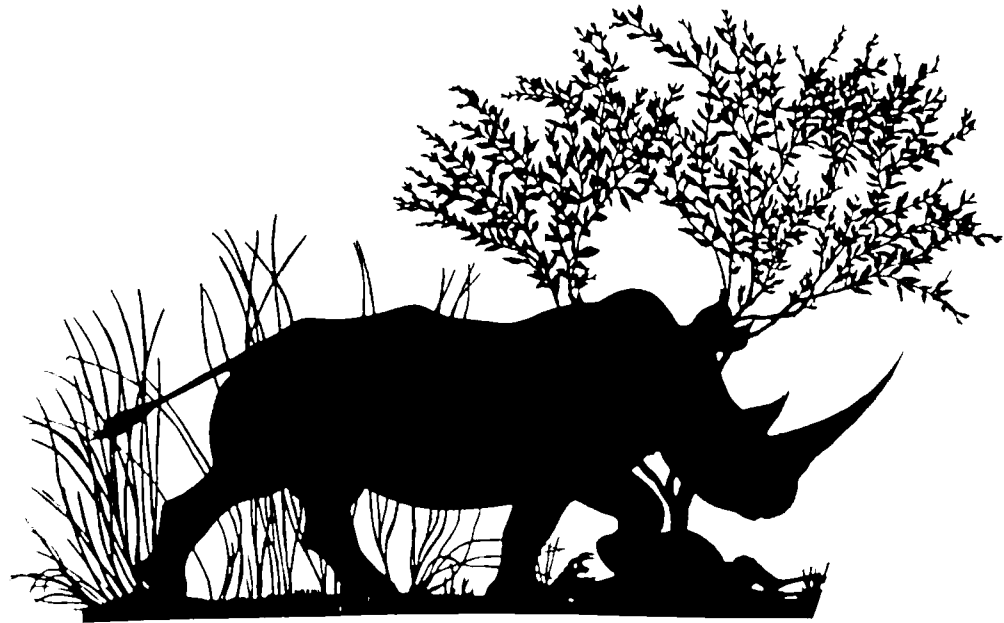


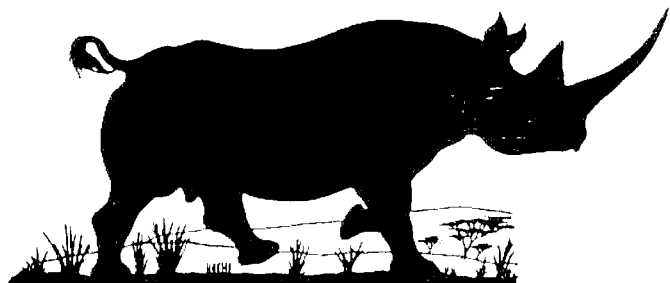
THE RHINO'S HORN

A THREAT TO THE SURVIVAL OF THE SPECIES



LUTZ RUHE
OAKLAND, CALIFORNIA

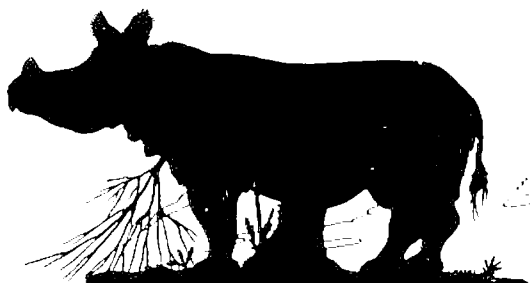
1970



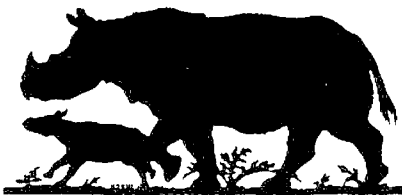
BLACK RHINO



INDIAN RHINO



JAVAN RHINO



SUMATRAN RHINO

There are five species of rhinoceroses living today. Two species are found on the African continent and three on the Asian mainland and the Indonesian islands. The World Wildlife Fund in Hong Kong, Singapore has included all five species in their South-East Asian Rhino Fund. The status of remaining specimens is as follows:

Black Rhino	(Africa)	100	100	100
White Rhino	(Africa)	100	100	100
Great Indian Rhino	(India, Nepal)	100	100	100
Javan Rhino	(Java)	100	100	100
Sumatran Rhino	(Sumatra, Borneo, Malaya, Burma, Thailand)	100	100	100

For explanation of the above listed figures, please study the supplement to the International Zoo Yearbook Volume 7, page 29, "Conservation of Rare Animals," Map of the World with locations of rhino sanctuaries and the approximate number of specimens believed to have been prepared by Lucie Rime from data collected from the "Red Book" of the IUCN.

