Dresser

Cincinnati Zoo and Botanical Garden
Center for Reproduction of Endangered Wildlife
Dr. Betsy L. Dresser, Director of Research
Volume IX, Number 2 July 1991

We need another and a wiser and perhaps a more mystical concept of animals. For the animal shall not be measured by man. They are not brethren. They are not underlings. They are other nations caught with ourselves in the net of life and time; fellow prisoners of the splendor and travail of birth!

—Henry Beston

Rhino Revelation

Several CREW staff members attended the International Conference on Rhinoceros Biology and Conservation in San Diego in May of this year. The conference, the first to deal with all five species of rhinoceros, attracted over 300 representatives from 30 different countries. Those attending included zoo and field biologists, veterinarians, academics, representatives from governmental wildlife departments, and representatives from non-governmental conservation organizations.

Round-the-clock sessions were offered on all aspects of rhino management and conservation, including genetics, biology, reproduction, health, disease, and nutrition. A lot of attention was also focused on reporting the status of the five rhino species, both in the wild and in captivity, and the development and implementation of both *in situ* and *ex situ* conservation plans for these few remaining animals.

One of the keynote addresses at the San Diego meeting was given by an American geographer named Dr. Esmond Bradley Martin. For the past twelve years, he has been examining the illegal rhino horn trade throughout the world and working to stop it. The insightful comments of this well-known expert were interesting and in some cases very surprising.

Rhino horn has been an ingredient in traditional Asian medicines for 2,000 years. Though it is used primarily to reduce fevers, it is also thought by some to have healing powers for ailments as diverse as high blood pressure, nose bleeds, insomnia, epilepsy, hysteria, and the flu. So desperate are some Chinese medicine factories for the precious horn that they have begun buying up valuable antique rhino horn carvings dating back to the Ming Dynasty to grind down into powder form to be used in medicines.

The use of rhino horn as an aphrodisiac has been greatly exaggerated. The truth is that less than 1% of all rhino horn is sold for sexual enhancement purposes, and India is the only country where it is marketed for that particular use.

A recent scientific study conducted in Hong Kong showed that large doses of a solution containing rhino horn were indeed effective in reducing fever in rats. This was a surprise to conservationists, who have long contended that rhino horn has no real medicinal qualities. Interestingly, in that same study, the horn of saiga antelope, water buffalo, and cattle were shown to have the same or similar fever-reducing capabilities. This information should certainly add

(See RHINO, page 4)

(RHINO, from page 1)

credence to Martin's move to encourage the use of rhino horn substitutes wherever possible.

Japan is a good example of where the use of rhino horn substitutes has effectively reduced the demand for rhino horn. Rhino horn imports in Japan have dropped from 800 kilos/year to virtually none since 1980, when the Japanese government actively began to encourage the use of saiga antelope and water buffalo substitutes after becoming a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

New, effective rhino horn trade policies and the use of substitute products have also made significant changes in other former rhino horn market strongholds such as Hong Kong, Malaysia, Macao, Burundi, and the United Arab Emirates. A remarkable turnaround has also occurred in Yemen, which in the 1980s imported over 40% of the world's available rhino horn for use as dagger handles. Today, thanks to tough government trade laws as well as a sagging economy, Yemini men now buy dagger handles carved from water buffalo horn, camel nails, or plastic.

Despite recent progress, international commerce in illegal rhino products remains both a good- and bad-news story. Recent clampdowns on rhino horn exports out of Africa have increased the demand for horn from the Asian species. This, combined with the belief that medicinal powers are more concentrated in the horns of the smaller Asian species, has led to skyrocketing prices of up to $60,000/kilo paid for Asian horn on the black market. This in turn has led to an increase in poaching of previously stable populations of the greater one-horned rhino in India and Nepal, and the use of more effective poaching methods, such as electrocution and poisoning. This tragedy points out why the key to effective rhino conservation measures lies primarily in decreasing the demand for, rather than the supply of, rhino horn products.

