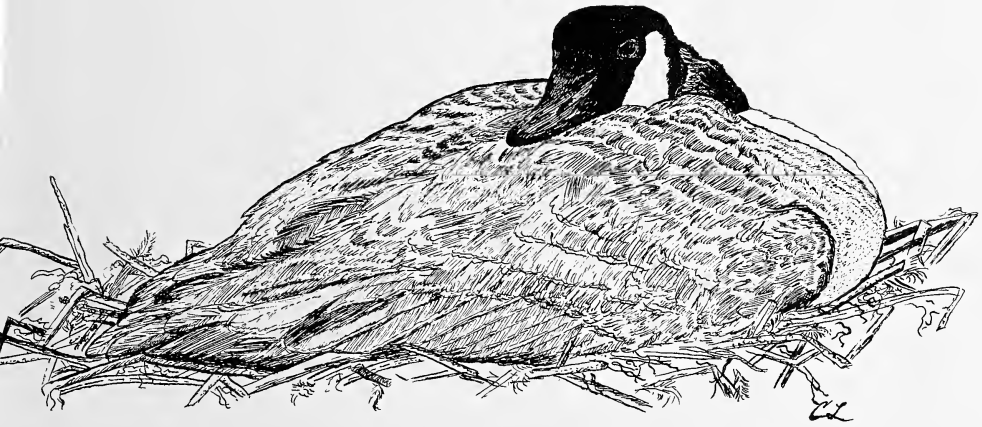


January 1989

Animal Keepers' Forum



Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

January 1989
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Number One

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Administrative Office Staff

Diet Notebook

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Biological Values/Gestation

Greater S. F. Bay Area Chapter

Exhibit Design Form

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Nominations & Elections

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Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKE.

This month's cover art features a female Canada Goose (*Branta canadensis*) drawn by Cherie Langlois, a keeper at Northwest Trek Wildlife Park in Eatonville, WA. This park displays species native to the northwestern region of the U.S. Canada geese breed across most of North America and there are approximately 12 subspecies. Pair bonds are very strong. The female is normally the one to engage in nestbuilding and does all the incubating of eggs. Several of the subspecies remain threatened, particularly the Aleutian Canada Goose, which came close to extinction. Thanks, Cherie!

Scoops and Scuttlebutt

New Address for Keeper Education Coordinator

Pat Sammarco, formerly of Lincoln Park Zoo in Chicago, has accepted a position as Zoo Foreman at the Teaching Zoo of Santa Fe Community College in Gainesville, FL. Pat will continue as the Keeper Education Coordinator and will continue to work on finishing the AAZK Text Book. Correspondence may be sent to Pat at: Santa Fe Community College Teaching Zoo, 3000 N.W. 83rd Street, Gainesville, FL 32602 (904) 395-5601.

GSFBA Chapter's Rain Forest Project Makes 'Newsweek'

The Greater San Francisco Bay Area AAZK Chapter's Ecosystem Survival Plan (ESP) received national exposure in the December 12th edition of *Newsweek* magazine. The article, as it appeared in *Newsweek*, is reproduced below. Congratulations to the Chapter, not only for the initiation of such a worthwhile project, but for receiving national recognition for its efforts.

NEWSWEEK : DECEMBER 12, 1988

ENVIRONMENT

Feed a Meter, Save a Forest

Two-thirds of the world's living species inhabit tropical rain forests. But according to Stanford University's Center for Conservation Biology, an estimated 74,000 acres of the lush land are destroyed every day. Staggered by those statistics, the San Francisco Bay Area chapter of the American Association of Zoo Keepers has devised an "Ecosystem Survival Plan" to buy up and preserve the world's tropical habitats. The plan depends on an unlikely ecological device: the little-loved parking meter.

The San Francisco Depart-

ment of Public Works is donating to Bay Area zoos old meters that will be transformed into "interactive conservation tools." Each meter will bear the slogan: "Give Your Change to Make a Change." When someone deposits a coin, a picture of an anteater or a jaguar will pop up instead of a time arrow and sprint across the meter.

The plan has real earning potential. About 114 million people visit U.S. zoos each year. "If every visitor put 50 cents in the meter instead of buying a bag of peanuts, we could purchase and protect

4.8 million acres in the tropics every year—forever," says San Francisco zoo keeper Norm Gershenz. Five zoos in northern California have already agreed to install the meters, and other parks have expressed interest. For their first undertaking, zoo keepers want to buy land in the Guanacaste National Park project in Costa Rica, which will eventually preserve 293 square miles of dry rain forest. They calculate that \$300 will buy 2.5 acres; the 200 orchids, 10,000 mushrooms, 200 frogs, 1 million ants and 4.7 billion raindrops that come with the land—along with anteaters, tapirs and jaguars—will make the deal a steal.

Scoops and Scuttlebutt, *Continued*

ADT Forms Available Upon Request

Animal Data Transfer Forms for zoos and aquariums are available free upon request. Contact Bernie Feldman, Burnet Park Zoo, 500 Burnet Park Dr., Syracuse, NY 13204. If your facility is not already using the ADT Form, encourage your administration to implement its use whenever an animal is shipped.

Attention: Watch for Award Nomination Information Next Month

Be sure and check out the February issue of AKF for information about making nominations for AAZK Awards for 1989. These awards, which include Excellence in Zookeeping, Meritorious Achievement, and Certificate of Merit for Zoo Keeper Education, will be presented at the 1989 AAZK Conference in Syracuse, NY. Beginning next month, an article in AKF will explain the criteria for nomination in each award category and give information on where to submit award nominations. This year's deadline for all award nominations is **30 June 1989**. The Chairperson of the Nominations & Elections Committee is Jan McCoy at Washington Park Zoo, Portland, OR.

AKF Seeks More Artwork for 1989

Any members who are 'into art' are encouraged to submit artwork to AKF for use either on the journal's cover or elsewhere in each issue. We have been striving the past few years to improve the quality of artwork used in AKF and have been pleased with much of the material received. All cover art needs to be in black and white and may include charcoals and washes although pen and ink sketches reproduce the best. Artwork submitted need not necessarily be sized for AKF cover size, but keep in mind the proportional reduction requirements, especially in artwork of a horizontal nature. We suggest you send artwork in a reinforced envelope and please do not fold any artwork submitted. We would like to be able to publish more artwork showing keepers with their animals in a working situation, so keep this idea in mind. Many thanks.



AAZK Announces New Professional Members

- | | |
|---|---|
| Richard Roth, New England Avile Inc. (MA) | Michele Goldsmith, Metro Boston Zoo (MA) |
| Dan Miller, Roger Williams Prk Zoo (RI) | Gregory George, Roger Wms Prk Zoo (RI) |
| Marianne Rizzo, Van Saun Park Zo (NJ) | Gil Gordian, Bronx Zoo (NY) |
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| Scott Temple, Cheyenne Mt. Zoo (CO) | James M. Murphy, Primate Found. of AZ |
| Denise M. Schultz, Primate Found. of AZ | Sandy Meadows, Phoenix Zoo (AZ) |
| Ruth Yakushiji, Los Angeles Zoo (CA) | Mary Liebmann, Sacramento Zoo (CA) |
| Marcie McCaffray, Washington Zol. Prk. (WA) | Peter Rittler, Washington Zool, Prk. (WA) |
| Michele Schireman, Washington Zool. Prk. (WA) | Celwyn Scott, Woodland Park Zoo (WA) |
| Julie Staines, Assiniboine Prk Zoo (Manitoba) | Cathy Gaviller, Calgary Zoo (Alberta) |
| Lynn Klassen, Calgary Zoo (Alberta) | |

Coming Events

Wildlife Rehabilitation Symposium

March 22-26, 1989

Anaheim, CA

Hosted by Pacific Wildlife Project. Topics will include: veterinary advances in wild species; rescue, restraint and handling techniques; avian, reptile and mammal treatment and biology; captive breeding; wildlife urbanization; post-release and population studies; cage design; conservation education programs; administration and project fundraising. Concurrent presentations will be offered for beginning, advanced and professional levels of expertise. Professional sessions will be limited to veterinarians and medical professionals. Those interested in submitting manuscripts contact: Richard E. Evans, DVM, MS., NWRA Program Chair, P.O. Box 7671, Laguna Niguel, CA 92677, (714) 831-1178. For other information or registration materials contact: MWRA Host Committee, Pacific Wildlife Project at the address above.

AAZPA REGIONAL CONFERENCES

AAZPA Great Lakes Regional: March 5-7, 1989. For more information contact: Mike Blakley, Curator/Mammals, Kansas City Zoo, 6700 Zoo Drive, Kansas City, MO 64132 (816) 333-7406.

AAZPA Western Regional: March 19-21, 1989. For more information contact: Murray Newman, Ph.D., Director, Vancouver Public Aquarium, P.O. Box 3232, Vancouver, B.C., Canada V6B 3X8 (604) 68503364.

AAZPA Southern Regional: April 2-4, 1989. For more information contact: Terry Maple, Ph.D., Director, Zoo Atlanta, 800 Cherokee Ave. SE, Atlanta, GA 30315 (404) 624-5600.

AAZPA Central Regional: April 16-18, 1989. For more information contact: Hayes Caldwell, Director, Caldwell Zoo, P.O. Box 428, Tyler, TX 75710 (214) 593-0121.

AAZPA Northeast Regional: April 30-May 2, 1989. For more information contact: Minot Ortolani, Director, Buffalo Zoo, Delaware Park, Buffalo, NY 14214 (716) 837-3900.

Applying Behavioral Research to Zoo Animal Management

April 29-May 6, 1989

Dallas, TX

The Dallas Zoo will host this year's national workshop. Participants will learn how to develop and participate in behavioral research projects and apply the results to specific management problems. This year's workshop will include topics and projects in mammalian, avian, and reptilian behavior. A nationally recognized behavioral scientist will provide a keynote lecture and many additional activities are planned. Enrollment will be limited to 40 participants, with priority given to zoo staff from AAZPA accredited institutions. Registration fee for the workshop is \$100 if paid before 1 April. For further information and registration form, contact: Ron Kagan, General Curator, Dallas Zoo, 621 E. Clarendon Dr., Dallas, TX 75203.

The Second Preservation/Conservation Workshop

June 4-11, 1989

Muskigum County, OH

Co-sponsored by the International Center for the Preservation of Wild Animals and the Central Great Lakes AAZK Region. We cordially invite you to this unique workshop which not only will inform you about what is happening with the ICPWA (AKE, Dec. '87) and animal interest groups, but will get you involved. Come join in the fun and camping. For more information, contact: Joe Rindler, 176 Lazelle Rd., Worthington, OH 43085.

Coming Events. *Continued*

The International Society of Zooculturists' Annual Conference

June 8-11, 1989

Montgomery, AL

To be held at the Governor's House Hotel and Conference Center. For additional information, contact: Chuck Clift, Conference Chairman, Montgomery Zoo, P.O. Box ZEBRA, Montgomery, AL 36109-0313 (205) 832-2863.

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th National AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. Watch upcoming issues of AKF for more information on registration and Call for Papers.



Information Please

As the Keeper of the Marmoset and Tamarin House in Dublin Zoo with a view to producing for display an education program focusing on South American Forest Conservation, I require information relating to the 'indicator species' we house. Any information on endangered status, habitat welfare, specific threats or current conservation efforts, etc. relative to the Cotton-topped tamarin, Goeldi's monkey, White-lipped tamarin, Golden lion tamarin or Wedell's tamarin or indeed any other such species, would be much appreciated. Please send any information you feel may be of assistance to: Eric Cole, Dublin Zoo, Phoenix Park, Dublin, Ireland.

I am requesting information concerning South American mixed species exhibits; such as, species combinations tried, results from combining different species, type and size of restraint barriers used (fencing, climb-proof structures, etc...), restraint procedures, feeding strategy (how to feed a diet to the intended species without other species eating it). Please send any information to: Cynthia Topp, P.O. Box 60302, Phoenix, AZ 85082-0302.



Births & Hatchings



San Diego Wild Animal Park... morning rounds at the Wild Animal Park on 1 December provided a pleasant surprise when Senior Keeper Peggy Sexton discovered a newborn baby gorilla. Alberta, a nine-year-old lowland gorilla (*Gorilla gorilla gorilla*), was found cradling her baby in the gorilla bedroom at 6:30 a.m. The unnamed and unsexed baby is the ninth born at SDWAP, and is the first third-generation gorilla in the history of the Zoological Society of San Diego. Alberta was born at the Fresno Zoo, where her mother Alvila was on breeding loan, in 1979; Alvila was born at the San Diego Zoo in 1965 to wild-caught Vila. Father of the newest arrival is Winston, a 16-year-old male who was part of a private collection of five lowland gorillas acquired by the Society in 1984. Keepers and veterinarians are pleased with the early behavior of mother and baby. There is often concern that a hand-raised gorilla, like Alberta, will have difficulty understanding her new role when faced with motherhood; but Alberta is attentive and gentle with her baby. Winston has access to his family, but has taken only cursory interest in the new arrival.

The lowland gorilla is a critically endangered species with fewer than 6,000 estimated to survive in equatorial Africa. There are about 250 gorillas in captivity in North America, and approximately 800 in captivity worldwide. *from SDWAP News Release, 2 Dec. 1988.*

Central Arizona Chapter of AAZK... would like to announce the births and hatchings that our three institutions consider to be significant, occurring from the Spring through the Fall of 1988.

At the **Phoenix Zoo** we had 1.2 lambs born in our Desert bighorn sheep (*Ovis canadensis mexicana*) herd in March. Also this month we had a newly introduced pair of Green-wing macaws (*Ara chloroptera*) hatch and raise a chick to fledging. Our zoo has maintained several species of macaws for many years, and this is the first chick to hatch since the 1960's. In May came the birth of a Red-ruffed lemur (*Lemur variegatus rubra*), a first at our zoo. A month later we discovered the birth of our first Vampire bat (*Desmodus rotundus*). Perhaps the most significant birth of the year arrived in the heat of summer. Dutchess, our 28-year-old Bornean orangutan (*Pongo pygmaeus pygmaeus*) gave birth to a male offspring on 11 August. His sire, Billy, is on loan from the Lincoln Park Zoo. This is Dutchess' fourth surviving offspring and her sixth birth since 1968. Also in August we had the birth of a Colobus (*Colobus quereza kikuyuensis*). The baby, still doing fine, was recently determined to be a male. On a sad note, we had a Grevy's zebra (*Equus grevyi*) foal born this Fall that did not survive, and is the second offspring that hasn't survived from this mare. Also in the Fall, a litter of five Southwestern spectacled rattlesnakes were born. This is the first captive breeding of the speckled rattler (*Crotalus mitchelli pyrrus*) at our facility. Finally, in December, we had the birth of 1.1 Indochinese leopards (*Panthera pardus delacouri*), and although our female has raised two other offspring, these two did not survive.

At the **Wildlife World Zoo**, 1.1 Jaguars (*Panthera onca*) born on 31 May marked a first breeding for our pair of black jaguars. The male is a normal spotted color and the female is melanistic, as are the parents. After digging out of several enclosures, our pair of African crested porcupines (*Hystrix cristata*) were moved into an exhibit containing a trio of Patas monkeys with a cement base to prevent any further escape. The Patas monkeys became quite aggressive towards the porcupines as time went by and no reproduction occurred. It was then decided to move the porcupines to the Spot-nosed monkey exhibit with a cement base containing a sandy substrate. Since the move, the porcupines have produced 1.1 young and everyone is getting along.

Births & Hatchings, Continued

We had some significant hoofstock births of endangered species including: 0.2 Dama gazelle (*Gazella dama*); 0.1 Scimitar-horned oryx (*Oryx dammah*); and 0.1 Addax (*Addax nasomaclatus*). Notable hatchings include: 0.0.4 Stanley crane (*Anthropoides paradisea*); 0.0.5 Elegant crested tinamou (*Eudromia elegans*); 0.0.27 Gray-headed chachalacas (*Ortalis cinereiceps*) for possible future release in Panama; 0.0.1 Lesser razorbill curassow (*Crax mitutuberosa*); 2.2 Great curasow (*Crax ruba*); and 1.0 Bareface curassow (*Crax fasciolata fasciolata*). Curassows range from northern Mexico south to the grasslands of South America. These birds occupy the same ecological niche in their areas as pheasants in Asia, guineas in Africa, and turkeys in North America. Curassows are considered among the most rare and endangered of the Galliformes due to habitat destruction and hunting. Wildlife World Zoo has one of the largest collections of curassows in the U.S.

The Primate Foundation of Arizona is pleased to announce the births of 1.1 Chimpanzee (*Pan troglodytes*). The births are significant for different reasons. The first infant was born to a nine-year-old mother. The mother has been blind from birth but is a healthy and very social animal nonetheless. However, she did not accept the infant and it is being raised in the nursery. Infant rejection by a young, first-time mother is not unusual and hopes are high that she will do better with any future offspring. The second birth (1.0) occurred in a social group of three adults (1.2) and their two four-year-old daughters. The infant's mother has allowed her daughter to hold and care for the new infant, and on occasion has even encouraged it. This type of alloparenting is important in the development of future mothering skills in the young females. (submitted by Luke Thirkill, Chapter Liaison, Central Arizona Chapter with special thanks to Kara Wells and Rusty Harr for their submissions.)

Bronx Zoo... the Dept. of Mammalogy is excited by the birth of a second Lowland gorilla (*Gorilla gorilla*). In November I reported a male born on 2 September; a second male was born on 7 October. The gorilla as you know is highly endangered in nature, and is CITES I listed. As it turns out the baby born in September was fathered by our resident male, Congo, and the baby born in October was fathered by Barney who is on a breeding loan from the Toronto Zoo. The gestation period for these magnificent apes is between 250 and 270 days. Female gorillas are sexually mature at about 7 years, but do not begin breeding until they are about 10 years old. The offspring, in nature, have a 40% mortality rate. By foster rearing our infants we can increase their survival rate in captivity. Both of our baby gorillas are being foster reared by Caroline Atkinson and two associates, Louisa Gillespie and Lisa Mieke. There is a Species Survival Plan for gorillas in which the Bronx Zoo participates.

During November 2.0 Proboscis monkeys (*Nasalis larvatus*) were born (See Photo). These primates, known for their unusual noses, are rarely kept in zoos. The Proboscis newborns are both the offspring of our more recently acquired male, Ed, which makes them important representatives of a new blood line for the troop in Jungle World. One of the babies was rejected by its mother at birth. She showed no interest in nursing or caring for the infant so it was pulled for hand-rearing. As far as we know there have not been any successfully hand-reared Proboscis monkeys. Because they are leaf eating primates their digestive system is very delicate. However, under the attentive care of our Associate Curator of Mammals, Fred Koontz and his wife, veterinarian Wendy Westrom, the baby is continuing to gain weight and we have high hopes for the future. Senior keeper of Jungle World, Kate Hecht, also helped with the hand-raising.

Also in November, 0.1 Gelada baboon (*Theropithecus gelada*) was born. The Gelada baboons are natives of the highlands of Ethiopia. This baboon is the only species of its genus. It is specialized in gathering grass seeds in the wild. It is easily recognized by the naked skin on its neck and chest. Our newborn gelada baboon was rejected by its mother, although after a week, not at birth. Fred Koontz is also hand-rearing her and reports that she is doing well.

In October twin, as yet unsexed, Red-handed tamarins (*Saguinas midas*) were born. These charming little primates live in extended family groups of between 4-15 in their

Births & Hatchings. *Continued*

South American homeland. All members of the group, males and females, take care of the infants. They are listed as CITES II.



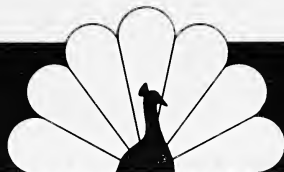
Proboscis Monkey (*Nasalis larvatus*) baby with its mother at the Bronx Zoo, NY. The infant, one of two born in November 1988, is a member of a species rarely kept in captivity. (©New York Zoological Society Photo)

The Dept. of Ornithology was happy with the hatching of 0.0.1 Banded pitta (*Pitta guajana*). These striking looking, colorful ground birds are found from Thailand to Bali. In the Bronx Zoo they can be seen in the World of Birds. Pittas, in the wild, are nocturnal migrants and are unusual in that the peaks of their migrations are during the new moon and not the full moon as in other song birds. Also, another Malayan peacock pheasant (*Polypectron malacense malacense*) was hatched, adding to the Bronx Zoo's collection of the species.

The Dept. of Herpetology acquired 1.2 painted Bategur turtles (*Callagur borneoensis*). This brings the total to 3.2. These intriguing reptiles have never been bred in captivity and the Bronx Zoo is the only New World zoo that exhibits them. The males during courtship go through a color change in the spear points on the tops of their heads, which become crimson when they are attempting to attract their smaller, drabber females. Courtship begins in October and reaches its peak in December and January. *submitted by Wendy Worth, Corresponding Secretary, Bronx Zoo AAZK Chapter, Bronx Zoo, NY.*

Attention all B&H contributors: Beginning with this issue of *AKF*, we will no longer publish submissions which consist only of a numerical listing of births and hatchings. We have tried in the past year to encourage contributors to submit their B&H information in a text format, noting why these B&H are significant to their institutions (i.e., first ever captive reproduction, first ever for the facility, first second-generation, SSP species, reproduction due to change in exhibit or husbandry techniques, etc.) We would also ask that all those submitting B&H please include the scientific name (as per ISIS) following the common name of species listed. *The Editor*





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DOWN UNDER

*Coordinator
Judie Steenberg, Keeper
Woodland Park Zoo
Seattle, WA*

DOWN UNDER....is an information column about Australasian animals. While there are a number of Keepers who work in Australasian Units, or routines, oft times a Keeper will have a few species

of animals from the Australasian zoogeographical region on their string or routine. It is hoped this section will contain information on birds, mammals and reptiles.

This column is intended to:

- share experiences and information to improve the care and management of Australasian animals.
- seek information and advice on problems that occur.
- serve as a forum through which to make comment, to ask questions, to critique, or to verify information.

Please send your materials (a question, a paragraph or an article) directly to *Animal Keepers' Forum*, Topeka Zoological Park, 635 Gage Blvd., Topeka, KS 66606, Attn: Susan Chan.

Problems Feeding Green Tree Pythons

*submitted by Nigel Platt, Reptile House Section Head
Cotswold Wildlife Park, Ltd.
Burford, Oxford, England*

A vivarium measuring 2m (L) x 2m (W) x 1.5m (H), houses the Park's Australian Pythons. The vivarium is furnished with fixed rockwork, a pool, and various branches. The daytime temperature rises to 30° C, with a nighttime temperature of 24° C. A photoperiod of 13 hours day, 11 hours night, is given from the months of March to November. A photoperiod of 8 hours day, and 16 hours night is given during the months of November to March.

The vivarium houses (all adult), 2.0 Childrens pythons (*Liasis childreni*), 1.1 Carpet pythons (*Morelia spilotes variegata*), and 1.0 Green Tree python (*Chondropython viridis*).

The snakes all get on well, the only problem arises when it comes to feeding them. The cagemates of the Green tree python all accept the dead food items offered to them. The male Green tree python, however, will not accept the food item placed next to him. The food item, either a day-old chick or a medium-sized rat, has to be dangled in front of him in a grabstick (handling equipment for venomous snakes) before he will strike and

DOWN UNDER. *Continued*

constrict the food item before consuming it. Unlike its cagemates, the Green tree python will only accept one food item each week.

In October 1986, a female Green tree python was obtained on a breeding loan. She was housed in an off-exhibit vivarium furnished with branches. She refused to move from a central branch for the first two months (it was presumed she drank from water droplets off herself after being sprayed, although it was never witnessed. She never showed signs of dehydration.)

Feeding attempts proved fruitless until a dead rat was draped over the branch next to her (in week three). From then on, the female would accept up to three medium-sized rats in this manner each week. If the rats fell off the branch, the female would leave them.

If any keepers have experienced problems feeding arboreal species, I would be pleased to hear from them. Contact: Nigel Platt, Section Head, Reptile House, Cotswold Wild Life Park, Burford, Oxford, OX8 4JW, England.



Husbandry Tip for Finicky Primates

Dennis Highlands' Spiked Monkey Balls

*Submitted by Sally Lieb, General Curator
Dreher Park Zoo, West Palm Beach, FL*

For years we had experienced difficulty at slipping worm medicine into our crafty primates. We thought we had tried everything until we hired Dennis as a keeper. All our primates find his recipe irresistible. Even the yuckiest tasting drug can be successfully administered orally using the following recipe:

- | | |
|-----------|--|
| 1 | Tablespoon Honey |
| 2 | Tablespoons Peanut Butter |
| 1/4 | Cup Raisins |
| 1/2 | Bananna - peeled and mashed (the riper the better) |
| 1/2"-3/4" | Slice canned primate |
| 3/4 | Cup monkey biscuit powder (from the bottom of the bag;
absorbs <u>lots</u> of liquid) |



Blend all ingredients and roll into balls. Size of balls vary according to the size of the animal and the dosage. You may want to make some "blanks" as the dominant animals will steal from the others if they don't have the most. Try it!



Viewpoint

Addendum and Clarification to August 1988 "Viewpoint"

By
Mark L. Hofling, President
Bronx Zoo Chapter AAZK
Bronx, NY

The AAZK dedicates itself to education, conservation and to providing a forum for the open exchange of ideas among zookeepers (see Article 1, Sections 1, 2, and 3 of the By-laws). The AAZK does, however, open itself to all. The publication of recent viewpoints is evidence of this. It was not Mr. Patton's suggestion of an alternative time for his chapter's meeting that offended me, but that he took his exception to a national level instead of resolving it at a local level. We are, as I stated, an association of zookeepers; we are not a nature club. If I were to take an ad out in the local newspaper, the *New York Times*, I would surely have hundreds, if not thousands, of people responding, but then we would no longer have an association of zookeepers. We would have something completely different.

I do not doubt that animal/circus trainers are proficient at teaching animals tricks and other behaviors, but unlike zoos there is little if any conservation message given to those viewing the wonders before them. With regard to Mr. Hoessle, he got out of the pet trade business and his dedication to the conservation of animals is why he is now vice president of AAZPA.

Mr. Patton and I agree on at least two points. The first is that circus trainers are valuable when it comes to elephant handling. The second is "that the pet trade is responsible for the depletion of some natural animal populations". I do know of the current controversy involving Giant Panda and I do know that some pet dealers breed their own stock. I do not abhor the idea that non-zoo employees can know anything about the so-called "right way to do things". Nor do I profess that zoo professionals know everything about animal keeping. In our chapter's monthly lecture series many outside people are invited to speak. So let me use this opportunity to invite Mr. Patton, the next time he plans a trip to New York, to attend one of our chapter meetings. My vision of the AAZK is a reality and it is a success.

P.S. In response to Mrs. Kitty Mallory:

I do not mean to imply that private animal caretakers do not care greatly for the animals in their charge. I do advocate professional animal care and the sharing of knowledge. Those persons who dedicate themselves to the care of animals without regard to profit should be held in the highest regard!

From the Humane Society of the U.S.

By
David I. Herbert
Captive Wildlife Specialist
Humane Society of the United States
Washington, DC

I have been following with interest the recent controversy surrounding the May 1988 "Viewpoint: The Eclectic Keeper", appearing in the Animal Keepers' Forum. I would like to congratulate Mr. Hofling on his viewpoint article (August 1988) concerning this issue.

Viewpoint. *Continued*

I am writing on behalf of The Humane Society of the United States (HSUS), the largest animal welfare organization in the United States with over 820,000 constituents. We are also the only animal welfare group that has a captive wildlife department dealing with the issues of roadside menageries and zoos, aquariums, circuses, traveling animal shows/acts and exotic animal auctions.

We believe that under most circumstances wild animals should be permitted to exist undisturbed in their natural environment. However, we do recognize the widespread existence of zoos but feel that they must maintain animals in conditions simulating their natural habitats. Zoos should also be involved in the preservation and restoration of endangered and/or threatened species and in educating the public to the needs of wild animals and their roles in ecosystems.

The HSUS has conducted numerous investigations of abuse and cruelty cases at roadside menageries and zoos, circuses and traveling animal shows/acts through the country. We are also quite aware of the horrors associated with the exotic pet trade. We share Mr. Hofling's outrage when he stated that he was "really floored" by Mr. Patton's suggestion to invite pet dealers to American Association of Zoo Keeper (AAZK) meetings.

The pet trade encourages and supports the international trade of wild animals. The numbers of animals dying in this trade is staggering. The commercial trade in wild animals, particularly birds and reptiles, is a direct threat to the continued existence of many species.

Millions of wild birds die every year due to the brutal and inhumane capture and transport methods of the pet trade. For every bird found in a pet store, experts have estimated that from five to ten have died along the way. In the latest five-year period for which we have complete statistics, 193,733 birds died while in transit to the United States. This legal trade in turn fuels the market for these birds and encourages the smuggling business, resulting in hundreds of thousands of additional bird deaths. The above is only a small sampling of the animal death caused by the exotic pet trade. In the interest of conservation and animal welfare, we urge the AAZK to take a position opposing this needless waste.

The AAZK should voice its opposition to the exploitation of wild animals that occurs in roadside menageries, circuses and traveling animals shows/acts. The American Association of Zoological Parks and Aquariums (AAZPA) has professional ethics and accreditation standards that their members must adhere to. The AAZK does not have any such related standards or guidelines. The only requirement to become a member of the AAZK is to pay the dues. We have observed many facilities that the AAZK would most assuredly oppose using their membership to legitimize their existence.

I have personally witnessed many fringe facilities that display their animals in small sterile cages with little to no regard for their psychological or physiological needs. These facilities convey the message that animals are here solely for our ridicule and amusement. We agree with Mr. Hofling that roadside menageries, circuses and traveling animal shows/acts that exploit, and at times, abuse animals, should not be encouraged to interact with the AAZK. Such interaction legitimizes their activities, and undermines your profession.

We urge Dr. Patton and the AAZK to investigate the horrors that occur in the exotic pet trade, at circuses, roadside menageries and traveling animal shows/acts.

In conclusion, The HSUS encourages the AAZK to work with professionally managed AAZPA accredited facilities and environmental and animal welfare organizations to improve the care and maintenance of animals in captivity.

The HSUS would be happy to supply interested persons with additional information regarding these subjects. We are appreciative of the AAZK for this opportunity to express our viewpoints.



The Unsung Bird Keeper

By
Jill Varnam, Keeper
Phoenix Zoo, Phoenix, AZ

Birds are usually small. They don't have hooves, horns, or long, sharp teeth and they aren't poisonous. In short, birds are harmless. But observe the bird keepers at any zoo; notice their scars, bruises, limping and battered bodies. A bird keeper myself, I have to confess I have participated in more than my share of such antics as banging my head into perches, tripping over buckets, and the crowd-pleasing slipping-on-the-edge-of-the-pond-and-falling-in routine. But not all of a bird keeper's scars are self-inflicted; some boast of more heroic origins.

The Phoenix Zoo houses two pairs of Blue crowned pigeons, *Goura cristata*. This plump apparition of overgrown pigeon with an undignified crown of lacy feathers is the very embodiment of innocence. But cleverly concealed under the bend of the wing is a weapon to bring the toughest bird keeper to tears. A hard knob made up of carpal bones may be beaten against the keeper's legs or hands or any other unguarded part by simply flapping the wing. This appears comical to zoo visitors who are misled by the perpetually charming expression of the bird into thinking it is making an heroic, if feeble, attempt to drive off an intruder. Actually the bird managed to maneuver itself into just the right position to beat the exact spot it got yesterday which is a tasteful shade of broken blood vessel blue. The mate meanwhile has positioned herself quietly and unobtrusively behind the keeper awaiting her moment of glory. This comes when the keeper kneels down to change the seed pan. A quick hit on the kidneys is closely followed by a deft dodge as the keeper leaps up yelling in agony.

Another harmless bird is the King vulture, *Sarcoramphus papa*. Tolerant most of the year, there is a sudden change of behavior during the breeding season. Our pair has to be given an artificial egg to incubate because the male explodes off the egg in his enthusiasm to rip off the keeper's face. This change in behavior is very abrupt; for months he has tolerated keepers raking under his perch but once the spring hormones work their magic, he plummets down on top of the keeper. The Phoenix Zoo is subject to airplane noise from nearby Sky Harbor International Airport. On one occasion I discovered this noise is loud enough to mask the vulture's normally crashing and thundering descent and the king and I treated visitors to a *danse macabre* punctuated by some very unprofessional screaming and shouting on my part.

The Black swan, *Cygnus atratus*, is also very aggressive during the breeding season. Their breeding season lasts from January to January of the following year. The favored method of keeper torture is the same one employed by the Crowned pigeons, or the "beating-to-a-pulp" method. The swan is lord of the zoo lakes and in his element when a keeper in hip waders or rowing a boat has the temerity to intrude on his lake. It is best to wait until the keeper is at least ankle deep in mud and so virtually immobilized. It then remains simply to cruise up and beat her at leisure. A resourceful swan can drench a keeper and fill up her waders by flapping up generous quantities of water.

Because it doesn't attack, the Chukar, *Alectoris chukar*, endears itself to its keeper. But even these charming birds can create problems for their keeper. While the keeper services their exhibit, they walk about pecking at seeds and generally behave like model partridges. The moment the keeper leaves to clean an adjacent exhibit one or more birds will decide it is time to sun themselves so they flop onto their sides, stretch both legs stiffly out parallel with the body, often attending to such details as pointing the toes, and rest the head and neck on the ground, closing their eyes and partially opening their beaks. The effect is that of a pitiful remnant of a bird that died a ghastly, painful death. This elicits a shocked response from people that there are one or more dead birds practically at the unobservant keeper's

The Unsung Bird Keeper, *Continued*

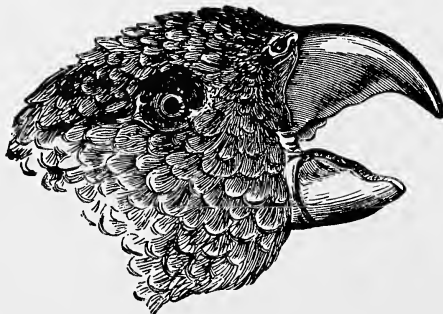
feet. Any amount of explaining about sunning postures and the various reasons for this behavior only tends to alarm people more about the keeper's sanity and that nothing is being done to ease the birds' suffering. The keeper has been through this routine many times but the birds seem to perfect the distorted position to such a degree that the keeper is finally tricked into walking over and rousing the bird. The bird hops up and struts off irritated at this unsolicited disturbance.

If a bird is too timid to attack, it can do its best to convince people it is regularly abused. Some birds will tolerate a keeper's intrusion into their territory as long as there is no eye contact or undue noise. Tiptoeing about the Hyacinth macaw, *Anodorhynchus hyacinthinus*, exhibit carefully avoiding eye contact with the birds or people, the inevitable question comes; "Where are the birds?". I pretend to be hard of hearing, flailing the rake about trying to prove the impossibility of hearing above rake noises. Menacingly I hear, "She's ignoring us." and then again, "Where are the birds?". I resort to pointing up towards their oak nesting barrel, but unsatisfied they persist, "Where?". The final moment has come, unavoidably, inexorably. I must speak. In a resigned tone I reply, "They are inside the..." but before I can finish, an earth-shattering cacophony of protests burst forth from within the bowels of the barrel, precluding any further conversation or thought. The macaws produce these alarming noises until I leave their exhibit so that the next group of people to come by glance at me in disgust and shout, "What happened?" and "What are you doing to the birds?".

Even a bird with good intentions can add danger to the job. Our male Keel-billed toucan, *Ramphastos sulfuratus*, seems to be imprinted on humans. When I bring in their food pan he often snatches a tidbit such as a grape, raisin, or piece of cheese to present to me. I don't encourage this behavior because he has a lovely female who should be receiving this attention so I don't accept his offerings. In frustration he often tries to tuck the gift into my hair as I clean out the water tub. One day I noted out of the corner of my eye that his offering was wriggling in his beak. He was leaning over to deposit it in my hair while clattering tenderly for me to accept it; it was obvious he was convinced his treat was extra special. Looking up to see an inimical, grumpy Bark scorpion dangling above me, I made a quick exit with the toucan chasing after me, determined that I would receive this unusual delicacy.

Finally, if the birds don't attack or have methods to humiliate a keeper, I have found from six years of experience that I am quite proficient at humiliating myself. There is a man somewhere who has my Ruddy shelduck-catching abilities on home video. He has me slipping in the wet grass, landing on my knee and following through with a graceful bellyflop, my net landing in a pond and sinking demurely from sight.

My advice to other bird keepers is not to look for glory, safety, or money in the job, for there is none; but I guarantee it will never be boring caring for these harmless creatures.



Project Managing for Zoos

By
Dr. Arthur Monsey, President
ARLOU, Inc.
St. Louis, MO

Architects and engineers are generally not zoologists. Aside from the rare zoologist who has mastered the T-square, many designers on a zoo development project are unfamiliar with animal behavior, welfare and concerns. Since a zoo project must be functional for both animal and human activity, zoo construction presents some very unique problems.

To uncover some of these problems it is necessary to examine two phases of a zoo project: design/planning and construction. It is assumed that site selection and financing are already established.

In the initial stages of a zoo development project, the single most important factor is to establish a hierarchy in which the delineation of authority and responsibility are clarified. This is especially important since zoos are usually publicly or quasi-publicly owned and operated. Zoo board appointees must have both authority and responsibility. The person at the top of the hierarchy must be able to implement the zoo's policies, as well as translate those policies and terms to designers and builders, while always keeping animal welfare as a guideline.

A prime motivator of design and construction must be a knowledge of animal behavior. Zoo boards should delegate authority to a person whose primary interest is the welfare of the animals; to whom the peculiarities of design and construction are quite secondary.

The design/planning process requires the services of professional architects and engineers (A/Es). The selection process for these individuals should be purely objective and not based upon prior business relationships or lowest bidder consideration. Aside from the usual "track records", the zoo's selection process for A/Es should keep in perspective:

--The primary goal for the zoo is not to win an award for the architect or engineer.

--Since very few architects or engineers have zoo experience, the selection committee should look for organizations that are receptive to extensive input from zoo personnel. Zoo officials are more familiar than most A/Es with regard to requirements such as moat wall heights, topography, and sizes of containment compounds. The A/E team must be willing to implement these ideas into the final design plan, in order to achieve optimum results on the project.

--As A/Es are selected, the committee should keep in mind budgeting restraints. The A/E team must be sensitive to the costs of construction as very few projects have unlimited budgets. The selection committee should appoint A/Es that demonstrate capability in the preparation of updated budgets that reasonably reflect the economic scale of the project. This is a most difficult problem for A/Es since their general knowledge of current or future construction costs is limited. Even qualified contractors and construction managers do not have the final bid price until the project is bid. Nevertheless, the selection committee should select A/Es that can demonstrate their capabilities in preparing updated budgets that reasonably reflect the economic scale of the project. This includes good communications on elements of the project that are unique or are not well-defined, and thus, may produce financial perturbations or cost overruns.

In addition to the normal design problems of a project, there are a number of considerations unique to zoos. First and foremost is animal safety. The living creatures of a zoo are often contained in unnatural environments. Zoo personnel are cognizant and sensitive to problems of safety concerning mammals, birds, reptiles, fish and insects. Since most A/Es lack this expertise, suggestions by zoo personnel should be taken seriously by designers.

Project Managing for Zoos, *Continued*

The following lists a few do's and don't's that can be applied to any new zoo development:

- Do not create ledges or protuberances where an animal can grab or climb.
- The welding of structural assemblies is preferable to the use of fasteners such as nuts and bolts. Some animals, particularly primates, can undo bolts--it may take days, weeks or months, but they will eventually work loose.
- Do not leave crevices or holes. Hard caulk everything that could be a haven for vermin or bacteria.
- Paint must be nontoxic to animal life. Check with the zoologist or pharmacist.
- Seal coatings must be resistant to animal excretions such as urine or fecal matter. This applies to walls as well as floors.
- Heating, ventilating, and air conditioning systems should be designed to meet the specific animals. Temperature ranges vary dramatically depending on each species' natural habitat. Ventilating ducts should direct exhaust air away from visitors to minimize animal odors. Due to animal hair and compound materials, dust build-up in ventilating systems is a tough task that needs to be addressed.
- Separation of animals from people is achieved through the use of glass, bars, screens, moats and other systems. A well-planned facility will not only retain animals, but serve as a safety barrier against visitors falling, or throwing debris into the compound. An animals' strength capabilities should also be considered. The design of the screen on a gorilla cage requires knowledge as to how much force a gorilla can exert in tension or shear on steel.
- Particular emphasis should be placed on algae control in animal drinking water, especially water displays such as streams or falls.

Budget control is a source of controversy in virtually every construction project. For zoos, the problem is compounded by the fact that the owning agency may be public or quasi-public. In addition, the allocation for capital improvements and operating expenses is a continual dialogue between interested parties. Cost overruns based on preliminary estimates can and do occur, and range from minor irritations to litigations. Modern statistical analysis, which provides more realistic approaches to budgeting, can reduce such controversies appreciably.

Scheduling a project for a zoo has several unique aspects when compared with other commercial or industrial projects. The schedule for some phases of a program can be dictated by animal deliveries and availability. This requires the construction activity and design efforts to be "backed up" by the objective dates. By manipulating scheduling data using computer techniques, realistic information can be provided to the participants for adjusting specific activities to meet required dates. This scheduling effort must have impact that is based on reasonable construction logic and productivity experience.

To maintain a realistic schedule it is necessary to continually update information and examine all potential timetable restrictions.

These are only a few suggestions for zoos that are in design or pre-design phases. Evidently, there are many more suggestions and milestones that can facilitate the design stage of a zoo project.

Project Managing for Zoos, *Continued*

The construction stage of a zoo project is not vastly different from a conventional project, but several deviations are worth noting.

- On a zoo project safety is the number one construction concern, particularly in an existing facility. The contractors must set special safety programs to eliminate hazards to the public. This may require special fencing, or on-site guards. Safety must be monitored at the weekly construction meeting, and the zoo must be the ultimate judge of all safety procedures. In fact, the contract should clearly state that the zoo personnel in charge of the project have ultimate authority, without recourse from contractors or subcontractors, if they believe safety is being compromised.

- Noise can be a problem for animals. Blasting, pile driving and concrete breaking operations must be planned as a cooperative venture between the zoo staff and builders. If possible, the design should attempt to eliminate such operations.

- Toxic fumes, liquids and solids, must be handled with extreme caution. Zoo personnel must always be aware of the materials being utilized so that they can determine the potential toxicity. Again, this requirement should be incorporated into the contract.

- Maintaining the schedule is critical. The contractor must notify the zoo if a potential stop is imminent. Independent monitoring of construction operations is often useful in keeping the communications and data as factual as possible.

- The workmanship must be superb. Rough surfaces, holes, cracks, protrusions, corners and flaking represent potential hazards to the animals' health and well-being. A high standard of performance can be maintained if experienced zoo personnel, A/E's and project managers dedicate the necessary time to monitor construction operations.

Instead of a step by step "how to" for zoo directors or architects and engineers, this dialogue points out the differences between zoo construction and other projects, as well as providing guidelines to consider before beginning a zoo design plan.

(Dr. Arthur Monsey is president of Arlou, Inc., a St. Louis-based construction/engineering advisory firm.)



AAZK Regional Coordinators

Co-Directors of Regional Coordinator System

States East of Mississippi - Diane Krug, Rt. 1, Box 273, Hilliard, FL 32046 (904) 225-9559 [work]
(904) 845-4279 [home]

States West of Mississippi - Debbera Stecher, Woodland Park Zoo, 5500 Phinney Ave., North, Seattle, WA
98103. (206) 625-5402 [work] (206) 745-8198 [home]

REGIONAL COORDINATORS

Todd Cleveland, Metro Boston Zoos, Franklin Park, Pierpoint Rd., Boston, MA 02121
for the states of ME, VT, NH, MA, RI, CT, NY and NJ

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for the states of PA, DE, VA, WV, MD and the District of Columbia [804]625-5575 [h]

Bill Whittaker, Toledo Zoological Gardens, Toledo, OH 43609
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Chris Garland, North Carolina Zoological Park, Asheboro, NC 27203
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Colleen Kinzley, Brookfield Zoo, 3300 Golf Rd., Brookfield, IL 60513 [312] 485-0263 Ext. 489 [w]
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for the states of GA, AR and AL

VACANCY - for the states of LA and MS

Vikki Bohnert, 3515 Cobblewood Ct., #117, Winter Park, FL 32792 [407] 678-0879 [h]
for the state of Florida

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for the states of CO, NM, and TX

Steve Tigges, Tulsa Zoological Park, Tulsa, OK 74115
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Honolulu AAZK Chapter (Dan Vitiello, Pres.) (808) 923-4772 [w]
for the Hawaiian Islands

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
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Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada (204) 489-3893 [h]

Marcia Rasmussen, Calgary Zoo, P.O. Box 3036, Stn. B., Calgary, Alberta, Canada T2M 4R8
for the Provinces of Alberta and British Columbia, Canada (403) 235- 5461 [h]

AAZK announces Todd Cleveland of Metro Boston Zoos as the new RC for the States of ME, VT, NH, MA, RI, CT, NY and NJ.

