



THE ZOOLOGICAL SOCIETY OF LONDON

# ANNUAL REPORT

1963



## 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 new Charter was granted to the Society in January 1963.

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 1963

*The Council has pleasure in presenting  
its one hundred and thirty-fifth Annual Report  
to the Annual General Meeting of the Society  
to be held on Monday 4th May 1964  
at 4.0 p.m. in the Society's Offices  
at Regent's Park*

*Patron*

HER MAJESTY THE QUEEN

*Council 1963-1964*

*President:* H.R.H. The Prince Philip, Duke of Edinburgh, K.G., K.T.

*Treasurer:* Terence C. S. Morrison-Scott, D.S.C., D.Sc.

*Secretary:* Professor Sir Solly Zuckerman, K.C.B., D.Sc., F.R.S.

Professor M. Abercrombie, F.R.S.

Professor E. C. Amoroso, F.R.C.S., F.R.S., *Vice-President*

Professor E. J. W. Barrington, D.Sc.

E. Michael Behrens

A. H. T. Chisholm, C.B.E., M.A., *Vice-President*

Sir Arthur Duncan

Sir James Duncan, Bt., M.P.

Francis C. Fraser, C.B.E., D.Sc.

S. Wilson Kitchen

Professor C. F. A. Pantin, F.R.S.

Michael W. Perrin, C.B.E., F.R.I.C.

Professor R. J. Pumphrey, Sc.D., F.R.S.

Air Vice-Marshal G. Silyn Roberts, C.B., C.B.E., A.F.C., M.Sc., *Vice-President*

Sir Landsborough Thomson, C.B., O.B.E., D.Sc., LL.D., *Vice-President*

W. H. Thorpe, Sc.D., F.R.S., *Vice-President*

The Most Hon. The Marquess of Willingdon

G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., *Vice-President*

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



# CONTENTS

---

## *Report of the Council*

Membership	7
Finance	9
Zoological Gardens, Regent's Park	10
Whipsnade Park	15
Scientific activities	17
Research	24
Educational activities	27
Staff	29
Acknowledgments	31

## *Appendices*

1. Committees
  2. Staff
  3. Publications by Society's Staff and Research Workers
  4. List of genera, species and subspecies new to the Collection
  5. Donors of animals
  6. List of animals born in the Society's Collection
  7. List of animals received
  8. Donations to Zoological Record
  9. Books presented to the Library
- Meetings during 1964

## *Financial Accounts, with Auditor's Report*

IN THE POCKET ON BACK COVER



## THE MEMBERSHIP

As recorded in the Report presented to the Annual General Meeting in May 1963, Her Majesty The Queen had graciously granted to the Society a new Charter, which had become effective on the 15th January. A copy of the new Charter, and the Byelaws scheduled to it, were circulated to all members. The Regulations made by the Council under the authority of the Charter were also circulated.

### *Officers and Council*

H.R.H. The Duke of Edinburgh again accepted the Presidency at the Annual General Meeting which was held on Thursday, 16th May. Dr T. C. S. Morrison-Scott was re-elected Treasurer and Professor Sir Solly Zuckerman was re-elected Secretary. In accordance with the terms of the Charter the President holds office for a period of five years, and the Treasurer and Secretary for seven.

The following members of the Council retired:

Professor F. W. Rogers Brambell  
 The Earl of Cranbrook  
 Mr Maxwell Knight  
 Dr Errol I. White  
 The Earl of Mansfield

The Fellows elected to fill these vacancies were:

Professor M. Abercrombie  
 Sir Arthur Duncan  
 Dr Francis C. Fraser  
 Professor C. F. A. Pantin  
 Mr Michael W. Perrin

### *Roll of Members*

At the end of the year there were 3,526 Fellows and 1,448 Associates.

In December the Council awarded the Society's Gold Medal to Mr Jack Cotton in recognition of his outstanding contributions to the rebuilding of the Gardens, Regent's Park. In 1960 Mr Cotton gave to the Society £250,000 to be spent on the redevelopment of the Canal Bank area. This was completed in 1963 and the area, which has been named The Cotton Terraces, was opened on May 16th by the



President. In last year's Report the Council recorded that an anonymous gift of £50,000 had been received towards the cost of the Northern Aviary and the donor has now been revealed as Mr Cotton. His total gift of £300,000 is the largest sum ever received by the Society from a benefactor.

Sir Edward Hallstrom, Director of the Taronga Zoological Park Trust, Australia, was admitted as an Honorary Fellow. Sir Edward has helped the Society over a long period and has presented many collections, including the representative collection of Australian fauna which the Society received this year in commemoration of the visit of H.M. The Queen and H.R.H. The Duke of Edinburgh to Australia in 1963.

### *Obituary*

The Council records with deep regret the deaths during the year of Viscount Alanbrooke, Mr John Spedan Lewis, Mr David Seth-Smith, Dr Annie Porter, and Professor Dr Reinhard Dohrn.

Viscount Alanbrooke was a member of the Council from 1949 to 1954, and President of the Society from 1950 to 1954. He was admitted an Honorary Fellow in 1958.

Mr John Spedan Lewis was a valued member of the Society for many years, serving as a member of the Council for eleven years, and was Vice-President from 1930 to 1940.

Mr David Seth-Smith was a member of the Council from 1906 to 1909, and in 1908 was awarded the Society's Silver Medal for his work in establishing a collection of Australian fauna in the Gardens. He was Curator of Birds from 1909 to 1923, and Curator of Mammals and Birds from 1923 to 1939.

Dr Annie Porter (Mrs H. G. Fantham) was the Society's Honorary Parasitologist from 1938, and was awarded the Society's Silver Medal in 1952 in recognition of her long and valuable services to the Society.

Dr Reinhard Dohrn, Director of the Zoological Station at Naples, was a Corresponding Member of the Society from 1910 to 1946, when he was admitted to the Foreign Fellowship.



## FINANCE

### *Review of the year*

As will be seen from the audited accounts, enclosed with this Report, the Revenue Account for 1963 again shows a small deficit.

Although, at 1,778,000, public attendances at the London Zoo made a satisfactory recovery from the very low level of 1962, when visitors numbered only 1,640,000, the 1963 figure was still some 65,000 below the average of the last seven years. Moreover, this recovery did not extend to Whipsnade where attendances, at 616,000, were below even the 1962 level. It is difficult to determine the extent to which these fluctuations can be attributed to any one particular factor, but Whipsnade Park is undoubtedly more sensitive to weather conditions than the London Zoo – and 1963 was notable for the very bad weather which prevailed in the spring and early summer and for the high proportion of wet weekends.

Since the Society must rely on substantial annual surpluses, and since the bulk of income must still come from the public, the Council has commissioned a firm of consultants to report on the Society's revenue-earning activities and to suggest ways by which they can be improved. In the meantime steps have been taken to examine the operation of the Zoo Shops at London and Whipsnade, and in this connection the Council is most grateful for the advice and assistance received from Messrs Marks & Spencer Ltd.

### *Capital expenditure*

Rebuilding operations continued at high pressure during the year, and accounted for an expenditure of some £400,000. The cost of building new animal houses was met partly from Mr Jack Cotton's gift and partly by borrowing. The instalments due on the two Research Institutes were provided mainly out of the grants from the Nuffield Foundation and the Wellcome Trust which have been reported previously.

### *Rebuilding Fund donations*

The Council gratefully acknowledges the contributions to the Rebuilding Fund, including £100 from the Hon. Lady Baillie, £1,000 from the late Mrs Mariska Joicey and £200 from the late Mrs J. R. Pressley.



ZOOLOGICAL GARDENS  
REGENT'S PARK*The Collection*

**Mammal section** In furtherance of its policy that zoos should, wherever possible, take positive action to ensure the survival of endangered species, the Council sent the female Arabian Oryx, which had been in the collection since 1958, on loan to Phoenix Zoo, Arizona, where a breeding herd of captive Arabian Oryxes was being established. This herd consists of two adult male and three adult female oryxes, two males and one female having been captured by the expedition sent to the Aden Protectorate by the Fauna Preservation Society, and another female presented by H. E. Sheikh Jabir Abdullah Al Sabah of Kuwait. The first offspring, a male, was born at Phoenix Zoo in October.

The opening of the Cotton Terraces made it possible to exhibit, for the first time in many years, breeding groups or pairs of several kinds of medium sized and large ungulates. To stock these new buildings groups of animals were brought from Whipsnade Park and a special collection was imported from Africa. These included groups of deer, antelopes, zebra and wild cattle. A collection of Alpacas was obtained direct from South America for the new Camel House and some Arabian Camels will shortly join them to complete the collection of camels and llamas. The animals are settling down well in their new quarters.

There have been several rare births during the year. From the point of view of conservation, probably the most important birth was that of a second Orang-utan to our breeding pair, 'Toli' and 'Charlie'. This young male is being successfully reared by its mother, while its elder sister (born in 1961) continues to thrive with a chimpanzee as a companion.

The Lion House had a successful year. Three Tigers, five Pumas and a Jaguar – the first for many years – were bred. Other rare births include a Hartmann's Mountain Zebra, two Grey Seals (the first ever bred at London Zoo) and a litter of Badger cubs.

A female Mongolian Wild Horse was obtained as a mate for the Whipsnade-born male exhibited in the Cotton Terraces.

Interesting species new to the Collection were the three Goodfellow's Tree Kangaroos and the three Fat-tailed Sminthopsis, which were part of the Australian Collection referred to on page 15, and listed in full in Appendix 5.



**Bird section** The breeding of an Erckel's Francolin for the first time in the Gardens, and a Barn Owl, the first to be bred since 1905, are of interest. A second Cattle Egret and two Greenland White-fronted Geese have also been bred.

Amongst the species received during the year there were sixteen forms which were new to the Collection.

**Aquarium** A number of tanks in all three halls have been completely overhauled and re-decorated to improve the display. In the Tropical Hall the outstanding exhibit is the specimen of Arapaima, *Arapaima gigas*, a fish from the fresh waters of tropical South America, which grows to a length of 12 feet and is therefore the largest freshwater fish in the world. The Aquarium specimen arrived in June 1962 and was exhibited early in 1963; it has approximately doubled its weight during its eighteen months at Regent's Park.

The large and newly renovated tank at the far end of the Tropical Hall is now being used to house a shoal of some 800 Mouthbreeder Cichlids, Grass Carp, Tawes and Silver Carp. These fish are of great importance in the tropics, where they are reared in ponds to provide much needed protein in under-developed areas.

Nineteen per cent of all the visitors to the Zoo also visited the Aquarium - 347,000.

**Children's Zoo** During 1963 the upper section of the stables in Children's Zoo was completely remodelled as a small pilot experiment for the nocturnal section of the new Small Mammal House. Here small nocturnal mammals are being kept under various lighting conditions in an attempt to find out the best way of reversing their daily rhythm. The tests have already proved successful and when they are completed the building will be opened as a temporary display pending the completion of the new Small Mammal House. Animals housed there include Bushbabies, Lorises, Pottos, Douroucoulis, Mouse Lemurs and Giant Flying Squirrels.

*Animals of all kinds (except fish and invertebrates) at Regent's Park*

On 1st January 1963	2,652
Received in 1963 by presentation, exchange, deposit and purchase, and transfer from Whipsnade	764
Born in the Menagerie during 1963	182
	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/>
	3,598
Died, sold, sent in exchange or returned to depositors, and transferred to Whipsnade during 1963	1,284
	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/>
In the Gardens on 31st December 1963	2,314
	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/>



### *Flower gardens*

Owing to the severe winter the spring bedding displays were not of their usual very high standard, but during the summer the flower gardens were again very much admired by visitors: the dahlias, in particular, were a great attraction.

Many thousands of violas and Mayflowering tulips have been planted for the 1964 season, and a new border of shrub roses is being made north of the Pelican enclosure.

The Council records its deep regret at the death of Mr R. J. Lewis, who had so generously helped the Society's Gardening Department over many years.

The Society is again grateful to Sir George Taylor, Director of the Royal Botanic Gardens, Kew, for his generous gifts of plants and seeds.

### *Catering*

The modernization of the Regent Cafeteria, which was started in 1962, was completed during the spring. It was opened at Easter and has been much patronized and greatly appreciated by visitors.

The banqueting services of Zoo Restaurants Limited have been in great demand and the Company has extended its activities, the number of functions undertaken being considerably increased.

A pilot scheme to provide special facilities for people who are physically handicapped, and for youth groups, was started towards the end of 1962. Under this scheme members of organizations for the physically handicapped and for young people can obtain, during the autumn and winter periods, tickets at special rates which provide admission to the Gardens as well as a meal. The pilot scheme was reasonably successful and the arrangements have therefore been continued during this winter.

### *First-Aid services*

An essential but often unacknowledged service in the Gardens is the First-Aid Post, staffed by one permanent and two part-time nurses. During 1963 they attended over 3,800 cases, but fortunately the large majority were minor injuries, such as bites and trivial accidents.

The staff of the First-Aid Post also look after the large number of children in the Gardens who become separated from their families and friends, and are 'lost' and very miserable.

Alongside the first-aid rooms facilities are provided for mothers to feed and attend to their babies – a service which is much appreciated by visitors.



## REDEVELOPMENT PLAN

Five years have now elapsed since the Council first asked Sir Hugh Casson to submit his long-term plan for the redevelopment of the London Zoo. The degree to which this has already been achieved can be seen from the diagram between pages 18 and 19, which is reproduced from the model on view in the 'New Zoo' Exhibition Room. The diagram shows that a significant part of the Gardens has now been rebuilt. It also shows that a large number of buildings have still to be replaced. Although the Council has no firm plans beyond those works already in progress (the Elephant Pavilion) and those planned in detail (the Small Mammal House), it hopes to be able to start on a new Ape House in 1966 or 1967, and to complete the whole programme in the following decade.

During 1963 considerable progress has been made in the major projects which were referred to in the last Annual Report. The redevelopment of the south bank of the Canal has been completed (the Cotton Terraces) and the four new houses for cattle, deer, antelope and camels are now occupied, in addition to the vastly improved Giraffe House.

On the opposite bank of the Canal and connected with the Cotton Terraces by the new footbridge, the Northern Aviary, designed by Lord Snowdon, is well advanced although there has been some delay caused by technical difficulties due to the unique design.

The Elephant and Rhinoceros Pavilion, which is being built in the Main Gardens on the site of the old Antelope House, has already reached roof height and is due to be completed early in 1965.

Of the two new research buildings, the Wellcome Institute of Comparative Physiology, which is to provide research laboratories for the Society's own staff as well as for Research Fellows appointed under the terms of the Ford Foundation grant, was practically complete by the end of the year, whilst the Nuffield Institute of Comparative Medicine had reached the half-way stage.

The design of the new Small Mammal House, scheduled to be started as soon as the elephants move into their new quarters, has been accepted, although a great deal of detailed planning has still to be completed. Designed by Professor Misha Black and Mr Kenneth Bayes of Black, Bayes & Gibson, this house is planned to hold a very large and varied collection of small mammals, including some 200 burrowing, jumping, flying, climbing and aquatic animals. There



will be a nocturnal section with reversed lighting systems, where those animals normally active at night will be exhibited.

The new Wolf Wood was completed in October, apart from the planting of additional trees which will be done during the winter. The natural drainage of the heavy clay soil in this paddock has, however, proved insufficient to prevent these very active wolves from churning up the ground in wet weather, and steps are being taken to improve the surface. There is every hope that the wolves will breed freely in their new surroundings. They are proving an attractive exhibit, both to visitors in the Zoo and to those in the Broad Walk of Regent's Park.

Two new buildings on the Canal Banks were also finished during the year – on the south bank a pair of flats for senior officials (with offices below for the Society), and a new staff Sports and Social Club on the opposite north bank. The Club has perforce had to make several moves during the last few years when its buildings were needed for other purposes, but now has a permanent home, consisting of a large club room and bar, billiards and games' rooms and a caretaker's flat.

Various other projects were started during the year and should be completed early in 1964, the more important being the conversion of the old Gorilla House to breeding quarters for chimpanzees; the renovation of the outside paddocks on one side of the old Cattle Sheds, which will then be used for canines; and the addition of a greenhouse to the Gardening Department.



## WHIPSNADE PARK

### *The Collection*

The magnificent collection of Australian mammals and birds, presented to the Society to mark the visit of Her Majesty The Queen and H.R.H. The Duke of Edinburgh to Australia, was exhibited at Whipsnade throughout the summer.

Sir Edward Hallstrom, the Executive Director of Taronga Zoological Park Trust, Sydney, New South Wales, assembled the gifts from his private wildlife sanctuary at Mona Vale, near Sydney; from Taronga Park Zoo; Adelaide Zoo, and the Tasmanian Protection Board. The collection was handed over to the Secretary of the Society on 7th June, by His Excellency The Rt Hon. Sir Eric Harrison, the High Commissioner for Australia.