Coming in the next issue of the CREW Newsletter:

*Dedication of the Carl H. Lindner Jr. Family Center for Reproduction of Endangered Wildlife

*An in-depth look at some of CREW's laboratories

*On the road with CREW's Outreach Program

Current Rhino Populations

Southern White Rhino
4,745 in the wild
698 in captivity

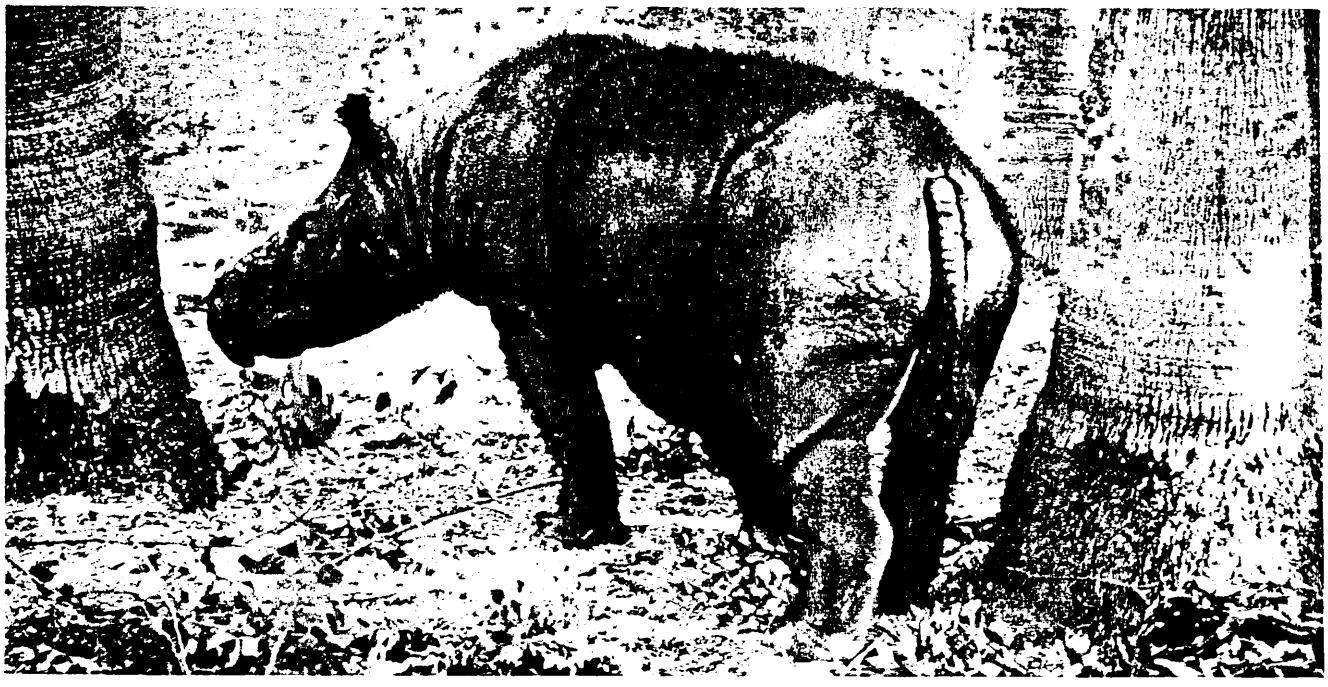
Northern White Rhino
28 in the wild
11 in captivity

Black Rhino
3,392 in the wild
204 in captivity

One-Horned (Indian) Rhino
1,712 in the wild
114 in captivity

Sumatran Rhino
595-1,012 in the wild
19 in captivity

Javan Rhino
65-75 in the wild
none in captivity



Four wild-caught Sumatran rhinos (3 females, 1 male) are in North America pursuant to the terms of the Sumatran Rhino Trust, an agreement among several North American zoos and the Indonesian Wildlife Department, to form a captive breeding group. The male is currently at the San Diego Zoo, where he will hopefully breed with the female there before being moved to his permanent home at the Cincinnati Zoo. (Cincinnati Zoo file photo)

CREW's Rhino Research

6016

Today, conservationists from all edges of the globe are working to stop the destruction of rhinos' homelands, as well as to increase the population of each species.

CREW is fortunate enough to have access to each species of rhino (except the Javan, of which there are none in captivity). For the past two years, CREW research has focused on the rhinos at the Cincinnati Zoo and Kings Island Wild Animal Habitat.

One of the newest techniques used to augment the research is ultrasound. Through this technology, researchers can see the ovary, and this, in turn, helps determine the rhino's estrous cycle.

Encouragement has come from progress made at the University of Wisconsin; using an ultrasound, researchers there were able to view the ovaries and fetus of a black rhino.

A key piece of equipment often used in rhino work is the "chute," or the stall used to hold the animal in the correct position while reproductive work is taking place. Unlike chemical immobilization, chutes do not stress an animal. Ultimately, CREW plans to collaborate with other rhino researchers to discover an optimal chute design, one which would help standardize certain rhino procedures.

Hormonal assays are still underway to map the estrous cycles of the females, and future work will be focused on embryo collection instrumentation.