Need membership information? Want to learn more about AAZK or start a Chapter or become more active - then call your RC! They will be glad to assist you with any information you need about AAZK.

ELECTION.....'89

WE WANT YOU! Do you wish to help your professional organization? Become an AAZK Board Member. Two seats are up for election - those held by Susan Barnard and Brint Spencer, whose terms expire 31 December 1989. New Board Members will serve from 1 January, 1990 through 31 December, 1993. Why is this first call for nominations so early? **TIME** is the answer. Nominations, candidate verification and tallying mailed ballots require time. We also wish to notify winners early enough to allow them to make arrangements to attend the National AAZK Conference **before** they assume office the following January. This will enable the new Board Member to become familiar with Board responsibilities and AAZK activities before they assume responsibility for our organization.

Duties of the Board of Directors

For a more detailed explanation of the expanded duties of the Board, refer to the By-Laws - available upon request from National).

- 1) Select, appoint or remove officers, committees, agents and employees of the Association, including - prescribing powers and duties.
- 2) To control and manage the Association and its property, passing upon acquisition and disbursements with approval of a majority of the Board.
- 3) To formulate policies, rules and regulations in accord with the Constitution & By-Laws.
- 4) To uphold the Constitution of AAZK and the policies of the Association.
- 5) To appear at Board meetings, to accept Board assignments and to devote the time to communications pertinent to all Board business, including answering correspondence promptly and efficiently.

Qualifications for Nomination

- 1) Nominee must be a Professional Member of AAZK and must have been a member of the Association for at least one year.
- 2) Nominee must be presently employed as an animal keeper/attendant by a recognized zoological institution or aquarium in the U.S. or Canada and must have been in the zoological field for at least two years.

Nomination Procedure

- 1) Nominator Form:
 - a. List the name of the nominee, phone, address, and institution.
 - b. State in 150 words or less the reason(s) why the nominee warrants election to the Board.
 - c. Nominator signs forms and mails to NEC Chairperson.
 - d. Notifies nominee that they nominated him/her for the Board.
 - 2) Nominee Biographical Form:
 - a. Professional background: places of employment, length of service, titles.
 - b. Membership in AAZK: National and local chapters, number of years, offices held, involvement in activities.
 - c. Educational background.
 - d. Membership in Affiliate Organizations: (AAZPA, Audubon, etc.)
 - e. Other information the nominee feels is pertinent.
 - f. References (one or two)
- g. Nominee signs forms and mails to NEC Chairperson.

NOTE: Candidate is ineligible for nomination if **both** the nominator and nominee biographical **forms** are not **complete** and **returned** to the NEC Chairperson **by 31 January 1989**. Forms are in this issue of *AAZK* or may be obtained from the NEC Chairman. Send completed forms to: Rachel Rogers, METROZOO, 12400 S.W. 152 St., Miami, FL 33177.

Nominator Form for
AAZK Board of Directors

Qualifications for Nomination:

- 1) Nominee must be a Professional Member of AAZK and must have been a member of the Association for at least one year.
- 2) Nominee must be presently employed as an animal keeper/attendant by a recognized zoological institution or aquarium in the U.S. or Canada and must have been in the zoological field for at least two years.

1. Name of Nominee _____

Address: _____

Phone: _____

Institution: _____

2. State in 150 words or less the reason(s) why the nominee warrants election to the AAZK Board of Directors.

3. Signature of Nominator: _____

4. Form must be received by the NEC Chairperson by 31 January 1989. Send to: Rachel Rogers, NEC Chair, METROZOO, 12400 152 St., Miami, FL 33177.

Nominee Biographical Form for AAZK Board of Directors

1. Name _____

Address: _____

Phone: _____

PLEASE LIST THE FOLLOWING INFORMATION;

2. Professional Background: (places of employment, length of service, titles)

3. Membership in AAZK:

a) National: number of years _____

Activities:

b) Local Chapter(s): number of years, offices held, involvement in activities.

4. Educational Background:

Nominee Biographical Form/AAZK Board of Directors, Continued

5. Memberships in Affiliate Organizations: (AAZPA, Audubon, etc.)

6. Other information the nominee feels to be pertinent.

7. References (one or two): give name, address and phone number where they can be reached.

8. Nominee's Signature: _____

9. Form must be received by NEC Chair by 31 January 1989. Send form to: Rachel Rogers, NEC Chair, METROZOO, 12400 152 St., Miami, FL 33177.

Behavior of Captive Red Pandas (*Ailurus fulgens*) During the Breeding Season

By

Julie Stewart, Student
University of British Columbia
Vancouver, B.C., Canada

(Editor's note: The author conducted research for this article at Washington Park Zoo, Portland, OR while studying at Lewis and Clark College in that city.)

Abstract

One pair of red pandas (*Ailurus fulgens*) was studied at the Washington Park Zoo, Portland, OR, over a three and a half month period which encompassed their breeding season. The main purpose of the study was to observe the pair's daily activities and mating behavior during their breeding season. The daily activities of the pandas were primarily comprised of resting/sleeping, locomotion, pacing and eating.

Unfortunately, no copulations were witnessed at this time but behaviors suggestive of reproduction appeared to be present. For example, there was a marked increase in scent marking, activity and proximity for both the male and female panda during the fourth week of the study. There was also an increase in social interactions between the pair at this time.

Within the last century, red pandas (*Ailurus fulgens*) have been studied in the wild; however, many questions still remain unanswered about their behavior and biology. Only a few zoos have successfully bred pandas and their accounts contain information on only a few actual sighted copulations. The lack of sighted copulations is probably because the pandas only copulate within an 18-24 hour period in the breeding season (Roberts and Fleming, 1978; Roberts and Kessler, 1979; Roberts, unpublished a). Kowalska (1982) studied a red panda pair for seven years during which time the female gave birth six times; all the young died before weaning. She states that estrus lasts two weeks, during the breeding season, at which time the animals are very active and copulate many times per day. According to Roberts (unpublished a) even the few zoos that have succeeded in breeding red pandas have failed to develop successful long-term breeding programs. This statement was also confirmed by Kinsey (pers. comm.) at the Denver Zoological Garden, Denver, CO. Detailed descriptions of the red panda's anatomy and general characteristics are far more abundant and provide excellent information (e.g., Egoscue, 1975; Roberts and Fleming, 1978; Roberts, unpublished b).

The daily activities of pandas in captivity consist primarily of sleeping by curling up in a leafy tree niche, tail over the head, or with the head tucked below the chest. Occasionally the panda ventures back and forth on the ground to forage for food (Hodgson, 1847; Donald, 1978). Hopson (1979; Fleming and Roberts, 1978) found that night watches were particularly useful in gathering data on the panda's behavior because the periods of greatest activity are in the morning, late evening, and at night.

Egoscue (1975) and Roberts (unpublished b) found that mature adults seldom interact with each other except during the breeding season. Egoscue's observations, in captivity, are supported by Grzimek (1975) who found red pandas to be asocial and to live alone. In the event of an interaction, in the non-breeding season, it is often restricted to mutual face

Mating Behavior of Red Pandas. *Continued*

licking or some type of aggression. Otherwise, there is an air of "mutual indifference" which prevails, and direct contacts appear to be deliberately avoided (Egoscue, 1975). Behaviors of this type have also been witnessed by Craig Lewis (pers. comm.) at the Washington Park Zoo, Portland, OR. Kowalska's (1982) panda pair were exceptional in that they peacefully played together in captivity on a regular basis.

Interactions between a pair do occur during the breeding season, as would be expected. Munro (1969) proposed that part of preliminary actions leading up to breeding and copulation are persistent following of the female by the male, increased scent marking by both animals, and loud shrill squeaking vocalizations. In addition to these precopulatory behaviors, genital licking, nose rubbing and aggression were all recorded by Fleming (1978) when he witnessed actual breeding at Knoxville Zoological Park (TN).

Roberts and Kessler (1979) and Roberts and Fleming (1978) have proposed that the breeding season is from mid-January to early March in the Northern Hemisphere and in July in the Southern Hemisphere. Furthermore, Roberts (1979) reported a gestation period ranging from 114-145 days whereas other reports indicated a range of 90-135 days (e.g., Munro, 1969) and 120-135 days (Kowalska, 1982). These differences in gestation may be due to delayed implantation of the fertilized egg (Macdonald, 1984). Animals are sexually mature at the second breeding season following birth or when animals are 18-21 months of age (Roberts and Kessler, 1979). Pandas may reproduce until they are 10-12 years of age.

At birth the furry, blind cubs usually weigh 80-100 grams. Their coat coloring is light red and it becomes more pronounced as the panda matures. The mother often carries her cubs around from nestbox to nestbox many times a day. This behavior is normal and it is critical that there be nestboxes available for the female. Otherwise she will walk around for a long period of time which could affect the health of the young. The cubs grow very quickly, gain their eyesight at about three weeks and wean at three months (Egoscue, 1975; Roberts and Fleming, 1978; Roberts and Kessler, 1979); Kowalska, 1982).

Red pandas are solitary and nocturnal animals found in the mountains of Nepal, Assam, Bhutan, Sikkim, Szechuan, Yunnan, and Kweichow Northern Burma at altitudes between 305-3355 meters (Drimmer, 1954; Knoop, 1955; Egoscue, 1975; Donald and Wolff, 1978; Roberts, unpublished c). The habitat in these regions consists primarily of mixed deciduous/coniferous forest. Red pandas have adapted to cold temperatures, snow, freezing rain and strong winds (Egoscue, 1975). In captivity, pandas adapted well to low temperatures but wetness and high winds can harm them according to Kowalska (1982). The pandas, however, appear to be quite "uncomfortable" and "restless" at temperatures which exceed 90° F.

The purpose of this study was to examine the occurrences of selected behaviors, during and following the breeding season, in a pair of red pandas at Washington Park Zoo, Portland, OR. In addition, changes in percentage time spent were measured and descriptions of the copulatory behaviors during their breeding season were recorded.

Method

Description of current group

The group consisted of two individuals, a male and a female. Both individuals were sexually mature, although neither had produced any offspring, and no copulations had been witnessed between the pair. The male was one of triplets and had been at the Washington Park Zoo since 20 Jun, 1986. The female, Ethel, had been at the zoo since 28 November, 1984 (see Table 1 for additional details.)

Both the female and male were the same body size, but the white hairs of cheek patches on the female were more widely dispersed and her red coat was paler on her face than the red coat color on the male's face.

The pandas were fed at 0700 and 1500 PST a gruel mixture of cereal and egg. Otherwise they had a bamboo supply which was free choice on exhibit.

Table 1

History of current panda group at the Washington Park Zoo, Portland, OR.

Sex of subject	Place of birth	Date of birth
Female	Columbus Zoological Gardens Powell, OH	2 June, 1977
Male	Woodland Park Zoological Gardens Seattle, WA	17 June, 1985

Description of enclosure

The outdoor exhibit provided climbing facilities of many heights for the red pandas in the form of tree trunks, five large trees, and branches which also served as nesting perches. The pandas had access to two wooden nestboxes (.6 x .6 x .6 meters) that had video monitoring capabilities for a few months after the breeding season. The exhibit size was approximately 12 x 6.1 x 6 meters.

Data collection procedure

A scan sampling data collection technique (Mellen, et al., 1983) was used with a 30-second interval for selected behaviors. Behaviors observed are listed in Table 2.

Additional data were collected for social behaviors using a frequency method, all occurrences of some behaviors, (Mellen et. al, 1983). For social behaviors, initiator and receiver were recorded (See Table 3).

A map of the exhibit was drawn with locations indicated by a number. Every four minutes the panda's location was recorded.

Results

Data were recorded for at least one hour per session, over a ten-week period between 0900 and 1800 PST. The first day of data collection began on 6 January, 1987 and the last on 18 March, 1987. Seventy-two hours of data collection were recorded in all.

Although there were no actual sighted copulations, there was an increase of the scent marking by both the male and the female in the fourth week of the study (See Figure 1). The time spent in scent marking during this week period for the female was 3.14 times/hour. The only other instance in which the female was observed to scent mark was in the fifth week (.13 times/hour) and the sixth week (.41 times/hour). At this same period, the male had a dramatic increase in scent marking in the fourth week, the male spent 5.06 times/hour in this behavior whereas in the fifth week he spent 12.5 times/hour. The rest of the study, the male did not exceed .67 times/hour.

January 27, 1987 was a particularly unusual day for panda behaviors. In a forty minute session (the shortness of session was due to keepers taking the pandas off-exhibit to feed), the female scent marked 13.5 times/hour and the male 18.75 times/hour. During this session, behaviors were recorded that had never been seen previously nor were they observed again. These behaviors included the following: 1. the male ran after the female

Mating Behavior of Red Pandas, *Continued*

who in return clawed and snarled at him; 2. the female nudged the male when she walked by him; 3. the male and female bumped into each other; 4. the male scent marked on the same object on which the female had scent marked; 5. the male licked the object on which the female had just scent marked; and 6. the male sniffed the anogenital area of the female. There was also an increase in proximity between the pair this day (27.55%). One other day in the sixth week proximity was 18.75%, but otherwise it remained below 5%.

Table 2

Ethogram used in scan sampling data collection in Red Pandas at the Washington Park Zoo, Portland, OR.

Behaviors	Description
Self grooming	licking or scratching own fur
Resting/sleeping	panda is inactive; sitting, lying down or standing; not exhibiting any other overt behavior
Defecate/urinate	excretion of feces or urine
Locomotion	directional movement by walking, trotting or running; includes both terrestrial and arboreal movements
Scent Marking	rubbing the anal gland onto ground, log, or other object
Pacing	repetitive motion in an approximately 2 by 1/2 meter area
Sniffing	bringing nose less than 3cm from an object
Not visible	panda or behavior is not visible
Eating	panda is chewing on some gruel or bamboo
Proximity	one animal within one body length of the other

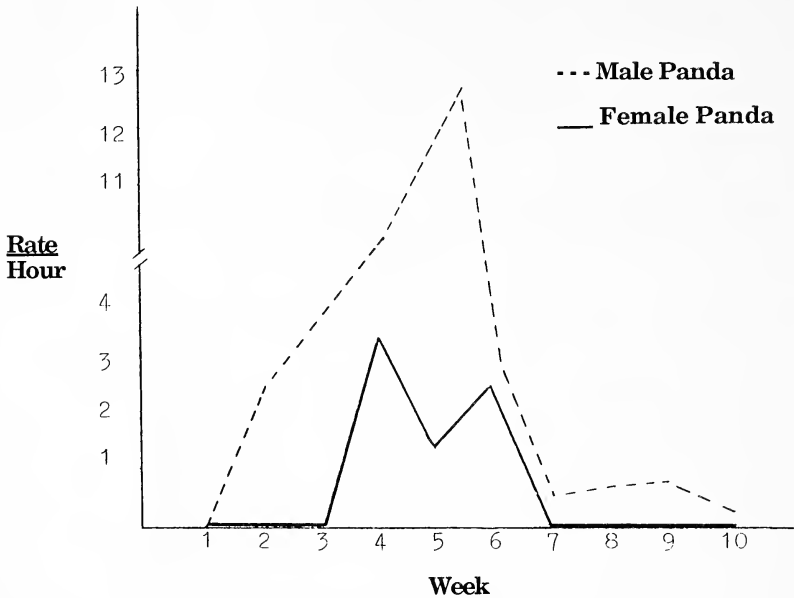
Table 3

Ethogram used in frequency Method Data Collection at the
Washington Park Zoo, Portland, OR

Behaviors	Description
Allogrooming	licking or scratching another's fur, mutual face licking
Close social observation	looking at partner from a distance of 20cm or less
Distant social observation	looking at partner from a distance of more than 20cm
Aggression	jumping forward, thrusting the front paws forward or down; emitting a sort of "huff quack" sound; pawing another
Follow	one animal walks, trots or runs behind another within 2 meters for at least 3 seconds
Mounting	male gets on hind legs behind female and grasps her with front paws
Copulation	male mounting, intromitting and thrusting behind the female
Other	animal exhibits a social behavior other than the ones already stated
Anogenital sniffing	animal sniffs the anogenital region of the other
Scent marking	rubbing the anal gland onto the ground, log or other object

Mating Behavior of Red Pandas, *Continued*

Figure 1: Scent marking of the male and female red panda at the Washington Park Zoo, Portland, OR.



Discussion

The pandas spent most of their day resting/sleeping although occasionally they would wander around the exhibit to eat, scent mark, pace, or defecate. This type of activity was also witnessed by Donald (1978) and Hodgson (1847).

More often it was the male who became active. At times he would appear to be very nervous and begin to pace rapidly in the exhibit. Craig Lewis (pers. comm.) suggested that the male paced frequently because he had only been at the Washington Park Zoo for six months prior to the study. Since the male panda came to the zoo, his pacing has declined and he appears to be much more relaxed in the exhibit. The female has grown very accustomed to her environment and often appears to be unaware of the presence of visitors. She just lays peacefully up in her tree niche and sometimes is not noticed by the public.

In this study, the male and female pandas were never observed copulating or mounting by either the keepers or the researcher. Thus, it was not surprising when the female did not produce any offspring.

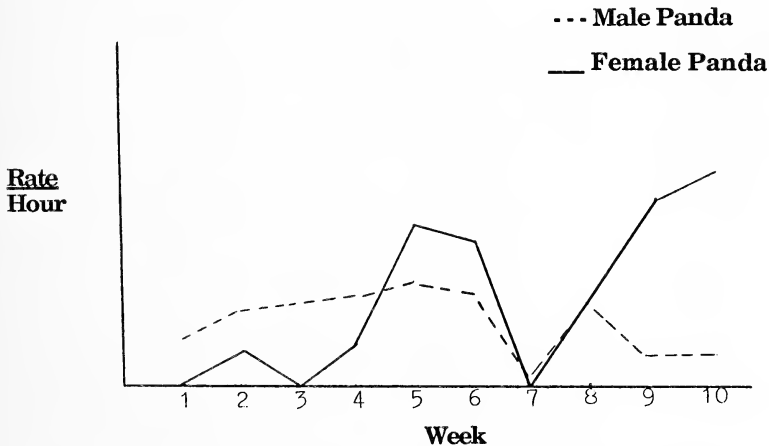
Reproductive failure may occur at a variety of stages in the reproductive cycle: 1. the pair may be behaviorally incompatible; 2. the female may fail to come into estrus; 3. the pair may fail to breed; 4. the pair may fail to conceive; 5. the female may fail to carry out pregnancy; and 6. the pair may fail to care for infants.

Observations in the study suggest that the two pandas were quite compatible socially, and the results strongly suggest that the female did come into estrus in the fourth week of the study. Kowalska's (1982) studies indicate an increase of activity, and copulating occurring many times per day during estrus. In addition, Munro (1969) proposed that aggression between the pair, following of the female by the male, and an increase in scent

Mating Behavior of Red Pandas, Continued

marking by both animals occurred at this time. These behaviors were all observed in week four of the study. It should be noted that Roberts and Kessler (1979) stated there was a prolonged period of activity after copulation in which the female was followed closely by the male. If copulation did occur in the fourth week, then it does not seem surprising that the male remained very active in week five and observed the female, at a distance (See Figure 2), quite frequently. Thus, the data suggests that reproductive failure occurred at steps 3, 4, 4, or 5. One reason the pair may have failed to breed (assuming they did not) was because of the age difference between the male and the female. The female was 24 months older than the male which may have inhibited the animals from copulating (Mellon, pers. comm.) She found that some species of small cats tend not to copulate when the female is older than the male. Red pandas may exhibit a similar phenomenon.

Figure 2: Distant social observation of the male and female red panda at the Washington Park Zoo, Portland, OR.



The results from this study, and the other studies mentioned, suggest that it is necessary to develop long-term breeding programs if breeding between the panda pair is to be successful. Kowalska is the only individual mentioned that has had much success in breeding pandas, although none of the offspring have survived past weaning. This study is a step towards assessing developments in breeding programs because it provided some useful information on the daily activities and breeding behaviors of a red panda pair at the Washington Park Zoo.

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Mating Behavior of Red Pandas. *Continued*

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Table 4

Percentage of time spent in selected behavior for a male and female red panda at the Washington Park Zoo, Portland OR

Behavior	Male (%)	Female (%)
Self grooming	7.95	6.20
Resting/sleeping	69.63	86.47
Defecating	0.28	0.08
Locomotion	10.11	5.18
Scent marking	0.35	0.01
Pacing	8.52	0.01
Sniffing	1.14	0.69
Not visible	0.45	0.48
Eating	1.6	0.87



Case Scenario of a Hand-Raised Domestic Water Buffalo

Bubalis arnee f. bubalis

By

Karla J. Michelson, Senior Keeper
Infant Isolation Unit
San Diego Wild Animal Park
Escondido, CA

In researching medical cases for our year-end annual report, I came across the following case that might be of significant value to others in the medical and/or nursery field.

In July 1987, a two-week-old, mother-reared female domestic water buffalo (*Bubalis arnee f. bubalis*) was examined in the exhibit and taken to the Wild Animal Park hospital facility due to her weakened condition. The calf was hypothermic (97.5° F), exhibited dehydration (sunken eyes), and passed foul-smelling stools.

Initial laboratory tests included a CBC and serum chemistry panel. The CBC revealed a mildly elevated white blood cell count with a reversed neutrophil to lymphocyte ratio (greater than 1.0). Serum creatinine was slightly elevated.

Initial medical treatment was administered to correct dehydration and hypothermia. A deep, indwelling jugular catheter was fixed in place with Dexon® suture. Intravenous fluid consisted of lactated ringers with 2.5% dextrose and were given at a rate of 100 ml per 10 kg of body weight. Antibiotic therapy of 1 gram Ampicillin® IV or IM was administered twice daily for ten days.

The calf suffered from maternal neglect resulting in lessened sucking, dehydration, weakness and subsequent hypothermia and hypoglycemia. Due to the calf's age, initial colostrum transfer was assumed and documented with a positive Bova-S* test⁽¹⁾.

The significance of this case to the Infant Isolation Unit at the San Diego Wild Animal Park is that it allows us an opportunity to research and develop an oral formula unique to this species aiding in her successful recovery and rehabilitation.

A publication⁽²⁾ specifying the milk analysis of a water buffalo gave us the data needed to develop an oral formula. The result was a formula composed of one-part water, one-part evaporated cow's milk, and one-part Multi-Milk® powder⁽³⁾. The analysis is as follows:

	<u>%Solids</u>	<u>%Fat</u>	<u>%Protein</u>	<u>%CHO</u>
Domestic water buffalo	17.2	43	22.1	27.9
Substitute formula	17.9	37.9	26.8	25.5

These values were close enough to what the calf needed that an almost immediate change was seen in her emaciated condition after her first week nursing this formula.

She later was shipped to Marine World Africa, USA, five months after her remarkable recovery. Her weight upon arrival to the Wild Animal Park hospital was a mere 63.5 lbs and a little more than a month later - 140 lbs! We hope others in our field may realize the

Case Senario of a Hand-Raised Domestic Water Buiffalo, *Continued*

immense necessity of proper neonatal nutrition and research of the available data that enables us to formulate these substitutes.

*A screening test for diagnosis of failure of passive IgG transfer in calves.

- (1) Bova-S is a registered trademark of V.M.R.D., Inc.
- (2) Borden, Inc., Pet/Vet Products., Mother's Milk is Nature's Most Perfect Food.
- (3) Multi-Milk is a registered trademark of Borden Pet/Ag Div.



The Discovery Channel Offers Varied Wildlife and Nature Programming

Some of The Discovery Channel's nature and wildlife series to be shown during 1989 include the following listings. Times given are EST, so consult your local cable program guide for the time in your area.

Week of 30 January to 5 February 1989

The Amateur Naturalist: Wetland Wilderness (Mon 8:30 pm, Fri 5:30 pm, Sat 11:30 pm)
The Natural World - Wild South: Garbage on Eden (Tues 5 pm, Wed 2:30 pm, Sat Noon)
The Natural World - World of the Sea: Workhorse of the Sea (Tues 5:30 pm, Wed 2:30 pm,
Sat 10:30 pm)
New Animal World: My First Safari (Mon 8 pm, Fri 5 pm, Sat 11 pm)
Noah's Ark: Guano Birds (Mon 2:30 am)
Noah's Ark: Living Patagonia (Tues 10:30 pm)
Profiles of Nature: The Water Raiders (Mon 2 am)
Profiles of Nature: Bird Island (Tues 10:30 pm)
Profiles of Nature: Patagonia (Thu 10 pm, Fri 2 pm)
Safari - Clive Jones on Safari (Thu 8 pm, Fri 10 am, Sat Midnight)
Secrets of Nature - Animal Wonder Down Under: The Little Marsupials (Tue 1 am,
Wed 10 pm, Sat Noon)
Secrets of Nature - Birds of Prey (Tue 2:30 am, Wed 10:30 pm, Sat 12:30 am)
Wildlife Chronicles: 24 Hours in Deepest Dulwich (Mon 9:30 pm, Sat 12:30 am)

Week of 6 February to 12 February 1989

The Amateur Naturalist: A Monarchy of Trees (Mon 8:30 pm, Fri 5:30pm, Sat 11:30 pm)
The Natural World - Wild South: Island Eaten by Rats (Tue 5 pm, Wed 2 pm, Sat 10 pm)
The Natural World - World of the Sea: Sea Lion (Tue 5:30 pm, Wed 2:30 pm, Sat 10:30 pm)
New Animal World: Adventure Antarctica (Mon 8 m, Fri 5 pm, Sat 11 pm)
Noah's Ark: Living Patagonia (Mon 2:30 am)
Noah's Ark: The Southern Right Whale (Tue 10:30 pm)
Profiles of Nature: Bird Island (Mon 2 am)
Profiles of Nature: Birds in Winter (Tue 10 pm)
Profiles of Nature: Ground Squirrels (Thu 10 pm, Fri 2 pm)
Safari - The Most Dangerous Animal (Thu 8 pm, Fri 10 am, Sat Midnight)
Secrets of Nature - Animal Wonder Down Under: The Remarkable Bandicoots (Tue 2 am,
Wed 10 pm, Sat Noon)
Secrets of Nature - Antarctic Summer (Tue 2:30 am, Wed 10:30 am, Sat 12:20 pm)
Wildlife Chronicles: The Sound and The Silence (Mon 9:30 pm, Sat 12:30 am)



Chapter News

Cheyenne Mountain Chapter

New officers elected in October are:

President.....William Gersonde
Vice President.....Michael Chadwell
Secretary.....Beth Mills
Treasurer.....Scott Temple
Chapter Liaison.....Nanette Bragin
Newsletter Editors.....Reese Kelley
Jan Miller

In June, the Cheyenne Mountain Chapter hosted a lecture given by Dave Kenny, a veterinarian at the Bronx Zoo. Dr. Kenny presented a slide show covering the six weeks he spent in Dian Fossey's camp in Rwanda.

Also in June, our Chapter manned a booth at Cheyenne Mountain Zoo's annual Zoobilee for Conservation Day. Keepers' tools of the trade and brochures explaining AAZK were on display for those curious about our profession.

Our last summer activity was a garage sale held on 9-10 July.

On 12 November, four keepers from Cheyenne Mt. Zoo (coincidentally, all Cheyenne Mountain AAZK Chapter members), attended a workshop given by the Colorado Division of Wildlife called "Project Wild". For a nominal fee the DOW passed out tons of conservation educational books and brochures as well as taught the class how to use these resources in teaching children and adults about Colorado's current problems facing its wildlife. In addition to this information, our DOW has further resources to be used, all free to the public, i.e. slide shows and lectures regarding Birds, Mammals, Amphibians, and Reptiles of Colorado. Great future lecture series! Whether the different states have such resources available for free might be worth looking into. We were impressed!

--Nanette Bragin
Chapter Liaison

AAZK is pleased to welcome two new Chapters into the Association.

Jacksonville AAZK Chapter

Located at the Jacksonville Zoo in Florida, this newly formed AAZK chapter lists it mailing address as 8605 Zoo road, Jacksonville, FL 32218. Its officers are:

President/Chapter Liaison...
Betty A. Grogan
Vice President.....Glenn A. Grogan
Sec/Treas.....Zina Cadorette
Program Coordinator/Sgt-at-Arms...
Dennis Glaze

Edmonton AAZK Chapter

This newly formed Chapter involves members from the following facilities: Valley Zoo, West Edmonton Mall, Alberta Wildlife Park and Polar Park. Their mailing address is: Edmonton AAZK Chapter c/o Valley Zoo, P.O. Box 2359, Edmonton, Alberta Canada T5J 2R7.

The Chapter's officers are:

President.....Wayne Sager
Vice President.....Maureen Anderson
Secretary.....Barb Heemsker
Treasurer.....Sandy Karpluk
Chapter Liaison.....Dean Treichel

Although only recently chartered, the Edmonton Chapter is already providing guest speakers for their monthly meetings.

All AAZK Chapters which produce an in-house newsletter are requested to please add AAZK Administrative Offices to your mailing list. Also, if you have not as yet sent in a sample of your Chapter logo, along with the recently sent questionnaire, please do so. We would like to have a complete file of logos so that we may put together a display of Chapter Logos for the Syracuse conference. If you have a Chapter patch, consider sending one to us for display on the 'Piece of Your Zoo' patch board.

Many Thanks!

Chapter News. *Continued*

Metro Boston Zoos AAZK Chapter

This active Chapter has recently published its first edition of their restructured Chapter newsletter, *Keeper News*. Editor for the newsletter is Pete Costello, an aviary keeper at the W.D. Stone Memorial Zoo.

The Chapter is currently selling Jim Morris environmental T-shirts and operating a recycling program for bottles and cans to raise money for their Chapter.

Officers for the Chapter are:

President.....Sandy Elliott
Vice President.....Peter Costello
Treasurer.....Ed O'Brien
Secretary.....Heidi Basken
Chapter Liaison.....Tom Aversa

Keeper News reported the following in its inaugural issue: "Conservation issues are priorities to all keepers, and to our organization, Metro Boston Zoos AAZK, as well. Petitioning management and our concession stands about the use of styrofoam coffee cups last year led to the search for hot drink cups whose impact on the environment is less damaging. As soon as the current supply is exhausted, an alternative will be adopted."

"MBZ's AAZK members can be especially proud of their conservation effort to save tropical forest land from development. In the fall of 1987, Chapter members voted unanimously to contribute 5-10% of the Chapter's treasury each year to a conservation project to be determined annually by a vote. In June of 1988, MBZ's AAZK sent \$100.00 to the Programme For Belize. This international group was formed to aid the country of Belize in the preservation of the tropical forests. One of the goals for the 'Programme' is to buy up tropical forest land. The opportunity for the Programme to get involved was offered by the Belize government, so that preservation of their tropical forests could be linked with economic development of the country mainly through education of its people concerning the conservation issues, and utilizing tourism for economic growth."

"The tropical forest land will be purchased through an agreement with a private owner at the cost of \$50.00 per acre. \$3,600,000 will be needed to purchase the 110,000 acres from the private owner, who will retain and manage another 100,000 acres adjacent to it. 42,000 acres of forests, savannah, and wetlands east of these two land parcels was donated by the Coca-Cola corporation. These three sections of Belize, which border Guatemala and Mexico, will be known as the Rio Bravo Conservation Area. Start-up funds for the project were provided by the Massachusetts Audubon Society, with the support from other organizations in the U.S., Canada, and the United Kingdom."

"Belize is a small, self-governing, independent country about the size of New Hampshire and is located in Central America. Approximately 70% is covered by unspoiled tropical forests. For more information or to send a contribution please contact: Programme For Belize, P.O. Box 385X, Vineyard Haven, MA 02568."

--*Keeper News, Fall 1988*

North Carolina Chapter AAZK

The Chapter sadly reports the resignation in November of our President, Chris Garland, who has accepted another position at Boston Metro Zoos. Chris was instrumental in starting the North Carolina Chapter and his leadership has been invaluable. All our good wishes go with Chris and he will be sorely missed in North Carolina.

In December, the Chapter had a covered dish Christmas party and short business meeting. The vacant positions on the Chapter Board were filled as follows: Cynthia Noe, Acting Vice-President, and Lucy Segerson, Acting President until elections in April.

--*Lucy Segerson*
Acting President

Chapter News. *Continued*

Greater San Francisco Bay Area AAZK Chapter (GSFBA)

Our Chapter's Ecosystem Survival Plan (ESP) was spotlighted in the December 12th issue of *Newsweek* magazine. An article in the environment column described the proposed use of parking meters to collect money from zoo patrons.

The meters, along with our direct mail approach to "Adopt An Acre", are two of several ongoing fundraising methods. We have already raised enough money to purchase 18 acres of dry rain forest in Guanacaste National Park in Costa Rica. We have set a fundraising goal of \$10,000 for 1989 of which 75% will go to ESP.

Our second medical symposium series is taking shape. One of the highlights will be Dr. Murray Fowler discussing new techniques in reproduction of captive animals. Other topics include emergency medical procedures and vision in vertebrates.

The GSFBA Chapter is also participating in the AAZK Foreign Keeper Sponsorship Program by sponsoring Usha Matthews of Zoo Negara in Malaysia.

--Dave Boctan
Treasurer

Bronx Zoo Chapter AAZK

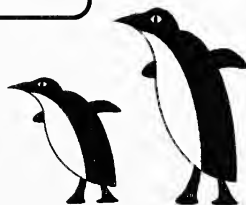
On 3 October, Dr. Ethel Tobach, Curator of Mammalogy at the American Museum of Natural History, engaged our chapter in an unusual question format lecture. It ranged from the changing relationship between animals and people to the basis of social systems to research in zoos to individual commitment to conservation. And speaking of conservation, our director, Dr. William Conway, really boosted our spirits by sending a memorandum of endorsement; commending the work of AAZK and our chapter and encouraging all keeper staff and curators of the Bronx Zoo to participate in AAZK on both the local and the national level.

On 4 November, clinical resident veterinarian, Dr. David E. Kenny, gave a fascinating presentation on his work with mountain gorillas in Zaire. We had the highest attendance of the year at this meeting.

--Wendy Worth
Corresponding Secretary



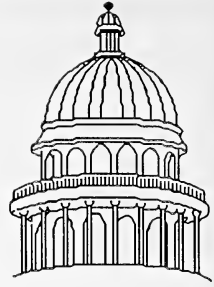
Have any good photos? The AAZK Public Education Committee is looking for photo contributions to be used in the "Zookeeping As A Career" poster project. Photo submitted should show keepers working in the areas of Animal Care, Research, Conservation and Education. We need color photographs in 5" x 7" or 8" x 10" size, or send a negative with your regular size photo. Send photos to: Tom LaBarge, c/o Burnet Park Zoo, 500 Burnet Park Drive, Syracuse, NY 13204.



Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Endangered Species Act reauthorized

For the first time in five years the Endangered Species Act (ESA) has been officially reauthorized by Congress. Negotiation between the two houses of Congress in September resolved differences between their respective versions of H.R. 1467, the reauthorization bill. The Senate approved the negotiated text on 15 September and the House passed it on 26 September. The final version was then signed into law by President Reagan on 7 October.

During the negotiation of the Conference Committee the Senate Conferees agreed to include the Elephant Protection Act as a part of the ESA Conference Report, even though the Senate had not considered the bill on the floor. This was agreed to and the Elephant Protection Act was passed as part of the ESA.

Conference negotiations also clarified the phase-in requirements for shrimp fishermen to begin using Turtle Excluder Devices (TEDs) on their nets. The TED regulations had been a major source of controversy since the National Marine Fisheries Service (NMFS) first released them in June 1987. Several suits were filed in federal and state courts to challenge the regulations, and numerous TED-related amendments to the ESA were introduced in both the House and the Senate. The ESA, as passed, requires some shrimp fishermen to use TEDs in offshore waters at specified times effective 1 May 1989. Requirements for inshore shrimp fishermen to use TEDs or to reduce tow time are to take effect on 1 May 1990.

> *From AAZPA (Nov. 1988 newsletter) and Center for Environmental Education (news release)*

Scientific whaling controversy continues

On 3 August 1988, World Wildlife Fund (WWF) and 19 other conservation groups filed suit against the U.S. government for failing to enforce a law that penalizes any nation whose fishing industry violates the International Whaling Commission (IWC) moratorium on commercial whaling. If successful, the suit could force the government to implement economic sanctions against Iceland which has announced plans to take 68 endangered fin whales and 10 endangered sei whales for research purposes. Economic sanctions are the only real enforcement mechanism available under the IWC whale conservation program.

At the heart of the suit is a 1987 agreement between the United States and Iceland when Iceland cancelled plans for a scientific hunt in the face of U.S. sanctions. Iceland's 1988 proposal for a research hunt, presented at the IWC meeting in May, was overwhelmingly rejected. Rather than abiding by the 1987 agreement, the U.S. and Iceland have completed a new agreement that allows Iceland to pursue its research this year without fear of U.S. sanctions.

The lawsuit asks the court to declare the second agreement unlawful and to implement appropriate sanctions against Iceland. It also charges that the 1988 agreement is an arbitrary reversal of U.S. policy and that it treats Iceland with a leniency inconsistent with

Legislative Outlook, *Continued*

last year's treatment of Japan. (In response to Japan's decision last year to take 273 whales for research purposes the U.S. responded with a 50 percent cut in the amount of fish Japan could catch in U.S. waters.)

Also at the IWC meeting, Japan announced plans to take about 300 minke whales this winter for research purposes. The Japanese government says that research whaling is necessary to assess the numbers, age, sex, and health of whale populations. Officials there say they hope the research will prove that there are adequate numbers of some whale species, such as the minke, to allow a resumption of limited commercial whaling. Minke whales are estimated by the commission to number more than 430,000 worldwide.

> *From WWF Focus (Sep./Oct. 1988)*

Wetlands standards rules issued by Treasury Department

New rules issued in September by the Treasury Department will prevent U.S. supported funding of development projects in Third World countries until the environmental effects on wetlands are addressed. The Treasury Department has already drawn up similar rules for protection of tropical forests and sub-Saharan savannahs.

The "Wetlands Standards" provide voting instructions to the U.S. Executive Directors of multilateral development banks such as the World Bank, the Inter-American Development Bank, the African Development Bank, and the Asian Development Bank.

Key provisions of the legislation, which was added to the 1989 Foreign Assistance Appropriations bill, include: wetlands are not to be adversely impacted unless adequate alternatives have been considered; any wetlands alteration must be ecologically sustainable; projects must protect cultural integrity and property rights of indigenous peoples; sites identified by the Ramsar Convention may not be adversely impacted by projects; and endangered species and biological diversity must be protected.

Upcoming projects likely to invoke the standards include a \$500 million electric project in Brazil (World Bank), a \$110 million hydroelectric project in Ecuador (Inter-American Development Bank), and a \$953 million dam and resettlement project in India (World Bank).

> *From U.S. Senator Robert Karsten (news release)*



Public Education Committee

In the September 1988 issue of AKF, the Public Education Committee solicited answers from the membership to questions frequently asked by zoo visitors. The committee is seeking the "best" answers to such questions to incorporate in a booklet. The following is the sixth question restated and the "best" answer to that question. Another frequently asked question will appear at the end of this article - please take a few minutes and put your thoughts together and send them to Ellen Bradfield at the address given below.

Question # 6 was: **What about animal nurseries in zoos?**

The answer to Question # 6 was:

Most zoos make a conscientious effort to let animals raise their own young. However, situations occur when the infant needs to be removed from its mother due to health concerns. Some zoos provide the public with a zoo nursery while others raise the babies "behind the scenes". Consequently, an empty nursery may be a sign of good motherhood! (Thanks to Carol Sharp of the Hogle Zoo for her input.)

Question #7 will be: **Why are these nocturnal animals awake now?**

Please send any answers, comments, or suggestions to: *Ms. Ellen Bradfield, Zoo Atlanta AAZK, 800 Cherokee Ave., S.E., Atlanta, GA 30315.*





AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKF, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

REPTILE KEEPER...requires two year's experience working with reptiles or amphibians and a knowledge of husbandry and exhibition of herps. Good communication skills must also be demonstrated. Salary \$8.75 per hour plus benefits. Eventual promotion potential to \$13.14 per hour. Send letter and resume (no calls) by **25 January 1989** to: Dale L. Marcellini, Curator of Herpetology, National Zoological Park, Washington, DC 20008.

EDUCATION CURATOR/Baltimore Zoo...preferred B.S. in education/biology or related field with teaching and/or educational experience in a zoological institution or related field. Primary responsibilities - development and management of educational programs, manage existing educational personnel, implement existing programs with particular emphasis to develop/implement expanded programming for new exhibits in capital program. Salary commensurate with experience, excellent benefits. Send resume to: Personnel Office, Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217.

REPTILE KEEPER...opportunity exists to work with outstanding collection of 500 plus reptiles housed in naturalistic exhibits including many rare and endangered species. Field and lab research opportunities available. Starting salary \$15,000 - \$18,000 - Full rate is \$20,000. Excellent benefits. For consideration send resume by **25 January 1989** to: Libby Westerhausen, Personnel Coordinator, Toledo Zoo, 2700 Broadway, Toledo, OH 43609.

REGISTRAR/PRIMATE FACILITY...maintain a computer record system to account for inventory and health status of a chimpanzee breeding colony and various other office duties. Some computer experience desirable, must type a minimum of 40 wpm, and have good communication skills. Salary \$12,480-\$13,500 depending upon experience. Excellent benefits. Send cover letter, resume, and references by **1 February 1989**, to: Jo Fritz, Director, Primate Foundation of Arizona, P.O. Box 86, Tempe, AZ 85280.

ZOOKEEPER...(2 positions) requires high school diploma. College level biology courses and one (1) year paid zoo experience desirable (relevant unpaid experience may substitute). Salary \$16,037 per year plus benefits. Send resume by **31 January 1989** to: Personnel Division, City of Topeka, P.O. Box 1996, Topeka, KS 66601.

GENERAL CURATOR...requires a B.S. degree in Zoology or related field and progressively responsible supervisory/management experience with a wide range of animal species. Responsible for animal collection, staff supervision, conservation programs, and assistance with exhibit design. Salary commensurate with experience. Send resume with references by **31 January 1989** to: Manager, Wildlife Prairie Park, R.R. #2, Peoria, IL 61615.

ASSOCIATE DIRECTOR...responsible for maintenance of 70-acre park, collection of 400 animals, education/volunteer programs and exhibit design and construction. Must supervise 10-15 employees. Reports to Executive Director of nonprofit zoological society. Growth opportunity for the right person. Requirements: ten year's zoo experience or four years and college degree; two years in a supervisory capacity. Starting salary \$14,560 to \$16,640. Housing subsidy is possible. Biannual evaluation. Send resume and references **prior to 15 February 1989** to: Catocin Mt. Zoological Park, 13019 Catocin Furnace Rd., Thurmont, MD 21788, Attn: Mary Anne.

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Opportunity Knocks, *Continued*

ZOO KEEPER...responsibilities include the care and observation of zoo animals, maintenance of exhibits, record-keeping, and interaction with docents and public. Requires one year of prior zookeeping experience. Positions at the Fresno Zoo working with the following animals are scheduled to open for applications soon: birds, carnivores, hoofed stock, and elephants/rhinos. Contact Personnel Department, City of Fresno, 2348 Mariposa, Fresno, CA 93721 (209) 488-1574 or 1575 for applications and other information before **1 February 1989**. Monthly salary range is \$1447-\$1761.

HEAD KEEPER/WATERS BIOME...requires three year's experience in public aquarium exhibition and captive husbandry of aquatic animals (fish, invertebrates, birds and reptiles). Knowledgeable in aquatic filtration systems and water quality measurement and management. Must have supervisory and interpersonal skills and be team oriented. Four year college degree with animal curriculum or zookeeping degree preferred. Salary range \$17,000-\$23,000.

SENIOR KEEPER/WATERS BIOME...requires two year's experience in the captive husbandry of aquatic animals (fish, birds, reptiles, invertebrates). Must possess strong communication and interpersonal skills. Salary range \$15,000-\$21,000.

KEEPERS/PLAINS BIOME (Elephant Handlers)...some bird and mammal experience required to work with varied collection of plains animals. Elephant experience preferred or a sincere interest and willingness to learn. Basic understanding of animal training techniques required. Must have interpersonal skills and be team oriented. High school degree required. Salary range - \$12,000-\$18,000.

