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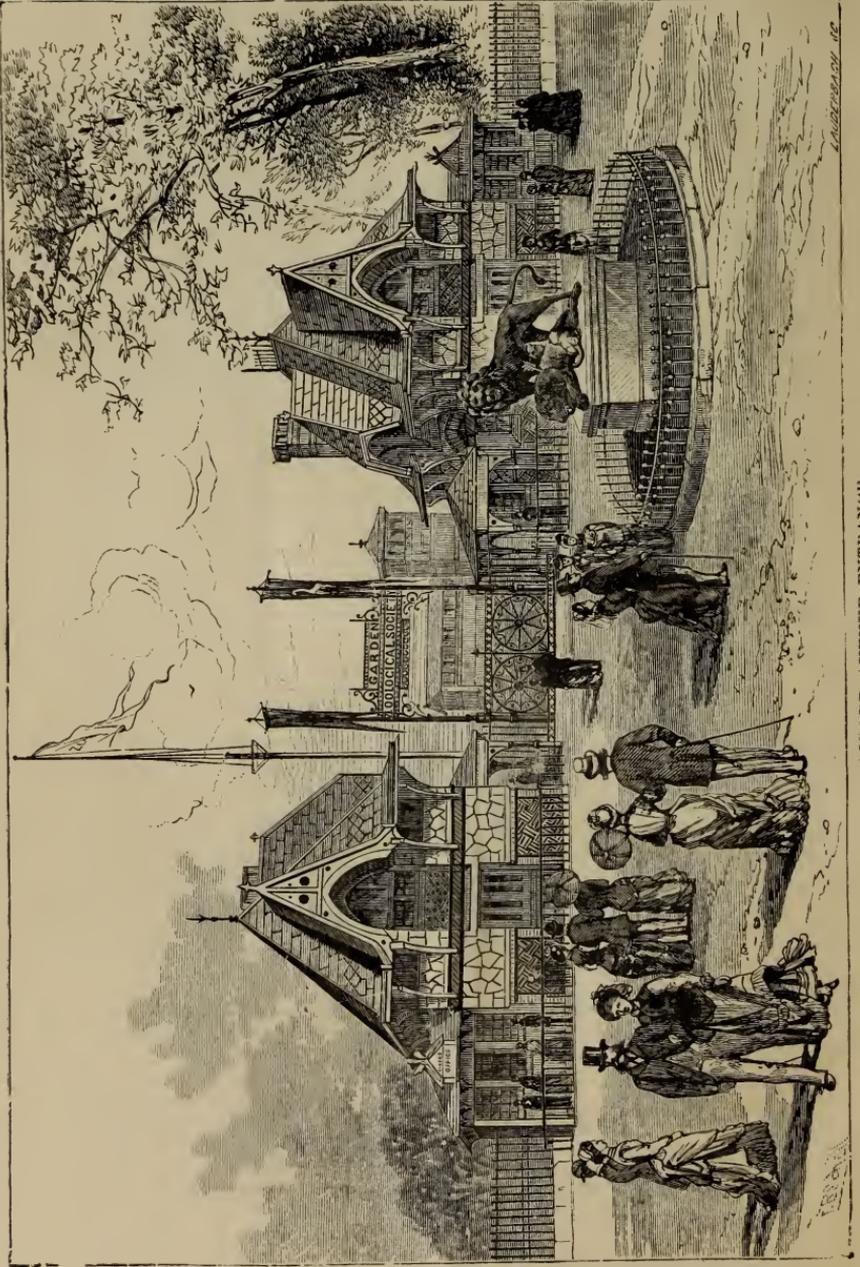
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COMPARATIVE ZOÖLOGY,  
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The gift of the *Zoological  
Society of  
Philadelphia*

No. 6110

*May 13, 1881 - June 12, 1889*





GIRARD AVENUE ENTRANCE.

THE  
TENTH ANNUAL REPORT  
OF THE  
BOARD OF DIRECTORS  
OF THE  
ZOOLOGICAL SOCIETY  
OF PHILADELPHIA.

(Incorporated March 21st, 1859.)

---

READ AT THE ANNUAL MEETING OF THE MEMBERS AND LOAN-  
HOLDERS OF THE SOCIETY,

APRIL 27<sup>TH</sup>, 1882.

---

PHILADELPHIA :

1882.



THE  
**Zoological Society of Philadelphia**

OFFICE, FAIRMOUNT PARK.

OFFICERS FOR THE YEAR ENDING APRIL 26th, 1883.

**President,**  
WILLIAM S. VAUX.

**Vice-Presidents :**  
GEORGE W. CHILDS, | HENRY LEWIS.

**Corresponding Secretary,**  
JOHN L. LÉCONTE, M. D.

**Recording Secretary,**  
JOHN SAMUEL.

**Treasurer,**  
WILLIAM HACKER.

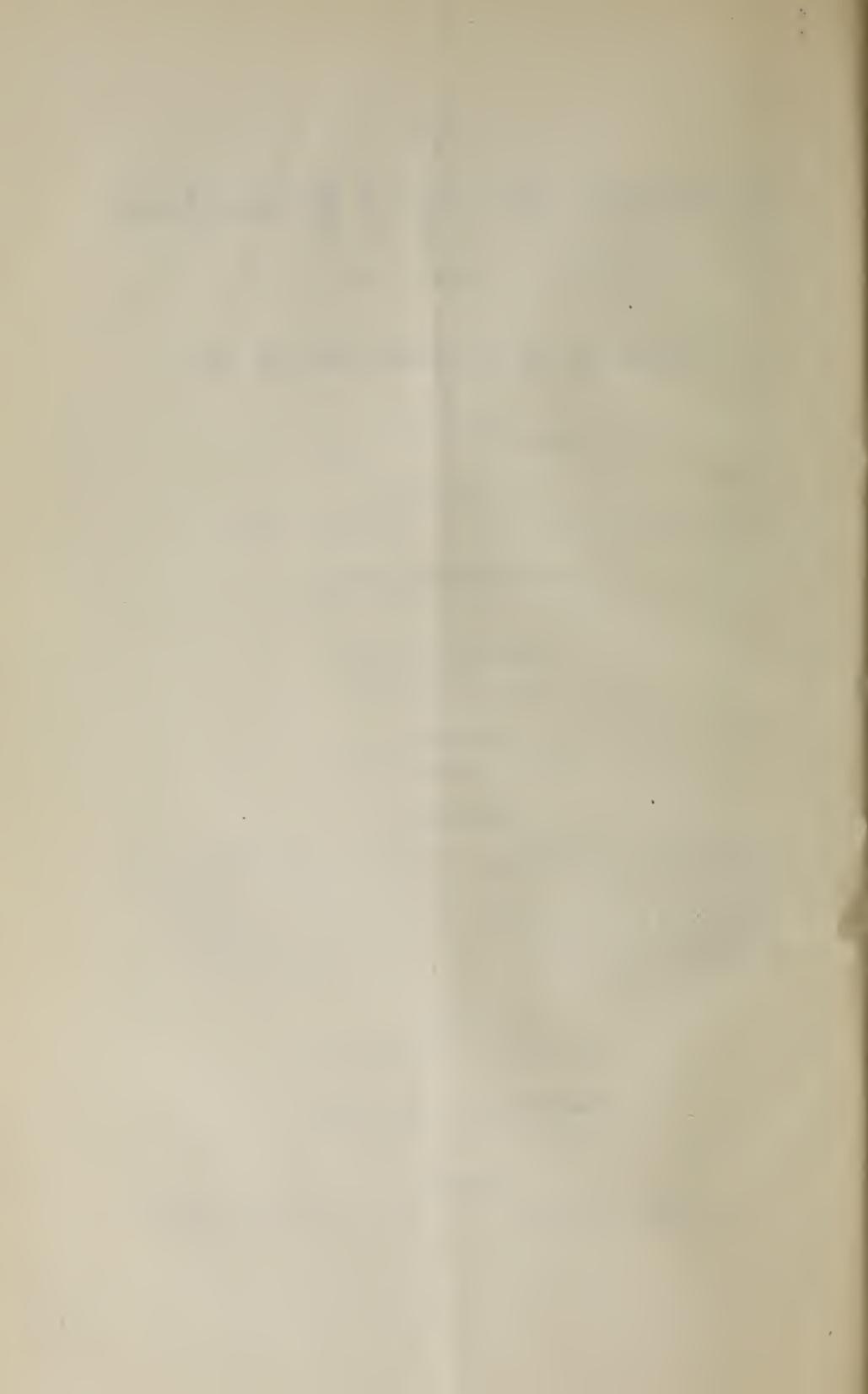
**Directors :**

FREDERICK GRAFF,	ISAAC J. WISTAR,
J. VAUGHAN MERRICK,	CHARLES W. TROTTER,
JOHN WAGNER,	PROF. JOSEPH LEIDY,
WILLIAM H. MERRICK,	FRANCIS T. FASSITT,
S. FISHER CORLIES,	PROF. H. C. CHAPMAN,
HENRY C. GIBSON,	EVAN RANDOLPH.

