

THE
NORTH OF ENGLAND
ZOOLOGICAL SOCIETY
CHESTER

Report of the Council
and
Statement of Accounts

1977

**NOTICE OF
OF THE 44th ANNUAL GENERAL MEETING
THE NORTH OF ENGLAND ZOOLOGICAL SOCIETY**

To be held on Saturday, 20th May, 1978 at 3.30 p.m.

**at the Russell Allen Lecture Hall
Zoological Gardens, Upton-by-Chester**

PROCEDURE AT THE ANNUAL GENERAL MEETING

- (a) The reading of the Minutes of the previous Annual General Meeting.
- (b) Presentation of the Income and Expenditure Account and Balance Sheet and Auditors' Report thereon.
- (c) Discussion of the Auditors' Report.
- (d) Presentation of the Council's Report.
- (e) Discussion of the Council's Report.
- (f) Re-appointment of Auditors.
- (g) The appointment of Scrutineers and the opening of the Ballot for the election of members of the Council.
- (h) Receiving the Report of the Scrutineers on the Result of the Ballot.

SPECIAL BUSINESS — ALTERATION OF ARTICLES OF ASSOCIATION:

To consider and if thought fit to pass the following Resolution as a Special Resolution:—

“That Article 6 sub-section (c) be altered to read as follows:—

Annual Members shall pay an entrance fee of Five Pounds Twenty-five Pence or such greater sum not exceeding Ten Pounds, and an Annual Subscription of Three Pounds Fifteen Pence or such greater sum not exceeding Ten Pounds, as the Council shall from time to time recommend and the Society in General Meeting shall approve. Annual Members shall have personal admission to the Society's Gardens and Collections and have the privilege of purchasing twenty tickets every year (as long as they remain subscribing members) to admit friends.

Annual Members of the Society who have completed twenty-five years membership, and have reached pensionable age, may have the privilege of free personal admission to the Society's Gardens and Collections.”

MEMBERS OF THE COUNCIL — 1977

*PROFESSOR J. O. L. KING, Ph.D., M.V.Sc., B.Sc. (Agric.), F.R.C.V.S.,
F.I.Biol. (Chairman)

HER GRACE SALLY, DUCHESS OF WESTMINSTER

*F. MOSFORD

*H. F. PARKER

A. J. BLAND, Dipl. Arch., R.I.B.A.

J. N. WILSON

*J. A. KILPATRICK, M.B., Ch.B., F.R.C.S.E.

H. D. COOPER, F.I.M., F.I.F.F., Cert. A.I.B.

G. R. PRYOR, C.Eng., Hon.F.I.Prod.E., F.B.I.M.

R. P. OWEN, A.R.I.C.S.

MRS. B. H. IRVINE

*F. S. CARSON, M.C., B.A. (Cantab.)

Dr. J. E. D. CHARLES-JONES, M.B., B.S., M.R.C.G.P.

DINAH, LADY TOLLEMACHE

W. KELSALL, O.B.E., Q.P.M.

DIRECTOR-SECRETARY G. S. MOTTERSHEAD, O.B.E., M.Sc.

There are five vacancies on the Council. Members indicated thus * offer themselves for re-election.

If any member wishes to be nominated for election to the Council he/she must find seven fully paid-up members to nominate him/her.

Notice in writing must be received by the Secretary **not later than 14 days** before the Annual General Meeting.

BALANCE SHEET AS AT 31st DECEMBER, 1977

	1977		1976	
	£	£	£	£
FIXED ASSETS				
FREEHOLD PROPERTY				
Balance as per Schedule annexed	306,639		306,639	
SPECIAL BUILDINGS, ENCLOSURES AND EQUIPMENT				
Balance as per Schedule annexed	224,717		224,105	
STOCK OF ANIMALS, REPTILES, BIRDS, ETC.				
Balance as per Schedule annexed	137,513		131,044	
(Market Valuation £379,805)				
TOTAL FIXED ASSETS	668,869		661,788	
CURRENT ASSETS				
Stocks of Feeding Stuffs, Goods for resale and Fuel at cost	34,858		29,752	
Stock of Farm Livestock, Produce and Seeds at cost	15,603		8,441	
Debtors and Prepayments	28,227		20,866	
Loans — Long Term	—		200,000	
— Short Term	320,000		100,000	
Balance at Bank	40,940		20,582	
Cash in Hand	3,149		1,938	
TOTAL CURRENT ASSETS	442,777		381,579	
Less:				
CURRENT LIABILITIES				
Sundry Creditors	28,857		23,255	
	413,920		358,324	
NET ASSETS	£1,082,789		£1,020,112	
Financed by:				
LEGACY ACCOUNT as at 31/12/76	19,517		19,517	
Received during year	1,000		—	
	20,517		19,517	
CAPITAL RESERVE ACCOUNT as at 31/12/76	32,633		32,633	
INCOME AND EXPENDITURE ACCOUNT — Accumulated Surplus				
Balance as at 31/12/76	967,962		939,472	
Add: Net Surplus for year	61,677		28,490	
	1,029,639		967,962	
TOTAL CAPITAL AND RESERVES	£1,082,789		£1,020,112	

NOTE Capital commitments not provided for in these accounts total NIL (1976 £6,000).

J. O. L. KING, *Chairman*

G. S. MOTTERSHEAD, *Director/Secretary*

Report of the Auditors to the Members of the North of England Zoological Society

In our opinion, the annexed Balance Sheet, Income and Expenditure Account and related notes and schedules, give under the historical cost convention a true and fair view of the state of the Society's affairs at the 31st December, 1977 and of the surplus and source and application of funds for the year ended on that date and comply with the Companies Acts 1948 and 1967.

31 Wellington Road, Nantwich
6th March, 1978

AFFORD, BOND AND CO.,
Chartered Accountants,

**SCHEDULE ANNEXED TO BALANCE SHEET
AT 31st DECEMBER, 1977**

	£
FREEHOLD PROPERTY	
Balance at beginning of year at cost	306,639
TOTAL AS SHOWN IN BALANCE SHEET	<u>£306,639</u>
 SPECIAL BUILDINGS, ENCLOSURES AND EQUIPMENT	
Balance at beginning of year at cost	708,286
Balance at beginning of year at valuation	17,460
Additions during year — cost	29,691
	<u>755,437</u>
Sales during year	3,964
	<u>751,473</u>
Less Depreciation at beginning of year	501,641
Adjustment re: Sales during year	2,799
	<u>498,842</u>
Depreciation provided during year	27,914
	<u>526,756</u>
TOTAL AS SHOWN IN BALANCE SHEET	<u>£224,717</u>
 ANIMALS, REPTILES, BIRDS, ETC.	
Balance at beginning of year at cost	131,044
Additions during year — cost	12,991
	<u>144,035</u>
Sales during year	6,522
TOTAL AS SHOWN IN BALANCE SHEET	<u>£137,513</u>