HEAD KEEPER/PLAINS BIOME...working keeper position which demands supervisory and leadership ability. Requires three (3) year's experience in general animal husbandry for all taxa. Experience in elephant husbandry preferred. Must have interpersonal skills and be team oriented. Four year college degree with animal curriculum or zookeeping degree preferred. Salary range - \$17,000-\$23,000.

For any of above four positions submit resume by **31 January 1989** to: Richard M. Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

HEAD KEEPER/FORESTS AND DESERTS BIOME...working keeper position requiring supervisory and leadership abilities. Four years experience with a wide variety of animals with emphasis on large carnivores, primates, herps and birds. Position demands very strong interpersonal skills and the willingness to be part of a total team effort. Four-year college degree in animal curriculum or zookeeping degree preferred. Salary range - \$17,000-\$23,000. Send resume by **15 February 1989** to: Richard Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

ELEPHANT KEEPER...responsible for daily care of elephants and camels, exhibit maintenance, and operating rides. Requires high school diploma and minimum of two (2) year's experience. Must be able to work with the public. Salary \$12,500 per year to \$14,850 depending upon experience. Contact: David Anderson, General Curator, Audubon Park and Zoological Garden, P.O. Box 4327, New Orleans, LA 70178.



Keeper's Alert

In a recent issue of *AKF*, a call for information concerning the practice of chaining elephants overnight was published. Our offices have received the following information from the individual placing the information request, Donna Robb. She notes that this information was obtained informally through the 'grapevine' and asked that if your zoo should or should not be included on the list, to please contact her at: P.O. Box 21004, Cleveland, OH 44121.

Zoo That Do Not Chain Elephants Overnight: Birmingham, AL; Brookfield, Chicago, IL; Erie, PA; Fresno, CA; Kansas City, MO; Milwaukee County Zoo, WI; Pittsburgh, PA; Sacramento, CA; Sedgwick County Zoo, Wichita, KS; and Washington Park Zoo, Portland, OR.

AAZK Membership Application

Name _____ Check here if renewal []

Address _____

_____ \$25.00 Professional
Full-time Keepers

_____ \$20.00 Affiliate
Other staff & volunteers

_____ \$25.00 International
All members outside the
U.S. & Canada

_____ \$15.00 Associate
Those not connected
with an animal facility

_____ \$15.00 Library
Library subscription only

_____ \$50.00 Contributing
Organizations and
Individuals

Directory Information: Zoo: _____

Work Area: _____ **Special Interests:** _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

*Articles printed do not necessarily reflect the
opinions of the Animal Keepers' Forum editorial
staff or the American Association of Zoo Keepers, Inc.*

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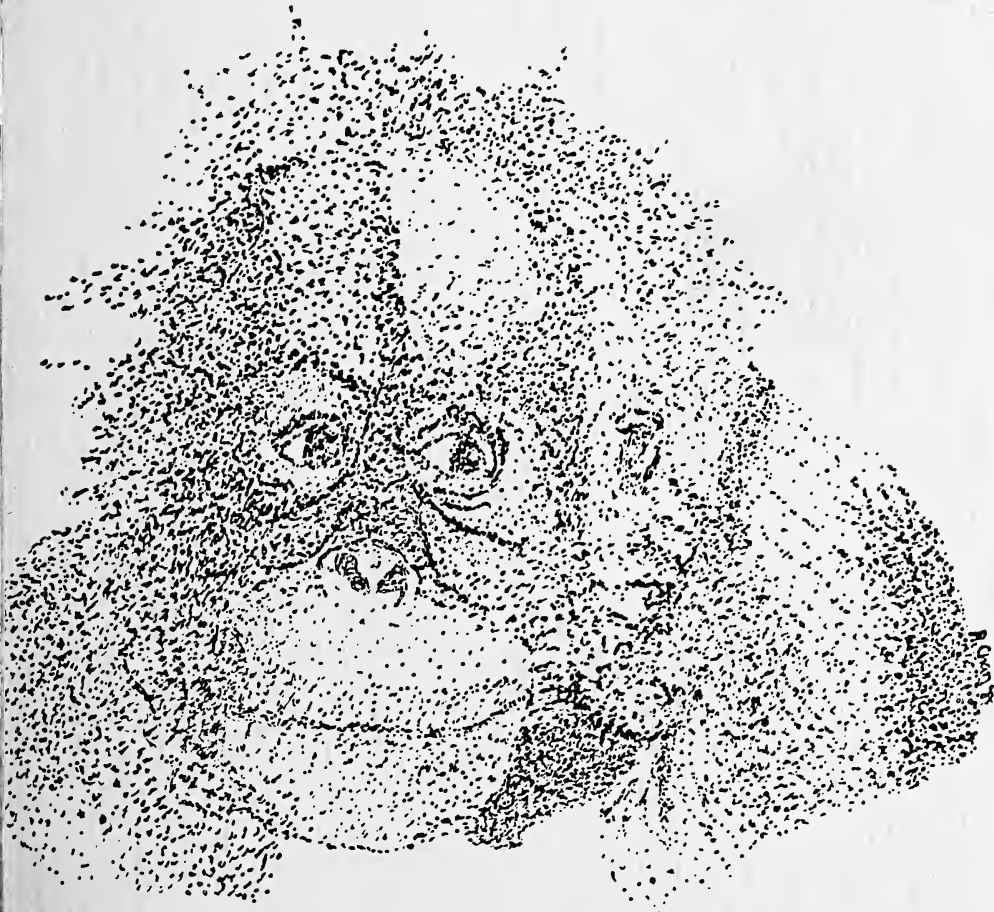


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February 1989

Animal Keepers' Forum



Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Number Two

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Marilyn Cole, Metro Toronto Zoo

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Nominations & Elections

Rachel Rogers, Miami Metrozoo

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States East of the Mississippi - Diane Krug, White Oak Plantation, Yulee, FL

States West of Mississippi - Debbera Stecher, Woodland Park Zoo, Seattle, WA

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

This month's cover art features Joseph, a Bornean Orangutan (*Pongo pygmaeus*) who was born at the Topeka Zoological Park three years ago this month. Joseph and his half-sister, Rudy, were hand-raised by staff and volunteer "Orangu-nannies" for the first 18 months of their lives and have since been successfully resocialized into the zoo's collection of adult orangutans. The artwork was done by Rachael Chan, 15-year-old daughter of AKF editor Susan Chan, who along with her mother helped in the hand-rearing of Joseph and Rudy. Both Bornean and Sumatran orangutans are endangered in the wild due to habitat destruction of their rainforest homes. Thanks, Rachael!

Scoops and Scuttlebutt

Tree Kangaroo Husbandry Notebook Available

The Woodland Park Zoological Gardens has recently distributed the "Tree Kangaroo Husbandry Notebook", compiled by Keepers Tina Mullett, Diane Yoshimi and Judie Steenberg. A "gratis" copy of the "Notebook" has been mailed to all facilities known to have tree kangaroos in their collections based on listings from: International Zoo Yearbook, Vol. 26, the 30 June 88 ISIS - SDR Abstracts and the Matschie's International Studbook register.

Additional copies may be ordered from the Woodland Park Zoo at a cost of \$8.00 per copy (3rd class or surface mail postage included). Those wishing to purchase a copy should make checks payable to W.P.Z.S. Animal Acquisition Fund. Orders should be sent to the attention of Judie Steenberg, TKHN Coordinator, Woodland Park Zoological Gardens, 5500 Phinney Avenue North, Seattle, WA 98103.

Comprehensive AKF Indexes Available

Comprehensive Indexes of both the years 1987 and 1988 for Animal Keepers' Forum are available from AAZK Administrative Offices. These indexes were compiled by Pam Talbot, a volunteer at the Woodland Park Zoo, and Judie Steenberg, a keeper at that institution. These indexes contain not only the material in the index published with the December issue each year, but a complete indexing of animals, by species, found in each year's issues. They are available for \$1.00 each and may be purchased from the Editor. Pam, Judie and WPZ Keepers Eric Kowalczyk, Earl Matsui and Dana Payne have also completed a Comprehensive/Cumulative Animal Index for AKF for the years 1974 to 1986. This was a monumental task and AAZK greatly appreciates their efforts. Watch March 1989 issue of AKF for how to order this index.

Award Nominations Being Solicited Now

AAZK Award Committee Chair Jan McCoy has placed an announcement in this month's issue concerning nominations for awards to be presented at the Syracuse Conference in October. Beginning this month and continuing through April, each of the three AAZK awards will be highlighted and information provided on nomination procedures. These awards have been designated to honor those in our profession who have shown outstanding ability and contribution to the field. Please read the material carefully and send in your nomination before 1 June 1989.



From the President

During the 1988 National Conference in Tucson our by-laws were revised. The by-laws are now scheduled to be printed and made available to the membership within the next two months.

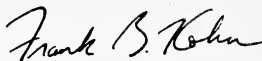
These by-laws represent changes suggested by members over the last three years and with the intention of helping the Association attain non-profit status. Such a change will lower our postage costs and allow us to receive donations without major tax liability and put more funding towards education and conservation related projects.

Several Chapters have asked the Board how they could help AAZK with fundraisers. There are still projects that newly forming Chapters as well as established ones could take on. Please contact your RC for further information or if you have any ideas. If they are not available, your Board members will be happy to help you.

This year the membership will elect two Board positions. Voting for Board positions is open only to Professional AAZK members. It is essential that you vote. Please encourage your colleagues to vote as well. The membership elects those keepers who will serve on the Board to guide the Association through their experience and ability to listen to your needs.

The current Board will be holding its annual mid-year meeting in Topeka this year in April. The purpose of this meeting is to discuss business which has come up since last year's conference. Since the Board first started these meetings in 1987, our conference Board meetings and business in general has been greatly facilitated. Anyone with a concern or idea should contact any Board member, administrative offices or Regional Coordinator by the end of March so that it can be brought up when we meet.

Sincerely,



Frank B. Kohn
AAZK President



AAZK Announces New Professional Members

John Brunner, Ross Park Zoo (PA)	Theresa Maas, Philadelphia Zoo (PA)
Mark Schneider, Brandywine Zoo ()	Beth Glogowski, Philadelphia Zoo (PA)
Gerald E. Badger, Baltimore Zoo (MD)	Robert Mindick, VA Living Museum (VA)
Eddie Clark, Grandfather Mt., Inc. (NC)	Verla Atkins, The Zoo (FL)
Phyllis Nilson Wojcik, John Ball Zoo (MI)	Daniel McDonough, Lincoln Park (IL)
Karen Sue Graham, Sedgwick County Zoo (KS)	Mark Easley, St. Louis Zoo (MO)
Janet Walker, Henry Doorly Zoo (NE)	Jack Heatherington, Henry Doorly (NE)
Kimberly Lanoway, Folsom Children's Zoo(NE)	Michael Chadwell, Cheyenne Mt. (CO)
Jerry Brown, Phoenix Zoo (AZ)	Steve Diehl, Alameda Park Zoo (NM)
Nathan Barnett, Alameda Park Zoo (NM)	Johnny D. Crain, Alameda Prk Zoo (NM)
Robert Potvin, San Diego Wild Animal Park (CA)	Dustin Janeke, SDWAP (CA)
Russ Young, San Francisco Zoo (CA)	Mike Shumer, San Jose Zoo (CA)
Lindsey Moseanko, Sacramento Zoo (CA)	Edward Saunders, Metro Toronto Zoo

New Contributing Member

Shirley Johnson, Pet Farm, Inc., Vienna, VA

Coming Events

Third Meeting of Northwest Regional AAZK Chapters

February 28, 1989

Portland, OR

To be held at the Washington Park Zoo. Schedule includes: 4-7 p.m. - tours of new African exhibit; 7-7:45 p.m. - dinner; 7:45-9 p.m. - meeting. For more information contact either Mary Jo Andersen or Elayne Barclay at (503) 226-1561.

Wildlife Rehabilitation Symposium

March 22-26, 1989

Anaheim, CA

Hosted by Pacific Wildlife Project. Topics will include: veterinary advances in wild species; rescue, restraint and handling techniques; avian, reptile and mammal treatment and biology; captive breeding; wildlife urbanization; post-release and population studies; cage design; conservation education programs; administration and project fundraising. Concurrent presentations will be offered for beginning, advanced and professional levels of expertise. Professional sessions will be limited to veterinarians and medical professionals. Those interested in submitting manuscripts contact: Richard E. Evans, DVM, MS., NWRA Program Chair, P.O. Box 7671, Laguna Niguel, CA 92677, (714) 831-1178. For other information or registration materials contact: MWRA Host Committee, Pacific Wildlife Project at the address above.

AAZPA REGIONAL CONFERENCES

AAZPA Great Lakes Regional: March 5-7, 1989. For more information contact: Mike Blakley, Curator/Mammals, Kansas City Zoo, 6700 Zoo Drive, Kansas City, MO 64132 (816) 333-7406.

AAZPA Western Regional: March 19-21, 1989. For more information contact: Murray Newman, Ph.D., Director, Vancouver Public Aquarium, P.O. Box 3232, Vancouver, B.C., Canada V6B 3X8 (604) 68503364.

AAZPA Southern Regional: April 2-4, 1989. For more information contact: Terry Maple, Ph.D., Director, Zoo Atlanta, 800 Cherokee Ave. SE, Atlanta, GA 30315 (404) 624-5600.

AAZPA Central Regional: April 16-18, 1989. For more information contact: Hayes Caldwell, Director, Caldwell Zoo, P.O. Box 428, Tyler, TX 75710 (214) 593-0121.

AAZPA Northeast Regional: April 30-May 2, 1989. For more information contact: Minot Ortolani, Director, Buffalo Zoo, Delaware Park, Buffalo, NY 14214 (716) 837-3900.

The Second Preservation/Conservation Workshop

June 4-11, 1989

Muskingum County, OH

Co-sponsored by the International Center for the Preservation of Wild Animals and the Central Great Lakes AAZK Region. We cordially invite you to this unique workshop which not only will inform you about what is happening with the ICPWA (AKE, Dec. '87) and animal interest groups, but will get you involved. Come join in the fun and camping. For more information contact: Joe Rindler, 176 Lazelle Road, Worthington, OH 43085.

Coming Events, Continued

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue on Call for Papers on page 49.



Information Please

I would like to correspond with any keepers who have hand-raised baby Gibbons, specifically White-handed Gibbons (*Hylobates lar*). I raised a female baby for 10 months and am currently raising a baby male for the past 13 months. I would like to hear about any behavioral problems keepers may have encountered. Please write to: Joann Zeliff, Wildlife Dept., c/o Silver Springs Attractions, East Rd. 40, Silver Springs, FL 32688.

Riverbanks Zoo Small Mammal Keepers are seeking information about Lion-tailed Macaque (*Macaca silenus*) females overgrooming their infant's eyes. We have a 7-year-old female who inverts the eyelids and consistently grooms with her mouth and fingers. Her last infant's eyes became extremely ulcerated resulting in limited vision and bi-weekly steroid shots. (Infant died of unrelated causes at 1 year of age so we haven't seen long-term effects). The female recently gave birth and within 18 hours had resumed this behavior. We would like information about similar behavior and successful/unsuccessful attempts at prevention. Please write to: Lynde Roberts, Riverbanks Zoo, P.O. Box 1060, Columbia, SC 29202-1060.

I would appreciate any information on leaf tree frogs (*Phyllomedusae* spp.) particularly Argentine Walking Frogs (*P. sauwagei*) and New World Orange-Legged leaf tree frogs (*P. hypochondrialis*). Also on Johnson's Chameleons (*Chaemaeleo johsonii*). I am currently trying to propagate these species. Anyone with all aspects of information on these species wishing to help out or with an interest can contact: Dan Brooks, Morningside Nature Center, 3540 East University Ave., Gainesville, FL 32601. Your help and input is very much appreciated!



Births & Hatchings



Philadelphia Zoo...the most important birth in the Mammal Department was undoubtedly our Malayan tapir female name Rose. Rose, named for 35-year Keeper Jim McNellis' wife, is the third birth to our Malayan tapir (*Tapirus indicus*) pair Spook and Blue Eyes. Spook is originally from Cleveland and our female is from Rotterdam. It was also a good season for squirrels. The Zoo's Mammal Dept. is attempting to establish breeding pairs of at least four Sciruidae in its collection. This fall 0.03 Fox squirrels (*Sciurus niger*) and 0.01 Prevost's squirrel (*Callosciurus notatus*) were successfully raised. Primate births are also important with our pair of Pygmy marmosets () giving birth to 0.02 young. Other important births include the endangered Nilgiri tahr (*Hemitragus hylocrius*) 2.0; 0.01 Kinkajou (*Potos flavus*), 0.02 Sugar glider (*Petaurus breviceps*), and 0.01 Vampire bats (*Desmodus rotundus*).

For the Bird Department the most significant hatching and rearing was of 0.02 Diadem tanager (*Stephanophorus diadematus*). The Reptile Department recorded the hatching of 0.01 Pancake tortoise (*Malacochersus tornieri*) and 0.08 Crocodile lizard (*Shinisaurus crocodilurus*). The Philadelphia Zoo is among the first to breed the latter species and the fact that we have had multiple births is important to the future of this species. *submitted by Robert Berghaier, Philadelphia Zoo AAZK Chapter Liaison, Philadelphia, PA.*

San Diego Wild Animal Park...animal care professionals were present at the birth of a male Western lowland gorilla (*Gorilla gorilla gorilla*) on 3 January. Keeper Jody Baumgardner and animal care manager Randy Rieches witnessed the birth which Rieches described as "straight out of a gorilla birthing textbook, with no complications and no need for human intervention." The baby, as yet unnamed, was full term after a gestation of 258 days. The arrival of this baby was particularly good news for SDWAP staff, as the mother, Kamilah, had delivered a stillborn in 1986 and had aborted a fetus in 1987. She gave birth in an off-exhibit bedroom facility at the Park's Gorilla Grotto, and will remain there for some time while keepers monitor the baby's health and Kamilah's behavior as a mother.

Kamilah, who just turned 11 on 5 December, arrived at the Park on 15 January, 1983, from the Woodland Park Zoo in Seattle, WA. She was sent in exchange for Binti, a female who was born at the Park in 1974. Father of the new offspring is 28-year-old Trib, who has sired seven other babies at the Wild Animal Park. Trib and the other gorillas will be introduced to Kamilah and her baby when conditions seem appropriate.

Kamilah shares her new responsibility of motherhood with Alberta, another first-time mother who gave birth to Ione, a female, on 1 December (see AKF January 1989, Page 5). Since Kamilah's arrival at the Park, she has been able to witness the mothering of two babies and one juvenile by other gorillas. Keepers hope this exposure will help her to be a better mother to her youngster.

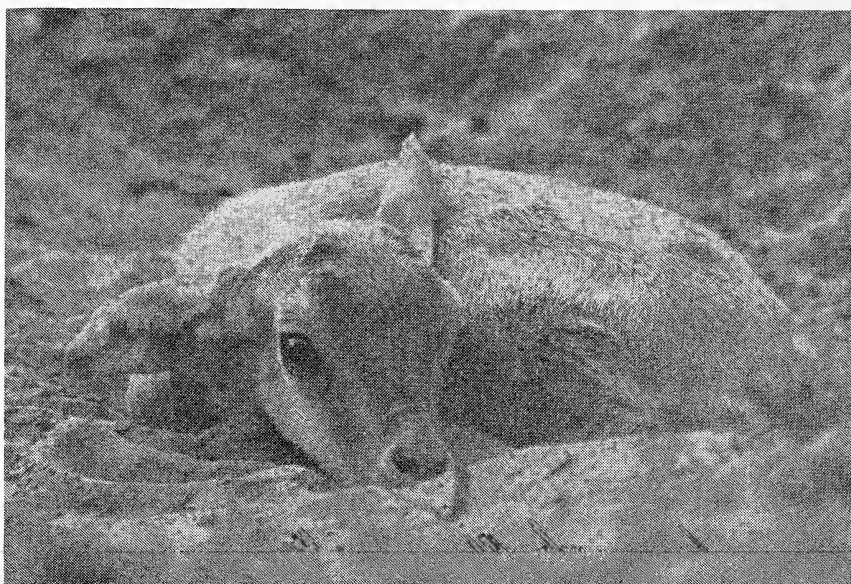
The western lowland gorilla subspecies is classified as endangered and fewer than 5,000 still exist in equatorial Africa. Gorillas have only successfully reproduced in captivity since 1956; and since then, less than 200 gorillas have been born worldwide in zoos. *from San Diego Wild Animal Park News Release, January 1989.*

Births & Hatchings, Continued

Los Angeles Zoo AAZK Chapter...the months of November and December 1988 have been fairly slow for significant births at the Los Angeles Zoo. Being a fairly large zoo, with a sizeable collection, L.A. participates in a good number of SSP programs.

SSP births for the past two months are: 1.0 Gaur (*Bos gaurus*) - this birth brings our herd to a high of eight animals; 1.1 Arabian oryx (*Oryx leucoryx*) (1.0 DNS) - the L.A. herd started from 1.2 animals in April 1967. Since the acquisition of our founding trio, we have had 114 births, 98 of which have lived 30 days or more. L.A. has also had the honor of participating in the Arabian oryx release program. In 1978, four pairs of L.A. animals went to the Hai Bar Reserve in Israel; a very pregnant L.A. female oryx was part of three pairs from various zoos that went to Oman in January 1988; and two more pairs of L.A. Arabian oryx are presently at the San Diego Wild Animal Park as part of another group to be sent to Oman in January or February of 1989.

Other notable births for this period include: 1.0 Bongo (*Tragelaphus eurycerus isaaci*) (DNS) - there is a studbook maintained for these beautiful, endangered African antelope, and L.A. is proud to have the largest breeding herd in captivity with over 50 viable births; 1.0 Red flanked duiker (*Cephalophus rufilatus*) - because duikers are fairly fractious little antelope, we routinely hand-rear ALL our duiker calves. This practice has helped to keep them tame and tractable, with much less incidence of calf mortality. L.A. maintains the only captive group of these tiny, African antelope in North America. We also has 0.0.1 DeBrazza guenon (*Cercopithecus neglectus*) born during this period. *submitted by Kim Brinkley, Chapter Liaison for the L.A. AAZK Chapter.*

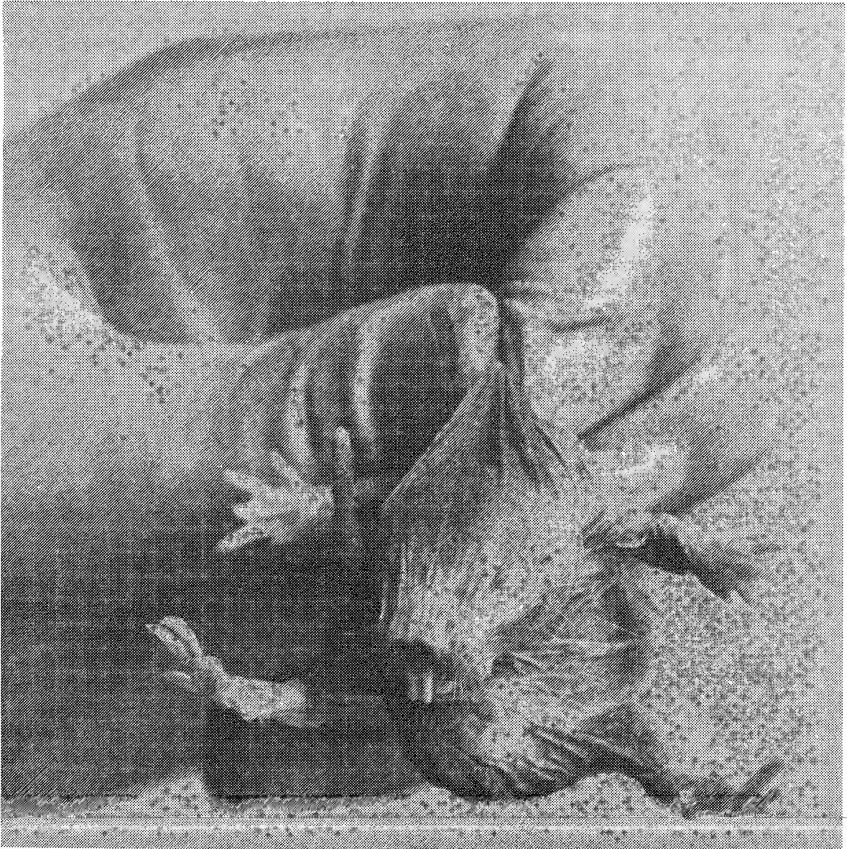


This Slender-horned gazelle baby, born in December at the Bron Zoo, keeps a wary eye on the photographer who captured this charming portrait of "Number 4". ©New York Zoological Society Photo.

Births & Hatchings. *Continued*

Bronx Zoo AAZK Chapter...the Dept. of Mammalogy is proud to announce the birth of 0.0.1 Slender-horned gazelle (*Gazella leptoceros*), born on 3 December. These beautiful gazelles are highly endangered in their native range which is from Egypt to Algeria. There is an SSP for the species in which the Bronx Zoo participates. One of the more engaging features of the gazelles is their "pronking", seen either when playing or when alarmed. They do a sudden vertical leap into the air and then bounce along stiff legged with all four legs landing at the same time.

On 19 December a litter of Naked mole-rats (*Heterocephalus glaber*) were born. While they may not be as engaging looking as the slender-horned gazelles, they are quite intriguing looking (see photo). Their loose skin helps them to turn around in a confined space, they can almost "somersault" within their skin as they turn. Naked mole-rats are the only mammals known to have a colony structure similar to that of social insects. Each colony has only one breeding pair, the remaining males and females differing in size relating to their tasks. Native to the arid regions of Ethiopia, Kenya, and Somalia, they have a gestation period of about 70 days, and captive Naked mole-rats have lived as long as 10 years. In captivity they can produce four litters a year. They have few predators in nature and are not endangered, but their interesting social systems are being studied, especially the response of the colony to chemical stimuli from the females just prior to breeding.



Displaying a face perhaps 'only a mother could love', along with its highly elastic skin, is one of a litter of Naked Mole-Rats born at the Bronx Zoo. ©New York Zoological Society Photo.

Births and Hatchings, *Continued*

The Dept. of Ornithology has hatched 0.0.2 Green-naped pheasant pigeons (*Otidiphaps nobilis nobilis*). This species of pigeon is difficult to raise in captivity. It has only been hand-raised once before. Pigeons, as you know, produce crop milk which is the complete diet for the first few days of the nestling's life. It is produced by the adults of both sexes. Flamingoes are the only other birds that produce this substance. It is hard to simulate for hand-rearing, but our chicks are gaining weight and doing well. *submitted by Wendy Worth, Corresponding Secretary, Bronx Zoo AAZK Chapter, Bronx, NY.*



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Co-Directors of Regional Coordinator System

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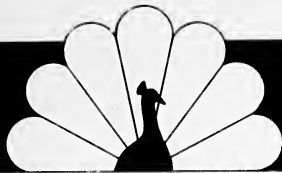
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Marcia Rasmussen, Calgary Zoo, P.O. Box 3036, Stn. B., Calgary, Alberta, Canada T2M 4R8
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AAZK announces Todd Cleveland of Metro Boston Zoos as the new RC for the States of ME, VT, NH, MA, RI, CT, NY and NJ. Also, AAZK announces the resignation of Tim Kurkowski as RC for the States of GA, AR and AL. We thank Tim for his dedication and hard work on behalf of the Association.



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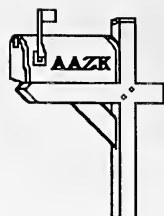
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Letters to the Editor



Dear AAZK:

Bravo and hallelujah for Peter Stroud's letter in the November issue of AKF. It's about time! I admire the courage it must have taken to write it.

Peter essentially captured many of my feelings regarding today's zoos and related facilities. I have long enjoyed and been associated with zoos but of late I'm beginning to get bored. Methods of exhibition, graphics, educational programs to name a few, have all fallen into a rut. I agree with Peter, it comes from this "stay the course" attitude, but "if it ain't broke don't fix it" only goes so far. Most facilities are too complacent to try anything that's new or innovative. Perhaps there are many up and coming new thinkers out there and I think things are just on the verge of change. We need to develop new and innovative..... well...everything: management practices, educational techniques, graphics, etc.

I don't claim to have all the answers, I just think it's time to call attention to this existing problem. It's time to take a good hard look at what we do, what we want to do, and what we should be doing.

To be sure, the field has come a long way in part due to innovative thinking twenty years ago. Comparatively, things are going pretty well in the zoo field today. Mortality is down, breeding success is up and public awareness is high. We need to continue our past and currently successful programs, but we need to do more. We need, especially, to take a harder line and firmer stance in a holistic, global approach to ecology and conservation. Unfortunately, many people think conservationists are a bunch of crazed radicals who will stop at nothing to save some minute organism from extinction. This fosters a small view approach to the big picture. Be that as it may, the overall picture seems to get clouded by egos, red tape, bureaucracy and apathy.

The time to act is now. We cannot afford to wallow in our past successes. We need to turn our sights on the future, the future of our zoos, the future of our wildlife and the future of our world.

Sincerely,

Rick Passaro
Virginia Living Museum
Newport News, VA

Dear AAZK:

My opinion for what it's worth... I think it's a fine thing that professional members be the voting body in AAZK. This is a professional society for keepers. I'm willing to take a back seat to working keepers while I take time out to raise house apes (kids). I still consider myself a professional and I want my vote as a professional in my professional society protected.

I don't think that anyone with \$25 for dues should be able to tell me how to run my organization. Perhaps this will limit AAZK's operating budget and hold down membership figures, but it will keep us pertinent.

Keep up the good work and keep your fingers crossed that I survive parenting long enough to get back to other wild animals.

Julia Gregory
Miami, FL



AAZK Award Nominations Are Now Being Accepted for 1989!

The AAZK Awards Committee would like to begin accepting nominations for the awards to be presented at the 1989 AAZK Conference in Syracuse. In the following months there will be information concerning the qualifications, nomination procedures, selection procedures and an explanation of the AAZK Excellence in Zookeeping (EZ), Certificate of Merit for Zookeeper Education (CMZE) and Meritorious Achievement (MA) Awards.

The deadline for all award nominations is **1 June 1989**. All award nominations received after 1 June will be reviewed for 1990, so please keep this in mind when submitting your nominations.

All awards given by the AAZK do not have a minimum or maximum number offered each year. Also, if the nominees do not meet the qualifications and nominators do not follow the nomination procedures, they will not receive the award for which they were nominated. Please include scientific names of animals when they are included in the nomination of a special or outstanding breeding acknowledgment.

Please submit all nominations to:

Jan McCoy, AAZK Awards Chair
Washington Park Zoo
4001 S.W. Canyon Rd.
Portland, OR 97221

AAZK Excellence in Zookeeping Award

This award is given to keepers who go beyond what is considered "average" in the areas of dedication, commitment, and professionalism in the field of zookeeping. In fulfilling the animal's needs, a keeper must have a knowledge of the animal's behavior, physiology, and natural history. This is the essential knowledge necessary for effectively maintaining a species in captivity. The excellent zookeeper must excel in one or more of these areas but not be lacking in any of them.

Qualifications:

1. The nominee **must** be a full-time animal keeper, employed in any North American zoological institution or aquarium.
2. The nominee **must** have been employed at least two years on permanent status at a zoo or aquarium.
3. The nominee **must** be nominated by his or her peers who have also been employed at that same zoo or aquarium. Supporting nominations may be submitted by management personnel in that same zoo or aquarium.

Nomination Procedure:

1. List name, position, institution, years of service in the field and the recommendation of peers or colleagues.
2. List outstanding achievements: exhibits, breeding, education, etc.
3. List any extra activities outside of zoo or aquarium work: working with conservation groups, youth, wildlife officials, etc.

Selection Procedure:

The Awards Committee, consisting of five keepers, will independently review each nominee.



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Quality Inn, Syracuse, N.Y.

Conference '89.....

First Call for Papers

The Burnet Park Zoo Chapter of AAZK extends an open invitation to all individuals in the animal care field to participate in the 15th Annual AAZK Conference to be held in Syracuse, NY, October 1-5, 1989. Papers on all aspects of animal care and management will be considered.

Papers will be published in a special 1989 Conference Proceedings which will automatically be sent to all conference delegates. Additional copies will be available for purchase from AAZK Administrative Offices for those individuals not attending the conference who wish to have a copy. Guidelines for typing papers for AAZK Conference Proceedings should be followed. The guidelines will be published in the June '89 edition of *AAZK*. Examples of previous papers may be found in the December '88 Conference Proceedings issue of the *Forum*.

Papers will be limited to 20 minutes followed by a 5-minute question and answer session. An outline or abstract must be submitted by 15 August 1989, along with the following information to be considered for acceptance.

Name of Presenter/Author
Zoo Affiliation
Position/Title
Title of Paper
Equipment Needed

Send to: Alan Baker
Burnet Park Zoo
500 Burnet Park Drive
Syracuse, NY 13204

Syracuse is nestled in the rolling hills of Central New York. The Fall season is considered by many Syracusans to be the most beautiful time of year. Autumn colors are a major tourist attraction. Several other notable attractions are within easy driving distance of the city, including Niagara Falls, Lake Ontario, the Adirondack and Catskill Mountains and, of course, New York City. Moderate temperatures can be expected during the Conference averaging 55°- 65° F during the day and 40°- 45° F at night. The area is served by an international airport located only two miles from the Conference Hotel. Make plans now to share in the excitement of the 15th Annual AAZK Conference.

The Use of Microchip Implants for Identifying Big Brown Bats

(*Eptesicus fuscus*)

By

Susan M. Barnard, Lead Keeper
Dept. of Reptiles and Amphibians
Zoo Atlanta, Atlanta, GA

Introduction

The purpose of this study was to test the feasibility of identifying individual bats with the use of microchip implants as an alternative to using arm bands. Identifying individual bats with arm bands has been a long-term practice among field biologists and is still used today in the field and laboratory. Banding has provided investigators with a method to study bat migration, longevity, homing ability, and diseases including rabies. Bands are traditionally made of lightweight metals or plastics. Although several types of designs have been used (Hassell, 1967; Herreid et al., 1960; Hill and Smith, 1986; Hitchcock, 1957; Kowalski, 1955) all are injurious to bats to varying degrees. Injuries have included tissue ulcerations and wing lacerations. Significant numbers of bats have died from complications (see authors listed above). This investigator banded 20 big brown bats with plastic, split-ring bird bands in preparation for a "release" project of hand-reared bats. All the bats exhibited inflammatory reactions or lacerations at the banding sites within 10 days after the bands were applied. In addition to the harmful effects of arm bands, bats are uncomfortable with them and often obliterate the identifying numbers by chewing on the bands. After the deleterious effects of the bands were assessed, it was decided to test microchip implants.

Materials and methods

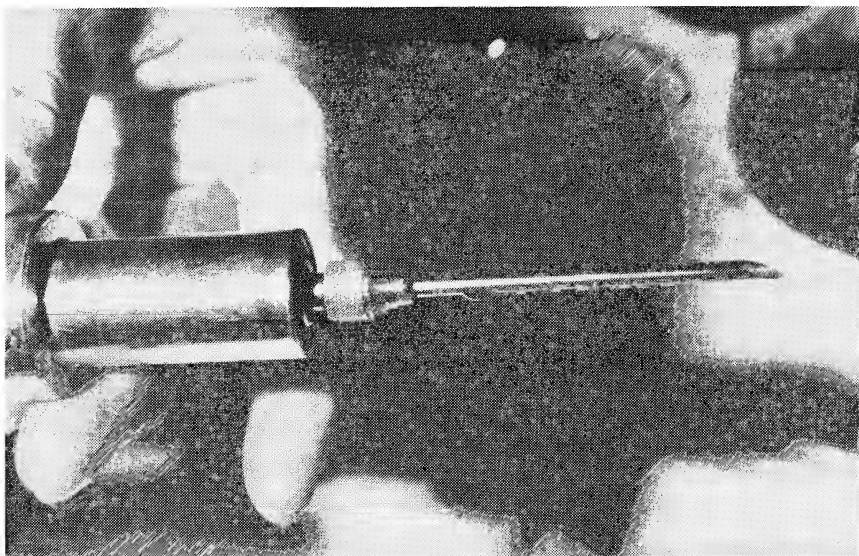
The microchip identification system permanently identifies animals utilizing the principles of electromagnetic energy. It comprises 0.083-inch-diameter transponders (microchips), a low frequency electromagnetic handwand and a battery-powered reader. Transponders are implanted via injection with a 12-g 1 1/2-inch needle (See Figure 1). The micro-circuitry of the transponders is encased in bio-comptible glass. The electromagnetic handwand energizes the transponders to transmit an animal identification code. Since the identification system used over 34 billion combinations, it is unlikely that any two animals would have the same identification code. The code is transmitted within milliseconds to the reader that is designed to store 5,000 transponder codes for later retrieval.

On 27 January 1988, four albino mice were implanted to gain experience in the use of the equipment. The microchips were implanted subcutaneously on the dorsal aspect of the animals. The mice were observed for one month for signs of infection. The implanting needle, syringe tip and microchips were cold-sterilized in full-strength Betadine® solution. There were no signs of infection due to the implanting procedure, or rejection of the transponders. On 30 August 1988 the mice were euthanized by lethal injection and the chips were recovered. It was found that three of the four implants had migrated from the original implanting site to the left axillary region of the mice.

On 29 February 1988, eight of ten big brown bats housed indoors were implanted successfully (Figure 2) using the same technique as was used to implant the mice. The bats, however, were much more difficult to restrain and implant because they lack the loose skin and strong, free tail that mice possess.

Additionally, bats have a delicate anatomical structure and are more easily injured than mice. After the implanting procedure, the microchips placed under the bats' skin were read and recorded, and the bats were returned to their outdoor roost.

The Use of Microchip Implants for Identifying Big Brown Bats, *Cont'd.*



Transponders are implanted via injection with a 12-g 1 1/2-inch needle. *(Photo courtesy of Gregory C. Green, Zoo Atlanta)*



Implanting the transponders into the bats is a delicate procedure due to their small body size. *(Photo courtesy of Gregory C. Green, Zoo Atlanta)*

The Use of Microchip Implants for Identifying Big Brown Bats, Cont'd.

On 7 March 1988, nine of ten big brown bats housed indoors were implanted. The technique was not changed and all bats implanted appear to be in excellent health and free of infection. Presently, it is not certain if the transponders are migrating in these animals.

The three bats that had failed to be implanted also are in good health. They were implanted later after they had recovered from the stress of the earlier attempts. One of the three bats had not received a transponder because it had not been inserted into the implanting needle. The other two bats did not receive microchips because the needle went through their skin and the chips were deposited outside of these animals. Big brown bats are so small that anyone restraining them properly must partially cover the injection site, making it impossible for the person performing the implant to see where the transponder is being placed.

Summary

Considering the success of this method for the identification of other animal species which have included cats, dogs, birds, reptiles, fish and monkeys, the use of implants may provide bat biologists with a useful tool with which to study bats without injurious effects or the destruction of the identifying numbers. Currently no literature is available on the successful release of hand-raised insectivorous bats. With the use of microchip identification and a specially-designed radio tracking device, this investigator will be able to proceed with other studies involving the release of hand-raised bats to determine if they can learn to hunt for food. The microchip implants also may prove to be practical in the identification and movements of wild bats in relocation programs as well as natural history studies.

The problem in identifying bats either with arm bands or implanted microchips is that in both situations bats must be accessible for close scrutiny. However, this problem can be overcome with the use of radio tracking devices for studies where handling bats is impractical. In contrast to injurious arm bands, however, microchips have not been shown to cause injuries in the animal species already tested; and unlike arm bands, microchips are effective throughout the life of the animal.

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Acknowledgment

I thank the Richmond Area Speleological Society for making this study possible through their grant support.



An ISEC Update

By Carl Gyarmaty, ISEC Volunteer
Columbus Zoological Gardens
Columbus, OH



In the July 1988 issue of the *Forum*, there was an article introducing the International Society for Endangered Cats (ISEC), an organization based in Columbus, OH, whose goal is to preserve 21 species of endangered felids through conservation and research. We have since received many inquiries about ISEC and its progress due to that article. This is an update of ISEC's progress.

Many exciting and wonderful things have happened to ISEC since July. There are now three cats at a temporary holding site in Columbus with more due to arrive soon. 2.0 Black-footed cats (*Felis nigripes*) are on a permanent breeding loan from the San Diego Zoo, and ISEC is currently searching for mates for them. Our other resident is Carmen, a five-year-old female Equadorian ocelot (*Felis paradalis*) on breeding loan from the Brookfield Zoo. Carmen is being used extensively in presentations and educational talks. In addition, ISEC will soon be receiving a 1.0 pure Brazilian oncilla (*Felis legacy*). Legado was donated to ISEC and we are now in the process of lining up mates for him. There are only seven Brazilian oncillas in North America, none of which are located in zoos, and thus playing matchmaker for Legado is no easy task!

In addition to acquiring its first animals, ISEC has also been building up its membership and volunteer forces. There are now 165 members, some from as far away as Tokyo. There are also over 100 volunteers and an Advisory Board that includes top professionals in the zoo research and management fields. In addition to the animal holding facility, ISEC has a suite of offices in Columbus and is actively searching for a site in Ohio for its primary breeding and research facility. There is an excellent chance of receiving 109 acres of donated land in southeastern Ohio soon.

A great deal of ISEC's success has been the result of its volunteers. Volunteers have been utilized in the following capacities: public relations, special events planning, newsletter writing and editing, product marketing (T-shirts, posters, etc.), public speaking, office and clerical work, and care of the animals themselves. Simply stated, without the dedication of the volunteers with their variety of expertise, ISEC could not function.

ISEC has also begun a program of organizing local chapters around the country, similar to the AAZK National and Local Chapter system. These chapters would help raise funds and assist in educational work for ISEC. All chapters will be chartered by the ISEC Central Headquarters and would have to agree to abide by its Bylaws.

Of the 38 species of wild cats still existing today, more than half are endangered or threatened. ISEC is the only organization of its kind exclusively dedicated to preserving these beautiful and mysterious animals. Donations, grants, memberships, and volunteers will all play a vital role in realizing ISEC's goal of saving these cats. If you are interested in becoming a member or volunteer, or if you would like to initiate an ISEC Local Chapter, please contact Dr. John Becker, ISEC Executive Director, 4638 Winterset Dr., Columbus, OH 43220 or call at 1-800-272-CATS.





Book Review

Animal Extinctions: What Everyone Should Know

Edited by R. J. Hoage

Smithsonian Institution Press, 1985.

Washington, D.C., 192 pp. Paperback \$10.95

(plus \$1.50 shipping)

Review By Rick Emmer
Book Review Coordinator

"As soon as the first gunman started firing, the other two joined in... Then, within seconds, the bedlam of sound from humans was drowned out by a greater bedlam of sound from the elephants -- the ones that were hit... They were not trumpeting, they were screaming...In 45 seconds the noise...had come to an end because there was no more firing and no more screaming from elephants. All that was left was a great pile of carcasses."

Sounding like an eyewitness' account of poachers at work, this is actually an excerpt from conservationist Norman Myer's vivid description of cropping exercises practiced by wildlife managers in Tsavo Park, Kenya. Cropping of elephant and other herbivore populations, and the subsequent use of carcasses to feed the hungry human population encroaching upon the park's boundaries, may be the only viable option open to the government of Kenya, which wants to feed its citizens without having to convert the park land into farm land.

Myer's narrative, dealing with the exploitation of wildlife to effect conservation, was one of 12 oral presentations delivered at the first National Zoological Park Symposium in 1982. The purpose of the symposium was to present to the public issues dealing with the conservation, management and extinction of endangered species and habitats. This book is a compilation of papers based on those presentations.

The paper by Elliott Norse of The Ecological Society of America presents a strong argument in favor of the conservation of biological diversity, pointing out that countless species may ultimately be found to possess characteristics or produce substances useful to man. Norse provides numerous examples of valuable products obtained from the most unlikely sources, including drugs for treating high blood pressure, derived from a variety of tropical plants and fungi; tetrodotoxin, used in neurological research and obtained from puffer fishes; a perennial, disease-resistant hybrid of cultivated corn (*Zea mays*) and a nearly extinct congener (*Z. diploperennis*); virtually the only effective shark repellent yet discovered, produced by a species of flatfish; and a potential fossil fuel substitute obtained from hydrocarbon-producing desert plants of the genus *Euphorbia*. Norse's message is clear: if we allow any species to become extinct, we may be depriving our own species of invaluable medical, agricultural or industrial commodities.

