



REPORT

of

THE HONORARY COMMITTEE

for the

**MANAGEMENT OF THE ZOOLOGICAL
GARDEN, CALCUTTA, 1912-13.**



THE Honorary Committee have the honour to submit their report for the year ending 31st March 1913, the contents of which, as usual, include, among other items,—

- (1) The Superintendent's report upon the menagerie.
- (2) Monthly returns of visitors and a list of donors.
- (3) Abstract of accounts of ordinary and extraordinary receipts and expenditure.

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APPENDIX A.

I.—Comparative Statement of Receipts for
1911-12 and 1912-13.

	1911-12.			1912-13.		
	Rs.	A.	P.	Rs.	A.	P.
Opening balance	25,070	13	5	6,997	7	2 ^c
Interest	163	3	4	163	3	4
Donations and subscriptions	472	0	0	240	0	0
Entrance receipts	48,496	11	0	50,499	0	0
Rent	3,420	0	0	5,310	0	0
Carriage, palki, jhinricksha, elephant ride, etc., etc.	895	4	0	933	6	0
Fishing	291	0	0	321	0	0
Picnic	154	0	0	156	0	0
Rhino urine	2,031	0	0	2,230	0	0
Miscellaneous receipts	4,334	12	0	7,487	15	0
Government contribution	20,000	0	0	20,000	0	0
Total	1,05,328	11	9	94,337	15	6
<i>Add—</i>						
Receipts of 31st March 1911, which were included in 1911-12.	70	15	0	.....	
Receipts of 30th and 31st March 1912, which were included in 1912-13.	.....			456	5	0
	1,05,399	10	9	94,794	4	6
<i>Deduct—</i>						
Receipts of 30th and 31st March 1912, which will be included in 1912-13.	456	5	0	.....	
Receipts of 27th to 31st March 1913, which will be included in 1913-14.	.....			818	10	0
GRAND TOTAL	1,04,943	5	9	93,975	10	6

* Including Rs. 12-8-2 which was added to the opening balance as per Accountant-General, Bengal's letter No. A.C.—705, dated 5th October 1912.

APPENDIX E.

Report of the Superintendent on his deputation to England in connection with the transport of the King's collection of Indian animals.

I BEG to submit the following report of my visit to Europe in connexion with the transport of His Majesty's collection of animals from Nepal.

I left Calcutta on the 1st of April 1912 by S.S. *Afghanistan* and reached London on the 20th May. I am glad to say that, with the exception of a very few small animals which died on the voyage, all the collection was landed in excellent condition and made over to the Secretary, Zoological Garden, London.

The authorities of the Garden seemed to be very pleased with them, and I am very glad to report that Their Majesties the King and the Queen came in person to inspect the collection of animals at the Zoo on 30th May, when I was asked to attend and had the honour to be presented to Their Majesties by Dr. P. Chalmers Mitchell, Secretary of the London Zoological Society.

I paid my first visit to the Zoo on the morning of the 21st May. Dr. P. Chalmers Mitchell and Mr. Pocock, Superintendent, showed me round the gardens. During my stay in London I visited the garden almost daily to study the general management of the garden. The Secretary and Superintendent were always very kind to me and helped me with every

information I wanted from them, and I take this opportunity of expressing my sincere thanks to them.

I met Mr. Girard and Mr. Ezra several times in the garden and we discussed many important things. I also met Mr. Johnston more than once at the garden and we talked about the housing arrangement of the otters and the sea-lions, and he is of opinion that we may also have similar arrangements in our garden. I was fortunate enough to make the personal acquaintance of Mr. C. E. Buckland and Mr. Frank Finn. I conversed with Mr. Finn about the breeding of the birds in our aviaries, and I am glad that I got very valuable information as regards housing and breeding arrangements.

I visited the following gardens during my tour :—

1. Zoological Society's Garden, London.
2. Zoological Garden, Clifton.
3. Zoological Garden, Dublin.
4. The Garden of the Royal Society of Zoology, Antwerp.
5. Zoological Garden, Rotterdam.
6. Zoological Garden, Amsterdam.
7. Jardin des plantes, Paris.
8. Jardin D'acclimatation, Paris.
9. Jardin Zoologique, Marseilles.
10. Zoological Garden, Hamburg.
11. Thierpark, Stellingen.
12. Zoological Garden, Berlin.
13. On my way to London I took the opportunity of visiting the Madras Garden, where our steamer anchored.

