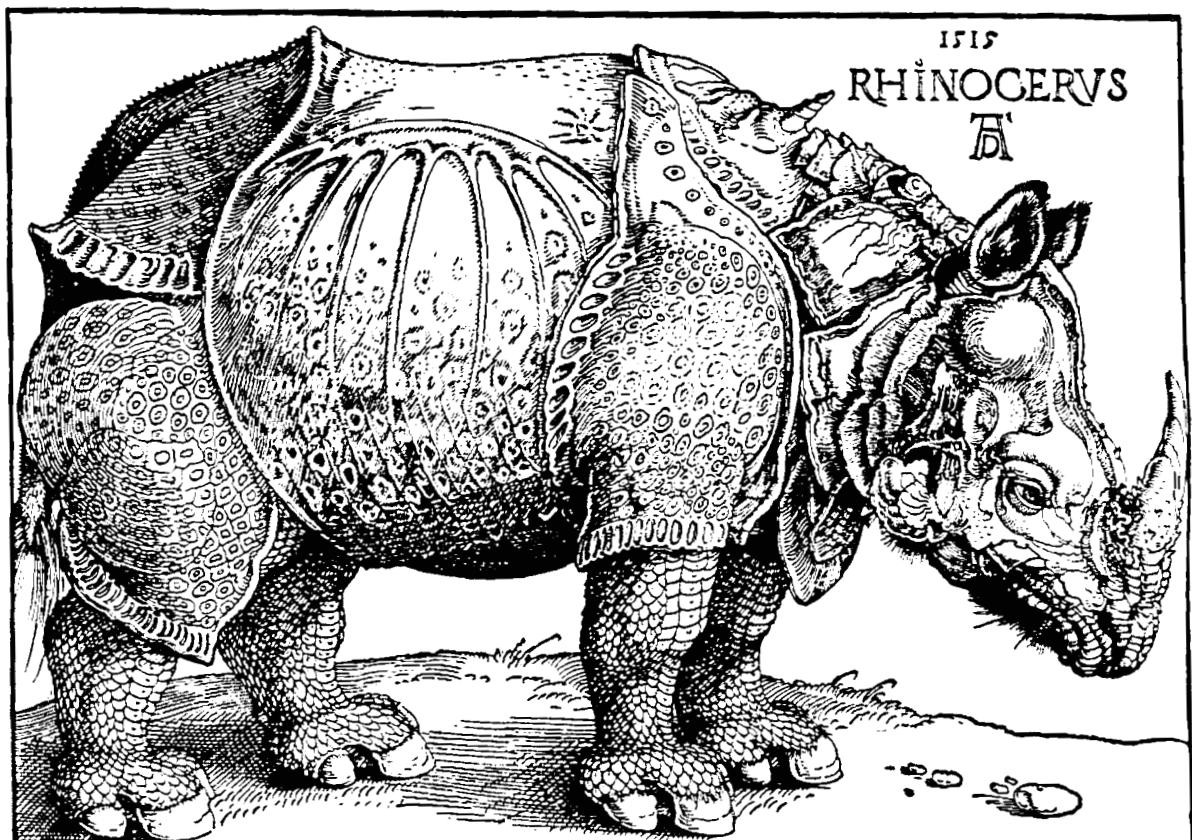


THE RHINOCEROS IN CAPTIVITY

by L.C. Rookmaaker



SPB Academic Publishing bv

THE RHINOCEROS IN CAPTIVITY

**A list of 2439 rhinoceroses kept from
Roman times to 1994**

L.C. Rookmaaker

Curator, The Rhino Museum
Melkrivier, Northern Province, South Africa

With special assistance by

Marvin L. Jones
Heinz-Georg Klös
Richard J. Reynolds III

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1. Introduction

'To see the Rhinoceros (a friend told me), I decided to take a walk.' The German author C.F. Gellert wrote these lines when a rhinoceros was being shown in the town of Leipzig in 1747. How many people have taken such a walk and returned home, thrilled and educated by seeing a rhinoceros in a cage, or a baby rhinoceros jumping around the enclosure, or a group of white rhinos peacefully grazing in a paddock? The rhinoceros has always fascinated us by its prehistoric bulk, its massive power and its lack of conventional beauty. Through the ages, many individual rhinoceroses have been kept by human beings, sometimes to entertain, sometimes to educate.

It was my aim to collect information about each individual rhinoceros which has been

kept in captivity from the earliest times to the present. This is, of course, a quite impossible task, because I necessarily had to depend on the records left by our ancestors. I had three reasons for attempting to discover some details about every single rhinoceros. First, a rhinoceros exhibited in a zoo potentially helps to increase our knowledge of the species. How much would we know today about the reproductive behavior, morphological variations or anatomical details of rhinoceroses if we had only seen the animals in the wild? How many people have become interested in the species after observing a rhinoceros in an enclosure at a zoo? I am not really sure, but perhaps the fact that I saw a black rhinoceros at Artis Zoo in Amsterdam or an In-



Fig. 1. Sumatran rhinoceros 'Mahatu' at Los Angeles Zoo, November 1992.

dian rhinoceros in Antwerp when I was a child, subconsciously kindled my decision to study the animal, and many other people may have had similar experiences. The second reason for studying the captive population of rhinoceroses is the alarming decline of the animals in the wild. If the rhinoceros would disappear from its original habitat through poaching and human pressures, there is at least a chance of keeping the species alive in captivity. The rhinoceros is generally a slow breeder, and it needs an all-out effort to maintain even existing numbers. It is possible that history can teach us valuable lessons so that we can avoid future mistakes. The third reason is simply a personal fascination with the historical record. Much of the information in this book is elusive, but it has given me great pleasure to try to discover as many details as possible.

The term 'captivity' is interpreted in rather a broad sense. It is obvious that a list of animals in a captive situation must include those kept, for example, in zoological gardens, safari parks, travelling menageries, circuses, and private collections. However, the definition is less clear when rhinos are kept within their own area of distribution. When, for instance, a group of rhinos is kept in an enclosure of a thousand acres, this group would obviously be captive if the enclosure were located in Europe or America. However, if that enclosure were in Africa or Asia, bordering a national park, there could be disagreement as to whether the animals kept there would be captive, semi-wild or wild. It is very difficult to judge each situation on its own merits without personal knowledge of the area or the background of the case. I have been liberal in including some information about such groups of rhinos kept on private land within the area of distribution of the species, although, generally, the animals have not been counted in the totals.