Among the birds there were Cassowaries, Black Swans, Magpie Geese, Cereopsis Geese and several Australian species of duck. There were seventy-five cockatoos and parrots of various sorts, including the very rare Cloncurry and Queen Alexandra's Parakeets, Blue-cheeked Rosella Parakeet, and some most spectacular Black Cockatoos. There were also nearly thirty kangaroos and wallabies, including the large Red and Grey Kangaroos, Wallaroos, the smaller Swamp and Agile Wallabies, a pair of beautiful snow-white Bennett's Wallabies, the female of which had a young one in her pouch on arrival, and a pair of Tasmanian Devils.

The more important births at Whipsnade include one Giraffe, one Pygmy Hippopotamus, one Common Hippopotamus, one Grevy Zebra, two Tigers, and twin Yaks.

A pair of Black Rhinoceroses were purchased and new quarters were built for them near the White Rhinoceros enclosure. Five female Common Zebras were purchased to increase the herd established many years ago.

### *Gene Bank*

The Gene Bank, which was first established in 1961, has made further progress and there are now:



	<i>Number remaining from original purchase or presentation</i>	<i>Born in the Park</i>
Longhorn Cattle	1 male, 7 females	10
Cotswold Sheep	1 male, 4 females	6
Norfolk-horned Sheep	2 males, 4 females	7
Lincoln Longwool Sheep	1 male, 6 females	7
Manx Loghtan Sheep	1 male	1
Woodland White-faced Sheep	1 male, 6 females	
Portland Sheep	1 male, 4 females	

### *General developments*

The annual programme for the replacement of high wire fences by ditches and low fences has been continued. A low fence along the west side and south-west corner of Woodfield Paddock has been constructed and it is proposed to begin the fence on the eastern side early in 1964.

A further acreage of the farm has been sown down to permanent pasture for the increasing numbers of sheep and cattle in the Gene Bank.

### *Animals of all kinds (except fish and invertebrates) at Whippsnade Park*

On 1st January 1963	2,164
Received in 1963 by presentation, exchange, deposit and purchase, and transfer from Regent's Park	341
Born in the Park during 1963	648
	<hr/>
	3,153
Died, sold, sent in exchange or returned to depositors, and transferred to Regent's Park during 1963	965
	<hr/>
In the Park on 31st December 1963	2,188
	<hr/>



## SCIENTIFIC ACTIVITIES

*Scientific meetings*

Eight Scientific meetings were held during the year, at which 77 papers accepted for publication were communicated or read in title. Many other communications were made at the meetings: Professor A. J. E. Cave gave an account of the White Rhinoceros in Uganda; Mr A. Leutscher showed a series of photographs of animal tracks in the snow; homosexuality in the Hyrax was the subject of a talk by Dr Desmond Morris; an illustrated account of the Squamata of Nigeria was given by Dr G. T. Dunger; Mr Andrew P. Watson, G.M., made observations on keeping Naked Bats, *Cheiromeles torquatus*, in captivity, illustrating his remarks with a film; Mr T. Harrisson exhibited and commented on a film entitled *Naturalist in Borneo*; and Dr L. L. de Kock described the migration of the Norwegian Lemming, *Lemmus lemmus*, in Jämtland, Sweden.

*Symposia*

Symposia were held on 7th March, 7th–8th May, and 26th–27th November. The Symposium in March on 'The mammalian epidermis and its derivatives' was organized by Dr F. J. Ebling of the Zoology Department, University of Sheffield.

The Symposium held in May on 'The Biology of Survival' was arranged conjointly by The Physiological Society, The Society for the Study of Human Biology and The Zoological Society of London. It was divided into two sessions, the first being devoted to survival in environmental extremes, and the second to the ecology of survival.

The third Symposium, on 'Social Organization of Animal Communities', was organized jointly with The Association for the Study of Animal Behaviour. Communications on the social organization of insects and vertebrates were presented and discussed.

Each Symposium was well attended and included in the audience many scientists from abroad.

*Publications*

**Proceedings of The Zoological Society of London** Two volumes of the *Proceedings*, each consisting of four parts, were published: Volume 140 was completed on the 12th June and Volume 141 on the 10th December. The 78 papers and abstracts



contained in these volumes are representative of a wide variety of subjects in the zoological sciences including: DON R. ARTHUR, 'The post-pharyngeal gut of the earthworm *Lumbricus terrestris* L.'; R. J. BERRY and A. G. SEARLE 'Epigenetic polymorphism of the rodent skeleton'; J. MORTON BOYD, 'Home range and homing experiments with the St Kilda Fieldmouse'; J. MORTON BOYD, 'The Grey Seal (*Halichoerus grypus* Fab.) in the Outer Hebrides in October 1961'; D. J. BRAND, 'Records of mammals bred in the National Zoological Gardens of South Africa during the period 1908 to 1960'; HAROLD FOX, 'The hyoid of *Neoceratodus* and a consideration of its homology in urodele Amphibia'; P. J. FULLAGAR, P. A. JEWELL, R. M. LOCKLEY and I. W. ROWLANDS, 'The Skomer Vole (*Clethrionomys glareolus skomerensis*) and Long-tailed Fieldmouse (*Apodemus sylvaticus*) on Skomer Island, Pembrokeshire in 1960'; PETER D. GABBUTT and MAX VACHON, 'The external morphology and life history of the pseudoscorpion *Chthonius ischnocheles* (Hermann)'; A. J. P. GOODCHILD, 'Studies on the functional anatomy of the intestine of Heteroptera'; R. V. GOTTO, 'Observations on the structure, affinities and biology of a rare copepod, *Eunicicola* (formerly *Eurynotus*) *insolens* T. and A. SCOTT'; P. H. GREENWOOD, 'A collection of fishes from the Aswa River drainage system, Uganda'; J. C. HARTLEY, 'The cephalopharyngeal apparatus of syrphid larvae and its relationship to other Diptera'; R. G. HARTNOLL 'The biology of Manx Spider Crabs'; SOHAN LALL JAIN and PAMELA LAMPLUGH ROBINSON, 'Some new specimens of the fossil fish *Lepidotes* from the English Upper Jurassic'; L. KAY and T. J. PICKVANCE, 'Ultrasonic emissions of the Lesser Horseshoe Bat *Rhinolophus hipposideros* (Bech.)'; P. MERRETT, 'The palpus of male spiders of the family Linyphiidae'; D. F. METTRICK, 'Some cestodes of the family Davaineidae from birds in Central Africa'; R. E. MOREAU, 'Vicissitudes of the African biomes in the late Pleistocene'; R. K. MURTON, A. J. ISAACSON and N. J. WESTWOOD, 'The food and growth of nestling Wood-pigeons in relation to the breeding season'; P. N. O'DONOGHUE, 'Reproduction in the female Hyrax (*Dendrohyrax arborea ruwenzorii*)'; FERGUS O'GORMAN, 'Observations on terrestrial locomotion in Antarctic Seals'; P. J. S. OLNEY, 'The food and feeding habits of Teal *Anas crecca crecca* L.'; L. E. RICHDALE, 'Biology of the Sooty Shearwater *Puffinus griseus*'; R. ROSIN and A. SHULOV, 'Studies on the Scorpion *Nebo hierochonticus*'; J. W. SHIELD and PATRICIA WOOLLEY, 'Population aspects of delayed birth in the quokka (*Setonix brachyurus*)'; A. H. WEATHERLEY, 'Thermal stress and interrenal tissue in the Perch *Perca fluviatilis* (Linnaeus)'; A. H. WEATHERLY, 'Zoogeography of *Perca fluviatilis* (Linnaeus) and *Perca flavescens* (Mitchill) with special reference to the effects of high temperature'; G. P. WELLS, 'The Lugworms of the southern cold temperate zone (Arenicolidae, Polychaeta)'; J. H. WICKSTEAD, 'Estimates of total zooplankton in the Zanzibar area of the Indian Ocean with a comparison of the results with two different nets'; IAN B. WILSON, 'A tumour tissue analogue of the implanting mouse embryo'; J. Z. YOUNG, 'The number


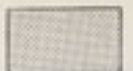




Tiger cubs born at Whipsnade Park  
*W. G. Vanderson, Fox Photos*

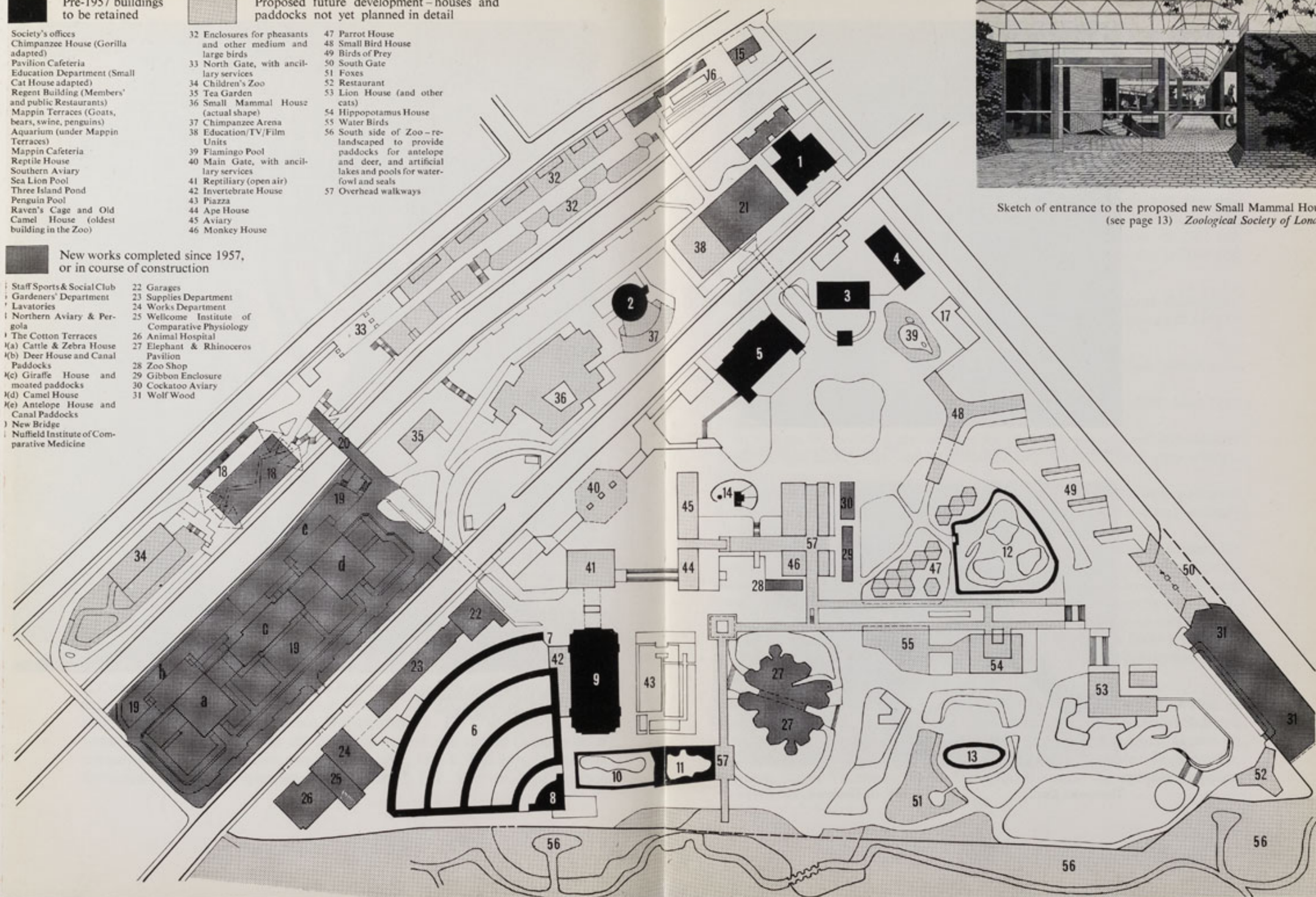


# Development Plan of the Zoological Gardens, Regent's Park

- |   |   |
|---|---|
|  Pre-1957 buildings to be retained |  Proposed future development - houses and paddocks not yet planned in detail |
|---|---|
- 
- |   |  |   |
|---|--|---|
| Society's offices   | 32 Enclosures for pheasants and other medium and large birds | 47 Parrot House   |
| Chimpanzee House (Gorilla adapted)                            | 33 North Gate, with ancillary services                       | 48 Small Bird House   |
| Pavilion Cafeteria  | 34 Children's Zoo  | 49 Birds of Prey  |
| Education Department (Small Cat House adapted)                | 35 Tea Garden  | 50 South Gate   |
| Regent Building (Members' and public Restaurants)             | 36 Small Mammal House (actual shape)                         | 51 Foxes  |
| Mappin Terraces (Goats, bears, swine, penguins)               | 37 Chimpanzee Arena  | 52 Restaurant   |
| Aquarium (under Mappin Terraces)                              | 38 Education/TV/Film Units                                   | 53 Lion House (and other cats)  |
| Mappin Cafeteria  | 39 Flamingo Pool   | 54 Hippopotamus House   |
| Reptile House   | 40 Main Gate, with ancillary services                        | 55 Water Birds  |
| Southern Aviary   | 41 Reptiliary (open air)                                     | 56 South side of Zoo - re-landscaped to provide paddocks for antelope and deer, and artificial lakes and pools for water-fowl and seals |
| Sea Lion Pool   | 42 Invertebrate House  | 57 Overhead walkways  |
| Three Island Pond   | 43 Piazza  |   |
| Penguin Pool  | 44 Ape House   |   |
| Raven's Cage and Old Camel House (oldest building in the Zoo) | 45 Aviary  |   |
|   | 46 Monkey House  |   |

## New works completed since 1957, or in course of construction

- |  |   |
|--|---|
| Staff Sports & Social Club                 | 22 Garages                                      |
| Gardeners' Department                      | 23 Supplies Department                          |
| Lavatories                                 | 24 Works Department                             |
| Northern Aviary & Pergola                  | 25 Wellcome Institute of Comparative Physiology |
| The Cotton Terraces                        | 26 Animal Hospital                              |
| (a) Cattle & Zebra House                   | 27 Elephant & Rhinoceros Pavilion               |
| (b) Deer House and Canal Paddocks          | 28 Zoo Shop                                     |
| (c) Giraffe House and moated paddocks      | 29 Gibbon Enclosure                             |
| (d) Camel House                            | 30 Cockatoo Aviary                              |
| (e) Antelope House and Canal Paddocks      | 31 Wolf Wood                                    |
| New Bridge                                 |   |
| Nuffield Institute of Comparative Medicine |   |



Sketch of entrance to the proposed new Small Mammal House (see page 13) Zoological Society of London



From the  
Australian  
Collection



Bennett's Wallaby (White form)

*W. G. Vanderson, Fox Photos*



Tasmanian Devil

*W. G. Vanderson, Fox Photos*



and sizes of nerve cells in *Octopus*'; J. Z. YOUNG, 'Light- and dark- adaptation in the eyes of some cephalopods'.

**Transactions of The Zoological Society of London** Volume 29 of the Transactions was completed on the 30th January with the publication of Part 7 – a monograph by E. H. Ashton and C. E. Oxnard entitled 'The musculature of the primate shoulder'.

**Symposia of The Zoological Society of London** Numbers 9 and 10 of the Symposia were published: the ninth number, entitled 'Comparative aspects of neurohy-pophysial morphology and function', published in January, contains the proceedings of the Symposium held in February 1962. Number 10, entitled 'The Primates', containing the proceedings of the Symposium, held in April 1962 and organized jointly with The Anatomical Society of Great Britain and Ireland and The Society for the Study of Human Biology, was published in August.

**Nomenclator Zoologicus** The supplementary volume of 'Nomenclator Zoologicus' containing the names of new genera and subgenera from the literature of 1946 to 1955, is in the press and the volume will be published shortly.

**Zoological Record** Volume 97, recording the zoological literature published in the year 1960, was completed in October.

Eight sections of Volume 98, a record of the literature for 1961, have been published and a further six sections are in the press.

Of Volume 99, recording the literature for 1962, four sections – Comprehensive Zoology, Arachnida, Aves, and Mammalia – were published and other sections are in the press.

Photolithographic reprints of Volumes 31–40 (1894–1903) were published during the year, and the first forty volumes of the 'Record', which were previously out of print, are therefore available in the reprint edition.

The income received from sales and subscriptions is not sufficient to meet the rapidly increasing costs of production of this bibliography, and its continued publication must depend to a large extent on the donations to the Zoological Record Fund. A list of donations received during the year is given in Appendix 8.

The task of preparing the material for such a comprehensive bibliography imposes a heavy burden on the individual recorders, and the Society is greatly indebted to them for their invaluable service without which the publication of this important work would be impossible.