The other papers in *Animal Extinctions* deal with problems involved in species and habitat conservation, various aspects of the mechanisms of extinctions, and the probable effects of extinctions on future ecosystems. In addition to Myers and Norse, the list of contributors to this volume includes such prominent scientists and conservationists as Steven M. Stanley of Johns Hopkins University ("Extinction as Part of the Natural Evolutionary Process: A Paleobiological Perspective"), Paul R. Ehrlich of Stanford ("Extinctions and Ecosystem Functions: Implications for Humankind"), and Thomas E. Lovejoy of World Wildlife Fund-USA ("Strategies for Preserving Species in the Wild"). This useful, easily read book is intended for the general reader and as such is not highly technical, although some simple mathematics are injected from time to time. It belongs on every keeper's bookshelf.

(Note: The book contains one potentially confusing format error. The diagrams in Figures 1 and 2 of Chapter 12 are reversed, corresponding to the captions of Figures 2 and 1 respectively.)

Call For Book Reviews

The AKF book review project is getting on track once again. If you are interested in reviewing a book appropriate for the AKF readership, please fill out the accompanying form and send it to me at the following address:

Rick Emmer
Cleveland Metroparks Zoo
3900 Brookside Park Drive
Cleveland, OH 44109

If you would like to review a book but do not have a particular one in mind, please drop me a line anyway; AKF occasionally stockpiles publication for review, and you may find one of them to be of interest.

Once you review a book, it is yours to keep -- not a bad deal!

With your help, we can continue to make the Book Review section an integral part of AKF.

--Rick Emmer, Book Review Coordinator

Book Review Request Form

1.) Your name and mailing address: _____

2.) Please provide the following information for as many a three books you would like to review. List books in preferential order.

#1: Title: _____

Author: _____

Publisher and Copyright date: _____

#2: Title: _____

Author: _____

Publisher and Copyright date: _____

#3: Title: _____

Author: _____

Publisher and Copyright date: _____

African Elephants

Poaching and Illegal Ivory Trade puts these gentle giants on the fast track towards extinction

The year is 1979. The site is the continent of Africa. Recent aerial surveys place the estimated population of African Elephants (*Loxodonta africana*) at 1.3 million. These intelligent and highly social animals, the largest of all living land mammals, travel in herds in sizes estimated to be from 20-50 animals. Headed by the herd matriarch, the group consists of females of various ages, juveniles and the young calves. The bulls exist on the periphery, joining the herds as females come into season - assuring another generation of these magnificent giants.

The year is 1987. The site is the continent of Africa. Recent aerial surveys place the estimated population of African Elephants at fewer than 750,000. While this may seem like a large number, the animals are scattered over the continent south of the Sahara and many of the populations are unbelievably small. In 1973 in Murchison Falls National Park in Uganda there were 9,000 elephants; now there are 25. Before its civil war, Chad had about 15,000 elephants; now fewer than 2,000 are alive. An aerial count in Somalia showed more elephant carcasses than live animals. In 1973, some 130,000 elephants lived in Kenya - the "picture postcard" of the African continent. In 1987 less than 20,00 remained.

The powerful testimony of well-known elephant researcher Dr. Iain Douglas-Hamilton before the House Subcommittee on Fisheries and Wildlife Conservation and the Environment last June brought home the extent of the disaster in populations which he and other scientists have studied for over 15 years. Figures showing this widespread decimation appear in Figure 1.

<u>Country</u>	<u>Number of Elephants</u>		<u>Decline</u>	
	<u>1973</u>	<u>1987</u>	<u>Numbers</u>	<u>%</u>
Kenya	130,570	19,749	-110,821	(-85%)
Uganda	17,620	1,855	-15,765	(-89%)
	<u>1977</u>	<u>1987</u>		
Tanzania	184,872	87,088	-97,784	(-53%)

FIGURE 1. Chart above shows declines in African elephant populations from 1973 to 1987 and from 1977 to 1987 by country of survey. (from *Animal Welfare Institute Quarterly*, Vol. 37, Nos. 1 & 2, 1988)

"Recently," Dr. Douglas-Hamilton stated, "even supposedly small and well protected elephant populations have collapsed. For example, the elephants of Lake Manyara live in a small and isolated park and I have been studying them for 20 years, and have flown periodic aerial surveys. At one time I knew 400 of them individually. The numbers counted from the air gently increased from about 300 in 1967 to 485 in 1981, but in the last two years over half the elephants have been lost. In November last year we counted 181 live elephants and 94 dead. Of the 25 or so old matriarchs that I knew, there were only three left, and no larger bulls survived. It was as if a whole elder generation had been wiped out."

African Elephants. *Continued*

The reason is that ivory has reached an all-time high in value on the world market - from \$2.45 per pound in the 1960's to as much as \$68.00 per pound today. The volume of world trade was 800 tons per year from 1980 to 1985. To meet that demand, 70,000 elephants must be killed. Add to that another 10,000 young ones who dies because they are orphaned. In addition, surviving younger elephants, their social organization in disarray, are under constant stress and cannot reproduce and raise calves at even an average rate. If demand remains the same, even more elephants will die each year, because only younger ones with smaller tusks are left. In 1982, the average tusk on the market weighed 21.3 pounds. Today, the average weight is 13 pounds.

The world ivory trade amounts to almost \$50 million a year in raw ivory, and \$500 million in worked or carved ivory. Some experts say that more than 80 percent of the ivory comes from poached animals. The United states is the second largest consumer of ivory in the world, purchasing some 30 percent of that which is traded each year. Since 80 percent of that came from poached animals, that equates to almost 27,000 elephants killed to supply us. Most of it is ivory jewelry - 7.2 million pieces worth \$11.8 million. If Americans continue to buy at the current rate, we alone could make the African elephant extinct in only 28 years.



Ruthless poaching often leaves the African landscape littered with the carcasses of elephants who have been killed with automatic weapons and had their tusks brutally hacked off to feed the world's hunger for ivory products. (*Photo courtesy of Andy Lodge, Ngare Nergoi Support Group, Columbus, OH*)

While a number of international organizations and treaties have sought to stem the flow of illegal ivory into the world's market, perhaps the best known is CITES - the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Of the much touted CITES quota system, Dr. Douglas-Hamilton said:

"The CITES Ivory Quota agreement, conceived in 1984, came into effect in 1985 and was intended to control the trade in ivory. In theory strict controls on all ivory were to be instituted. Each tusk was to be registered at source, and tracked by a computer. Rapid

African Elephants, *Continued*

communications were to be set up between the management authorities of producer and consumer countries in order to catch illicit traders. In practice the computer registration happens, but with a few notable exceptions, the rapid communication and the crime busting capability has not materialized.

Yet it was claimed in 1986 by the CITES Secretariat that the system had already reduced poaching. This simply is not true. The surveys in which I have participated show how ivory poaching has continued to decimate elephant populations.

As a field biologist I am perplexed by all the claims made by the trade that the offtake is sustainable. I only know that when I fly surveys each time I find fewer elephants left alive, and thousands of carcasses, some killed in the last few years, and some recently. I know that it is the ivory trade which is responsible, and even as we talk, elephants are being killed for ivory.

The quota system is not working. In 1986 it was estimated that only 22% of the ivory traded on the world market was legal. It hasn't worked in the past and all signs are that it will not work in the future. There are too many middlemen. There are too many ways for the ivory to get into world trade...

The whole system at present is out of control. There isn't time to get proper controls. The traders are too clever at finding loopholes. One only has to look at the rhino situation to see what will happen to the elephant. The only merit of the system is if it can lead to united international police action to eliminate the illegal ivory trade."

The year is 1988. The site is the continent of Africa. A small herd of elephants form an ambling wave of gray across the savannah landscape of Kenya. Coming across the carcass of another elephant, they pause, become peculiarly tense and quiet, and feel among the remains with their feet and trunks. In Uganda, elephants break into a shed where game croppers have stored the ears and feet of slaughtered elephants to be sold for making handbags and umbrella stands. The elephants carry them off and attempt to bury them with leaves and branches. In Tanzania an elephant has been shot with a poison arrow and left to rot to ease collecting the ivory. Companion elephants carry off the tusks or smash them against rocks. Under a spreading acacia tree, a mother elephant stands guard over her dead calf. Despite the threat of nearby poachers, she will not leave. Shots ring out and there is now one less African elephant.

(Information and statistics for this article were excerpted from several sources including: The Animal Welfare Institute Quarterly, Vol. 37, No 1 & 2, Spring/Summer 1988; The Ark, Lincoln Park Docent Newsletter, October 1988; and literature from the African Wildlife Foundation, 1717 Massachusetts Ave., N.W., Washington, DC 20036. If you would care to support the conservation efforts of the African Wildlife Foundation, not only for the African elephant but also for the mountain gorilla and the rhinoceros, memberships are available for \$15.00 annually. Membership includes receipt of the quarterly newsletter Wildlife News, which keeps members up-to-date on conservation issues in Africa. Ed.)



Viewpoint

Blood on Our Hands

By
Andy Lodge
Ngare Sergoi Support Group
Columbus, OH

Most of us know that the **black rhino** has been virtually wiped out in most African nations, with wild herds of any size left only in South Africa and Zimbabwe.

I am very involved with the efforts to save the black rhino in Kenya through my association and friendship with Anna Merz and her Ngare Sergoi Sanctuary.

The rhino can be put in fenced sanctuaries, where some degree of safety can be maintained for them; although the recent senseless and tragic slaughter of the white rhino in Meru proves these sanctuaries are by no means 100% safe.

The rhino's days of roaming free in the wild are over, at least in our lifetime. What the future holds for them - we will never know. Now there is another animal that is being systematically exterminated, the **African elephant**.

These great animals are being wiped out at an alarming rate by organized, well-armed bands of poachers. Using four-wheel vehicles, with automatic weapons mounted on the hoods, they are taking out entire herds including the young. Not only is **this** generation of elephants being wiped out but future generations as well.

And what are we in North America doing about it? We walk by stores with elephant-skin boots on their shelves as well as stores selling ivory trinkets and carvings - and say nothing! I have more respect for the poachers than I do for the people who buy this **blood-stained** merchandise, or for the people who just stand by - and do nothing.

Are people so wrapped up in their own little worlds, their own careers and personal comforts that they can turn a blind eye to the fact that we are **all** contributing to the extinction of the elephant?

I try, through my talks with colleges, schools, civic and other groups, to stress just how widespread the killing is in Africa. I sometimes wonder if anyone is listening, or if they just don't care; after all, Africa is eight thousand miles away...

Once again, I must turn to the only people I know who truly care, my peers, my fellow keepers. It is up to us to make an all out effort to get the ivory and boots out of the public eye. We must write the boot manufacturers, such as Tony Lema, Dingo and others. We must write our congressmen and demand to know why this is allowed to go on.

They will tell you that a certain amount is legal, which is true; but tell them it is a fact that 80% of elephant products brought into this country is illegally poached. As **one-third** of all elephant products are sold in North America, something **must** be done.

I sometimes wish, when I see people wearing ivory or elephant-skin boots, that they could see and smell the African landscape littered with rotting elephant carcasses; their faces cut off with chain saws; the dead babies lying beside their mothers. See young elephants, with only six or seven inches of ivory, killed and mutilated.

VIEWPOINT. *Continued*

As fellow professionals in the wildlife field, I hope you will take up the banner. **United we can make a difference**, and preserve the elephant for generations to come. God knows, our generation rates very poor marks concerning our environment and wildlife.

We must fight harder **now** to make a better future.

I'd like to leave you with one last thought. In 1972, there were 140,000 elephants in Kenya - today there are less than 10,000.

*(Editor's note: A number of groups around the country, including several zoological societies have been making efforts to contact wholesale merchants who carry both ivory and elephant skin products. Here in Topeka, our Friends of the Topeka Zoo organization contacted a number of merchants in our area who had advertised elephant skin boots for sale. Due to our efforts at least one store, J.C. Penney, agreed to return these products to their distributor and discontinue their sale. We are still putting pressure on those who have not responded. So, you **can** make a difference by your actions. Keep in mind that any long journey must begin with the first step. Have you taken yours?)*



Meet Your RCs...John Turner, Regional Coordinator for Colorado, New Mexico and Texas



I was born in 1943 and decided in 4th grade that I wanted to work with nature (not "people"). I received by B.A. in Zoology from the University of Montana in 1965. I got a job as a seasonal laborer on the grounds crew at the Denver Zoo in the summer of 1965.

In the summer of 1974, I volunteered with a local, private wildlife center/rehabilitator, and am still affiliated with it (now the North American Wildlife Center). I was hired by the Denver Zoo in the fall of 1974 and trained and worked all sections except elephants and the hospital. I was the regular keeper for Bear Mountain section (grizzlies, Polar Bear, Sea lions, small reptile building and domestic barnyard) for one year, until undergoing an ileostomy in 1977. I then worked one year as relief for the sections in Bird World. I was then assigned as the regular keeper for the "Children's Zoo"; actually a small animal section (amphibians to mammals, monotremes to primates) where I worked for five years.

In 1983 I took the summer course at the Jersey Wildlife Preservation Trust on the Island of Jersey and have since worked as floating relief keeper at the Denver Zoo.

I joined AAZK and AAZPA in 1976/77. I attended the Animal Behavior Workshop in Seattle, WA in 1986.

We formed our Rocky Mountain AAZK Chapter in 1984. In 1986, our corresponding secretary suggested I might fill the Regional Coordinator position as being meeting's secretary did not require much of my time. I applied enthusiastically and was accepted by the AAZK Board of Directors for this position.



Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Scenic Rivers System

On 17 November 1988, three major federal land management agencies announced proposals that would more than double the nation's Wild and Scenic Rivers System over the next five years.

Spokesmen for the Forest Service (USFS), National Park Service (NPS) and the Bureau of Land Management (BLM) said their agencies were planning to designate parts of more than 300 rivers throughout the U.S. for inclusion in the protected river system.

The Wild and Scenic River system, established by Congress in 1968, preserves 9,200 miles of rivers across the nation. The proposals would protect more than 10,000 additional miles. Legislation would be required to add these rivers to the system. According to the chairman of the House Interior Committee's Public Lands Subcommittee it is likely that such legislation will be adopted during the next session of Congress.

>From Chicago Tribune (18 November 1988)

FWS amends sea otter translocation regulations

The Fish and Wildlife Service (FWS) has recently issued regulations to rectify certain technical problems identified during the first year of the sea otter translocation project. The problem concerned the ages and numbers of animals released at any one time, the number of animals with radio transmitters to be captured, the reason for capture, and the retention of the animals in temporary holding pens. FWS hopes that the changes will promote survival and reduce dispersal of the translocated sea otters.

> From AAZPA Newsletter (November 1988)

FWS imposes moratorium on African elephant ivory imports

Secretary of the Interior Don Hodel, taking initial steps to implement the African Elephant Conservation Act of 1988, has announced an immediate ban on all imports of raw and worked elephant ivory from countries not party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

In addition to calling for a moratorium on ivory imports from NON-CITES countries, the Act requires the Service to review the elephant conservation and protection programs of all ivory-producing countries. Those countries which do not have adequate programs under criteria outlined in the Act also may be subject to an ivory moratorium until their programs are improved. During the next year, the Service will be reviewing these programs for information such as current population status; amount of available elephant habitat; annual elephant reproduction and mortality; current wildlife management practices

Legislative Outlook, *Continued*

impacting elephants; effects, if any, of adjacent countries' wildlife management programs on resident populations' control and monitoring of the taking of wild elephants; and the country's compliance with the CITES ivory quota system, under which legal exports or raw ivory from ivory-producing countries are marked and tracked from country to country until the ivory is carved or worked.

The African Elephant Conservation Act authorizes appropriations of up to \$5 million for the next 5 fiscal years to be deposited into a special African Elephant Conservation Fund. If funds are appropriated, they will be used to support approved projects for research, conservation, management, or protection of the African elephant.

Elephant populations in Africa have fallen from an estimated 1.5 million in 1979 to a current estimate of no more than 750,000. The Asian elephant, a different species, is listed as "endangered" under the Endangered Species Act, and in Appendix I of CITES. All commercial trade in Asian elephant ivory is already illegal.

>Department of the Interior News Release (29 December 1988)



Nixon Griffis Fund for Zoological Research Awards Five Grants

The Nixon Griffis Fund for Zoological Research (NGFZR), established in 1984 by New York Zoological Society Trustee Nixon Griffis, awarded five research grants on 21 November 1988. The recipients were:

John B. Carroll, PhD, Jersey Wildlife Preservation Trust; Georgina M. Mace, PhD, London Zoo; and David T. Parkin, PhD, Queen's Medical Centre

"Genetic Analysis of the Mating Structure of the Rodrigues Fruit Bat (*Pteropus rodricensis*)"

John Gatesy, Yale University, and Dan Wharton, New York Zoological Society

"Recovery of Mitochondrial DNA Sequences from Shelf-Stored Tissues: Genetic Variation of Hartbeest (*Alcelaphus buselaphus*) subspecies"

Karen L. Goodrowe, PhD, Kay G. Mehren, DVM, Graham J. Crawshaw, and John Carnio, Metropolitan Toronto Zoo

"Assessment of Spermatozoal Capacitation and *In Vitro* Fertilization in the Caracal (*Felis caracal*)"

W.V. Holt, PhD, G.M. Mace, PhD, and R.A. Kock, DVM, London Zoo; P. Bircher, Marwell Zoo; and Tomas Krejci, DVM, Vychodoceka Zoologicka Zahrada

"Artificial Insemination in Scimitar-Horned Oryx"

Duane C. Kraemer, DVM, and Todd R. Robeck, Texas A&M University; Jim McBain, DVM, Sea World; and Nancy Czekala Gruber, San Diego Zoo

"Monitoring Reproductive Endocrinology of Captive *Pracinus orca*"

Nixon Griffis Fund for Zoological Research grants are available to members of the zoo and aquarium community. Fund recipients may be keepers, curators, veterinarians, or research and consulting biologists. Grants, not to exceed \$3000, are awarded semi-annually. Closing periods are January 1st and July 1st. For information about the Fund and grant application procedures, contact John Behler, Coordinator, Nixon Griffis Fund for Zoological Research, c/o New York Zoological Society, Bronx Zoo, New York, NY 10460.



Update on the AAZK Foreign Keeper Sponsorship Program

For those members who might not be familiar with this program, we offer a brief synopsis. This program offers individual AAZK members and AAZK Chapters the opportunity to sponsor membership in the Association for an animal care person abroad. Many of the foreign keepers in this program are from underdeveloped countries where it is often difficult to obtain information on exotic animal husbandry and this program offers an avenue of exchange of such information. Sponsors and sponsees exchange correspondence and hopefully have the opportunity to learn a little more about each other's country and work. Due to language differences, this can sometimes be a challenge, but a rewarding one nonetheless.

The Program currently has 12 sponsored foreign keepers. They are:

E.L. Lamptey, Ghana, West Africa sponsored by Art Cooper, NZP Conservation/Research Center, Front Royal, VA.

Pundareeka Rao, Sri Chamarajendra Zoological Gardens, India sponsored by Zoo Atlanta, Atlanta, GA.

Mr. Babubai, Hill Garden Zoo, India sponsored by the Tucson AAZK Chapter, Tucson, AZ.

Dr. Singh, Simlipal Tiger Reserve, India sponsored by Susan M. Barnard, Zoo Atlanta.

K.K. Sharma, Ram Nivas Gardens, India sponsored by the Assiniboine Park Association of Zoo Keepers, Winnipeg, Manitoba, Canada.

Mr. Bhujel, India sponsored by the Puget Sound Chapter, Woodland Park Zoological Gardens, Seattle, WA.

Nazker Devi, Dept. of Forests, India sponsored by Judie Steenberg, Woodland Park Zoological Gardens, Seattle, WA.

D.K. Mullik, Nanadankanan Biological Park, India sponsored by the Flint Hills AAZK Chapter, Manhattan, KS.

Dr. S. Paulraj, Anna Aregar Zoological Park, India sponsored by the Brookfield Zoo AAZK Chapter, Brookfield, IL.

Nandini Ragaswamy, Coimbatore Zoological Park Society, India sponsored by the Metro Toronto Zoo AAZK Chapter, Toronto, Ontario, Canada.

Keyoon Srimuang, Zoological Organization of Thailand sponsored by the San Diego AAZK Chapter, San Diego, CA.

K. Moktan, Padmaja Naidu Himilayan Zoo sponsored by the Rocky Mountain AAZK Chapter, Denver, CO.

For a little more personal view into the Program we offer the following:

Comments from Ann Rademacher, Corresponding Secretary for Denver's Rocky Mountain AAZK Chapter - sponsors of M. K. Moktan, India:

"We have found the sponsorship of Mr. K. Moktan to be a most gratifying experience. He has a keen interest in wildlife and captive husbandry. The few glimpses of Mr. Moktan, the person, reveal a sensitive, delightful nature.

Foreign Keeper Sponsorship Program Update, *Continued*

Mr. Moktan has sent up photographs and postcards since his first letter. he has never asked for anything. We have sent him information on snow leopards, and a couple of gifts (T-shirts, calendar)."

Comments from Mr. Moktan:

"...I was very inquisitive to know and learn about wildlife. I started asking a lot of questions to my Director about wildlife. Then he realized my keen interest and started to teach me. Every time he used to inspire me and he was a mentor to me.

...because of your sincere freindship and support...I am still learning more things and getting inspiration... I hope you keep on writing me and our friendship would continue to remain like this."

Comments from Pundareeka Rao:

"In this time I remember and rumination of your kind cooperation and kind guidance of AKF publication. In addition of this, I give grateful thanks to our Zoo Atlanta parent Chapter (Mrs. Susan Barnard). AAZK has done good job in sharing the knowledge of Animal Kingdom.

I am very appreciate the Adoption Scheme which was done by our parents (ZOO Atlanta Chapter) AAZK. This adoption helpful towards the gaining of knowledge of zoo keeping, etc. ...Once again grateful thanks on behalf of our Kingdom of Our Animals."

(Editor's note: Pundareeka Rao is being sponsored in the Animal Management Course by the Zoo Atlanta Chapter. Next month, AKF will publish his article about the course and what it has meant to him.)



Vijayraj Jadeja, Assistant Curator at the Shri Sayaji Zoo in Baroda, India is one of those on the list of foreign animal care personnel interested in becoming involved in the AAZK Foreign Keeper Sponsorship Program.

Foreign Keeper Sponsorship Program Update. *Continued*

From Pam McDougall, International Affairs Coordinator, West:

As you can tell from the above comments, the Foreign Keeper Sponsorship Program is gratifying to both the sponsors and the sponsees. We currently have ten people awaiting sponsorship. They are all worthy of membership in AAZK and would benefit greatly by our knowledge. Please consider helping one of them either yourself or through your local AAZK Chapter. The cost is \$25.00 (U.S.) but the rest is up to you. The amount of correspondence will vary depending on the literacy of your sponsee and extras that you send are well received no matter how small. If interested, please drop me a line and I will send information on some of those on the list. You can write to me at: Pam McDougall, International Affairs, West, Calgary Zoo, Box 3036, Stn. B, Calgary, Alberta, Canada T2M 4R8.



Chapter News

AAZK is pleased to welcome the following newly organized Chapters to the Association:

Platte River Chapter

This Chapter is made up of members from the Folsom Children's Zoo and Botanical Garden in Lincoln, NE, and from the Heritage Zoo in Grand Island, NE. The Chapter's mailing address is: Platte River Chapter, c/o Folsom Children's Zoo, 2800 "A" Street, Lincoln, NE 68502.

Newly elected officers for the Platte River Chapter are:

President.....William Garrison
V.P./Chapter Liaison.....James Scott
Sec/Treas.....Kim Lanoway

Indianapolis Zoo Chapter of AAZK

This Chapter is made up of members at the Indianapolis Zoo. Their mailing address is: Indianapolis Zoo AAZK Chapter, c/o Indianapolis Zoo, 1200 West Washington Street, Indianapolis, IN 46222.

Newly elected officers for the Chapter are:

President.....Stephen A. Lich
Vice President.....Lynne M. Villers
Secretary.....Neil S. Anderson
Treasurer.....Rose Baker
Chapter Liaison...Mark Marciniak

Omaha Chapter of the AAZK

This Chapter is made up of members from the Henry Doorly Zoo in Omaha, NE. Their mailing address is: Omaha Chapter AAZK, Henry Doorly Zoo, 3701 S. 10th St., Omaha, NE 68107-2200.

Newly elected officers of the chapter are:

President.....Carla Wieser
Vice President.....Stacie Runyan
Sec/Treas.....Cathy Socha
Immediate Past Pres...Alan Holst

Los Angeles Zoo AAZK Chapter

Newly elected officers of the L.A. Chapter for 1989 are:

President.....Kathy Nevins
Vice Pres.....Marilyn Fackler-Gray
Secretary.....Gerri Martin
Treasurer.....Carole Carniaux
Chapter Liaison.....Kim Brinkley

In an effort to help zoos with less financial resources than ours, the L.A. Chapter has recently purchased a patron level membership at the Belize Zoo, Belize, Central America.

Congratulations go to our keepers Forest de Spain and Kristi Wreede-de Spain, who will be leaving the L.A. Zoo in March to assume new responsibilities at Ardastra Gardens and Zoo in Nassau, Bahamas.

Chapter News. *Continued*

Forrest will be the new Director, and Kristi will be General Curator. We'll miss them both very much and wish them luck in their new positions.

--Kim Brinkley
Chapter Liaison

Bronx Zoo AAZK Chapter

We had a very entertaining meeting in December, watching vintage zoo films, dating back to the 40's. The most memorable one was of Andy, the orangutan, learning the alphabet.

We are almost ready to move into the new Bronx Zoo Chapter headquarters office our director, Dr. William Conway, has so generously provided for us. He has already had it painted and is currently putting in a new floor and heating system.

Keeper Robin Clark has pencils made with the logo on them as her personal contribution and many departments are contributing file cabinets,

typewriters and other equipment that they are not using. Our personnel director, Angelo Monzico, gave us the clock right off his desk!

Thanks should go to the Granby Zoo (Quebec, Canada) for their contribution of \$500 to the Programme for Belize. They presented our chapter with the check as a gesture of goodwill after our Chapter showed them around when they visited New York City.

--Wendy Worth
Corresponding Secretary

Greater San Francisco Bay Area AAZK Chapter

Our Ecosystem Survival Plan continues to be a success story. Aided by media attention and aggressive solicitation, we have raised enough money to purchase 30 acres of rain forest in Guanacaste National Park in Costa Rica.

A major fundraising event is being planned in San Francisco for the Spring. Watch this space for details.

--David Bocian, *Treasurer*

All AAZK Chapters which produce an in-house newsletter are requested to please add AAZK Administrative Offices to your mailing list. Also, if you have not as yet sent in a sample of your Chapter logo, along with the recently sent questionnaire, please do so. We would like to have a complete file of logos so that we may put together a display of Chapter Logos for the Syracuse conference. If you have a Chapter patch, consider sending one to us for display on the 'Piece of Your Zoo' patch board.

Many Thanks!



Sumatran Rhinos Go to U.S. Zoos for the First Time in 80 Years

Two rare Sumatran rhinos from Indonesia arrived in Los Angeles in late November as part of an effort to establish captive breeding populations of this highly endangered species in U.S. zoos. Of the 0.2 specimens, one will take up residence at the San Diego Zoo while the other is ultimately bound for the Cincinnati Zoo after 'wintering over' at the Los Angeles Zoo.

This is the first time in more than 80 years that this endangered species will reside in a North American zoo. The two female rhinos are the first of ten (5.5) of their species which will establish breeding groups in four U.S. zoos: San Diego, Cincinnati, Bronx, and Los Angeles. This captive breeding population will serve as a safeguard against total destruction of the Sumatran rhino in its natural habitat and as a reservoir to draw upon for their future reintroduction to protected areas in the wild.

The Sumatran rhino effort is one of 46 Species Survival Plan (SSP) programs conducted by the American Association of Zoological Parks and Aquariums (AAZPA) to help preserve certain endangered species through cooperative breeding programs in zoos and aquariums in the U.S. and Canada. Without these programs, many species face certain extinction.

The Sumatran rhino was selected for this special captive breeding program because there is little hope for the survival of much of the remaining wild population. Although it is impossible to definitely determine the number of animals alive in the wild, biologists estimate that there are 500-700 Sumatran rhinos remaining. The animals inhabit isolated pockets of the tropical rain forests of Southeast Asia (North Burma, Peninsular Malaysia, and the Indonesian islands of Borneo and Sumatra). The wild rhinos have been forced into reduced areas which are already too small to sustain them. The rhino's forest habitat has been systematically stripped of lumber and cleared for cultivation. Deforestation in combination with the continual poaching of rhinos, primarily for their horn, renders their future in the wild bleak.

Dr. Tom Foose, AAZPA Conservation Coordinator, and L.A. Zoo Director Dr. Warren Thomas who heads the Sumatran Rhino Trust and coordinates the SSP program, have made six visits to Indonesia to negotiate with the government and assist in setting up the field capture operation. More than a year ago, a formal final agreement with the Government of Indonesia was officially signed. The terms stipulate that a field capture operation would be established in Sumatra (which has the highest known wild population) to capture seven pairs of Sumatran rhinos; five pairs would go to U.S. zoos and two pairs to Indonesian zoos. All animals will remain the property of Indonesia. Only animals that are considered "doomed" (i.e., no chance of survival in the wild) are candidates for capture.

The Sumatran, or two-horned Asian rhinoceros, represents one of five living species of rhinos, all of which are critically endangered. The Sumatran rhino is a vegetarian, browsing on a variety of plant material and weighs about 2,000 pounds. Of all the rhinos, it is the most primitive and the least changed from the ancient rhinos that reigned more than 30 millions years ago. The Sumatran rhino's most outstanding characteristic is the reddish-brown hair covering its body. They are solitary animals, only coming together for breeding. A single calf is born after a gestation of over a year. Unlike the other two species of Asian rhinos which have only one horn, the Sumatran has two like its African relatives.

(Editor's note: the above article contains information excerpted from new releases from the San Diego Zoo and the AAZPA's Executive Offices.)



Black-footed Ferrets: A Success Story in the Making?

By
Megan Durham
USFWS, Dept. of Interior
Washington, DC

A new episode of the soap opera saga of one of the nation's most endangered mammals - the black-footed ferret - holds promise of a happy ending, after all.

Only a few years ago, some observers were ready to write off the black-footed ferret as "probably extinct". Despite the doom-sayers and a roller-coaster ride of successes and disasters that have befallen their species, in early October seven young ferrets born in captivity in 1988 in Wyoming were transported to the National Zoo's Conservation & Research Center in Front Royal, VA, carrying with them the hope for eventual restoration of their species in the wild.

Because of their susceptibility to canine distemper, human influenza, and other diseases, the black-footed ferrets could not be safely transported to Front Royal on a regular airliner. Instead, they were shipped on an Air National Guard C-130 cargo plane on its way to Virginia for a training mission. Carefully selected to represent the genetic diversity of the 58 black-footed ferrets still known to exist, the seven ferrets -- and eight more that went to the Henry Doorly Zoo in Omaha, NE in November -- will form the nucleus of two new captive breeding colonies. None of the animals will be on public exhibit.

"Establishing these new breeding colonies helps ensure that the entire population of these rare animals is not eliminated by disease or some other disaster," said Frank Dunkle, Director of the USFWS, which oversees efforts to restore the nation's endangered species. "It has taken years of painstaking work by wildlife biologists and researchers to get to this point."

The last wild ferret was taken into captivity in 1987 after disease had virtually destroyed the only known wild population near Meeteetse, WY. Since then, the only black-footed ferrets known to exist have been housed at the Wyoming Game and Fish Dept.'s Sybille Wildlife Research and Conservation Education Unit near Wheatland, WY, where encouraging successes with captive breeding have been achieved.

The decision to move some animals from Wyoming -- and the fear that something could happen to destroy all the remaining black-footed ferrets -- are grounded in the dramatic and sometimes tragic ups-and-downs of this native western species. An elusive, nocturnal hunter that lives in prairie dog burrows and preys on prairie dogs, the black-footed ferret once inhabited the Great Plains region from southern Canada to Texas. After its discovery in 1851, it was 25 years before further evidence of the species was found. Its range coincided with the range of the prairie dog, and its radical decline is believed to have been caused by efforts to eradicate the prairie dog.

In 1964, a small population of black-footed ferrets was discovered in South Dakota, but this single known population inexplicably vanished in 1974. Wildlife biologists had guarded against this possibility by taking some animals into captivity for breeding at the USFWS's Patuxent Wildlife Research Center in Laurel, MD. Sadly, although two litters were born there, eight of the young were stillborn and the remaining two kits died after two days. The adult animals suffered from diabetes, tumors, and other problems, and scientists speculated that perhaps the South Dakota population was too small and inbred for good health and successful reproduction. The last Patuxent ferret died in 1978.

At that point no one knew whether any black-footed ferrets remained. Wildlife biologists followed up reported sightings, searching at night with spotlights but found nothing. In 1980 things looked so bleak that a national tabloid ran an "expose" on how taxpayers' dollars were being "wasted" searching for an animal that "may not exist".

Black-footed Ferrets: A Success Story in the Making? *Continued*

Then, in 1981, a ranch dog killed a strange creature near Meeteetse, WY, and the rancher took it to an alert taxidermist who recognized it as a black-footed ferret. That led to new hope -- the discovery of a small ferret population estimated to number 129 in August 1984. It looked as though the ferret had returned from the brink of extinction.

Then, another catastrophe. In 1985, canine distemper struck the Meeteetse ferrets, killing most of them. In the fall of that year, six black-footed ferrets were removed from the wild to start a captive breeding program at Sybille. All six of these animals also died from distemper. Later that year, six more ferrets were caught and held temporarily in Laramie to ensure they were healthy. They were then moved to Sybille, but efforts to breed them the following spring were unsuccessful.

In 1986, surveys estimated that fewer than 20 black-footed ferrets survived in the wild near Meeteetse. Because of a clear risk that the black-footed ferret might become extinct, Federal and state officials reluctantly decided to capture all the remaining wild ferrets.

It appears now as if the risk has paid off, and that the capture of the last 18 wild ferrets may have saved the species from extinction. In 1987, the captive ferrets at Sybille produced two litters, with seven young. Lessons learned from this experience led to improved techniques that resulted in the birth of 13 litters totalling 34 young in the spring of 1988. This brought the total number of black-footed ferrets in the world to 58.



The Black-footed ferret, perhaps the most highly endangered of North American mammals, will hopefully have a future now with the establishment of captive breeding colonies at Omaha's Henry Doorly Zoo and the Front Royal Conservation & Research Center in Virginia. (Photo: Wyoming Game and Fish Department)

These techniques will now be applied to the captive breeding colonies being established in Front Royal and Omaha. The immediate goal of the program is to increase the number of ferrets. The eventual hope is to reach a total of 200 breeding pairs, or 500 individual animals, by 1991.

After that, the next episode in this continuing melodrama? If the black-footed ferrets really were in a television show, viewers might be seeing previews of ferrets being released into the wild, scampering off to renew their species. And while no one can rule out another series of disappointments, for now it appears the story of the black-footed ferret is "to be continued."





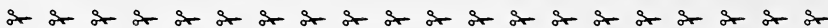
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The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



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ALL ORDERS MUST BE PREPAID

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/ΔKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

ZOOKEEPER...this is work in the care and maintenance of zoo animals, the exhibit areas, and facilities of the zoo. Work involves responsibility for the care and maintenance of assigned exhibits of birds, reptiles, amphibians, and small and large mammals and the areas in which they are exhibited, according to established policies and procedures. Work also involves botanical care, recordkeeping and preparation of diets according to established and approved nutritional guidelines. Includes daily team management program for African elephants and other large mammals as assigned. Minimum one year's experience and ability in elephant husbandry/management. Requires high school graduate or GED. Salary range \$12,754 - \$14,798 depending on experience. Submit resume with references **by 20 February 1989** to: Pam Collins, Director of Administrative Services, P.O. Box 60, Abilene, TX 79604.

SUMMER KEEPER/INTERNSHIP...duties include routine cleaning, feeding and general husbandry of a wide variety of animals; observation, reporting, recordkeeping on animal behavior; minor maintenance of exhibits; routine handling of animals for transport and veterinary care; assist public by answering questions; assist in educational programs. Requires working knowledge of care, diet and habits of wild and domestic animals; ability to keep accurate records; willingness to accept regular weekend, holiday and occasional after-hours assignments. Minimum qualifications: graduation from high school or GED equivalent; college education preferred; experience in the care, feeding, housing and exhibition of wild and domestic animals helpful. Salary \$3.65/hour. Hours per week: 40. Dates available: 1 May to 4 September 1989 (negotiable). To apply: send resume and one letter of reference to: Steven M. Wing, General Curator, Folsom Children's Zoo & Botanical Garden, 2800 "A" Street, Lincoln, NE 68502. **Closing date for applications is 24 February 1989.**

ELEPHANT KEEPER...to assist Elephant Trainer with elephant rides and care of 1 Asian and 3 African cows. Some experience with exotic animals preferred. Starting salary \$11,692 a year with full benefits. Send resume **by 25 February 1989** to: Jack Meyer, General Curator, Jacksonville Zoo, 8605 Zoo Road, Jacksonville, FL 32218.

ELEPHANT HANDLER...requires experience with elephants. Good references very desirable. Will participate in elephant breeding and husbandry program as well as assisting in public elephant demonstrations. Salary negotiable depending on experience and references. Send resume and references **by 1 March, 1989** to: Charlie Gray, Elephant Department, African Lion Safari & Game Farm Ltd., R.R. #1, Cambridge, Ontario N1R 5S2 Canada. Telephone (519) 740-0364.

INTERNSHIP...10-week internship available during the summer of 1989. Stipend of \$600 provided by Friends of the Salisbury Zoo. Those interested should give names of three references and apply in their own handwriting to: Director, Salisbury Zoo, P.O. Box 3163, Salisbury, MD 21801. **Closing date is 30 March 1989.**

HOOFSTOCK/ELEPHANT KEEPER...one (1) year zoo experience with college degree in animal husbandry or related field preferred. Experience will be considered in lieu of education. Will be responsible for the care and maintenance of hoofstock collection. Also will assist and participate in African elephant husbandry program. Salary \$12,750 plus benefits. Resume must be submitted **by 28 February 1989**. Send applications to: Washington Park Zoo, Lakefront, Michigan City, IN 46360. Phone (219) 873-1510.

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Opportunity Knocks. *Continued*

ASSISTANT SUPERVISOR...at Franklin Park Zoo's Childrens' Zoo. Opportunity to participate in upgrading and programming the zoo. Experience in reptile and amphibian management, and in exhibit design and development desirable. Supervisory experience required. Starting salary \$364.06/week. Contact Trisha Peffer, Childrens' Zoo, Franklin Park Zoo, Boston, MA 02121 (617) 442-2820.

ZOO ATTENDANT I...(Bird Keeper) at Fort Worth Zoo. Responsible for daily care and maintenance of a wide variety of avian species. Prefer person with experience in aviculture and a sincere desire to work with exotic birds. Salary \$12,756-\$16,188. Excellent benefits. Send resume by **25 February 1989** to: City of Fort Worth Personnel Department, 1000 Throckmorton, Fort Worth, TX 76102.

COMMISSARY EQUIPMENT OPERATOR...requires a high school diploma and the ability to operate commissary vehicles. College course work in or experience with animal diet preparation and care of animals highly desirable. Will be responsible for food pick-up and delivery, equipment maintenance and assisting in the general operation of and occasional supervision of the commissary. Salary commensurate with experience. Send resume to: Gloria Hamor, Commissary Supervisor, Zoo Atlanta, 800 Cherokee Avenue S.E., Atlanta, GA 30315. Phone (404) 624-5659.

ZOOKEEPER...responsibilities include the care and observation of zoo animals, maintenance of exhibits, recordkeeping, and interaction with docents and public. Requires one year of prior zoo keeping experience. Positions at the Fresno Zoo working with the following animals are scheduled to open for application soon: birds, carnivores, hoofed stock, and elephants/rhinos. Contact: Personnel Department, City of Fresno, 2348 Mariposa, Fresno, CA 93721 (209) 488-1574. Application filing deadline is **3 March, 1989**. Salary \$1,447 - \$1,761/month.

ZOOKEEPER...requires degree in biological sciences or one year's paid zoo experience. Prefer exotic hoofstock experience. Responsible for daily care of collection of large hoofstock, exhibit maintenance, interacting with public and assisting with veterinary procedures. Salary \$12,250 - \$14,850, depending upon experience. Send resume to: David Rabinett, Curator of Mammals, Audubon Park & Zoological Garden, P.O. Box 4327, New Orleans, LA 70178.



AAZK Membership Application

Name _____ Check here if renewal []

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Full-time Keepers

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_____ \$25.00 International
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Directory Information: Zoo: _____

Work Area: _____ **Special Interests:** _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to *Animal Keepers' Forum* will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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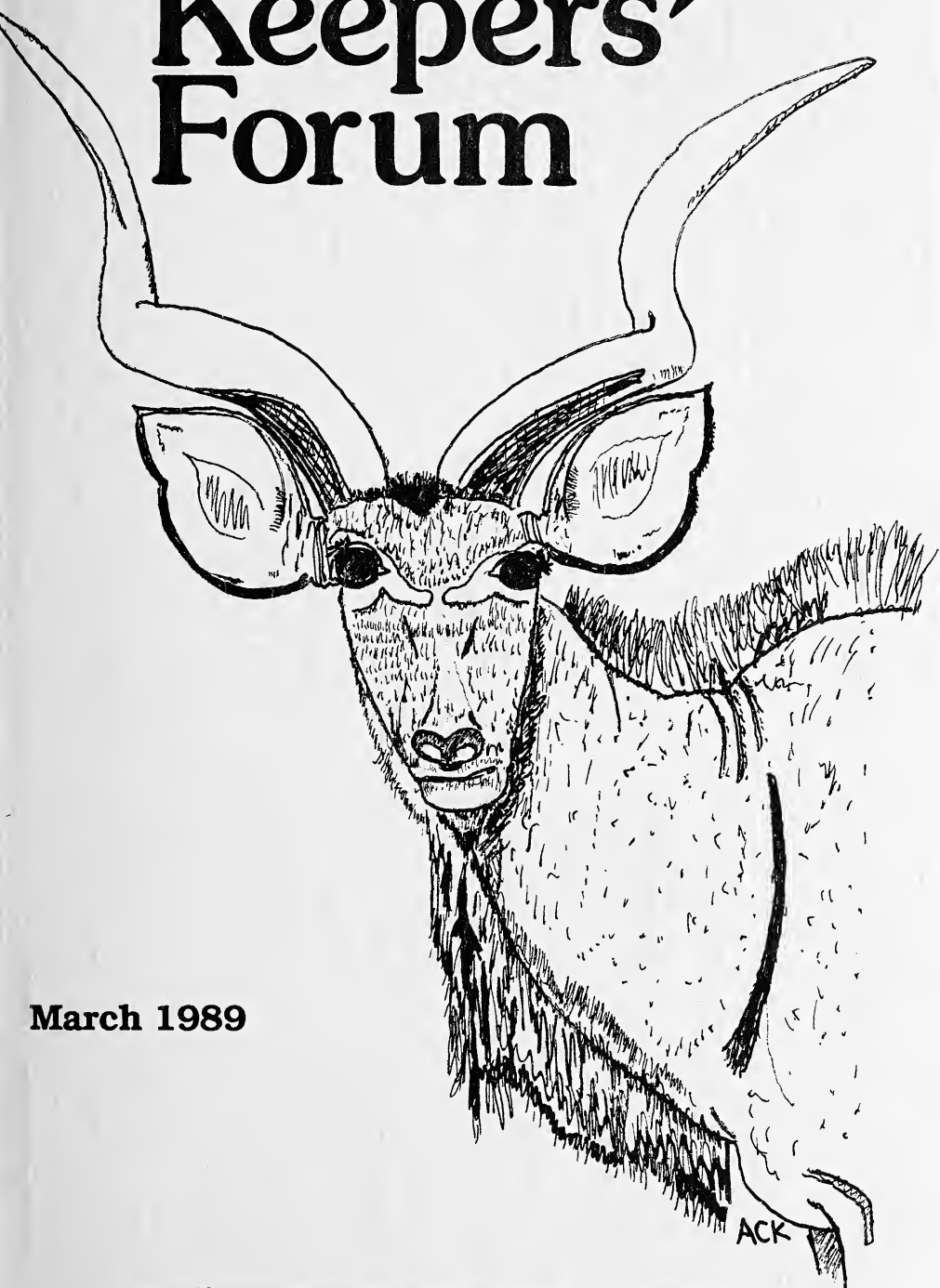
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Animal Keepers' Forum



March 1989

ACK

Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Number Three

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Nominations & Elections

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Director of Regional Coordinators - Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKE.

This month's cover features an adult male Greater Kudu (Tragelaphus strepsiceros) drawn by Dave Ackerman, a keeper in the herbivore/carnivore building at the Columbus Zoo, Columbus, OH. The Kudu is the second largest of the African antelope species and the males are noted for their distinguishing throat hairs and spiral horns. This species of antelope has excellent senses of hearing, sight and smell. A herd species of the African savannah, Kudu are often found in mixed groups with other hoofed species. Thanks, Dave!