14. Woburn Abbey. His Grace the Duke of Bedford very kindly made special arrangements to enable me to see his extensive park. Under the kind guidance of Colonel Oliphant I went round the beautiful grounds containing a unique collection of deer, representing some very rare and almost extinct species. It is a treat to see such a large collection of deer, antelopes, bisons, etc., in one place and practically in a wild state.

I have noted the following during my tour which may be of importance :—

- (a) Housing of animals.
- (b) Breeding of animals.
- (c) Exchange of animals.
- (d) Aquarium.

The general arrangement of housing in European gardens is based on conditions quite different from those of our garden here. They have to provide for cold, whereas we have to fight against heat.

Housing of animals—

Outdoor enclosure for larger carnivores —

The outdoor enclosure of the London Zoo for larger carnivores is almost similar to our enclosure for the small carnivorous animals. They are furnished with rock work and big trunks of trees. The pucca cement floor of the outer cage of the London Zoo is just like the floor of the recreation enclosure of the Burdwan House.

The lion and tiger houses of some of the European Gardens, *e.g.*, Antwerp, Rotterdam, Amsterdam, etc., are imposing structures; but as regards open-air arrangements our European Gardens. garden is not inferior to any other Mr. Hagenbeck's Thierpark. gardens except Mr. Hagenbeck's Thierpark, which is built entirely on a novel plan at an enormous cost.

The recreation enclosure of our Burdwan House may be said to be the biggest open-air enclosure of all the gardens I visited.

Flooring.—The London Zoo as well as most of the other gardens have plank flooring for the dens, which is very necessary for securing almost perfect immunity for the animals from rheumatism and other allied disorders.

Partition walls of the outdoor cages.—The partition walls of the outer dens of the smaller carnivorous animals are either solidly built or have the iron gratings covered with wire-netting of finer mesh.

Deer paddocks.—The London Zoo possesses a fine collection of antelopes, and their housing arrangements as well as those of other European gardens, *viz.*, Berlin, Antwerp, Amsterdam, etc., are based on the practical method of avoiding damp as much as possible. The stalls are situated at the further end of the paddocks in one uniform line and on a height of about 4 feet and 5 feet from which the enclosures gradually slope down to the ground level 25 feet to 30 feet away. The stalls are spacious and well ventilated with passage for visitors who desire to see them in the stalls. Our new Antelope House is

similar to it except that we have a big run on the other side. If we get the Kidderpur House grounds we may construct a series of enclosures for antelopes on this line. Instead of fencing we may introduce strong wire-netting, which is much cheaper, and wire-netting as a fencing is extensively used in some of the gardens and also in the park of the Woburn Abbey.

Aviaries for birds.—The big flying aviaries of the Berlin and Antwerp and London Gardens are as imposing as they are useful. They are lofty enough to allow quite large trees to be grown in them and the rockeries, profusion of shrubs and creepers afford facilities to the birds to nest.

Enclosure for Aquatic birds.—The collection of ducks and geese in our garden may perhaps be said to be the largest and specially the best of all the collections I visited in one place. Our housing arrangements, however, are not spacious enough for the number of birds we have in our stock. We have only two enclosures—

- (a) Wild fowl house, .
- (b) Duck pond,

The enclosures should be lengthened a good deal towards the lake so that larger trees and bushes can be grown inside and rockeries introduced. The question of enlarging the wild fowl enclosure is under the consideration of the Committee of Management of the Garden.

Besides these, a large number of aquatic birds are kept almost in a wild state in the big lake, but considering the area of the lake which is about $4\frac{1}{2}$ acres, many of the species are lost to view—

a few hundred birds there look a small show. The number should be increased to some thousands.