**International Zoo Yearbook** Volume IV of the Yearbook was published in December. As in the past, this volume is divided into three main sections: Section I, a 'symposium' of articles on aquatic exhibits in zoos and aquaria; Section II, new developments in the zoo world, with sub-sections entitled Conservation, Breeding, Stock, Veterinary Work, Zoological Research, Educational Activities,



and Architecture and Construction. The sub-section Conservation is a new feature and Mr Van den bergh, Director of the Royal Zoological Society of Antwerp, Dr Lang, Director of Basle Zoological Garden, and Dr Fairfield Osborn, President of the New York Zoological Society, have each written an article examining different aspects of the work that zoos can undertake in the field of conservation. This section also contains an article by the Director of the Askaniya Nova Zoopark describing the preservation of the Przewalski Horse in the USSR. Section III, the reference section, contains detailed lists of the zoos and aquaria of the world, changes in personnel, the number and species of animals bred by zoos and aquaria during 1962, and a census of the numbers and species of rare animals currently living in zoos and aquaria. The results of an international survey of animal milk analyses and hand-rearing techniques, undertaken by the Yearbook during 1963, are recorded.

The Society records its gratitude to the many organizations and individuals who have contributed to the Yearbook, in particular to Dr E. M. Mann, Director of the Commonwealth Bureau of Dairy Science and Technology, and to Dr Harvey and Miss D. Evans of the Commonwealth Bureau of Animal Nutrition, for their help in the animal milk analysis survey.

### *Library*

During 1963 extensive use was made of the Library's resources by Fellows, Associates and medical and other scientific institutions. 4,042 books and periodical volumes were borrowed from the Library; considerable use was made of its reference facilities, and a large number of requests for information by telephone and post were answered. Among those that it was possible to assist last year were the Chester Beatty Research Institute, the Wellcome Research Laboratories, the Nuffield Trust Biology Project, the Nature Conservancy, the Royal Veterinary College and many government research institutes, universities and the medical schools of various hospitals.

The photographic collection in the Library was reviewed, and in order that it should be kept up-to-date a number of new photographs of the animals in the Gardens were taken by the Society's photographer. Many prints from this collection have been used to illustrate books, scientific papers and television programmes.

### *Awards for contributions to zoology*

At the Annual General Meeting the President, H.R.H. The Duke of Edinburgh, presented the following awards:

**The Scientific Medal** (awarded to persons under forty years of age for scientific merit and distinguished work in zoology) to *Dr J. W. L. Beament*, Department of Zoology, University of Cambridge; and to *Dr N. A. Mitchison*, The National Institute for Medical Research.



**The Stamford Raffles Award** to *Mr R. E. Moreau*, in recognition of his contribution, as an amateur zoologist, to zoology.

**The Thomas Henry Huxley Award** (for original work submitted as a doctor's thesis) to *Dr J. Machin*, Queen Mary College, University of London, now at the University of Toronto.

**The Prince Philip Prize** (for an essay on animal ecology or behaviour submitted by a pupil of zoology, taking the G.C.E. 'A' Level or equivalent examination, in any school in the United Kingdom) to *Miss W. A. Freaker*, St Swithun's School, Winchester.

### *Clinical departments*

**Veterinary section** The total number of cases passing through the Hospital at Regent's Park during 1963 was 275, and the recovery rate was 80 per cent. Twenty-seven animals passed through the quarantine station. The services of the Out-Patient Department were curtailed because of nearby building operations, but 64 new cases, including 37 birds, 23 mammals and 4 reptiles, were dealt with.

During the year the moving of many animals to their new accommodation was made easier by the use of pre-medicated food into which various sedative and tranquillizing drugs had been incorporated. This represents a great advance over previous years when such moves were frequently very difficult.

With the co-operation of Dr L. E. A. Rowson and Dr C. Polge of the Unit of Reproductive Physiology and Biochemistry, Agricultural Research Council, Cambridge, the male Arabian Oryx was successfully anaesthetized and a sperm sample obtained, which was subsequently deep frozen and preserved.

Amongst the various surgical interferences a male Puma was operated on for the removal of a large ulcer on his left flank. Subsequently he was returned on exhibition and has bred with 'Lola', a cub being born in November.

Both at Regent's Park and Whipsnade further work was done on the use of the projectile syringe as a means of injecting animals, with the minimum of restraint. At Whipsnade this method has been used successfully in the recapture of deer which escaped from their paddock during re-fencing work. It has also been used to sedate large animals for minor operative procedures.

Trials with a new anthelmintic drug have been extended to many species of herbivores. No toxic side effects were noticed, and the drug was taken in food even by the most sensitive animals.

**Pathology laboratory** During the year 559 autopsies were made on animals from amongst the resident acclimatized populations which died in the Gardens, Regent's Park. A further 371 autopsies were made on newly-arrived unacclimatized animals and on animals received from external sources.

Diagnostic reports were made on 915 specimens from living animals.



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

Mr Martin Senior and Mr V. J. A. Manton carried out 440 autopsies, 229 on birds, 207 on mammals, and 4 on reptiles, at Whipsnade Park.

#### *Conferences and visits, etc.*

The Controller, Major-General C. J. G. Dalton, visited the zoos at Copenhagen, Hamburg, Amsterdam and Rotterdam.

The Scientific Director, Dr L. Harrison Matthews, attended the first International Symposium on Cetacean Research in Washington, and gave the Chairman's opening paper at the first session. He represented the Society at the XVI International Congress of Zoology at Washington, and visited the Woods Hole Oceanographic Institution, the Museum of Comparative Zoology at Harvard, the New York Aquarium, the Washington Zoological Gardens, and other scientific institutions in the U.S.A.

Dr Matthews has continued to serve as a member of the Board of Studies in Zoology and Comparative Anatomy in the University of London, the Consultative Committee on Grey Seals of the Nature Conservancy, the Scientific Advisory Committee of the Wildfowl Trust, the Biological Expeditions Committee, the North Borneo Expeditions Committee of the Royal Society, the Trypanosomiasis Panel of the Department of Technical Co-operation and as Chairman of the World List of Scientific Periodicals. He delivered the Presidential address at the Annual Scientific Meeting of the British Academy of Forensic Sciences.

Dr Matthews and Mr E. H. Tong, Director, Whipsnade Park, attended the annual conference of the International Union of Directors of Zoological Gardens, which was held at Chester in September: the editors of the *International Zoo Yearbook*, Miss Caroline Jarvis and Dr Desmond Morris, also attended a session of the conference at which the Yearbook was discussed.

Mr Tong attended the annual conference of Directors of Zoological Gardens in Great Britain which was held in Edinburgh. He also visited Moscow Zoo Centre to negotiate exchange of animals. On the return journey he visited the Zoo in Warsaw.

The Curator of the Aquarium, Dr H. G. Vevers, attended the XVI International Congress of Zoology in Washington, and gave a paper on 'Pigmentation in the Echinoderms' at a special symposium on the biology of echinoderms.

The Veterinary Officer, Mr Oliver Graham-Jones, was elected President of the International Symposium on 'Diseases of Zoo Animals' at Amsterdam, and subsequently presented a paper on 'Further Thoughts on a Metabolic Disease of Lions'. At the 17th World Veterinary Congress in Hanover he gave a paper on 'Veterinary Attention of Wild Animals'.

The Curator of Mammals, Dr Desmond Morris, read a paper at the VIII Inter-



national Ethological Conference at The Hague. He also visited the new African Plains exhibit at the Barcelona Zoo.

The Deputy Director, Whipsnade Park, Mr V. J. A. Manton, attended the Annual Conference of the British Veterinary Zoological Society held at Paignton Zoo, the Annual Congress of the British Veterinary Association at Llandudno, where he read a paper, and the Annual Congress of the Association of Veterinary Teachers and Research Workers at Brighton.

Miss Caroline Jarvis, Joint Editor of the *International Zoo Yearbook*, visited Hungary as a guest of the Hungarian Society for the Popularization of Sciences, and was the British delegate at the 6th meeting of Hungarian Biologists held at Lake Balaton; she read a paper on zoos and conservation. During the course of the year Miss Jarvis visited eight continental zoos.

Dr I. W. Rowlands, the Senior Research Fellow, accepted an invitation from the American Society of Animal Sciences to contribute a paper at a symposium on *Gonadotrophins* held in Corvallis, Oregon, U.S.A. in August, and to speak at a post-graduate course on *Gametes* at the Marine Biological Laboratories, Woods Hole, Mass. He also visited the Iowa State University, the University of California at Davis, California, and the National Institutes of Health, Bethesda, MD. He read papers at the Laboratory Animals Centre Symposium on 'The Choice of the Experimental Animal' held in London in May, and at the Annual Conference of the Society for the Study of Fertility, held in Nottingham during July.

Dr P. A. Jewell, Ford Research Fellow, read papers at a meeting of the British Association for the Advancement of Science in Aberdeen, and at the School of Veterinary Medicine, Cambridge. A seminar was given on 'Priorities in Wildlife Research in Africa' at University College, London, and a paper, 'Notes on technical aspects of body measurement' was sent for discussion at a symposium on 'African Mammals' in Salisbury, Rhodesia.

Dr G. H. Manley, Ford Research Fellow, read a paper on 'Aspects of the behaviour of Lorisoid Primates' at the VIII International Ethological Conference at The Hague in September.

Dr A. D. Woodhead, Ford Research Fellow, read a paper on 'Thyroid cycles in *Acanthias vulgaris*' at the 2nd Conference of European Comparative Endocrinologists held in September in Brussels.

Dr D. R. S. Kirby, also a Ford Research Fellow, attended the VI International Congress of Embryology at Helsinki in September, and read a paper at the Annual Conference of the Society for the Study of Fertility, in Nottingham.



## RESEARCH

Dr H. G. Vevers has continued his study, in collaboration with Professor N. Millott of Bedford College, of the echinoid axial organ. In addition to histochemical work on this organ, it has now been found that at least one species, *Paracentrotus lividus*, can survive without an axial organ for periods up to five months.

He has also worked on the pigments produced in the preen gland of certain birds; these have been found to be carotenoids.

Dr Desmond Morris has continued his animal behaviour studies. These have included a special study of the behaviour disturbances caused by conditions of captivity and abnormal (hand-rearing) experiences during infancy in mammals. A paper on this subject was delivered at the Survival Symposium held at Regent's Park. He has also made observations on the social behaviour of Prairie Marmots, and is studying behaviour differences between wild and domesticated Golden Hamsters. Under his guidance Dr J. Sparks has started a new research project in the Gardens on various aspects of social behaviour in birds, the work being sponsored by a grant from the Department of Scientific and Industrial Research. During the year several research students continued their behaviour studies in the Gardens under Dr Morris's guidance. In the earlier part of the year Dr Sparks completed his thesis on bird behaviour. Dr M. Lyall-Watson also completed his thesis on the hoarding behaviour in mammals. Mrs C. King has begun work on her thesis on imitation learning in mammals.

Dr Morris organized a series of Ethology Seminars. These were well attended by animal behaviour research workers from London, Oxford and Cambridge. Nineteen seminars were held and the subjects discussed included: 'The nature of the pair bond in birds' - J. Sparks; 'The comparative ethology of hoarding behaviour' - M. Lyall Watson; 'Imitation learning in mammals' - Mrs C. King; 'Terrapin behaviour' - N. Mrosovsky; 'Contextual interpretation of behaviour' - G. Manley; 'Patterns of behaviour in voles' - J. Fentress; 'Exploratory behaviour in the rat' - W. M. S. Russell; 'Ethological analysis of human infant behaviour' - N. Blurton-Jones; 'Recent studies in cat behaviour' - P. Leyhausen; 'Behaviour pathology in Rhesus monkeys' - R. Boelkins.

In the Pathology Laboratory the survey of the incidence and nature of atheroma in wild animal species has been continued under the supervision of Dr R. Finlayson. In addition, with the collaboration of Dr W. Dangerfield of the North Middlesex Hospital, a survey of serum protein and lipo-protein levels in different species, both diseased and normal, has been started.



During the summer a further collection of arteries from wild animals in East Africa was made by an expedition of the Royal Veterinary College, but these have not yet been examined.

Mr R. N. Fiennes, the Pathologist, has continued his studies on 'hypotensive' conditions ('stress', 'shock', 'adaptation syndrome', etc.). He again received a grant of \$1,000 from the World Health Organization for cardiovascular studies.

The Society made a grant, for three years, of £500 per annum to Dr A. M. Harthorn of the University of East Africa, Nairobi, Kenya, for the employment of a technician. Dr Harthorn has undertaken to collect specimens from wild animals which will be transmitted to the Pathologist for comparative studies.

### *The Nuffield Institute of Comparative Medicine*

The building of the Nuffield Institute was started in November 1962 but serious delays inevitably occurred during the freezing weather in the first three months of the year, and there will be some delay in completing the structural work.

During the course of this year a comprehensive scheme for research on cardiovascular diseases was prepared. The first project – the study of hearts and arteries of animals in the wild – has been started and Miss Sylvia Sikes, M.A., is now collecting material in East Africa for study.

The second planned project is the study of the adhesive properties of the 'platelets' – the cells concerned in the clotting of blood – in wild animal species. For this work a graduate research worker is to be employed to assist Dr C. Symons, a cardiologist who has worked in collaboration with the Society's Pathologist for some six years, and is consultant physician to the New End Hospital.

In early December a two-day meeting was held to review the progress in comparative cardiovascular research, and was attended by an observer from the World Health Organization. This was a sequel to a similar meeting held two years ago, at which a survey was made of those individuals and organizations already working in this field. The work undertaken in this country in this sphere is thus collated with similar activities overseas, through the Nuffield Institute and the World Health Organization.

In October the Society launched an appeal for funds for the running costs of the Institute, the targets being £300,000 for the first few years and a substantial endowment to provide operating costs in perpetuity. Mr Archibald Chisholm, Vice-President, was appointed Chairman of the Appeal Committee, and by the end of the year some £78,000, which included certain amounts received previously, had been raised. The Council gratefully acknowledges the gift of £30,000 from H. J. Heinz Company Limited in support of the nutritional research which will be undertaken in the chemical laboratories of the Institute; a grant of £21,000 from the British Heart Foundation; £7,000 from the Pearl Assurance Company; £3,500 from the British Petroleum Company Ltd.; £1,750 from the Esso Petroleum Company Ltd.; and the gifts received from Mr W. E. Butlin;



Mr L. H. Cooper; Sir D. M. Evans Bevan; Mrs Mary Lasker; the late Mr R. A. Loader; Mr G. M. Stitcher; Abdullah Al-Ghanim, and Associated Television Ltd.

A complete list of gifts received will be published in due course.

### *The Wellcome Institute of Comparative Physiology*

By the end of the year the building and equipping of the Institute was nearing completion, and the premises were occupied in January 1964. The Senior Research Fellow, Dr I. W. Rowlands, was responsible during the year for the purchase of scientific apparatus, and the research work in animal reproduction was started without delay. Meanwhile, the work of the Research Fellows and Students appointed in 1961 under the grant from the Ford Foundation continued throughout the year in other quarters.

Dr Rowlands joined Dr P. A. Jewell at the Department of Animal Husbandry, Royal Veterinary College, London, early in January 1963. Investigation of the mechanism of luteal function continued at the Institute of Animal Physiology, Babraham, in collaboration with Dr J. S. Perry.

Dr Jewell's work on the feral sheep of St Kilda was extended by an expedition to the islands in May and June. Twenty sheep were brought to the mainland, of which twelve are now in the Gene Bank at Whipsnade Park.

Two periods of field study were carried out on Skomer Island to cover the start and finish of the breeding seasons of the Skomer Vole and the Field Mouse.

Working in collaboration with Mr P. J. Fullagar at the Royal Veterinary College, Dr Jewell has successfully bred hybrids between six geographical varieties of the Field Mouse, including the St Kilda Field Mouse, all of whose offspring are fully fertile.

Dr G. H. Manley, working at Regent's Park on reproductive and social patterns of behaviour in loroid lower primates, has established and described the precise overt changes associated with the oestrous cycles in four species.

Dr A. D. Woodhead, at the Fisheries Laboratory, Lowestoft, continued her studies relating to the reproductive and migratory behaviour of the Arctic Cod, and of the role of the thyroid gland in the reproduction and migration of the Spur Dogfish.

Dr D. R. S. Kirby continued to work in the Department of Zoology in Oxford, until his Fellowship expired on 30th September, investigating the physiology and ultra-structure of the trophoblast of the mouse.

Mr Gerald Clough completed his year of work at the Nuffield Unit of Tropical Animal Ecology, in the Queen Elizabeth Park, Uganda, in connection with the hippopotamus cropping scheme, which made available a large amount of material for his study of reproduction in this species, under the supervision of Dr R. M. Laws. Mr Clough returned in October and is now analysing and preparing his material for histological study, in collaboration with Dr Laws at Cambridge.