**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR
ENDED 31st DECEMBER, 1977**

	1977		1976	
	£	£	£	£
TURNOVER				
Cash Receipts for Goods and Services		1,104,505		919,551
		<u> </u>		<u> </u>
 SURPLUS FOR THE YEAR		40,861		15,167
before charging —				
Auditors' Remuneration	850		750	
Depreciation of Fixed Assets	27,914		26,868	
	<u> </u>	28,764	<u> </u>	27,618
		<u> </u>		<u> </u>
SURPLUS (DEFICIT)		12,097		(12,451)
and before crediting				
Rents from Houses and Farms	10,804		4,608	
Investment Income Received (Gross)	35,485		34,615	
Profit on Sale of Equipment — Net	776		—	
Members' Subscriptions and Entrance Fees	2,206		1,636	
Donations	309		82	
	<u> </u>	49,580	<u> </u>	40,941
		<u> </u>		<u> </u>
SURPLUS FOR THE YEAR		61,677		28,490
Add: Balance brought forward from				
last year		967,962		939,472
		<u> </u>		<u> </u>
 BALANCE CARRIED FORWARD				
TO NEXT YEAR		<u>£1,029,639</u>		<u>£967,962</u>

STATEMENT OF SOURCE AND APPLICATION OF FUNDS

	Year ended 31st December	
	1977	1976
SOURCE OF FUNDS		
Surplus for the year	61,677	28,490
Depreciation of Fixed Assets (less profit on sales)	27,138	26,868
Overprovision Fixed Assets (legal costs)	—	17
Sale of Fixed Assets	8,463	3,901
Legacy	1000	—
	<u>£98,278</u>	<u>£59,276</u>
	<u>=====</u>	<u>=====</u>
APPLICATION OF FUNDS		
Purchase of Fixed Assets	42,682	11,954
Increase in net Current Assets (see below)	55,596	47,322
	<u>£98,278</u>	<u>£59,276</u>
	<u>=====</u>	<u>=====</u>
INCREASE IN NET CURRENT ASSETS		
Increased Stocks	12,268	11,771
Increased Debtors	7,361	2,428
Increased Loans	20,000	20,000
Increased Bank balance	20,358	15,338
Increased Cash in hand	1,211	(307)
Increased Creditors	(5,602)	(1,908)
	<u>£55,596</u>	<u>£47,322</u>
	<u>=====</u>	<u>=====</u>

ANNUAL REPORT 1977

The Council of the North of England Zoological Society has pleasure in presenting its Annual Report for 1977.

So as to comply with the provisions of the Companies Act 1967, it is necessary to state here that this Society is a Public Zoological Garden, that no significant changes have occurred in this activity during the year and that the state of the Society's affairs at 31st December, 1977 was satisfactory.

The total receipts for the year are shown on the Income and Expenditure Account but as the Society is not a profit-distributing concern no analysis of profitability is relevant. The average weekly number of employees during 1977 was 220 and their aggregate gross remuneration amounted to £496,678.

Undoubtedly the most important event of 1977 was the birth of the baby elephant 'Jubilee' in May. This was the first time an elephant had been conceived and bred in the British Isles. Largely as a result, we are pleased to report that our attendances showed an increase of 46,612 on those of 1976. The majority of zoos were not so successful however and in fact a number closed down during the year. Consideration has been given to admission charges for 1978 and it is hoped to maintain 1977 charges throughout the year if possible.

Two other events of note occurred during the year. The Aquarium celebrated its 25th Anniversary and Dinah, Lady Tollemache, opened the Queen Elizabeth II Silver Jubilee Garden. This Garden contains the most impressive sculpture 'Noah and the Four Winds' which was executed by Sean Rice; the sculpture is a gift of The Constance Fund.

Breeding results during the year were again very encouraging and as a result the Society was able to carry out a number of exchanges with other zoos.

Members will be sorry to learn of the death of Ziggy Dixon which occurred in July. Ziggy looked after the Orang Utans and he is sadly missed by his charges and colleagues. He had been with us since the early days of the war.

A number of improvements were carried out in 1977. The accommodation near the Stores entrance, formerly used by the Malayan Bears, was converted for Kangaroos and Wallabies. Outside enclosures for Monkeys are in the course of preparation at the Monkey House and alterations were made to the Bird House Kitchen. A dovecote was erected in one of the Wallaby Enclosures to accommodate some 40 fan-tailed pigeons which were presented to the Society.

The Director-Secretary and his Assistant, Miss Howard, attended the British Zoo Directors' Conference in Jersey and members of the Zoo Council visited the Bristol Zoo.

A total of six Members Meetings took place in the Lecture Hall during the year; these proved very popular with members. A Buffet Luncheon was held at the April Meeting. It is interesting to note that Annual Membership increased from 304 to 325 and the number of Patrons increased by 19.

To deal with the increasing number of educational parties visiting the Zoo, a portable classroom was erected near the Lecture Hall. It will be remembered that an Educational Assistant was appointed last year and his services have been in great demand.

During the Season some of the waterbuses were out of action due to the propellers becoming fouled by foreign matter. The watercourse had been in operation for approximately 20 years and it was felt that the time had now arrived for dredging to take place. The work would be carried out during the winter months in order that the canal can be fully operational in time for Easter 1978.

The Society is indebted to Miss D. Walker for the gift of another painting which has been hung in the Members Room and to the many other members of the public who made donations of livestock etc., during the year.

The Council wishes to express sincere thanks to all members of the staff for their services during the past year and in particular to those who have devoted so much time, apart from their normal working hours, to the welfare of the Society.

MAMMALS BRED DURING 1977

Species	Scientific Name	No.		Sex	
		Born	Reared	M	F
Alpaca	<i>Lama pacos</i>	3	1	0	1
Bison	<i>Bos bison</i>	1	1	0	1
Blackbuck	<i>Antilope cervicapra</i>	1	1	0	1
Cattle, Highland	<i>Bos taurus</i>	2	1	0	1
Chimpanzee	<i>Pan troglodytes</i>	2	2	1	1
Deer, Fallow	<i>Dama dama</i>	4	2	1	1
Deer, Pere David's	<i>Elaphurus davidianus</i>	3	3	1	2
Eland	<i>Taurotragus oryx</i>	2	2	0	2
Elephant, Indian	<i>Elephas maximus</i>	1	1	1	0
Gazelle, Arabian	<i>Gazella arabica</i>	8	5	2	3
Giraffe	<i>Giraffa camelopardalis</i>	1	0	1	0
Goat, Bagot	<i>Capra hircus</i>	1	1	1	0
Guanaco	<i>Lama guanicoe</i>	1	1	0	1
Jaguar	<i>Panthera onca</i>	1	1		
Kinkajou	<i>Potos flavus</i>	1	1	1	0
Lechwe, Red	<i>Kobus leche</i>	9	4	3	1
Lemur, Ring-Tailed	<i>Lemur catta</i>	2	2	1	1
Leopard, Black	<i>Panthera pardus</i>	2	2	1	1
Leopard, Common	<i>Panthera pardus</i>	4	3	2	1
Lynx, European	<i>Felis lynx lynx</i>	2	1	1	0
Monkey, Baboon	<i>Papio hamadryas</i>				
Hamadryas		5	4	1	3
Monkey, Barbary	<i>Macaca sylvana</i>				
Ape		1	0	0	0
Monkey, Green	<i>Cercopithecus sabaues</i>	2	1	1	0
Monkey, Patas	<i>Erythrocebus patas</i>	2	1	0	1
Monkey, Squirrel	<i>Saimiri sciureus</i>	3	2	2	0
Monkey, Talapoin	<i>Cercopithecus talapoin</i>	1	0	0	0
Nilgai	<i>Boselaphus tragocamelus</i>	2	1	1	0
Orang-utan	<i>Pongo pygmaeus</i>	1	1	1	0
Reindeer	<i>Rangifer tarandus</i>	1	1	1	0
Sheep, Soay	<i>Ovis aries</i>	9	9		
Squirrel, Sierra Leone	<i>Fumisciurus pyrrhopus leonis</i>				
Striped		7	6		
Tiger, Bengal	<i>Panthera tigris</i>	2	2	0	2
Viscacha, Plains	<i>Lagostomus maximus</i>	1	1	1	0
Wallaby, Bennett's	<i>Wallabia rufogrisea</i>	22	7		
Wapiti	<i>Cervus canadensis</i>	1	1	0	1
Zebra, Common	<i>Equus burchelli granti</i>	3	3	3	0