This paper is written with the specific purpose of interest conservation-minded people in the world of rhino species and ask them to join the RHINO GROUP, a branch of the Survival Service Commission. This Commission is a part of the World Wildlife Fund (International Union for the Conservation of Nature). The Rhinoceros Society with the World Wildlife Fund and the Rhinoceros Group have drafted an important document expressed below.

RESOLVE

The 170 remaining specimens of Sumatran rhinos are considered "vanishing fossils." The rhino species have declined much of their prehistoric body structure. The rhinos' ancestors slipped their hooves in place. Some were covered with hair. The rhinoceros rhino's skin is 2-3 cm thick. They lived in Asia, Europe and the extinction of rhinos is not only a tragedy, but also a warning of the extinction of rhinos is not only a tragedy, but also a warning of the extinction of rhinos.

See references under Appendix.

African Government has safely transported approximately 300 White Rhinos between various parks.

These actions show that rhinos can be moved to secured areas without risk to their physical well being. The knowledge to save all rhinos from extinction is available. The manpower to apply this knowledge is obtainable. Large funds are needed to provide the technical aids such as helicopters, trucks, camp equipment, and airline transportation. The support of the African and Asian Governments is essential to the success of this conservation effort. The crisis of the rhino population is evident with only 40 Javan rhinos, 400 great Indian rhinos, and 170 Sumatran rhinos known to exist in the world. These animals need our help now.

SPECIFIC PROPOSALS:

Funds are desperately needed to implement the following proposals. The RHINO GROUP should receive all funds and disburse them to best implement all proposed projects. All further efforts rely on this basic problem of financial solvency.

- 1) Helicopters should be provided to game management and game wardens in all sanctuaries which harbour a rhino population. Helicopters equipped with recently developed detecting devices will help to secure the sanctuaries from poachers. Tracking, spotting, apprehending, and confiscating the evidence simultaneously is possible with the aid of helicopters. Thus, the courts will be better able to prosecute violators of the law.
- 2) Helicopters will be instrumental to spot stray animals, deliver tracking, and rescue teams to return endangered rhinos to safe sanctuaries.
- 3) Most rhinos poached inside game sanctuaries are found with only their horns removed. It is therefore proposed to study the feasibility of removing the horns of the rhinos while under sedation. Once the incentive of fast financial gain to the poacher has been removed he will not risk detection and imprisonment to obtain a rhino carcass as easily. The poacher would have further difficulty removing various parts of the rhinos body from well patrolled sanctuaries. The Governments, on the other hand, could auction the harvested horns to the highest bidder. This action would eliminate the black market trade in rhino

horns to a great extent. Rhino horns are known to regenerate themselves. The famous two female black rhinos, "Gertie" and "Gladys," living at the Amboseli Game Reserve in Kenya, both lost their front horns. Mr. W. C. Guggisberg reports in his excellent book, "SOS Rhino," that the horns grew back at a rate of about one inch per year. The loss of a horn does not inflict physical damage to a rhino, unless the horn root becomes infected. Most zoos can attest to this fact. The psychological effect on the animals is not known and will have to be intensely studied.