## EDUCATIONAL ACTIVITIES

*Lecture-demonstrations for school pupils*

The numbers of pupils who took part in the Society's educational programme were:

Spring Term – Regent's Park. From Secondary Schools	9,544
Summer Term – Whipsnade Park. From Secondary Schools	2,890
Summer Term – Regent's Park. From Primary Schools	7,661
Autumn Term – Regent's Park. From Secondary Schools	9,878
	Total 29,973

In each case, except that of the primary schools during the Summer Term, these totals are higher than those for 1962, the totals for secondary schools during both the Spring and Autumn Terms being the highest yet achieved. These figures demonstrate that the Society is performing a service which is widely appreciated by education authorities.

As in previous years, short courses were organized for university students at the beginning and end of the Easter vacation. The co-operation with teachers' training colleges has also been maintained.

*Young Zoologists' Club*

Meetings of members of the Young Zoologists' Club, which took place during the school holidays, were very well attended. During the summer a party of older Club members spent a week at the Field Studies Council's centre at Dale Fort, Pembrokeshire, studying the ecology of the seashore under the guidance of a member of the staff of the Society's Education Department.

**Zoo Magazine**, which Club members receive three times a year, appeared in a new format which attracted favourable comment, the articles which are written by members of the Club forming an important part of each issue.

During National Nature Week in May the Young Zoologists' Club took part in the exhibition at the Horticultural Hall, Westminster, organized by the Council for Nature, and was also represented at the Boys' and Girls' Exhibition held at Olympia in December.

As a result of these activities the Club membership has increased to 3,800 members.



The Council is grateful to those Fellows and friends of the Society who have assisted and encouraged the Club during the year.

### *TV and Film Unit*

The Film Unit produced a series of six films about the social habits of animals, for transmission on Independent Television early in 1964. These programmes show, in general terms, the similarities and differences between the insect type of society and that evolved by the vertebrates. One film illustrates life in a Bumble Bee colony: a second gives a general review of ant communities: three deal with vertebrate communities – mice, marmots and birds. The final film is an examination of the intelligence potential of the Gibbon, and the Unit were fortunate in obtaining a particularly calm and co-operative animal with which it was possible to carry out a variety of tests.

In addition, a number of films previously produced have been added to the library held by the Educational Foundation for Visual Aids, and are available to educational bodies at a nominal hire charge.

The *Zoo Time* outside broadcasts, compered by Dr Desmond Morris, continued to be transmitted throughout the year.

Over some seven years the Unit, jointly established by the Society and Granada TV Network, has produced more than 300 *Zoo Time* programmes and 60 films. It was inevitable that the time would come when new subjects would be more difficult to find, and it was accordingly mutually agreed between Granada and the Society that the contractual agreement should not be renewed for a further period.

There is little doubt that the Unit has served its original purpose and has produced programmes and films which have reflected the immense variety of the world of animals. It has built up a valuable library of film, which adds greatly to the store of zoological records and is of permanent scientific value. The Society is grateful to Granada TV for their co-operation which made possible this contribution to the study of natural history.

### *Christmas lectures*

During the Christmas holidays three meetings were held for the children of Members of the Society and their friends.

Mr Andrew Watson gave a talk on *The Voices of Bats*, Dr P. H. Greenwood spoke on *Fishes in Myth and Legend*, and at the third meeting, the film *The Living Desert* was shown.



Births at  
London Zoo and  
Whipsnade Park



Hartmann's Mountain Zebra, the foal is about five hours old (London)  
*Central Press Photos Ltd*





Ring-tailed Lemurs (London)  
*W. G. Vanderson, Fox Photos*



Mandrill (London)  
*W. G. Vanderson, Fox Photos*



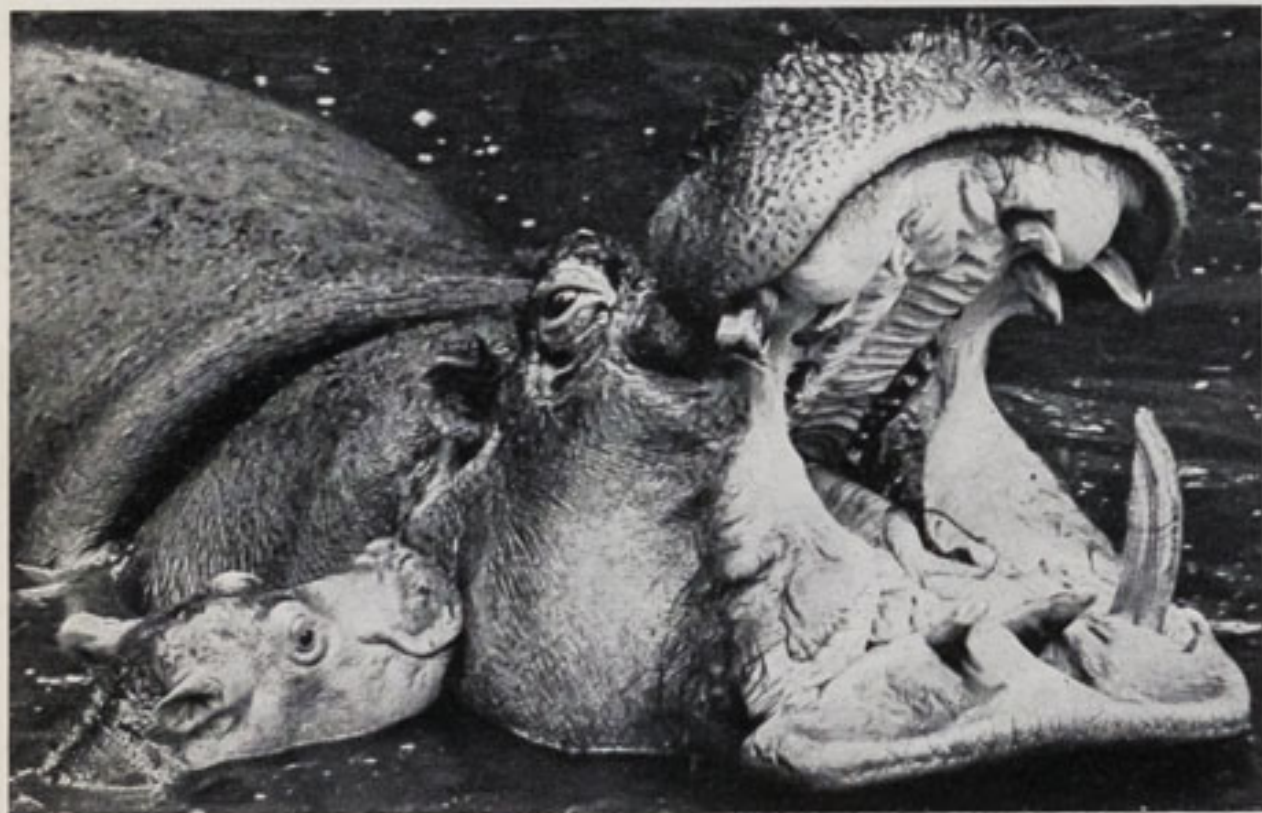


Orang-utan, male, the second to be born in the London Zoo, the first (female) being born March 1961  
*B.I.P.S.*





Giraffe, five minutes after birth  
(London)  
*Zoological Society of London*



Hippopotamus (Whipsnade)  
*W. G. Vanderson, Fox Photos*



## STAFF

At the end of the year the permanent staff of the Society totalled 497. Of these, 380 were employed at the Headquarters of the Society and the London Zoo, including 97 in the Catering Department; 117 at Whipsnade Park, including 11 in the Catering Department.

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

### *Appointments*

Miss Maureen Booth, Ph.D., and Mrs Wendy Adderson, B.Sc., were appointed Assistant Education Officers during the year.

Miss Marcia Edwards, B.Sc., previously employed as a Recorder for the *Zoological Record*, was appointed to the new post of Head of the Publications Branch which will be established in 1964. Miss S. Bunney, B.Sc., was appointed as Assistant Recorder for the *Zoological Record* to fill the vacancy caused by Miss Edwards' promotion.

Several appointments have been made during the year to the new Wellcome Institute of Comparative Physiology, including Mr P. Healey as Senior Laboratory Technician.

### *Retirements*

Mr George Gammon retired after completing 40 years' service at Regent's Park; and Mr Frank Hunt retired after 39 years' service.

### *Awards*

The Society's Bronze Medal was awarded to Mr F. C. Akhurst and Mr A. Matthews.

Mr Akhurst, Overseer, retired in 1962 and received the Bronze Medal for his outstanding service in the Aquarium.

Mr Matthews, Head Keeper of the Bear Section at Whipsnade Park, has been in the Society's employment since 1929, and was awarded the Bronze Medal for his assiduous service in the care of animals.

### *Pension Fund*

The new Pension Fund set up by the Council in 1958 completed its first quinquennium this year. The Actuary's Report and Valuation shows the Fund to be in a healthy state, certain unexpected calls upon its resources having been counter-



balanced by a substantial appreciation in the value of its investments. At the 1st July the Fund stood at just under £250,000.

### *Other staff matters*

A Joint Consultative Committee was set up at the Gardens, Regent's Park, to ensure proper consultation between the administration and its employees on matters such as safety, health and welfare. All sections of the staff are represented and it is hoped that the Committee will provide a useful forum for discussion on all questions, other than those affecting wages and conditions of service which form the subject of negotiations with the appropriate bodies.

In common with trends within the building industry and the Local Authorities' services, the Society has negotiated three-year settlements on wages for its manual and secretarial staffs. These provide for increases in wages and salaries of approximately 3 per cent per annum in the years 1963, 1964, and 1965, on the understanding that no further claims will be made during this period. The settlements exclude the Catering Staff, whose rates of pay are governed, to a large extent, by the Licensed Restaurants Wages Council.



## ACKNOWLEDGMENTS

The Council records its gratitude for the invaluable assistance given by the members of its committees, whose unfailing help and expert knowledge are of considerable assistance to the Council.

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

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

The following have rendered valuable assistance to the Veterinary Officer: Professor G. Howe; Professor W. Miller; Dr Raymond Greene and his colleagues at the New End Hospital; Astra-Hewlett Ltd; The Royal National Orthopaedic Hospital, Stanmore; The Royal Veterinary College; Dr K. Tolderlund of the Statensseruminstitut, Copenhagen; The Wellcome Laboratories; the Pfizer Laboratories Limited; John Wyeth and Sons; the C.I.B.A. Laboratories, the Glaxo Laboratories, and the Organon Laboratories Ltd.

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, 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; Messrs Parke Davis & Co. Ltd, for the gift of a supply of the drug Phencyclidine; the Cooper, MacDougall & Robertson Field Research Station at Berkhamsted for providing sheep for animal feeding; Miss Jean Paterson for her gift of the print *The Hertfordshire Hunt* depicted on the area of the Downs where the Wapiti and Moose enclosure is now situated; Mr Martin Senior, M.R.C.V.S., for the presentation of one male and six female Woodland White-faced Sheep; Mr B. C. Gall for the gift of a llama cart; and Mr G. C. Lillywhite for the gift of trees.

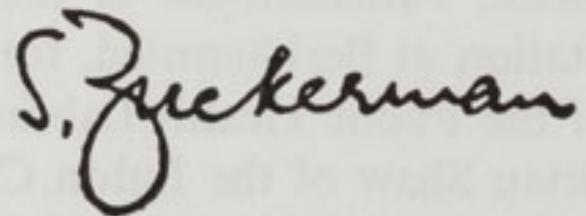
The Society's thanks are due to the following ministries and public institutions for their assistance in a variety of ways: The Admiralty; the Ministry of Agriculture, Fisheries and Food; the Board of Trade, H.M. Customs and Excise; the British Museum (Natural History); the Royal Botanic Gardens, Kew; the Public



Health Departments of the Corporation of the City of London, and of the Metropolitan Boroughs of Hampstead and St Marylebone; Chelsea Hospital for Women; Guy's Hospital; Queen Charlotte's Hospital; St Mary's Hospital, Paddington; and the Royal Marsden Hospital.

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; J. F. Obree & Son Limited; Pan American World Airways; the P. & O. Steam Navigation Company Limited; the Port Line Limited; Qantas Airways; the Royal Dutch Airlines; the Royal Mail Lines Limited; Sabena Belgian World Airlines; the Shaw Savill Line; Frank C. Strick & Company Limited; the Union-Castle Mail Steamship Company Limited; the United Shipping Company Limited; J. B. Westray & Company Limited; and Mark Whitwell & Son Limited.

As in the past, the Society is grateful to the Rt Hon. The Earl of Leicester for his kindness in providing evergreen oak for the giraffes. Thanks are due to Clapro & Company for arranging the shipment of sugar cane for the elephants, and to the following who have presented quantities of bamboo for the Giant Panda: Mrs G. C. Arnold, Mrs E. H. Eckersley, Mrs G. Matthews, The Polkerris Boy Scout Troop, Mr T. P. Vandeleur.



SECRETARY



## Committees 1963-1964

### Gardens and Park Committee

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

*Members of Committee:*

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

The Earl of Cranbrook, C.B.E., M.A.,

Treas.L.S., *Chairman*

Lady Antonia Fraser

S. Wilson Kitchen

Maxwell Knight, O.B.E., F.L.S.

Lady Bridget Parsons

Michael W. Perrin, C.B.E., M.A.

E. A. Bradford Pratt

H. W. Pratten

Air Vice-Marshal G. Silyn Roberts, C.B., C.B.E.,

A.F.C., M.Sc.

Lady Anne Tree

Loelia, Duchess of Westminster

The Marquess of Willingdon

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

*Secretary:* 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 the Collections at Regent's Park and Whipsnade Park; to consult where necessary with other committees, and to advise on new purchases.

*Members of Committee:*

Professor Michael Abercrombie, F.R.S.

K. M. Backhouse, M.B., B.S.

G. C. L. Bertram, Ph.D.

Professor A. J. E. Cave, M.D., D.Sc., F.R.C.S.

The Earl of Cranbrook, C.B.E., M.A., Treas.L.S.

Francis C. Fraser, C.B.E., D.Sc., *Chairman*

The Hon. Ivor Montagu

H. V. Thompson, B.Sc.

Sir Landsborough Thomson, C.B., O.B.E., D.Sc.,

LL.D.

W. H. Thorpe, Sc.D., F.R.S.

Professor J. E. Webb, D.Sc.

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

*Secretary:* H. Gwynne Vevers, M.B.E., D.Phil.,

Sec.L.S.

### Animal Welfare and Husbandry Committee

*Terms of reference:* To advise Council on matters relating to animal welfare and husbandry both in the Collections at 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, F.R.C.S., F.R.S.

Professor E. Cotchin, D.Sc., M.R.C.V.S.

Rodney Finlayson, M.A., M.D.

Raymond Greene, M.A., D.M., F.R.C.P.

Maxwell Knight, O.B.E., F.L.S.

J. W. Landells, M.A., M.R.C.P.

J. R. Napier, M.R.C.S., L.R.C.P., D.Sc.

Professor C. F. A. Pantin, F.R.S.

W. Lane-Petter, M.A., M.B., B.Chir.

Sir John Ritchie, C.B., F.R.C.V.S., *Chairman*

Sir Malcolm Sargent, Mus.D., LL.D., F.R.C.M., F.R.S.A.

J. E. N. Sloan, B.Sc.

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

*Secretary:* 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 Collections and to make recommendations about any measures whereby the breeding of rare and other animals can be improved, and to advise Council on all matters relating to breeding research, including the appointment of Research Fellows.

#### *Members of Committee:*

Professor Michael Abercrombie, F.R.S.  
Professor E. C. Amoroso, F.R.C.S., F.R.S.  
Professor F. W. Rogers Brambell, D.Sc., F.R.S.  
W. S. Gordon, C.B.E., Ph.D., M.R.C.V.S.  
Professor A. St G. Huggett, M.B., B.S., D.Sc., F.R.S.  
Professor P. L. Krohn, B.M., B.Ch., F.R.S.

Professor A. S. Parkes, C.B.E., Sc.D., F.R.S.,  
*Chairman*  
W. Lane-Petter, M.A., M.B., B.Chir.  
Sir John Ritchie, C.B., F.R.C.V.S.  
H. V. Thompson, B.Sc.  
*Secretary:* I. W. Rowlands, Ph.D.

### Education Committee

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

#### *Members of Committee:*

Professor W. S. Bullough, D.Sc.  
Professor A. J. E. Cave, M.D., D.Sc., F.R.C.S.  
Maxwell Knight, O.B.E., F.L.S.  
Guy Mountfort  
Professor G. E. Newell, D.Sc., *Chairman*  
John R. Newmark  
T. H. Savory, M.A.

Geoffrey Schomberg  
D. J. Stanbury, B.Sc., A.R.C.S.  
Mrs P. C. G. Arthur, nominated by Middlesex  
County Council  
Miss J. M. Francis, nominated by Ministry of  
Education  
L. Watt, nominated by London County Council  
*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:*

E. H. Ashton, Ph.D.  
K. M. Backhouse, M.B., B.S.  
Professor E. J. W. Barrington, D.Sc.  
A. d'A. Bellairs, D.Sc., M.R.C.S., F.L.S.  
Professor J. J. C. Buckley, D.Sc.  
Professor W. S. Bullough, D.Sc.  
Francis C. Fraser, C.B.E., D.Sc.