The rhinoceros has been well served by historians and record keepers. In the present survey, I could build on a solid foundation consisting of information contained in the literature, and, in particular, the papers by Reynolds and the studbooks, as well as personal communications with a great number of people interested in animals and the history of animal exhibits. Richard J. Reynolds III of Atlanta, Georgia, is a retired lawyer with a particular interest in circuses and also in other ways of exhibiting wild animals. He compiled all the available records on the rhinoc-

eros in captivity and published the results in a series of papers in the *International Zoo Yearbook* of London in the early 1960s. Why he decided to focus on the rhinoceros in favor of elephants or giraffes (although he also wrote about those animals), remains a mystery in his publications. My own correspondence with Richard Reynolds started in about 1973 and has continued ever since. Many valuable data and much encouragement have reached me from the other side of the Atlantic, thanks to our shared interest. Reynolds studied the history of circus owners in the United States, which I have always found to be a particularly difficult and elusive subject. All the facts about rhinoceroses in American circuses or travelling menageries have been provided by Reynolds from his various sources.

The studbooks of the various species provided data for rhinoceroses that, more recently, have been kept in a captive situation. The studbook for African black and white rhinoceroses has been kept by Berlin Zoo since 1966, that for the Indian rhinoceros by Basel Zoo since the late 1960s, and that for the Sumatran rhinoceros by the International Rhino Foundation. These studbooks are published with a certain regularity. They contain many valuable data on the specimens that were alive in the period during which the studbook was kept. There is a small gap between the publication of the lists of captive rhinos by Reynolds in 1960 and 1964, and the start of the studbooks. A few specimens which arrived and died during those few years in the 1960s were not recorded in either of these sources.

In 1993, I tried to compile the information contained in these various sources: the studbooks, the papers by Reynolds, the literature in general, and personal communications. The

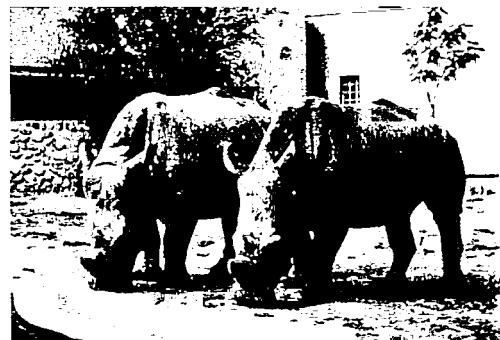


Fig. 2. Pair of White rhinoceros at Berlin Zoo, 26th June 1965.



Fig. 3. Black rhinoceros 'Toto' at St Louis, 1993.

next step was to write to all collections of animals which had exhibited the rhinoceros, in order to check these data and possibly add to my information. In October 1993, therefore, I sent out 572 general inquiries regarding the completion and rectification of the available data. Of these inquiries, 267 were sent to collections known to have shown at least one rhinoceros: I received 109 replies (41%). A further 305 letters were sent to places where a rhinoceros could have been exhib-

ited, but for which no information was available. I received 75 replies (25%) from this latter category, including a few with information on hitherto overlooked specimens.

When I had compiled all this information, I found that there were still quite a number of questions and uncertainties. During the latter stages, I have been greatly assisted by Sgt. Marvin Jones, the then Registrar of San Diego Zoo. He visited many collections all over the world and studied the local records, and his encyclopedic mind can still recall some specific data from different specimens. He has contributed enormously to filling in the blanks. In various other ways, I have also benefitted from Ken Kawata's knowledge of Japanese zoos, from Clin Keeling's of historical records, and from John Edwards' of European zoos and photographic records.

The present list has details of about 2439 individual specimens belonging to one of the five living species of rhinoceros (Table 1). The Indian rhinoceros (*Rhinoceros unicornis*) has been consistently exhibited in small numbers from the 16th century up to the present. The black rhinoceros (*Diceros bicornis*) was first

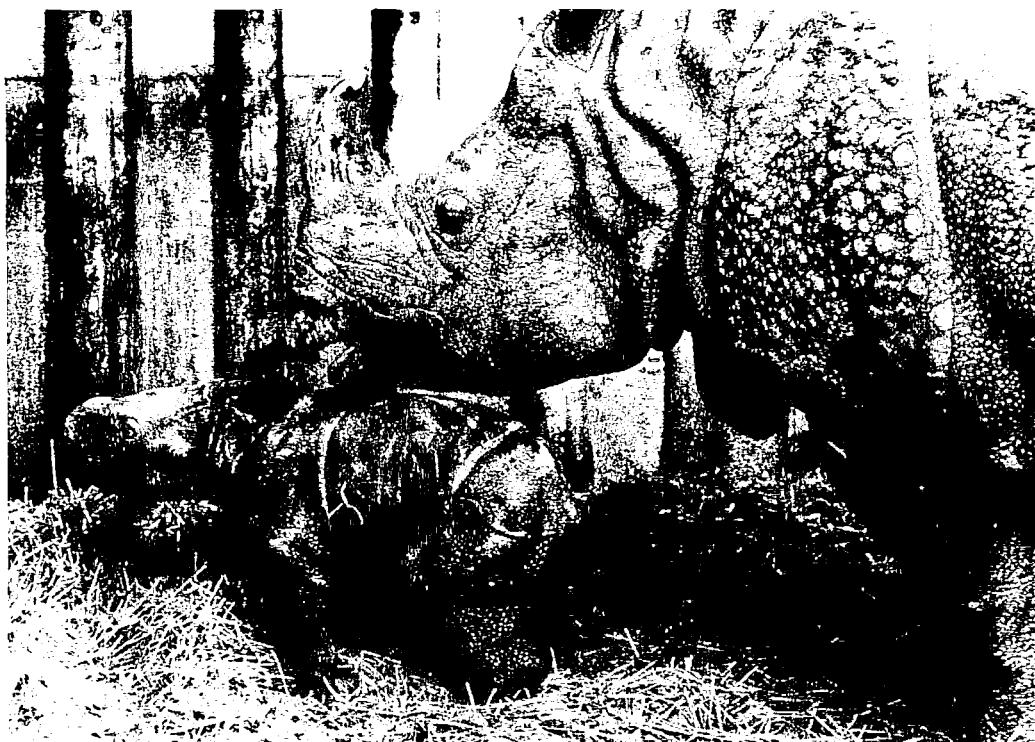


Fig. 4. Indian rhinoceros at Basel Zoo.



Fig. 5. White rhinoceros at Whipsnade

imported in 1868, and has been shown regularly ever since. The Javan rhinoceros (*Rhinoceros sondaicus*) is a very rare exhibit, while the Sumatran species (*Dicerorhinus sumatrensis*) was imported during the second half of the 19th century, and again in recent years. The white rhinoceros (*Ceratotherium simum*) is now the most common species, but this is a recent development since the first specimen was only seen in 1946.

The rhinoceros is not the most photogenic of animals, and, as such, it is remarkable that so many images have been taken throughout the years. In the present work, a selection of the available material, both old and new, has been made. Some of the pictures are of rather poor quality, and they have only been included to complete the historical record and to show what has been preserved. Most of the recent pictures were supplied by zoos in response to the questionnaire, and I am very grateful for their cooperation and interest.