- 4) The RHINO GROUP should study the present facilities where rhinos are housed in captivity. Existing data on rhino behavior should be compiled and published as one paper. Recommendations should be made to all parties who have rhinos in their collection on how to improve their facilities to create the best possible environment for the animals to assure a successful breeding program. The RHINO GROUP should assist to obtain financial aid to implement its recommendations.
- 5) The RHINO GROUP should provide mates for single animals kept in captivity. Should the party in question not have the financial means to purchase such a mate, if one is available, the RHINO GROUP should assist financially.
- 6) The RHINO GROUP should encourage exchanges of single rhinos for breeding purposes. The RHINO GROUP could go as far as owning stud animals. In light of new techniques of obtaining rhino semen, it might be wise to start an artificial insemination program.
- 7) The RHINO GROUP should be instrumental in the creation of RHINO PARKS throughout the world. Here the most ideal combination of environment, tourist concentration (to provide the financial means to maintain these parks), and selection of animals, should be obtained. It is proposed to establish at least one park in Europe (the Mediterranean coast of Spain or France are suggested), one park in Australia, one park in Mexico, one park in South America, one park in southern U.S.S.R., and one to three parks in the U.S.A. (Hawaii, California, and one of the southern states).

*see map under supplements

Tourists visiting the RHINO PARKS could be made aware of the RHINO GROUPS conservation efforts. Some could be stimulated in giving financial and moral support for this great undertaking.

Great progress has been made to raise rhinos in captivity. The Basel Zoo in Switzerland is leading the way in raising the Great Indian Rhino, with ten babies born. Up to 1969 14 births have been recorded in captivity. 21 Black Rhinos were born in zoos. In October of 1969 the Pretoria Zoo in South Africa reported the first birth of a zoo-conceived White Rhino. Two Sumatran Rhino calves were born at the Calcutta Zoo, India, in 1889 and 1895.

The author feels that the only hope for the survival of the three Asian rhino species lies in the removal of a nucleus breeding stock to a one-hundred percent secure location. The animals which cannot be relocated should be dehorned.

S U M M A R Y:

The RHINO GROUP is the only real hope for a concerted effort to save all five species of rhinos from extinction. Certain species will survive longer than others, but it is the consensus of knowledgeable people in this field, that all rhinos will be extinct within a short time if drastic measures are not undertaken now. The Black Rhino still roams large areas of the African continent in what seems sufficient numbers, however, conservationists are alarmed at the rate these animals are killed. The population explosion of the human race puts tremendous pressures on all rhinos and deprives them more and more of their much needed isolated habitat.

Once animals have been moved successfully from the wild into spacious RHINO PARKS, they adapt easily to their new environment and breed. A concerted effort by zoos to establish a breeding program will further enhance the chance of survival for the rhino.

The procurement of helicopters for use by law enforcement agencies to fight poaching in all parks, reserves, and sanctuaries would reduce the poachers activities greatly. Helicopters would be instrumental in a sound game management practice.

Rhinos that cannot be relocated in a secure sanctuary should be dehorned. This action would enhance their chance of survival manifold. It is recognized that certain losses will occur through this action. However, a rhino without his horn is a great many times safer than a poacher's gun is at present.

Time is running out fast. Now is the time for all conservation-minded people of the world to join together to save the rhinos from extinction - just as they joined together to save the "Temple of ABU SIMBLE" from the rising waters of the Nile River in Egypt.

SUPPLEMENTS:

International Zoo Yearbook, number 9 published by the Zoological Society of London, 1969. Page 291

Status of rhinos in captivity:

"Great Indian Rhinoceros (*Rhinocero unicornis*)"

Basle Switz 3/3 (2/2); Berlin E Ge 0/1; Berlin W Ge 1/1 (1/1); Bombay Ind 1/0; Calcutta Ind 1/1; Chicago Brookfield USA 1/1; Deli Ind 2/0; Gauhati Ind 1/1; Hamburg Ge 0/2 (0/1); Hyderabad Ind 1/0; Kathmandu Nepal 1; Los Angeles USA 1/0; Lucknow Ind 1/1; Madras Ind 1/0; Milwaukee USA 1/1 (1/1); Mysore Ind 2/1 (1/0); Omaha USA 1/0; Paris PZ Fr 1/0 (1/0); Philadelphia USA 1/1; Rome It 1/0; San Diego USA 1/1 (1/1); Tokyo Tama Jap 1/1; Trivandrum Ind 1.0; Washington USA 1/1; Whipsnade GB 1/1 (1/0)

total 26/18/1 (8/6) in 25 zoos.

