



Editors:

Valerie J. Hare

Karen E. Worley

Consulting Editors:

Kathy Carlstead, Ph.D.

National Zoological Park

Gary Priest

Zoological Society of San Diego

David Shepherdson, Ph.D.

Metro Washington Park Zoo

Graphic Design:

Karen E. Worley

Column Heading Artwork:

Jeff Kozloski

THE SHAPE OF ENRICHMENT is dedicated to sharing ideas, inspirations, and practical knowledge of environmental and behavioral enrichment strategies among those working in the field of animal care. It is an open forum for keepers, trainers, curators, researchers, administrators, exhibit designers, volunteers, and anyone else interested to exchange techniques and approaches to captive enrichment.

THE SHAPE OF ENRICHMENT is designed as a vehicle to present enrichment ideas of all kinds from a variety of sources. We urge you to consider, assess, and evaluate any idea carefully before applying it to your own animals and exhibits. If you have concerns or opposing views, we will be happy to accept letters and articles that express them—our purpose is to establish an ongoing dialogue that presents both sides of controversial issues as well as ideas that are more generally accepted. As the editors, we present these ideas for your consideration only; we do not take responsibility for their effectiveness or feasibility.

We are always looking for new submissions, from feature-length articles to short blurbs. We accept submissions in any form, polished or not. Let us, and your colleagues, hear from you!

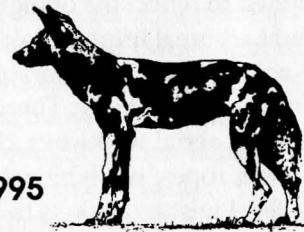
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- ❖ *Environmental Enrichment: Advancing Animal Care*, UFAW (38 min.)
- ❖ *Metro Washington Park Zoo Environmental Enrichment Program* (16 min.)
- ❖ *Habitat Enrichment Ideas from the Topeka Zoo* (32 min.)
- ❖ *Enrichment Ideas from the Sacramento Zoo* (28 min.) NEW!
- ❖ *Gorilla Enrichment*, Denver Zoo (15 min.)
- ❖ *Primate Enrichment*, Dallas Zoo (23 min.)
- ❖ *Bungee Jumping Monkeys*, Philadelphia Zoo (18 min.)
- ❖ *Three Observations of Callitrichids Using an Artificial Gum Tree*, Lubee Foundation, Inc. (15 min.)
- ❖ *Cat Enrichment*, Dallas Zoo (13 min.)
- ❖ *Carcass Feeding at Wildlife Safari* (17 min.)
- ❖ *The Bear Necessities: Captive Enrichment for Polar Bears*, UFAW (20 min.)
- ❖ *Elephant Feeder Ball Introduction*, San Diego Wild Animal Park (12 min.)
- ❖ *Mission: Enrichment* (hoofed stock), Dallas Zoo (18 min.)
- ❖ *Kangaroo and Wallaby Enrichment at the Philadelphia Zoo* (5 min.)
- ❖ *Marine Mammal Demonstrations*, Ocean World, Taipei, Taiwan (5 min.)
- ❖ *The Positive Approach to Parrots as Pets. Tape 1: Understanding Bird Behavior* (65 min.) and *Tape 2: Training through Positive Reinforcement* (69 min.), Natural Encounters, Inc.

THE SHAPE OF ENRICHMENT



Contents: Volume 4, No. 3 August 1995

Features

1 A Hammock in the Rain Forest for Chimpanzees

by Carol Wolper

3 Vegetarian Enrichment for Carnivores!

by Elissa Knights

5 Enrich One, Empower the Other

by Ginger Hartnett

7 Fun with Snake Sheds

by Michelle Acuna

8 Primates and Coconut Halves

by Michelle Muniz

Building the Future

9 Mounds of Fun with Environmental Enrichment

by John Turner

In Training

11 Conditioning White Rhinos

by Richard Cody

Challenges

13 ■ polar bears and California sea lions

...And Then Some

15



IN TRAINING

Conditioning White Rhinos

By Richard M. Cody, Keeper, Audubon Zoo, New Orleans, Louisiana

In April 1994, a fellow keeper, Linda Weaver, and I began conditioning two white rhinoceroses (*Ceratotherium simum*) to accept food rewards, with the eventual goal of behavioral management. I came from a zoo where the keepers do routine blood work on black rhinos, and I mentioned to our supervisor that these white rhinos could probably be conditioned for similar work. He gave me permission, and I began right away. I planned to work on collecting blood from either of the rear legs.

