
 4 Mexican Beaded Lizards  
 2 Alligator Lizards  
 7 Pallas's Glass Snakes  
 1 American Glass Snake  
 3 Lord Derby's Girdled Lizards  
 2 Small-spotted Zonures

### *Order Serpentes*

1 Diamond Python  
 4 African Pythons

3 Sganzin's Tree Boas  
 1 Boa Constrictor  
 3 John's Sand Boas  
 17 Grass Snakes  
 2 Florida Green Water Snakes  
 1 Hallowell's Rhomb Snake  
 3 Florida Water Snakes  
 1 Ribbon Snake  
 1 Patch-nosed Snake  
 1 Corn Snake  
 3 Leopard Snakes  
 2 Four-lined Snakes  
 1 Chicken Snake  
 1 Black Rat Snake  
 1 Texas Chicken Snake  
 2 Four-lined Chicken Snakes  
 7 Aesculapian Snakes  
 4 Ladder Snakes  
 1 Dark Green Snake  
 1 Hog-nosed Snake  
 2 Southern Smooth Snakes  
 1 Boyle's King Snake  
 3 Cat Snakes  
 1 Herald Snake  
 1 Hamadryad  
 2 Common Green Mambas  
 32 Adders  
 2 Nose-horned Vipers  
 1 Horned Cerastes Viper  
 3 Cottonmouth Moccasins  
 3 Copperheads  
 1 Pygmy Rattlesnake  
 7 Western Diamond-back Rattlesnakes

## Amphibia

### *Order Caudata*

3 Marbled Newts  
 9 European Spotted Salamanders

### *Order Salientia*

7 Surinam Toads  
 3 Malayan Giant Toads  
 1 Cuban Tree Frog  
 2 South American Bull Frogs  
 1 Southern Leopard Frog  
 2 Braided Tree Frogs  
 2 Spotted Tree Frogs  
 1 Orange-banded Wood Toad  
 2 Narrow-mouthed Toads

## WHIPSNADE PARK

### Mammalia

#### *Order Primates*

- 5 Lar Gibbons
- 5 Rhesus Monkeys

#### *Order Carnivora*

- 2 Lions
- 2 Pumas
- 2 Striped Hyaenas
- 6 Timber Wolves
- 2 Indian Otters
- 6 Tree Pandas
- 2 Polar Bears
- 6 Brown Bears

#### *Order Rodentia*

- 6 Prairie Marmots
- 1 Canadian Beaver
- 1 Crested Porcupine
- 2 Spotted Paca
- 3 Central American Agouti

#### *Order Perissodactyla*

- 1 Common Zebra
- 2 Malayan Tapirs

#### *Order Artiodactyla*

- 1 Banteng
- 1 Yak
- 1 White-tailed Gnu
- 5 White-bearded Gnu
- 4 Mouflon
- 7 Thomson's Gazelles
- 7 Elands
- 5 Nilgai
- 1 Cotton's × Reticulated Giraffe
- 4 Muntjac
- 11 Fallow Deer
- 4 Fallow Deer (Dark Variety)
- 4 Axis Deer
- 4 Hog Deer
- 1 Swamp Deer

- 2 Sika Deer
- 9 Formosan Deer
- 16 Red Deer
- 4 Wapiti Deer
- 10 Père David's Deer
- 3 White-tailed Deer
- 2 Moose
- 1 Reindeer
- 55 Chinese Water Deer
- 4 Camels
- 4 Llamas
- 3 Guanacos
- 4 Collared Peccaries
- 2 Hippopotamuses

#### *Order Marsupialia*

- 72 Bennett's Wallabies

#### *Domestic*

- 4 Husky Dogs
- 5 Shetland Ponies
- 1 New Forest Pony
- 2 Cream Ponies
- 2 Pygmy Donkeys
- 5 Ankole
- 6 Chartley
- 1 Dexter
- 1 Manx-Loghtan Sheep
- 22 Viet Nam Pot-bellied Pigs

#### *Aves*

##### *Rheiformes*

- 10 Common Rheas
- 1 Common Rhea (white variety)

##### *Casuariiformes*

- 6 Emus

##### *Sphenisciformes*

- 1 Black-footed Penguin

##### *Ciconiiformes*

- 13 African Cattle Egrets

##### *Falconiformes*

- 2 Secretary Birds

##### *Anseriformes*

- 4 Black Swans
- 4 Black-necked Swans
- 6 Blue Snow Geese
- 1 Barnacle Goose
- 7 Upland Geese
- 13 South African Shelducks
- 8 Mandarin Ducks
- 6 Carolina Ducks

##### *Galliformes*

- 4 Impeyan Pheasants
- 22 Chinese Silver Pheasants
- 1 Swinhoe's Pheasant
- 5 Reeves's Pheasants
- 31 Golden Pheasants
- 13 Lady Amherst's Pheasants
- 59 Common Peafowl
- 7 Vulturine Guinea-fowl
- 82 North American Turkeys