BIRDS BRED DURING 1977

Species	Scientific Name	No. Reared
Avadavat, Green	<i>Amandava formosa</i>	1
Avadavat, Red	<i>Amandava amandava</i>	2
Budgerigar	<i>Melopsittacus undulatus</i>	2
Bulbul, Red-Whiskered	<i>Pycnonotus jocosus peguensis</i>	1
Cockatiel	<i>Nymphicus hollandicus</i>	29
Conure, Crimson-bellied	<i>Pyrrhura rhodogaster</i>	3
Conure, Lesser Patagonian	<i>Cyanoliseus patagonus</i>	3
Conure, Nanday	<i>Nandayus nanday</i>	3
Conure, Sun	<i>Aratinga solstitialis</i>	2
Dove, Barbary	<i>Streptopelia risoria</i>	2
Dove, Java	<i>Streptopelia roseogrisea</i>	8
Dove, Laughing	<i>Stigmatopelia senegalensis</i>	2
Duck, Carolina	<i>Aix sponsa</i>	5
Duck, Mallard	<i>Anas platyrhynchos</i>	50
Duck, Mandarin	<i>Aix galericulata</i>	2
Duck, Bahama Pintail	<i>Anas bahamensis</i>	2
Duck, Pintail	<i>Anas acuta acuta</i>	3
Duck, Rosy-billed Pochard	<i>Netta peposaca</i>	3
Duck, Sheld	<i>Tadorna tadorna</i>	1
Duck, Shoveler Red	<i>Anas platalea</i>	7
Duck, Tufted	<i>Aythya fuligula</i>	1
Duck, Wigeon Chiloe	<i>Anas sibilatrix</i>	3
Finch, Bengalese	<i>Lonchura striata</i>	14
Finch, Cut-Throat	<i>Amadina fasciata</i>	5
Finch, Green	<i>Chloris chloris</i>	4
Finch, Green Singing	<i>Serinus mozambicus</i>	2
Finch, Saffron	<i>Sicalis flaveola</i>	1
Finch, Zebra	<i>Taeniopygia Castanotis</i>	12
Goose, Bar-headed	<i>Anser indicus</i>	3
Goose, Canada	<i>Branta canadensis</i>	4
Goose, Maned	<i>Chenonetta jubata</i>	8
Goose, Lesser Snow	<i>Anser c. coerulescens</i>	2
Guineafowl, Common	<i>Numida meleagris</i>	19
Heron, Night	<i>Nycticorax nycticorax</i>	1
Ibis, Glossy	<i>Plegadis falcinellus falcinellus</i>	1
Ibis, Straw-necked	<i>Threskiornis spinicollis</i>	1
Jay, Plush-crested	<i>Cyanocorax chrysops</i> — Bred 4	0
Jay, San Blas	<i>Cyanocorax sanblasiana nelsoni</i>	1
Jungle Fowl, Red	<i>Gallus gallus</i>	16
Kookaburra	<i>Dacelo gigas</i>	1
Linnet	<i>Acanthis cannabina</i>	4
Lorikeet, Ornate	<i>Trichoglossus ornatus</i>	8
Lorikeet, Swainson's	<i>Trichoglossus moluccanus</i>	6
Lovebird, Fischer's	<i>Agapornis fischeri</i>	4
Lovebird, Peach-Faced	<i>Agapornis roseicollis</i>	7
Mynah, Jungle	<i>Aethiopsar fuscus</i>	2
Nun, Tri-Coloured	<i>Munia malacca</i>	4

BIRDS BRED DURING 1977 — Continued

Species	Scientific Name	No. Reared
Owl, Barn	<i>Tyto alba affinis</i>	3
Owl, Great Eagle	<i>Bubo bubo</i>	1
Parrakeet, Barraband	<i>Polytelis swainsoni</i>	1
Parrakeet, Quaker	<i>Myiopsitta monachus</i>	5
Parrakeet, Splendid	<i>Neophema splendida</i>	2
Parrot, Amazon		
Blue-fronted	<i>Amazona aestiva</i>	1
Parrot, Eclectus Red-sided	<i>Eclectus roratus goodsoni</i>	3
Parrotlet, Guiana	<i>Forpus p. passerinus</i>	9
Peacock, Common	<i>Pavo cristatus</i>	4
Pheasant, Silver	<i>Gennaesus nycthemerus</i>	5
Rail, Weka	<i>Gallirallus australis greyi</i>	3
Rhea	<i>Rhea americana</i>	2
Sibia, Black-headed	<i>Leioptila capistrata</i>	1
Silverbill	<i>Euodice malabarica cantans</i>	7
Sparrow, Java	<i>Padda oryzivora</i>	2
Spicebird	<i>Munia punctulata</i>	7
Starling, Glossy	<i>Lamprocolius nitens</i>	2
Starling, Jerdon's	<i>Sturnus burmanicus</i>	3
Swan, Mute	<i>Cygnus olor</i>	3
Waxbill, Orange-cheeked	<i>Estrilda melpoda</i>	2
Waxbill, Red-Eared	<i>Estrilda troglodytes</i>	2
Waxbill, St. Helena	<i>Estrilda astrild astrild</i>	2
Waxbill, Sundervall's	<i>Estrilda rhodopyga</i>	3
Weaver, Red-billed	<i>Quelea quelea</i>	2
Whydah, Pin-tailed	<i>Vidus macroura</i>	1

REPTILES BRED DURING 1977

Species	Scientific Name	No. Reared
Lizard, Anolis	<i>Anolis e. equestris</i>	1
Boa, Rainbow	<i>Epicrates cenchrus</i>	1
Gecko, Leopard	<i>Eublepharis macularis</i>	7
Gecko, Tocko	<i>Gekko gekko</i>	1
Skink, Solomon Island	<i>Corucia zebrata</i>	6
Rattlesnake, Pigmy	<i>Sistrurus m. miliarius</i>	3
Hybrid, Rat-snake	<i>Elaphe obsoleta quadrivittata</i> x <i>Elaphe obsoleta obsoleta</i>	10

The number of specimens in the Collection at 31st December, 1977 was as follows:—

	Species	Specimens
Mammals	126	793
Birds	274	2,183
Reptiles and Amphibians	77	212
Fish	193	2,000