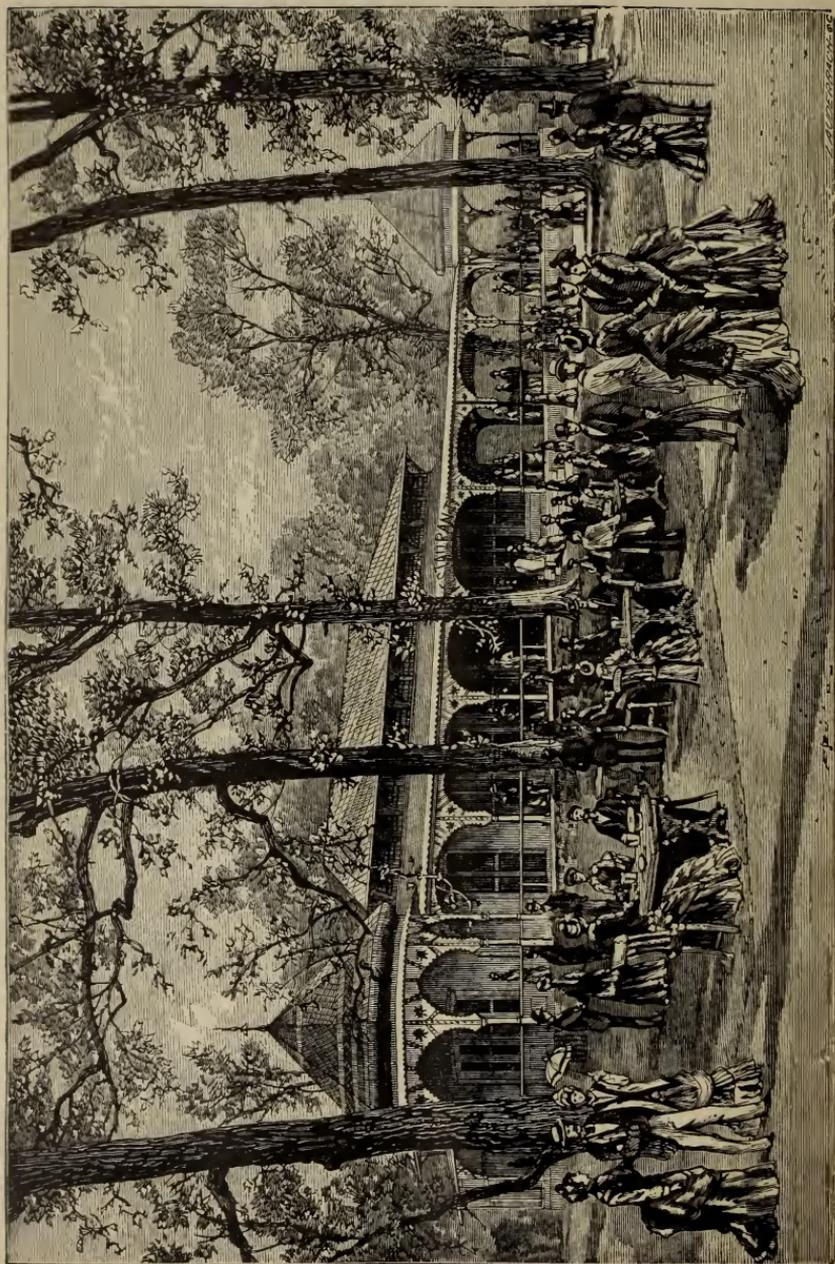
**Actuary,**  
CHARLES L. JEFFERSON.

**Superintendent of the Garden.**  
ARTHUR E. BROWN.

**Solicitors :**  
SAMUEL WAGNER, | WM. W. MONTGOMERY.







# REPORT

OF THE

## BOARD OF DIRECTORS.

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PHILADELPHIA, April 27th, 1882.

THE Board of Directors of the Zoological Society of Philadelphia submit to the members and loan-certificate holders this, their Tenth Annual Report of the business and operations of the Society from 1st of March, 1881, to 1st of March, 1882.

### MEMBERS.

The number of members on the 1st of March, 1882, was—

Annual members, . . . . .	604
Life members, . . . . .	188
Corresponding members, . . . . .	8
Honorary members, . . . . .	15
Total members (exclusive of loan-holders), . . . . .	<u>815</u>

Decrease, by death or resignation, from preceding year, of thirty-four annual and two life members; and two annual members have been transferred to life membership.

The total number of loan-holders is 476.

### VISITORS.

34,949 more people visited the garden this year than in the preceding year, of whom 23,649 came in the three summer months.

The following is a report, in detail, of the gate receipts for the year :—

Adults (paying twenty-five cents at gates), . . . . .	155,260
Children ( " ten " ), . . . . .	46,281
Members (including Life and Annual Members, loan-holders' annual, and complimentary annual tickets), . . . . .	2,843
Loan-holders' single tickets, . . . . .	25,846
Free admissions (charitable institutions, donors' tickets, &c.), . . . . .	2,347
Package tickets, . . . . .	368
Excursion tickets, . . . . .	<u>10,482</u>
	<u>243,427</u>

*Monthly Record of Visitors for 1881-82, with corresponding account for 1880-81.*

MONTH.	1880-81.	1881-82.	COMPARISON.
March, . . . . .	7,858	6,253	Decrease, . . . 1,605
April, . . . . .	13,416	13,601	Increase, . . . 185
May, . . . . .	26,203	24,662	Decrease, . . . 1,541
June, . . . . .	20,861	24,150	Increase, . . . 3,289
July, . . . . .	26,647	38,371	" . . . 11,724
August, . . . . .	35,031	43,667	" . . . 8,636
September, . . . . .	36,011	33,490	Decrease, . . . 2,521
October, . . . . .	19,180	24,046	Increase, . . . 4,866
November, . . . . .	8,567	13,615	" . . . 5,048
December, . . . . .	4,530	10,254	" . . . 5,724
January, . . . . .	4,777	5,980	" . . . 1,203
February, . . . . .	5,397	5,338	Decrease, . . . 59
	208,478	243,427	Increase, . . . 34,949

Average daily admission, . . . . . 667

The greatest number of visitors on any one day was on Monday,

July 4th, . . . . . 9,648

*Monthly Record of Receipts from Admissions for 1881-82, with corresponding account for 1880-81.*

MONTH.	1880-81.	1881-82.	COMPARISON.
March, . . . . .	\$1,514 40	\$1,200 90	Decrease, . . . \$313 50
April, . . . . .	2,583 05	2,513 75	" . . . . . 69 30
May, . . . . .	4,926 84	4,343 85	" . . . . . 582 99
June, . . . . .	3,859 39	4,306 61	Increase, . . . 447 22
July, . . . . .	5,130 45	6,800 50	" . . . . . 1,670 05
August, . . . . .	6,733 67	7,681 57	" . . . . . 947 90
September, . . . . .	7,385 97	6,790 68	Decrease, . . . 595 29
October, . . . . .	3,827 50	4,916 83	Increase, . . . 1,089 33
November, . . . . .	1,629 79	2,690 22	" . . . . . 1,060 43
December, . . . . .	816 05	1,998 95	" . . . . . 1,182 90
January, . . . . .	830 65	1,119 75	" . . . . . 289 10
February, . . . . .	1,008 40	1,028 70	" . . . . . 20 30
	\$40,246 16	\$45,392 31	Increase, . . . \$5,146 15

Average daily receipts from admissions, . . . . . \$124 36

The largest amount of receipts at the gates on any one day was

on Monday, July 4th, . . . . . \$1,762 75

*Total Receipts on the several days of the week, and their respective averages, for 1881-82.*

RANK.	DAYS.	TOTAL RECEIPTS.	AVERAGE.
1	Sunday, . . . . .	\$18,861 40	\$362 72
2	Monday, . . . . .	6,799 27	130 76
3	Saturday, . . . . .	4,904 57	94 32
4	Thursday, . . . . .	4,451 59	85 61
5	Wednesday, . . . . .	3,826 18	73 58
6	Tuesday, . . . . .	3,416 25	64 46
7	Friday, . . . . .	3,133 05	60 26
		\$45,392 31	

#### IMPROVEMENTS.

A bathing pond for the elephants has been constructed on the ground fronting the building for the pachydermata, the dimensions of which are as follows: length in greatest diameter, fifty feet; width, thirty feet; depth, seven feet. Cost, with approaches, \$4,153.68. The bathing of the elephants during the warm weather is at once conducive to the health of the animals, and is a source of much amusement to the visitors.

A new aviary eighty-four feet long and twenty-six feet wide has been erected on the western walk leading from the sea lion ponds to the southern gate, at a cost of \$12,113.78. This improvement was much needed; the old building, by reason of defective ventilation, not being rat-proof, and insufficient size, failing to meet the requirements necessary for the good health and proper exhibition of the birds. The new building is very light, and for the first time in its history, the Society's handsome collection of birds is properly displayed.