Scoops

and

Scuttlebutt

Zoo Atlanta Chapter Invites Keepers to AAZPA Southern Regional

Zoo Atlanta AAZK Chapter Members would like to extend a special invitation to all AAZK members to attend the AAZPA Southern Regional Conference to be held 2-4 April, 1989. The conference will offer topics of interest to keepers including Vulture and Tropical Rain Forest Workshops, presentations on Elephant Management and Zoo Atlanta's Great Ape Exhibits. Additionally, there will be "behind-the-scenes" tours of our new facilities. Our Chapter will be participating in the Breakfast Round Table discussions.

Limited keeper accommodations are available. If you need additional information please do not hesitate to contact us by telephone using the numbers listed below. We look forward to seeing you! *Ellen Bradfield and Bernie Gregory, Co-Presidents, Zoo Atlanta AAZK Chapter.*

Telephone Numbers: Zoo Atlanta - (404) 624-5617 or (404) 624-5683. Bernie Gregory - (404) 321-3864 (home) or Ellen Bradfield - (404) 622-1375 (home).

Elephant Trainer Killed by Asian Bull at Busch Gardens

It is with regret that we report the death of Joseph Allen, a 13-year veteran zookeeper, who was killed on 5 February when crushed by a 17-year-old Asian bull elephant at Busch Gardens in Tampa, FL. The male elephant named Casey had been at the facility only a month when the incident occurred. Witnesses said that Allen either tripped or was pushed down by the elephant's trunk while he was leading the animal back to its pen. The bull dipped its head, placed it against Allen's chest and pushed down.

Officials at Busch Gardens have said that Casey will not be destroyed, but will be sold to a facility better equipped to handle a growing three-ton bull elephant.

Allen leaves behind his wife, Mattie, and two daughters, ages 14 and 18 years old. A donation has been made to the family on behalf of AAZK. The Toledo, Columbus, Knoxville and Metro Boston Zoo AAZK Chapters are collecting donations to send to the family. If you or your chapter would like to make a donation, it may be sent to: Mattie Allen, P.O. Box 1101, Thonotosassa, FL 33592.



From the President

The Regional Coordinator system has undergone some changes in the last two months. Diane Krug and Debbera Stecher have stepped down from their roles as East and West Head Coordinators respectively. During their terms they have completely rejuvenated the RC system. Prior to their work there was only sporadic communication between chapters. During their terms they concentrated on increasing chapter formation and participation. At last year's National Conference in Tucson, interest was great in new chapter formation, RC positions and chapter activities.

On behalf of the Board and AAZK, I want to thank Diane and Debbera for their hard work and positive efforts towards chapter affairs.

The new chairs of the RC system are Chris Garland at Metro Boston Zoo and Bill Whittaker at the Toledo Zoo. Chris is very familiar with the RC system as he coordinated Eastern activities during the latter half of 1988 while Diane Krug was in Africa. Chris has already reshaped the system with a fundraising raffle originating at the North Carolina AAZK Chapter. The AAZK share of the profit split will go to helping RC's improve communications with other chapters in their regions. Chris will assume the new role of Director of Chapter Affairs.

Bill Whittaker has been active in the system for several years and he has pointed out areas of needed improvement for the system and implemented workshops within regions which strengthen the chapter ties. Bill is currently working on a survey to be distributed to all chapters and RC's to poll the membership about ways to improve the system. Bill is the newly appointed Director of Regional Coordinators.

The entire system incorporates Regional Coordinators and Chapter Affairs. Since it stresses chapter activities it will be referred to as the Chapter and Regional Affairs Committee (CRAC). I urge all chapters and RC's to keep in close contact with Bill and Chris. They are responsible for organizing methods to best serve the chapters and AAZK. Any questions about protocol or policy should be directed to them.

There are many projects that are still available to chapters who wish to fund an AAZK publication. Please contact the RCAC's or myself for further information.

Many of you may be attending AAZPA regional conferences in your areas. I urge you to take these opportunities to talk with keepers, managers and educators at other zoos. Discuss AAZK projects and try to answer questions or direct them to the proper people within AAZK. It is essential that our two organizations understand each other so that we can pursue our goals more effectively.

We are now seeking bids from chapters to host the 1992 National Conference. This will be the organization's 25th anniversary and so we are requiring a three-year preparation period for planning anniversary-related events. Interested chapters should send bids and supporting letters to Oliver Claffey, AAZK Vice President at Metro Toronto Zoo.

The Board of Directors will meet in Topeka for the Mid-year meeting from April 10-12. If you have any items for us to address please forward them to me, the Administrative Offices in Topeka or any Board member.



Frank B. Kohn

Coming Events

Wildlife Rehabilitation Symposium

March 22-26, 1989

Anaheim, CA

Hosted by Pacific Wildlife Project. Topics will include: veterinary advances in wild species; rescue, restraint and handling techniques; avian, reptile and mammal treatment and biology; captive breeding; wildlife urbanization; post-release and population studies; cage design; conservation education programs; administration and project fundraising. Concurrent presentations will be offered for beginning, advanced and professional levels of expertise. Professional sessions will be limited to veterinarians and medical professionals. Those interested in submitting manuscripts contact: Richard E. Evans, DVM, MS., NWRA Program Chair, P.O. Box 7671, Laguna Niguel, CA 92677, (714) 831-1178. For other information or registration materials contact: MWRA Host Committee, Pacific Wildlife Project at the address above.

AAZPA REGIONAL CONFERENCES

AAZPA Southern Regional: April 2-4, 1989. For more information contact: Terry Maple, Ph.D., Director, Zoo Atlanta, 800 Cherokee Ave. SE, Atlanta, GA 30315 (404) 624-5600.

AAZPA Central Regional: April 16-18, 1989. For more information contact: Hayes Caldwell, Director, Caldwell Zoo, P.O. Box 428, Tyler, TX 75710 (214) 593-0121.

AAZPA Northeast Regional: April 30-May 2, 1989. For more information contact: Minot Ortolani, Director, Buffalo Zoo, Delaware Park, Buffalo, NY 14214 (716) 837-3900.

The Second Preservation/Conservation Workshop

June 4-11, 1989

Muskigum County, OH

Co-sponsored by the International Center for the Preservation of Wild Animals and the Central Great Lakes AAZK Region. We cordially invite you to this unique workshop which not only will inform you about what is happening with the ICPWA (*AKE*, Dec. '87) and animal interest groups, but will get you involved. Come join in the fun and camping. For more information, contact: Joe Rindler, 176 Lazelle Rd., Worthington, OH 43085.

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: *Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.*

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.



Births & Hatchings



Greenlaw Facility (Puvallup, WA)...on 3 December 1988, a female Pigtail macaque (*Macaca nemistrina*) weighing 14 oz. was the first captive-born at the Greenlaw Facility. The mother, a formerly abused, surplus animal - lacking fingers and having useless toes, self-delivered, washed and nursed the infant in an exemplary fashion - until the fifth day when for no accountable explanation - she began to systematically chew off the infant's toes. Because this mother was an unknown quantity, she had been carefully monitored for eight months with exceptional care being given toward her comfort. Special steps arranged to compensate for the missing and useless digits and extra vitamins were provided along with a special diet.

Even under close scrutiny the abuse to the infant was difficult to detect. What appeared routine grooming of the infant was in reality mutilation, disguised quickly upon protest by the infant, by grabbing and hugging the infant to her breast thus giving the victim instant nursing comfort and halting further protest.

The infant was removed from the mother and is being reared in a secluded area under the direction of Brian Jones, DVM of Graham, WA. Dr. Jones (a non-believer in Similac® or SMA®, the traditional solution for infants being raised without mother's milk) prescribed pasteurized goat milk obtainable in local Safeway® store's milk section.

Penicillin injections (3/100cc) were given for the ten days it took to get the raging infection under control after oral antibiotics failed to halt it. The infection was due to the mother's chewing (the mouth of the macaca is no less germ-free than that of a human).

The infant has shown rapid weight gain, both upper and lower front teeth were fully developed by the 17th day and by the 20th day the infant had managed incredible jumps and began swinging on a rubber tire rope. Although I am not one for dressing apes to look like people, I used white linen men's handkerchiefs folded in the kite shape used for human infants for diapers thus saving changing the entire bedding every few hours.

Everyone here pitched in and we have kept a 24-hour watch with bottles sterilized and prepared for demand feeding any time of the day or night. As of this writing it is not quite as hectic here now and the feeding settled down to approximately four-hour intervals and the 2 a.m. feeding is a constant.

Because this infant was not premature and had already tasted the 'good life' suckling on mother's milk, it had difficulty adjusting to the hard nipples of Pet Ad®. A local hospital supplied the veterinarian with salesman's samples of premi nipples used in the Premie Section, but these were not considered a success in this instance because of the rather large size which fits on a standard baby bottle.

Once the baby got the hang of sucking either bottle or needleless syringe, vanilla flavored yogurt, goat milk, banana, and baby rice cereal with iron were whipped in the blender (all utensils boiled). The purpose of the yogurt: the stool under microscope showed no bacteria. The absence of bacteria undoubtedly, at least in part, was caused by the heavy doses of antibiotic treatment and it is believed the yogurt might replace some of that loss. The more solid consistency of the diet also aided the loose stool problem. Within a week the infant became bored with that diet and other flavors were introduced, i.e., strawberry, etc.

Although the mother grieved for days over the removal of the infant, consensus dictated the infant not be reintroduced to this small, ordinarily tranquil colony until a more advanced

Births and Hatchings. *Continued*

age. The mother was obviously a 'good breeder', producing a strong, sturdy offspring, but is a 'lousy' parent.

The interest in this instance is because of a 'first born' and the unorthodox solution and tremendous success of using goat's milk versus the orthodox Similac® or SMA® which has been the 'standard' by so many universities and labs throughout the country.

Greenlaw facilities are self-supporting; donations are neither solicited nor accepted. Animals at the facility are restricted to Papio (baboon) and macaca - small colonies consisting of less than a dozen, comprised of surplus animals which have been gradually and gently introduced to these groups. *submitted by Rosemary Greenlaw, Puyallup, WA.*

Columbus Zoo...for the months of November and December 1988, and January 1989, the Columbus Zoo reports the following significant births and hatchings, and acquisitions. On 11 January, our Reptile Dept. acquired 1.2 wild-caught Leaf-tailed geckos (*Uroplatus fimbriatus*), a species native to Madagascar. These interesting geckos have fringes like spines on the bottom jaw, a flattened tail that resembles a leaf in shape, and partially webbed feet. The tail and feet are so designed to aid in downward gliding motions through trees. Ours are doing well on their zoo diet of crickets and pinkies supplemented with various vitamins and minerals. However, Reptile Keeper Nanci Pintavalli would like to hear from any other places that have leaf-tailed geckos. She needs information on general husbandry and on diets. Other reptile hatchings include 6 New Guinea snapping turtles (*Elseya novaguineae*) and 1 Scorpion mud turtle (*Kinosternon scorpioides*). Also, I wish to note an error in our reptile submissions in the December AKF: Beaded dragon should have been Bearded dragon (*Amphibolurus vitticeps*).

Highlights in the Mammal Dept include our first Red brocket deer, the first Grizzly bear cubs since 1963, and our first third-generation giraffe birth. Our Red brocket deer (*Mazama americana*) pair, which we received in October from the Bronx Zoo, have already produced their first offspring, a male born on 12 January. The sire is two years old and the dam is a year and a half. Although this is her first infant, the mother is displaying good maternal care. This baby was conceived at the Bronx Zoo. These three animals are providing us with our first experiences with this diminutive deer species. On 18 January, our first third-generation Reticulated giraffe (*Giraffa camelopardalis*) was born to five-year-old Krogo. Since this was Krogo's first offspring, we were concerned that she would either kill or reject the baby, as first-time mothers sometimes do. However, she is also displaying excellent maternal care, and the female calf is vigorous and in good health. Columbus obtained the four-year-old father, Comet, from the Greater Baton Rouge Zoo in 1985. Krogo's parents, eight-year-old Drew and 18-year-old Noinu, are also displayed at Columbus. In fact, Krogo, Noinu's fourth offspring, was the first one she successfully raised on her own.

On 20 January, 0.0.2 Grizzly bear (*Ursus arctos horribilis*) cubs were discovered in our female Ginger's den. This birth is significant because our male, Growly, is wild-born and he has not bred the two females he was with prior to Ginger. Ginger had four litters at the Cleveland Zoo before she came to Columbus. There was a litter of grizzlies from a different pair at Columbus in 1963, but they DNS. Growly has had a rather interesting history. He was removed from Glacier National Park in 1976 at about eight and a half years of age because he was destroying cabins. For two years the University of Montana used him in a research project studying the physiology of hibernating bears. After this, a permanent home was needed in captivity since Growly was too dangerous to release in a park. The Columbus Zoo raised funds to bring him here, thus sparing him from being euthanized, just as we have done with our female polar bear (*Ursus maritimus*) EX, out of Churchill, Canada.

This period has also seen the birth of three more Cheetah (*Acinonyx jubatus*) cubs, but they DNS. On 15 December, Columbia had a male sired by Charlie. Columbia is nine years old, and is the oldest cheetah in our collection to give birth. On 18 December, Sukari had

Births and Hatchings. *Continued*

1.0.1 cubs, again fathered by Charlie. These two litters gave us a total of seven cheetah litters in one year.

Alas, I must end these submissions by pointing out another error in December's issue, this time concerning the bald eagles (*Haliaeetus leucocephalus*). However, it also gives me a chance to provide some interesting background info on the female, and thus a chance to redeem myself! Our new female eagle has never laid eggs or produced chicks, as was reported. She was kept with a compatible mate while at Patuxant Wildlife Research Center, but there was no breeding. She was captured on Catalina Island in 1985 after allegedly attacking a Boy Scout. This behavior brings up the possibility that she may have been hand-raised and released, or she may have escaped. She was introduced to our male George on 18 January without mishap in our old eagle exhibit while construction begins on a new one. *submitted by Carl Gyarmaty, Keeper, Columbus Zoo, Columbus, OH.*

North Carolina Chapter AAZK...reports notable births and hatchings for October through December 1988 from each participating institution:

Duke Primate Center...On 3 Nov., 1.0 Potto (*Perodicticus potto*) was born and represents only our second birth since April 1985. This is the second male infant born to the same pair and now gives us a total of 7 animals (4.3) in our colony. We are unsure as to the cause of the long interbirth interval in this species and a project has been started to gather more information on the reproduction in the potto and infant development. On 17 Nov., we had the birth of 2.0 twin Pygmy slow loris (*Nycticebus pygmaeus*) to the same pair that produced twins on 1 January 1988. This time the female was separated in a small cage inside the room about two weeks before parturition to prevent infant falls or injury from the male. With these births we now have a colony size of 12 animals (7.5). On 22 Dec., we had the birth of 1 Tarsier (*Tarsius syrichta*) to a female who had been separated into a small cage inside her room. Although the infant only lived six days, the mother seemed to display normal maternal care and had milk.

North Carolina Zoological Park...On 6 Oct., twin Thick-tailed bushbabies (*Galago crassicaudatus*) were born in their exhibit in the African Pavilion. One was stillborn and the other was pulled due to mother neglect; however, it did not survive. This is the first birth of this species at our zoo. The parents were introduced to each other and the exhibit less than a year ago. Gestation length for this species is 3 1/2 to 6 months, so successful breeding was accomplished in a short period of time after introduction. The R.J. Reynolds Forest Aviary is having continued success in African spoonbill (*Platalea alba*) hatchings with 0.0.10 occurring in the three-month period. The pairs are continually breeding and hatching eggs--as soon as the hatchlings fledge, they begin the reproductive cycle again. Some of the offspring have been shipped to other institutions. The N.C. Zoo is the only U.S. zoo with a breeding flock of these birds. *submitted by Lucy Segerson, Chapter Liaison, North Carolina AAZK Chapter, Asheboro, NC.*





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AAZK Award Nominations Are Now Being Accepted for 1989!

The AAZK Awards Committee would like to begin accepting nominations for the awards to be presented at the 1989 AAZK Conference in Syracuse. In the following months there will be information concerning the qualifications, nomination procedures, selection procedures and an explanation of the AAZK Excellence in Zookeeping (EZ), Certificate of Merit for Zookeeper Education (CMZE) and Meritorious Achievement (MA) Awards.

The deadline for all award nominations is **1 June 1989**. All award nominations received after 1 June will be reviewed for 1990, so please keep this in mind when submitting your nominations.

All awards given by the AAZK do not have a minimum or maximum number offered each year. Also, if the nominees do not meet the qualifications and nominators do not follow the nomination procedures, they will not receive the award for which they were nominated. Please include scientific names of animals when they are included in the nomination of a special or outstanding breeding acknowledgment.

Please submit all nominations to:

Jan McCoy, AAZK Awards Chair
Washington Park Zoo
4001 S.W. Canyon Rd.
Portland, OR 97221

AAZK Meritorious Achievement Award

This award is given to professional members of AAZK or AAZK-affiliated chapters for outstanding achievements in the zoo or aquarium field and related activities. This award covers activities outside the scope of the Excellence in Zookeeping award. This would include such things as keeper participation in AAZPA Bean Award projects, individual breeding projects carried on outside of the zoo proper, wildlife conservation efforts, zoo and wildlife education programs and other related activities.

Qualifications:

1. The nominee must be a full-time keeper (professional AAZK member), employed in any North American zoological institution or aquarium. In the case of an AAZK-affiliated chapter it must be "in good standing" and have an up-to-date charter with the AAZK.
2. The nominee must have been employed at least one year on a permanent status at a zoo or aquarium. In the case of an AAZK-affiliated chapter, it must have been on active status for at least a year.
3. The nominee must be nominated by his or her peers; while supporting nominations may be submitted by other zoo personnel. The nominators need not be from the same zoo or aquarium.

Nomination Procedure:

1. List name, position, institution, years of service in the field, and the recommendation of a peer of colleague.
2. List the outstanding achievements: AAZPA Bean Award project participation, exhibits, breeding, conservation, etc.

Selection Procedure:

The Awards Committee, consisting of five keepers, will independently review each nominee.



NOW AVAILABLE !!

Animal Index to Animal Keepers' Forum 1974-1986

By Judie Steenberg, Woodland Park Zoo

During this past year the monumental task of indexing Animal Keepers Forum (AKF), from 1974 through 1986, was undertaken by Pam Talbot and me, with Pam doing the bulk of the work. At long last, it has been accomplished.

The index includes all animal subjects reported in AKF from November 1974 through December 1986. Pam Talbot, and Keepers at the Woodland Park Zoological Gardens, have been working on this project over the past year and at long last it is available for AAZK members to acquire.

Copies of the Animal Index to Animal Keepers' Forum 1974-1986 may be ordered for \$5.00 each by sending check or money order made payable to "AAZK" to: AKF 74-86 Index, 635 Gage Blvd., Topeka, KS 66606.

The Index covers animal subjects only, with the exception of a veterinary section that lists animal husbandry subjects of a general nature. What seemed like a "nice little project" became a major project as time went on, even with the benefit of the computer...Why???, following are some examples of the many problems and questions encountered.

The lack of scientific nomenclature was a continuing problem:

1. Mannikin and manakin are two different birds, not closely related.
2. White eye verses white-eye...one is an Australian duck, the other a passerine.
3. Button quail are in Gruiformes, and quail are in Galliformes.
4. Anteater was used for collared, lesser, tamandua, giant and spiny without taxonomic reference.
5. Swift can be a bird or a lizard.

Other problems were incorrect spelling of scientific names, and variations in use of obsolete/current scientific nomenclature.

To deal with these problems we decided to use a major reference for the source of all scientific nomenclature. The International Species Inventory System (ISIS) Taxonomic Directories were used for classifying birds, mammals and reptiles. Frank Slaven's Inventory of Amphibians and Reptiles was also used where the ISIS Manuals were incomplete.

Although there is some disagreement with the nomenclature used in ISIS Taxonomic Directories, we feel it is necessary to have a standard reference. In several cases an updated, or otherwise changed scientific name is given as (=) within the nomenclature.

Spelling differences of common names was extensive, following are a few examples:

1. caicique, caique, carque, carique.
2. acouchi, accouchy, acouchy.
3. turaco, touraco, tauraco.

Where there was disagreement on categorizing some species, they have been cross-referenced, or left as they appeared in AKF. The most obvious misspellings have been

Animal Index to AKF 1974-86, *Continued*

corrected. Some animals have been grouped, such as Fish, Insects, and Reptiles. The words "gray" and "grey" have been spelled as submitted.

The letters CP are used whenever the information is listed in a Conference Proceedings, and K identifies information in The Keeper (75). Births and hatchings are listed separately within a subject.

Woodland Park Zoo Keepers Eric Kowalczyk, Earl Matsui, Dana Payne, and numerous other Keepers, family and friends both in and outside the zoo should be commended for their patience and perseverance in reviewing the index according to the categories of birds, mammals and amphibians/reptiles.

In closing, we ask that **anyone** submitting an article, or animal information to AKF use scientific nomenclature in the future. It will not only facilitate the indexing of AKF in the future, but add credibility to our publication.

--Judie Steenberg, Keeper
Woodland Park Zoological Gardens

(Editor's Note: The 1987 and 1988 Comprehensive Indexes of AKF, which cover the entire spectrum of material published in the journal during those years, are available from AAZK Administrative Offices. Cost of these indexes is \$1.00 each. They may be ordered by sending check or money order made payable to AAZK to: AKF Index, 635 Gage Blvd., Topeka, KS 66606.

Beginning this year, the Comprehensive AKF Index will be published within the journal each year. Thus, the 1989 Index will appear in the January 1990 issue.)



AAZK Announces New Professional Members

- | | |
|--|---|
| Beth Elaine Carril, Bronx Zoo (NY) | Martha Hiatt, N.Y. Aquarium (NY) |
| Deidre Flaherty, Ross Pk. Zoo (NY) | Gregory Roberts, Pittsburgh Zoo(PA) |
| Joanne Shaffer, Baltimore Zoo (MD) | Timothy Hall, Baltimore Zoo (MD) |
| Jonathan Bronson, VA Living Museum (VA) | Marvin Johnson, Mill Mt. Zoo (VA) |
| George Mathews Jr., VA Living Museum (VA) | Connie Foster, Univ. of Florida (FL) |
| Karen Pledger, Silver Springs Attraction (FL) | Lou Ann Pack, Dreher Pk. Zoo (FL) |
| Michael Flournoy, Silver Springs Attraction (FL) | Forest Hamilton, Dreher Pk. Zoo (FL) |
| Sheila Lewis, Warner Pk. Zoo (TN) | John Stuteville Jr., Mesker Pk Zoo (IN) |
| Elizabeth McCurty, Mesker Pk. Zoo (IN) | Pamela Hilton, Potter Pk Zoo (MI) |
| Bruce Snyder, Potter Park Zoo (MI) | David Robbins, Henry Doorly Zoo (NE) |
| Elaine Robbins, Henry Doorly Zoo (NE) | Kari Goetz, Brookfield Zoo (IL) |
| Gregg Wanciak, Audubon Zoo (LA) | Cindy Weever, Tulsa Zoo (OK) |
| Mark Willow, Dallas Zoo (TX) | Joel Hamilton, Dallas Zoo (TX) |
| Sara Weller, Dallas Zoo (TX) | Elyse Pruzan, Houston Zo (TX) |
| Julianne Reese, Tinkers Exotic Bird Farm (CA) | Julia Schnetzler, Sacramento Zoo (CA) |
| Mark Bongelli, Metro Toronto Zoo (Ontario) | Scott Russel, Calgary Zoo (Alberta) |
| Christine Corrie, Metro Toronto Zoo (Ontario) | Mark Shawver, W. Edmonton Mall (Alb) |

HOPE FOR THE FUTURE

By
Jeff Holland, Keeper
Los Angeles Zoo
Los Angeles, CA

"The rhinoceros has been on earth for sixty million years. But by 1990 the only rhinos left may very well be those in zoos and wildlife reserves."

Bradley, 1982

This statement, made only six years ago, is becoming increasingly true more and more each year. Today there are only five surviving species of rhino, all but one species is threatened with extinction. How did the rhino get to this predicament? The answer to this question is surprisingly easy.

For centuries rhino products have been used for many things, from medicines and aphrodisiacs to ornately carved dagger handles. These have been in demand by cultures in the Far East where traditional medicines are often favored over modern ones, and a dagger handle or case carved from rhino horn denotes a symbol of masculinity. Even today the products from the rhino are still sought after for these very purposes.

The remaining species of rhino include: the Black Rhino (*Diceros bicornis*), and the White Rhino (*Ceratotherium simum*) of Africa; the Javan Rhino (*Rhinoceros sondaicus*), Indian Rhino (*Rhinoceros unicornis*), and the Sumatran Rhino (*Dicerorhinus sumatrensis*) of Asia. Of these, the white rhino appears to have been brought back from the brink of extinction, while the other four are still struggling for survival. However, the smallest and oldest species, the Sumatran, is now receiving global support to insure its survival through the Sumatran Rhino Project. It is this species which will be the topic of this paper.

The Sumatran rhino is the only Asian rhino having two horns. The presence of two deep and permanent folds of skin crossing the spine in the region of the shoulders and hindquarters make it distinguishable from the Javan species. It also has the unique trait of having hair cover the majority of its body, although in the wild there is little evidence of any hair. This is primarily because the dense vegetation where it is found removes the hair as it moves through the bushes.

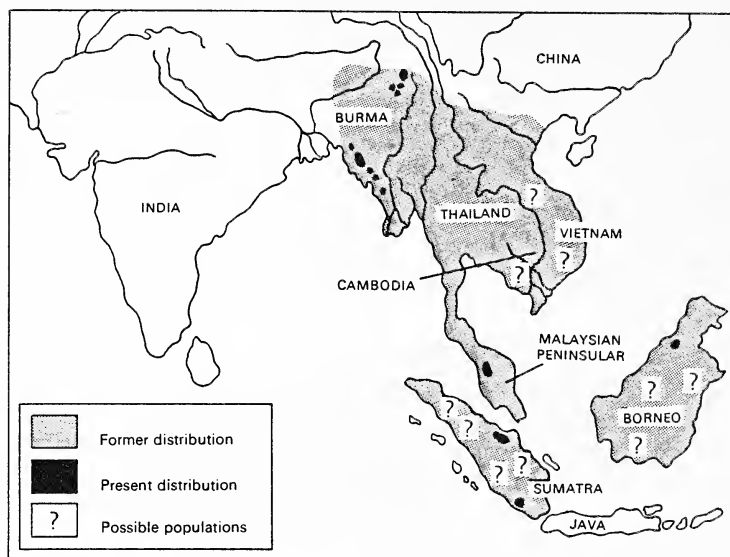
At one time the Sumatran rhino had a very extensive range which included parts of Bengal and Assam, Burma, the hill country of Thailand, Indochina (Cambodia, Laos, Vietnam), Malaysia, Sumatra, and Borneo. Today this species of rhino is known to survive only in Sumatra, Borneo, Peninsular Malaysia and Burma. There have been reports of them still existing in Thailand and Indochina, but these reports have not been verified.

There are presently two recognized sub-species of the Sumatran rhino. The more widely known species is *Dicerorhinus sumatrensis sumatrensis* found on the Islands of Sumatra and Borneo and the Malay Peninsula. The lesser known sub-species is referred to as the Hairy-Eared Rhino (*Dicerorhinus sumatrensis lasiotis*) which is found in Indochina, Thailand, and Burma.

Strangely enough, it was the hairy-eared rhino that was the first Sumatran rhino in the world to be brought into captivity. This animal, a female, was captured in 1868 near Chittagong, India. She resided there for four years before being shipped to London's Regent Park in 1872. She lived for 32 years until her death in August of 1900. It is this rhino which holds the longevity record for *D. s. lasiotis*.

Hope for the Future - The Sumatran Rhino, *Continued*

The Sumatran Rhinoceros



The above is taken from Rhinos Endangered Species 1988.

However, in the Western Hemisphere, the first Sumatran rhino ever to be exhibited appears to be a female of the *D. s. sumatrensis* subspecies that arrived at the Hamburg Zoo in Germany in January of 1872. A female that lived for 17 years at Vienna's Schonbrunn Zoological Garden holds the longevity record for *D. s. sumatrensis*.

The majority of rhinos were exhibited at the turn of the century. All together there appears to have been a total of 55 Sumatran rhinos in captivity. By far the London Zoo has exhibited the most with a total of eight. Of the eight animals, six were of the sub-species *D. s. sumatrensis* and two were of the sub-species *D. s. lasiotis*.

The first Sumatran rhinos to be exhibited in the United States are believed to be two animals sent over from Europe in 1872. The first exhibition was in 1873 with John Robinson's Circus. The second animal from Europe was exhibited in 1874 with the Adam Forepaugh Circus. Although this appears to be the first exhibition of the rhino, there is still some speculation whether or not these two animals were indeed Sumatran.

With the exception of three years at the National Zoo and a brief nine-month period at the New York Zoological Park, all of the rhinos exhibited in the U.S. at that time were found in circuses.

Between the years of 1919 and 1959, no Sumatran rhinos were exhibited anywhere in the world. The last such rhino during this time period appears to be the female at Vienna's Schonbrunn Zoological Park that died from enteritis in 1919. In 1952 the Philadelphia Zoo had acquired a pair of rhinos for exhibition. Unfortunately both animals died aboard ship and their remains were tossed out at sea.

In 1959 the Copenhagen Zoo in Denmark put together an expedition to capture three pairs of Sumatran rhinos. The expedition was successful in capturing one male and four females. Unfortunately one of the females died in the trap and the male escaped. Of the remaining

Hope for the Future - The Sumatran Rhino. *Continued*

animals, one went to the Copenhagen Zoo, one to the Central Institute of Nature Research in Bogor, Java, Indonesia, and the other to the Basel Zoo in Switzerland. However, there is some discrepancy as to whether or not the Basel female, known as "Betina", was captured by the Copenhagen expedition or by Peter Ryhiner, an animal collector who was operating in the same area. In 1961, the female in Bogor and the female at Basel died. In 1972 the last Sumatran rhino in captivity, the female at Copenhagen died of apparent vandalism. Thus the zoo world saw what appeared to be the last hope for breeding this rare animal fade away.

In 1982 at the AAZPA conference in Phoenix, the idea for a potential major project to bring Sumatran rhinos into captivity for breeding purposes was conceived. The first efforts of the project were carried out in Sabah. However, this soon fell apart due to political disagreements. Meanwhile, the Malaysian Government had formulated its own project to bring Sumatran rhinos into captivity. In 1984, the Malaysians captured a female rhino that became the first animal to be brought into captivity since 1972. Also in the 1984, individual efforts were made by Howlett's Zoo in England to acquire two pairs of rhinos out of Indonesia.



In 1985, a male rhino was captured in Indonesia and subsequently sent to England as part of the agreement made with Howlett's. In November of that same year, the AAZPA approached the Indonesian Government about the Sumatran Rhino Trust, in which five pairs would be sent to the United States for a captive breeding program. In the early part of 1986 the Sumatran Rhino Trust was approved and signed. Within that year a female rhino captured in Indonesia was sent to Howlett's. However, this animal died a few months after her arrival in England. In 1987 another female for Howlett's was caught and shipped to England. By this time there were eight rhinos in captivity - five in Malacca, Malaysia, one in Indonesia, and the pair at the Howlett's Zoo in England.

In 1988 the first three animals, all females, for the Sumatran Rhino Trust were captured in Sumatra, Indonesia. On 25 November, 1988 the first rhinos to be exhibited in the United States in about 80 years arrived in Los Angeles. One of the females went to the San Diego Zoo while the other went to the Los Angeles Zoo for the winter. In the spring of 1989 this animal will be sent to its permanent home at the Cincinnati Zoo. The third female that was captured seems to be pregnant and will remain in Indonesia as part of the agreement. The next two females that are caught will be destined for the New York Zoological Park and the Los Angeles Zoo. Any males captured will be sent to the Cincinnati Zoo, San Diego Zoo, New York Zoological Park, and the Los Angeles Zoo respectively.

Presently there are 17 Sumatran rhinos of the sub-species *D. s. sumatrensis* in captivity. There are 1.5 in Malacca, two others elsewhere in Malaysia, four in Indonesia, one in Sabah, 1.1 in England, and the two females in the United States.

It is quite clear that the survival of the Sumatran rhino has been one of struggle. Despite all the missed opportunities in the early years, much progress has since been made. It appears that we are finally on the right track for saving this rare and unique animal from extinction.



Report from the Elephant Workshop Steering Committee on the 9th Annual Elephant Workshop in Jacksonville, FL December 10, 1988

On Saturday, 10 December 1988, the Elephant Workshop Steering Committee presented to the Workshop its proposals for the formation of an Elephant Management Association. The potential legal problems the governing body or officers might encounter as an incorporated, non-profit organization were discussed at length. The costs of purchasing liability insurance for the officers was prohibitive. It was clear further research into this area was necessary by the Steering Committee. The objective of developing and distributing guidelines for standards of elephant management was discussed with possible liability in mind and the by-law wording was altered in several areas. It became clear that the feeling was strong that some form of Elephant Management Association should be formed to help gather and distribute information but that it should function as a clearing house rather than advisory group. The goal should be to enhance communication among elephant handlers and to aid in managing elephants through development of common working and training methods. The development of overall guidelines for elephant management would be a goal for the future, not the present.

Professional membership requirements were discussed at length. The consensus was to keep the organization handler-oriented but to eventually develop advisory committees of associate members from veterinary science and other relevant areas. The organizational name of Elephant Managers Association was adopted as were the amended Articles of Incorporation and By-laws by near unanimous vote (only one vote opposed). A copy of the by-laws is included in this report.

The Steering Committee volunteered to stay on enmass for another year. Three alternates were elected from the West Coast to stand in for others who could not attend the conference and to coordinate information on pending elephant legislation conveying out of California. These three are Cheryl Shawver, Ron Whitfield and David Blasko. The remaining members of the Steering Committee are: Charlie Gray, Fred Marion, John Lehnhardt, Chuck Doyle and Randy Wolfe.

A great deal of discussion ensued about the well publicized recent elephant incidents in San Diego and San Francisco. The incidents themselves were not discussed in detail but the implications for elephant management resulting from negative publicity, legislative hearings and pressure from Human Societies and animal rights groups were discussed. The question was what positive role could the EMA take in these instances? The consensus was the EMA could not represent all elephant managers in conflict with humane groups, but could act as a self-help group trying to improve elephant handling around the country. We should be open to scrutiny of our elephant programs from concerned groups and work with these groups to improve their understanding of elephant handling methods.

The EMA Steering Committee was given the following tasks for the next year:

1. Investigate further the legalities and liabilities of forming a formal organization.
2. Register the EMA as a non-profit association where it is least costly and least legally entangling.
3. Solicit a membership and collect dues (an application for EMA membership is printed below).
4. Organize the committee as to governing officers, treasurer, chairman, etc., as needed.
5. Develop a "Hot Line" for elephant problems around the country with phone numbers of members willing to talk to others.
6. Develop an individual elephant profile form for each elephant around the country dealing with temperament, history of training (who and when), what it can do and who has worked with the animal.
7. Work with the host of the next workshop (Tulsa Zoo) on a greater hands-on approach for the workshop.
8. Begin the collection and dissemination of information to the membership in form of newsletter or regular publication.
9. Provide liaisons to the AAZPA Elephant Task Force and SSP Committee.

Elephant Management Association, *Continued*

If you have any questions, comments or suggestions you may contact any of the following EMA Steering Committee members:

Fred Marion
Santa Barbara Zoo
500 Nino's Dr.
Santa Barbara, CA 93101
805-962-5339

Randy Wolfe
Knoxville Zoo
P.O. Box 6040
Knoxville, TN 37914
616-637-5331

Chuck Doyle
Burnet Park Zoo
500 Burnet Park Dr.
Syracuse, NY 13204

Charlie Gray
African Lion Safari &
Game Farm Ltd.
R.R. #1, Cambridge,
Ontario, M1R 5S2 Canada

John Lehnhardt
National Zoo
Washington, DC 20008
202-673-4783 (w)
703-354-6647 (h)

Ron Whitfield
2765 Olsen Road
Rio Vista, CA 94571
707-694-2983

David Blasko
1221 Lassen St.
Vallejo, CA 94591
707-644-4000 ext 244 (w)
707-552-1714 (h)

Cheryl Shawver
850 W. Carlisle Rd.
Thousand Oaks, CA 92360
805-497-1238

The Elephant Managers Association (E.M.A.) Articles of Incorporation and Bylaws - December 1988

Article I: Name and Objectives

Section 1: The organization shall be known as The Elephant Managers Association, a non-profit organization.

Section 2: Its objectives shall be:

- a. To gather and distribute information for higher standards of health care, safety and humane treatment in elephant training and husbandry.
- b. To promote the profession of elephant training & management.
- c. To promote better communication and relations among elephant managers through the annual workshop and its proceedings.

Article II: Membership

Section 1: The association shall consist of three membership classes: Professional, Associate and Institutional.

Section 2: Only Professional members shall be allowed to vote or to serve on the Steering Committee. Voting will be done by numbered ballot through the mail.

Section 3: Criteria for Membership

- a. Professional - anyone who has three years hands-on experience working with elephants. verification of experience may be required at the discretion of the Steering Committee.
- b. Associate - anyone interested in supporting the goals of the EMA.
- c. Institutional - any institution interested in supporting the goals of the EMA.

The Steering Committee will determine membership eligibility and continuation.

Section 4: Membership privileges

- a. Professional members can vote and hold office.
- b. Professional, Associate and Institutional members will receive copies of the proceedings of the annual workshop, all mailings of information, proposals ratified by the organization and a yearly list of all members.

Section 5: Dues and Income

- a. Dues shall be as follows: Professional \$20.00/year; Associate \$10.00/year; Institutional \$40.00/year.

Elephant Management Association. *Continued*

BY-LAWS

Article I: Steering Committee

Section 1: The governing body of the EMA will be a five-member Steering Committee elected from the Professional Members of the organization.

Section 2: The Steering Committee will determine its own officers as required by law in state of incorporation and as needed for administration of its duties. A Chairman and Treasurer shall co-sign all legal and financial papers.

Section 3: Duties of the Committee

- a. The Steering Committee will coordinate dissemination of information to the members.
- b. The Steering Committee will represent EMA or designate professional members to be their representative to other organizations.
- c. The Steering Committee shall meet annually at the Elephant Workshop.
- d. All committees appointed by the Steering Committee shall report to the Steering Committee at the annual workshop.
- e. The Steering Committee shall present a yearly financial report in the annual proceedings.

Article II: Changes and Amendments

Section 1: The by-laws may be amended at any time by 2/3 vote of Professional members.

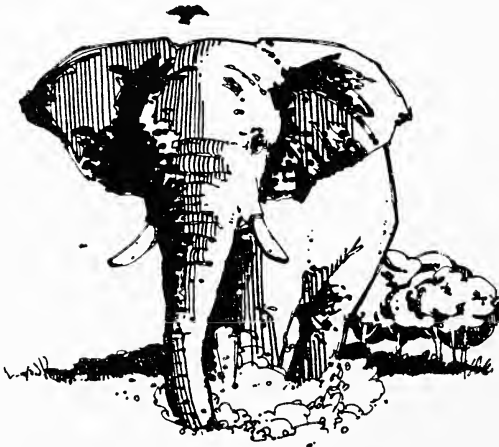
Section 2: Additions to by-laws can be made at any time by 2/3 vote of Professional members.

Article III: Election of Steering Committee

Section 1: Each Steering Committee member will serve a two-year term.

Section 2: Five members of the 1988 Steering Committee will be held over for one (1) year. Three new Steering Committee alternate members will be elected for one-year terms for 1989-90 at the 1988 conference.

Section 3: Future elections will replace the retiring two or three members in successive years and will be held with numbered ballots by mail after the annual conference each year. Nominations will be accepted in writing by the Steering Committee.



The Elephant Managers Association (E.M.A.)
Membership Application

Please fill in the requested information, select the appropriate membership class, read the statement at the bottom of the form and sign your name. Send a check for the correct amount to: *The Elephant Managers Association, c/o John Lehnhardt, National Zoological Park, Washington, DC 20008. Make checks payable to: **Elephant Managers Association.***

Name: _____

Address: _____

Occupation: _____

Institution (if applicable): _____

Membership Class Requested (Circle One):

Professional (voting) Annual Dues: \$20.00 US

Associate (non-voting) Annual Dues: \$10.00 US

Institutional (non-voting) Annual Dues: \$40.00 US

Do you wish to have your phone listed as part of a Membership Hot Line? (Circle One)

YES NO Phone: Home _____ Work _____

Please list briefly your interest in elephants. If applying for Professional membership please state history of professional experience:

Please read the following statement and sign at the end: I have read the By-laws and Articles of Incorporation of The Elephant Managers Association. I support those goals and apply to become a member of the Association.

(signature)

You will be sent a receipt by mail.

Viewpoint

Why Have Conferences?

By
Elandra Aum, Keeper
Woodland Park Zoological Gardens
Seattle, WA

Congratulations to the Tucson Chapter for a masterful job of managing the events of the 1988 National AAZK Conference. Such a complex task, engineered so well, is truly a prodigy!

Now, in the last few years, I have noticed what I perceive to be an alarming trend in the scheduling of events for conferences: More and more time spent in non-business activities. In pre-conference advertising, the recreational parts of the conference get a big play in AKE, while work-related activities get much less attention.

Item: The cockroach contest had full-page and half-page spreads, while the Australasian rap session received a few lines.

Item: Several papers and at least one workshop were rejected for lack of time; four workshops ran simultaneously. Yet there was one whole afternoon with no paper sessions or workshops scheduled.

Item: The Australasian rap session was rescheduled so as to leave everyone free to participate in the roach contest. (I'm not picking on Tucson; it's just that '88 was the latest, and therefore the freshest in our memory.)

So why are we putting on these conferences, anyway? For T-shirt contests, roach contests, and brewery tours? So everyone can lie around the pool all afternoon?

Granted, some delegates must take vacation time to attend these functions. Since they are spending their own free time there, they have no one to whom they must answer for how that time is spent, or for the results they produce. But some of us are privileged to get educational leave to attend. Some even receive some financial assistance. As one who is in such an enviable position, I feel it incumbent upon me to stay on purpose. I am keenly aware of the trust implicit in receiving this support; I am loath to betray that trust.

This article is partly from selfish motives. I would attend anyway, if I had to use vacation time for it. I much prefer educational leave. And frankly, I am highly gratified to be so trusted by my employers. But I also see this as paving the way for other keepers at other facilities to acquire the same privileges, and I hope that the time when all of us enjoy such benefits arrives soon.

I offer no objections to the time we spend on volleyball/soccer/Zoolympics. This activity is part of the tradition of AAZK conferences. And I am not requesting that other, non-business activities be eliminated; those who are on vacation should get to spend their time as they want.

My requests are two: First, that those of us who are at conferences to work, be given an alternative to leisure-time activities. Schedule a workshop or two, for instance. Second, I request that the leisure activities be given no more advertising than any of the work stuff.

When I've written to conference committees in the past, objecting to the increase in non-business activities, the usual reply is that such things are what people say they want. Which people? When polled, I've always stressed my preference for business-related stuff. Many of the keepers I've asked about this matter have stated the same preference.

To keepers and other zoo folk who go to conferences to work: Make your requests known. Write to this magazine--or better, to the conference committee--to state your preference at least one year in advance. The committees truly try to put together a conference that gives us what we want. Unless they hear from us who prefer to stick to business, we can't blame the committees for setting things up in other ways.





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- * Should you choose to shop, you may enjoy over three malls within eight miles of the hotel
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FOR YOUR CONVENIENCE.....

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1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

I will be submitting a paper Yes No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: Yes No

I am bringing an auction item: Yes No

(Describe briefly) _____

Vegetarian: Yes No (Specify type) _____

I am interested in a conference T-shirt? Yes No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
Conference '89, 500 Burnet Park Drive, Syracuse, NY 13204.

Hotel Reservation Request

1989 AAZK National Conference
October 1-5, 1989
Syracuse, NY



Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Arrival Date _____ Check-out Date _____

Room Guaranteed By: _____ Credit Card _____ Check

Master Card Visa American Express (please circle)

Credit Card #: _____

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***Make check payable to QUALITY INN NORTH. First night's deposit or credit card guarantee required. A 72-hour cancellation is required for a deposit refund.**

I will be sharing a room with: _____

Accommodations:

Single \$50.00 _____ Triple \$65.00 _____

Double \$60.00 _____ Quad \$65.00 _____

Check-in after 3:00 p.m. Check-out time is 12:00 noon. Telephone for Quality Inn North is (315) 451-1212. Deadline for reservations is 18 September 1989.