What to expect

You should be able to find some information about each and every rhinoceros ever kept in captivity. Actually, I would prefer to use the English equivalent of the German 'Menschenobhut', 'in human hands', or 'under human care', in order to avoid the cage or enclosure idea associated with captivity. There is no limit to time or place. It should not matter whether the rhinoceros was kept in 2000 BC or in 1990 AD, in China, Siberia, Iceland or the Cape of Good Hope. You can expect to find the date of arrival, date of death, gender, name and most important happenings during its life. If the zoo in, for example, Amsterdam or Rangoon exhibited rhinos, there is also information on which species, how many,

when, etc. If you saw a rhinoceros in a 'Tarzan' movie, it could be that this list will give you some of its background.

Of course, this book will fall far short of your (and my) expectations. Some rhinoceroses, probably quite a large number in fact, do not figure here, simply because nobody recorded their presence on paper or in art, while others have simply escaped my notice. For the historian or scientist it is a sad fact that it is very hard to cover any subject completely, unless it is very carefully and precisely demarcated. I would be pleased to hear about any shortcomings in this list.

Kees Rookmaaker

Easter 1997

How to use this book

Arrangement of records

There are five living species of rhinoceros. The records of captive specimens of each species are arranged each in a separate chapter. Some records from Roman times and from other old civilizations are mentioned in Chapter 3. A few statistics on demography and reproduction are summarized in Chapter 2.

Each of the Chapters 4 to 8 on the five species starts with a short introduction on the maintenance of that particular species, with information on its history in captivity, subspecific classification, origin of imports and longevity. The introduction in each chapter is followed by:

1. A table of *Collections where the species has been exhibited*, listing the number of collections by continent and country. This table also shows when and in which country the animal was first exhibited in each continent, and in which collection in each country. The place with the largest number of rhinos throughout the ages has also been listed, but only when there were more than five specimens; smaller lists have been deleted.
2. A table of *Population changes* showing the number of specimens imported, born, and those that died within each decennium since its first exhibition. Changes in the captive population can easily be studied from these tables.
3. A *Chronological list of all known specimens* giving the historical details of each specimen in abbreviated form. The main list is arranged by collection, and specimens which were fre-

stated as, 'To ...' / 'From ...' with the name of the town. If it was imported from the wild, this is always written in full to avoid confusion ('Imported from...', 'Caught in ...').

t in the entry of an individual rhinoceros after a date means: the animal died at that time in that collection.

Acknowledgments

In many ways, this book is the culmination of a long standing interest. Throughout the years, I have received much encouragement and active assistance from a number of people with similar ideas. Although there is little reward in being mentioned in a section of acknowledgments, I hope that it will give them an idea of the extent of my gratitude. In alphabetical order, my thanks go to Peter van Bree (Amsterdam, The Netherlands), the late Tim H. Clarke (Ashford, UK), Michael Dee (Los Angeles, USA), John Edwards (London, UK), Marvin L. Jones (San Diego, USA), Ken Kawata (Kansas City, USA), Clin Keeling (Guildford, UK), Heinz-Georg Klös (Berlin, Germany), Dennis R.H. Levy (Bournemouth, UK), Esmond Bradley Martin (Nairobi, Kenya), Jim Monson (Tourette-Levens, France), Florence Pieters (Amsterdam, The Netherlands), Herman Reichenbach (Hamburg, Germany), Richard J. Reynolds (Atlanta, USA), Lothar Schlawe (Berlin, Germany), Marjorie Shaw (San Diego, USA), Kathleen Tobler (Basel, Switzerland). Without the patience and understanding of these people in my continuous quest for more data, this book would look very different today.

Special assistance in specific cases was readily given by many people, among whom I am happy to mention: John Bank (Lorena, Texas, USA), Susanta Bhattacharyya (Zoological Gardens, Calcutta, India), Bernhard Blaszkiewitz (Tierpark Berlin-Friedrichsfelde, Germany), L.E.M. de Boer (Apenheul, Apeldoorn, The Netherlands). Herb Clement (former director of Central Park Zoo, New York, USA), D.H.M. Cumming (WWF Multispecies Animal Production Systems Project, Harare, Zimbabwe), J.C. Daniel (former Curator of Bombay Natural History Society, India), F. Dieterlen (Staatliches Museum für Naturkunde, Stuttgart, Germany), T.J. Foose (International Rhino Foundation, Columbus, USA), Gwyn Griffiths (Crewe, UK), Barbara Herzog (Naturhistorisches Museum, Vienna, Austria), Bengt

Holst (Copenhagen Zoo, Denmark), D. Philip King (Assiniboine Zoo Park, Winnipeg, Canada), Andrew Kitchener (National Museums of Scotland, Edinburgh, UK), Georges Lenglet (Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium), the Assistant Director of the Government Museum (Madras, India), P. Newbegin (Help A Child of India, Bangalore, India), G. Nogge (Cologne Zoo, Germany), Julio Perla (Monkey Jungle, Miami, USA), Mark Sorrell (Benfleet, UK), Donald W. Wixom (Sunset Zoological Park, Manhattan, USA), F.J. Zeehandelaar (New Rochelle, USA).

Many people took the time and trouble to respond to my questionnaire of captive rhinos in 1993. In some cases, those responsible obviously went to a lot of trouble to photocopy the available material, look for old records, or find suitable pictures. I trust this book will show them that their time was well spent, and that hopefully I have done justice to their records. At the end of this chapter, there is a list of all collections that exhibited a rhinoceros, in which those that responded to the questionnaire are marked by an *, a simple mark for special gratitude. The staff of those collections that never exhibited a rhinoceros, but who still wrote to me, are listed separately below.

Mistakes will certainly have been made in the transfer of information or on decisions about names and dates. I take the responsibility for all of them.