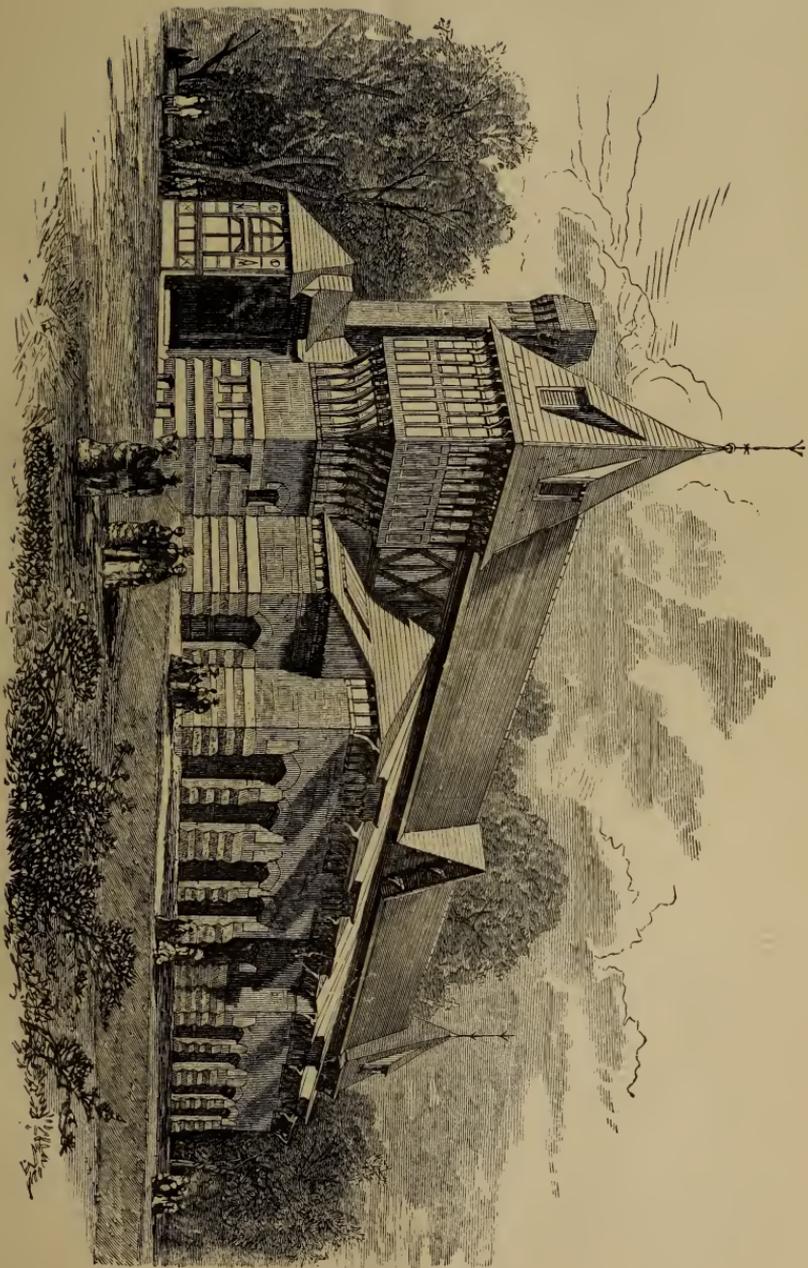
The old aviary building will be used as a reptile house, and will give the necessary accommodations for maintaining a good collection of these animals.

## FINANCES.

The Society has received from the executors of J. Dickinson Logan \$475, the amount of his legacy less collateral inheritance tax. This sum has been separately invested, and will be held according to the resolution passed at the annual meeting of members of April 25th, 1878, which provides that "the principal of all legacies, bequests, and devises, unless otherwise directed by the testator, shall not be expended, but that the same shall be invested and held as a permanent and stable fund of which the income only shall be used." It is to be hoped that this will be the nucleus of a fund which, like that accruing to the London Zoological Society from the liberality of its well-wishers, will in time render the Society independent of the precarious support of gate receipts, &c., and perhaps afford in the future an opportunity of "free-days." The Directors are much impressed with the necessity of increasing the collection of animals in the garden, and earnestly appeal to public-spirited citizens to give them special assistance to supply their needs in this particular.

The financial condition of the Society is shown by the following figures, and the Treasurer's statement and balance-sheet, Appendix A.





ELEPHANT HOUSE.



# INCOME AND EXPENDITURES

For the fiscal year ending March 1st, 1882.

## INCOME.

Members' initiation fees and dues, . . . . .	\$685 00	
Admission receipts, . . . . .	45,392 31	
Rents at Garden, . . . . .	1,600 00	
Interest on bank account, . . . . .	30 79	
Sundry receipts, . . . . .	911 75	
Sale of guides, . . . . .	171 15	
	<hr/>	\$48,791 00

## EXPENDITURES.

(Exclusive of Permanent Improvements, &c.)

Salaries and wages, . . . . .	\$17,273 83	
Office expenses, . . . . .	229 47	
General expenses, . . . . .	19,371 15	
	<hr/>	\$36,874 45
Estimated loss on animals, . . . . .	6,214 34	
Balance to credit of profit and loss for year,	5,702 21	
	<hr/>	<u>\$48,791 00</u>

## CAPITAL.

Receipts and Expenditures for the year ending March 1st, 1882.

### RECEIPTS.

Legacy—Estate of J. Dickinson Logan, . . . . .	\$475 00	
Life membership balance, . . . . .	90 00	
Sales of animals, . . . . .	85 00	
	<hr/>	\$650 00
Add the following amount charged to profit and loss for estimated loss on animals, . . . . .	6,214 34	
	<hr/>	\$6,864 34

### EXPENDITURES.

Permanent improvements and animals as per items in Treasurer's statement (Appendix A),	\$19,196 55	
Balance (being excess of investments over re- ceipts of capital, and provided from Profit and Loss), . . . . .	12,332 21	
	<hr/>	<u>\$6,864 34</u>

## MENAGERIE.

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THE condition of the Menagerie, and the incidents attending the operation of the Garden during the past year, will be found fully set forth in the report of the General Superintendent, Appendix B.

The continued kindness of the many friends of the Society in all parts of the country claims its thanks.

By order of the Board,

JOHN SAMUEL,

*Secretary.*

# APPENDIX A.

## TREASURER'S STATEMENT.

March 1st, 1881, to March 1st, 1882.

Dr.

To Balance, March 1st, 1881, . . . . .	\$13,168 34
“ Legacy, Estate of J. Dickinson Logan, . . . . .	475 00
“ Life Membership, balance, . . . . .	90 00
“ Sale of animals, . . . . .	85 00
“ Members fees and dues, . . . . .	\$685 00
“ Admission receipts, . . . . .	45,392 31
“ Rents at Garden, . . . . .	1,600 00
“ Interest on bank account, . . . . .	30 79
“ Sundry receipts, . . . . .	911 75
“ Sale of Guide Books, . . . . .	171 15
	48,791 00
Transferred to credit of profit and loss, . . . . .	48,791 00
	\$62,609 34

Cr.

By warrants paid for—	
Salaries, . . . . .	\$17,273 83
Office expenses, . . . . .	229 47
Subsistence, . . . . .	10,543 94
Advertising, . . . . .	1,965 05
Fuel and lights, . . . . .	1,500 75
Printing, . . . . .	354 45
Expressage, . . . . .	81 20
Repairs, . . . . .	865 45
Extra labor and jobbing, . . . . .	1,050 31
Hardware and tools, . . . . .	285 55
Lumber, . . . . .	203 13
Water rent, . . . . .	1,000 00
Uniforms and equipment, . . . . .	106 25
Insurance, . . . . .	844 60
Sundry expenses, . . . . .	570 47
	\$36,874 45
Transferred to debit of profit and loss, . . . . .	\$36,874 45
Amount carried forward, . . . . .	\$36,874 45

Amount brought forward, . . . . .		\$36,874 45
Purchase of animals, . . . . .	\$2,431 34	
Vulcanite walks, . . . . .	2,675 98	
New aviary, . . . . .	9,112 38	
Elephant pond, . . . . .	4,153 68	
Horticulture, . . . . .	344 73	
Walks, roads, and grading, . . . . .	340 40	
Houses for sundry animals, . . . . .	137 50	
	<hr/>	
Total permanent improvements and animals, . . . . .		19,196 55
Balance on hand March 1st, 1882, . . . . .		6,538 34
		<hr/>
		<u>\$62,609 34</u>

WILLIAM HACKER,  
*Treasurer.*

Examined and found correct.

COMMITTEE ON AUDIT,

J. V. MERRICK, *Chairman.*

PHILADELPHIA, March 9th, 1882.





## APPENDIX B.

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*To the Board of Directors of the Zoological Society,*

GENTLEMEN:—I have the honor to submit to you my report of the condition of the Garden during the year which closed on the 28th of February.

The menagerie contains:—

297 Mammals, valued at . . . . .	\$39,840 00
343 Birds, valued at . . . . .	5,212 00
37 Reptiles and Batrachians, valued at . . . . .	334 00
677	\$45,386 00

The specimens received from all sources during that period were as follows:—

MAMMALS:—

Purchased, . . . . .	62
Presented, . . . . .	51
Born, . . . . .	17
	130

BIRDS:—

Purchased, . . . . .	103
Presented, . . . . .	61
	164

REPTILES AND BATRACHIANS:—

Purchased, . . . . .	18
Presented, . . . . .	86
	104
	398

Of these the following were for the first time exhibited in the collection:—

## MAMMALIA : —

- Brown Spider Monkey (*Ateles hybridus*), Central America.  
 Kinkajou (*Cercoleptes caudivolvulus*), Central America.  
 Punctated Agouti (*Dasyprocta punctata*), Central America.  
 White-tailed Gnu (*Catoblepas gnu*), South Africa.  
 Derby's Opossum (*Didelphys derbianus*), Central America.