"Sumatran Rhino (*Didermoceros sumatrensis*)"

Copenhagen Den 0/1 total 1

"Southern White Rhino (*Diceros simus simus*)"

Berlin E Ge 1/1; Berlin W Ge 1/1; Boras Swed 1/1; Calgary Can 1/1; Catskill USA 1/1; Chester GB 1/1; Chicago Brookfield USA 1/1; Dresden Ge 1/1; Durbanville SA 1/1; Edmonton AGF Can 1/1; Johannesburg SA 2/2; Kolmarden Swed 1/1; Gelsenkirchen Ge 1/1; Jacksonville USA 1/1; London ZSL GB 0/1; Los Angeles USA 1/1; Louisville USA 1/1; Memphis USA 1/1; Milwaukee USA 1/2; NY Bronx USA 1/1; Oklahoma USA 1/1; Omaha USA 1/1; Phoenix USA 1/1; Pretoria SA 3/3 (1/0); Rangoon Burma 1/1; Rotterdam Ne 1/1; San Diego USA 1/1; Tampa USA 1/1; Thoiry Fr 1/1; Tokyo Ueno Jap 1/1; Whipsnade GB 1/1; Zurich Switz 1/1

total 34/36 (1/0) in 32 zoos.

"Northern White Rhino (*Diceros sumis cottoni*)"

Antwerp Bel 1/1; Khartoum Sudan 1/1; London ZSL GB 1/0; St. Louis USA 1/1; Washington NZP USA 1/1

Black Rhino (Diceros bicornis)

Adelaide Austral 1/0; Amsterdam Ne 1/1; Antwerp Bel 0/1;
Arnhem Ne 1/1; Atlanta USA 1/0 (1/0); Barcelona Sp 1/1;
Berlin E Ge 1/2; Berlin W Ge 1/1; Briston GB 2/3 (1/2);
Cairo UAR 1/1; Chester GB 2/1 (2/0); Chicago Brookfield
USA 0/1; Cincinnati USA 3/1; (2/0); Creethorpes GB 1/0;
Cleveland USA 1/0; Colorado USA 1/1; Columbus USA 1/0;
Copenhagen Den 1/0; Dallas USA 1/1; Denver USA 1/2
(0/1); Detroit USA 1/1; Dublin Ire 1/1; (1/1); Duluth
USA 1/0; Frankfurt Ge 1/1 (0/1); Fresno USA 0/1;
Fukuoka Jap 1/0; Granby Can 0/1; Jacksonville USA 1/1
(1/0) Jerusalem IS 1/0; Kansas USA 1/1; Kobe Jap 1/1;
Leningrad U.S.S.R. 1/0; Lisbon Port 2/1 (1/0); Lodz
Pol 1/0; London ZSL GB 1/1; Los Angeles USA 0/1; Mag-
deburg Ge 1/0; Manchester GB 1/1; Manila Phil 1/0;
Mexico Chapultepec 1/1; Moscow U.S.S.R. 0/1; Mysore
Ind 2/1 (1/0); Perth Austral 0/1 (0/1); Naples It 1/2;
NY Bronx USA 1/0; Oklahoma USA 1/1; Paris PZ Fr 0/1;
Philadelphia USA 1/0; Pittsburgh USA 1/1; Prague Cz
1/1; Pretoria SA 1/1; St. Louis USA 1/3; San Antonio
USA 1/0; Sao Paulo Braz 1/0; Sydney Austral 2/5 (1/3);
Theran Iran 1/0; Tel Aviv Is 1/1; Thoity Fr 1/1; Turin
It 1/1; Vienna Austria 1/0; Washington NZP USA 2/1
(1/0); Whipsnade GB 1/1; Wroclaw Pol 1/0; Zagreb Yug
1/1; Zurich Switz 1/2
total 67/59 (12/9) in 67 zoos.

DISTRIBUTION OF THE THREE SPECIES OF ASIAN RHINOS:

Sumatran Rhino - This rhino is found in very isolated loca-
tions in Burma, Malaya, Borneo, Thailand, and Sumatra.
Most of these rhino habitats are protected. Burma has two
sanctuaries that are thought to have 20 to 30 resident
rhinos. Malayas 30 animals may survive in the Sungei
Dusun Game Reserve and possibly in the Bintang Hijau Forest
Reserve in northern Perak. 60 rhinos in Sumatra live in
the Loser Reserve in northern Sumatra, and the South Suma-
tran Nature Reserve. However, the largest number are
believed to exist in the swampy Siak River region. 10 to
30 rhinos may roam the Mount Kinabula National Park area
on Borneo. Up to 10 remaining animals in Thailand are
reported to survive along the Tenasserim border. The
Sumatran Rhino is very shy and his habits are secretive.
It lives in the densest and most unpenetrable jungle. It
is therefore extremely difficult to establish an exact
count. More intensive study is urgently needed.