At the time, Saba, a three-year-old male, and Yvonne, a four-year-old female, were eating one 50-pound bag of grain and about 3/4 of a bale of Bermuda grass per day. They were not given any kind of

treat except for an occasional flake of alfalfa hay. The only direct stimulus they seemed to respond to was rubbing on the inner thigh with either a hand or brush by one of the keepers.

I felt that fruit, such as bananas and apples, would work best as primary reinforcement during conditioning. The black rhinos I had worked with were given fruit to hold them steady during their blood work. I decided to use the same positive reinforcement techniques. However, because these white rhinos were unaccustomed to any novel food items, I had a very slow start trying to get them to go near bananas—the reward I wanted to use. Each day, when I set up their hay and grain, I put some bananas

on top of it, hoping they would eat it while eating their usual diet. Over the next couple of weeks, they ate the hay around the bananas, eventually pushing the bananas off their diet to get them out of the way. They were at least willing to touch the treat but not yet to taste it.

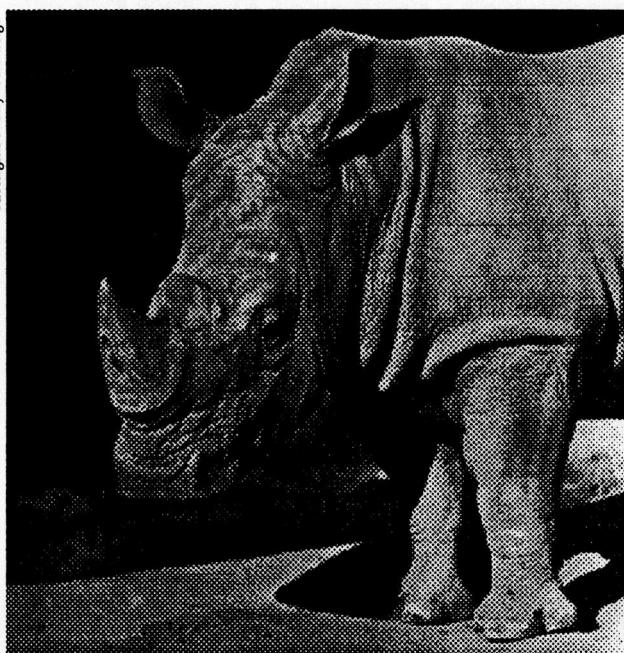
The next step was to bury the treat in their diet. I hoped to sneak the bananas into their mouths so

they would acquire a taste for them. When I checked in the mornings, I found chewed bananas covered with saliva on the floor. This went on for a week, until I began noticing some of the treats were missing entirely. To make sure that Yvonne and Saba, rather than pests, were getting them, I showed each of the rhinos a banana, then set it on the ground under their heads. Yvonne cautiously ate it and Saba backed away. I was encouraged by Yvonne's response, so I worked with her a little more than Saba.

I cut some apples for Yvonne, and along with the banana, fed half to her and put the other half on the hay. Saba ate from the same piles of hay as Yvonne, so he could eat the treats when he felt more comfortable about it. At times, when I was setting the treats on the floor for Yvonne, Saba would compete with her for keeper attention and push her away. That never slowed Yvonne. Soon after eating treats on the ground, she took one out of my hand. Then Saba began taking treats offered to him, even though he had showed no interest before.