H. R. Hewer, A.R.C.S., M.Sc.  
Sir Landsborough Thomson, C.B., O.B.E., D.Sc.,  
LL.D., *Chairman*  
W. H. Thorpe, Sc.D., F.R.S.  
Professor G. Payling Wright, D.M., F.R.C.P.  
Frank Yates, Sc.D., F.R.S.  
*Secretary:* L. Harrison Matthews, Sc.D., F.R.S.

### Committee of the Nuffield Institute of Comparative Medicine

*Terms of reference:* To advise on all matters relating to research in comparative medicine; to receive and approve the Director's Annual Report to Council and the Statement of Accounts; and to advise on the appointment of research staff.

#### *Members of Committee:*

Professor Sir Roy Cameron, F.R.C.P., F.R.S.,  
*Chairman*  
Professor E. Cotchin, D.Sc., M.R.C.V.S.  
R. E. Glover, D.Sc., F.R.C.V.S.  
Professor R. Hare, M.D.  
Professor P. L. Krohn, B.M., B.Ch., F.R.S.

J. W. McAnuff, Ph.D.  
Sir John Ritchie, C.B., F.R.C.V.S.  
J. F. Smith, M.R.C.P.  
G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch.  
Professor G. Payling Wright, D.M., F.R.C.P.  
*Secretary:* R. N. Fiennes, M.A., M.R.C.V.S.

### Publications and Library Committee

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

#### *Members of Committee:*

Professor E. C. Amoroso, F.R.C.S., F.R.S.  
Professor E. J. W. Barrington, D.Sc.  
C. C. Hentschel, M.Sc.  
H. R. Hewer, M.Sc., A.R.C.S.  
The Hon. Ivor Montagu  
R. E. Moreau, M.A.

F. R. Parrington, Sc.D., F.R.S.  
John Smart, D.Sc.  
H. N. Southern, M.A.  
Professor G. C. Varley, Ph.D.  
Errol I. White, C.B.E., D.Sc., F.R.S., *Chairman*  
*Secretary:* L. Harrison Matthews, Sc.D., F.R.S.



**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:*

Cecil A. Hoare, D.Sc., F.R.S., *Chairman*  
H. W. Parker, C.B.E., D.Sc.  
E. O. Pearson, M.A.

N. D. Riley, C.B.E.  
John Smart, D.Sc.  
Cyril J. Stubblefield, D.Sc., F.R.S.  
*Secretary:* L. Harrison Matthews, Sc.D., F.R.S.

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

**Consulting Staff**

*Consulting Architect:* Sir Hugh Casson, M.A.,  
R.D.I., F.R.I.B.A., F.S.I.A.

*Consulting Landscape Architect:* Peter F. Shep-  
heard, B.Arch., F.R.I.B.A., A.M.T.P.I., F.I.L.A.

*Honorary Herpetologist:* A. d'A. Bellairs, D.Sc.,  
M.R.C.S.

*Honorary Helminthologist:* Professor J. J. C.  
Buckley, D.Sc.

*Honorary Consulting Ophthalmologist:* Sir Ben-  
jamin Rycroft, O.B.E., M.D., Ch.B., D.O.M.S.,  
F.R.C.S.

*Consulting Veterinary Surgeon (Whipsnade):*  
Martin Senior, M.R.C.V.S.

*Honorary Consultant:* Geoffrey M. Vevers, F.R.C.S.

*Adviser on Labour Relations:* E. Bishop, O.B.E.

*Medical Referee:* J. P. Horder, M.A., M.B., B.Ch.,  
M.R.C.P.



*Staff*

HEADQUARTERS

**Scientific Staff**

*Scientific Director:* L. Harrison Matthews, M.A.,  
Sc.D., F.R.S.  
*Curator of the Aquarium and Invertebrates, Acting  
Curator of Reptiles:* H. Gwynne Vevers, M.B.E.,  
D.Phil., Sec.L.S.  
*Curator of Birds:* J. J. Yealland, F.L.S.  
*Curator of Mammals:* D. J. Morris, D.Phil.  
*Librarian and Clerk of Publications:* G. B. Stratton,  
M.B.E., A.L.S.  
*Pathologist:* R. N. Fiennes, M.A., M.R.C.V.S.  
*Veterinary Officer:* O. Graham-Jones, F.R.C.V.S.

**Wellcome Institute of Comparative Physiology**

*Senior Research Fellow:* I. W. Rowlands, Ph.D.  
*Senior Technician:* P. Healey, A.I.M.L.T.

**Administrative Staff**

*Controller:* Major-General C. J. G. Dalton, C.B.,  
C.B.E.  
*Architect:* F. A. Stengelhofen, L.R.I.B.A.  
*Chief Accountant:* W. N. Pickford, M.M., A.C.I.S.  
*Education Officer:* M. K. Boorer, B.Sc.  
*Establishments Officer:* C. H. Johns, D.P.A.  
*Head of General Department:* Miss E. Owen, O.B.E.  
*The Private Secretary:* Miss Grace E. Gay  
  
*Editor, International Zoo Yearbook:* Miss C.  
Jarvis, B.A.  
*Information Officer:* Miss J. Crammond

REGENT'S PARK

**Administration**

*Catering Manager:* W. N. Hill, F.H.C.I.  
*Clerk of Works:* F. J. Myers  
*Gardens Executive:* L. M. Flewin  
*Head Gardener:* H. Hemmings  
*Supplies Officer:* C. G. Nicholls, M.P.O.A.  
*Transport Executive:* C. G. Harwood.

**Overseers**

*Aquarium and Invertebrates:* G. J. Ashby  
*Birds:* J. Ward  
*Mammals:* H. Vinall  
*Reptiles:* A. R. Lanworn  
*Deputy Overseer, Mammals:* B. W. Smith

**Senior Head Keepers**

*Monkeys:* L. G. Smith  
*North Mammal House:* J. C. T. Alldis  
*Hospital Superintendent:* A. T. Wilson  
*Senior Technician, Pathology Laboratory:* H. Corbett

**Head Keepers**

*Aquarium:* H. L. Ward  
*Aquatic Birds and Birds of Prey:* A. E. Scrivener  
*Bears:* S. Morton  
*Bird House:* D. G. Newson  
*Camels, Antelopes:* J. Lambden  
*Children's Zoo:* W. E. Peckett  
*Elephants:* W. G. Crompton  
*Giraffes and Cattle:* H. G. N. Robinson  
*Insects:* R. P. Humphreys  
*Lion House:* T. W. Sangster  
*Parrot House and Eastern Aviary:* A. F. Sham-  
brook  
*Pheasantry and Ostrich House:* R. Barrow  
*Reptiles:* D. J. Ball  
*Sea Lions, Seals:* A. J. Cotterill  
*Small Mammals:* H. W. Styles

WHIPSNADE PARK

**Administration**

*Director:* E. H. Tong, F.L.A.S.  
*Deputy Director:* V. J. A. Manton, M.R.C.V.S.  
*Assistant Accountant:* B. J. Iken  
*Assistant to Director:* E. D. Day  
*Catering Manager:* E. G. Rhodes  
*Clerk of Works:* A. C. W. Corbett  
*Head Gardener:* R. Tully  
*Senior Overseer:* O. C. Chamberlain  
*Overseer:* F. L. Gladman

**Keepers**

*Bird Section:* R. Hazzard  
*Bear Section:* A. Matthews  
*Camel Section:* G. Stanbridge  
*Carnivores Section:* F. Meakins  
*Elephant Section:* C. H. Bailey  
*Giraffe Section:* L. Warner  
*Pheasant and Parrakeet Aviaries:* B. Simmons  
*Head Keeper, Children's Zoo:* L. Conway



*Publications by Society's Staff  
and Research Workers*

(including those published in collaboration)

- AMOROSO, E. C. and JEWELL, P. A. (1963). The exploitation of the milk ejection reflex by primitive peoples, in *Man and cattle*. *Occas. Pap. R. anthrop. Inst.* 18
- CLUTTON-BROCK, J. and JEWELL, P. A. (1963). Report on animal remains. Vatcher, F. de M. The excavation of the barrows of Lamb Down, Codford St Mary. *Wilts. archaeol. nat. Hist. Mag.* 58: 437-438
- FULLAGAR, J., JEWELL, P. A., LOCKLEY, R. M. and ROWLANDS, I. W. (1963). The Skomer vole (*Clethrionomys glareolus skomerensis*) and Long-tailed Field-mouse (*Apodemus sylvaticus*) on Skomer Island, Pembrokeshire, in 1960. *Proc. zool. Soc. Lond.* 140: 295-314
- GRAHAM-JONES, O. (1963). Further thoughts on a metabolic disease of lions. *Proc. Symposium Diseases of zoo animals*. Amsterdam.
- GRAHAM-JONES, O. (1963). Veterinary attention of wild animals. *Proc. 17th World Vet. Congr.*, Hanover.
- JEWELL, P. A. (1963). Ed. *The experimental earth-work on Overton Down, Wiltshire, 1960*. British Association Advancement of Science, London.
- JEWELL, P. A. (1963). Cattle from British archaeological sites, in *Man and cattle*. *Occas. Pap. R. anthrop. Inst.* 18
- JEWELL, P. A. (1963). Wild life research in East and Central Africa. *Oryx* 7: 77-87
- JEWELL, P. A. (1963). Report on the voles, mice and rabbits on Skomer, Spring 1963. *Nature in Wales* 8: 128
- KIRBY, D. R. S. (December 1962). The influence of the uterine environment on the development of mouse eggs. *J. Embryol. exp. Morph.* 10: 496-506.
- KIRBY, D. R. S. (1963). Development of the mouse blastocysts transplanted to the spleen. *J. Reprod. Fertil.* 5: 1-12.
- KIRBY, D. R. S. (1963). Development of the mouse blastocysts transplanted to the scrotal and cryptorchid testis. *J. Anat., Lond.* 97: 119-130.
- LYALL-WATSON, M. (1963). A critical re-examination of food 'washing' behaviour in the raccoon (*Procyon lotor* Linn.). *Proc. zool. soc. Lond.* 141: 371.
- MATTHEWS, L. HARRISON (1963). The shark that hibernates. *Ann. Rep. Smithson. Inst., Wash.* 1962.
- MATTHEWS, L. HARRISON (1963). A new development in the conservation of African animals, in *The better use of the world's fauna for food*. *Symp. Inst. Biol.* No. 11.
- MATTHEWS, L. HARRISON and KNIGHT, MAXWELL (1963). *The senses of animals*. London: Museum Press.
- PERRY, J. S. and ROWLANDS, I. W. (1963). Hypophysectomy of the immature guinea-pig and the ovarian response to gonadotrophins. *J. Reprod. Fertil.* 6: 393-404.
- SCOTT, T. W., DAWSON, R. M. C. and ROWLANDS, I. W. (1963). Phospholipid interrelationships in rat epididymal tissue and spermatozoa. *Biochem. J.* 87: 507-52.
- SPARKS, J. H. (1963). Social structure of the red avadavat (*Amandava amandava*) with particular reference to clumping and social preening. (Abstract). *Anim. Behav.* 11: 407-408.
- SPARKS, J. H. (1963). Social grooming in animals. *New Scient.* 19: 235-237.
- SPARKS, J. H. (1963). The plumage of the red avadavat (*Amandava amandava*) and its effect upon contact behaviour. *Ibis* 105: 558-561.
- SPARKS, J. H. (1963). Significance of allopreening in the red avadavat and its development in other birds. *Nature, Lond.* 200: 281
- VEVERS, H. G. (1963). Pigmentation of the echinoderms. *Proc. XVI Int. Congr. Zool., Wash. DC.* 3: 120-122.
- VEVERS, GWYNNE (1963). *Fishes in colour: marine and freshwater*. London: H. F. & G. Witherby Limited.
- VEVERS, H. G. (1963). Spring in the sea. *New Scient.* 18: 32-34.
- WOODHEAD, A. D. (1963). The migrations of fish, Parts I and II. *World Fishing*, March and April 1963.



*List of genera, species and subspecies  
new to the Collection*

**Mammalia**

- 25c *Cercopithecus mona wolfi* A. B. Meyer. Wolf's Mona Monkey. Central Africa.  
 \*199c *Cheiromeles torquatus* Horsfield. Hairless Bat. Malay States.  
 264b *Herpestes auropunctatus rufifrons* J. Allen. Rufous-faced Mongoose. South-east Asia.  
 \*483b *Phodopus sungorus sungorus* Pallas. Striped Hairy-footed Hamster. N. E. Kazakhstan and S. Siberia  
 903b *Dendrolagus goodfellowi* Thomas. Good-fellow's Tree Kangaroo. Central New Guinea.  
 \*937a *Sminthopsis crassicaudatus* Gould. Fat-tailed Sminthopsis. Australia.

**Aves**

- 1461b *Butastur rufipennis* Sundevall. Grasshopper Buzzard. Tropical Africa  
 1444a *Aquila wahlbergi* Sundevall. Wahlberg's Eagle. Africa  
 2195b *Coturnix coturnix japonica* Temminck & Schlegel. Japanese Quail. Eastern Asia.  
 963a *Tauraco leucotis leucotis* Ruppell. White-cheeked Turaco. North-eastern Africa.  
 915i *Tricholaema melanocephalum melanocephalum* Cretzschmar. Black-throated Barbet. North-eastern Africa.  
 928f *Trachylaemus purpuratus elgonensis* Sharpe. Elgon Yellow-billed Barbet. East Africa.  
 711b *Turdus sibiricus davisoni* Hume. Davison's Thrush. East and South-east Asia.  
 741a *Turdus aurantius* Gmelin. White-chinned Thrush. Jamaica.  
 706b *Myadestes melanops* Salvin. Black-faced Solitaire. Central America.

- 694a *Acrocephalus griseldis* Hartlaub. Basra Reed Warbler. South-west Asia - East Africa.  
 498a *Emberiza caesia* Cretzschmar. Cretzschmar's Bunting. South-east Europe, South-west Asia and North-east Africa.  
 282b *Spermophaga ruficapilla ruficapilla* Shelley. Red-headed Blue-bill. Tropical Africa.  
 180a *Vidua fischeri* (Reichenow). Fischer's Whydah. East Africa.  
 280d *Ploceus melanogaster stephanophorus* Sharpe. Black-billed Weaver Bird. East Africa.  
 \*98b *Speculipastor bicolor* Reichenow. Magpie Starling. East Africa.  
 121a *Oriolus nigripennis percivali* O. Grant. Black-winged Oriole. East Africa.

**Amphibia**

- Leptopelis viridis* Günther. Tree Frog. West Africa.  
*Bufo camerunensis* Parker. Toad. Uganda west to Liberia and Mt Nimba; also Fernando Po.  
*Rana (Ptychadena) perreti* Guibé & Lamotte. Frog. West Africa.

**Pisces**

- Gnathonemus moori* Günther. Cameroons, Gaboon, Congo.  
*Arnoldichthys spilopterus* (Boulenger). Red-eyed Characin. Tropical West Africa.  
*Neolebias landgrafi* E. Ahl. Cameroons.  
*Rasbora (Rasboroides) vaterifloris* Deraniyagala. Pearly Rasbora. Ceylon.  
*Bedotia geayi* Regan. Madagascar.  
*Scorpaena scrofa* L. East Atlantic and Mediterranean.

\*Genus new to the Collection.



## *List of donors of animals to the Society*

### AUSTRALIAN COLLECTION

The collection of Australian mammals and birds listed below was presented to the Society to mark the visit of Her Majesty The Queen and His Royal Highness The Duke of Edinburgh to Australia in February 1963.

Sir Edward Hallstrom, the Executive Director of Taronga Zoological Park Trust, Sydney, New South Wales, assembled the collection and contributed animals from his private wildlife sanctuary at Mona Vale, near Sydney.

Animals were also given by Taronga Zoological Park Trust, Sydney, Adelaide Zoo, and the Tasmanian Protection Board.