RETURN THIS FORM TO:

AAZK Conference
c/o Quality Inn North
1308 Buckley Road
North Syracuse, NY 13212-9988

ZOO DAYS

THE TRIALS OF A
CONFERENCE PLANNING
COMMITTEE.

ALAN BAKERSWORTH III, PRESIDENT
OF THE BURNET PARK AZK.



TOM, I'VE
NOTICED THAT
EVERYONE EX-
CEPT YOU IS
BUSY DOING
SOMETHING
FOR THE
CONFERENCE!!!

WE NEED YOU TO
GET OUT THERE AND
CREATE SOME NEW
IDEAS!



AYE AYE
SIR!

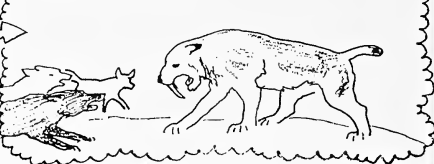


TOM SLICK,
ZOOKEEPER,
AND UNWILLING
PAWN IN THE
AFFAIRS OF
MEN AND
ANIMALS.

SO... TOM GOES ABOUT THE DAYS
DUTIES... TRYING TO THINK OF
SOMETHING UNIQUE FOR THE
1989 AZK CONFERENCE.



HERE IS THE PREHISTORIC SABERTOOTH
TIGER DEFENDING ITSELF AGAINST A
PACK OF RAVENOUS WOLVES.



THE MIGHTY SABERTOOTH TEARS
APART THE WOLF PACK, REAPING
DESTRUCTION --- UNTIL HE IS
CAUGHT IN THE INFAMOUS
TAR PIT!



OOH! WHAT IS
THIS? IT'S...
IT'S...



ALAN! I GOT A
GREAT IDEA!
A FECAL IDENTIFI-
CATION CONTEST!



NO!
NO!



Animal Management Course

By
Pundareeka Rao, Warden
Mysore Zoo, India
Sponsored Foreign Keeper

One hundred and thirty million years worth of species exist in the world, but we humans have not learned much of the Animal Kingdom or management of animals in captivity. Many of the people who do know something have learned more for the benefit of the human race than for the sake of the animals' welfare. Due to such unconsciousness there is a deficiency of proper guidance and good training in this area in our country.

A few zoos have been developed with an eye to animal welfare, having comfortable enclosures, and hygienic conditions, but even these fail in caring for animals properly due to lack of dedicated workers.

If dedicated workers be found, often the bitter pills of jealousy and bullets of politics kill their ability to work. This is one reason for the delay in developing modern zoos here. Those who don't want to work will not allow others to work even in this field of dumb animals.

Also workers fail to understand the twenty-four hour nature of zoo work (at least in emergencies) which is essential service that must be done without compensation.

Too many zoo persons are working only for the paycheck - this spoils the atmosphere of the zoo and deprives the animals of the loving care they should receive.

To mend the situation, good "Ankush" material is required today; an "ankusk" called the Animal Management Course. This is a guide for the zoo people written by zoo people dedicated and experienced in the zooworld.

When I felt a lack of detailed knowledge of the animal kingdom and its management, the Zoo Outreach Organization and the American Association of Zoo Keepers (AAZK), Zoo Atlanta Chapter, came forward to help with the Animal Management Course.

When first I heard of AAZK I thought that the Association meant formation of a union for getting demands. But after I deeply studied this Association the clear picture emerged: this Association is for "CBRE" (Conservation, Breeding, Research and Education). Materials posted by them in connection with the International Keeper Sponsorship scheme helped me to understand.



Sponsored Foreign Keeper Pundareeka Rao, a warden at the Mysore Zoo in India, works on lessons from the Animal Management Course under the mentorship of his Director. The Zoo Atlanta AAZK Chapter has sponsored Pundareeka in this correspondence course on zookeeping. (Photo: Sally Walker)

Animal Management Course, *Continued*

Later they sponsored my Animal Management Course. This course helped me to leave the dumb and old traditional methods of zookeeping.

This course is for people who look after animals in zoos. I mean working with zoo animals and a master key to gaining knowledge through the correspondence course from National Extension College.

Really this course is the "Reserve Bank" of "CBRE" deposited in a safe locker. It is our duty to spend this in a good manner. Then only can we save exotic animals.

I am learning many things about zookeeping in a scientific and modern way. It is not so easy to implement all these at one time, but step by step they can be adopted.

Especially cleaning, feeding, study of behavior, recording of data, health condition, housing, preparation of projects, etc. are the key note in the zoo. Added to personal virtues of dedication, sincerity, integrity, forgiveness and hospitality we can make our zoos better.

We should not fail in our country to build up such organization. But there should be a formation of one world Zoo's Organization to keep all off the track of evil politics interfering in zoo affairs.

"Service to the Animal Kingdom is service to God" is the key to dedicated professional animal care.

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Mule Deer of the High Sierra, California: trek the pristine wilderness of the Sierra to track mule deer. Find out why some deer migrate into the high country each year in search of food while other species stay behind. **Expedition dates:** 5-16 July, 29 July-9 August, 22 August-2 September, 1989.

Birds of the Kakamega Rain Forest, Kenya: observe exotic birds in the Kakamega Reserve. The reserve is known for its extraordinary diversity of life, with over 340 species of birds and 100 species of trees. **Expedition dates:** 20 June-7 July, 1989.

Predicting Extinction: A study of Pikas of Montana: survey the mountains of Montana for the rock-dwelling pika, a small rabbit-like mammal. Gather data which will enable scientists to predict when a species is in danger of extinction. **Expedition dates:** 5-19 August, 20 August-3 September 1989.





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Information Please

Anyone having information on rehabilitating insectivorous bats and who has successfully released them are asked to send all pertinent information to: Ken Kunde c/o Little Rock Zoo, #1 Jonesboro Drive, Little Rock, AR 72205.

I am directing a project, funded by the National Institute of Health, which is looking at the cellular mechanisms responsible for post-menopausal osteoporosis. The resorption sites in these human bones occur through something called an Haversian system. Interestingly, while smaller primates (bush baby) have the capacity to lose bone in this manner, rodents of similar size (mice, rats), do not. We are very interested to see if much larger rodents, of various species, up to and including the largest Capybara, also have the capacity to "avoid" osteopenia in this manner. We are eager to find a source of skeletal specimens, ideally femur and tibia, of adult animals through the range of size of both orders of primate and rodent.

If any zoological facilities which have experienced deaths in any of the primate or rodent species have skeletal remains which they would be willing to allow us to use for research purposes, we would be most grateful. Please contact: Clinton T. Rubin, Ph.D., Associate Professor, Director, Musculo-Skeletal Research Lab, Dept. of Orthopaedics, Health Sciences Center, State University of New York at Stony Brook, Stony Brook, NY 11794-8181. Telephone: (516) 444-1485.

I am looking for any information regarding Barbary apes (*Macaca sylvanis*) in zoo environments. Particularly involving aggression, introducing groups together, and introducing a new male. Any assistance would be appreciated. Please write to: Christine Corrie, Live Collections, Metro Toronto Zoo, Box 280, West Hill, Ontario M1E 4R5 Canada.

EXPERTS WANTED Do you have a particular speciality in the handling/care of native wildlife? After receiving a call from a U.S. Fish and Wildlife agent looking for someone who was expert at rehabbing one-legged eagles and not knowing who to call, I would like to compile a list of native wildlife experts. If you have a handling tip, are an "expert" in a particular field or with a particular species, would you please contact: Karen Starr Wakeland, P.O. Box 629, Midlothian, TX 76065.

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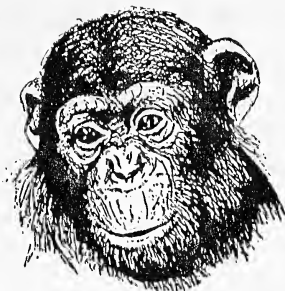
Travelers overseas, especially those visiting tropical countries, may have trouble with the U.S. Customs Service if they have innocently purchased souvenirs or gifts derived from certain protected species of wildlife. Sea turtle products are openly sold in both Mexico and the Caribbean. The Far East is another area where products from endangered or protected species are sold.

The American Society of Travel Agents, World Wildlife Fund and U.S. Fish/ Wildlife Service have published a brochure titled "Buyer Beware!" to help tourists avoid contributing to the extinction of endangered animals. Contact TRAFFIC, World Wildlife Fund, 1250 24th St. NW, Washington, DC or call 800-634-4444 for a free copy of this brochure.



The Importance of Charting Estrous Cycles in Captive Chimpanzees

By
Rusty Harr, Animal Caregiver
Primate Foundation of Arizona
Tempe, AZ



The Primate Foundation of Arizona is a non-profit, tax-exempt corporation devoted to the study, propagation, and preservation of the chimpanzee (*Pan troglodytes*). There are presently 58 chimpanzees in the colony, with 37 births having occurred since 1973. This number includes 19 females which are, or have begun, their reproductive cycles. Along with documenting the daily health of each animal, the reproductive cycles of the females are charted. Monitoring the reproductive cycle is important for determining pregnancy or other abnormal interruptions which may relate to the animal's general health.

It is generally thought that a female chimpanzee's sexual cycle lasts about 36 days (Goodall, 1986). It includes four stages - a pre-swelling phase, the swelling phase (or tumescence), a post-swelling stage (detumescence), and the menses. Each chimpanzee differs in her estrous cycle in two ways - the time required for each cycle phase and the size of the swelling itself (Keeling and Roberts, 1972), (e.g., some females swell to the size of a volleyball, while others may only attain the size of a baseball).

Following pregnancy and birth, estrous cycling is arrested during the period of post-partum amenorrhea. If an infant is permanently pulled from its mother shortly after birth (for whatever reason) the mother may resume cycling within months. However, if the mother-infant pair is allowed to remain together amenorrhea may continue for several years. The duration of lactation, suckling, and amenorrhea has not been studied extensively in apes, but it might be assumed that a captive mother chimpanzee would parallel her wild counterparts and give birth every 4 to 5 years. Ongoing research may determine an average length of time between birth and resumed cycling and/or ovulation but for now that figure is unknown.

Each individual also has a characteristic pattern to her cycle. Some may be shorter than others and the rate at which a female progresses through tumescence to detumescence also varies with the individual. Identifying the individual's pattern, thus her normal cycle, may take several months. Once the normal cycle is determined, though, the charts become an important tool in monitoring changes that would indicate pregnancy or even, perhaps, illness that has yet to manifest itself in other ways.

Age at the beginning of cycling may range from six years in captivity (Keeling and Roberts, 1972) to eight years in the wild (Goodall, 1986). The earlier beginning age in captivity may be due to the accelerated effects of captivity seen so often in other species and even in larger human urban areas (Tutin and McGinnis, 1981). These first cycles in adolescents are very erratic and the swellings are small. Earliest indications are puffiness and usually deepening of the pink coloration of the sex skin. The swelling gradually increases in size as time passes. These first acyclic swellings may remain for an unusually extended period of time, and only occasionally subside. Over the next couple of years the cycle becomes more cyclic, and the individual's normal pattern emerges.

Once the normal cycles have been determined and recorded they are a valuable tool. Interruptions in the cycle are easily recognized, yet may be due to several factors. Certain illnesses may trigger an interruption in the regular cycle. Behavioral changes might occur in connection with such an illness. In addition, cycle changes could be due to some major trauma. Wounds, contusions, or severe falls could indicate that such is the case. In either instance, the veterinarian should be notified immediately to avoid a worsening of the problem.

The Importance of Charting Estrous Cycles in Captive Chimpanzees. *Cont'd.*

The more common factor in the interruption of cycling is, obviously, the process of birth and infant rearing. Determination of pregnancy can be made by cycle chart alone (with the help of subsequent behavioral observations). This eliminates the need for such tests as the non-human primate pregnancy test, which have often been known to give erroneous results.

Menstrual bleeding can be one of the most difficult items to note for several reasons. Generally, the amount of bleeding is not great and only lasts for a couple of days. Cage shadows or the positioning of the female may obstruct the sighting. Also, the female, or a cagemate, may clean the blood off, or it can be inadvertently cleaned off by cage furniture or substrates. However, it is obviously very important to note in attempting to determine pregnancy.

Many zoos already chart estrous cycles, but many still do no formal charting at all. The charting method used at the Primate Foundation is fairly simple, and similar in many ways to some methods used in zoos. The animal care personnel make a visual check of each female every day. Checks can be made while cleaning, feeding, or on general inspection rounds. Daily fluctuations of sexual swellings are highly individualistic, therefore, it is necessary to be familiar with the individual's normal cycle. As the persons most familiar with the animals then, the keepers should be the ones to do this charting.

Peak estrous is defined by the Primate Foundation as a very taut skin with no wrinkles or sags. Complete detumescence is defined as no swelling, flaccid with many wrinkles. The level of swelling is recorded on a monthly graph paper chart. An example of a colony chart is in Figure 1. Each square indicates one day of the cycle. The square is a "picture" of the swelling. For example, the greater the degree of swelling the higher one would shade in an area of the square. A fully shaded section indicates peak estrous. A slash within a daily square indicates complete detumescence. It should be said that this system, like many others, is purely subjective. It is based upon the keeper's knowledge of the individual animal's swelling. However, we consider it to be more accurately fine tuned than a numbering system. The slightest change in the swellings can be recorded without waiting for a quantum rise or fall. It is, therefore, more representative of the actual changes that occur over the entire estrous period.

Additional information contained within this chart include the names of males which have access to the females and symbols for copulations. In groups with more than one male present the initials of the male copulator are also included. There are also symbols to note menstruation (in our case a dot or period is used).

Each month the charts are transferred to larger permanent graphs that can be referred to at a later date. These graphs give a long-term visual record of each animal's cycles. An example is shown in Figure 2. This chart is not set up according to month or date. It is set up to approximate the beginning of each estrous cycle. The dates are, of course, displayed, but with each line being the beginning of a cycle it makes the chart much easier to visualize.

Care should be taken when recording adolescent cycles. Notations should be made on the charts as to the age of the young female to avoid mistaking these cycles for abnormal adult cycles when referred to at a later date.

When figuring conception and delivery dates the permanent charts are invaluable (Figure 2). In the case of the 28-year-old female, Millie, her last normal cycle is easily visible. It lasted from 28 February to 20 March 1988. Ovulation in the chimpanzee usually occurs on the last full day of estrous (Goodall, 1986). According to the chart the last day of peak swelling was 16 March, 1988, on which date a copulation was also noted. After this normal cycle Millie cycled erratically. There were two short, abnormal swellings spaced unusually far apart. Since that time she has not come into estrous at all. All the evidence, therefore, points to pregnancy. And, indeed, her pregnancy was suspected and determined as early as May of this year. Given an average gestation of 227 days (plus or minus 1-days) the next Primate Foundation birth can be estimated to be 20 October 1988.

The Importance of Charting Estrous Cycles in Captive Chimpanzees.

Cont'd.

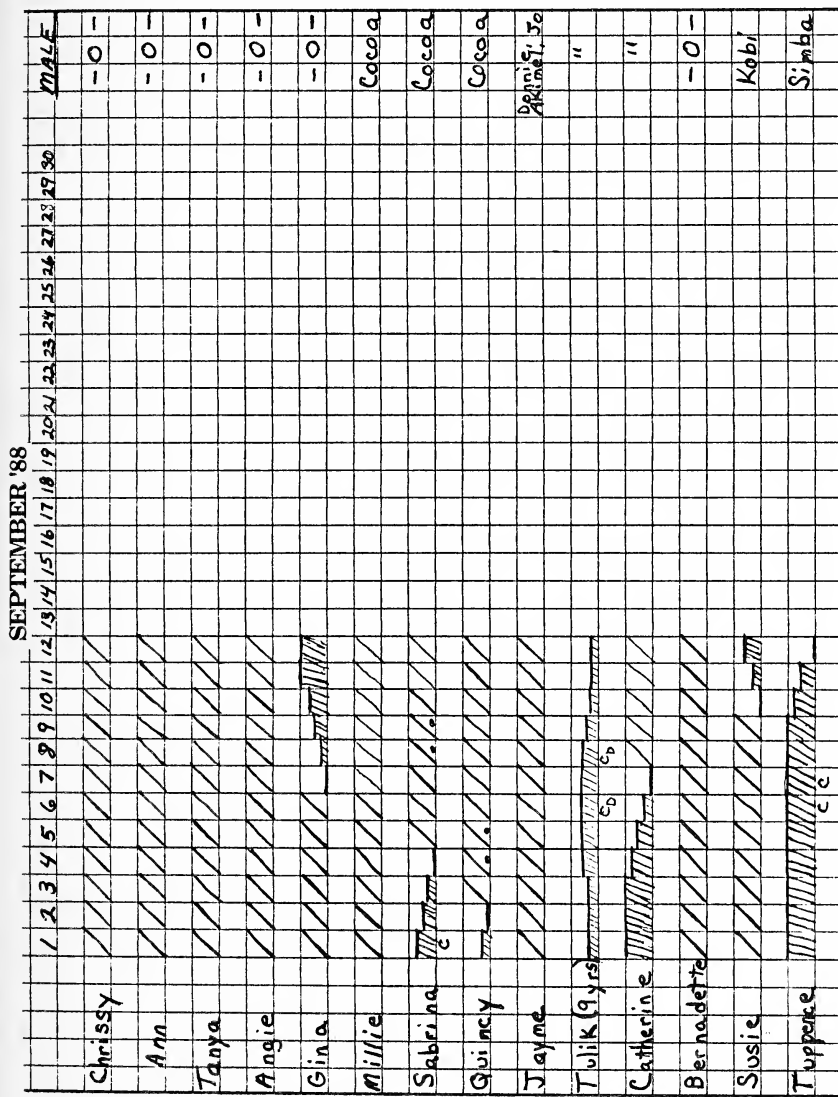


FIGURE I

The Importance of Charting Estrous Cycles in Captive Chimpanzees.

Cont'd.

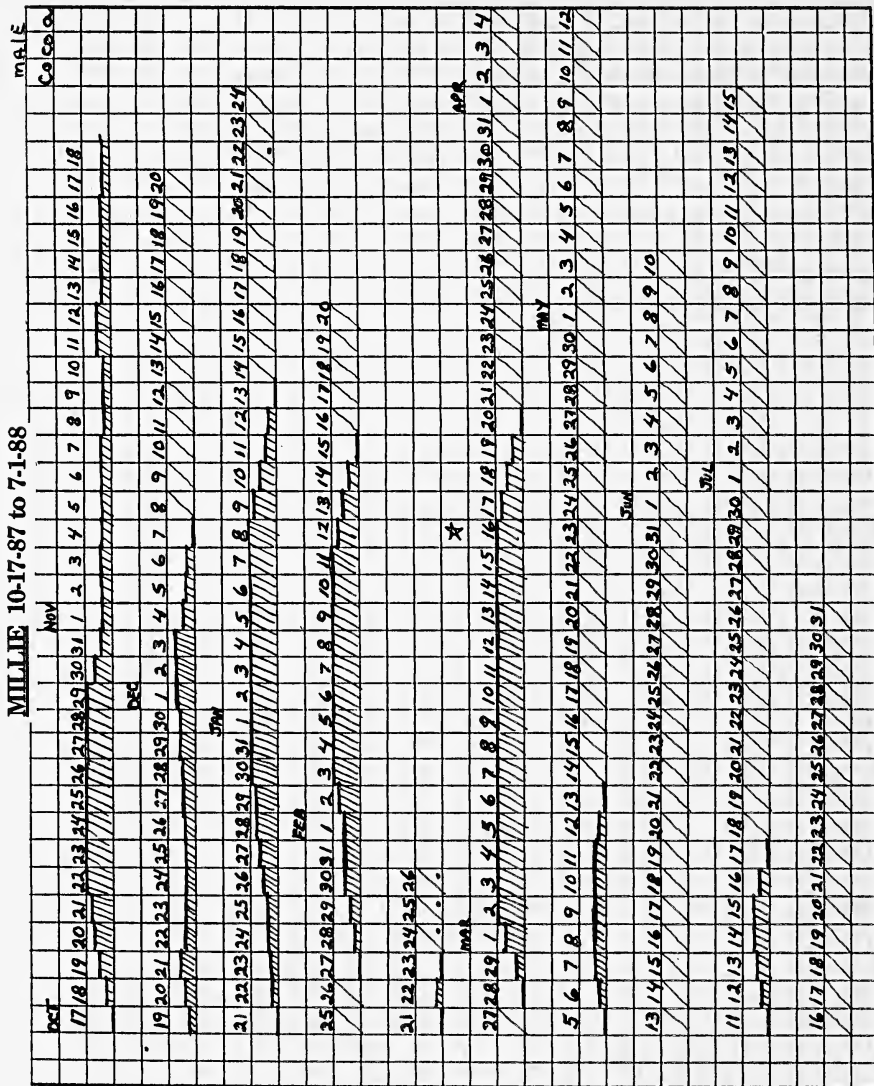


FIGURE 2

The Importance of Charting Estrous Cycles in Captive Chimpanzees.

Cont'd.

The process of graphing and charting estrous cycles at the Primate Foundation has its good and bad points. It can be time consuming, especially at first. Time is needed to learn each animal's characteristics, and the visual cues of each stage of the estrous cycle. It also requires a few extra hours to transfer the monthly colony charts to permanent individual records. However, these minuses pale when put up against the pluses. First, most facilities will have far fewer than 19 females to chart, so time restraints are reduced accordingly. Secondly, the ability to predict events, such as births, and the additional clues of general health make up for the extra required time.

It would be fairly easy and useful to adapt this type of estrous charting system to fit species other than the chimpanzee. A very similar method could be used for some Cercopithecines, notably members of the genus *Papio*, and perhaps other apes. The latter would require certain modifications since there may only be a labial swelling instead of a full sex skin swelling. Interpretation, of course, would also be changed due to differences in cycle length, gestation, etc.

When one considers that the adult life of a female primate is spent either cycling or caring for an infant it becomes obvious that as much should be done as possible to determine whether an animal is cycling normally or is pregnant. One needs no other justification if it adds to the knowledge of the individual's general health. If it is a healthy animal, the knowledge of its reproductive state assists keepers and medical personnel in making management decisions with regard to that animal and its cagemates. The Primate Foundation has never failed to determine illness or pregnancy. It has never been more than a cycle off in determining a delivery date, and that was in an adolescent female with irregular cycles. In the spirit of helping the captive chimpanzees, and those who care for them, the Primate Foundation of Arizona would be happy to correspond with anyone having questions concerning our charting methods. We would also be happy to assist anyone who would like to start monitoring their own animal's cycles.

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Need membership information? Want to learn more about AAZK or start a Chapter or become more active - then call your RC! They will be glad to assist you with any information you need about AAZK.



Chapter News

Binghamton Chapter of AAZK

AAZK is pleased to welcome the Binghamton Chapter into the Association. This Chapter is made up of individuals from the Ross Park Zoo. Their Chapter's mailing address is: Binghamton AAZK Chapter, 185 Park Ave., Binghamton, NY 13903.

The Chapter's officers are:

President.....Timothy J. French
Vice President.....Lynn Leindecker
Secretary.....Deidre Flaherty
Treasurer.....Nancy Stengal

Jacksonville Chapter AAZK

Since becoming a Chapter on 1 November, 1988, we have been quite busy. Our first endeavor as a Chapter was to start an aluminum can and newspaper collection. This was initiated for its recycling aspects and to help clean up our environment. We are planning to keep this project ongoing.

On 19 and 20 November, we had our first bake sale. As the dates of the sale approached I watched weather reports and saw, with disappointment, rainy days predicted. One entire shelf of our diet kitchen cooler filled up with every imagined delicacy to tempt your taste buds. I envisioned a rained-out weekend with no zoo visitors to buy these goodies and 20 very chubby members. As luck would have it, the weathermen were wrong. The days of the bake sale the skies were clear, zoo attendance was high, and we made \$247.00!

Our next project involved adopting a manatee through the SAVE THE MANATEE organization. This was something every member of the Chapter saw fitting for us as we are a Florida Chapter and have manatees frequenting our area. In the first newsletter we received from the organization we were pleased to learn

our adopted manatee, Success, has been sighted with new offspring.

For the Christmas holiday we dove head first into a goodwill project of adopting a needy family. I watched in amazement as members and all zoo employees gave endlessly from their hearts. Our employees' breakroom was packed with canned goods, toys, clothing, household goods and Christmas decorations. It has been said that every Christmas has a magic moment when you truly feel the spirit of Christmas. My moment came this year when we delivered those collected good to that family and saw the joy in their faces, knowing that we, as a Chapter, made that joy possible.

Our Chapter artist, Cheryl Lunger, finished our logo after redoing it several times. Cheryl should be commended for her patience with us and our many changes. The logo (see insert) has a giraffe (from our zoo's logo) and a rhino (from the National logo) in it. We chose these two animals to show continuity between the National Association and our local Chapter. We are now looking into ordering some T-shirts with our logo imprinted on them for sale to the general public and our members.



Chapter News, Continued

December of 1988 we found ourselves appointing a steering committee to comprise an overview of goals for the coming year. One of the ideas this committee suggested was that we try to host a symposium. No dates have been set, but at this time I would like to ask other chapter members to contribute any information you might have on hosting a symposium, or just some facts on symposiums you might have attended.

In January our Chapter elected a new officer. Jeff Bullock is our new Program Coordinator/Sgt.-at-Arms, replacing Dennis Glaze in that position.

--Betty A. Grogan
President / Chapter Liaison

Toledo AAZK Chapter

New officers elected in February are:

President.....Wayne Carpenter
Vice President.....Virgil Baird
Secretary.....Suzanne Husband
Treasurer.....Mike Dilley
Advisor.....Bruster Burkhart
Chapter Liaison.....Dale Leeds

Our Chapter will hold its annual conservation fundraiser on 24 February. Proceeds will benefit the Ngare Sergoi Rhino Sanctuary in Kenya about which you have previously read in AKF. A report on this project will be submitted in a later AKF issue.

We would like to express our continued interest in and support of the new regional coordinator system now in place in our region. I participated in the most recent of our quarterly regional meetings and am very impressed with its potential as were the other delegates.

--Dale Leeds, Chapter Liaison

AAZK is pleased to welcome the **Roger Williams Park Zoo Chapter** into the Association. The Chapter's mailing address is: Roger Williams Park Zoo AAZK, Roger Williams Park Zoo, Elmwood Avenue, Providence, RI 02906.

Officers for the Chapter are:

President.....Jeannette Nadeau
Vice President.....Gregory George
Secretary.....Brenda Hassell
Treasurer & Chapter Liaison
...Paula D. Smith
Board Member-at-Large
...Dan Miller

Brookfield Zoo AAZK Chapter

Sales of this Chapter's amusing zoo animal anecdote book "What Kind of Animal Are You?" have been going well. The Chapter recently sent AAZK Administrative Offices a check for \$275.00 which represents 50% of the profits derived from the sale of the book. The volume, which is a collection of zoo keepers' favorite anecdotes about their work, the animals, and the visitors, has proven so popular that they have gone into their second printing.

If you are interested in having a copy, they may be purchased for \$4.20 each which includes postage and handling. Send check or money order (U.S. Funds only) made payable to "Brookfield AAZK Chapter" to: Zoo Stories Book, Brookfield AAZK Chapter, 3300 Golf Road, Brookfield, IL 60513.

Flint Hills Chapter AAZK

The Flint Hills AAZK Chapter (Manhattan, KS) held their annual officer elections in January. Officers for 1989 are:

President.....Mike Quick
Vice President.....Kale Bedinghaus
Treasurer....Jennifer Boyce
Secretary.....Tim Marshall
Chapter Liaison.....John Davis

--John Davis, Chapter Liaison

Zoo Atlanta AAZK Chapter

Newly elected officers for this year are:

Co-President.....Ellen Bradfield
Co-President.....Bernie Gregory
Vice President.....Charles Horton
Sec/Treas.....Gary Roesinger
Chapter Liaison.....Lisa Hughes

Chapter News, Continued

Cheyenne Mountain Chapter

The Cheyenne Mountain AAZK Chapter, located in Colorado Springs, Co, recently donated \$25.00 to the Animal Data Transfer Form Project. Our thanks to the Chapter for their donation to this worthwhile project.

The ADT Forms, conceived and distributed by AAZK, are used by many zoological institutions nationwide whenever an animal is shipped to a new facility. The forms, produced in triplicate carbons, provide information on the animal's history, medical status, dietary considerations, reproductive history, etc. This information is then given to the administration, veterinary staff and keeper staff at the receiving institution.

Bernie Feldman, keeper at the Burnet Park Zoo in Syracuse, NY, was the originator of the project and continues as its coordinator. The ADT Forms are provided to zoological institutions free as a service of AAZK. Forms may be ordered by contacting Bernie at Burnet Park Zoo, 500 Burnet Park Dr., Syracuse, NY 13204. If your institution does not currently use the ADT Form, please encourage your administration to implement its use.

San Diego AAZK Chapter

Recently elected to serve on this Chapter's Board of Directors are:

Teresa Everett, SDWAP
Nolan Harvey, Sea World
Andrew Johnson, Sea World
Kim Livingston, San Diego Zoo
Chris Peterson, San Diego Zoo
Celeste Schwenn, San Diego Zoo

These six individuals join Heidi Ensley, Debra Erickson and Terri Schuerman on the Chapter's governing body.

In January CRES Researcher Nancy Harvey presented a program entitled "Sex and the Single Primate" at the Chapter's monthly meeting.

During February members of the San Diego AAZK Chapter from both the Zoo

and WAP, participated in a two-hour whale-watching trip. Two trips were planned, one for 15 Feb. and another on 19 Feb. They were led by expert naturalists Celia Condit Taylor and Chris Peterson.

In March the Chapter met at Sea World where SEACO trainer Steve Meck presented a slide show on killer whales in the wild and in captivity. Following the presentation, those attending were treated to a behind-the-scenes visit to Baby Shamu.

In April the Chapter will be holding a benefit lecture program to raise money for the Ngare Segoi Black Rhino Sanctuary in Kenya. AAZK member and Columbus Zookeeper Andy Lodge will give a presentation on the Sanctuary, its founders, Karl and Anna Mertz, and the plight of this most endangered mammal. The Chapter is hoping to raise \$2,000 for the sanctuary.

--The Keeper, Feb. 1989

Greater San Francisco Bay Area AAZK Chapter

Media interest in Ecosystem Survival Plan continues. The February issue (Vol. 12, No. 2) of *Life* magazine has a photograph in the "snapshot" section of an ESP parking meter. This comes on the heels of national exposure in the December 12th issue of *Newsweek*.

We are planning a night of wild fundraising at the Haight Street "Rock and Bowl" in San Francisco on 13 May. We are hoping that 100 bowlers will be able to raise \$10,000 in one evening, with the majority of the funds going to ESP.

Our recent Chapter meeting hosted speaker Ann Zoidis of San Francisco State University. Her paper on biomedical and nutritional composition of eucalyptus correlated to the feeding preferences of the koala was recently published by the American Society of Zoology. This work has broad applications for those interested in conducting research in zoos.

--David Boctan
Treasurer



Hints on Surviving and Working in the Harsh Southern Arizona Winters

By
Ed Hansen, Zookeeper I
Reid Park Zoo, Tucson, AZ

(With apologies to those of you who must deal with the winter elements on a daily basis. No hate mail, please.)

In this article I will try and set forth basic guidelines for dealing with our sometimes hostile winter environment. It has been reported that these same weather conditions also exist in both the southern parts of California and Florida.

If it is a particularly awful day, call in sick. Management, however, usually takes a dim view of this tactic. Therefore follow these simple rules.

Dress

1. It is important to dress in layers. Layered clothing can be shed readily. By 1:00 p.m. it will be 70 degrees so you'll need to be able to get down to the T-shirt and shorts quickly.
2. Gloves are an optional part of the winter uniform, something in basic black is always nice. It also depends on where you are dining that evening.

Frozen Locks

Frozen or stuck locks are quite common in winter. The procedure for dealing with them is as follows:

1. Cup the offending lock gently in both hands for 3-4 seconds. The warmth from your body should melt the ice. If the lock stubbornly refuses to open, then:
2. Taking care not to touch the lock with your lips or tongue, breathe on the lock, the warm breath or lingering alcohol from the night before should melt the ice. (Placing one's tongue on a frozen lock usually results in the two freezing together. This is the primary reason that most zoos now have their keepers carry two-way radios. If an accidental freeze occurs, they can radio for help, usually with Morse Code.) If the lock is STILL frozen, then try my personal favorite:
3. Go service another exhibit that happens to be in the sun. You can always return in 5-10 minutes when the offending lock is in full sunshine.

Washing Exhibit Windows

When temperatures dip below freezing it is usually difficult to wash exhibit glass because the soapy water tends to freeze right over making an incredible, yet artistic mess.

Therefore the following steps should be taken:

1. Avoid washing ANY exhibit window in ANY season. If management balks at this, then:
2. Refer to number 3 above.

Surviving Southern Arizona Winters, *Continued*

Frozen Hoses

The problem of frozen hoses has a simple, preventative solution according to management. Hang the hoses up, and allow all the water to drain from them. Sure, I just spent 30 minutes in a frozen tundra cleaning an exhibit and now I'm going to drip water all over myself in order to make sure every last drop has vacated the hose? Then I'm going to acrobatically string the hoses over every available nail and post so if by chance water remains, it will drip out? Not me. The solution. Microwave oven. 30 seconds on thaw usually does the trick.

Sidewalk Ice

1. Sprinkle liberally with Margarita salt and a dash of lime.
2. Go to a break.

These are but a few of the problems that confront keepers who work in the hostile environment of the Southern United States. As you can imagine the winters are tough to handle. They must be even tougher in Canada, where the summer season is from the last Tuesday in July until the 2nd Friday in August. But take heart, by the time that you read this, every single person in Arizona will be sweating, profusely.



POSITION WANTED

Australian Zoologist seeks short-term projects in North America. Experience includes eleven years in Australian zoos and two years research in Papua New Guinea. British and Australian qualifications include Master's Degree in Zoology and Diplomas in Animal Husbandry, Administration and Education.

**Contact: Roy Fairfax
26 Dayana Street
Marsden, Queensland
4132, Australia**



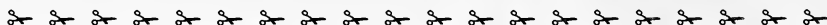
AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

SUPERVISOR/MAMMALS...requires supervisory experience and experience with a diverse mammal collection. Prefer degree in zoology or related field, but experience may be substituted. Knowledge of design and construction would be useful. Will supervise a diverse mammal collection, plan and oversee exhibits, assist in breeding/research projects. Salary \$14,700 plus benefits. Have interested persons contact: J.P.Yelverton, Director, Louisiana Purchase Gardens & Zoo, P.O. Box 123, Monroe, LA 71210-0123. Resumes must be sent by 1 April, 1989.

DIRECTOR...Massachusetts Division of Fisheries and Wildlife. Serves as the administrator of the Division which is responsible for the state's game and nongame wildlife and fisheries. The annual budget is approximately \$6,000,000 and there are 143 employees. Salary \$42,466 to \$53,190. Applicants should send CV and list of references by 1 April, 1989 to: Dr. Gwilym S. Jones, Chairman, Director Search Committee, Fisheries and Wildlife Board, Division of Fisheries and Wildlife, Leverett Saltonstall Bldg., 100 Cambridge Street, Boston, MA 02202.

The following 3 positions are at the National Fish and Wildlife Forensics Laboratory, a division within the Dept. of Interior USFWS. For further information contact: Ken Goddard, Director, National Fish and Wildlife Forensics Laboratory, 1490 E. Main St., Ashland, OR 97520 (503) 482-4191.

CHIEF MORPHOLOGIST...will supervise the Morphology Section, consisting of a Mammals Unit, a Birds Unit, and a Reptile Unit. He/she will also direct research in developing wildlife parts and products ID techniques, and function as the principal authority on taxonomy and systematics in wildlife forensics cases. Pay scale: GM-14 (\$41,121-53,460).

SENIOR MAMMALOGIST...will develop forensic identification techniques, conduct morphological comparisons of mammalogy related evidence items (such as hair, fur, leather, hides, tusks and claws), and testify as to those analytical results in court. He/she will be the primary in-house forensic expert on mammal parts and products. Pay scale: GS-12 (\$34,580-44,957).

SENIOR HERPETOLOGIST...will develop forensic identification techniques, conduct morphological comparisons of herpetology related evidence items (such as reptile hides and leather products), and testify as to those analytical results in court. He/she will be the primary in-house forensic expert on reptile parts and products. Pay scale: GS-12 (\$34,580-44,957).

The following positions are available at the Baltimore Zoo. Resumes should be sent to: Personnel Department, Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217.

ANIMAL KEEPER/BIRD DEPT....each candidate must have one year paid experience in the care and handling of a variety of birds, excluding pets; or have 6 months experience in the care and handling of animals in a zoological institution, or have a bachelor's degree from an accredited college or university in biology, zoology, animal science or veterinary technology. Eligibility for a driver's license is required. Under the direct supervision of a Senior Keeper and/or Curator. Salary \$15,000 - \$17,000.

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Opportunity Knocks. *Continued*

ANIMAL KEEPER/MAMMAL DEPT....each candidate must have one year paid experience in the care and handling of a variety of mammals, excluding pets; or have 6 months experience in the care and handling of animals in a zoological institution, or have a bachelor's degree from an accredited college or university in biology, zoology, animal science or veterinary technology. Eligibility for a driver's license required. Under direct supervision of a Senior Keeper and/or Curator. Salary \$15,000 - \$17,000.

ASSOCIATE MAMMAL CURATOR_{II}...responsible for accession and deaccession of all mammal records, scheduling personnel, conduct and coordinate nutritional research programs, review and collate necropsy information, oversee commissary operation, participate in animal management programs. Masters Degree in related science with emphasis in animal nutrition required. Deadline for acceptance of applications for this position is **20 March 1989**.

ZOOKEEPER...requires one year experience or degree in related field. Will be responsible for daily care of mixed collection. Salary \$10,000 plus benefits. Send resume by **24 March 1989** to: Timothy French, General Curator, Ross Park Zoo, 185 Park Ave., Binghamton, NY 13903.

ZOOKEEPER-GUIDE...requires high school diploma. Good communication skills and neat appearance essential. Paid zoo experience desirable but will consider others. Responsible for caring for, but not limited to small and large mammals. Starting salary \$12,870 per year plus health insurance. Send resume by **15 April 1989** to: Soco Gardens Zoo, Rt. 1, Box 355, Maggie Valley, NC 28751.

SEASONAL ZOOKEEPER-GUIDE...three positions available May through October 1989. Good opportunity for those desiring paid zoo experience. Requires high school diploma. Prefer persons with experience in caring for small and large mammals but we are willing to train persons with a desire to learn and a willingness to work. Good communication skills and neat appearance essential. Salary \$175.00 per week, plus lodging, utilities and uniforms. Send resume by **15 April 1989** to: Soco Gardens Zoo, Rt. 1, Box 355, Maggie Valley, NC 28751.

For more details regarding either of the above two positions, you may contact Jim or Beverly Miller at (704) 926-1746.

CARNIVORE KEEPER...requires at least two years experience with carnivores and direct involvement with a cheetah breeding program. A degree in biology or related science is desirable. Salary commensurate with experience. Send resume and references by **31 March 1989** to: John Lukas, Director, Wildlife Conservation, White Oak Plantation, Rt. 3, Box 224, Yulee, FL 32097.

The following 2 positions are available at Zoo Atlanta. Send resume to: Gloria Hamor, Commissary Supervisor, Zoo Atlanta, 800 Cherokee Ave. S.E., Atlanta, GA 30315.

COMMISSARY TECHNICIAN II...immediate opening. Requires a high school diploma and the ability to operate commissary vehicles, college course work in or experience with animal diet preparation and care of food animals. Some supervisory experience preferred. Will be responsible for food pick-up and delivery and assisting in the general operation of and occasional supervision of the commissary.

COMMISSARY TECHNICIAN I...requires high school diploma, physical ability to lift 50 pounds, the ability to accurately calculate simple mathematical equations dealing with fractions and percentages. Duties will include diet preparation, stock rotation, and maintenance of a live food room.

ZOOKEEPER TRAINEE...position working with mammals, primarily hoofstock, under the direction of the Supervisor of Mammals. Prefer applicant with some experience with exotic animals; college degree or studies desirable. Starting salary \$4.80/hr.; partial benefits, with opportunity for advancement to full-time position. Send resume by **25 March 1989** to: Jack Meyer, General Curator, Jacksonville Zoological Park, 8605 Zoo Road, Jacksonville, FL 32218.



AAZK Membership Application

Name _____ Check here if renewal []

Address _____

_____ \$25.00 Professional
Full-time Keepers

_____ \$20.00 Affiliate
Other staff & volunteers

_____ \$25.00 International
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U.S. & Canada

_____ \$15.00 Associate
Those not connected
with an animal facility

_____ \$15.00 Library
Library subscription only

_____ \$50.00 Contributing
Organizations and
Individuals

Directory Information: Zoo: _____

Work Area: _____ Special Interests: _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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April 1989



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Director of Regional Coordinators - Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

This month's cover art features a female lion cub named Arusha from the Topeka Zoological Park. Arusha, her sister, Manyara, and an unrelated male named Samburu are destined to form the pride for the zoo's new exhibit, Lions Pride. African lions (*Panthera leo*) are the only members of the cat family to live in social groups consisting of anywhere from four to 30 animals. The females are usually all related. Male cubs move out of the pride as they mature, but female cubs will remain with their natal group. The drawing is by Fawn Prevost, a former keeper at the Topeka Zoological Park. Thanks, Fawn!

Scoops and Scuttlebutt

Nominations & Elections Committee Update to AAZK Membership

from Rachel Rogers, NEC Chair

There has been a wonderful response to this year's nominations for two positions to be elected later this year. The two Board of Director's positions going to a vote are those held by Susan Barnard and Brint Spencer [Kerry Hoffman].

Sue Barnard of Zoo Atlanta has decided not to run for the Board this year after many years of service to the AAZK Board of Directors. Brint Spencer of the Minnesota Zoological Garden, has decided to run for re-election in an effort to remain active on the Board. Brint originally was appointed to the Board to fill the midterm vacancy created when Kerry Hoffman resigned to pursue career interests.

The new forms created by the past committee have made the mechanics of the nomination process run more smoothly. There were an equal number of males and females nominated, but we are still leaning to the east on state representation. We need you westerners to become more involved with the running of our Association. If you or a member of AAZK that you know is interested there 's still time to find out if you would like to run for the Board in subsequent elections.

Get your 'ears wet' by joining a committee or becoming an officer of your local chapter. The more involved you become as a member, the more you will be able to determine if the Board of Directors is for you. Most importantly, attending a national conference to see how the Board of Directors functions can give you an indication of the level of responsibility it encompasses. So, don't think it's over. It could be the beginning for you!

If you have any questions or concerns about the NEC, please contact: *Rachel Rogers, Chair, AAZK Nominations & Elections Committee, Metrozoo, 12400 SW 152 St., Miami, FL 33177 (305) 251-0403.*

1989 Board Nominees

Ed Hansen, Reid Park Zoo, Tucson, AZ
Rosemary Jalink, Baltimore Aquarium, Baltimore, MD
Janet McCoy, Washington Park Zoo, Portland, OR
Holly Reid, Burnet Park Zoo, Syracuse, NY
Brint Spencer, Minnesota Zoological Garden, Apple Valley, MN
Willis J. Whittaker, Toledo Zoological Park, Toledo, OH

Scoops and Scuttlebutt. *Continued*

(Ed. Note: Only professional members of AAZK may vote in a Board of Directors election. Ballots and biographical sketches of the candidates will be mailed to all professional members in May. Completed ballots must be returned to AAZK Administrative Offices postmarked no later than 1 June 1989.)

Librarians Group Offers Bibliographies

The AAZPA Librarians Special Interest Group is offering over 40 bibliographies and reading lists to interested persons. A free list of what is available can be requested from Suzanne Braun, Bibliography Coordinator, Indianapolis Zoo Library, 1200 West Washington St., Indianapolis, IN 46222.

Herp Colloquium Planned for '89 AAZPA Conference

A special colloquium on the Conservation and Captive Propagation of Reptiles and Amphibians will be held in conjunction with the 1989 Annual Conference of the AAZPA in Pittsburgh, PA from 24-28 September. For details contact: *Kevin Bowler, Audubon Zoological Gardens, 6500 Magazine St., New Orleans, LA 70178. (504) 861-2537.*

Ngare Sergoi Rhino Sanctuary Update

The following letter was received at the AKF office from Anna Merz, founder of the Ngare Sergoi Rhino Sanctuary in Kenya. It is a copy of the letter sent to The Ngare Sergoi Support Group, Columbus, OH. Since Andy Lodge has spoken to many AAZK Chapters about the rhino sanctuary, and a number of Chapters have held fundraisers for the Sanctuary, we thought it would be of interest.