## AVES :—

- Purple Finch (*Carpodacus purpureus*), United States.  
 Yellowish Finch (*Sycalis luteola*), Brazil.  
 Common Siskin (*Chrysomitris spinus*), Europe.  
 Rose-breasted Grosbeak (*Goniaphea ludoviciana*), United States.  
 Orchard Oriole (*Icterus spurius*), North America.  
 Red-bellied Finch (*Estrela rubriventris*), West Africa.  
 Yellow-throated Warbler (*Dendroeca dominica*), United States.  
 Gray Wagtail (*Motacilla sulphurea*), British Islands.  
 Pileated Jay (*Cyanocorax pileata*), Brazil.  
 Rosy-faced Love Bird (*Agapornis roseicollis*), South Africa.  
 Orange-winged Amazon (*Chrysotis amazonica*), South America.  
 Red-fronted Amazon (*Chrysotis vittata*), Porto Rico.  
 Gray-breasted Parrakeet (*Bolborhynchus monachus*), South America.  
 Great Horned Owl (*Bubo virginianus magellanicus*), South America.  
 One-banded Buzzard (*Buteo unicinctus*), Central America.  
 Fish Hawk (*Pandion haliaëtus*), everywhere.  
 Sclater's Curassow (*Crax sclateri*), South America.  
 Variegated Tinamou (*Crypturus variegatus*), Central America.  
 Green-winged Trumpeter (*Psophia viridis*), Brazil.  
 Mallard Duck (*Anas boschas*), North America.  
 American Widgeon (*Mareca americana*), North America.  
 Big Black-headed Duck (*Fuligula marila*), North America.  
 Golden-eyed Duck (*Bucephala clangula*), North America.

Hooded Merganser (*Mergus cucullatus*), North America.  
 Ruddy Duck (*Erismatura rubida*), North America.  
 Least Tern (*Sterna superciliaris*), North Atlantic.

REPTILIA :—

Indian Python (*Python molurus*), India.  
 West African Python (*Python sebæ*), West Africa.  
 Tree Boa (*Corallus hortulanus*), Central America.  
 Gila Monster (*Heloderma suspectum*), Arizona.  
 Horned Lizard (*Phrynosoma platyrhina*), Western U. S.

The animals bred in the Garden were as follows :—

- 3 Dingos (*Canis dingo*).
- 2 Raccoons (*Procyon lotor*).
- 1 Common Porcupine (*Erethizon dorsatus*).
- 1 Bactrian Camel (*Camelus bactrianus*).
- 3 Collared Peccaries (*Dicotyles torquatus*).
- 1 Bison (*Bison americanus*).
- 1 Oryx Antelope (*Oryx leucoryx*).
- 2 Wapiti Deer (*Cervus canadensis*).
- 1 Common Deer (*Cervus virginianus*).
- 1 Mazame Deer (*Cervus campestris*).
- 1 Rat Kangaroo (*Hypsiprymnus rufescens*).

The only noteworthy loss by death was the young female Hippopotamus, which was purchased by the Society in December, 1880. The winter being too severe to permit it to be brought to the Garden with safety, it was allowed to remain in New York, where it unfortunately died early in March. With this exception the health of the menagerie has been uniformly good, and the loss among the animals actually in the Garden has been one of the smallest ever experienced by the Society.

The building of a new Aviary will allow much greater attention to be paid, hereafter, to the collection both of birds and reptiles; it being proposed to transfer the latter to the old Aviary; the building in which they were formerly kept has been so imperfectly suited to the purpose that no

special effort has been made for several years to enlarge the collection in that department.

Marked improvement has been made in lighting the Elephant House, by removing the ground-glass skylights over the cages, giving to both animals and visitors the benefits of light and sunshine. A similar change is shortly to be made in the Carnivora House, by placing a series of skylights in the wings of the building.

The large number of rats which infest the Garden has been a serious, and, in some cases, a fatal difficulty in domesticating many species of birds, which would otherwise breed readily in confinement, thereby adding much to the attractiveness as well as to the resources of the Garden. Plans have been prepared for permanent out-door enclosures for pheasants and other birds of similar nature, with a view of meeting this difficulty, and a number of them will soon replace the unsightly structures which now disfigure the grounds. It is hoped that the geese and ducks may be protected in like manner.

In this, the tenth annual report issued by the Society, a brief review of what has been accomplished in the menagerie, since the opening of the Garden, will not be out of place. Up to this time a total of 4293 living specimens have been exhibited. These were derived from the following sources:—

	Purchased.	Presented.	Born.	Total
Mammals, . . . . .	717	504	302	1,523
Birds, . . . . .	772	901	15	1,688
Batrachians, . . . . .	8	159	. .	167
Reptiles, . . . . .	223	620	72	915
	<hr/>	<hr/>	<hr/>	<hr/>
Total, . . . . .	1,720	2,184	389	4,293

It has been the constant object of the Society to display in its collection such typical forms as would convey to the visitor a comprehensive idea of so much of the animal kingdom as comes within its scope,—a collection of this nature having far greater value as an educational means than

those long series of closely similar forms, which are captivating to the collector but of small value or interest to the ordinary observer. The table following shows that few of the general groups out of the four highest classes of vertebrates have been unrepresented in the Garden, by a considerable number of varied forms, and when it is considered that in the seven years and eight months during which the Garden has been open to the public, nearly two and a half millions of visitors have passed through its gates, it will be readily seen that its value as a means of popular instruction can hardly be over-estimated:—

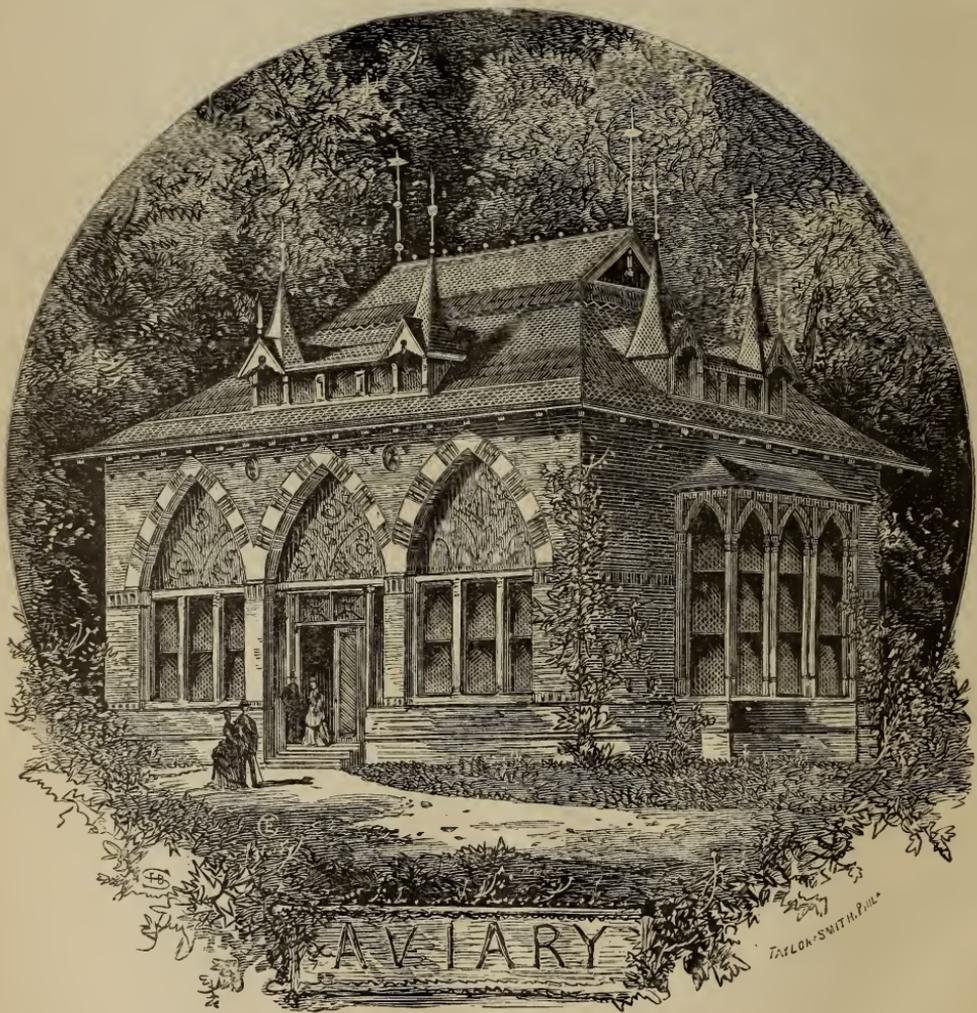
## MAMMALIA.