List of collections replying in 1993-1994 that they never owned a rhinoceros:

Austria	Innsbruck, Alpen Zoo
Belgium	Ieper, Bellewaerde Park
Belize	Belize City, The Belize Zoo
Bermuda	Bermuda Aquarium, Natural History Museum and Zoo
Canada	Bowmanville, Bowmanville Zoo Edmonton, Valley Zoo Charlesbourg, Jardin Zoologique du Quebec Shubenacadie, Provincial Wildlife Park Vancouver, Stanley Park Zoological Gardens
Chile	Santiago, Santiago Zoo
Czech Republic	Plzen, Zoologicka a Botanicka Zahrada
Denmark	Odense, Odense Zoo
Dubai	Dubai, Zoological Gardens
Germany	Bochum, Tierpark

Finland	Rostock, Zoologischer Garten	Colwyn Bay, Welsh Mountain Zoo
	Helsinki Zoo	Cricket St. Thomas, Westcountry Wildlife Park
France	Montpellier, Parc de Lunaret	Dudley, Dudley & West Midlands Zoological Society
	Mulhouse, Parc Zoologique et Botanique	Great Yarmouth, Thrigby Hall Wildlife Gardens
Ghana	Strasbourg, Parc Zoologique Orangerie	Huntingdon, Hamerton Wildlife Centre
Hong Kong	Kumasi, Kumasi Zoological Gardens	Matlock, Riber Castle Wildlife Park
India	Zoological and Botanical Gardens	Twycross, Twycross Zoo
	Ahmedabad, Kamla Nehru Zoological Garden	Abilene, TX, Abilene Zoological Society
Israel	Haifa, Biological Institute	Apple Valley, MN, Minnesota Zoo
Netherlands	Amersfoort, Dierenpark	Como, MN, St. Paul's Zoo
	Apeldoorn, Apenheul	Erie, PA, Erie Zoo
	Rhenen, Ouwehands Dierenpark	Grand Rapids, MI, John Ball Zoological Garden
Russia	Ekaterinburg, Zoopark	Naples, FL, Jungle Larry's Zoological Park
	Kishinev, Zoo	Providence, RI, Roger Williams Park Zoo
	Novosibirsk, Zoo	Racine, WI, Racine Zoological Society
Saudi Arabia	Riyadh, King Khalid Wildlife Research Center	Roanoke, VA, Mill Mountain Zoo
Slovakia	Bojnice, Zoological Garden	Rochester, NY, Seneca Park Zoo
Spain	Cantabria, Zoologico de Santillana del Mar	Santa Ana, CA, Santa Ana Zoo
	Gran Canaria, Los Palmitos, Maspalomas	Seattle, WA, Woodland Park Zoological Gardens
	Jerez de la Frontera, Zoo Jerez	Syracuse, NY, Burnet Park Zoo
Sweden	Eskilstuna, Parken Zoo	Tacoma, WA, Point Defiance Zoo & Aquarium
Switzerland	Gossau, Walter Zoo	Utica, NY, Utica Zoo
Trinidad	Port-of-Spain, Zoological Society of Trinidad & Tobago	West Palm Beach, FL, Dreher Park Zoo
Ukraine	Nikolaev, Nikolaev Zoo	Uzbekistan Tashkent, Zoopark
United Kingdom	Alfriston, Drusillas Park	
	Banham, Banham Zoo	
	Blair Drummond, Safari and Leisure Park	
	Chessington, World of Adventure	

List of collections which exhibited a rhinoceros

Arranged by country

Species exhibited are abbreviated as follows:

CS	<i>Ceratotherium simum simum</i> (Southern White rhino)
CSC	<i>Ceratotherium simum cottoni</i> (Northern White rhino)
DB	<i>Diceros bicornis</i> (Black rhino)
DS	<i>Dicerorhinus sumatrensis</i> (Sumatran rhino)
RS	<i>Rhinoceros sondaicus</i> (Javan rhino)
RU	<i>Rhinoceros unicornis</i> (Indian rhino)

X stands for specimens of unknown species listed in Chapter 3.

The number of specimens exhibited follows the abbreviated species name in the last column.

* Collections with this mark responded to the 1993 questionnaire or have otherwise volunteered information about their rhinoceroses.

Country/place	Name of collection	Species exhibited
Abu Dhabi, UAE		
Al Ain	Zoological Park and Aquarium	CS 3, CSC 1
Afghanistan		
Kabul	Coll. Amir Abdul Rahmann	DS 1

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>
Argentina		
Buenos Aires	Circo Fuentes Gasca	CS 1
Buenos Aires	*	DB 8
La Plata	Jardim Zoologico	CS 2, DB 1
Margarita	Zoologico La Plata	
Mendoza	Unidentified	CS 3
	Zoological Gardens	DB 1
Australia		
Adelaide	*	Adelaide Zoo
Dubbo	*	Western Plains Zoo
Melbourne	*	Zoological Board of Victoria
Perth	*	Zoological Gardens
Queensland	*	Ashton's Animal Kingdom
Sydney	*	Taronga Zoo
Werribee	*	Zoological Gardens
Winnellie	*	Tipperary Sanctuary
		DB 3, RS 1
		CS 12, DB 15
		DB 3
		CS 2, DB 1, DS 1
		DB 1
		CS 2, DB 23
		CS 3
		CS 2
Austria		
Salzburg	*	Salzburger Tiergarten Hellbrun
Vienna	*	Schönbrunner Tiergarten
		CS 4
		DB 5, RU 1, RS 1, DS 2
Bangladesh		
Dhaka	Coll. Matthew Day	RU 1
Belarus		
Grodno	Grodno Zoo	DB 1
Belgium		
Antwerp	*	Jardin Zoologique
		CS 5, CSC 2, DB 5, RU 13,
		DS 4
Genk		Limburgse Zoo Zwartberg
Planckendael		see Antwerp
Sprintmont	*	Unidentified
		CS 6
		CS 1
Brazil		
Belo Horizonte	*	Fundaçao Zoo-Botanica
Porto Alegre	*	Jardim Zoologico
Rio de Janeiro	*	Jardim Zoologico
Sao Leopoldo	*	Parque Zoologico do Rio Grande
Sao Paulo	*	Fundaçao Parque Zoologico
		CS 2
		DB 1
		CS 2, DB 5
		CS 2, DB 3
		CS 2, DB 4, RU 1
Bulgaria		
Sofia	Zoological Gardens	CS 3
Burma	see	Myanmar
Cambodia		
Angkor-Vat	Early civilization	RS ?
Canada		
Aldergrove	*	Vancouver Game Farm
Calgary	*	Calgary Zoological Society
Edmonton	*	Alberta Game Farm
Granby	*	Société Zoologique de Granby
Hemingford	*	Parc Safari Africain
Penticton	*	Okanangan Game Farm
Rockton	*	African Lion Safari
St. Félicien	*	Zoo Sauvage
Toronto	*	Metro Toronto Zoo
		CS 5
		CS 3
		CS 2
		CS 2, DB 7
		CS ?
		CS 1
		CS 5
		DB 2
		CS 9, DB 2, RU 5