Hand-railing.—The London and other gardens in Europe prevent the visitors from teasing the animals by placing the hand-railings at a good distance from the cages. The hand-railings in the Dumraon House, Gubbay and Burdwan Houses and Small Carnivora House are placed only about 2 feet from the cage, thus affording an opportunity to the visitors of teasing the animals. In some of the gardens they use wire-netting of a thin mesh on the cage up to a certain height and have thus spared a good deal of annoyance caused by visitors. The outer enclosures of the Dumraon and Gubbay Houses should be provided with hand-railing 4 feet apart, or if this is not possible, wire-netting of a thin mesh should be used.

Breeding of animals.—Some of the European gardens are very successful in breeding valuable animals. The success is due partly to climatic conditions and partly to judicious feeding and especially careful housing. That housing is an important factor in the health as well as in breeding of animals may be proved by our pair of black leopards, lions, leopards and tapirs. These animals did not use to breed here, but by careful changes in housing arrangements, feeding and giving them exercise, they bred here so successfully.

The following is a list of the more important births in captivity:—

London Zoo.—Among others they bred Giraffe, Eland, Wapiti, Gayal, Banteng, Kiang, Polar bear, Bactrian Camel, some of the Indian deer and pheasants, etc.

Dublin Zoo.—Famous for breeding lions. They are also breeding Pumas and Leopards. We have taken from them a pair of Pumas 'at £20. I hope before long we shall also be able to breed them here.

Antwerp Zoo.—Besides others they breed Giraffes, Zebras, Bisons.

Amsterdam Zoo.—Hippo, Giraffe, Banteng, Zebra.

Berlin Zoo.—Very successful in breeding pheasants. In connexion with breeding pheasants, fowls, etc., most of the European gardens use incubators and are very successful. Mr. Hagenbeck uses incubator in his Ostrich farm at Stellingen. Some of our pheasants, viz., Amherst pheasants, Gold pheasants and the Burmese peafowl and Ostriches, lay eggs, but unfortunately the hen-birds are disturbed by other birds in the aviary, and hence they do not sit on their eggs.

Exchange of animals.—From my tour in Europe I am quite sure that we can build up a system of exchange with other Gardens to our great advantage. We may as well send from time to time consignments of Indian animals, birds and reptiles. It will be a source of income to our Gardens.

The following Indian animals are wanted in European gardens, and if we make it a point to stock them by purchasing when opportunity occurs, we can sell them at a profit:—

Young elephants, rhinoceroses, if available, spotted deer, Indian antelopes, Indian gazelles, hog deer four-horned antelopes, brow-antlered deer, Barasingha deer, tigers, black leopards, clouded leopards, leopard cats, fishing cats, Himalayan bears, cat

bears, Himalayan pheasants, lynx, Indian monkeys, all sorts of Indian birds and snakes.

There are three or four dealers in Calcutta who supply stock to foreign markets, and if we can begin in a businesslike way I am sure there will be a substantial yearly income. We shall have to spend nothing for supervision and upkeep. The Antwerp Gardens do a regular business in this line and make a decent profit. I saw Dr. Kerbert on the subject and he encouraged me. The Directors of Dublin, Clifton, Amsterdam and Berlin are all willing to open exchange account with us, and I have received letters from South Perth and Sydney Zoological Gardens intimating that they are also willing to open accounts with us. If we can occasionally send what they require from India and if we take from them what we want for our gardens, we can have a continuous supply of animals direct from them without any middleman's profit. I hope this matter be taken up seriously and endeavours be made to collect animals and birds from all parts of India.

Aquaria.—Almost all the European gardens have an aquarium attached to them. Antwerp, Amsterdam and Rotterdam have the finest aquaria. They are a great attraction to the public. A fresh-water aquarium may be constructed in our gardens on a small scale without much expense. The question of an aquarium in our garden is pending for long time, and it is now time to take the matter in hand. I am sure it will be appreciated by the people of Bengal and in the long run it will be paying.

B. BASU.

APPENDIX F.

LIST OF ANIMALS IN THE GARDEN ON 31ST MARCH 1913.

CLASS MAMMALIA.

Order Primates.