Primates, . . . . .	357 specimens, of	47 species and	17 genera.
Chiroptera, . . . . .	14 “ “	3 “	3 “
Insectivora, . . . . .	3 “ “	2 “	2 “
Carnivora, . . . . .	395 “ “	48 “	21 “
Rodentia, . . . . .	339 “ “	42 “	23 “
Proboscidea, . . . . .	5 “ “	2 “	1 “
Ungulata, . . . . .	244 “ “	43 “	23 “
Sirenia, . . . . .	4 “ “	2 “	1 “
Edentata, . . . . .	6 “ “	5 “	5 “
Marsupialia, . . . . .	156 “ “	20 “	10 “
	<u>1,523</u> “ “	<u>214</u> “	<u>106</u> “

## AVES.

Passeres, . . . . .	370 specimens, of	90 species and	60 genera.
Picariæ, . . . . .	59 “ “	13 “	12 “
Psittaci, . . . . .	260 “ “	51 “	19 “
Raptores, . . . . .	410 “ “	38 “	25 “
Columbæ, . . . . .	100 “ “	19 “	15 “
Gallinæ, . . . . .	163 “ “	27 “	17 “
Crypturi, . . . . .	6 “ “	2 “	2 “
Grallatores, . . . . .	113 “ “	36 “	25 “
Lamellirostres, . . . . .	141 “ “	32 “	17 “
Steganopodes, . . . . .	8 “ “	6 “	4 “
Longipennes, . . . . .	17 “ “	6 “	3 “
Pygopodes, . . . . .	27 “ “	4 “	4 “
Struthionides, . . . . .	14 “ “	4 “	4 “
	<u>1,688</u> “ “	<u>328</u> “	<u>207</u> “





AVIARY

TAYLOR & SMITH, PAULINA

## BATRACHIA.

Trachystomata, . . . . .	9 specimens, of	1 species and	1 genera.
Proteida, . . . . .	8 " "	1 " "	1 " "
Urodela, . . . . .	98 " "	8 " "	7 " "
Anura, . . . . .	52 " "	9 " "	4 " "
	<hr/>	<hr/>	<hr/>
	167	19	13

## REPTILIA.

Ophidia, . . . . .	500 specimens, of	47 species and	21 genera
Lacertilia, . . . . .	165 " "	18 " "	12 " "
Testudinata, . . . . .	138 " "	18 " "	14 " "
Crocodylia, . . . . .	112 " "	2 " "	2 " "
	<hr/>	<hr/>	<hr/>
	915	85	49

The few zoological gardens which have been established in this country are yet in their infancy, and in estimating their importance, they are therefore obliged to bear comparison with the many long-established institutions of similar nature in Europe. In this comparison, they suffer under some disadvantages which should be taken into consideration. Almost all animals from other countries have to be procured from European centres, and in so doing the cost and risk of the voyage across the Atlantic must be added to that which has previously been undergone; and to this also, a third and not the least item of expense, in the heavy customs duties imposed upon all foreign animals entering into the United States.

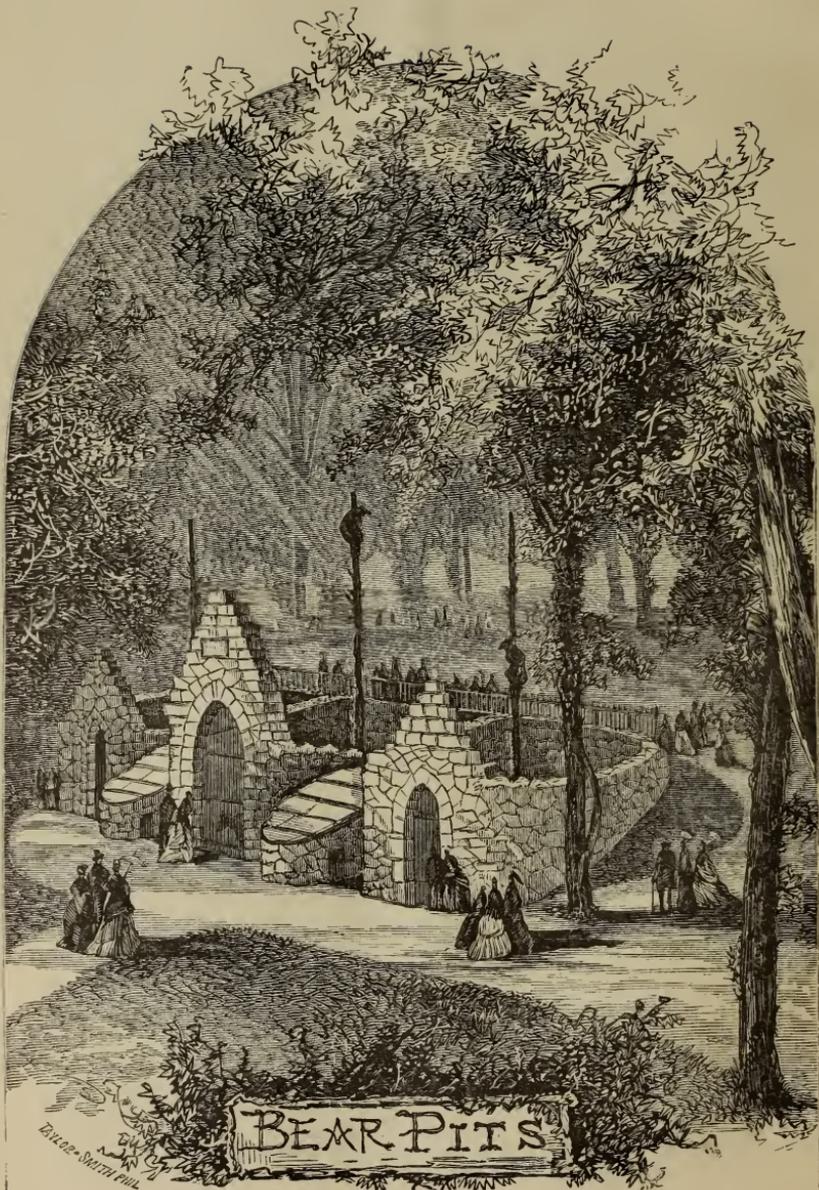
With our native fauna, the enormous distances, imperfect means of transportation in the far West, increasing both cost and risk, with the fact that the small demand has not yet created the sources of supply which it is hoped may some day exist, make it almost possible to say that animals can be procured from any quarter of the globe more readily than from the more distant portions of our own.

With these difficulties to contend with, the Society's collection may fairly claim to rank among the first.

The breeding of animals which may in many cases become acclimated with advantage, is an object to which zoological gardens have everywhere been specially devoted. In the early days of our Garden, while awaiting the completion of permanent buildings, many animals were kept in temporary and unsuitable quarters. This cause undoubtedly has prevented many species from breeding. Each year has, however, added to the number which reproduce, and the list of such species is steadily increasing. Those which have done so are given below:—

- Macaque Monkey (*Macacus cynomolgus*), India.
- Lion (*Felis leo*), Asia and Africa.
- Leopard (*Felis leopardus*), Asia and Africa.
- Prairie Wolf (*Canis latrans*), North America.
- Dingo (*Canis dingo*), Australia.
- Common Raccoon (*Procyon lotor*), North America.
- White-nosed Coati (*Nasua narica*), Central America.
- Black Bear (*Ursus americanus*), North America.
- Striped Gopher (*Spermophilus tridecem-lineatus*), North America.
- Prairie Dog (*Cynomys ludovicianus*), North America.
- Woodchuck (*Arctomys monax*), North America.
- White-footed Mouse (*Hesperomys leucopus*), North America.
- Beaver (*Castor fiber canadensis*), North America.
- Javan Porcupine (*Hystrix javanica*), Java.
- Common Porcupine (*Erethizon dorsatus*), North America.
- Fournier's Capromys (*Capromys pilorides*), Cuba.
- Acouchy (*Dasyprocta acouchy*), West Indies.
- Collared Peccary (*Dicotyles torquatus*), Central America.
- Llama (*Lama peruana*), Peru.
- Common Camel (*Camelus dromedarius*), Arabia.
- Bactrian Camel (*Camelus bactrianus*), Asia.
- Zebu (*Bos indicus*), Asia and Africa.
- Bison (*Bison americanus*), North America.
- Angora Goat (*Capra hircus* var.)
- Yemen Sheep (*Ovis aries* var.)
- Oryx Antelope (*Oryx leucoryx*), South Africa.





BEAR PITS

W. & A. SMITH ENL.

- Wapiti Deer (*Cervus canadensis*), North America.  
 Common Deer (*Cervus virginianus*), North America.  
 Mule Deer (*Cervus macrotis*), North America.  
 Hybrid between *C. virginianus*<sup>♂</sup> and *C. macrotis*<sup>♀</sup>.  
 Pampas Deer (*Cervus campestris*), South America.  
 Sambur Deer (*Cervus aristotelis*), India.  
 Axis Deer (*Cervus axis*), India.  
 Fallow Deer (*Cervus dama*), Europe.  
 Javan Chevrotain (*Tragulus javanicus*), Java.  
 Common Opossum (*Didelphys virginiana*), North America.  
 Red Kangaroo (*Macropus rufus*), Australia.  
 Great Kangaroo (*Macropus giganteus*), Australia.  
 Rat Kangaroo (*Hypsiprymnus rufescens*), Australia.  
 Crested Ground Parrakeet (*Calopsitta novæ-hollandiæ*), Australia.  
 Golden Pheasant (*Thaumalea picta*), China.  
 Common Peafowl (*Pavo cristata*).  
 Ruffed Grouse (*Bonasa umbellus*), North America.  
 Common Rattlesnake (*Crotalus horridus*), North America.  
 Water Moccasin (*Ancistrodon piscivorus*), North America.  
 Common Water Snake (*Tropidonotus fasciatus*), North America.