2 Bennett's Wallabies (white variety)	2 Crimson-winged Parrakeets	4 Greater Sulphur-crested Cockatoos
3 Great Grey Kangaroos	2 Cloncurry Parrakeets	12 Roseate Cockatoos
3 Black-faced Kangaroos	6 Queen Alexandra's Parrakeets	4 Bare-eyed Cockatoos
3 Wallaroos	4 Red-rumped Parrakeets	4 Slender-billed Cockatoos
3 Swamp Wallabies	2 Scarlet-chested Grass Parrakeets	4 Leadbeater's Cockatoos
2 Agile Wallabies	6 Bourke's Grass Parrakeets	4 Apostle Birds
3 Goodfellow's Tree Kangaroos	2 Rock-pebbler Parrakeets	4 Nankeen Kestrels
3 Red Kangaroos	6 Pileated Parrakeets	12 Bronze-winged Crested Pigeons
2 Squirrel-like Flying Phalangers	2 Hooded Parrakeets	4 Black-backed Piping Crows
2 Tasmanian Devils	4 Blue-bonnet Parrakeets	4 Magpie Geese
3 Fat-tailed Sminthopsis	4 Pale-headed Rosella Parrakeets	6 Eyton's Whistling Ducks
2 Bennett's Cassowaries	4 Pennant's Parrakeets	2 Australian Black Ducks
8 Yellow-tailed Black Cockatoos	1 Blue-cheeked Rosella	4 Black Swans
4 King Parrakeets	2 Gang-Gang Cockatoos	1 Maned Goose
		6 Grey Teal
		2 Cereopsis Geese

### REGENT'S PARK

Adams, Mrs R., 1 Redstart	Beldham, R., 1 Centipede, 1 tropical House spider, <i>Heteropoda venatoria</i> , 1 Spider, 1 Long-horn Grasshopper, 1 tropical Cockroach
Adrian, R. J., 1 Spectacled Cayman	Bellingham, Dr L. R. E., 2 Wild Golden Hamsters
Alder, J., 2 Elegant Terrapins and 1 Spanish Terrapin	Bennett, Miss J., 1 Spanish Terrapin
Andrews, A. E., 1 Greek Tortoise	Birchall, B., 1 Spectacled Cayman
Andrews, Mrs G., 1 Eider Duck	Bradley, J. R., 9 Stick Insects
Aikman, Captain E. F., 1 European Turtle Dove	Bradshaw, R., 2 Indian Silver Bills, 1 small Indian Mongoose ♂
Aiyela, Messrs, 1 European Hedgehog	Bray, R., 1 Privet Hawk Moth
Apvars, Mrs, 2 Roseate Cockatoos	Brebner, M., 3 Pruner's Hedgehogs
Aslett, Mr, 1 Budgerigar	Brett, Mrs, 1 Blue-fronted Parrot
Atherton, Mr F. S. D., 1 Gannet	Bristowe, Dr W. S., 2 Malay Slow Loris, 2 Golden-backed Squirrels, 1 Siberian Chipmunk, 2 Phayre's Soft-shelled Turtles, 1 Great House Gecko, 1 Indian Changeable Lizard, 1 Common Malayan Frog, 6 <i>Melopoeus arbostratus</i> , 1 Mantid, 1 Belostomatid Bug
Austin, Mrs, 1 Guernsey Calf	Broderick, Mrs E., 1 Patas Monkey ♂
Babbage, F. W., 2 Eyed Hawk Moths	Brown, F. C., 1 Black-headed Conure
Bailey, Mrs A. E., 1 Greek Tortoise	Buckingham, Mr, 1 Spotted Genet ♀
Baker, Mr H. J., 1 Meadow Pipit	
Bale, Mr, 3 Large Goldfish	
Barnett, Andrew P., 1 Slowworm	
Barringer, Mr V., 2 Nutmeg Finches, 2 Cordon-bleu	
Barron, Mrs R., 2 Greek Tortoises	
Bartlett, Mr and Mrs T., 2 Sand-lizards	



- Bunting, Wing-Commander H. V., 2 Elegant Terrapins  
 Calgary Aquarium, 12 Rainbow Trout  
 Campbell, J., 1 Senegal Bushbaby  
 Campbell, J. E., 2 Senegal Bushbabies  
 Carter, L. R., 2 Egyptian Four-toed Jerboas  
 Cash, A. W., 1 Avadavat Finch  
 Cheshire, P. C. R., 1 tropical Cockroach, *Blaberus discaloides*  
 Clark, Richard, 1 European Pond-tortoise, 1 Grass-snake, 2 Four-lined Snakes, 1 Cat-snake, 9 Adders, 3 Long-nosed Vipers and 7 Daudin's Vipers  
 Cohen, Dr J., 2 Kissing Gouramis  
 Coles, Mrs J. E., 1 Elegant Terrapin  
 Collins, Mrs M. C., 2 Greek Tortoises  
 Comyn, Mrs M. J., 1 Greek Tortoise  
 Conway, L. P., 2 Chimpanzees  
 Cording, Miss, 2 White-headed Mannikins  
 Crew, Professor F. A. E., 5 Gouldian Finches  
 Cridland, Mrs, 1 Greek Tortoise  
 Cunliffe-Owen, Miss H., 1 White-throated Capuchin  
 D'eath, J. O., 2 Hartlaub's Turacos  
 Dennison, S. M., 1 Blue-headed Waxbill  
 DesMoulins, Master Alistair, Batch of 160 Stick Insect eggs  
 Dicker, Dr S. E., 1 Mountain Beaver  
 Draycott, W. H., 1 Canary-winged Parrakeet  
 Dresler, Mrs L. M., 1 Senegal Bushbaby  
 Duff, Mrs, 1 Elegant Terrapin  
 Duncan, J., 1 Spanish Terrapin, 2 Smooth Clawed-toads  
 Dunger, Dr G. T., 1 Black-and-white Cobra  
 Edwards, W., 1 Tamarin  
 Emmerton, Mrs P. A., 3 Elegant Terrapins, 2 European Pond-tortoises  
 England, Miss Penny, 1 Flap-necked Chameleon  
 Engleman, Miss P., 1 Diced Water-snake  
 Exall, K. T., 1 Wolf's Mona Monkey  
 Fairley, Mr and Mrs, 1 Grey Parrot  
 Flynn, Mrs R., 3 Large Common Goldfish  
 Ford, R. L. E., Stag Beetles  
 Franks, Mr, 1 Hyacinthine Macaw  
 Freshwater Biological Association, 6 Char  
 Fuller, Miss M., 1 Greek Tortoise  
 Gardiner, Colonel, 1 Horned Cerastes-Viper  
 Garland, J. M., 2 *Heteropoda venatoria*, 1 Long-horn Grasshopper, 1 Privet Hawk Moth  
 Gates, The Reverend R. H., 1 Indian Shama  
 Gemmal, Mrs A., 1 Nepal Hill Myna  
 Gerrish, Miss Alison, 1 Stick Insect  
 Gibson, T. R., 1 Scorpion  
 Gilchrist, Dr B. M., 2 Lampreys  
 Glass, J. N., 1 female Mantis, *Mantis religiosa*  
 Gorham, S. W., 1 Milk-snake, 7 Mudpuppies  
 Gouriet, Captain J. P., 1 Nubian Ibex  
 Granada TV Network, 5 Lemmings  
 Griffiths, C. H., 1 Polecat Ferret  
 Griffiths, D., 2 Pekin Robins  
 Gubby, G., 1 Stick Insect and 12 eggs  
 Gunn, Mrs P. H. P., 1 Grey Parrot  
 Hamill, F., 1 Stag Beetle  
 Harbott, A. G., 1 Common Gull  
 Harding, Mrs M., 1 Eyed Lizard  
 Harvey, Mrs D., 1 Golden-crowned Conure  
 Hastings, P. H., 2 Purplish Guans  
 Hawley, H., 1 Crab Spider  
 Hedges, D., 8 Buthid scorpions, 8 Giant Water-beetles  
 Hediger, Lee and Eric, 1 Canary  
 Hench, A., 1 Cockroach, *Blatta germanica*  
 Hodson, Dr, 2 Sacred Baboons  
 Holland, Mr T. F., 1 Mistle Thrush  
 Hook, Miss Linda, 1 White-winged Parrakeet  
 Hook, O., 1 Grey Seal  
 Hooper, Mrs B., and Oxford, Miss D. J., 25 Millipedes, 1 *Achatina*, 1 Basket Worm, 5 Moth Pupae, 1 *Scolopendra*, 18 Land Hermit-crabs, 11 Cassid Beetles  
 Horton, Philip, 1 Longhorn Grasshopper  
 Hubbard, Mrs, 1 European Hedgehog  
 Hughes, Mrs M. C., 1 Striped Skunk  
 Hunt, P., 1 Dormouse  
 Huntingdon, The Countess of, 1 African Python  
 Iles, Miss O. M., 36 Golden Swordtails, 3 Sun-fish  
 Iles, R. B., 2 Electric Catfish, 3 African Knife Fish, 3 Mirror Carp  
 Ionides, C. J. P., C.M.Z.S., 2 Boomslangs, 2 Common Green Mambas, 2 Puff-adders  
 James, Mrs A., 1 Common Scoter  
 Jarvis, Mrs A. M. H., 1 Bridled Skink, 2 Hungarian Skink, 4 Desert Beetles (*Tenebrionidae*), 31 Ground Beetles (*Brocus*, *Tentyria*, *Carabus*), 3 Oil Beetles (*Meliodae*), 12 Ramshorn Snails, 2 *Scolopendra*, 2 *Latrodectus*, 3 Scorpions, 13 Web Spiders  
 Jeffre, Mrs C., 1 Shelduck  
 Johnson, F. E. B., 3 Japanese Pheasants  
 Johnson, Miss L., 1 Common Pheasant, 1 Pygmy Marmoset ♂  
 Jones, B. G., Blue-headed Parrot  
 Jones, H. C., 1 Crab-eating Raccoon  
 Jones, K. R., 1 Scorpion  
 Jones, Mrs M. L., 2 Reeves's Terrapins, 1 Three-banded Terrapin  
 Kahn, D., 1 Little Owl  
 Kenny, J. S., 2 *Gymnotus carapo*, 3 *Ampullaria* adults, Eggs of green *Ampullaria*, Eggs of *Marisa*  
 King, H., 1 Elegant Terrapin  
 Kingston, G., 1 Meller's Chameleon  
 Knobel, Miss E. M., 1 Virginian Cardinal, 1 Indian Shama  
 Laurimore, Mrs Z., 2 European Pond Tortoises  
 Lewis, Mr, 1 Crab spider, *Torania variata*  
 Lewis, P. H., 1 Mediterranean Chameleon  
 Litchfield, Mrs E., 1 Bullfinch  
 Littlechild, V., 1 Rosy-faced Lovebird  
 Llewellyn, Sir Rhys, Bart., 1 Mediterranean Chameleon



- Lofts, V., 3 Cockatiels  
 London, G. H. D., 1 Stoat  
 Lopianowski, Dr A. J., 2 European Tree Frogs  
 Louri, Dr, 1 Common Hangnest  
 Lowsley, M., 4 Thomas's Dabb Lizards, 1 Sand Skink  
 Luck, Master Rolf, 3 Carabid Beetles, 1 Long-horned Beetle, 1 Weevil, 17 Millipedes, 2 Mantis oothecae, 1 Centipede, 1 Ants' Nest, 2 Termite Nests, 1 Hornet and nest, 3 Lasio-campid larvae, 1 Argiopid Spider, a number of Fulgorid and Assassin Bugs, 1 Stink Bug  
 Lyall-Watson, M., 4 Indian White-eyes  
 McCarthy, D., 1 Gannet  
 McGregor, Mrs F., 1 Magpie (albino)  
 McInerney, Mrs A., 2 Goldfinches  
 McShane, Miss Andrea, 1 John's Sand Boa  
 McSweeney, Mr, 1 Lapwing  
 Madge, J. P., 1 Ring-tailed Lemur  
 Manser, Peter D., 2 Margouillat Agama, 2 Senegal Chameleons, 1 Graceful Chameleon, 3 Royal Pythons  
 Mapleson, B. M., Stick Insects  
 Marjoribanks, A. B., 1 Giant Water Bug (Belostomatidae)  
 Marshall, Mrs, 2 Common Goats  
 Mason, S. P., 2 Green Toads  
 Medway, The Lord, 3 Hairless Bats  
 Mekis, Federico O., 4 Gay's Frogs, 21 Darwin's Dwarf-frogs  
 Metcalfe, Dr C. R., 1 Sand-lizard  
 Meyerowitz, J., 1 Southern Painted Terrapin, 1 Elegant Terrapin  
 Miller, J., 1 Spotted Dogfish  
 Miller, J. D., 1 Aesculapian Snake  
 Mills, L. D., 1 Elegant Terrapin  
 Mitchel, Miss Jane, 1 Green Lizard  
 Moore, Mrs F. L., 2 Blue-headed Parrots  
 Morgan, R. E., 2 Elegant Terrapins  
 Mount, Mrs E., 2 Siskin, 1 Zebra Finch  
 Mountfort, Guy, 1 Mediterranean Chameleon  
 Munro, Mrs D., 2 Grey Parrots  
 Nash, L., 1 Blue Tanager  
 Naylor, N., 2 East African Crowned Cranes  
 New, Midshipman S. R., 1 Nile Crocodile  
 Newby, Mrs O., 1 Common Marmoset  
 Newmark, Messrs G. H. and J. R., 1 White-chinned Thrush, 1 Fischer's Whydah, 1 Peter's Twin-spot, 1 Blue-headed Waxbill, 1 Black-throated Barbet, 7 Margouillat Agama, 2 Royal Python, 1 Herald Snake, 1 Dumeril's Frog, 1 Galam Lake Frog, 3 Sharp-snouted Frogs, 2 Folded Toad Frogs, 1 Tree Frog, *Leptopelis viridis*, 1 Frog, *Rana perreti*, 1 Toad, *Bufo camerunensis*, 3 *Nephila turneri*, 12 *Nephila* sp., 11 Spiders (Argiopidae), 2 *Theridion* sp, 1 *Heteropoda venatoria*, 2 Sparassidae, 1 *Lycosa* sp., 4 *Gasteracantha* sp., 5 *Pandinus imperator*, 8 *Trombidium* sp., 9 Land Crabs, 29 Rhinoceros Beetles, 4 Stag Beetles (Lucanidae), 1 Long-horn Beetle (Corambycidae), 2 Hunting Beetles, 3 Passalid Beetles, 3 Assassin Bugs, 1 Pentatomid Bug, 2 Crickets, 1 *Ornithacris turbida*, 3 *Acrida turreta*, 3 Long-horn grasshoppers, 1 Stick Insect, 18 Mantids (various species), 7 Mantis oothecae, 21 Mud-skipppers  
 Norris, D. H., 1 Ring-necked Parrakeet  
 Oxford, Miss D. J., 1 Hoehneli's Two-banded Chameleon, 1 Jackson's Chameleon  
 Paterson, N. J., 1 African Python  
 Perrie, William R. J., 1 Siamese Terrapin, 1 Caspian Terrapin  
 Petter, Dr F., 4 Elegant Striped Mice, 2 *Martomys*  
 Pratt, C. B., 1 Crab spider  
 Prewer, S., 1 Margouillat Agama  
 Pritchard, P., 12 Persian Agamas  
 Pye, Dr J. D. and Flinn, Mr M., 1 Spectacled Cayman  
 R.A.F. Butterworth, Malaysia, 2 Two-banded Monitors  
 Randau, G., 1 Pucheran's Emerald Humming Bird  
 Rayner, The Hon. Mrs J., 1 Mediterranean Chameleon, 2 Eyed Skinks  
 Reay, W. H., 7 Mantis oothecae  
 Rees, E., 1 Hedgehog  
 Richens, J. R., 1 Crab spider  
 Riley, L. P., 1 Zebra Finch  
 Rivers, E., 1 Margouillat Agama  
 Roach Dr P., 1 Spectacled Cayman  
 Roberts, D., 2 Fish Eagles  
 Roberts, Mrs, 1 Rabbit  
 Robinson, Miss H. and Master E., 40 Stick Insects  
 Romer, J. D., M.I.Biol., C.M.Z.S., 3 Striped Keel-backs, 1 Indian Wolf Snake, 2 Lesser Indian Rat-snakes, 2 Moon Snakes, 2 Moellendorff's Snakes, 2 Eastern Copperheads  
 Rowlands, R. W., 1 Cricket  
 Royal Veterinary College, 8 Japanese Quail  
 Ruggles, F. G., 1 Blue-and-yellow Macaw  
 Schröder, Herr W., Stridulating Cockroaches, *Henschoutedenia flexivittata*, Stick Insects, *Sipyloida sipylus*  
 Searle, Dr K. C., 1 Eastern White-breasted Waterhen, 2 Baikal Teal, 1 Golden-backed Squirrel, 1 Pallas's Squirrel, 1 Rufous-faced Mongoose, 1 Asiatic Fox  
 Shailer, Mrs B., 12 Stick Insects  
 Sidcup Police Station, 1 Grass Snake  
 Sinnett, J., 1 Flap-necked Chameleon  
 Snell, Dr W. E., 1 Long-horn Grasshopper  
 Société Royale de Zoologie d'Anvers, 1 Monkey-eating Eagle, 5 *Eupagurus bernhardus*, 2 *Calliactis parasitica*, 5 *Actinia equina* var. *fragacea*, 5 *Calliactis parasitica*, 5 *Ascidiella scabra*, 10 *Ascidia mentula*, 10 *Phallusia mammillata*, 1 *Aplysia punctata*  
 Songin, Miss J., 1 Crimson-backed Tanager  
 Sparks, J., 2 Black-headed Mannikins  
 Stephenson, J., 1 Caspian Terrapin