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>
China		
Beijing	Zoological Gardens	CS 2, DB 5, RU 4
Canton	Zoological Gardens Kwangchow	CS 2
Chengdu, Sichuan	Zoological Gardens	DB 2
Choushun	Zoological Gardens	CS 2
Early specimens		X 19
Guangzhou	see Canton	
Harbin	Zoological Gardens	CS 2
Kwangchow	see Canton	
Peking	see Beijing	
Seito	see Chengdu	
Shanghai	Zoological Gardens	CS 3
Shenyang	Zoological Gardens	CS 3
Taiyuan	Zoological Gardens	CS 3
Tensin	Zoological Gardens	CS 3
Colombia		
Medellin	Hacienda Napoles	CS 2
Croatia		
Osijek	Zoological Gardens	DB 1
Zagreb	Zoological Gardens	CS 2, DB 4
Cuba		
Havana	Zoological Gardens	CS 7, DB 2
Czech Republic		
Dvur Kralove	Zoological Gardens	CS 18, CSC 13, DB 33, RU 5
Lesna	Zoological Gardens and Castle	CS 2, DB 2
Liberec	Severoceska Zoologicka Zahrada	CS 4, RU 1
Ostrava	Zoologicka Zahrada	CS 2
Prague	Zoologicka Zahrada	CS 3, DB 3
Usti nad Labem	Zoologicka Zahrada	CS 7
Denmark		
Aalborg	Aalborg Zoo	CS 5
Bandholm	Knuthenborg Safari Park	CS 6
Copenhagen	Zoologiske Have	CS 9, DB 2, DS 1
Givskud	Lovepark Safariland	CS 5
Dominican Republic		
Santo Domingo	Parque Zoologico y Botanico	DB 2
Santo Domingo	Parque Zoologico Nacional, Zoodom	CS 11
Egypt		
Alexandria	Zoological Gardens	CS 1
Alexandria	Specimens in Roman Empire	X 2
Cairo	Giza Zoological Gardens	CS 5, DB 8, RU 2
Cairo	Early specimens	X 2
Estonia		
Tallinn	Tallinn Zoo	DB 2
Europe		
Early specimens		DB 2
Travelling menageries		CS 11, RU 4

Country/place	Name of collection	Species exhibited
Travelling menagerie	Planet Menagerie	RU 1
Travelling menagerie	Bach Menagerie	DB 1
Wingst	Baby Zoo	CS 1
Wuppertal	* Zoologischer Garten	DB 2
Greece		
Athens	Circo de Madrid	CS 1
Hungary		
Budapest	* Zoological Gardens	CS 2, DB 2, DS 1
Veszprem	* Kittenberger Zoo	CS 1, DB 1
India		
Bangalore	Lal Bagh Park	RU 1
Baroda	see Vadodara	
Barpali	Coll. Rajah of Barpali	RU 1
Bhubaneswar	Nandankanan Biological Park	RU 2
Bombay	Zoological Gardens	RU 3
Calcutta	Alipore Zoological Gardens	RU 15, RS 2, DS 5
Calcutta	Barrackpore Park	RU 5
Calcutta	Coll. Nabab of Chittepour	RU 1
Calcutta	Coll. Raja Rajendra Mallik	RU 2
Calcutta	Coll. Maharajah of Burdwan	RU 1
Calcutta	Harbor (transit)	DS 2
Calcutta	Hugli Trading Post	RU 1
Calcutta	Jamrach (dealer)	RS 1
Calcutta	Rutledge (dealer)	RS 1
Calcutta	Coll. Wajid Ali Shah, King of Oudh	RS 1
Calcutta	M.C. Choudhery Zoological Park	RU 3
Chandigarh	Zoological Gardens	DB 5, RU 7
Delhi		RU 9, RS 2
Early specimens		CS 1, RU 72
Gauhati	* Assam State Zoo	
Guwahati	see Gauhati	
Gwalior	Coll. Maharajah of Gwalior	RU 1
Hyderabad	* Nehru Zoological Park	RU 6
Jaipur	Zoological Gardens	RU 1
Kanpur	Allen Forest Zoo	RU 7
Kassimbazar	Private collection	RU 1
Lucknow	Coll. King of Oudh	RU ?
Lucknow	Zoological Gardens	RU 4
Madras	Zoological Gardens	RU 2, DS 1
Mysore	Sri Chamarajendra Zoo	CS 3, DB 11, RU 7
New Delhi	see Delhi	
Patna	Sanjay Gandhi Biological Park	RU 6
Poona	see Pune	
Pune	Royal Menagerie	RU 1
Trivandrum	Zoological Gardens	RU 4
Udaipur	Zoological Gardens	RU 1
Unknown Zoo		RS 1
Vadodara	Coll. Maharajah of Baroda	RU 2
Vadodara	Zoological Gardens	DB 2, RU 1
Indonesia		
Bogor	Presidential Palace	DS 1
Bogor	Taman Safari Indonesia	CS 7, DS 3
Jakarta	Ragunan Zoological Gardens	CS 3, DS 2
Java	Early collections	RS 9
Sepilok	Capture operation	DS 8
Sumatra	Atjeh, Sultan Iskander	DS 1

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>
Sumatra	Coll. Max Poser	DS 1
Sumatra	Coll. Coenraad-Uhlig	DS 1
Sumatra	Danish Sumatran Rhino Expedition	DS 3
Sumatra	Coll. Harry Gillmore	DS 3
Sumatra	Sumatra Rhino Capture Operation	DS 18
Surabaya	Kebun Binatang Surabaya	CS 2, DS 2
Iran		
Esfahan	Early specimens	X 3
Teheran	Zoological Gardens	DB 7
Ireland		
Dublin	* Dublin Zoo	CS 5, DB 7, RU 2
Israel		
Jerusalem	Biblical Zoological Garden	DB 2
Ramat-Gan	* Zoological Centre, Tel Aviv	CS 27, DB 2
Tel Aviv	see Ramat-Gan	
Italy		
Belpasso	Parco Zoo di Sicilia	CS 1
Bussolengo	Circo Medrano	CS 4
Fasano	Zoosafari di Fasano	CS 3, DB 1
Langato	Autosafari - Parco Zoo del Garda	CS 5
Milan	Dealer collection	RU 1
Naples	Giardino Zoologico	DB 10
Pistoia	Giardino Zoologico 'Citta di Pistoia'	CS 2
Rome	Giardino Zoologico	CS 2, DB 6, RU 1
Rome	Grunvald Zoo	CS 1
Rome	Safari Park	CS ?
Rome	Specimens of Roman Empire	X 12
Torino	Giardino Zoologico	CS 2, DB 2
Verona	Langato Safari	DB 2
Japan		
Fujiwara, Shizuoka Pref.	Fuji Safari Park	CS 14
Fukuoka, Kyushu Island	Fukuoka Zoo	CS 2, DB 3
Gunma Pref.	Gunma Safari World	CS 13
Himeji City	Himeji Central park	CS 9
Hiroshima	Asa Zoo	DB 14
Hitachi	Kamine Zoo	DB 9
Hokkaido Pref.	Haiji Farm	CS 1
Iwaki City	Iwaki World Safari	CS 1
Izu, Shizuoka Pref.	Waling Safari Izu Bio Park	CS 5
Kagoshima	* Hirakawa Zoological Park	CS 2, DB 3
Kamine	see Hitachi	
Kanazawa	see Yokohama	
Kobe	Oji Zoo	CS 2, DB 8
Kumamoto	Kumamoto Zoo	CS 3, DB 4
Kyushu, Anjin-in-Cho	Kyushu African Lion Safari	CS 21
Miyazaki	Miyazaki Safari Park	CS 17
Morioka City	Zoological Gardens	CS 3
Nagasaki	Nagasaki Bio Park	CS 2
Nagasaki	Nagasaki Safari Park	CS 4
Nasu	Nasu Safari Park	CS 3
Nagoya	Higashiyama Zoo	DB 12, RU 4
Okinawa	Okinawa Kedomonoki Park	CS 1
Onuma, Hokkaido Pref.	Subaru Park	CS 3
Osaka	Tennoji Zoo	DB 10, DS 1