- 4 Orang-utans (*Simia satyrus*).
- 3 Hoolock Gibbon (*Hylobates hoolock*).
- 3 Mandrills (*Cynocephalus mormon*).
- 1 Drill (*Cynocephalus leucophæus*).
- 3 Yellow baboons (*Cynocephalus babouin*).
- 2 Arabian baboons (*Cynocephalus hamadryas*).
- 1 Chacma baboon (*Cynocephalus porcarius*).
- 1 Anubis baboon (*Cynocephalus anubis*).
- 5 Grivet monkeys (*Cercopithecus griseo-viridis*).
- 1 Moustach-d monkey (*Cercopithecus cephus*).
- 1 Green monkey (*Cercopithecus callitricus*).
- 2 Houcheur monkeys (*Cercopithecus nictitans*).
- 2 Celebes Black monkeys (*Cercopithecus niger*).
- 4 Mona monkeys (*Cercopithecus mona*).
- 8 Entellus monkeys (*Semnopithecus entellus*).
- 4 Macaque monkeys (*Macacas cynomolgus*).
- 2 Rhesus monkeys (*Macacus rhesus*).
- 3 Brown stump-tailed monkeys (*Macacus arctoides*).
- 4 Pig-tailed monkeys (*Macacus nemestrinus*).
- 2 Lion-tailed monkeys (*Macacus silenus*).
- 1 Bonnet monkey (*Macacus sinicus*).
- 1 Brown capuchin (*Cebus fatuellus*).
- 3 Weeper capuchins (*Cebus capucinus*).
- 4 Common marmosets (*Hapale jacchus*).
- 2 Golden marmosets (*Midas chrysomelas*).
- 2 Yellow-handed Tamarin (*Midas midas*).
- 1 Sooty mangabey (*Cercocebus fuliginosus*).
- 2 White-collard mangabeys (*Cercocebus collaris*).

Order Lemures.

- 2 Mongoose lemurs (*Lemur mongoz*).
- 4 Black-headed lemurs (*Lemur brunneus*).
- 6 Ring-tailed lemurs (*Lemur catta*).
- 4 Ruffed lemurs (*Lemur varius*).
- 3 Slow loris (*Nycticebus tardigradus*).

Order Carnivora.

- 6 African lions (*Felis leo*).
- 1 Indian lion (*Felis leo*).
- 5 Tigers (*Felis tigris*).
- 10 Leopards (*Felis pardus*).
- 1 Black leopard (*Felis pardus*).
- 1 Snow leopard (*Felis uncia*).
- 1 Clouded leopard (*Felis nebulosa*).
- 1 Jaguar (*Felis onca*).
- 2 Pumas (*Felis concolor*).
- 4 Leopard cats (*Felis bengalensis*).
- 2 Fishing cats (*Felis viverrina*).
- 1 Siamese cat (*Felis*).
- 4 Himalayan bears (*Ursus torquatus*).
- 6 Sloth bears (*Melursus ursinus*).
- 2 Racoons (*Procyon lotor*).
- 2 Badgers (*Meles taxus*).
- 2 Common genets (*Genetta vulgaris*).
- 2 Ring-tailed coatis (*Nasua rufa*).
- 1 Large Indian civet (*Viverra zibetta*).
- 1 Small Indian civet (*Viverricula malaccensis*).
- 2 Indian wolves (*Canis pallipes*).
- 1 Indian jackal (*Canis aureus*).
- 1 Indian jackal, (white) (*Canis aureus*).
- 1 Side striped jackal (*Canis lateralis*).
- 1 Indian mongoose (*Harpestes mungo*).
- 1 Crab-eating mongoose (*Harpestes urva*).
- 6 Striped hyænas (*Hycæna striata*).
- 3 Indian wild dogs (*Cyon dukhuensis*).
- 4 Indian foxes (*Vulpes bengalensis*).
- 1 Indian ratel (*Mellivora indica*).
- 2 Common otters (*Lutra vulgaris*).
- 13 Cat bears (*Aelurus fulgens*).

Order Proboscidea.

- 1 Indian elephant (*Elephas indicus*).

Order Ungulata.

- 2 Indian Rhinoceroses (*Rhinoceros unicornis*).
- 4 Malayan tapirs (*Tapirus indicus*).