The losses by death have of course been large, as must always be the case when living animals which, in a state of nature, exist only under conditions fixed within narrow limits of change, have those conditions suddenly and violently altered by the restraints of domestication. It is believed, however, that they have been less than those which are commonly experienced in zoological collections, and it is satisfactory to be able to state that with the improvement of buildings and enclosures, and with the added experience of years, the prevalence of acute diseases has been steadily decreasing, and with this appears an average increase in the lifetime of the animals placed in the Garden.

The cost of maintaining the Garden has largely decreased,

not only in relation to its greater size, but actually, and generally, it may be said that the first decade—the experimental period in the history of the Society—has been such as to warrant the best of anticipations for its future years.

Respectfully,

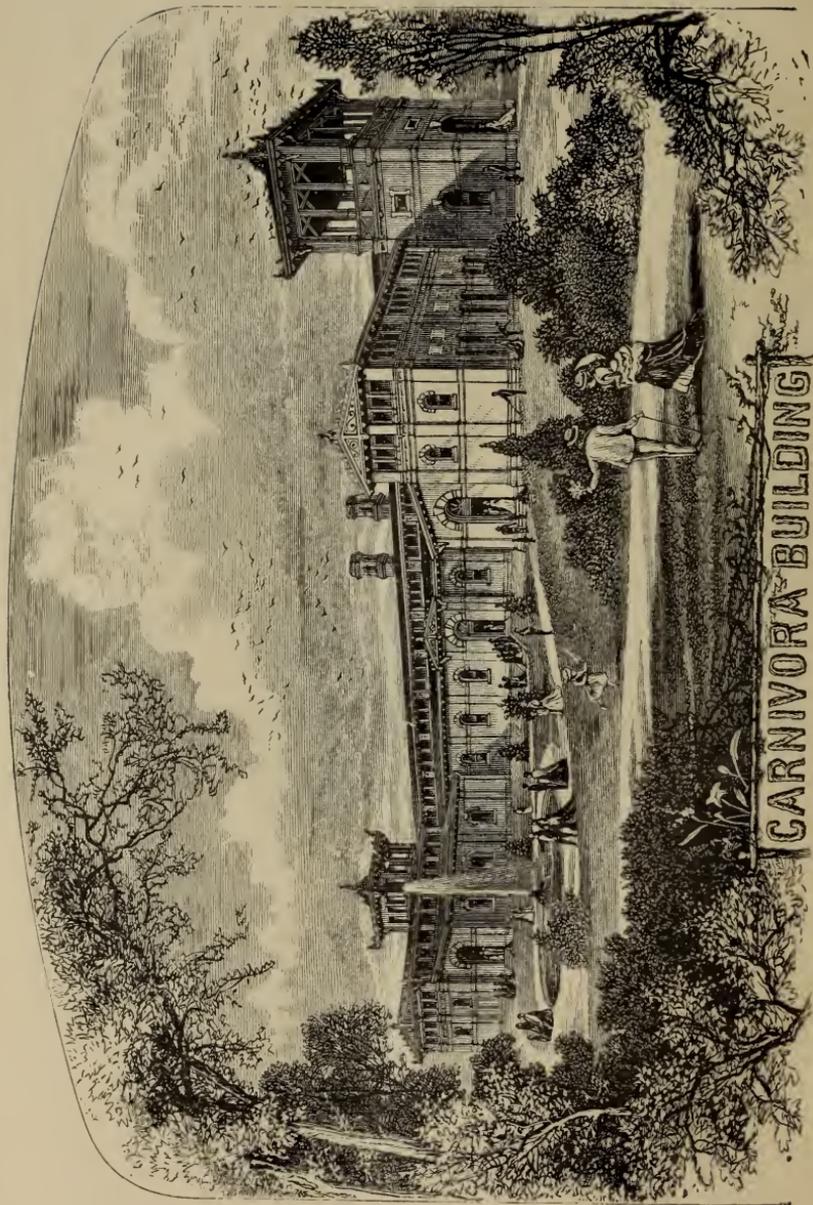
ARTHUR ERWIN BROWN,

*Superintendent.*

ZOOLOGICAL GARDEN, March 1st, 1882.







CARNIVORA BUILDING

## APPENDIX C.

### LIST OF ADDITIONS TO THE MENAGERIE DURING THE YEAR ENDING FEBRUARY 28th, 1882.

1881.

- March 3. 1 Screech Owl (*Scops asio*). Presented by Miss B. Marselis, Philadelphia.
8. 1 Turkey Vulture (*Cathartes aura*). Presented by M. S. Powell, Smithville, N. J.
10. 1 Canvas-back Duck (*Fuligula vallisneria*). Presented by E. C. Knight, Philadelphia.
11. 1 Raccoon (*Procyon lotor*). Presented by Mrs. M. J. Joy, Philadelphia.
19. 1 Duck Hawk (*Falco communis anatum*). Presented by John Krider, Philadelphia.
21. 1 Raccoon (*Procyon lotor*). Presented by William Redwood Wharton, Germantown.
22. 1 Bactrian Camel (*Camelus bactrianus*). ♂ Born in the Garden.
23. 1 Raccoon (*Procyon lotor*). Born in the Garden.  
1 Porcupine (*Erethizon dorsatus*). Purchased.
25. 1 Red-tailed Hawk (*Buteo borealis*). Presented by Frank Nash, Philadelphia.
- April 2. 4 American Porcupines (*Erethizon dorsatus*). Purchased.
8. 1 Fournier's Capromys (*Capromys pilorides*). Purchased.
9. 2 Rabbits. Presented by Walter N. Gordon, Philadelphia.
10. 1 Red-winged Blackbird (*Agelaius phoeniceus*). Presented by G. Howard Page, Philadelphia.
14. 1 White Rat. Presented by John H. Fulmer, Philadelphia.  
2 Ostend Rabbits. Presented by William H. Cassell, Druid Hill Park, Baltimore, Md.
15. 1 Opossum (*Didelphys virginiana*). Presented by Adam Ganber, Philadelphia.  
1 Black Bear (*Ursus americanus*). Presented by G. A. Edler, Burlington, N. J.
16. 1 Alligator (*Alligator mississippiensis*). Presented by Frank R. Ford, Philadelphia.
21. 1 Rabbit. Presented by Miss Ella Walker, Philadelphia.
22. 1 American Porcupine (*Erethizon dorsatus*). Purchased.
23. 2 Bald Eagles (*Haliaëtus leucocephalus*). Presented by S. C. Platt, Philadelphia.

- 1881.
- April 24. 1 Horned Toad (*Phrynosoma cornuta*). Presented by C. C. Clunette, Philadelphia.  
 1 Buffalo (*Bison americanus*), ♀ Born in the Garden.
25. 2 Bald Eagles (*Haliaeetus leucocephalus*). Presented by Dr. J. B. R. Powell, Farmington, Del.  
 1 Iguana (*Iguana tuberculata*). Purchased.
30. 1 American Porcupine (*Erethizon dorsatus*). Born in the Garden.  
 1 Black Iguana (*Metopocerus cornutus*.) Presented by William Farrell, Baltimore, Md.  
 1 Opossum and young (*Didelphys virginiana*). Presented by Frank M. Strader, Philadelphia.  
 1 Angora Rabbit. Presented by Charles Sommer, Philadelphia.  
 1 Woodcock (*Philohela minor*). Presented by Augustus Moulder, Philadelphia.  
 2 Hellbenders (*Menopoma allegheniensis*). Presented by Francis Wister, Philadelphia.
- May 4. 1 Capromys (*Capromys pilorides*). Purchased.  
 2 Red Foxes (*Vulpes fulvus*). Presented by G. A. Kern, Philadelphia.
5. 1 Snowy Owl (*Nyctea nivea*). Presented by Rev. Dr. Lundy, Philadelphia.
9. 1 Snapper Terrapin (*Chelydra serpentina*). Presented by Dr. G. E. Manigault, Charleston, S. C.
13. 1 Prairie Wolf (*Canis latrans*) from Panama. Presented by Charles Lindenmeyer, Philadelphia.
14. 1 Alligator (*Alligator mississippiensis*). Presented by Oliver Bosbyshell, Philadelphia.  
 1 Bald Eagle (*Haliaeetus leucocephalus*). Presented by A. B. Holmes, Philadelphia.  
 1 Turtle Dove (*Turtur risorius*). Presented by Harry Holtzer, Philadelphia.
15. 1 Oryx (*Oryx leucoryx*). Born in the Garden.
16. 1 Great-horned Owl (*B. virginianus magellanicus*). Purchased.
19. 1 Collared Peccary (*Dicotyles torquatus*). Born in the Garden.
20. 1 Kangaroo Rat (*Hypsiprymnus rufescens*). Born in the Garden.
21. 1 Hog-nosed Snake (*Heterodon platyrhinos*). Presented by Thomas M. Williamson, Grand Tower, Ill.  
 1 Humming Bird (*Trochilus colubris*). Presented by Harry Holtzer, Philadelphia.  
 1 Alligator (*Alligator mississippiensis*). Presented by W. Howell, Philadelphia.
24. 1 Alligator (*Alligator mississippiensis*). Presented.
25. 1 Woodchuck (*Arctomys monax*). Presented by William P. Brenz, Broomall, Pa.  
 1 Purple Gallinule (*Porphyrio martinica*). Presented by Philip Tice, Philadelphia.