Country/place	Name of collection	Species exhibited
Sapporo	Maruyama Zoo	DB 1
Sendai City	Yagiyama Zoological Park	CS 3
Shizuoka	Municipal Nihondaira Zoo	CS 2
Susono City	see Fujiwara	
Tobu, Saitama Pref.	Tobu Zoo	CS 2
Tohoku	Safari Park	CS 3
Tokyo	Tama Zoological Park	RU 4
Tokyo	* Ueno Zoo	CS 2, DB 4
Toyohashi	Toyohashi Zoo and Botanical Park	CS 3
Travelling Shows	Circus	DB 3
Wakayama Pref.	* Adventure World	CS 20, DB 1
Yamaguchi Pref.	Akiyoshidai Safari Park	CS 6
Yokohama	Kanazawa Zoo	CS 2, DB 3, RU 2
Yoshikawa	Unidentified	DB 1
Kazakhstan		
Alma Ata	Zoopark	DB 3
Kenya		
Lake Nakuru National Park		CS ?
Lewa Downs Ranch	*	CS 5, DB 9
Maasai Mara Game Reserve		CS 10
Meru National Park		CS ?
Nairobi	* Animal Orphanage	DB 2
Nairobi	* David Sheldrick Wildlife Trust	DB 8
Nanyuki	Ol Pejeta Game Reserve	DB 2
Ngare Sergoi Sanctuary	*	CS 10, DB 26
Nyeri	* Solio Ranch	CS ?, DB ?
Rumuruti	Farm of Carr Hartley	CSC 2
Rumuruti	Coll. Stanton	DB 1
Voi	Coll. Kearney	DB 1
Libya		
Tripoli	* Tripoli Zoo	CS 2
Lithuania		
Kaunas	* Kaunas Zoo	CS 2
Malaysia		
Dindings	Capture Site	RS 1
Jelebu	Coll. Datok Rajah Kiah	DS 1
Kuala Lumpur	Zoo Negara	CS 1, DB 2
Melaka	Zoological Gardens	CS 2, DS 14
Tabin Wildlife Reserve		DS 1
Mexico		
Cuernavaca-Taxco	Zoofari	CS 1
Guadalajara	* Zoologico Guadalajara	CS 4
Guadelupe	Zoologico 'La Pastora'	CS 2
Leon	Parque Zoologico	CS 2
Mexico City	Alfonso L. Herrera Zoological Park	CS 2, DB 5
Morelia	Zoologico de Morelia, Parque Juarez	CS 7
Puebla	African Safari	CS 8
Toluca	Zacango Zoo	CS 3
Travelling circus	Bell's Brothers Circus	DB 1
Morocco		
Temara	Parque Zoologique National	CS 2

Country/place	Name of collection	Species exhibited
Mozambique Lourenco Marques Maputo	see Maputo Unidentified	CS ?
Myanmar Rangoon Theybo Yangon	see Yangon Monastery Zoological Gardens	DS 1 CS 2, RU 4, DS 1
Namibia Okahandja	Zoopark	DB 2
Nepal Kathmandu Kathmandu	Coll. King of Nepal Zoological Gardens	RU 6 RU 4
Netherlands Amsterdam Arnhem Emmen Hilvarenbeek Rotterdam	* Artis Zoo * Burgers Zoo * Noorder Dierenpark Safaripark Beekse Bergen * Zoo Blijdorp	DB 10, RU 4, DS 2 CS 20, DB 7 CS 3 CS 21 CS 3, DB 4, RU 3
New Zealand Auckland Christchurch Wellington	* Auckland City Zoological Park Orana Park Wildlife Reserve Zoological Gardens	CS 2 CS 9 CS 3
Nigeria Jos Maiduguri	Jos Museum Zoo Kyarimi Park Zoo	DB 2 DB 3
North Korea Pyongyang	Zoological Park	CS 4, DB 4
Pakistan Indus Civilization Lahore	Early specimens Zoological Gardens	RU ? CS 2
Philippines Manila	Zoological and Botanical Gardens	DB 2
Poland Breslau Gdansk Katowice Lodz Wroclaw Wroclaw	* see Wroclaw * Zoological Gardens Slaski Ogród Zoologiczny * Miejski Ogród Zoologiczny Kallenberg's Menagerie * Miejski Ogród Zoologiczny	CS 1 CS 7 CS 1, DB 1 RU 1 CS 3, DB 6, RU 1, DS 1
Portugal Lisbon Lisbon Lisbon	Coll. King Manuel I Coll. King Philip II * Jardim Zoológico	RU 1 RU 1 CS 4, DB 8
Puerto Rico Mayaguez Puerto Rico	see Puerto Rico Jardín Zoológico, Zoorico	CS 2

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>
Qatar Doha	Municipal Zoological Gardens	CS 2
Romania Calarasi	Municipal Zoo	CS 2
Russia Kalininograd Leningrad Moscow Rostov	* Kaliningradskii Zoopark see St. Petersburg * Moskovskii Zoologicheskii Park Rostovskii Na-Donu Zoologicheskii Park	CS 2 CS 1, DB 1, RU 1 CS 2
St. Petersburg	Zoological Gardens	DB 3, RU 2
Saudi Arabia Mecca Riyadh	Early specimens Zoological Gardens	X 1 CS 2, CSC 2
Singapore Singapore Singapore	* Botanic Gardens Zoological Gardens	DS 3 CS 5, RU 8
Slovakia Bratislava	* Zoologicka Zahrada	CS 3
Somalia Expedition	Count Potocki	DB 1
South Africa Addo National Park Bloemfontein Broederst Brook Durban Durbanville	* Released specimens * Kings Park see Sandton Natal Zoological Gardens * Tygerberg Zoological Preservation Trust	DB ? CS 4 CS 2 CS 2
Johannesburg Lapalala Lichtenburg Potgietersrus Pretoria Private Ranches Sandton	* Zoological Gardens Home of Fam. C. Walker * Breeding Centre of Pretoria Zoo * Breeding Centre of Pretoria Zoo * National Zoological Gardens	CS 5, DB 4 DB 1 CS 31 CS 6, DB 4 CS 24, DB 10 CS ? CS 2, DB 2
South Korea Pusan Seoul	Unidentified Grand Park Zoo	DB 1 DB 2, RU 1
Spain Barcelona Fuengirola Madrid Madrid Madrid Mallorca San Roque Valencia Various Villaescusa	* Parc Zoologic Parque Zoologico Coll. King Philip II Safari Park El Quexigal * Zoo de la Casa de Campo Auto Safari Reserva Africana Auto Safari Andaluz * Jardin Zoologico Coll. Salvadore Dali * Parque de la Naturaleza de Cabarceno	CS 4, DB 4 CS 4 RU 1 CS ? CS 4, DB 1 CS 2 CS 4 CS 1 DB 1 CS 4