Stevens, G. W., *Ampullaria* sp. and eggs, Solitary wasp cells, 9 *Achatina*, 14 Leeches  
 Stevenson, G., 1 Natal Terrapin  
 Story, T. H. S., 1 Grasshopper Buzzard, 1 Abyssinian Lanner  
 Stride, P. J., 4 Natterjacks  
 Suzuki, I., 1 Senegal Parrot  
 Sweet, R. J., 1 Peters's Green Snake, 1 Herald Snake  
 Sydney, B., 1 Senegal Bushbaby  
 Sykes, D., 1 Polecat Ferret  
 Tansley, P. C., 1 Green Honeycreeper  
 Taylor, Mr, 1 Yellow-mantled Whydah  
 Thomson, W., 1 Scops Owl  
 Thornton, W. A., 1 Golden Carp, 2 Golden Orfe  
 Torquay Aquarium, 3 Varied Bush-snakes  
 Twist, H., 1 European Pond-tortoise  
 Unwin, D. D., 1 Pallas's Glass Snake, 1 John's Sand-boa, 1 Green Lizard, 1 Bull-snake.  
 Veselovsky, Dr Z., 2 Striped Hairy-footed Hamsters

Wakefield, Mrs, 2 Chinese Geese  
 Warren, A., 1 European Pond-tortoise  
 Warren, Mrs, 1 Magpie  
 Webb, H., 1 Yellow-collared Parrakeet  
 Webb, R., 1 Bird-eating Spider  
 Webster, Mrs C., 1 White-winged Parrakeet  
 White, Miss G., Eggs of Poplar Hawk Moth, *Laothoe populi*  
 White, M. J., 60 eggs of *Extatosoma tiaratum*  
 Whitehead, Miss L., 1 Wahlberg's Eagle  
 Whitehead, R. C., 1 Common Marmoset  
 Whitworth, Miss M., 2 Painted Quail, 2 Red-eared Bulbuls  
 Wilkin, Mrs C., large quantity of mealworms  
 Witton, Miss J., 1 Elegant Terrapin  
 Wood, L., 1 European Pond-tortoise  
 Woodall, Mrs, 1 Canary  
 Worrall, A. T., 1 Crested Lark, 1 Calandra Lark, 2 Cretzschmar's Buntings  
 Wyer, Mr, 1 Mediterranean Chameleon

#### WHIPSNADE PARK

Anonymous, 1 Peter's Bushy-tailed Galago  
 Barratt, F., 1 Common Peafowl  
 Braver, Dr, 1 Donkey  
 Campbell, F. H., 2 Common Peafowl  
 Farrow, Mrs, 1 Blue and Yellow Macaw  
 Gelling, Mr, 1 Scarlet Macaw

Green, Mrs, 1 Yellow-cheeked Parrot  
 Hilliott, H. G., 1 Spectacled Cayman  
 Lillywhite, G. C., 3 Canada Geese  
 Porter, W., 1 Golden Pheasant  
 Royal Botanic Gardens, Kew, 3 Black Swans  
 Tyrwhitt-Drake, Sir Garrard, 5 Cream Ponies



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

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

**Mammalia**

- 1 Orang Utan
- 1 Gelada Baboon
- 1 Mandrill
- 2 Ring-tailed Lemurs
- 3 Mouse Lemurs
- 1 Malay Slow Loris
- 1 Senegal Bushbaby
- 3 Pruner's Hedgehogs (2)
- 1 Malaysian Fruit Bat (1)
- 3 Tigers (2)
- 1 Jaguar
- 5 Pumas
- 2 Dingoes
- 2 European Badgers
- 7 Ring-tailed Coatis (1)
- 2 Syrian Bears (1)
- 2 Californian Sea Lions (2)
- 2 Grey Seals
- 20 Arabian Spiny Mice
- 9 Martomys (9)
- 3 Gambian Pouched Rats (1)
- 1 Coypu

**Mammalia**

- 3 Rhesus Monkeys (1)
- 2 Tigers
- 10 Canadian Timber Wolves
- 1 Polar Bear
- 8 Brown Bears
- 1 Crested Porcupine
- 6 Shetland Ponies
- 1 Cream Pony (1)
- 1 Grevy Zebra
- 1 Pygmy Donkey
- 5 Ankole Oxen (1)
- 5 Chartley Oxen
- 2 Yaks
- 2 North American Bison (1)
- 6 Mouflon (1)
- 1 White-bearded Gnu
- 9 Thomson's Gazelles (2)
- 7 East African Elands (3)
- 1 Cotton's x Reticulated Giraffe
- 4 Fallow Deer (1)

**REGENT'S PARK**

- 7 Orange-rumped Agoutis (3)
- 7 Green Acouchies (1)
- 1 Hartmann's Mountain Zebra
- 2 American Bison
- 5 Mouflon (4)
- 8 Barbary Wild Sheep (7)
- 7 Blackbuck (6)
- 1 Reticulated Giraffe
- 1 Hog Deer
- 1 Red-necked Wallaby

**Aves**

- 1 Black-footed Penguin (1)
- 1 African Cattle Egret
- 3 Black Swans (1)
- 2 Greenland White-fronted Geese
- 3 Pallas's Eared Pheasants
- 1 Erckel's Francolin
- 2 Swinhoe's Pheasants
- 1 Lady Amherst's Pheasant

**WHIPSNADE PARK**

- 7 Fallow Deer (Dark Variety) (4)
- 6 Axis Deer (2)
- 2 Hog Deer
- 1 Swamp Deer
- 1 Sika Deer
- 12 Formosan Deer (3)
- 24 Red Deer (1)
- 4 Wapiti (1)
- 6 Père David's Deer
- 5 White-tailed Deer
- 52 Chinese Water Deer
- 2 Bactrian Camels (1)
- 8 Llamas (1)
- 5 Guanacos (1)
- 5 Viet-nam Pot-bellied Pigs
- 1 Collared Peccary
- 1 Hippopotamus
- 1 Pygmy Hippopotamus
- 102 Bennett's Wallabies (2)
- 1 Bennett's Wallaby (White Variety)

- 6 Golden Pheasants (1)
- 4 Sonnerat's Jungle Fowl
- 2 Sarus Cranes (2)
- 1 Great Black-backed Gull
- 1 Herring Gull
- 2 Collared Turtle Dove x Turtle Dove
- 3 Crested Pigeons
- 4 Queen Alexandra's Parrakeets
- 3 Fischer's Lovebirds
- 2 Great Eagle Owls
- 4 Kenya Eagle Owls
- 2 Spotted Eagle Owls
- 1 Snowy Owl
- 1 Barn Owl
- 2 Superb Glossy Starlings

**Reptilia**

- 20 Boa Constrictors
- 5 Leaf Vipers (4)

**Aves**

- 15 Common Rheas (2)
- 4 Whooper Swans (1)
- 3 Black-necked Swans
- 8 Grey Lag Geese
- 3 Greater Snow Geese
- 4 Upland Geese
- 6 Egyptian Geese (1)
- 4 South African Shelduck
- 6 Carolina Ducks (1)
- 2 White Storks
- 2 Demoiselle Cranes (1)
- 2 Pallas's Eared Pheasants
- 3 Chinese Silver Pheasants
- 4 Swinhoe's Pheasants
- 33 Golden Pheasants
- 8 Lady Amherst's Pheasants
- 20 Red Jungle Fowl
- 70 Common Peafowl (1)
- 4 Common Peafowl (White Variety)
- 122 N. A. Turkeys (26)
- 3 Budgerigars



*List of animals received*

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

REGENT'S PARK		
<b>Mammalia</b>	3 Balinese Squirrels	2 Sheep
<i>Primates</i>	7 Siberian Chipmunks	15 Common Goats
3 Chimpanzees	16 Prairie Marmots	6 Pigs
1 Orang Utan	1 Dormouse	
2 Gibbons	1 Bushy-tailed Dormouse	<b>Aves</b>
1 Wolf's Mona Monkey	2 Striped Hairy-footed Hamsters	<i>Sphenisciformes</i>
1 Patas Monkey	2 Wild Golden Hamsters	1 Black-footed Penguin
1 Barbary Ape	4 Elegant Striped Mice	<i>Pelecaniformes</i>
2 Gelada Baboons	11 Martomys	2 Gannets
2 Sacred Baboons	20 Arabian Spiny Mice	2 Long-tailed Cormorants
2 Mandrills	3 Gambian Pouched Rats	<i>Ciconiiformes</i>
1 White-throated Capuchin	5 Lemmings	1 African Cattle Egret
2 Common Marmosets	8 Water Voles	2 African Yellow-billed Egrets
1 Pygmy Marmoset	1 Mountain Beaver	1 Bittern
1 Tamarin	1 African Brush-tailed Porcupine	2 Sacred Ibis
3 Ring-tailed Lemurs	1 Coypu	1 Spoonbill
3 Mouse Lemurs	7 Orange-rumped Agoutis	<i>Anseriformes</i>
3 Malay Slow Loris	7 Green Acouchies	2 Mute Swans
7 Senegal Bushbabies	<i>Perissodactyla</i>	2 Cereopsis Geese
<i>Insectivora</i>	1 Mongolian Wild Horse	2 Greenland White-fronted Geese
3 European Hedgehogs	1 Hartmann's Mountain Zebra	1 Shelduck
6 Pruner's Hedgehogs	<i>Artiodactyla</i>	2 New Zealand Shelduck
<i>Chiroptera</i>	1 Banteng	2 Black Ducks
1 Malaysian Fruit Bat	1 European Bison	2 Baikal Teal
3 Hairless Bats	2 American Bison	2 Garganey Teal
<i>Carnivora</i>	5 Mouflon	2 Sharp-winged Teal
3 Tiger cubs	8 Barbary Wild Sheep	2 Chilean Pintail
1 Jaguar	1 Nubian Ibex	2 Pintail
5 Pumas	7 Blackbuck	2 White-eyed Pochard
1 Clouded Leopard	1 Nilgai	2 Lesser Scaup
1 Spotted Genet	1 Reticulated Giraffe	1 Common Scoter
1 Small Indian Mongoose	1 Hog Deer	1 Eider Duck
1 Rufous-faced Mongoose	4 Reindeer	<i>Falconiformes</i>
2 Dingoes	3 Alpaca	1 Grasshopper Buzzard
1 Fennec Fox	<i>Xenarthra</i>	1 Monkey-eating Eagle
1 Asiatic Fox	1 Hairy Armadillo	1 Wahlberg's Eagle
1 Stoat	<i>Marsupialia</i>	1 Booted Eagle
2 Polecat Ferrets	1 Red-necked Wallaby	2 Fish Eagles
2 European Badgers	3 Goodfellow's Tree Kangaroos	2 Western Lesser Kestrels
1 Striped Skunk	3 Fat-tailed Sminthopsis	1 Kestrel
1 Crab-eating Raccoon	2 Squirrel-like Flying Phalangens	1 Abyssinian Lanner
7 Ring-tailed Coatis	<i>Domestic</i>	<i>Galliformes</i>
2 Syrian Bears	(excluding small species)	2 Purplish Guans
2 Kodiak Bears	2 Shetland Ponies	2 Erckel's Francolin
2 American Black Bears	5 Donkeys	1 Swainson's Francolin
<i>Pinnipedia</i>	1 Guernsey Calf	8 Japanese Quail
2 Californian Seal Lions		2 Painted Quail
3 Grey Seals		1 Painted Spurfowl
<i>Rodentia</i>		1 Satyr Tragopan



1 Temminck's Tragopan  
 2 Pallas's Eared Pheasants  
 2 Swinhoe's Pheasants  
 2 Chinese Silver Pheasants  
 1 Common Pheasant  
 3 Japanese Pheasants  
 1 Hume's Bar-tailed Pheasant  
 1 Elliot's Pheasant  
 1 Reeves's Pheasant  
 1 Lady Amherst's Pheasant  
 6 Golden Pheasants  
 6 Vulturine Guinea Fowl  
*Gruiformes*  
 2 Sarus Cranes  
 1 Demoiselle Crane  
 2 East African Crowned Cranes  
 1 Eastern White-breasted Waterhen  
 2 Tasmanian Waterhens  
*Charadriiformes*  
 1 Lapwing  
 2 Blacksmith Plovers  
 1 Woodcock  
 2 Avocets  
 1 Common Gull  
 1 Great Black-backed Gull  
 1 Herring Gull  
 2 Gull-billed Terns  
*Columbiformes*  
 2 Speckled Pigeons  
 1 European Turtle Dove  
 2 Collared Turtle Dove x Turtle Dove  
 3 Crested Pigeons  
*Psittaciformes*  
 2 Roseate Cockatoos  
 10 Cockatiels  
 1 Hyacinthine Macaw  
 1 Blue-and-Yellow Macaw  
 1 Black-headed Conure  
 1 Golden-crowned Conure  
 1 Quaker Parrakeet  
 2 Sierra Parrakeets  
 1 Canary-winged Parrakeet  
 2 White-winged Parrakeets  
 3 Blue-headed Parrots  
 1 Blue-fronted Parrot  
 1 Senegal Parrot  
 4 Grey Parrots  
 1 Layard's Parrakeet  
 1 Ring-necked Parrakeet  
 2 Alexandrine Parrakeets  
 4 Queen Alexandra's Parrakeets  
 1 Rosy-faced Lovebird  
 3 Fischer's Lovebirds  
 1 Yellow-collared Parrakeet  
 1 Red-rumped Parrakeet

*Cuculiformes*  
 2 Purple-crested Turacos  
 2 White-cheeked Turacos  
 2 Hartlaub's Turacos  
*Strigiformes*  
 4 Great Eagle Owls  
 2 Spotted Eagle Owls  
 4 Kenya Eagle Owls  
 1 Snowy Owl  
 1 Little Owl  
 1 Scops Owl  
 1 Barn Owl  
*Apodiformes*  
 7 Pucheran's Emerald Humming Birds  
 4 Ruby-and-Topaz Humming Birds  
*Coraciiformes*  
 1 European Roller  
 1 Hoopoe  
*Piciformes*  
 1 Elgon Yellow-billed Barbet  
 1 Black-throated Barbet  
*Passeriformes*  
 1 Bengal Pitta  
 1 Crested Lark  
 1 Calandra Lark  
 1 Meadow Pipit  
 2 Red-eared Bulbuls  
 2 Straight-crested Helmet-shrike  
 3 Black-faced Solitaires  
 1 Mistle Thrush  
 1 White-chinned Thrush  
 1 Davison's Thrush  
 2 Indian Shammas  
 1 Loo Choo Robin  
 1 Wheatear  
 1 Redstart  
 3 White-crested Jay-thrushes  
 2 Necklaced Jay-thrushes  
 2 Pekin Robins  
 2 Sedge Warblers  
 1 Basra Reed Warbler  
 4 Beautiful Sunbirds  
 4 Variable Sunbirds  
 4 Indian White-eyes  
 1 Lapland Bunting  
 2 Cretzschmar's Buntings  
 1 Virginian Cardinal  
 1 Red-crested Cardinal  
 1 Scarlet Tanager  
 2 Red-crowned Tanagers  
 1 Blue Tanager  
 1 Green Honey Creeper  
 1 Common Hangnest  
 1 Bullfinch  
 1 Hawfinch  
 2 Goldfinches  
 2 Siskins

1 Avadavat  
 2 Blue-headed Waxbills  
 2 Cordon-bleu  
 2 Zebra Finches  
 5 Gouldian Finches  
 1 Peter's Twin-spot  
 2 Red-headed Blue-bills  
 2 Indian Silver Bills  
 2 Black-headed Mannikins  
 2 White-headed Mannikins  
 2 Nutmeg Finches  
 1 Cut-throat Finch  
 1 Java Sparrow  
 1 Fischer's Whydah  
 2 Black-billed Weaver Birds  
 1 Orange Weaver Bird  
 1 Yellow-mantled Whydah  
 2 Magpie Starlings  
 2 Superb Glossy Starlings  
 4 Ruppell's Glossy Starlings  
 8 Bristle-crowned Starlings  
 1 Nepal Hill Myna  
 1 Black-winged Oriole  
 4 Alpine Choughs  
 2 Wandering Tree Pies  
 2 Magpies  
 1 Jackdaw  
*Domestic*  
 2 Chinese Geese  
 1 Barbary Dove  
 22 Budgerigars  
 2 Canaries  
*Reptilia*  
*Order Testudines*  
 1 Southern Painted Terrapin  
 15 Elegant Terrapins  
 1 Siamese Terrapin  
 2 Reeves's Terrapins  
 2 Caspian Terrapins  
 3 Spanish Terrapins  
 8 European Pond-tortoises  
 1 Three-banded Terrapin  
 1 Amboina Box-tortoise  
 9 Greek Tortoises  
 1 Natal Terrapin  
 2 Phayre's Soft-shelled Turtles  
*Order Crocodylia*  
 1 Nile Crocodile  
 4 Spectacled Cayman  
*Order Sauria*  
 1 Great House-Gecko  
 1 Moorish Gecko  
 2 Carolina Anolis  
 1 Indian Changeable Lizard  
 11 Margouillat Agama  
 12 Persian Agama  
 4 Thomas's Dabb Lizards  
 2 General Hardwicke's Dabb Lizards