THE MEMBERSHIP OF
THE NORTH OF ENGLAND ZOOLOGICAL SOCIETY
AS AT 31st DECEMBER, 1977

PATRONS	101
LIFE MEMBERS	4
HONORARY MEMBERS	6
CORRESPONDING MEMBERS	1
ANNUAL MEMBERS	325
	—
	437
	—

The following Table shows the number of visitors to the Gardens during the last two years:—

	1976	1977
VISITORS TO THE GARDENS	932,258	978,870
VISITORS TO THE AQUARIUM	246,450	234,615
VISITORS TO THE TROPICAL HOUSE	259,103	263,385

Veterinary Laboratory

Annual Report - 1977

NORTH OF ENGLAND ZOOLOGICAL SOCIETY,
ZOOLOGICAL GARDENS,
UPTON-BY-CHESTER,
CHESHIRE

SCIENTIFIC COMMITTEE OF THE ZOOLOGICAL SOCIETY'S COUNCIL

Professor J. O. L. King, Ph.D., M.V.Sc., B.Sc.(Agric) F.R.C.V.S., F.I.Biol(Chairman)
J. E. D. Charles-Jones, M.B., B.S., M.R.C.G.P.
D. C. Dinning (Laboratory Technician)
D. B. Edwards, B.V.Sc., M.R.C.V.S.
J. A. Kilpatrick, M.B., Ch.B., F.R.C.S.E.
D. G. Lyon, B.V.Sc., M.R.C.V.S. (Veterinary Officer)
W. H. Timmis (Curator of Primates and Birds)
P. A. Wait (Curator of Mammals)
G. S. Mottershead, O.B.E., M.Sc., Director-Secretary

INTRODUCTION

The veterinary work at the Zoological Gardens is contracted to the local Veterinary Practice of Messrs. Edwards, Edginton and Lyon.

This report has been compiled by D. G. Lyon and D. C. Dinning from clinical case records, laboratory findings and autopsy reports for 1977. There are three main sections in the report, dealing with (a) Pathology, (b) Medicine and Surgery, and (c) Immobilisation and Anaesthesia.

On many occasions, specialised services were provided by the undermentioned and their help is gratefully acknowledged:—

Histology: Dr. J. R. Baker, Dept. Veterinary Pathology, University of Liverpool.

Bacteriology: Dr. J. R. Walton, Dept. Veterinary Preventive Medicine, University of Liverpool, and Dr. P. M. Poole and Mr. D. Brecon, Public Health Laboratories, Chester.

Biochemistry: The Veterinary Investigation Officer, Ministry of Agriculture, Fisheries and Food, Veterinary Investigation Centre, Weybridge, Surrey.

Toxicology: The Medical Records Dept., Associated Octel Co. Ltd., Ellesmere Port, Cheshire; and The Haematology and Biochemistry Depts., City Hospital, Chester.

Anatomical and Physiological specimens were provided 'gratis' to the following: Professor R. G. Harrison, Department of Anatomy, University of Liverpool, (Primate and skeletal material).

Mr. A. H. Hilton, 1 Barrington Road, Altrincham, Cheshire. (Reptilian and amphibian heads).

Professor B. Heath, Dept. of Pathology, University of Liverpool, (Alpaca tissues, obtained post-mortem).

Professor A. S. King, Dept. of Veterinary Anatomy, University of Liverpool. (Avian carcasses).

Sir John Randall, F.R.S., Dept. of Zoology, University of Edinburgh. (Camel blood).

Professor R. Short, MRC Reproductive Biology Unit, Edinburgh (Zebroid tissues, obtained post-mortem).

PATHOLOGY

During the year the Society's collection consisted of 983 mammals, 2,672 birds and 282 reptiles. One hundred and fourteen mammal, 347 bird and 26 reptile births were recorded for the year.

During the period 1st January to 31st December inclusive 229 postmortem examinations were performed. As can be seen from Table 1, this figure has been subdivided into three groups in three classes. 'Unacclimatised' specimens are those which have been in the collection for less than three months; 'newborn' refers to those mammals born in the collection and which died before attaining the age of 14 days.

TABLE 1
POST MORTEM EXAMINATIONS CARRIED OUT DURING 1977

	Acclimatised	Unacclimatised	Newborn	Total
MAMMALIA	98	6	11	115
AVES	78	12	0	90
REPTILIA/ AMPHIBIA	22	2	0	24
TOTALS	198	20	11	229

The main objects of carrying out post-mortem examinations are:— (a) to ascertain the cause of death, to enable suitable action to be taken to prevent further losses and (b) the acquisition of pathological data pertinent to exotic species.

Tables (2) and (3) summarise the main findings at post-mortem examination of Mammalia and Aves. Each class is discussed separately under the main groups listed in the Tables and an account given of findings of particular interest. In the account, the duration of residence of specimens is recorded in figures after the common or scientific name, e.g. Bennetts Wallaby (*Protemnodon rufogrisea*) 6.9 denotes a residence of six years and nine months.

Several carcasses were submitted to the Liverpool University Veterinary Field Station for post-mortem examination. The assistance of Dr. J. R. Baker of that department is gratefully acknowledged.

MAMMALIA (TABLE 2)

MAIN GROUPS OF CONDITIONS ENCOUNTERED	ACCLIMATISED		UNACCLIMATISED		NEWBORN		TOTALS	
	Number Affected	% Affected	Number Affected	% Affected	Number Affected	% Affected	Total	% of Total Deaths
BACTERIAL	37	37.76	1	16.67	1	9.09	39	33.91
VIRAL	1	1.02	0		0		1	0.87
FUNGAL	0		0		0		0	
HELMINTH	0		0		0		0	
PROTOZOA	0		0		0		0	
ARTHROPOD	0		0		0		0	
INJURY/ACCIDENT	25	25.51	4	66.67	1	9.09	30	26.09
METABOLIC/NUTRITIONAL	8	8.16	1	16.67	1	9.09	10	8.70
DEBILITY/SENILITY	16	16.33	0		0		16	13.91
NEOPLASIA	2	2.04	0		0		2	1.74
OTHERS*	9	9.18	0		8	72.73	17	14.78
TOTALS	98		6		11		115	

*Includes carcasses where no post-mortem examination was carried out, due to decomposition and where, in the case of neonatal death, the carcasses were donated to various University faculties

AVES (TABLE 3)

MAIN GROUPS OF CONDITIONS ENCOUNTERED	ACCLIMATISED		UNACCLIMATISED		TOTALS	
	Number Affected	% Affected	Number Affected	% Affected	Total	% of Total Deaths
BACTERIAL	18	23.08	4	33.33	22	24.44
VIRAL	0		0		0	
FUNGAL	2	2.56	0		2	2.22
HELMINTH	1	1.28	1	8.33	2	2.22
PROTOZOA	0		0		0	
ARTHROPOD	0		0		0	
INJURY/ACCIDENT	31	39.74	2	16.67	33	36.67
METABOLIC/NUTRITIONAL	10	12.82	3	25.00	13	14.44
DEBILITY/SENILITY	6	7.69	1	8.33	7	7.78
NEOPLASIA	0		0		0	
OTHERS*	10	12.82	1	8.33	11	12.22
TOTALS	78		12		90	

*Includes carcasses where no post-mortem examination was carried out, due to decomposition.

MAMMALIA (TABLE 2)

From a total of 115 carcasses submitted for post-mortem examination, 21 had been humanely destroyed.