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>	
Sri Lanka			
Colombo	National Zoological Gardens, Dehiwala	DB 6	
Sudan			
Khartoum	Zoological Gardens	CSC 5	
Sweden			
Boras	*	Boras Djurpark	CS 2
Boras		Coll. Sigvard Berggren	DB 1
Kolmarden		Kolmardens Djurpark	CS 3
Switzerland			
Basel	*	Zoologischer Garten	DB 2, RU 31, DS 1
Rapperswil	*	Circus Knie	CS 2, DB 1
Zurich		Zoologischer Garten	CS 2, DB 15
Syria			
Aleppo		Early specimens	X 1
Taiwan			
Kaohsiung City	*	Zoological Gardens	CS 3
Taipei		Taipei Zoo	CS 9, DB 3
Taipei		Leofoo Village Safari Park	CS 20
Tanzania			
Mwanza		Saanane Island Game Reserve Zoo	DB 3
Thailand			
Bangkok		Bangkok Safari	CS 4
Bangkok		Dusit Zoo	CS 2, DB 1, DS 1
Bangkok	*	Private collections	RS 4
Chiangmai	*	Zoological Gardens	RU 3
Tunisia			
Tunis		Parc Zoologique	CS 5
Turkey			
Istanbul		Early specimens	X 1
Ukraine			
Kiev	*	Kievski Zoologicheskii Park	CS 3, DB 1
United Kingdom			
Bekesbourne		Howletts Zoo Park	DB 4
Bewdley	*	West Midland Safari Park	CS 4
Blackpool	*	Municipal Zoological Gardens	CS 4
Bristol		Bristol, Clifton & West of England Zoological Society	DB 9
Burford	*	Cotswold Wildlife Park	CS 3
Chester	*	North of England Zoological Society	CS 2, DB 15, RU 1
Cleethorpes		Marineland and Zoo	DB 1
Colchester	*	Colchester Zoo	CS 2
Edinburgh	*	Royal Zoological Society of Scotland	CS 11, DB 3
Edinburgh		Travelling collection (Atkins)	RU 1
Glasgow		Zoological Society of Glasgow	CS 3
Howletts Zoo Park		see Bekesbourne	
Kirby Misperton	*	Flamingo Land	CS 1
Knowsley Park		see Prescot	
Liverpool		William Cross (dealer)	DS 1

Country/place	Name of collection	Species exhibited
Liverpool	Zoological Gardens	RU 1
London	Early Specimens	RU 4
London	Exeter 'Change	RU 3
London	Jamrach (dealer)	RU 4, RS 1
London	Olympia	RU 1
London	Rice (dealer)	RU 1, DS 2
London	Surrey Zoological Gardens	RU 1
London	Zoological Society of London	CS 1, CSC 2, DB 21, RU 12, RS 1, DS 9
Longleat	see Warminster	
Manchester	Belle Vue Zoological Gardens	DB 7, RU 4
Manchester	Zoological Garden	RU 1
Marwell	see Winchester	
Paignton	Zoological and Botanical Gardens	CS 3, DB 2
Port Lympne	Zoo Park	DB 19, DS 3
Prescot	* Knowsley Safari Park	CS 9, CSC 1
Southampton	Zoological Gardens	CSC 1, DB 2
Travelling menageries	Wombwell's Menagerie	RU 7
Travelling menageries	Manders' Royal Menagerie	RU 1
Warminster	Longleat Park	CS 16
Whipsnade	Whipsnade Park	CS 70, DB 15, RU 14
Winchester	* Marwell Zoological Park	CS 5, DB 2
Windsor	Royal Windsor Safari Park	CS 8
Woburn	* Woburn Wild Animal Kingdom	CS 10
USA		
Albuquerque, New Mexico	Rio Grande Zoological Park	CS 2
Almo, Idaho	Jungle Wonder Circus	CS 1
Alvin, Texas	Bayou Wildlife Park	CS 4
Amityville, New York	Frank Buck's Jungle Camp	RU 1
Asheboro, N. Carolina	North Carolina Zoological Park	CS 5, DB 3
Atlanta, Georgia	* Atlanta Zoo	DB 5
Baker, Louisiana	* Greater Baton Rouge Zoo	CS 5
Baltimore, Maryland	Zoological Gardens	CS 2
Birmingham, Alabama	Birmingham Zoo	CS 3
Boston, Massachusetts	Franklin Park Zoo	DB 3
Brownsville, Texas	* Gladys Porter Zoo	CS 8, RU 2
Buffalo, New York	Buffalo Zoological Gardens	DB 6, RU 1
Catskill, New York	* Catskill Game Farm	CS 2
Center Hill, Florida	Rare Feline Breeding Compound	CS 3
Chicago, Illinois	Chicago Zoological Park, Brookfield	CS 2, DB 19, RU 3
Chicago, Illinois	Lincoln Park Zoological Gardens	DB 3
Cincinnati, Ohio	* Cincinnati Zoo	DB 22, RU 4, DS 4
Cleveland, Ohio	Cleveland Metroparks Zoological Park	CS 3, DB 4
Clifton, Texas	Texas Safari Inc.	CS 6
Colorado Springs, Colorado	Cheyenne Mountain Zoological Park	DB 10
Columbia, South Carolina	* Riverbanks Zoological Park	CS 3, DB 2
Columbus, Ohio	* Columbus Zoo	CS 6, DB 10
Cumberland, Ohio	The Wilds	CS 7
Dallas, Texas	* Marsalis Park Zoo	DB 8
Davis, Oklahoma	Arbuckle Wilderness	CS 1
DeLand, Florida	Nautilus Corp., Idle Hour Farm	CS 2
Denver, Colorado	Denver Zoological Gardens	DB 17
Detroit, Michigan	* Detroit Zoological Park	DB 15
Doswell, Virginia	Kings Dominion	CS 15
Duluth, Minnesota	Lake Superior Zoo	DB 1
El Paso, Texas	* El Paso Zoo	CS 3
Encino, Texas	Bass Ranch	DB 6