Javan Rhino - 40 Javan Rhinos are believed to live only in
the Udjong Kulon Sanctuary in Java. This park is situated

on a 117 square mile peninsula at the western tip of Java.

Great Indian Rhino - This animal is restricted mainly to
the Kaziranga Sanctuary in Assam (243 specimen) and the
Citawan Sancturary in Nepal (165 specimen). Small groups
have been seen in six other parks in India. Individual
animals are sometimes spotted in unprotected areas where
they have strayed. Most of these rhinos are surely killed.

Black Rhino - No special park has been declared for this
specie. They live in sufficient numbers in the national
parks in Kenya at Tsavo, Amboseli, Masai-Mara, Aberdere
Forest, Uaso-Nyiro, Mount Kenya, Jeru, Marsabit, and
others. Tanzania provides protection in the Ngorongoro
Crater, Serengeti, Ngurdoto Crater, Mount Meru, Mount
Kilimanjaro, parks and reserves, and other large game
reserves. About 8,000 live in these two countries - more
than half of the total Black Rhino population in Africa.

White Rhino - The Bar El Ghazal area of the southern Sudan,
the west Nile district in Uganda, and parts of the northern
Congo are the only areas where the White Rhino may still
be found in the wild. Due to political unrest in these
countries a count is not possible and very uncertain reports
come out of these regions as to how many animals are still
to be found there. 29 White Rhinos of the northern type are
living in the Murchison Falls National Park, where 12 ani-
mals were relocated from the west Nile district in 1961.
100 White Rhinos are believed to roam the Garamba National
Park in the Congo. The total northern White Rhino popula-
tion is presently estimated to be from a few hundred to not
more than 2,000!

The southern White Rhino lives now only in sanctuaries. It
is believed the population in South Africa stands at 1,500
specimens. The biggest group of animals is distributed be-
tween the Umfolozi and Hluhluwe National Park with half the
total population. Others live in Wankie, Kruger, and smaller
game reserves. 330 White Rhinos have been relocated in the
last few years.

REFERENCES:

Letters from -

Director Dr. Heinz Georg Klos
Zoo West Berlin, Germany
(Dr. Klos is the stud bookkeeper on the Black Rhinoceros)
Letter dated February 23, 1970

Marvin Jones
United States Army
Presently at Oakland, California
Status of captive rhinoceroses, extracted from "Mammals
in Captivity," dated January 24, 1970

Ian Player, Chief Conservator
Zululand, South Africa
Letter dated March 3, 1970

STATUS OF CAPTIVE RHINOCEROSES, extracted from "Mammals
in Captivity," by Marvin Jones - January 24, 1970
condensed by Lutz Ruhe - March 19, 1970

DIDERMO CERUS SUMATRENSIS (Fischer)
0.1 at Copenhagen Zoo, Denmark - arr. 1959

RHINOCEROS UNICORNIS (Linnaeus)
U.S.A.

- 1.1 Philadelphia Zoo - arr. 1955 - 1953
- 1.0 Chicago, Brookfield Zoo - arr. 1948
- 1.1 Washington, D.C., National Zoo - arr. 1960 - 1963
- 1.1 San Diego, San Diego Zoo - arr. 1963 - 1965
- 1.2 Los Angeles, Los Angeles Zoo - arr. 1966 - 1968 - 1969
- 1.1 Milwaukee, Milwaukee Zoo - arr. 1959
- 1.1 Omaha, Omaha Zoo - arr. - living status questionable

None known to be exhibited in South or Central America,
Australia, or Africa.