BACTERIAL: Salmonellosis (*Salmonella typhimurium*) was diagnosed in a Soay Sheep (*Ovis aries*) 2.0.

A streptococcal septicaemia (*Streptococcus pneumonia*) caused the death of a six weeks old hand-reared Giraffe (*Giraffa camelopardalis*).

Colibacillosis (*Escherichia coli*) was responsible for the deaths of a seven days old Alpaca (*Lama pacos*) and an Arabian Gazelle (*Gazella a. arabica*) 0.2. *E. coli* septicaemia was diagnosed in Rufous-bellied Wallaby (*Thylogale billardierii*) 6.6, and a Coati (*Nasua nasua*) 8.7.

A haemorrhagic cystitis from which *Proteus mirabilis* was recovered were the primary lesions at the post-mortem examinations of an Indian Mongoose (*Herpestes edwardsi*) 4.5 and a Civet cat (*Paradoxurus hermaphroditus*) 4.7.

Pseudotuberculosis (*Yersinia enterocolitica*) was diagnosed in a Mona Monkey (*Cercopithecus mona*) 3.1. *Pasteurella multocida* was isolated from pulmonary tissues from a Greater Kudu (*Tragelaphus strepsiceros*) 7.4 which succumbed to a purulent, chronic pneumonia. *Mycobacterium tuberculosis* (var. *avian*) was responsible for the loss of two Bennetts Wallabies (*Protemnodon rufogrisea*) 1.0, 5.0. In the former case the primary lesion was a tubercular arthritis of the right hind stifle and, in the latter, lesions were present in the liver, spleen, mesenteric lymph nodes and sixth thoracic vertebra.

A female Common Zebra (*Equus burchelli granti*) 27.0 died as a result of peritonitis, caused by perforated colonic ulcers.

VIRAL: One case of feline Panleucopenia was diagnosed during the year, viz. a Black Panther (*Panthera pardus*) 0.2.

HELMINTH: Peritonitis, believed associated with a large filarial nematode burden was diagnosed in a Squirrel Monkey (*Saimiri sciureus*) 0.8. A rapidly debilitating illness, caused by acute parasitic gastro-enteritis, was diagnosed clinically in a Musk Ox (*Ovibos moschatus*) 0.10, *Trichuris* sp., *Nematodirus* sp. and *Trichostrongylus* sp. being the causative nematode parasites. Anthelmintic treatment and supportive therapy was undertaken but, unfortunately, the animal died as a result of an inhalation pneumonia.

INJURY/ACCIDENT: Collisions with or ensnarement in perimeter fencing caused the deaths or destruction, due to severity of injury, of several mammals including a Common Zebra stallion 2.5, a Pere David's Deer (*Elaphurus davidianus*) 11.2, an Agile Wallaby (*Wallabia agilis*) 0.8 and a Bennetts Wallaby 5.0.

Losses due to intra or interspecific aggression included two Red Lechwe (*Kobus leche*) 7.0, 5.5, a Greater Kudu 3.7, a Nilgai (*Boselaphus tragocamelus*) 0.9, a Red

Kangaroo (*Macgaleia rufus*) 0.8, a Kinkajou (*Potos flavus*) 1.1 and two Bennetts Wallabies 1.0, 0.6. Severe losses were experienced during the Summer months, when a total of twelve juvenile Bennetts Wallabies were presumed to have been killed by foxes (*Vulpes vulpes*). Several foxes were captured and humanely destroyed, and post-mortem examination revealed the presence of Wallaby remains in stomach contents.

METABOLIC/NUTRITIONAL: Acute hepato-toxicity of unknown aetiology was diagnosed in a Viscacha (*Lagostomus maximus*) 2.8. Obesity and fatty degeneration of liver was recorded in a De Brazza Monkey (*Cercopithecus neglectus*) 6.8.

DEBILITY/SENILITY: Cardiovascular disease, associated with age, was diagnosed in a Cherry-crowned Mangabey (*Cercocebus torquatus*) 16.9, a Polar Bear (*Thalarctos maritimus*) 30.0, a Bagot Goat (*Capra hircus*) 11.2 and a Tayra (*Tayra barbara*) 17.4.

NEOPLASIA: Neoplastic disease was recorded on two occasions during 1977. Haemangiosarcoma was diagnosed in a Common Leopard 11.7 and testicular seminoma was seen in a Grevy Zebra stallion/horse hybrid 19.6, which was euthanised due to its terminal condition.

AVES (TABLE 3)

BACTERIAL: Avian tuberculosis (*Mycobacterium tuberculosis*) was diagnosed in the following specimens:— a Kiskadee Flycatcher (*Pitangus sulphuratus*) 2.6, a Purple Gallinule (*Porphyrio porphyrio*) 2.5, a Bar-headed Goose (*Anser indicus*) 0.3, an Ostrich (*Struthio camelus*) 4.10 and a Whooper Swan (*Cygnus cygnus*) 10.0.

Escherichia coli was isolated from a variety of lesions and was responsible for septicaemia, peritonitis and arthritis in a wide range of specimens, including a Patagonian Conure (*Cyanoliseus patagonus*), a thick-billed Green Pigeon (*Treron curvirostra nipalensis*) 2.0, a Laughing Thrush (*Garrulax albogularis*) 2.6, a Green and Yellow Lorikeet (*Trichoglossus flavoviridis meyeri*) 1.5 and a Mitchells Lorikeet (*T. haematod mitchelli*) 2.8.

FUNGAL: Aspergillosis (*Aspergillus fumigatus*) was responsible for the deaths of a Humboldt's Penguin (*Sphenicus humboldtii*) 7.1 and a hybrid Snowgoose 11.1.

PARASITIC: Filariasis was considered responsible for the death of a Jerdon's Starling (*Sturnus burmanicus*) 2.5. Parasitic tracheitis (*Syngamus trachea*) was diagnosed in a long-tailed Glossy Starling (*Lamprocolius species*) 0.3.

INJURIES/ACCIDENTS: Losses due to fatal injuries received from, or direct killings by predatory mammals — foxes (*Vulpes vulpes*) and weasels (*Mustela nivalis*) — accounted for 38% of deaths recorded under this heading. An unfortunate loss was that of a yellow-tailed Black Cockatoo (*Calyptorhynchus funereus*) 10.3, killed by a fox. Losses due to intra or interspecific aggression included a Black-headed Bulbul (*Hypsipetes madagascarensis*) 2.9, a Canada Goose (*Branta canadensis*) 2.11, a Sacred Ibis (*Threskiornis aethiopicus*) 6.9 and two Silver Pheasants (*Lophura nycthemera*) 6.10, 7.0.

METABOLIC/NUTRITIONAL: Fat infiltration of liver was considered responsible for the deaths of the following:— a Rufous-necked Weaver (*Ploceus cucullatus*) 4.7, a Zebra Finch (*Taeniopygia castonotis*) 2.0 and a Red-rumped Parrakeet (*Psephotus haematontus*) 5.7. Hepatitis was diagnosed as the cause of death of two Toco Toucans (*Rhamphastos toco*) 1.0/0.11. Histologically severe disruption of the liver architecture was due to massive deposits of haemosiderin. Two Jackass Penguins (*Spheniscus demersus*) 7.2, 7.2 died as a result of a non-specific hepatitis.