At this point, Linda and I decided to use the treats to condi-

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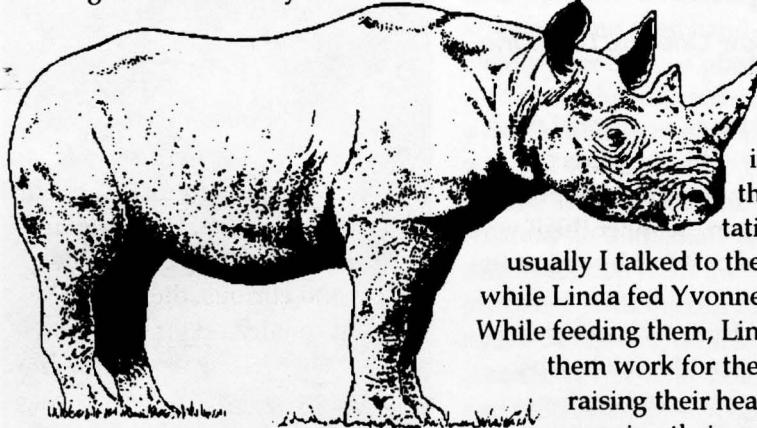
Southern white rhinoceros (*Ceratotherium simum*)





tion the rhinos for a public presentation. The idea for medical work was dropped by the veterinarians for the time being.

Yvonne and Saba learned through hand signals or targets. Working with them daily



for the next two months, we encouraged Yvonne and Saba to raise their heads so we could get a better look. Keeping in mind that white rhinos are grazers, typically keeping their heads lower to the ground even while traveling, we were encouraged by their progress. Not wanting them to lower their heads right away, we kept the treat just out of reach for approximately ten sec-

onds. Yvonne really surprised us when, in order to get the treat, she opened her mouth and reached for it with her lips.

Linda and I let our supervisor know we were ready for presentations in a safe area

made for the keepers to stand in. During the presentations,

usually I talked to the public while Linda fed Yvonne and Saba. While feeding them, Linda made them work for the treat by raising their heads, opening their mouths, then wrestling it with their lips from her hand. Linda continued their training during the presentation by tapping the treat on the side of their faces. When the rhinos moved their heads toward the tapping, Linda gave them the treat.

Now when we show a closed hand with the palm up next to their faces, they respond as if looking for a reward. We used positive rein-

forcement to build up this rapport and behavior, and we do not allow any reprimanding on the head or face. Occasionally, one of the rhinos will push the other or try to knock one of us. In these situations, we use the "time out" method and work with the non-aggressive rhino.

The next area we hope to work on is either ear movement or lifting a leg. The immediate benefit of this would be to show the public the different features of the rhinos' body as we talk about them. The husbandry benefits would be that we get a better look at various parts of their bodies to watch their physical health, and we would be able to monitor their health through behavior. Remembering that Yvonne lifts her leg a little when her thigh is rubbed, we have a behavior to begin working with. Learning these behaviors has given both white rhinos some mental stimulation, and interacting with us and encountering new food items have also added new interests to their routine.

Ibis Ideas

Our singly housed female Hadada ibis has been enriched in a variety of ways. One of the most effective ideas was to offer her a flat of tall grass (approximately eight inches high) with fish and soft-billed diet scattered in it. It was placed on the floor of her enclosure and she immediately started probing in it with her beak. She also stood in it and dug with her feet. She liked picking through the grass and digging in the mud, and she stood in it for three hours continuously until it was removed.

Jello was a big hit as well. A Jello mold was made with nonflavored Jello, meal-worms, and soft-billed diet. She dug in the Jello, found all the hidden food and also ate some plain Jello. She played with clumps of Jello in her water.

A kiddie pool filled with leaves and a few mealworms promoted exploration for some time. Her interest was heightened after she discovered the mealworms. We also filled a shallow plastic pan about one foot square with about two inches of fine sand on the bottom, then filled it the rest of the way with water. Small rocks, leaves, and twigs were buried in the sand, which the ibis spent several hours digging out.

—Jan Sustman and Tara Gifford, Brookfield Zoo, Illinois