Country/place	Name of collection	Species exhibited
Evansville, Indiana	Mesker Park Zoo	DB 1
Fort Worth, Texas	Zoological Park	CS 8, DB 6, RU 2
Fresno, California	Chaffee Zoological Gardens	CS 2, DB 5
Garden City, Kansas	Lee Richardson Zoo	DB 3
Gentry, Arkansas	Wild Wilderness	CS 1
Glen Rose, Texas	Fossil Rim Wildlife Centre	CS 10, DB 7
Grand Prairie, Texas	Lion Country Safari	CS ?
Haines City, Florida	Circus World	CS 1, DB 1
Harwood, Texas	Noah's Land Wildlife Park	CS 2
Holland, Michigan	Coll. George F. Getz	DB 1
Hollywood, California	Studio Metro-Goldwyn-Mayer	DB 1
Honolulu, Hawaii	Honolulu Zoo	DB 1
Houston, Texas	Bush Gardens	CS 4
Hudson, New Hampshire	Benson's Wild Animal Farm	CS 4
Idaho Falls, Idaho	Tautphaus Park Zoo	CS 2
Inman, South Carolina	Hollywild Animal Park	CS ?
International Animal Exchange (IAE)		
Jackson, Mississippi	Jackson Zoological Park	CS 74
Jackson, New Jersey	Six Flags Great Adventure	CS 5
Jacksonville, Florida	Jacksonville Zoological Park	CS 32
Johnson City, Texas	McCombs Ranch	CS 20, DB 4
Kansas City, Missouri	Kansas City Zoo	CS 1
Kings Island, Ohio	Wild Animal Safari	CS 5, DB 11
Kingwood, Texas	Kingwood Safari	CS 31
Knoxville, Tennessee	Zoological Gardens	CS 1
Laguna Hills, California	Lion Country Safari	CS 29
Lansing, Michigan	Potter Park Zoo	CS 28
Linn, Texas	Calvin Bentsen's La Coma Ranch	DB 3
Litchfield Park, Arizona	Wildlife World Zoo	DB 12
Little Rock, Arkansas	Zoological Gardens	CS 1
Llano, Texas	Sandstone Mountain Ranch	CS 2
Los Angeles, California	Los Angeles Zoo	CS 3
Louisville, Kentucky	Zoological Gardens	CS 2
Madison, Wisconsin	Henry Vilas Park Zoo	CS 8
Memphis, Tennessee	Overton Park Zoo	CS 2
Miami, Florida	Crandon Park Zoo	CS 11, DB 7
Miami, Florida	Miami Metro Zoo	DB 3
Milwaukee, Wisconsin	Milwaukee County Zoological Park	CS 4, DB 14, RU 3
Mitchellville, Iowa	Wild World	CS 3, DB 6, RU 4
Monroe, Louisiana	Louisiana Purchase Gardens and Zoo	CS 4
Mountain Home, Texas	Waters Ranch	CS 2
Nashua, New Hampshire	John Benson's Animal Farm	CS 2
New Orleans, Louisiana	Audubon Park Zoological Garden	DB 1
New York, NY	Bronx Zoo	CS 6
New York, NY	Central Park Zoo	CS 2, DB 6, RU 13, DS 2
New York, NY	Prospect Park, Brooklyn	DB 3, RU 4
Norfolk, Virginia	Virginia Zoological Park	DB 2
Ocala, Florida	Unidentified	CS 2
Oklahoma City, Oklahoma	Oklahoma City Zoo	CS 1
Omaha, Nebraska	Henry Doorly Zoo	CS 2, DB 16, RU 5
Pawtucket, Rhode Island	Slater-Memorial Park Zoo	CS 3, RU 2
Philadelphia, Pennsylvania	Zoological Gardens	DB 1
Phoenix, Arizona	Phoenix Zoo	CS 3, DB 3, RU 13, DS 2
Pittsburgh, Pennsylvania	Zoological Gardens	CS 10
Plain Dealing, Louisiana	Wild World	CS 2, DB 8
Portland, Oregon	Portland Zoological Gardens	CS 2
Portland, Washington	Washington Park Zoo	RU 1
Redwood City, California	Marine World Africa USA	DB 2

<i>Country/place</i>	<i>Name of collection</i>	<i>Species exhibited</i>
Royal Oak	see Detroit, Michigan	
Salina, Kansas	Rolling Hills Wildlife Preserve	CS 1
Salt Lake City, Utah	*	CS 3
San Antonio, Texas	*	CS 15, DB 11
San Diego, California	*	CS 12, CSC 1, DB 13, RU 8, DS 4
San Diego, California	*	CS 109, CSC 8, DB 15, RU 28
San Francisco, California	Zoological Gardens	CS 2, DB 15, RU 2
San Jose, California	*	CS 1
Santillana	Unidentified	DB 2
Sequim, Washington	Olympic Game Farm	CS ?
Sioux Falls, South Dakota	Great Plains Zoo	CS 1
St Louis, Missouri	*	CS 4, CSC 2, DB 16, RU 1
Stockbridge, Georgia	Lion Country Safari	CS 12
Tampa, Florida	Lowry Park Zoo	RU 1
Tampa Bay, Florida	*	CS 2, DB 12
Thousand Oaks, California	Busch Gardens	DB 2
Toledo, Ohio	*	CS 4, DB 2
Travelling menageries and circuses	Zoological Gardens	CS 3, DB 18, RU 28, DS 6
Tucson, Arizona	Gene Reid Zoological Park	CS 2
Tulsa, Oklahoma	*	CS 5, DB 1
Tyler, Texas	Caldwell Zoo	DB 5
Vallejo, California	Marine World Africa	CS 3
Waco, Texas	*	CS 2
Washington, DC	*	CS 2, CSC 2, DB 12, RU 10, DS 1
Wellford, South Carolina	Holly Wild Animal Park	CS 1
West Palm Beach, Florida	Lion Country Safari	CS 36
Wichita, Kansas	*	DB 9
Winston, Oregon	*	CS 10
Yulee, Texas	White Oak Wildlife Center	CS 10, DB 4
Uruguay		
Montevideo	Jardim Zoologico	CS 1
Uzbekistan		
Bukhoro	Court	X 1
Venezuela		
Barquisimeto	Parque Zoologico Bararida	CS 5
Carabobo	Parque Safari	CS 7
Caracas	Parque Zoologico Caracua	CS 2
Zimbabwe		
Expedition	Coryndon	CS 1
Expedition	Selous	CS 1
Marondera	Imire Game Ranch	DB 7
Salisbury	J. Condy	DB 1