NEOPLASIA: No cases were recorded during 1977.

REPTILIA

A summary of losses under main groups of conditions encountered has not been included in tabular form, due to the low number of reptilian carcasses presented for post-mortem examination. From a total of twenty-four carcasses presented during the year, 37.5% had died from bacterial infections. A large number of these were confined to pulmonary tissues. Bacteriological cultures showed that *Proteus sp.*, *Aeromonas sp.* and *Escherichia sp.* were the primary pathogens encountered.

Fatty degeneration of the liver was diagnosed in 16.7% of cases and injuries/accidents and debilitating conditions accounted for a further 25% losses.

MEDICINE AND SURGERY

During 1977 the Veterinary Officer dealt with 288 clinical cases comprising 262 mammalian, 26 avian and 10 reptilian. Follow-up treatment brought the total number of attendances to 831. This figure does not include advice given regarding husbandry, minor problems, anthelmintic treatment or visits to the Society's Quarantine Premises where, during the year 1 marsupial, 5 ungulates, 2 carnivores, 1 primate and 11 birds were detained for varying periods.

It was necessary to immobilise and/or anaesthetise 53 specimens on 78 occasions (see Table 4). Sixteen specimens were translocated from the Gardens to the Veterinary Surgeon's Hospital for examination, radiography and/or surgery.

The radiographic equipment which had been donated to the Society was modified and installed in the Veterinary Laboratory. Routine and diagnostic radiographs are now carried out within the Gardens, thus eliminating the necessity to translocate those specimens requiring radiography to the Veterinary Surgeon's Hospital.

Routine anthelmintic administration is continued as a preventive measure; Thiabendazole, Parabendazole and Levamisole being used as a feed additive for ruminant stock, Piperazine for equidae, Levamisole solution for birds and Thiabendazole suspension for reptiles.

Vaccination against Panleucopenia in Felidae continued, with all juvenile Felidae receiving inoculations at twelve and twenty weeks after birth.

Attention was required for three animals during their period in Quarantine. A male Greater Kudu was immobilised to allow surgical drainage of a sub-mandibular abscess. An Agile Wallaby with an abscess in the neck responded well to daily parenteral treatment with 750 mg. Procaine Penicillin G/750 mg. Dihydrostreptomycin (Streptopen-Glaxo Laboratories Limited). A Red Kangaroo developed a severe sepsis, following damage to a hind claw. The claw was removed surgically and, after several weeks' dressing together with topical and parenteral administration of antibiotic, the animal made an uncomplicated recovery.

A male Giant Anteater was presented with a septic forefoot. Two weeks' parenteral administration of antibiotic effected recovery.

Further to the report in the Veterinary Laboratory Annual Report 1976, surgical shoes, which had been fitted to a Grevy Zebra mare to correct a fractured pedal bone were removed. No further lameness or complications have been observed.

It was necessary to immobilise a Grevy Zebra stallion on five occasions during the early months of 1977, to drain pus from an infected foot. Unfortunately, during the latter few weeks of treatment, and despite therapy with anabolic steroids, a slowly deteriorating illness resulted in the death of the animal. Clinically, the terminal symptoms were those of chronic grass sickness, although no post-mortem materials were taken for confirmation.

Alopecia of unknown aetiology affected yearling Soay Sheep during the Spring months. The condition regressed spontaneously after two months' duration.

An outbreak of ringworm occurred in three Ankole Cattle and affected several specimens of Fallow Deer exhibited in an adjoining enclosure. The condition was successfully treated with Griseofulvin (Fulcin — I.C.I. Ltd) used as a feed additive for seven days.

A female Binturong exhibited clinical signs of diabetes, i.e. polydipsia. The diagnosis was confirmed by the presence of sugar in the urine. As ovario-hysterectomy is sometimes beneficial in this disease in the bitch and due to the impracticability of daily insulin injections in this case it was decided to adopt the same procedure with the Binturong. The animal was anaesthetised and an ovario-hysterectomy carried out. No post-operative complications were observed and tests for glucose in the urine remained negative for eight months, until the animal's death. Post-mortem examination established the cause of death as peritonitis.

An actinomycotic lesion of the mandible was diagnosed in a male Malayan Tapir and successfully treated with a five day course of antibiotic treatment, which consisted of Procaine penicillin and Dihydrostreptomycin (Depomycin — Duphar Veterinary Ltd.) daily.

A male Jaguarundi was anaesthetised to facilitate surgical drainage of a sub-mandibular abscess. Post-operative treatment with Procaine/Benzathine penicillin (Duplocillin — Duphar Veterinary Ltd.) was continued for fourteen days. No further complications arose.

Sudden aggression occurred within a group of Kinkajous and resulted in severely infected fight wounds, which failed to respond to varying antibiotic treatments and surgical drainage. One specimen succumbed due to severity of injuries and a further two developed paraplegic conditions, which necessitated euthanasia for humane reasons.

It was necessary to anaesthetise an adult female Chimpanzee to repair extensive vulval lacerations with catgut sutures. Long-acting penicillin was administered post-operatively and recovery was uneventful.

During the Winter months respiratory disease was recurrent in a juvenile Chimpanzee and Orang-Utan. In one instance the Chimpanzee developed pneumonia and bronchitis. Both animals responded to parenteral treatment with 300,000 i.u. Procaine Benzyl Penicillin/500 mg. Dihydrostreptomycin (Depomycin — Duphar Veterinary Ltd.) for five days.

Several adult Chimpanzees suffered a severe purulent rhinitis. The condition was successfully treated after seven days oral administration of Oxytetracycline (Imperacin — I.C.I. Ltd.).

An adult female Patas Monkey had been suffering from epileptiform convulsions for a period of approximately 24 months. The episodes occurred every 7-10 days and post-convulsive symptoms persisted for 2-3 hours. Treatment consists of 250 mg. Primidone (Mysoline — I.C.I. Ltd.) daily and this regime had led to a reduction in the severity and frequency of the symptoms.

Corneal ulceration was observed in an adult Ostrich. The condition persisted for 4 days and regressed without treatment.

Several Solomon Island Skinks received severe fight wounds, which became infected. The injuries were successfully treated following a 5-day course of intramuscular injections of Ampicillin (Penbritin — Beecham Animal Health).

During the year the following mammals were successfully hand-reared:—

- | | |
|------------------|--------------------|
| 4—Chimpanzees | 1—Kinkajou |
| 1—Sooty Mangabey | 3—Arabian Gazelles |
| 1—Black Leopard | 1—Viscacha. |

During the year the Veterinary Surgeons acquired a blow-pipe. This proved to have many advantages over the Cap-chur rifle. The injection of tranquillising drugs into primates in confined areas can now be safely and effectively carried out by using the blow-pipe.