1881.

- May 29. 1 Elk (*Cervus canadensis*). Born in the Garden.  
 6 Opossums (*Didelphys virginiana*). Presented by J. Seldensands, Tallytown, Pa.
- June 31. 2 Alligators (*Alligator mississippiensis*). Purchased.
1. 1 Loon (*Colymbus torquatus*). Presented by T. Keen, Philadelphia.  
 1 Black Snake (*Bascanion constrictor*). Presented by William Griscom, Jr., Philadelphia.
2. 1 Kinkajou (*Cercoleptes caudivolvulus*). ♀ Purchased.  
 3. 8 Boas (*Boa constrictor*). Purchased.  
 5. 2 Quail (*Oryx virginianus*). Exchanged.  
 6. 1 Night Heron (*Nyctiardea grisea*). Presented by H. P. McDowell, Philadelphia.  
 1 Great Ant-eater (*Myrmecophaga jubata*).  
 1 Kinkajou (*Cercoleptes caudivolvulus*).  
 1 Chacma Baboon (*Cynocephalus porcarius*). ♀  
 1 Gila Monster (*Heloderma suspectum*). Purchased.
8. 1 Virginia Deer (*Cervus virginianus*). Born in the Garden.  
 9. 2 Peccaries (*Dicotyles torquatus*). Born in the Garden.  
 10. 1 King Crab. Presented by John K. Campbell, Philadelphia.  
 2 Ocelots (*Felis pardalis*). ♂ and ♀. Purchased.  
 12. 1 Horned Lizard (*Phrynosoma cornuta*). Presented by E. E. Getty, Philadelphia.
15. 1 Woodchuck (*Arctomys monax*). Presented by William P. Brenz, Broomall, Pa.  
 17. 1 Woodchuck (*Arctomys monax*). Presented by J. E. Roche, Philadelphia.  
 1 Brown Capucin (*Cebus fatuellus*). Purchased.
18. 1 Alligator (*Alligator mississippiensis*). Presented by Mrs. Haynes, Philadelphia.
19. 1 Land Tortoise (*Cistudo clausa*). Presented by John Pearsall, Philadelphia.
20. 1 Opossum and young (*Didelphys virginiana*). Presented by M. C. Cline, Philadelphia.
21. 1 Screech Owl (*Scops asio*). Presented by William P. Brenz, Broomall, Pa.
23. 1 Raccoon (*Procyon lotor*). Born in the Garden.  
 1 Ground Squirrel (*Tamias striatus*). Presented by P. T. Harpel, Philadelphia.
27. 1 Horned Toad (*Phrynosoma cornuta*). Presented by H. V. Dell, Philadelphia.
30. 2 Alligators (*Alligator mississippiensis*). Presented by Edward Hacker, Philadelphia.  
 2 Horned Toads (*Phrynosoma cornuta*). Presented by C. C. Clunette, Philadelphia.
- July 1. 1 American Crow (*Corvus americanus*). Presented by C. Bradshaw, Philadelphia.

- 1881.
- July 2. 1 Rattlesnake (*Crotalus horridus*).  
 1 Copperhead (*Ancistrodon contortrix*). Presented by Thomas M. Williamson, Grand Tower, Ill.
6. 1 Green Monkey (*Cercopithecus callitrichus*).  
 1 Paca (*Cælogenys paca*). Purchased.  
 1 Opossum and young (*Didelphys virginiana*). Presented by C. E. Fowler, Ancora, N. J.
7. 1 Rattlesnake (*Crotalus horridus*). Presented by William Elliot, Harrisburg, Pa.
8. 1 Scarlet Tanager (*Pyrranga rubra*).  
 2 Blue Linnets (*Cyanospiza cyanea*).  
 2 Nonpareils (*Cyanospiza ciris*).  
 2 Baltimore Orioles (*Icterus baltimore*).  
 2 Rose-breasted Grosbeaks (*Goniaphea ludoviciana*).  
 1 Purple Gallinule (*Porphyrio martinica*).  
 1 Squirrel Monkey (*Saimaris sciurea*). Purchased.
10. 20 Horned Toads (*Phrynosoma cornuta*). Presented by H. C. Young, Philadelphia.
13. 1 Sparrow Hawk (*Falco sparverius*). Presented by George De Haven, Philadelphia.
14. 1 Tarantula. Presented by Adolph Orf, Philadelphia.
18. 1 Ocelot (*Felis pardalis*). Purchased.
19. 1 Red Fox (*Vulpes fulvus*). Presented by George Hayden, Philadelphia.
21. 1 Short-eared Owl (*Brachyotus palustris*). Presented by L. H. Eppelshimer, Philadelphia.
22. 1 King Crab. Presented by S. T. Joyce, Philadelphia.
23. 2 Cuban Parrots (*Chrysotis leucocephalus*). Purchased.
25. 3 Flying Squirrels (*Pteromys volucella*). Presented by William H. Huey, Philadelphia.
26. 1 Bluebird (*Sialia sialis*).  
 2 Orchard Orioles (*Icterus spurius*). Presented by P. J. Harpel, Philadelphia.
27. 1 Great Blue Heron (*Ardea herodias*). Presented by Samuel McDow, Philadelphia.  
 1 Golden-naped Amazon (*Chrysotis auripallata*). Purchased.
29. 2 Crows (*Corvus americanus*). Presented by H. Grover, Philadelphia.  
 1 Orange-winged Amazon (*Chrysotis amazonica*).  
 4 Brazilian Parrakeets (*Psittacula passerina*).  
 2 Red-bellied Finches (*Estrela rubriventris*). Purchased.
30. 2 Ring-necked Doves (*Turtur risorius*). Presented by Mrs. H. W. Baltz, Philadelphia.
- Aug. 1. 1 Mocking-bird (*Turdus polyglottus*). Presented by Cooper Bishop, Philadelphia.  
 1 Red Salamander (*Spelerpes ruber*). Presented by Joseph S. Lafayette Hall, Philadelphia.

1881.

- Aug. 1. 6 Fence Lizards (*Eumeces fasciatus*).  
 1 Garter Snake (*Eutænia sirtalis*).  
 1 Water Snake (*Tropidonotus sipedon*).  
 1 Black Snake (*Bascanion constrictor*). Presented by H. C. Young, Philadelphia.
3. 1 Mocking Bird (*Turdus polyglottus*). Presented.
8. 1 Bull Frog (*Rana catesbiana*). Presented by Mrs. T. J. Dewees, Philadelphia.  
 3 Barn Owls (*Strix flammea*). Purchased.  
 3 Chacma Baboons (*Cynocephalus porcarius*). ♂. ♀ ♀ Purchased.
9. 3 Horned Toads (*Phrynosoma cornuta*). Presented by Dr. C. Adams, Berwyn, Pa.
15. 5 White mice. Presented by J. W. Harshberger, Philadelphia.
18. 2 Pacas (*Cælogenyx paca*).  
 1 Agouti (*Dasyprocta aguti*).  
 1 Ocelot (*Felis pardalis*).  
 1 White-throated Capucin (*Cebus hypoleucus*).  
 1. Sclater's Curassow (*Craz sclateri*).  
 1 Greey's Guan (*Penelope greeyi*).  
 1 Buzzard (*Buteo unicinctus*). Purchased.  
 1 Black Bear (*Ursus americanus*) ♂. Presented by Capt. O. C. Badger, U. S. N.
19. 1 Kinkajou (*Cercoleptes caudivolvulus*).  
 4 Rosy-faced Love Birds (*Agapornis roseicollis*).  
 2 Weaver Birds (*Chera progne*).  
 2 Napoleon Finches.  
 3 Brazilian Finches (*Sycalis luteola*).  
 2 Linnets (*Linaria cannabina*).  
 1 Sandhill Crane (*Grus canadensis*).  
 1 Macaw Parrot (*Ara macavauna*). Purchased.
20. 3 Spreading Adders (*Heterodon platyrhinos*).  
 2 Fox's Black Snakes (*Coluber vulpinus*).  
 1 Garter Snake (*Eutænia sirtalis*).  
 2 Garter Snakes (*Eutænia saurita*).  
 1 Black Snake (*Bascanion constrictor*).  
 1 Water Snake (*Tropidonotus sipedon*). Presented by Thrall and Mulford, New Harmony, Ind.
25. 1 Opossum (*Didelphys virginiana*). Presented by C. J. Thompson, Philadelphia.
26. 1 Great Horned Owl (*Bubo virginianus*). Presented by C. W. Mathews, Philadelphia.
30. 1 White Rat. Presented by A. F. Davis, Philadelphia.  
 1 English Magpie (*Pica caudata*). Purchased.
- Sept. 1. 1 Laughing Gull (*Larus atricilla*). Presented by V. and L. Moya, Philadelphia.  
 1 Prairie Wolf (*Canis latrans*) ♀. Purchased.