- 5 Mediterranean Chameleons
- 2 Senegal Chameleons
- 1 Graceful Chameleon
- 2 Flap-necked Chameleons
- 1 Hoehneli's Two-banded Chameleon
- 1 Jackson's Chameleon
- 1 Meller's Chameleon
- 1 Bridled Skink
- 2 Hungarian Skinks
- 1 Sand Skink
- 2 Eyed Skinks
- 9 Sand-lizards
- 2 Green Lizards
- 1 Eyed Lizard
- 6 Wall-lizards
- 2 Spanish Sand-lizards
- 2 Two-banded Monitors
- 1 Pallas's Glass-snake
- 1 Slowworm
- Order Serpentina*
- 3 African Pythons
- 5 Royal Pythons
- 20 Boa Constrictors

#### Mammalia

##### *Order Primates*

- 4 Lar Gibbons
- 3 Rhesus Monkeys
- 1 Peter's Bushy-tailed Galago

##### *Order Carnivora*

- 2 Tigers
- 2 Cheetahs
- 2 Lesser Indian Mongoose
- 10 Canadian Timber Wolves
- 1 Cape Clawless Otter
- 1 Polar Bear
- 8 Brown Bears
- 1 Kodiak Bear

##### *Order Rodentia*

- 2 Canadian Porcupines
- 1 Crested Porcupine
- 4 Spotted Paca
- 15 Central American Agoutis

##### *Order Perissodactyla*

- 1 Grevy's Zebra
- 5 Burchell's Zebras
- 1 Kulan
- 4 Onagers
- 2 Black Rhinoceroses

##### *Order Artiodactyla*

- 4 Yaks
- 3 North American Bison
- 1 Cape Buffalo
- 8 Mouflon
- 1 White-bearded Gnu
- 2 Blackbucks
- 9 Thomson's Gazelles
- 7 Eland
- 2 Reticulated Giraffes

- 2 John's Sand-boas
- 2 Grass Snakes
- 1 Diced Water-snake
- 3 Striped Keelbacks
- 1 Indian Wolf Snake
- 2 Lesser Indian Rat-snakes
- 2 Four-lined Snakes
- 2 Moon Snakes
- 1 Aesculapian Snake
- 2 Moellendorff's Snakes
- 2 Eastern Copperheads
- 1 Ladder Snake
- 2 Bull Snakes
- 1 Peters's Green Snake
- 3 Varied Bush-snakes
- 2 Smooth Snakes
- 1 King-snake
- 1 Milk-snake
- 1 Cat-snake
- 2 Black-and-gold Tree-snakes
- 2 Herald Snakes
- 2 Boomslangs
- 1 Black-and-white Cobra

#### WHIPNADE PARK

- 1 Cotton's x Reticulated Giraffe
- 4 Fallow Deer
- 7 Fallow Deer (Dark Variety)
- 6 Axis Deer
- 3 Hog Deer
- 1 Swamp Deer
- 1 Sika Deer
- 12 Formosan Deer
- 24 Red Deer
- 4 Wapiti
- 13 Père David's Deer
- 5 White-tailed Deer
- 3 Reindeer
- 52 Chinese Water Deer
- 3 Bactrian Camels
- 10 Llamas
- 5 Guanacos
- 1 Alpaca
- 1 Collared Peccary
- 5 Vietnam Pot-bellied Pigs
- 1 Hippopotamus
- 1 Pygmy Hippopotamus
- Order Marsupialia*
- 3 Great Grey Kangaroos
- 3 Black-faced Kangaroos
- 3 Wallaroos
- 3 Red Kangaroos
- 3 Swamp Wallabies
- 3 Bennett's Wallabies (White Variety)
- 102 Bennett's Wallabies
- 2 Agile Wallabies
- 2 Tasmanian Devils

- 3 Indian Cobras
- 2 Common Mambas
- 16 Adders
- 1 Asp
- 3 Long-nosed Vipers
- 7 Daudin's Vipers
- 2 Puff Adders
- 1 Horned Cerastes-viper
- 8 Leaf Vipers

#### Amphibia

##### *Order Salientia*

- 2 Smooth Clawed-toads
- 4 Natterjacks
- 2 Green Toads
- 2 European Tree Frogs
- 4 Gay's Frogs
- 1 Dumeril's Frog
- 1 Galam Lake Frog
- 3 Sharp-snouted Frogs
- 1 Common Malayan Frog
- 2 Folded Toad Frogs
- 21 Darwin's Dwarf-frogs

#### Domestic

- 7 Shetland Ponies
- 2 Dartmoor Ponies
- 6 Cream Ponies
- 1 Pygmy Donkey
- 3 Donkeys
- 5 Chartley Oxen
- 5 Ankole Oxen

#### Aves

##### *Rheiformes*

- 15 Common Rheas

##### *Casuariiformes*

- 2 Bennett's Cassowaries

##### *Sphenisciformes*

- 3 Gentoo Penguins
- 6 Rock-hopper Penguins

##### *Ciconiiformes*

- 2 White Storks
- 2 Indian Adjutant Storks
- 22 Rosy Flamingos
- 10 Chilean Flamingos

##### *Anseriformes*

- 6 Eyton's Whistling Ducks
- 4 Whooper Swans
- 3 Black-necked Swans
- 7 Black Swans
- 4 Magpie Geese
- 2 Cereopsis Geese
- 8 Grey Lag Geese
- 3 Greater Snow Geese
- 4 Bar-headed Geese
- 4 Pacific Black Brent Geese
- 3 Canada Geese
- 4 Upland Geese



- 6 Egyptian Geese
- 4 South African Shelducks
- 3 Australian Black Ducks
- 2 Red-billed Ducks
- 6 Grey Teal
- 1 Maned Goose
- 12 Mandarin Ducks
- 6 Carolina Ducks
- Falconiformes*
- 4 Nankeen Kestrels
- Galliformes*
- 2 Pallas's Eared Pheasants
- 3 Chinese Silver Pheasants
- 4 Swinhoe's Pheasants
- 20 Red Jungle Fowl
- 34 Golden Pheasants
- 8 Lady Amherst's Pheasants
- 73 Common Peafowl
- 4 Common Peafowl (White Variety)
- 122 North American Turkeys
- Gruiformes*
- 2 Demoiselle Cranes
- 4 Purple Gallinules

- Columbiformes*
- 12 Bronze-winged Crested Pigeons
- Psittaciformes*
- 8 Yellow-tailed Black Cockatoos
- 2 Gang-gang Cockatoos
- 4 Greater Sulphur-crested Cockatoos
- 4 Leadbeater's Cockatoos
- 4 Bare-eyed Cockatoos
- 4 Slender-billed Cockatoos
- 12 Roseate Cockatoos
- 9 Budgerigars
- 2 Blue and Yellow Macaws
- 1 Scarlet Macaw
- 1 Yellow-headed Conure
- 1 Yellow-cheeked Parrot
- 2 Rock-pebbler Parrakeets
- 6 Queen Alexandra's Parrakeets
- 2 Crimson-winged Parrakeets
- 4 King Parrakeets
- 4 Pennant's Parrakeets
- 2 Cloncurry Parrakeets

- 4 Pale-headed Rosella Parrakeets
- 1 Blue-cheeked Rosella Parrakeet
- 6 Pileated Parrakeets
- 4 Blue-bonnet Parrakeets
- 2 Hooded Parrakeets
- 4 Red-rumped Parrakeets
- 6 Bourke's Grass Parrakeets
- 2 Scarlet-chested Grass Parrakeets
- Piciformes*
- 1 Baillon's Aracari
- Passeriformes*
- 1 Southern Hill Myna
- 4 Apostle Birds
- 4 Black-backed Piping Crows

- Reptilia**
- Order Crocodilia*
- 1 Spectacled Cayman
- Order Serpentina*
- 1 African Python
- 1 Royal Python



*Donations to the Zoological Record*

	£	s	d
Acadian Entomological Society	8	3	1
Alberta Entomological Society	3	5	0
American Entomological Society	17	14	4
American Museum of Natural History	177	19	1
American Society of Ichthyologists and Herpetologists	75	6	2
American Society of Mammalogists	106	15	5
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
Brooklyn Entomological Society	3	10	4
British Ornithologists' Club	5	5	0
British Ornithologists' Union	15	15	0
British Trust for Ornithology	2	0	0
California Academy of Sciences	9	18	5
Canadian Society of Zoologists	8	0	0
Chace, Dr F. A.	6	12	2
Challenger Society	5	5	0
Chicago Natural History Museum	17	14	2
Conchological Society of Great Britain and Ireland	2	0	0
Duke University, Department of Zoology	17	14	0
Entomological Society of America	71	4	9
Entomological Society of Canada, for Vol. 99	32	16	2
Entomological Society of Canada, for Vol. 100	32	15	1
Entomological Society of Manitoba	3	4	2
Entomological Society of Ontario	32	18	2
Gehlibach, Dr F. R.	1	1	10
Geological Society of London	10	10	0
Gosline, Dr W. G.	71	4	10
Harvard University, Museum of Comparative Zoology, Vol. 97	88	16	10
Harvard University, Museum of Comparative Zoology, Vol. 98	89	0	10
Hawaiian Entomological Society	17	13	8
Humes, Professor A. G.	1	6	2
International Union of Biological Sciences	535	14	3
Kennicott Club	8	16	11
Linnean Society of London	20	0	0
Linnean Society of New South Wales	11	19	0
Liverpool School of Tropical Medicine	3	3	0
London School of Hygiene and Tropical Medicine	2	2	0
Malacological Society of London	2	2	0
Mammal Society of the British Isles	2	2	0
Michigan, University of	35	11	2
Mayr, Dr Ernst	8	16	11
Naples Zoological Station	10	0	0
New York Zoological Society	35	11	2
Paleontological Society	17	13	6
Royal Entomological Society of London	25	0	0
Royal Society of New Zealand, for Vol. 98	25	0	0
Royal Society of New Zealand, for Vol. 99	25	0	0
Royal Society of Tropical Medicine and Hygiene	5	5	0
Smithsonian Institution	35	11	2
Society of Systematic Zoology	71	1	7
Transvaal Museum	5	5	0
Wellcome Laboratories of Tropical Medicine	17	10	0
Wilson, Mrs		9	11
Yount, J. L.	2	19	4
Total	£2,404	10	7



*Books presented to the Library*

- ADAMSON, JOY  
 BARKER, PHILIP  
 BOYLE, LT.-COL. C. L., O.B.E.
- BRITISH MUSEUM (NATURAL HISTORY),  
 TRUSTEES OF
- CARRINGTON, RICHARD
- CÉSKOSLOVENSKÁ AKADÉMIA VIED
- DAVIS, R. A. M.Sc., D.I.C.,  
 A.R.C.S., M.I.Biol.
- EMERSON, W. K.
- FORT WORTH ZOOLOGICAL PARK
- HAHN, D. E.
- HARRIS, C. J.  
 HART-DAVIS, RUPERT, LTD  
 JEWELL, P. A.
- Forever free: Elsa's pride. By Joy Adamson. 1962  
 Life in the aquarium. By Philip Barker. 1960  
 Realities of bird life: being extracts from the diaries of a  
 life-loving naturalist. By Edmund Selous. 1927  
 Bulletin of the British Museum (Natural History) Entomology,  
 Vol. 13, nos. 3-11; Vol. 14, nos. 1-4.  
 Geology, Vol. 7, nos. 6-9; Vol. 8, nos. 1-6; Vol. 9,  
 nos. 1-2  
 Zoology, Vol. 8, no. 10; Vol. 9, nos. 2-9; Vol. 10,  
 nos. 1-9; Vol. 11, no. 1  
 Catalogue of the type specimens of Microlepidoptera in  
 the British Museum (Natural History) described by  
 Edward Meyrick. Vol. IV. By J. F. Gates Clarke. 1963  
 Digging up bones: the excavation, treatment and study of  
 human skeletal remains. By Don R. Brothwell. 1936  
 The lower tertiary floras of Southern England. II. Flora  
 of the pipe-clay series of Dorset (Lower Bagshot).  
 By Marjorie Elizabeth Chandler. 1962  
 A monograph of the immature stages of Australasian  
 timber beetles (Cerambycidae). By E. A. J. Duffy. 1963  
 Races of man. By Sonia Cole. 1963  
 Beobachtungen zur Tierpsychologie im Zoo und im  
 Zirkus. By H. Hediger. 1961  
 Biografia do mar. By Richard Carrington. 1960  
 Biographie de la mer. By Richard Carrington. 1962  
 Elefanten. Ein kurzer entwicklungsgeschichtlicher und  
 kulturhistorischer Überblick. By Richard Carrington.  
 1962  
 The mammals. By the editors of Life. Text by Richard  
 Carrington. 1963  
 A million years of man: the story of human development  
 as a part of nature. By Richard Carrington. 1963  
 Oceanernas värld. Deras växt och djurliv och betydelse  
 för människan. By Richard Carrington. 1962  
 Vida del mar. By Richard Carrington. 1963  
 De zee en haar geheimen. Biografie van de zee. By Richard  
 Carrington. 1962  
 Helminty a helmintohostitel'ské vztahy u domácich  
 prežuvavcov. By Ján Hovorka. 1963  
 Po zapovidnykh mistyakh Ukrayinĭ. By D. M.  
 Dobrochaeva and others. 1960  
 Shells of the New York City area. By Morris K. Jacobson  
 and William K. Emerson. 1961  
 Mid-year conference of zoological parks and aquariums.  
 Dallas - Fort Worth, Texas. March 3-6 1963  
 A list of the designated type specimens in the Macleay  
 Museum: Insecta. By D. E. Hahn. 1962  
 Watch for the otter. By Elaine Hurrell. 1963  
 A brush with animals. By Ralph Thompson. 1963  
 The experimental earthwork on Overton Down, Wiltshire,  
 1960. By P. A. Jewell. 1963



McDONAGH, J. E. R.

MANLEY, G. H., B.Sc., D.Phil.  
NEW YORK GRAPHIC SOCIETY  
NEWMARK, JOHN AND GEORGE  
NEWNES, GEORGE, LTD.

PARKER, H. W.  
PICKERING, DONALD E.

PRESTWICH, ARTHUR A.  
RHODES UNIVERSITY, DEPARTMENT  
OF ICHTHYOLOGY  
SCHAUB-KOCH, E.

SHOOTING TIMES  
STRATTON, G. B., M.B.E.

VAN NOSTRAND  
WILSON KITCHEN, S.  
WOLSTENHOLME, G. E. W.

The nature of the Universe, health and disease. By J. E. R. McDonagh. 1963

Das Buch der Schmetterlinge. By K. G. Lutz. 1896

Ibamba. By Wynant Davis Hubbard. 1962

To the zoo in a plastic box. By J. and G. Newmark. 1963

Down the long wind: a study of bird migration. By Garth Christian. 1961

Snakes. By H. W. Parker. 1963

Proceedings of conference on research with primates held in conjunction with the grand opening and dedication of the Oregon Regional Primate Research Center. Donald E. Pickering, Editor. 1963

'I name this parrot. . . .' By Arthur A. Prestwich. 1963

The fishes of the Seychelles. By J. L. B. Smith and Margaret Mary Smith. 1963

Sculpture de poissons d'Edouard-Marcel Sandoz. By E. Schaub-Koch. 1962

The Shooting Times anthology. 1963

Guide to reference material. Supplement. By A. J. Walford. 1963

Elementary genetics. By W. Ralph Singleton. 1962

The migrations of birds. By Jean Dorst. 1962

Bilharziasis. Ciba Foundation Symposium held in commemoration of Theodor M. Bilharz. By G. E. W. Wolstenholme and M. O'Connor. 1962



## MEETINGS DURING 1964

### *Scientific Meetings at 5 p.m.*

Tuesday, 11th February  
Tuesday, 10th March  
Tuesday, 14th April  
Tuesday, 12th May  
Tuesday, 9th June  
Tuesday, 13th October  
Tuesday, 10th November  
Tuesday, 8th December

### *Symposia*

Wednesday and Thursday, 4th/5th March  
Tuesday and Wednesday, 26th/27th May  
Tuesday, Wednesday and Thursday, 24th/25th/26th November

### *Annual General Meeting at 4 p.m.*

Monday, 4th May

These meetings are held at the Offices in the Outer Circle of Regent's Park.

Fellows and Associates are invited to attend the Scientific Meetings and Symposia.

The Annual General Meeting is open to Fellows only.