TABLE 4
SPECIMENS IMMOBILISED OR ANAESTHETISED DURING 1977

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
WILDEBEESTE (<i>Connochaetes taurinus albo jubatus</i>)	F	230	Etorphine (a) Acepromazine	IM	2.45 10.00	Removal of necrotic area of upper lip.	4.5 mg Diprenorphine IV (j) Recovery uneventful.
GREVY ZEBRA (<i>Equus grevyi</i>)	M	350	Etorphine Acepromazine	IM	3.06 12.50	Examination of swollen foot.	4.5 mg IV, 1.5 mg IM Diprenorphine Recovery uneventful.
GREVY ZEBRA (2nd occasion)	M	350	Etorphine Acepromazine	IM	3.67 15.00	To drain pus from infected hoof.	4.5 mg Diprenorphine IV. Recovery uneventful.
GREVY ZEBRA (3rd occasion)	M	350	Etorphine Acepromazine	IM	3.67 15.00	To drain pus from infected hoof.	4.5 mg Diprenorphine IV. Recovery uneventful.
GREVY ZEBRA (4th occasion)	M	350	Etorphine Acepromazine	IM	3.67 15.00	To drain pus from infected hoof.	4.5 mg Diprenorphine IV. Recovery uneventful.
GREVY ZEBRA (5th occasion)	M	350	Etorphine Acepromazine	IM	4.28 17.50	To examine hoof.	5.25 mg Diprenorphine IV. Recovery uneventful.
GREVY ZEBRA	F	350	Etorphine Acepromazine	IM	3.06 12.50	To remove surgical shoes.	4.5 mg Diprenorphine IV. Recovery uneventful.
NILGAI (<i>Boselaphus tragocamelus</i>)	M	24	Etorphine Acepromazine	IM	2.45 10.00	To examine and splint compound fracture of left hind metatarsus.	3.0 mg Diprenorphine IV. Opisthotonus during recovery.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
NILGAI (2nd occasion)	M	24	Xylazine (b) 2.5% Thiopentone Sodium (c) Halothane (d)	IM IV INH	80.00	To facilitate translocation to Veterinary Hospital. Intramedullary pin placed in compound fracture. Re-splint.	Anaesthetic recovery was very prolonged. Artificial respiration required during recovery, together with 500 mg Millophylline IV. Intubation tube left in situ for 5 hours post-operatively.
NILGAI (3rd occasion)	M	24	Xylazine	IM	30.00	To facilitate examination of leg. Necrosis and non-healing fracture.	Euthanasia due to severity of injury.
12 BISON (<i>Bos bison</i>)	F	300	Xylazine	IM	50.00	To facilitate administration of anthelmintic.	Recovered uneventful.
ZEBROID	M	400	Etorphine Acepromazine	IM	24.50 100.00	To facilitate euthanasia. Testicular neoplasia.	
GREATER KUDU (<i>Tragelaphus strepsiceros</i>)	M	240	Etorphine Acepromazine	IM	3.67 15.00	To facilitate drainage of submandibular abscess.	4.5 mg Diprenorphine IV. Recovery uneventful.
GREATER KUDU	M	240	Etorphine Acepromazine	IM	3.67 15.00	Translocation.	4.5 mg Diprenorphine IV. Recovery uneventful.
MUSK OX (<i>Ovibos moschatus</i>)	M	80	Etorphine (M99) Xylazine	IM IM	1.50 80.00	To facilitate cleaning of soiled anal region.	2.25 mg Diprenorphine IV. Recovery uneventful.
CAMEL (<i>Camel bactrianus</i>)	F	600	Xylazine	IM	300.00	To clean sternal pad abscess.	Standing sedation. Recovery uneventful.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
CAMEL	F	600	Xylazine	IM	350.00	To facilitate blood sampling.	Standing sedation. Recovery uneventful.
CAMEL	F	600	Xylazine	IM	425.00	To facilitate blood sampling.	Standing sedation. Recovery uneventful.
PERE DAVID'S DEER (<i>Elaphurus davidianus</i>)	F	80	Etorphine Acepromazine	IM	8.58 35.00	To examine fractured foreleg.	Euthanasia due to severity of injury.
FALLOW DEER (<i>Dama dama</i>)	F	30	Etorphine Acepromazine	IM	1.85 7.50	To facilitate vaginal examination.	2.25 mg Diprenorphine IV. Recovery uneventful.
13 FALLOW DEER	F	30	Etorphine Acepromazine Halothane	IM INH	1.85 7.50	To facilitate translocation to Veterinary Hospital for Caesarian section.	2.25 mg Diprenorphine IV. Marked respiratory depression during procedure. Recovery uneventful.
AXIS DEER (<i>Axis axis</i>)	M	26	Xylazine	IM	120.00	Relocation after escape from enclosure.	Recovery uneventful.
AXIS DEER	M	26	Etorphine Acepromazine	IM	1.23 5.00	Translocation	1.5 mg Diprenorphine IV. Recovery uneventful.
AXIS DEER	F	26	Etorphine Acepromazine	IM	1.23 5.00	Translocation	1.5 mg Diprenorphine IV. Recovery uneventful.
AXIS DEER	F	26	Etorphine Acepromazine	IM	1.23 5.00	Translocation.	1.5 mg Diprenorphine IV. Recovery uneventful.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
BENNETT'S WALLABY (<i>Protemnodon rufogrisea</i>)	M	15	2.5% Thiopentone Sodium	IV	30.00 ml	Drainage of submandibular abscess.	Recovery uneventful.
BENNETT'S WALLABY	F	12	2.5% Thiopentone Sodium	IV	15.00 ml	Radiographic examination of left hip.	Recovery uneventful.
BENNETT'S WALLABY	M	15	Ketamine (f)	IM	300.00	Drainage of submandibular abscess.	Recovery uneventful.
BENNETT'S WALLABY	F	12	2.5% Thiopentone Sodium	IV	To effect	Drainage of submandibular abscess.	Recovery uneventful.
14 BENNETT'S WALLABY	F	12	2.5% Thiopentone Sodium	IV	To effect	Drainage of submandibular abscess.	Recovery uneventful.
BINTURONG (<i>Arctictis binturong</i>)	F	6	Phencyclidine (g) 2.5% Thiopentone Sodium	IM IV	60.00 To effect	Ovario-hysterectomy.	Recovery uneventful.
JAGUARUNDI (<i>Felis jagouarundi</i>)	M	2	Ketamine	IM	100.00	Drainage of submandibular abscess.	Recovery uneventful.
TAYRA (<i>Tayra barbara</i>)	M	2.5	Phencyclidine	IM	5.00	Examination of infected salivary gland. Drain and insert sutures.	Recovery uneventful.
TAYRA (2nd occasion)	M	2	Phencyclidine	IM	4.00	To remove sutures.	Recovery uneventful.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
COATI (<i>Nasua nasua</i>)	F	4	Halothane	INH		Caesarian section to remove foetid fetuses.	Died one hour post-operatively from toxemia.
TIGER (<i>Panthera tigris</i>)	M	45	Ketamine	IM	900.00	To examine bitten foreleg.	Recovery uneventful.
KINKAJOU (<i>Potos flavus</i>)	M	1	Phencyclidine	IM	2.00	To examine multiple fight injuries.	Euthanasia due to severity of injuries.
GORILLA (<i>Gorilla gorilla</i>)	M	125	Phencyclidine	IM	125.00	Translocation	Recovery uneventful.
15 ORANG UTAN (<i>Pongo pygmaeus</i>)	M	120	Phencyclidine	IM	100.00	To facilitate oral examination.	Recovery uneventful.
PIG-TAIL MACAQUE (<i>Macaca nemestrina</i>)	M	8	Ketamine	IM	125.00	To facilitate oral examination.	Recovery uneventful.
PIG-TAIL MACAQUE (2nd occasion)	M	8	Ketamine	IM	75.00	To facilitate oral examination.	Recovery uneventful.
CHIMPANZEE (<i>Pan troglodytes</i>)	F	50	Phencyclidine	IM	70.00	To suture lacerated vulva.	Recovery uneventful.
CHIMPANZEE	F	50	Phencyclidine	IM	30.00	To facilitate removal of youngster for hand-rearing.	Recovery uneventful.
CHIMPANZEE	M	60	Phencyclidine	IM	30.00	Translocation.	Recovery uneventful.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
CHIMPANZEE	F	50	Phencyclidine	IM	75.00	To facilitate blood sampling	High dosage of Phencyclidine required. ? Tolerance level high. Recovery uneventful.
CHIMPANZEE	M	10	Phencyclidine	IM	30.00	Examination of scrotal swelling.	Recovery uneventful.
LIONTAIL MONKEY (<i>M. silenus</i>)	F	5	Ketamine	IM	125.00	To suture lacerated perineal region.	Recovery uneventful.
LIONTAIL MONKEY (2nd occasion)	F	5	Ketamine	IM	100.00	To remove sutures.	Recovery uneventful.
CHERRY CROWNED MANGABEY (<i>Cercocebus torquatus</i>)	F	4	Phencyclidine	IM	10.00	To facilitate euthanasia.	
GREEN MONKEY (<i>Cercopithecus pygerythrus</i>)	F	1.5	Phencyclidine	IM	4.00	To facilitate removal of youngster for hand-rearing.	Recovery uneventful.
GREEN MONKEY	F	1.5	Phencyclidine Ketamine	IM IM	4.00 30.00	To examine and treat conjunctivitis.	Recovery uneventful.
SOOTY MANGABEY (<i>C. torquatus atys</i>)	F	3	Ketamine	IM	175.00	To suture lacerated hand.	Recovery uneventful.
SOOTY MANGABEY (2nd occasion)	F	3	Ketamine	IM	125.00	To suture lacerated tendon.	Recovery uneventful.

Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
SOOTY MANGABEY (3rd occasion)	F	3	Ketamine	IM	75.00	To remove sutures.	Recovery uneventful.
CRAB-EATING MACAQUE (<i>M. irus</i>)	M	2	Ketamine	IM	20.00	To suture lacerated hand.	Recovery uneventful.
CRAB-EATING MACAQUE (2nd occasion)	M	2	Phencyclidine	IM	2.00	To remove necrotic skin from wounds.	Recovery uneventful.
CRAB-EATING MACAQUE (3rd occasion)	M	2	Ketamine	IM	30.00	To remove sutures.	Recovery uneventful.
CRAB-EATING MACAQUE (4th occasion)	M	2	Ketamine	IM	30.00	To suture lacerated hand.	Recovery uneventful.
CRAB-EATING MACAQUE (5th occasion)	M	2	Ketamine	IM	75.00	To suture lacerated scrotum	Recovery uneventful.
CRAB-EATING MACAQUE (6th occasion)	M	2	Ketamine	IM	50.00	To examine scrotal lesion.	Recovery uneventful.
CRAB-EATING MACAQUE (7th occasion)	M	2	Ketamine	IM	50.00	To repair adhesion tissue. Re-suture lacerated scrotum.	Recovery uneventful.
CRAB-EATING MACAQUE (8th occasion)	M	2	Ketamine	IM	50.00	To remove sutures.	Recovery uneventful.
CRAB-EATING MACAQUE (9th occasion)	M	2	Ketamine	IM	75.00	To suture lacerated scrotum and testicle.	Recovery uneventful.

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Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
CRAB-EATING MACAQUE (10th occasion)	M	2	Ketamine	IM	50.00	To facilitate euthanasia.	
CRAB-EATING MACAQUE	F	2	Ketamine	IM	50.00	To suture lacerated forearm	Recovery uneventful.
CRAB-EATING MACAQUE	F	2	Ketamine	IM	50.00	To facilitate euthanasia.	
PATAS MONKEY (<i>Erythrocebus patas</i>)	F	4	Ketamine	IM	150.00	To drain subcutaneous abscess.	Recovery uneventful.
CAPUCHIN MONKEY (<i>Cebus albifrons</i>)	M	2	Ketamine	IM	100.00	Radiographic examination of spine.	Recovery uneventful.
CAPUCHIN MONKEY	F	2	Ketamine	IM	25.00	To facilitate removal of youngster for hand-rearing.	Recovery uneventful.
TALAPOIN MONKEY (<i>C. talapoin</i>)	M	1	Phencyclidine	IM	10.00	Removal of foreign body from oral cavity.	Recovery uneventful.
HYBRID GUENON	F	2	Ketamine	IM	100.00	To facilitate subcutaneous fat biopsy.	Recovery uneventful.
HYBRID GUENON (2nd occasion)	F	2	Ketamine	IM	50.00	To facilitate removal of sutures.	Recovery uneventful.
PURPLE GALLINULE (<i>Porphyrio porphyrio</i>)	M	0.5	Alphazalone/ Alphadolone (h) Halothane	IV Induction INH		To facilitate removal of staphylococcal granuloma from foot.	Recovery uneventful.

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Species	Sex	Estimated Body Weight (kg)	Drug	Route	Dosage (mg.)	Indication	Comments
SNOWGOOSE (<i>Anser c. coerulescens</i>)		1	Alphazalone/ Alphadolone Halothane	IV Induction INH		To splint fractured metatarsus.	Recovery uneventful.
OSTRICH (<i>Struthio camelus</i>)	M	100	Ketamine	IM	1000.00	To suture lacerated neck.	Recovery uneventful.
CASSOWARY (<i>Casuaris c. bicaruntulus</i>)	F	75	Metomidate (i) Ketamine Halothane	IM IM INH	2000.00 700.00	To facilitate removal surgically of bone cyst from upper mandible.	Metomidate given in two doses, 600 mg and 1400 mg Recovery uneventful.
CASSOWARY	F	75	Ketamine Halothane	IM INH	1000.00	To facilitate removal of necrotic debris from oral cavity.	Recovery uneventful.
CASSOWARY	F	75	Ketamine Halothane	IM INH	1000.00	To open and drain haemorrhage from wound.	Recovery uneventful.

KEY FOR TABLE 4:—

IV = Intravenous
IM = Intramuscular
INH = By Inhalation
M = Male
F = Female

- a. Etorphine-Acepromazine — Large Animal Immobilon — Reckitt & Colman Ltd.
- b. Xylazine — Rompun — Bayer Agrochem Ltd.
- c. Thiopentone sodium — IntraVal — May & Baker Ltd.
- d. Halothane — Fluothane — Imperial Chemical Industries Ltd.
- e. Etorphine (M.99) — M.99 — Reckitt & Colman Ltd.
- f. Ketamine — Vetalar — Parke, Davies & Co.
- g. Phencyclidine — Sernylan — Parke, Davis & Co.
- h. Alphazalone/Alphadolone — Saffan — Glaxo Laboratories Ltd.
- i. Metomidate — Hypnodil — Crown Chemical Co. Ltd.
- j. Diprenorphine — Large Animal Revivon — Reckitt & Colman Ltd.