Dear Members,

Yesterday I received from the Trustee of the Ngare Sergoi Charitable Rhino Turst in Jersey, C.I. his account for the year 1988 showing that donations from your Support Group under Andy Lodge amounted to the truly amazing sum of \$23,800. I cannot tell you how deeply grateful and appreciative I am of all of you who by your work and your generosity have made possible the collection of this huge sum of money which amounts to about 25% of the running cost of the Sanctuary which in 1988 totalled \$96,420. Added to this money I also received from your Group 9 pairs of field glasses.

My trustee tells me that this year he has already received from you a further \$3,500 and Andy has brought with him a very powerful night scope (value \$1600) which will make a very great difference to the efficiency of our night patrols.

On behalf of the rhinos, and we now have 17 of these magnificent animals in our care, and one behalf of all of us here please accept both my congratulations and my heartfelt thanks.

Yours sincerely,

Anna H. Merz

Attention---Correction!

In the March 1989 AKF, an advertisement promoting an African Safari sponsored by the Ngare Sergoi Support Group appeared on page 93. The dates for the safari were listed incorrectly. The dates are October 15-28, 1989 not October 15-18 as listed. We apologize for any confusion this error may have caused.



Coming Events

American Minor Breeds Annual Conference

June 2-4, 1989

Wichita, KS

Hosted by the Sedgwick County Zoo & Botanical Garden. For more information contact: Connie Dillion, Sedgwick County Zoo, 5555 Zoo Blvd., Wichita, KS 67212.

The Second Preservation/Conservation Workshop

June 4-11, 1989

Muskigum County, OH

Co-sponsored by the International Center for the Preservation of Wild Animals and the Central Great Lakes AAZK Region. We cordially invite you to this unique workshop which not only will inform you about what is happening with the ICPWA (AKE, Dec. '87) and animal interest groups, but will get you involved. Come join in the fun and camping. For more information, contact: Joe Rindler, 176 Lazelle Rd., Worthington, OH 43085.

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.

13th International Herpetological Symposium on Captive Propagation and Husbandry

June 20-24, 1989

Phoenix, AZ

Those wishing to present papers or conduct workshops should send abstracts as soon as possible to: Mike Goode, Columbus Zoo, 9990 Riverside Dr., Powell, OH 43065 or Dr. Roger Klingenberg, 6297 West 10th St., Greeley, CO 80634.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.



From the President

During the past month several chapters have called me or other Board members in search of projects for their chapters to take on. I am very happy to see the resurgence of chapter activity and direct any chapters so motivated to contact Bill Whittaker in Toledo or Chris Garland in Boston. They are in charge of chapter and regional activities and are eager to help all chapters.

AAZK depends on its chapters to help educate the public about zoo keeping, conservation and the role of zoos through their chapter projects. In addition we rely on funds generated by chapter projects to maintain a secure financial profile.

Last month our Administrative Offices received an order for thirty-two Diet Notebooks from Japan. This distant request for information is evidence that AAZK is rapidly becoming recognized around the world as a source of professional knowledge. It is our hope to share our efforts as well as learn methods from other professionals around the world.

It is not too early to begin planning to attend the 1989 National Conference in Syracuse. I know that the conference committee there has a full program in the works. In addition, the Upstate New York Area in early October offers a spectacular sight for the eyes as the foliage should be peaking in its color change.

Finally, I want to remind all professional members to vote when you receive your ballots. Your input into who sits on the Board of Directors is important for the direction the organization will take. The Board members serve to listen to the membership and their ideas. Your input will aid the Board to meet and further your goals and expectations.

Frank S. John

Update from the CRAC (Chapter and Regional Affairs Committee)

(Editor's note: As announced in last month's "From the President" message (page 74), the Regional Coordinator System has undergone some changes in order to make it more efficient and to improve services to the membership. The following is an update on the changes being implemented in the system.)

Dear Members,

Chris Garland and I are committed to improving the efficacy of the Regional/Chapter System and we will be instituting some changes in the coming months. The first of these are:

1. We have modified the regions to reflect a common environment such as temperate forest, temperate grassland, mountain, coastal, etc. Please note the changes in the regions on the RC page in this month's AKF.
2. We have clarified the duties and responsibilities of the R.C. Positions.
3. We are recruiting as many RCs as it takes (3 maximum) to efficiently network a Region.

We hope to make the system more responsive both to individual members and to AAZK Chapters throughout North America. Regional Coordinators are responsible for providing information on AAZK, its programs and goals, as well as information on Chapter formation, projects, etc. We hope all members will take advantage of this information exchange network. More changes will be taking place as the months pass, and we will keep you apprised of these changes through the pages of AKF.

Bill Whittaker
Director of Regional Coordinators



Births & Hatchings



Bronx Zoo...the Dept. of Mammalogy is proud to announce the birth of another Silver-leafed langur (*Presbytes cristatus*) on 16 January. This brings the total born in Jungle World since its inception in 1985 to 18. These interesting primates are native to Borneo, Sumatra, Malaysia, Thailand, Cambodia and Vietnam. They are in the genus *Presbytes* which in Greek means "old man" which may refer to their seemingly serious expressions. They are members of the subfamily Colubinae, all of whom have a sacculated stomach, a complex separation of sections, that enables them to digest leaves, their main diet, even some with high toxic levels. In the summer months keepers go out daily to cut fresh "browse" for them; in the winter they keep a supply frozen in addition to giving them extra leafy greens. The newborns are bright orange at birth and gradually darken from the extremities inward. This insures them easy recognition from all members of the troop.

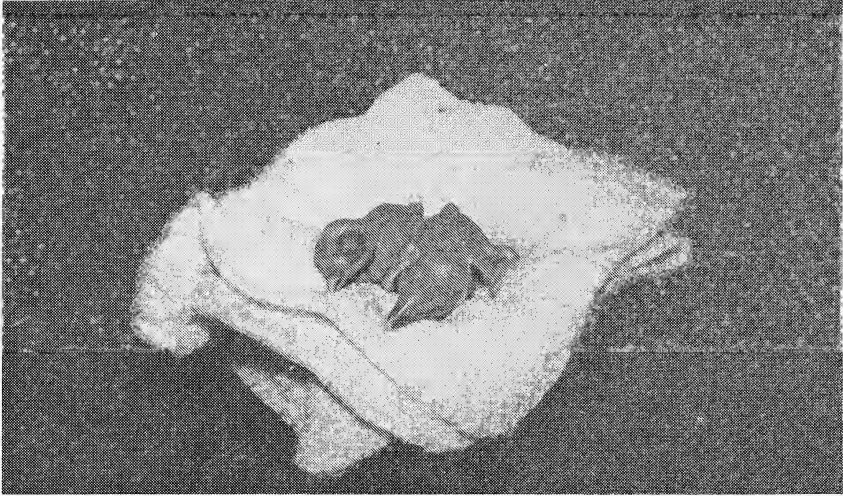
A new litter of Slender-tailed meerkats (*Suricata suricatta*) was born in January. They are born in underground burrows and to date two pups have ventured up into the exhibit. The first two litters were two each. These irresistible animals are part of the mongoose family and are native to S. Africa, Namibia, Angola and Botswana. A species of mongoose, the Egyptian mongoose (*Herpestes ichneumon*) was considered sacred by the ancient Egyptians and images of the mongoose can be seen in tombs and temples dating as far back as 2800 B.C.

The Dept. of Ornithology is especially pleased to announce the hatching of two more Red bird of paradise (*Paradisaea rubra*) chicks. Last April I wrote about the first chick ever to be hand-raised in captivity. These are the second and third to be hand-raised. They are from the same female, but a different male. The two chicks this year are from separate clutches. A clutch is from one to two eggs. After 10 days the eggs are pulled and candled and moved to an incubator. The female was able to lay a second clutch of which one was fertile. The chicks are altricial, but feather growth is rapid, and pin feathers can be seen on the wings after just a few days. They are fed a mixed diet of "pinkies", soaked gainmeal, and egg. They begin to eat on their own at about three weeks of age. It is several years before they attain the adult plumage for which the males are especially renowned. Immature birds closely resemble the female's coloration. Birds of paradise are seen in only a few zoo collections. The Bronx Zoo has an important collection of these extraordinarily beautiful birds. *submitted by Wendy Worth, Corresponding Secretary, Bronx Zoo AAZK Chapter, Bronx Zoo, NY.*

San Antonio Zoo...on 1 July, 1988 the first F₂ Guam kingfisher (*Halcyon cinnamomina*) hatched at the San Antonio Zoo. A male raised at St. Louis Zoo and a female raised at Philadelphia Zoo continued nesting in our recently opened Kingfisher exhibit, producing 2.2.1 chicks in 1988 (0.1.1 DNS). Our original wild-caught pair produced 2.4 chicks (1.1 DNS) as well. All chicks were hand-raised in our brooder facility. A second captive-raised pair nested and laid, but all eggs were infertile.

Two Ramphastid species were hand-raised in our brooder. A pair of Channel-billed toucans (*Ramphastus vitellinus*) hatched 0.0.3 chicks. Unfortunately, the female died nine days later and the chicks were moved to the brooder where they were raised. 1.0 Spot-billed toucanet (*Selenidera maculirostris*) were pulled at Day 2 for hand-rearing when its clutchmate was found dead in the exhibit. These were first breedings for both pairs. Additionally, a pair of Green aracan (*Pteroglossus viridis*) raised 0.0.2 young in 1988.

Births & Hatchings, Continued



First F2 Guam Kingfishers (*Halcyon cinnamomina*) hatched at the San Antonio Zoo.

Two breeding pairs of Jackson's hornbill (*Tockus jacksoni*) raised six chicks in 1988, continuing our success with this species in the past several years.

We had had only limited success with Crested quail dove (*Geotrygon versicolor*) until 1988. Chicks were leaving the nest at about 10 days old, at which time the parents ceased tending them. Three chicks pulled at 7-10 days old were hand-raised in December 1987 and January 1988. The adults were given a new nest frame with higher sides, which prevented the chicks from leaving the nest. As a result, all nine chicks hatched in 1988 were raised by the parents.

Two Columbidae species continued breeding in 1988. A pair of Bartlett's bleeding-heart pigeon (*Gallicolumba cinniger*) raised five of nine chicks hatched. 0.09 Luzon bleeding-heart pigeon (*Gallicolumba luzonica*) were hatched (0.05 DNS).

In 1986 we acquired 1.1 Tawny frogmouth (*Podargus strigoides*) from Adelaide Zoo, Australia. First successful breeding occurred in 1988 when 2.24 chicks hatched (0.03 DNS). These hand-raised birds represent a new genetic line for North American zoos.

Three different pairs of Black-foot penguin (*Spheniscus demersus*) laid fertile eggs in 1988, but none hatched until 25 November. "Tux", the first penguin hatched in Texas, is being hand-raised by our brooder keepers. The second egg of the clutch, left in the nest, hatched overnight on 26-27 November, but the chick was found dead early in the morning on the 17th, apparently stepped on by the parents.

Significant psittacine hatchings include 2.14 Hawkheaded parrot (*Deroptyus accipitrinus*). A pair in our off-display Avian Reproduction Center (ARC) had raised young in the past, but this year failed to rear 0.01 chicks they hatched. A second pair on exhibit nested twice, raising 2.12 chicks.

A pair of Crested screamers (*Chauna toquata*) which has raised chicks in previous years hatched 1.04 young in 1988, but only 1.0 survived. 0.01 chick pulled for hand-rearing did not survive.

2.0 Sun bittern (*Eurypyga helias*) were hand-raised in 1988. Although a breeding pair had

Births & Hatchings, *Continued*

raised chicks in the past, since being moved to an outdoor exhibit they have lost all chicks left in the nest. Eggs are now pulled just prior to hatching. Our first success hand-raising this species was in 1986.

Also hand-raised was 0.1 King vulture (*Sarcoramphus papa*), the first since 1983 when our breeding pair was moved to a new exhibit. Although fertile eggs had been laid, none had hatched until 1988.

San Antonio Zoo began participation in the California condor (*Gymnogyps californianus*) project in 1988. A female Andean condor (*Vultur gryphus*) was hatched and raised at the Los Angeles Zoo from an egg laid by the San Antonio Zoo's breeding pair. This bird is due for release in California in early 1989.

0.0.4 Black-headed gonolek (*Laniarius erythrogaster*) were pulled for hand-rearing after the adults failed to raise any chicks left in the nest. The first clutch of two chicks died at 30 days old, but the second two chicks were successfully raised. We believe this may be the first 2nd generation captive-rearing of this species.

On 24 June, we had our sixth Aardvark (*Orycteropus afer*) birth since 1983. The infant was moved to the Animal Nursery for hand-rearing. This was the third successful hand-raising of this species. All three were females born to the same aardvark. Another female in our collection has produced and raised 1.2 young.

1.0 Aardwolf (*Proteles cristatus*) born at San Antonio in 1987 and hand-raised from the age of four weeks, successfully bred with a female born in 1987 at Baltimore Zoo. On 5 May, 2.1 aardwolves were born; the first born male was moved to the Nursery and hand-raised due to his small size. We believe this is the first 2nd generation birth of this species in captivity.

A pair of Giant anteaters (*Myrmecophaga tridactyla*) that were both captive-born and hand-reared gave birth to 0.0.1 in December. They are exhibited with Bolivian squirrel monkeys (*Saimiri sciureus bolivianensis*) and Hoffman's sloths (*Choloepus hoffmani*). Parents were separated because males do not get along with the babies. Aggression between the parents began before birth was due.

August marked the birth of our 300th Dama gazelle (*Gazella dama*) In 1967 two groups were imported into the U.S. Our group has been very successful, so much so that almost every captive dama gazelle in the world is derived from this herd. Today there are at least 300 individuals in over 30 collections on four continents.

2.2 Spekes gazelle (*Gazella spekei*) were born in 1988. The herd male has been separated prior to calving since April, 1986. Since then every calf born (0.4) had been successfully mother-reared, until May of 1988, when 1.0 calf was stillborn and another male died at three days of age. Overcrowding of the pen may be a factor in this recent failure. Division of the group into two herds is under consideration.

In 1988, 1.1 Arabian sand gazelle (*Gazella subgutturosa manica*) was born, which makes the 152nd birth of this endangered species at San Antonio since the mid-sixties.

Other noteworthy hoofstock births include 0.1 Jackson's hartebeest (*Alcelaphus buselaphus jacksoni*), 6.3 Scimitar-horned oryx (*Oryx dammah*) and 1.0 Arabian oryx (*Oryx leucoryx*) - a first for this endangered species at San Antonio.

A Goeldi's monkey (*Callimico goeldii*) born in January, 1989, was the 20th (9.8.3) birth here since this endangered species was acquired from Brookfield Zoo in 1981. One of our breeding females was among the first hand-raised Goeldi's monkeys at Brookfield.

1.1 Golden-lion marmoset (*Leontopithecus r. rosalia*) was born in 1988, bringing our birth records up to 35 individuals. San Antonio Zoo participates in the SSP for this species. submitted by Gary Frank and Danny Reed, San Antonio Zoo AAZK Chapter.



Recent B&H at the Bronx Zoo have included Red Bird of Paradise (*Paradisaea rubra*) and Silver-leafed Langur (*Presbytis cristatus*). © New York Zoological Society Photos.

Bears Repeating...Notes from Bear Research Conferences, etc.

--Recently, at the 8th International Conference on Bear Research & Management (held every three years by the International Bear Association), Diana Weinhardt, Bear Keeper, Lincoln Park Zoo, was appointed editor of the IBA quarterly publication.

--At the conference various researchers requested information from zoos on their captive populations. Anyone interested either in gathering of information, being a correspondent for the newsletter, research volunteer, or information on joining the IBA should contact: Diana Weinhardt, Lincoln Park Zoo, 2200 North Cannon Dr., Chicago, IL 60614.

--Anyone interested in obtaining copies of the proceedings from the First International Symposium on the Spectacled Bear or 1987 copy of the Spectacled Bear Studbook should contact: Mark Rosenthal, Lincoln Park Zoo, 2200 North Cannon Dr., Chicago, IL 60614.

--Kathleen Strickland, a Biological Technician with the National Marine Mammal Laboratory, is interested in obtaining polar bear fur. She is also interested in captive polar bears that have a problem with algae growth and the circumstances that surround them. Anyone interested in participating should contact: Kathleen Strickland, National Marine Mammal Lab, 7600 Sand Point Way N.E., Bldg. 4, Seattle, WA 98115.

Births & Hatchings, Continued

Sri Chamaraendra Zoological Garden, Mysore, India...the following B&H were reported by Pundareeka Rao, sponsored foreign keeper of the Zoo Atlanta AAZK Chapter: 6 Bengal tiger (*Panthera tigris*), 1 Tapir (*Tapirus terrestris*), 1 Sloth bear (*Melursus ursinus*), 1 Black rhinoceros (*Diceros bicornis*), 1 Indian gazelle (*Gazella bennetti*), 3 Blackbuck (*Antelope cervicapra*), 3 Fallow deer (*Dama dama*), 3 Indian porcupine (*Hystrix indica*), 1 Thamin deer (*Cervus eldi*), 1 Leopard cat (*Felis bengalensis*), 4 Palm civet (*Paradoxurus hermaphroditus*), 2 Nylghaie (*Boselaphus tragocamelus*), 2 Sarus crane (*Grus antigone*), 2 Black swan (*Cygnus atratus*), 1 Burmese peafowl (*Pavo muticus*). New arrivals include: 1.1 Giraffe (*Giraffa camelopardalis*), 1.1 Civet cat (*Civettictis civetta*), 1.0 Mouse deer (*Tragulus meminna*), 1.1 Canada geese (*Branta canadensis*) and 1.1 Runner ducks (?). submitted by Susan Barnard, Zoo Atlanta AAZK Chapter, Atlanta, GA.

Metro Toronto Zoo...for the third year in a row, the Metro Toronto Zoo has achieved remarkable success in breeding the Puerto Rican crested toad - a creature so rare that it was thought to be extinct until 1980. In 1986, the Metro Toronto Zoo was the first zoo in the world to successfully breed these toads naturally, and as a result, was awarded the Canadian Association of Zoological Parks and Aquarium's Award for Outstanding Achievement. As a result of this breeding success, Bob Johnson, Curator of Reptiles, was able, as part of a cooperative SSP breeding project between MTZ, the Buffalo Zoo, and the Puerto Rican Dept. of Natural Resources, to return 350 of the toads to Puerto Rico. So far, over 3,000 of these severely endangered toadlets and tadpoles have been released in Puerto Rico and 300 have been distributed to other zoos in the world who wished to start their own breeding programs. from Metro Toronto Zoo News Release Feb. 1989.

Philadelphia Zoo...significant births at the Philadelphia Zoological Gardens from December 1988-February 1989 include: Mammal Dept. - it was a very successful winter for primate births. The most important being the birth of a female Western lowland gorilla (*Gorilla g. gorilla*). The baby named Kola is the third offspring of our breeding male John and mother Samantha. Our group now contains 3.3 animals; the remaining adult being Snickers who is the mother of a nearly four-year-old male, Anaka. Samantha's other two youngsters are eight-year-old female Jessica, and nearly five-year-old Chaka. The Philadelphia Zoo and its primate keepers are firmly committed to allowing its young gorillas to be mother-reared. Our only fatality to date was a five-month-old male of Snickers who died of Shigellosis in 1983. Mother-reared animals function better as adults and almost always become successful breeders later in adulthood. Gorilla infants that are pulled for hand-rearing, except for extreme circumstances, should be considered an admission of failure of gorilla husbandry.

Other primate births included a 1.0 Spectacled langur (*Presbytis obscura*), the first offspring of a new breeding group recently formed, 0.0.2 Senegal bushbaby (*Galago senegalensis*), and 0.0.1 Geoffroy's marmoset (*Callithrix jacchus geoffroyi*). This baby is the second offspring of a female born at Philadelphia and was sired by a native Brazilian -born male.

Other important mammal births included a female Reticulated giraffe (*Giraffa camelopardalis*) who was named Suzie after Curator of Mammals K. Kranz's wife. This is the sixth offspring sired by our male Rafiki. A male Gunthers dik-dik (*Madoqua guentheri*), a Mexican fruit bat (*Artibeus jamaicensis*) and 0.0.6 European harvest mice (*Micromys mintus*) were also born during this time period. The latter are the subject of a keeper research project in the zoo's Small Mammal House. submitted by Robert Berghaier, Chapter Liaison, Philadelphia Zoo AAZK Chapter, Philadelphia, PA.

Los Angeles Zoo...the L.A. Zoo is pleased to report significant occurrences for the months of January and February.

Birds: After several months of courtship behavior, one of our pairs of California condors (*Gymnogyps californianus*) laid LA Zoo's first California condor egg on 20 February. The egg was laid by a pair of young birds (female Cachuma and male Cuyama) that were

Births and Hatchings, *Continued*

brought to L.A. as chicks from the wild. Amidst much excitement and high hopes, the egg was removed from the nest and taken to SDWAP for incubation. Unfortunately, after being candled on 2-28-89, the egg was found to be infertile. We are hoping that the pair will produce another egg very soon, and that it will be a viable one.

Another California condor egg was laid at SDWAP on 2-21-89, by proven breeders UN1 (0.1) and AC4 (1.0). This egg is fertile; the birds are the same ones that produced Moloko last year. Shortly thereafter, a third egg was laid by SDWAP's Anyapa (0.1) and Almiyi (1.0). This egg, like L.A.'s was also infertile.

Hopefully these eggs will be the beginning of a successful breeding year for the California condors at Los Angeles Zoo and SDWAP.

Mammals: The Hoofstock section had a number of significant births these past two months: 0.1 Hartmann's mountain zebra (*Equus zebra hartmannae*) - this species exists in small wild herds in the mountains of western southwest Africa and Angola. The mountain zebras are more donkey-like than other zebras, have a unique grid-iron pattern on top of the rump and a distinct dewlap on the throat that distinguishes them from all other Equidae. This species holds a status of "vulnerable" in the wild, and L.A. has had good success breeding them.

1.1 Gerenuk (*Litocranius walleri*) - these delicate African antelope, although not rare in the wild, are rare in captivity and L.A. has one of the most successful breeding herds in the U.S.

2.0 Red-flanked duikers (*Cephalophus rufilatus*) and 0.1 Zebra duiker (*Cephalophus zebra*) - duikers are small, delicate antelope native to Central West Africa. Los Angeles is proud to hold all the red-flanked and zebra duikers in zoological collections in the world.

Because both gerenuk and duikers are fractious in nature, we routinely hand-read all our calves to keep them tractable and increase their survivability.

1.1 Arabian oryx (*Oryx leucoryx*) -our prolific oryx herd just keeps cranking out calves! These two are the 115th and 116th calves to be born at L.A. since we acquired our original trio in 1967. These beautiful antelope are very endangered, SSP governed and are being reintroduced back into the wild in a number of programs involving the cooperation of the government of Oman, Saudi Arabia and Israel. The L.A. Zoo has been active in these release programs, having sent animals to Israel for release in 1978 and to Oman for release in 1988 and 1989.

Our Primate section is also pleased to report several notable births for January and February: 0.1 Moustached guenon (*Cercopithecus cephus*) - native to Central West Africa, this beautiful and charming species is rare in captivity in the U.S. This baby is the first offspring of the dam who showed good maternal care. Unfortunately, the baby suffered a severe tail injury and had to be pulled for treatment. She is now being hand-reared in our Children's Zoo Nursery and is doing quite well.

0.0.2 Golden lion tamarins (*Leontopithecus rosalia*) - these tiny South American primates are from the coastal forests of southwestern Brazil and are very endangered. They are governed by an SSP program. The dam of these twins was sired by a Brazilian wild-caught male and the twins' sire, born in 1972, is the sole surviving golden lion tamarin from San Diego's original collection. *submitted by Kim Brinkley, Chapter Liaison, Los Angeles Zoo AAZK Chapter, Los Angeles, CA.*

Cleveland Metroparks Zoo...significant births and hatchings for the months of July 1988 to February 1989 have included our most notable birth on 24 July of 0.1 Masai giraffe (*Giraffa camelopardalis tippelskirchi*) which increases our current herd to six. Calantha (Beautiful Blossom) is the first generation offspring of Nova (wild-caught female) and last of the male, Coolidge, which is a welcome addition to the already most diverse genetic bloodline in the U.S.

Births & Hatchings, *Continued*

For the Bird Dept., October was a month for a first - 0.0.7 Sun conure (*Aratinga solstitialis*) chicks were successfully hatched and raised.

A major acquisition for the Aquatics Dept. was in February when 3.6 Desert pupfish (*Cyprinodon macularius*) arrived at the zoo and began breeding and producing young. Pupfish are from small isolated pools and springs of the deserts of the Southwestern United States.

November and January were spotlighted months for our bears. In November, 0.2 Spectacled bear (*Tremarctos ornatus*) were born and are being successfully raised by their mother. This is Sally and Gregory's third litter and 4th and 5th cub. An average of only 15 to 20 cubs have been recorded born annually in the past few years, so the addition of these two animals is a significant contribution to the species' survival. Also from the Bear Den, a 0.0.1 Sloth bear (*Melursus ursinus*) joined the group in January. This is Medusa's first and the only other mother-reared cub in CMZ history. Additionally in January, 0.1 Springhaas (*Pedetes capensis*) was born, rejected by her mother Yonda, and is being raised by her keeper under whose care she is doing well.

The Primate Dept. boasts of three significant births. In December and February two endangered species, Goeldi monkey (*Callimico goeldii*) and Diane monkey (*Cercopithecus diana*) were born and raised by the parents. Also born was 0.1 Black howler monkey (*Alouatta caraya*) whose mother died giving birth. The offspring, Phoebe, was successfully hand-raised from day one. The Black Howler Studbook lists this as the only individual to be successfully hand-raised since birth. If you have further information or have also hand-raised from birth, please contact: Debbie Copeland, Animal Keeper, Cleveland Metroparks Zoo, 3900 Brookside Park Dr., Cleveland, OH 44109. *submitted by Debbie Copeland, Entertainment Coordinator, Greater Cleveland AAZK Chapter.*



Information Please

We are interested in obtaining information from keepers at zoos which house native American bat species. We are particularly interested in the types of exhibits used (including size specifications), whether or not these bats can be kept successfully in captive situations year-round, and what the maintenance considerations (i.e., time required to clean unit, etc.) are for these animals.

We would also be interested in hearing from any zoos which maintain Pygmy Rabbits, Kangaroo Rats, Burrowing Owls or other High Desert species. Any information concerning maintenance, diet, breeding, exhibit design, etc. would be greatly appreciated. Please send any information to: Mary Jo Douglas, High Desert Museum, 59800 S. Highway 97, Bend, OR 97702.

The Metropolitan Toronto Zoo has recently begun a Waste Management Program. I would like to hear from anyone whose zoo has undertaken something similar and am looking for ways to reduce, re-use and recycle, including garbage from visitor food services. I am also interested in any items your zoo purchases which are made from recycled material. Please write to: Linda Ervine, Waste Management Coordinator, Metropolitan Toronto Zoo, P.O. Box 280, West Hill, Ontario M1E 4R5, Canada.



AAZPA Auction Chairman Seeks Assistance from AAZK Chapters

Dear AAZK Chapters,

The Auction for the Conservation Endowment Fund will be held this year in Pittsburgh and I have been challenged to raise \$40,000. I need your help.

This is the Third Annual Auction with the first two raising an impressive total of \$58,859.50. The majority of the donated items were from zoological societies and the member institutions of AAZPA. This year I am asking the AAZK Chapters to also contribute to this very important fund.

For those of you who are unfamiliar with the auction, it is held during the AAZPA National Conference with donated items offered for silent bidding. All of the monies earned are for the Conservation Endowment Fund which among other vital projects supports the SSP with which so many of you are deeply involved. It is a fun evening everyone enjoys. I invite each of you to join us in Pittsburgh this September!

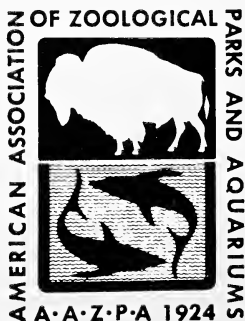
Specifically, I will be asking for 2 (more would be wonderful!) items from every AAZK Chapter. More specifically, I will be asking for your help with some original ideas for auction items. We would like to have a boutique area with jewelry and personal items as well as regional favorites. Last year, the donations under the categories "Made in Wisconsin", "General Items" (sports equipment, music, etc.) and "Fashion" were the most profitable so I am asking you to think in that direction when your boards receive my request.

I am a member of the Docent Council of the Pittsburgh Zoo. From this position as a volunteer I agreed to assume the responsibility of running the 1989 CEF Auction and I hope all of you will support me in this challenge with a generous donation. I volunteer because I need the inner calm and peace the animals give me. I do not want to see another one disappear, ever.

A formal request for donations will be mailed to each AAZK Chapter in May. Please be looking for it. I really believe we can surpass the \$40,000 goal with full support of the AAZK Membership. I thank you in advance.

Sincerely,

Joan Kubancek, Chairman
The Conservation Endowment Fund Auction
The Pittsburgh Zoo, P.O. Box 5250
Pittsburgh, PA 15206





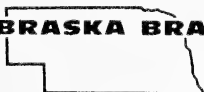
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Observations and Crate Training of a Reticulated Giraffe

By
David E. Ackerman
Zookeeper, Herbivore/Carnivore
Columbus Zoo, Powell, OH

Introduction

The birth of another male Reticulated giraffe (*Giraffa camelopardalis*) was a mixed blessing. On one hand we had another successful healthy birth. On the other, we had the problem now of having to eventually ship him to another zoo because we house only 0.2 giraffes, both related to the offspring - his mother and his sister. Due to the Columbus Zoo's herbivore/carnivore keepers' past success with crate-training our last 1.0 giraffe calf, the keepers, curator, and veterinarian decided that it would be appropriate to crate-train the newest offspring, Jeffrey. The end result was a giraffe that would transfer in, stand, and remain calm in a shipping crate - a safer and calmer situation for the giraffe and keepers. The details of crate training and observations made of Jeffrey over a nine-month period are presented in this paper.

Methods

Jeffrey, born on 13 September 1987, was about 5 ft. 10 in. (27.56cm) tall and weighed in excess of 100 lbs. (45.36kg). He was standing 38 minutes after birth and nursing at 45 minutes. At day one, the infant giraffe was momentarily separated from his mother and restrained. A quick examination was performed and shots were given, then the calf was placed back with his mother. The mother, Noinu, expressed concern for her calf by first exhaling loudly, then stomping her front feet, and finally kicking. This seems to be the way in which our giraffes express annoyance, ranging from mild to extreme. It was decided at this time to familiarize Jeffrey with his keepers, since the keepers enter the giraffe stalls to transfer them on and off display, to feed and frequently clean the stalls. The main objective behind familiarizing him with his keepers was to work toward touching him and eventually gently pushing his rump if the need arose to persuade him into a crate without the giraffe becoming upset or the keepers being kicked.

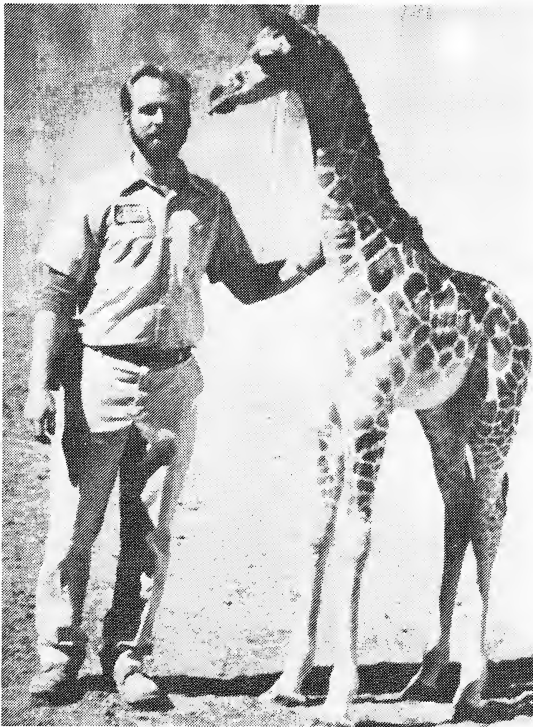
After the first week, Noinu would only exhale and walk toward Jeffrey when she thought the keepers were too close. The mother was a help in the fact that she is very easy-going, allowing for the keepers to work more closely than normal with her calf. Noinu and Jeffrey had access to two stalls. After the third day, the keepers would enter the opposite stall of the mother to clean or feed. This procedure was only necessary during the first week, after which Noinu did not react regardless of which stall was entered. During that first week, Jeffrey would come near the keepers but then run away. These situations of cleaning or feeding provided an opportunity to interact with Jeffrey. During this time Jeffrey's height was recorded by watching where the top of his head came to a measured mark on the wall of his stall, then later simply measuring him with a tape measure. (Details of these growth observations are presented later in this paper.) At day three his horns were standing. During this first week, Jeffrey would only come within several feet of the keepers then run away. He would also flatten his tail against his rump before running off (Walther 1984).

The second week, the keepers would approach Jeffrey and allow him to smell and lick their hands. As soon as he was touched, however, he would jerk his head back to an upright position or run away. The keepers would only interact with him in this way from the stall door or while cleaning. Cleaning the row of stalls he and the other giraffes occupied provided almost a dozen opportunities to interact with him by his door. Attempts were also

Observations and Crate Training of a Giraffe, Continued

made throughout the day to interact with him if he was by the stall door. Also during this second week, Jeffrey started to lick at the alfalfa hay and try to sample grain (ADF-16 low fiber diet by Higginbottom Management Service) and produce (apples, carrots, potatoes and endive). At 14 days, produce (endive) was the first thing he ate (Kingdom 1979). During this time he was very curious, very mobile and seemed to show no fear, probably because his mother was so calm. At each interaction Jeffrey would run or walk up to the keeper, smell him then run away several times.

During the third week, Jeffrey would stand still if touched. Also during this time he began eating grain and produce. By the fourth week, he would stand still if touched and would also bend his head down to lick or smell the keeper. The keepers started touching his sides and back during this time and continued this for several weeks. At the sixth week, the keepers also rubbed his back and sides which Jeffrey allowed before trotting away. By the seventh week he had accepted this activity and the keepers began to touch his hindquarters. It took about a week to familiarize him with this, and another week to start to push on his rump and hindquarters. At eight weeks he was separated from his mother twice a day and the keeper would stand in the stall with him for several minutes. By 10 weeks keepers could enter the stall with the mother and calf, separate the calf, put their hands on his neck or push his rump without too much resistance. This pattern was repeated for several more weeks, several times a week until he was shipped out to another zoo. The shipping crate arrived several weeks before he was scheduled to leave and during that time the keepers worked with Jeffrey to successfully transfer him into the crate.



Columbus Zoo Keeper with less than one-month-old giraffe (*Giraffa camelopardalis*) calmly interacting. (Nancy Staley - Columbus Zoo photo)

Observations and Crate Training of a Giraffe, Continued

At about four months of age, the keepers began to use a 5 ft. (23.62cm) wooden stick as an extension of the arm to direct Jeffrey into the crate. By the time he was shipped out, he could be transferred into his crate by a single keeper using the wooden stick. Since the crate arrived several weeks before he was to be shipped out, it was placed in one of the two stalls allotted to the mother and calf so that they would get used to seeing it. (See diagram for stall positioning). Browse (branch of willow salix) was placed in the crate the first day and Jeffrey would enter it as the keeper placed the browse in it. He seemed to accept the crate since the keepers moved in and around it. A food bowl was then placed in the crate so that Jeffrey would have to enter the crate to eat. Noinu would only go near the crate and smell it, but would not enter it. She would, however, step part of the way in to eat the browse. After several days, Jeffrey would enter the crate and the door to the crate would be closed while he would stand in it and continue to eat. The crate was left in the stall in this manner until it was time for him to be shipped out.

Discussion

Other observations, besides working with the infant giraffe to familiarize him with transferal, include growth rate and behavior recorded over eight months.

As the following chart indicates, Jeffrey grew as much as the previously recorded growth of any giraffe (Kingdom 1979). He grew to heights attained by one-year-old giraffes (10 ft. [3.04m]) in only eight months. In the wild, infant giraffes are weaned as early as one month old (Kingdom 1979). Also in the wild, mothers and infants are separated for long periods of time and usually by great distances (Moss 1975 and Foster 1966). Wild giraffes are reported to nurse young only several times per day (Moss 1975). Infant giraffes in a zoo nurse on demand and do not have to search for their mothers as their wild counterparts do. This would tend to increase a captive giraffe's growth rate. Jeffrey has been observed to nurse 6 to 7 times within an 8-hour period. Dagg (1982) reported that calves nursed 18, 12, 8 and 5 times respectively during 50 hours of observation. Jeffrey's growth rate could also be enhanced since he would seek out his mother's udder whenever startled or upset. Also in captivity giraffes are given their daily requirement of high quality food, as opposed to wild giraffes who must forage between 16 and 20 hours in order to fulfill daily requirements. Jeffrey was allowed ample access to willow browse and alfalfa which encouraged his growth unlike the wild animals who must spend time and energy foraging. Also lack of predators and stress that face giraffes in the wild seem to allow for energy to be channeled toward growth.

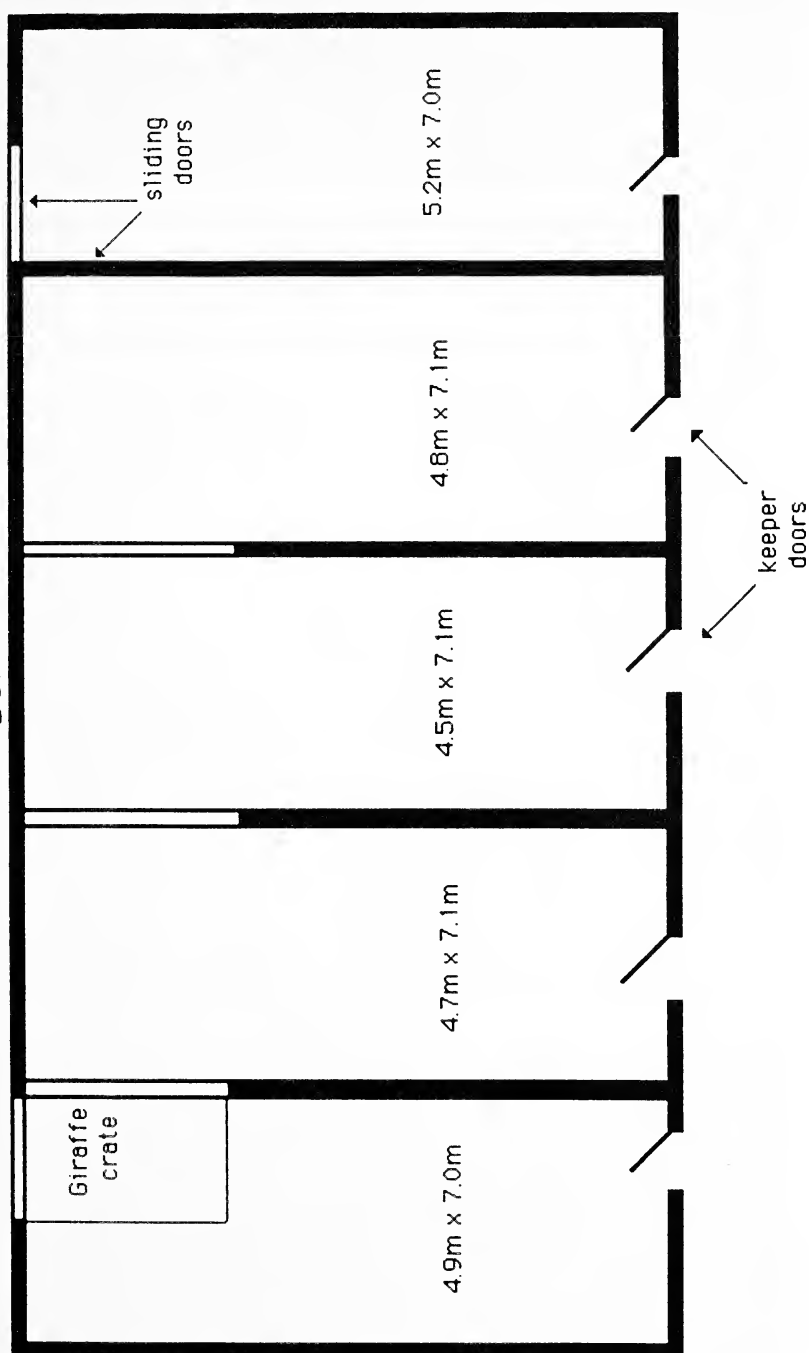
Conclusion

It appears that giraffes grow rapidly in the first several months of life. It is interesting to note that the greatest growth rate recorded by Patton (1940) in an Australian giraffe was equalled by Jeffrey, although Patton recorded 9-inch (23cm) growth in only one week for that giraffe.

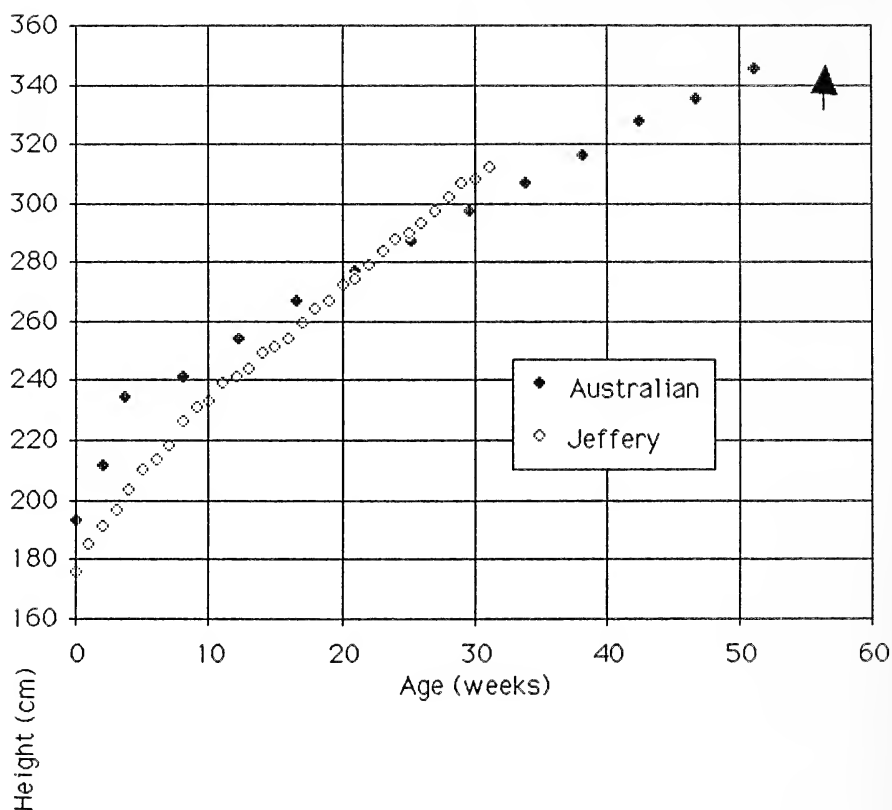
Working the giraffe consisted mainly of familiarizing the animal with the shipping crate and enticing him into it. The first day the crate was placed in such a way so that both the mother and offspring could see it. The next day the crate was placed in the stall with the two giraffes. They were given access to two stalls and the crate. By the third day, Jeffrey would freely enter the crate and investigate it, and that night a food bowl was placed inside the crate. By the fifth day, Jeffrey was fed in the crate and the door could be closed for a minute or so while he ate. By the time he was shipped out, he could be walked into the crate by a single keeper and the door swung closed. This procedure was also used with another male giraffe, Phil, born 13 October 1985, who was transferred into a crate calmly after being worked with for only nine days. Besides using browse to entice the giraffes, the keepers also started up the forklift used in the transferring and shipping so that the animals would be familiar with that sound.

Although time-consuming and sometimes tedious, all the work is well worth the effort when a normally high-strung animal can be shipped calmly and without fear of injury in the transfer.

Giraffe
Stalls



Giraffe Growth Rates



References

- Dagg, A. & Foster, J. (1982). The Giraffe, It's Biology, Behavior and Ecology. Robert E. Kreiger Publishing Co., Malabar, FL.
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- Kingdom, J. (1979). East African Mammals, vol. III part B; 308-337. Academic Press. London, New York, San Francisco.
- Moss, C. (1975). Portraits in the Wild. Houghton Mifflin Co., Boston.
- Patton, R. (1940). Breeding the Giraffe. *Austral. Zool.* 9: 452-454.
- Walther, F. (1984). Communication and Expression in Hoofed Mammals. Indiana University Press. Bloomington, IN.