##### *Gruiformes*

- 1 Demoiselle Crane
- 3 Stanley Cranes
- 4 Grey-necked Crowned Cranes

##### *Psittaciformes*

- 1 Ring-necked Parrakeet
- 1 Masked Lovebird

##### *Passeriformes*

- 1 Zebra Finch

## APPENDIX 8

*Donations to Zoological Record*

received during 1961

	£	s	d
American Entomological Society	8	16	10
American Museum of Natural History	178	14	11
American Society of Ichthyologists and Herpetologists	75	2	10
American Society of Mammalogists	35	9	3
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, for Vol. 95	3	10	2
Brooklyn Entomological Society, for Vol. 96	3	9	11
Californian Academy of Sciences, for Vol. 94	9	17	10
Californian Academy of Sciences, for Vol. 95	9	17	9
Challenger Society	5	5	0
Chicago Natural History Museum	17	12	1
Conchological Society of Great Britain and Ireland	2	0	0
Duke University, Department of Zoology	17	14	4
Entomological Society of Alberta	3	7	1
Entomological Society of America	70	15	11
Entomological Society of Canada	33	14	4
Entomological Society of Manitoba	3	10	3
Geological Society of London	15	0	0
Harvard University	88	10	7
Hawaiian Entomological Society	17	12	1
International Council of Scientific Unions	535	14	3
Kennicott Club of Chicago	8	16	9
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
Marine Biological Association of the United Kingdom	5	10	0
Michigan, University of	35	6	9
Naples Zoological Station	10	0	0
New York Zoological Society	35	8	7
Royal Entomological Society	25	0	0
Royal Society of New Zealand	25	0	0
Royal Society of Tropical Medicine and Hygiene	5	5	0
Smithsonian Institution	35	7	4
Transvaal Museum, for Vol. 96	5	5	0
Transvaal Museum, for Vol. 97	5	5	0
Wellcome Laboratories of Tropical Medicine	17	10	0
Witwatersrand, University of the	2	0	0
Zoological Survey of India	5	0	0
Total	1,981	2	10

## APPENDIX 9

*Books Presented to the Library**Donor*

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 COMMONWEALTH INSTITUTE OF ENTOMOLOGY  
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 FAUNA PRESERVATION SOCIETY
- Biologia și principiile culturii vînatului. By A. M. Comșia. 1961  
 Păsările în nomenclatura și viața Poporului Român. By Mihai C. Băcescu. 1961  
 Living free. By Joy Adamson. 1961  
 Mammals of Northern Rhodesia. By W. F. H. Ansell. 1960  
 The cougar or mountain lion. By Claude T. Barnes. 1960  
 Libro homenaje al Dr Eduardo Caballero y Caballero. 1960  
 Modern methods of feeding wild animals in zoological gardens. By Hans Wackernagel. 1961  
 Talking birds. By Maxwell Knight. 1961  
 Temas forestales 1946-1960. By Enrique Beltran. 1961  
 The marine fishes of Rhode Island. By B. L. Gordon. 1960  
 Bulletin of the British Museum (Natural History)  
 Entomology. Vol. 9 Index. Vol. 10, nos. 3-10, Vol. 11, no. 1  
 Geology. Vol. 4 Index. Vol. 4, no. 10, Vol. 5, nos. 1-6  
 Zoology. Vol. 7, nos. 3-8  
 Culicine mosquitoes of the Indomalayan area. Part v. 1961  
 Francis Walker's aphids. By John P. Doncaster. 1961  
 The Lower Tertiary floras of Southern England. By M. E. J. Chandler. 1961  
 A study of the Aphididae (Homoptera) of West Africa. By V. F. Eastop. 1961  
 A survey of the dragonflies of Eastern Africa. By E. C. G. Pinhey. 1961  
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 West African snakes. By G. S. Cansdale. 1961  
 Vida de la tierra. By Richard Carrington. 1960  
 On the variability of the Tetraoninae. By A. E. Coates. (Portfolio of photographs and coloured plates)  
 Miscellaneous publications of the Entomological Society of America. Volume 1, 1959-60  
 Plague in Southern Africa. Volume 1. By Botha de Meillon, David H. S. Davis and Felicity Hardy. 1961  
 Animals my adventure. By Lutz Heck. 1954  
 Grundriss der allgemeinen Zoologie. By Alfred Kühn. 1959  
 Bioelectrogenesis. By Carlos Chagas and Antonio Paes de Carvalho. 1961  
 Soil biology, with special reference to the animal kingdom. By Wilhelm Kühnelt. 1961  
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Evolution and animal life. By D. S. Jordan and V. L. Kellogg 1908  
A handbook to the game-birds. Vol. II. By W. R. Ogilvie-Grant. 1897  
The natural history of birds, beasts, fishes, serpents, insects, etc. By W. Tiler. 1847  
A complete guide to the fishes of Malta. By Guido G. Lanfranco. 1958  
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Instinctive behaviour. Edited by Claire H. Schiller. 1957  
Land invertebrates: a guide to British worms, molluscs and arthropods (excluding insects). By J. L. Cloudsley-Thompson and John Sankey. 1961  
The mites of stored food. By A. M. Hughes. 1961  
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Musée d'Histoire naturelle Gr. Antipa 1831-1961  
The birds of the British Isles. Vols. 8 and 9. By D. A. Bannerman. 1961  
Principles of animal taxonomy. By George Gaylord Simpson. 1961  
Wild life in an African territory. By F. Fraser Darling. 1960  
Badania nad polimorfizmem Krasnika Zmiennego. By Antoni Dryja

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- Studie over de achromatische gezichtsfuncties in de congenitale  
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- The tercentenary celebrations of the Royal Society of London.  
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- A handbook of the dragonflies of Australasia. By F. C. Fraser.  
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- Hong Kong butterflies. By J. C. S. Marsh. 1960
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Sterman. 1961
- Zoology. Third edition. By A. M. Winchester and Harvey B.  
Lovell. 1961
- The Pan book of the home aquarium. By John S. Vinden. 1961
- Ecologisch faunistische studie van de raderdiertjes van de  
Camargue. By M. Ridder
- Insect sounds. By P. T. Haskell. 1961
- Pedigree book of the Przewalski horse. By Jiri Volf. 1960 and 1961

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