EUROPE

- 0.1 East Berlin, East Berlin Zoo - arr. - 1967
- 1.1 West Berlin, West Berlin Zoo - arr. - 1965 - 1965
- 0.1 Paris, Paris Zoo - arr. - 1964
- 1.1 Whipsnade Zoo - arr. - 1960 - 1952
- 1.0 Rome, Rome Zoo - arr. - 1951
- 1.1 Stuttgart Zoo - arr. - 1969 - 1969
- 2 Hamburg Zoo (no confirmed report)
- 2.3 Basel Zoo - arr. - 1959 - 1969 - 1951 - 1965 - 1969

JAPAN

- 1.1 Tokyo, Tama Zoo - arr. 1958 - 1961

BURMA

- 0.1 Rangoon Zoo - arr. - 1962

INDIA

- 1.0 Madras Zoo - arr. - 1953
- 1.0 Bombay Zoo - arr. - 1952

- 1 Mysore Zoo - arr. - 1956 (sex unknown to M. Jones)
- 1.1 plus one Calcutta Zoo - arr. - 1932 - 1932 - 1961

Note: each Indian Zoo was to receive one pair of Rhino
ceroses - this has not been confirmed. 243 rhinos
lived at Kaziranga Sanctuary.

DICEROS BICORNIS (Linnaeus) African Black or Hook-Lipped
Rhino

No detailed records available from Mr. M. Jones. Accord-
ing to a letter by Dr. H. G. Klos there are 67 males and
59 females in captivity throughout the world in early
1970. Estimate by Mr. Jones as to the distribution of
Black Rhinos in zoos - West Berlin 2, East Berlin 3,
Frankfurt 2, Stuttgart 2, Munich 2, Paris 1, Antwerp 1,
Arnheim 1, Amsterdam 1, Hannover 2, London 3, Chester 2,
Bristol 2, Dublin 3, Lisbon 3 or 4, Zagreb 1, Mysore 3,
Tokyo 2, Nagoya 3, Kobe 3 or 4, Pretoria 2 or more, Jo-
hannisburg 1, New York 1, Philadelphia 1, Washington 2,
San Diego 3, San Francisco 2, Los Angeles 2, Fresno 1,
Memphis 1, Chicago Brookfield 2, St. Louis 2, Detroit 2,
Cincinnati 2 or 3, Pittsburg 2 or 3, Oklahoma City 2,
Duluth 2, Kansas City 1 or 2, San Antonio 1, and others
no doubt.

CERATOTHERIUM SIMUM COTTONI (Lydekker) Northern White or
Square-Lipped Rhino

- 1.0 London Zoo - arr. - 1955
- 0.1 Antwerp Zoo - arr. - 1950
- 1.1 Washington D. C. Zoo - arr. - 1956
- 1.1 St. Louis Zoo - arr. - 1957
- 1.0 West Palm Beach, Lion Country Safari - arr. - 1967

CERATOTHERIUM SIMUM SIMUM (Burchell) Southern White or
Square-Lipped Rhino

Detailed data not up-to-date - the following estimates are:
Pretoria 3, Gelsenkirchen 2, Rotterdam 2, Riyadh 1, Tokyo
2, Sendai 2, Calgary 2, Edmonton, Alberta Game Farm 2, New
York 2, Jacksonville 2, Phoenix 2, Oklahoma City 2, Chester
2, Whipsnade or London 1, Memphis 2, Milwaukee 3, Louis-
ville 1, Chicago Brookfield 2, San Francisco 2, San Diego
2, Los Angeles 2, and more.

PROPOSED RHINO PARKS

1	Spain
2	France
3	Soviet Union
4	South Eastern States
5	California, U.S.A.
6	Hawaii, U.S.A.
7	Mexico
8	Argentina
9	Australia

LOCATION OF PROTECTED RHINO RESERVES IN AFRICA

- Black Rhino**
- 1 Kenya (Amboseli, Olpejeta, Masai Mara, Marsabit, Dabul-Male, Meru, Aberdare Forest, Mt. Kenya)
 - 2 Tanzania (Ngorongoro Crater, Serengeti, an island in Lake Victoria, Ngurdoto Crater, Mt. Kilimanjaro, Mt. Meru, Mikomazi, Mt. Manyara, Selous, Tarangire)
- About 7,000 rhinos live in these two countries.