1881.

- Sept. 2. 3 Least Terns (*Sterna superciliaris*). Presented by George De Haven, Philadelphia.  
 1 White-tailed Gnu (*Catablepas gnu*) ♀. Purchased.  
 1 Rose-crested Cockatoo (*Cacatua moluccensis*). Presented by P. Madeira, Philadelphia.  
 3. 2 Ring-necked Doves (*Turtur risorius*). Presented by Harry McNeil, Philadelphia.  
 12. 1 Red Salamander (*Spelerpes ruber*). Presented by D. W. Poor, Jr., Philadelphia.  
 13. 1 Vervet Monkey (*Cercopithecus lalandii*).  
 1 Mozambique Monkey (*Cercopithecus rafa-viridis*). Purchased.  
 14. 1 Bittern (*Botaurus minor*). Presented by Miss Annie Spear, Philadelphia.  
 1 Flying Squirrel (*Pteromys volucella*). Presented by Frederick Miller, Philadelphia.  
 15. 1 Cashmere Goat. ♀ Purchased.  
 1 Horned Toad (*Phrynosoma cornuta*).  
 1 Mud Turtle (*Cinosternum pennsylvanicum*). Presented by Frederick Rose, Philadelphia.  
 16. 1 Gallinule (*Porphyrio martinica*). Presented.  
 1 Black Snake (*Bascanion constrictor*). Presented by W. D. Griscom, Woodbury, N. J.  
 17. 2 Least Terns (*Sterna superciliaris*). Presented by A. H. Shipman, Rochester, N. J.  
 23. 1 Rail (*Porzana carolina*). Presented by William F. Jauffert, Philadelphia.  
 2 Spider Monkeys.  
 1 Nine-banded Armadillo (*Dasypus novem-cinctus*).  
 1 Golden Agouti (*Dasyprocta aguti*).  
 1 Derby's Opossum (*Didelphys derbianus*).  
 1 Kinkajou (*Cercoleptes caudivolvulus*).  
 2 Greey's Guans (*Penelope greeyi*).  
 2 Stanley Cranes (*Tetraptyx paradisea*). Purchased.
- Oct. 5. 2 Duck Hawks (*Falco communis*). Presented by Dr. C. A. Kingsbury, Philadelphia.  
 8. 1 Arctic Fox (*Vulpes lagopus*).  
 1 Dutch Hawk (*Falco communis*). Purchased.  
 11. 1 Rhea (*Rhea americana*). Purchased.  
 12. 1 Boa (*Boa constrictor*). Purchased.  
 18. 1 Alligator (*Alligator mississippiensis*). Presented by F. M. Bolton, Philadelphia.  
 19. 5 Beaver (*Castor fiber canadensis*). Purchased.  
 20. 1 Tree Boa (*Corallus hortulanus*). Central America. Presented by John Stern, Philadelphia.  
 23. 1 Spreading Adder (*Heterodon platyrhinos*). Presented by H. C. Young, Philadelphia.

1881.

- Oct. 24. 1 Diamond Rattlesnake (*Crotalus adamanteus*). Purchased.  
 27. 1 Thrush (*Turdus musicus*). Presented by H. J. Drysdale, Philadelphia.
- Nov. 7. 1 Punctated Agouti (*Dasyprocta punctata*). Purchased.  
 9. 1 Elk (*Cervus canadensis*). ♀ Born in the Garden.  
 11. 2 Horned Toads (*Phrynosoma cornuta*). Presented by Miss Bessie Hoopes, Philadelphia.  
 12. 1 Coot (*Fulica americana*). Purchased.  
 1 Fish Hawk (*Pandion haliaëtus*). Presented by William Leidy, Harrisburg, Pa.  
 21. 1 Little Black-headed Duck (*Fuligula affinis*). Presented by Thomas J. Yorke, Jr., Philadelphia.  
 22. 2 Indian Pythons (*Python molurus*).  
 4 West African Pythons (*Python sebæ*).  
 4 Fruit Bats (*Pteropus medius*). Purchased.  
 25. 2 Alligators (*Alligator mississippiensis*). Presented by William Holman, Philadelphia.  
 1 Pileated Jay (*Cyanocorax pileata*). Purchased.  
 2 Red-bellied Terrapin (*Pseudemys rugosa*). Presented by George H. Boldt, Philadelphia.
26. 2 Horned Toads (*Phrynosoma cornuta*). Presented by Samuel Carter, Philadelphia.  
 5 Ruddy Ducks (*Erismatura rubida*).  
 1 Golden-eyed Duck (*Bucephala clangula*). Purchased.
29. 3 Opossums (*Didelphys virginiana*). Presented by Bloodgood & Co., Philadelphia.
30. 1 Aoudad (*Ovis tragelaphus*). ♂  
 4 Anubis Baboons (*Cynocephalus anubis*).  
 3 Yellow Baboons (*Cynocephalus babouin*).  
 3 Rhesus Macaques (*Macacus erythræus*). Purchased.
- Dec. 1. 4 Red-headed Ducks (*Fuligula ferina americana*).  
 2 Pied-billed Grebes (*Podilymbus podiceps*). Purchased.  
 2. 1 Red-headed Duck (*Fuligula ferina americana*). Presented by J. Edward Farnum, Philadelphia.  
 3. 1 Red-headed Duck (*Fuligula ferina americana*).  
 1 Big Black-headed Duck (*Fuligula marila*).  
 1 Ruddy Duck (*Erismatura rubida*).  
 2 Pied-billed Grebes (*Podilymbus podiceps*). Purchased.  
 6. 1 Brown Capucin (*Cebus futuellus*). Presented by John S. Henkels, Philadelphia.  
 2 Common Rabbits. Presented.  
 8. 1 Horned Toad (*Phrynosoma cornuta*). Presented by Mrs. M. J. Fite, Philadelphia.  
 9. 1 Red-tailed Buzzard (*Buteo borealis*). Presented by J. V. Heidrich, Philadelphia.  
 1 Hooded Merganser (*Mergus cucullatus*). ♀ Purchased.

1881.

- Dec. 12. 1 Weeper Capucin (*Cebus capucinus*). Presented by Miss Elizabeth Camblos, Philadelphia.  
 16. 1 Golden Eagle (*Aquila chrysaetos*). Purchased.  
 17. 1 Red-headed Duck (*Fuligula ferina americana*). Purchased.  
 21. 1 Snowy Owl (*Nyctea nivea*). Purchased.  
 25. 1 Mallard Duck (*Anas boschas*).  
     1 Black Duck (*Anas obscura*). Purchased.  
 28. 3 Quail (*Ortyx virginianus*). 2 ♂ 1 ♀ Presented by S. Fisher Corlier, Philadelphia.  
 31. 1 Ocelot (*Felis pardalis*).  
     1 Greey's Guan (*Penelope greayi*). Purchased.

1882.

- Jan. 1. 1 Mallard Duck (*Anas boschas*). Purchased.  
 3. 1 Opossum (*Didelphys virginiana*). Presented by J. Ryan, Philadelphia.  
     1 Mallard Duck (*Anas boschas*). Purchased.  
 9. 1 Red-tailed Buzzard (*Buteo borealis*). Presented by Dr. Elliott Coues, Smithsonian Institution, Washington, D. C.  
 14. 2 Alligators (*Alligator mississippiensis*). Presented by George Buckley Carse, Camden, N. J.  
 18. 1 Golden-eyed Duck (*Bucephala clangula*). Purchased.  
 23. 1 Red-tailed Buzzard (*Buteo borealis*). Presented by J. M. Jones, Philadelphia.  
 27. 1 Red-tailed Buzzard (*Buteo borealis*). Presented by W. L. Abbott, Philadelphia.
- Feb. 7. 1 Rabbit. Presented by F. B. Leibfried, Philadelphia.  
 8. 1 Guinea Pig.  
     2 Piebald Rats. Presented by J. F. Kirk, Germantown.  
 11. 2 Goldfinches (*Carduelis elegans*).  
     4 Purple Finches (*Carpodacus purpureus*).  
     2 Siskins (*Chrysomitris spinus*).  
     3 Bullfinches (*Pyrrhula rubicilla*).  
     3 Redbirds (*Cardinalis virginianus*).  
     2 Passerine Parrakeets (*Psittacula passerina*).  
     2 Gray-breasted Parrakeets (*Bolborhynchus monachus*).  
     4 Reed Birds (*Dolichonyx oryzivorus*).  
     1 Japanese Warbler (*Cettia* ——). Purchased.  
     2 Muscovy Ducks. Presented by Charles E. Blumner, Philadelphia.
17. 1 Mazame Deer (*Cervus campestris*). ♀ Born in the Garden.  
 21. 1 Black Duck (*Anas obscura*).  
     1 American Widgeon (*Mareca americana*). Purchased.  
 27. 3 Dingos (*Canis dingo*). Born in the Garden.  
     1 European Blackbird (*Turdus merula*). Presented by Mrs. Charles Thurber, Germantown.