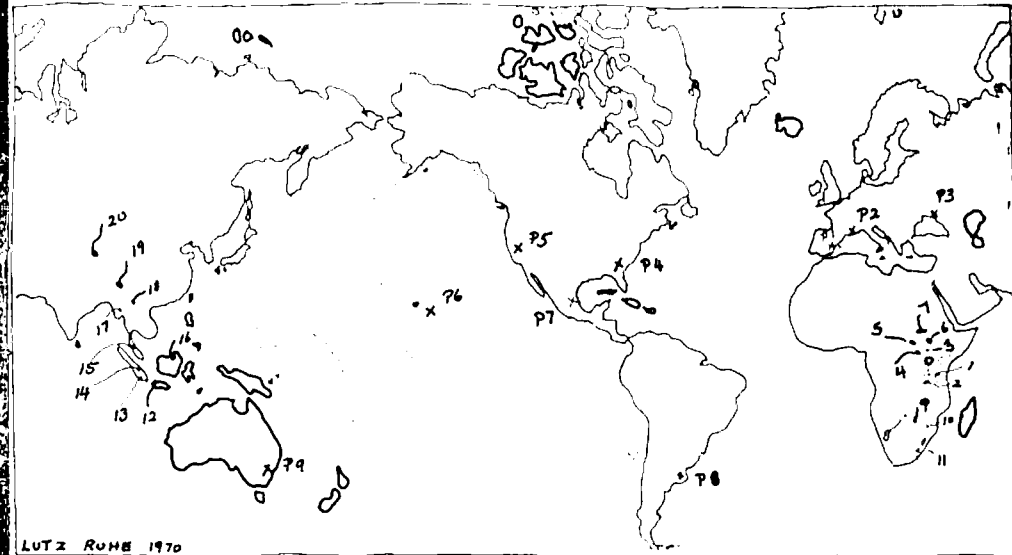
- Northern White Rhino**
- 3 Uganda (Murchison Park National Park) 25 animals
 - 4 Uganda (West Nile District) about 30 animals
 - 5 Congo (Caramba National Park) about 100 animals
 - 6 Congo (Nimba National Park) about 100 animals
 - 7 Southern Sudan from a few hundred to 2,000

- Southern White Rhino**
- 8 Southern East Africa
 - 9 South Africa (Wahlia National Park) 100-150 animals
 - 10 South Africa (Krugers National Park) 100-150 animals
 - 11 South Africa (Mafetseng Game Reserve) 880 animals

LOCATION OF RHINO SANCTUARIES IN ASIA:

- Java Rhino**
- 12 Java (Ujung Kulon Sanctuary) 40 animals
- Sumatran Rhino**
- 13 Sumatra (Sunda Sumatran Game Reserve) 50 animals
 - 14 Sumatra (Sungai River Region) 40-50 animals
 - 15 Malaya 40 animals
 - 16 Borneo 40-50 animals
 - 17 Borneo (Mulu Reserve) 40-50 animals
 - 18 Sumatra (Kampar River) 40 animals
- Other Rhinos**
- 19 China (Giant Panda) 22 animals
 - 20 Nepal (Giant Panda) 40 animals

Compiled from "The Red Book - Endangered Wildlife" by I.C. Stone



DISTRIBUTION OF THE FIVE SPECIES OF RHINOCEROSSES IN THE WORLD.

PROPOSED RHINO PARKS IN THE WORLD AND THEIR LOCATIONS.

REFERENCES:

"The Red Book, Wildlife in Danger" by James Fisher, Noel Simon, Jack Vincent Collins, St. James's Place, London 1969

"S.O.S. Rhino" by C.A.W. Guggisberg, Octoberhouse, New York 1967

"Grzimek unter Afrikas Tieren" by Professor Dr. Bernhard Grzimek Ullstein Verlag, Berlin 1969

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"The International Zoo Yearbook" - The Zoological Society of London, Volume 2, published 1960

"Hoofed Mammals of the World" by Ugo Mochi, T. Donald Carter, Charles Scribner's Sons, New York 1953

"Brehms Tierleben, Band IV Säugetiere" by Alfred Brehm - Bibliographisches Institute, Leipzig 1891

"Meine Jagd Nach dem Einhorn" by Bengt Berg, Frankfurt 1933