Conference '89.....

**October 1-5, 1989
Syracuse, NY**



Conference Side Trip

The second full day of the conference will take place at the Ross Park Zoo in Binghamton, NY. Tours will be provided of the facility including Wolf Woods - a 2 1/2 acre exhibit of Eastern Timber Wolves; Cat Country - a display of Mountain lions, Siberian and white Bengal tigers; and Woodland Waters - an exhibit of aquatic animals which can be viewed from multiple levels.

Lunch will be provided by the zoo staff. Zoolympics will take place in the afternoon on the zoo grounds. The Ross Park Zoo staff have already begun preparations to provide conference delegates with an enjoyable and rewarding visit to their zoo.

Post-Conference Trip

Conference delegates may extend their time in Upstate New York by participating in the post-conference tour to the Buffalo/Niagara Falls area. We will leave early Friday morning for Buffalo. A visit to the Buffalo Zoological Gardens will take place in the afternoon. Participants will spend the night at the Buffalo Hilton. Saturday morning the bus will depart for the Aquarium of Niagara Falls. There will be time to visit the Aquarium and view the spectacular Niagara Falls - one of the seven Wonders of the World. Transportation and accommodations will be included in the fee. Further details including tour cost will be announced in future issues of AKF.

1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

I will be submitting a paper _____ Yes _____ No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: _____ Yes _____ No

I am bringing an auction item: _____ Yes _____ No

(Describe briefly) _____

Vegetarian: _____ Yes _____ No (Specify type) _____

I am interested in a conference T-shirt? _____ Yes _____ No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
Conference '89, 500 Burnet Park Drive, Syracuse, NY 13204.

Hotel Reservation Request

1989 AAZK National Conference

October 1-5, 1989

Syracuse, NY



Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Arrival Date _____ Check-out Date _____

Room Guaranteed By: _____ Credit Card _____ Check

Master Card Visa American Express (please circle)

Credit Card #: _____

Expiration Date: _____

***Make check payable to QUALITY INN NORTH. First night's deposit or credit card guarantee required. A 72-hour cancellation is required for a deposit refund.**

I will be sharing a room with: _____

Accommodations:

Single \$50.00 _____ Triple \$65.00 _____

Double \$60.00 _____ Quad \$65.00 _____

Check-in after 3:00 p.m. Check-out time is 12:00 noon. Telephone for Quality Inn North is (315) 451-1212. Deadline for reservations is 18 September 1989.

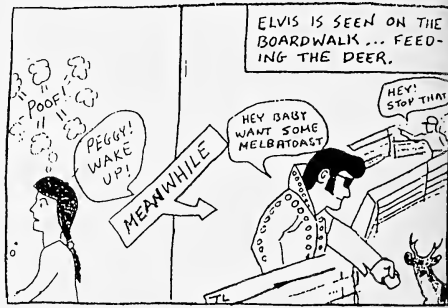
RETURN THIS FORM TO:

**AAZK Conference
c/o Quality Inn North
1308 Buckley Road
North Syracuse, NY 13212-9988**

ZOO DAYS

THE NO-NONSENSE
ADVENTURES OF A
CONFERENCE PLANNING
COMMITTEE

...MEET SWEET PEGGY PUREHEART, ZOOKEEPER, LOCAL VOLLEYBALL STAR, AND SOON TO BE THE EX VICE-PRESIDENT OF THE BURNET PARK AAZK IF SHE DOESN'T GET HER ACT TOGETHER — NOW RACKING HER BRAIN OVER WHAT ACT TO BOOK FOR THE 1989 AAZK CONFERENCE.



Be A Slug: Invertebrate Exhibition for the 90's

By
David Thornton, Keeper
Brookfield Zoo, Brookfield, IL

Imagine a zoo exhibit so interesting, so unusual, that visitors would wait in line for over a hour just to enter. Pandas, right? Wrong. Whales? Nope. A new California Condor exhibit, or maybe Black-footed Ferrets? Guess again. Impossible, you say, but this very scenario has been occurring daily at Chicago's Brookfield Zoo's newest exhibit, "The Fragile Slugs".

The exhibit, designed by David Thornton and Tawny Carlson, opened April first to rave reviews. The building depicts two areas of the country where slugs proliferate: Florida coastal forest and the forests of the Pacific Northwest. David explained the planning behind this great attraction.

"The zoo was exploring the possibility of exhibiting invertebrates, and naturally butterfly houses came up. However, some people were reluctant to follow what has become a very trendy idea. I had recently talked to Tawny and she had mentioned a lecture she had attended in which the speaker championed the plight of slugs. When I brought up the idea, everyone took to it like slime on slugs!" he laughed.

Tawny continued, "Jim Limax has spent time on a slug sanctuary in Oregon, where he learned about their status. Seeing the grave danger some species were in, he dedicated his life to lecturing about these animals in a very informal way, just as if you'd met him in a bar."

Mr. Limax served as a design consultant, taking Tawny through the forests of Oregon and Washington while discussing species and habitat, adding invaluable natural history as well as practical information.

The exhibit takes visitors down a sloping path that becomes more and more vegetated until they appear at the edge of a small marshy area. The path winds along the marsh then back through the forest. "Most of the large, mature trees are artificial, but each holds special slug browse holders which are refilled daily," explained Colleen Kinzley, Building Supervisor, "all the other plants are real, including the saplings and the marsh plants." The plants are replaced whenever they become destroyed.

Several species of slugs can be seen cavorting through the foliage. White-faced, Whistling and Yellow-headed slugs wander the reeds near the marsh. Along the path, Prairie slugs stop feeding and seemingly squint at visitors. The trees harbor Maple slugs and the largest breeding group of the critically endangered Tree slugs.

Leaving the Florida forest, visitors ascend a short distance to what becomes a rocky cliff. There they have an overview to a near perfect replica of a mature Pacific forest. The path winds through the exhibit and crosses a small stream, which adds needed humidity. The forest houses the familiar Banana slugs, as well as many more exotic species like Banded slugs, Burrowing slugs (a first in captivity), Red-faced slugs, and Great Grey slugs, which can grow up to 14 inches long.

"It's really a low maintenance exhibit," Colleen said. "We refill the browse holders, replace some plants, and generally monitor the animals. The most difficult part is finding the slugs."

Exiting the forest, visitors enter an educational and interactive area which has almost overshadowed the excellence of the exhibits. Patterned after the enormously successful "Be A Bird" exhibit found in the zoo's Aquatic Bird House, "Be A Slug" invites the public to enter the world of the slug.

Be A Slug: Invertebrate Exhibition for the 90's, *Continued*

One wall houses photos and general information on the exhibited species, then asks visitors to "be a slug". From then on, the exhibit focuses on life from a slug's point of view. Massive plants surround the visitor, psychologically "shrinking" them as they move along. Children and adults are able to cut giant paper "leaves" with a special cutter shaped like a slug's mouth. Hazards are presented, sending visitors past a giant duck's bill to a heated area covered with salt where they learn about dehydration. Next comes a walk-through slug trap, proving just how intoxicating that saucer of beer can be.

The most popular area has been directly modeled after the Flying Strength Machine of "Be A Bird". Visitors are encouraged to flap large wings, which then showed them the bird species they would be with their relative muscle size. In the Slime Mobility Machine, visitors use a large slug foot to produce their own slime trail. The machine then displays information about the comparable slug size and the distance able to be traveled on the trail. People are gradually returned to "normal" size, and the remaining graphics explain what they can do to assist in slug conservation. A donation box shaped like a huge hat provides funds for Jim Limax and the sanctuary.

"Jim had seen drawings and photos, but when he stood on the ledge above the Pacific forest he began to cry," David said. "We all felt we'd accomplished something then."

There is space for future expansion. "We hope to add an exhibit for sea slugs, and possibly a European forest," Tawny said. "More off-exhibit space would be nice, especially as the slugs mature."

The exhibit is fantastic, the interpretive graphics are world class. Merchants have already begun to offer slug dolls, T-shirts, lunchboxes, and other items. But how can we explain the popularity of these strange creatures?

"I think it's similar to the attraction snakes hold," Tawny said. "People are repelled but curious about these little guys."

Colleen added, "I think people are more interested in conservation now, especially for animals that are more tangible to them. That and the chance to make a slime trail doesn't hurt!"

Acknowledgements

Thanks to Tawny Carlson (Phoenix Zoo) and Colleen Kinzley (Brookfield Zoo) for the gracious use of their personalities. Also thanks to Roger Reason, Cathy Patrick, Cindy Simpson and Gail Perkins who helped to formulate the idea during break one day (Slimed a trail so to speak!).

For Further Reading:

Limax, J. 1972. A Field Guide to the Slugs of North America.
Chicago: Facetious Press.

(This bit of April Fool's whimsey comes to us from the folks who brought us "Having A Ball With Beetlemania" and "A History of Meese in America". Enjoy!)



AAZK Award Nominations Are Now Being Accepted for 1989!

The AAZK Awards Committee would like to begin accepting nominations for the awards to be presented at the 1989 AAZK Conference in Syracuse. In the following months there will be information concerning the qualifications, nomination procedures, selection procedures and an explanation of the AAZK Excellence in Zookeeping (EZ), Certificate of Merit for Zookeeper Education (CMZE) and Meritorious Achievement (MA) Awards.

The deadline for all award nominations is **1 June 1989**. All award nominations received after 1 June will be reviewed for 1990, so please keep this in mind when submitting your nominations.

All awards given by the AAZK do not have a minimum or maximum number offered each year. Also, if the nominees do not meet the qualifications and nominators do not follow the nomination procedures, they will not receive the award for which they were nominated. Please include scientific names of animals when they are included in the nomination of a special or outstanding breeding acknowledgment.

Please submit all nominations to:

Jan McCoy, AAZK Awards Chair
Washington Park Zoo
4001 S.W. Canyon Rd.
Portland, OR 97221



AAZK Certificate of Merit for Zookeeper Education Award

This award is given to individuals, institutions, and organizations in the zoological community most actively promoting educational programs for zookeepers. This may include: Keeper training courses, staff seminars and reimbursement for formal education would be considered programs that are descriptive of this award.

Qualifications:

1. Any North American zoological staff individual, institution or organization is eligible.
2. The keeper training program must have been in existence for at least one year.

Nomination Procedure:

If you feel that your zoological staff individual, institution or organization merits such an award, please submit a letter of nomination which mentions specifically the educational programs that are offered.

Selection Procedure:

The Awards Committee, consisting of five keepers, will independently review each nominee.



Viewpoint

Why Have Conferences?

By
Ed Hansen, Co-Chair
14th National Conference
Keeper, Reid Park Zoo
Tucson, AZ

On behalf of the Tucson Chapter/AAZK, I would like to respond to the Viewpoint article "Why Have Conferences?" by Elandra Aum, that appeared in the March issue of the *Forum*. While she mentions that she isn't picking only on the Tucson Conference, I feel it necessary to address and clarify some of her concerns.

To utilize the Tucson Conference as an example, let's look at the conference agenda in a compacted form:

Sunday:	Open Board Meeting/Ice Breaker
Monday:	Breakfast/Paper sessions/SASI Workshop/Roach Contest
Tuesday:	Tour/Lunch/Tour/Zoolympics/Dinner, Australasian Rap Session/ Cantina Night
Wednesday:	Workshops/Free Time/Tour/Silent Auction
Thursday:	Breakfast/Paper Session/Open Board Meeting/Auction/Banquet/ Auction/Dancing

There were 72 hours of scheduled events for delegates to participate in during the conference week. A breakdown by percentages is as follows:

Papers/Meetings/Workshops/Awards	33.0 hours	-	46%
Scheduled Tours	11.0 hours	-	15%
Non-Business Activities (Roach/Cantina)	6.5 hours	-	9%
Banquet/Ice Breaker	6.0 hours	-	8.5%
Auctions (a fundraising necessity)	6.0 hours	-	8.5%
Provided Meals	4.5 hours	-	6%
Free Time	3.0 hours	-	4%
Zoolympics	2.0 hours	-	3%

Excluding the registration forms for both the conference and hotel, we published 20 full pages of advertisements in *AKF*. Three and a half pages of those were dedicated to "non-business activities (Roach Contest, Cantina Night, and Tucson P.R.). The Australasian Rap Session, while becoming increasingly popular with select keepers, is not an "official" item on the conference agenda. The conference committee is not involved with the planning or presentation of this program and assigns it a slot on the conference agenda on a request basis, similar to a workshop. The rap session time was changed (with the approval of the coordinator) so as not to conflict with the SASI Workshop on Arthropods. The time was simply changed to try and insure the best possible attendance. The coordinator also furnished the conference committee with the written advertisement for the session, which was published with minimal editing.

Two workshops and several papers were rejected, not due to non-business activities, but due to the fact that the conference was held in conjunction with the 8th Annual Conference of Zoological Horticulture. The Thursday morning joint paper session necessitated the committee only accept 19 AAZK papers out of 32 submissions. (Of those rejected, 3 were submitted after the deadline, and 3 were withdrawn.) Twenty-four total papers were presented which has been the standard number offered.

Viewpoint, Continued

We fully realize that some delegates attend the conference on professional time and the conference committees strive to maintain an acceptable balance between "work and fun". However, we as a group feel that very few, no matter what their position in the profession, can expect a conference to be totally work related. Doesn't an exchange of animal related information in a "non-structured" environment have the same value as if gathered in a paper session or workshop?

As to scheduling a workshop or similar activity as an alternative to leisure time, I agree that this option should be made available to the delegates - provided that chapter is physically able to accomplish the task. The Tucson Chapter is so small, that by the time the "afternoon with no paper sessions or workshops" arrived, we needed the break far more than the keepers. Even if the workshops were organized outside of the conference committee by someone else, the committee still has to oversee the room, the A.V., the problems, etc....

Again, I stress that all the conference committees have and will strive for a balance between work and relaxation. I agree with Elandra that interested keepers should write the AKF and/or the host committee to let your ideas be known. (Give us a small break, make it more than 1 year in advance.) I attended the Milwaukee Conference specifically to gather delegate input regarding the past conferences. Out of 210 delegates, I was approached by 3 individuals who thought that we needed to re-align our priorities towards more work. In Tucson 264 AAZK delegates attended (339 total delegates), and this is the first note of discontent, however slight, that we have heard.

Note: The official AAZK Conference "How To" book is currently being drafted. Any ideas that you feel might be incorporated into this book for future conferences should be submitted to Tim Kelley, Conference Book Committee Chair, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, R3P OR5, Canada.



ICPWA Announces Conservation Workshop

The International Center for the Preservation of Wild Animals (ICPWA) and the Central Great Lakes A.A.Z.K. Region cordially invite you to their second annual Preservation/Conservation Workshop at the site of the ICPWA's future endangered animal preserve near Zanesville, OH on 4-10 June 1989.

This year's workshop will open with an evening icebreaker on Sunday, 4 June, at the ICPWA campsite. The Talk Sessions will be held 5-7 June, and will include speakers from the ICPWA; an Open Panel Discussion about the role of a ranch-style preserve for the conservation/preservation of endangered species; a tour of the ICPWA site; and speakers from conservation groups. The Work Sessions will be held on 8-10 June, and will include work projects (e.g. litter control, water and soil sample collection, and possibly building animal shelters) on the ICPWA site.

We are looking for speakers for Wednesday, 7 June, for the Conservation Issue Day. Please contact Joe Rindler, 176 Lazelle Rd., Worthington, OH 43085, Phone (614) 847-9298 if you are interested in talking on a certain species, a conservation fundraising project, or a conservation issue. Deadline: 12 May 1989.

There will be camping available at the ICPWA site and hotel accommodations nearby. The total cost will be \$35 per person (separate event fees available). A nominal fee of \$10 per tent will cover a person's entire stay at the campsite, if that option is chosen.

We are looking forward to this event and feel it will be an excellent forum for exchanging ideas and information. Contact Joe Rindler at above address for more information.



Chapter News

Assiniboine Park Zoo Keepers Association (AAZK)

Elections were held for our Chapter in February. New officers are:

President.....Mark de Denus
Vice President.....Tim Kelly
Secretary.....Joseph Gatien
Treasurer.....Bob Sydor
Chapter Liaison.....Val Norquay

We were pleased to present Andy Lodge's "On the Brink of Extinction" in November of 1988. We were able to raise \$1200 U.S. to support the Ngare Sergoi Black Rhino Sanctuary in Kenya.

We will be participating in Wildlife Week again this year during April. We find it an excellent way to promote education and public relations. This year we will investigate the potential of the Ecosystem Survival Plan (ESP) as initiated by the Greater San Francisco Bay Area AAZK Chapter.

We have at present two keepers participating in zookeeper exchanges. Stace Seguin has exchanged with Julie Staines from Dublin, Ireland and Barb Hafner is in Miyazaki City, Japan. We are expecting a keeper from Miyazaki in the summer.

APZKA is now sponsoring K.K. Sharma from Ram Nivas Gardens in India. We are looking forward to correspondence with him.

--Valerie Norquay
Chapter Liaison

Binghamton Chapter AAZK

On 10 January 1989, the Ross Park Zoo staff formed the Binghamton Chapter of AAZK. This was due, in part, to the commitment of the Ross Park zookeepers to assist Burnet Park in hosting the upcoming 1989 National AAZK Conference to be held in Syracuse, NY.

Some possible fundraising ideas have been photo contests, coffee, hot chocolate and chili sales along with car washes as the weather warms. We're also planning a breakfast with the animals in early summer. Those of you who have hosted or co-hosted a conference must have some great fundraising ideas you'd like to share. Please contact: Deidre Flaherty, Secretary, Binghamton Chapter, 185 Park Ave., Binghamton, NY 13903. Any information you could supply would be greatly appreciated.

During the conference we plan to have Zolympics and lunch for the delegates at the Ross Park Zoo. We're all looking forward to meeting many other zoo professionals and sharing information.

--Deidre Flaherty, Secretary

St. Louis Zoo AAZK Chapter

Recently elected officers are:

President.....Joe Knobbe
Vice President.....Louise Bradshaw
Secretary.....Alyce Wilkins
Treasurer.....Frank Fischer
Chapter Liaison.....Rick Smith

In 1988 the St. Louis Chapter hosted a lecture given by Gedd Caddick, General Curator for the Belize Zoo. The slide presentation covered the topics of rainforests, the Belize Zoo, and Third World zoos. Other speakers hosted in 1988 included Melize Riechman, Sierra Club, on rainforest conservation, and William Wiese of The Nature Conservancy (this lecture resulted in our Chapter joining The Nature Conservancy). In August our garage sale raised approximately \$600. President Joe Knobbe was sent to the National Conference to represent our Chapter and to give a paper on "Monitoring Perineal Swelling in Cercopithecine Monkeys". Other 1988 activities included social gatherings and aluminum recycling.

--Rick Smith, Chapter Liaison

Chapter News, *Continued*

Greenville Zoo AAZK

Newly elected officers of the Greenville Zoo Chapter for 1989 are:

President.....Vivki Roth-Pitts
Vice President.....Ann Bushman
Secretary.....Brina Mauro
Treasurer.....Teresa Bora-Hutchinson
Chapter Liaison.....Anke Meyer

In September our Chapter participated in an animal information booth at a local festival. Regional Humane Societies and other animal-interested groups were involved. We displayed our "Exotic Animals as Pets" pamphlet which discourages exotic pet ownership.

At our October meeting, Dr. William Teska from Furman University presented a slide program entitled "Diversity of Life in Central American Rainforests", to which the public was invited. Several members of the Riverbanks Zoo Chapter attended and we enjoyed an evening of enlightened keeper exchange.

In January, Chapter member Ann-Marie Marco presented a slide program on behalf of the International Society for Endangered Cats. We all admire her dedication to this society as a volunteer, and although we are financially unable to support them at this time, we will be putting a display for the ISEC in our gift shop.

At our casual meetings we are continuing presentations by the keepers detailing the animals in their work areas.

This past six months keepers from our Chapter have attended the World Conference on Breeding Endangered Species in Captivity and the International Wild Waterfowl Assoc. Conference. Four keepers will attend the AAZPA Regional in Atlanta this month.

We would like to remind other chapters that our pamphlets "Exotic Animals as Pets" are still available from the Chapter. Please write to us if you are interested.

--Anke Meyer, Chapter Liaison

Bronx Zoo AAZK Chapter

Keepers Nancy Wakeham and Jill Hatfield gave an interesting lecture and slide presentation on their research project on the demographics of ungulates in Zambia. They compared and contrasted those living within game ranches and those living in national parks.

Our Chapter will be holding its annual election soon. We are busy collecting nominations now.

--Wendy Worth
Corresponding Secretary

Columbus Zoo AAZK Chapter

Current officers for the Columbus Zoo AAZK Chapter are:

President.....Nanci Pintavalli
Vice President.....Adele Absi
Secretary.....Beth Pohl
Treasurer.....Buddy Capuano
2nd V.P./Chapter Liaison.....
Joseph Rindler

Greater San Francisco Bay Area AAZK Chapter

The March/April issue of Sierra, the magazine of the Sierra Club, showcased the Ecosystem Survival Plan's marking meter. The media attention has been fast and furious although the parking meters themselves are still not actually in place. Donated by the San Francisco Department of Public Works, the meters are being redesigned to show a jaguar or anteater racing across the window when money is inserted. Of course, it's difficult getting quality work done quickly and inexpensively, but we expect the meters will be in place for the busy summer months.

The Seattle-Tacoma area learned about ESP in mid-March when both the Woodland Park and Pt. Defiance Zoos hosted a presentation on the fundraising venture.

--David Bocian, Treasurer

Chapter News. Continued

Notes from the Third AAZK Northwest Regional Chapter Workshop

The Workshop was held 28 February at the Washington Park Zoo, Portland, OR. Attending were keepers from Woodland Park Zoological Gardens, Seattle, WA (Puget Sound Chapter); Point Defiance Zoo & Aquarium, Tacoma, WA (Mount Tahoma Chapter); Washington Park Zoo, Portland, OR (Portland Chapter); Northwest Trek, Eatonville, WA; and the High Desert Museum, Bend, OR.

Those attending toured the nearly-complete African complex and the Alaska exhibit before gathering for pizza at the zoo's Education Center. During the business portion of the Workshop, Chapters and institutions reported the following:

Puget Sound Chapter

The Chapter's major fundraiser, Zoo Bowl, grossed an all-time high of nearly \$3,000. Some of this money will be used to help a keeper who has been going to China to study endangered species of cranes.

At their February meeting elections were held and general business discussed. Many thanks were extended to the outgoing officers for their hard work and dedication to the Chapter during 1988.

Newly elected officers are:
President....Tina Mullett
Vice President.....Mike Teller
Secretary.....Vivian Stewart
Treasurer.....Margaret Girtch
Chapter Liaison.....Pat Maluy
Liaison to Zoological Society...
Celwyn Scott

Following the general meeting, the Chapter had a pot-luck dinner and slide lecture given by Elizabeth Notley, Bird Keeper from the Taronga Park Zoo in Sydney, Australia. Liz stopped to visit WPZ as part of a one-year study tour of Canadian and U.S. zoos. Her trip is being sponsored by the Trill Bird Seed Company, Australia. Her photographs and the interesting stories about Australia and her travels around North America were much enjoyed.

In March, the Chapter hosted Norman Gershenz, president of the Greater San Francisco Bay Area Chapter, who presented his program on the Ecosystem Survival Plan (ESP). The Puget Sound Chapter is slated to host this year's Summer Solstice celebration.

Mt. Tahoma Chapter

The Chapter has been getting into selling exotic fibers for crafts. The head of their Keeper Education Committee, Renee Wolfson, has restarted the Keeper Education Hours (1/2 hour of lunch time, 1/2 hour of zoo time); this program appears to be succeeding. Some suggestions were offered as alternatives to talks and video programs. Also mentioned as a good subject for a training session was the 31-minute tape on the Species Survival Plan, produced by the Denver Zoo and sent to directors of all AAZPA member institutions.

Portland Chapter

During Vet Week, sponsored by the Portland Veterinary Association, the Chapter will man a booth whose main purpose will be to let the public know why it is not a good idea to keep exotic animals as pets. The Chapter has paid part of the expenses to send one of their keepers to a conference on bears; and one for work-study on cat management. They recently became a sponsor of the Belize Zoo and are arranging to import a keeper from Guadalajara to work/study at WPZ. Members of the Chapter continue to conduct Keeper Career slide shows on their days off and split the speaker's fees with the zoo.

Elandar Aum, Woodland Park Zoo, gave a short synopsis on the Regional Coordinator/Chapter Liaison systems explaining its purposes and the changes it is currently undergoing. The group closed out the Workshop with a brainstorming session on the Chapter Liaison Packets, now renamed the Manual of Resources.

*--Excerpted from the Minutes of
Workshop submitted by
Elandra Aum and from news
sent in by Patrick Maluy*

Chapter News, Continued

Metro Toronto Zoo AAZK Chapter

Our newly elected officers for 1989 are:

President.....Marilyn Cole
1st Vice President.....Andrew Lentini
2nd Vice President.....Terry Male
Secretary.....Karen Mottram
Treasurer.....Harry Hofauer
Chapter Liaison.....Heidi Manicki

The year of 1988 was an eventful one. Besides our regular monthly meetings we were able to have our annual barbecue, hold a wine and cheese party, put together a silent auction and organize a bake sale.

The barbecue, which was held in July, was attended by members and non-members. We had a fun night of eating, drinking, fireworks and eventually a bonfire.

During the summer our Chapter and the Volunteer Guides put together a silent auction. This fundraiser, coordinated by Fran Mason, was a major success. It brought in \$3,024 and a check for this amount was presented to the Reptile Breeding Foundation located in Picton, Ontario.

We had a wine and cheese party in October which was open to members and non-members. Everyone was treated to Harry Hofauer's video of the conference in Tucson which included Frank's workshop. A copy of this video will be available for viewing at the Syracuse conference.

Just before Christmas we held a bake sale. The baked goods were donated by Chapter members. We also had a raffle along with this and together they were very successful.

--Heidi Manicki
Chapter Liaison

Edmonton Chapter AAZK

In January we were graced by a very special guest speaker, Dr. Ira Stirling of the Canadian Wildlife Service. Dr. Stirling has been doing polar bear research for the past 19 years in northern regions around the world and

is considered by most to be the world authority. He recently published a book aptly titled, "Polar Bear", which is an exceptional reference source and is available throughout North America.

In February we brought in the local zone chairman of Ducks Unlimited Canada to bring the Chapter up to date on the works Ducks Unlimited is doing in our province.

In the latter part of March, we took a field trip to the Provincial Museum for a behind-the-scenes tour of how the natural history exhibits are constructed. We are hoping this trip will help us in the future on zoo exhibits design.

April is the month that National Wildlife Week is held at the Provincial Museum. Our Chapter manned an information table for the first time. We showed the "Keeper Safety" and "Feeds and Feeding" videos, as well as displayed AAZK publications.

Fundraising projects accepted by the Chapter membership are The Ngare Sergoi Sanctuary and the World Wildlife Fund's Tropical Forest Protection Plan. Fundraising ideas are presently being discussed.

--Dean Treichel
Chapter Liaison

Indianapolis Zoo AAZK Chapter

The Chapter has decided for its first conservation projects to concentrate on Indiana's wildlife. We are planning a "Bowling for Non-game" fundraiser for Indiana DNR non-game fund. Other projects we are going to help DNR with include helping with observations of the bald eagle hacking stations this May and June and a blue bird nestbox building party in the near future. We are also helping The Nature Conservancy in cleaning up trash at one of their preserves.

As for programs at our monthly meetings, we had a representative from The Nature Conservancy give a talk on some of the work they are doing in

Chapter News, Continued

Indiana. Our curator of the plains area, Debbie Olson, showed slides and a video of her recent trip to East Africa. And at our last meeting the PR director of Indiana's DNR showed a slide show on the non-game program and we talked about projects we could do for them as a chapter.

We are also recycling aluminum cans to build up our own accounts.

*--Mark Marciniak
Chapter Liaison*

Fresno/San Joaquin Valley Chapter

The Fresno Chapter has been joined for some time now by staff and volunteers from the Merced Zoo. In recognition of their efforts to become involved with us in AAZK activities, we have decided to change our Chapter name to reflect both institutions as well as leave ourselves open to increased membership and participation by other nearby groups. Our new name is "The San Joaquin Valley Chapter". For those of you who are not from an area accustomed to Spanish names, this is pronounced "San Whaa-keen Valley". Our new Chapter logo is near completion and will depict the San Joaquin Valley Kit Fox. This small carnivore is a highly endangered local animal and was chosen to reflect our Chapter's concern for conservation efforts.

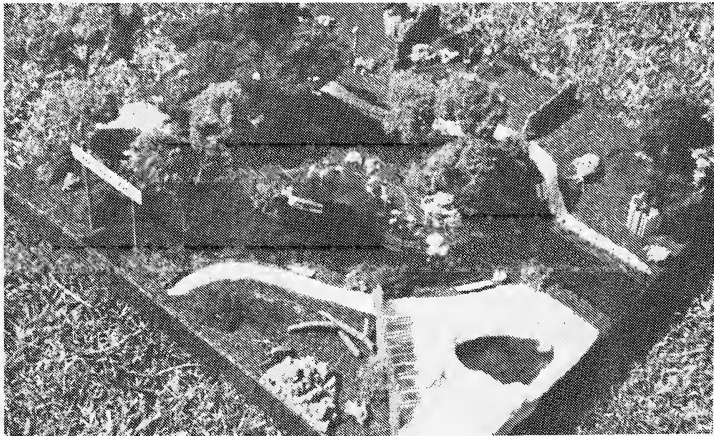
We are planning to have Andy Lodge come to Fresno to give his Rhino/Elephant lecture. Tentatively set for 28 April, we are hoping for a large public turnout and have reserved a local lecture hall for the night. Anyone interested in attending can call David Luce, our Chapter President, for details at (209) 229-2160. We are also selling Andy's Rhino Trust stickers in the Zoo's Gift Shop. In addition to our profits from these sales, the gift shop has agreed to give its percentage to be sent back to the rhino conservation effort.

We would also like to thank the judges from the Tucson Roach Contest for selecting our entry "The Fres-roach Zoo" as the winning entry. A photo of our efforts accompanies this article. The "Zoo" itself is now in our Assistant Director's office where it is used to occasionally entertain (and disgust) visitors.

Our newly elected officers are:

President.....David Luce
Vice President.....Dana Knepper
Treasurer.....Lorraine LoStracco
Sec/ChapterLiaison...Harold Mountain
Activities Coordinator...Mary Morgan

*--Harold Mountain
Chapter Liaison*



The Fres-roach Zoo, winner of the '89 Conference Roach Contest.



ADOPT AN ACRE

The Ecosystem Survival Plan is a very special program initiated by the Greater San Francisco Bay Area Chapter of the American Association of Zoo Keepers. Our chapter, through the ESP program, is dedicated to promoting global conservation through the acquisition of threatened habitat around the world.

Habitat destruction is the greatest threat to wildlife today. Wildlife cannot survive without preservation of habitat. The support of programs like these will help to insure the survival of the species throughout the world, preserving wilderness for future generations.

For every hectare (2.47 acres) of Costa Rican rain forest acquired by our chapter here is a partial listing of what you might find:

1 jaguar	4.7 billion rain drops
1 billion ants	0.04 anteater
100 mushrooms	20 toads
1 parrot	125,000 acorns
1 orchid	100 scorpions
1 spider monkey	0.429 insect species
1 adult guapinol tree	25 spiny pocket mice
1 tit snake	100 vines
1000 meters of riverbank	400 dung beetles



The Guanacaste National Park, Santa Rosa, Costa Rica, is a preservation project coordinated by the Nature Conservancy and the Costa Rican National Park Service and is the focus of our ESP fund raising efforts this year. Your contribution will be used for the acquisition of rainforest acreage to be set aside as national park land within Costa Rica.

You can be part owner and receive an Honorary Deed to the Rain Forest

100% of all the funds raised in the Ecosystem Survival Plan goes directly to the purchase of critical habitat for endangered species of plants, animals and ecosystems in the tropics.



You can save tropical rainforests and endangered species by participating in the Ecosystem Survival Plan

The Ecosystem Survival Plan is supported by the World Wildlife Fund and The Nature Conservancy.

EXCLUSIVE OFFERING: ADOPT AN ACRE

A \$12 Million Dollar Value. A steal at these special prices

- \$130.00 - 1 Acre
- \$65.00 - 1/2 Acre
- \$32.50 - 1/4 Acre
- \$15.00 - 1/10 Acre

Name _____

Address _____

Phone _____

Name(s) to appear on certificate _____

If this is gift

Recipients Name _____

Address _____

Acknowledgement to read _____

Acreage _____ Amount Enclosed _____

Please add \$1.50 for Postage and Handling. Thank you!

Make Checks Payable To:
Ecosystem Survival Plan
Send To:
Norman Gershenz
San Francisco Zoo
Stoat Blvd. @ The Pacific Ocean
San Francisco, CA 94132

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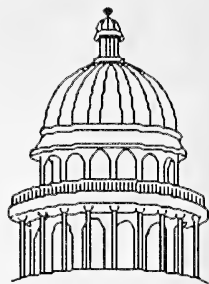
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Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Marine Mammal Act renewed with five amendments

On 23 November of last year President Reagan signed the Marine Mammal Protection Act (MMPA) into law (P.L. 100-711). Included in the law are five amendments to Scientific Research and Public Display Permits.

The first amendment allows the importation of marine mammals into the U.S. for the purpose of providing medical treatment that would otherwise be unavailable to them in the country of export. It also requires that marine mammals imported under such circumstances be returned to their natural habitat in those cases when it is feasible. In determining whether such a return is feasible, the Secretary of the Interior shall consult with the attending veterinarian and curatorial staffs of the institution providing the medical treatment, as well as any other experts the Secretary considers appropriate. The Secretary shall also consider the likelihood of whether the animal will successfully readapt to life in the wild and the possibility that the animal may transmit a contagious disease to animals in the wild.

The second amendment creates an exemption to the prohibition against the importation of marine mammals that are pregnant, nursing, or less than eight months old at the time of taking in those cases in which the importation is necessary for the protection or welfare of the animal. This waiver would permit the importation of young animals which have been orphaned and/or wounded or are sick and could not survive in the wild. The Act previously prohibited the importation of such animals even if the alternative was death of the animal and despite the fact that in some instances an adult animal of the same species could be imported for public display. All other conditions of public display must still be met under this exemption.

The third amendment creates a permit allowing the taking or importation of a depleted species in those cases where captive maintenance is more likely to contribute significantly to the chances of survival of the species than alternative plans that do not require removal of animals from the wild. Such marine mammals or their progeny must be returned to their natural habitat as soon as possible. The Secretary may allow public display of such animals only if such display is incidental to the authorized maintenance and will not interfere with attainment of the survival or recovery objectives.

The fourth amendment provides that to be eligible for a public display permit, an applicant must offer a program for educational or conservation purposes as a component of its overall programs. The amendment provides that public display facilities should educate the public about the life history, behavior, unusual sensory capabilities, and other aspects of marine mammals through literature, films, or other techniques in conjunction with display. The amendment does not regulate the content of such programs but states that they should be based on professionally recognized standards of the public display community such as those of the AAZPA. In addition, the applicant's facility must be open on a regularly scheduled basis so that access is reasonably convenient to the public.

The fifth amendment states that a permit for scientific research may be issued only to an applicant conducting research to further a bona fide scientific purpose that does not involve unnecessary duplication of research. The amendment recognizes that repetition of an

Legislative Update, *Continued*

experiment or procedure to confirm or test the results of earlier research is fundamental to science and does not automatically constitute unnecessary duplication.

AAZPA had requested amendments similar to the first three and Greenpeace, the Humane Society of the U.S. (HSUS), and the Animal Protection Institute had requested amendments similar to the last two. The five amendments are the result of a series of compromises between these groups, Congressional staff, and the National Marine Fisheries Service (NMFS).

> From AAZPA (Jan. 1989 newsletter)

FWS acts to reclassify chimpanzee

The U.S. Fish and Wildlife Service (FWS) has reviewed the petition submitted by several wildlife organizations to reclassify the chimpanzee (*Pan troglodytes*) as Endangered. (See October 1988 AKF) On 28 December 1988 the FWS announced that it has found the requested action to be warranted and will develop a proposed rule to reclassify the chimpanzee.

When contacted by phone on 13 February 1989, a representative of the Office of Scientific Authority (OSA) reported that the proposed rule had been signed and would probably appear in the Federal Register by within a week or so. As with any proposed rule there will be a comment period before the rule takes effect.

> From AAZPA and Animal Kingdom magazine (Jan./Feb. 1989)

U.S. Imposes Moratorium on Ivory Imports from Somalia

The United States has imposed an emergency ban on the importation of raw and worked African elephant ivory coming from the African Democratic Republic of Somalia in order to protect threatened wild elephant populations. The action by the USFWS is based upon evidence in a petition from World Wildlife Fund, U.S., alleging that Somalia is not effectively controlling the domestic take of elephants and that exported ivory does not meet the requirements of international control systems.

The 1988 African Elephant Conservation Act calls for an immediate ban on imports of ivory from any country that fails to monitor effectively or control its native elephant populations or that imports ivory from a country that prohibits the taking of elephants. International trade is regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), of which Somalia and the U.S. are members.

The information submitted to the USFWS alleges that in the last 3 years, Somalia exported over 21,100 tusks. Somalia's 1986 annual report to CITES declares that in 1986 alone, it exported 16,986 tusks, representing some 9,440 elephants. In this report and other statements, Somalia has declared all tusks to be confiscated items and of Somali origin despite the fact that Somalia's native elephant population in 1987 was estimated to be no more than 4,500 animals; and no more than 8,600 in 1985. Somalia has thus declared exports of domestic ivory during the last 3 years representing roughly three times the number of elephants estimated to have been living in that country during 1987.

Available information indicates that ivory is being imported into Somalia from Kenya and Ethiopia. Kenya prohibits the take of elephants and Ethiopia allows only a very limited number of trophy hunts. The African elephant is listed as a threatened species under the Endangered Species Act and is listed in Appendix II under CITES. Populations of the African elephant have fallen dramatically during the last decade, from an estimated 1.5 million in 1979 to no more than 750,000 presently. The illegal ivory trade has been blamed for much of this decline.

> From News Release of Dept. of Interior, USFWS, 24 February 1989



Jersey Wildlife Preservation Trust Offers Summer School and Training Programs

Background: The Wildlife Preservation Trust is an international nonprofit organization dedicated to the support of captive breeding of endangered species. It supports projects in captive breeding, field surveys, reintroduction, research and education. The zoological facility for the Trust's work is located on the island of Jersey, Channel Islands, British Isles. This facility is both a zoo and breeding-research facility for endangered species, and has a collection of over 100 species of birds, mammals and reptiles. The International Training Center is an educational facility for training in captive breeding and species conservation; it combines dormitory, classroom and research facilities for students, staff and visiting scientists.

1. International Training Center for the Captive Breeding of Endangered Species SUMMER SCHOOL - 22 July to 12 August 1989

Program: The course is aimed at zoo staff or students who wish to further their interests in the study of animal behavior and the roles of captive breeding programs as an aid to conservation. This year's course will provide an introduction to many practical aspects of captive management and supply detailed information relevant to conservation. The program is intensive and includes lectures and discussions, practical instruction with zoo staff, and the research, preparation and presentation of individual projects using Trust facilities for behavioral observation, laboratory investigation, record research and reference material.

Course Directors: Dr. David Chivers, Lecturer in Veterinary Anatomy at the University of Cambridge, England and a leading authority on Southeast Asian primates; Dr. Pat Morris, Lecturer in Zoology at the University of London and Council Member of the Mammal Society, and acknowledged small mammal expert; and the Trust's Training Officer, Dr. David R. Waugh. The course coordinator is Mr. John McNicholas, Assistant Training Officer at the Trust.

Residential Course Fee: £580 (approximately \$1,044) inclusive.

Further details from:

Mr. John McNicholas
Assistant Training Officer
Jersey Wildlife Preservation Trust, Les Augres Manor
Trinity, Jersey, Channel Islands
British Isles

Deadline for applications is 30 April 1989

2. International Training Center for the Captive Breeding of Endangered Species TRAINING PROGRAM - Dates by arrangement.

Purpose: to train individuals in the techniques of captive breeding of a variety of endangered species so that they can advance the cause of wildlife preservation in their respective countries.

Program: the training program consists of six, ten or sixteen weeks of intensive work in all divisions of the zoo. Trainees work in close contact with zoo staff in all phases of animal keeping and breeding. Each trainee spends two weeks in each section and a final two weeks on an independent project. Daily duties are supplemented with weekly seminars on a variety of topics. The program is flexible in terms of length and focus.

Jersey Wildlife Preservation Trust, *Continued*

Eligibility: the program is designed for individuals with previous practical experience with animals: zoo and animal center staff and postgraduates in conservation-related fields.

Application: applications may be obtained from the address below. Selection is made in August of each year. Applications should be submitted by **1 June** for training beginning the following year.

Location: Jersey, Channel Islands, British Isles **Dates:** starting date by arrangement

Fees: Tuition is £75 (approximately \$135). Full room and board costs are £72 (approximately \$130) per week. Trainees are responsible for air fare to and from Jersey, Channel Islands, as well as personal expenses.

For application and further information write or call:

Training Program
Wildlife Preservation Trust
34th St. and Girard Ave.
Philadelphia, PA 19104
(215) 222-3636

*****Deadline for application for 1990 positions is 1 June 1989.*****



AAZK Announces New Professional Members

Patrick Peffer, Franklin Park Zoo (MA)
George Stout, Great Adventure Safari Park (NJ)
Bernard Gainey, Erie Zoo (PA)
Todd Remaley, Academy of Natural Sciences (PA)
Teresa Bora-Hutchinson, Greenville Zoo (SC)
Carl Ponder, Zoo Atlanta (GA)
Nancy Merideth, Zoo Atlanta (GA)
Tamara Ryf, Dreher Park Zoo (FL)
Rebecca Lane Burns, Akron Zoo (OH)
William Conover, John Ball Zoo (MI)
Cheryl Schunemann, John Ball Zoo (MI)
Diana Lee Behrend, Niabi Zoo (IL)
Robert Lastouica, Henry Doorly Zoo (NE)
Stephen Merit, Santa Barbara Zool. Gdns. (CA)
Jennifer Everson, Applegate Zoo (CA)
Kevin Collins, The Alaska Zoo (AK)
Luisa Ann Steinsky, Metro Toronto Zoo (Ontario)

Beth Ryan, Stone Zoo (MA)
Laura Baker, Bronx Zoo (NY)
Jay Mapp, Baltimore Zoo (MD)
Matt Randles, Good Zoo (WV)
Dale Hammond, Zoo Atlanta (GA)
Constance Noble, Zoo Atlanta (GA)
Trish Mills, Jacksonville Zoo (FL)
Saverio Capuano, Columbus Zoo (OH)
Kim Seif, John Ball Zoo (MI)
Richard Korneisel, John Ball Zoo (MI)
James Klinesteker, John Ball Zoo (MI)
Brian Mayberry, Henry Doorly Zoo (NE)
Joan Steinhaus, Houston Zoo (TX)
Debbie Younkin, Santa Barbara Zoo (CA)
Gary E. Johnson, Sacramento Zoo (CA)
Gerri Mintha, Bowmanville Zoo (Ontario)
John A. Wong, Stanley Park Zoo (BC)





Book Review

Orang-utan

By Barbara Harrisson

1987 Singapore, Oxford, New York

Oxford University Press, 200 Madison Avenue,

New York, NY 10016

Oxford University Press Ptc. Ltd. Unit 221 Ubi Ave. 4 Singapore 1440

Paperback, 217 pp. Price: \$9.95

*Review by Tom Aversa
Senior Keeper
Boston Metro Zoos
Boston, MA*

Orang-utan enthusiasts should be thankful that Oxford University Press has brought this fine book back into print. Originally published back in 1962 by Collins, this book is no less pertinent 27 years later.

Barbara Harrisson, the Dutch primatologist, relates her experiences with orang-utans (*Pongo pygmaeus*) in Sarawak, on the island of Borneo, during the late 50's and early 60's in this delightful publication. The book is divided into five main sections: orangs in the house, orangs in the jungle, educating orangs, orangs at sea, and orangs in zoos. An essay describing the history of orang-utan exploitation, which was written by Harrisson's husband Tom, is also included. The introduction of the book, penned in 1987, brings the manuscript into the present's perspective.

Ms. Harrisson was actually one of the first people to undertake orang-utan rehabilitation for eventual release back to the jungle. This was in 1962. This book, however, documents her first experiences with these great apes, and shows what led to her setting up a rehabilitation project in Bako National Forest. Her attempts were to set an example for later rehab work by Stanley de Silva at Sepilok, and Birute Galdikas at the renowned Tanjung Puting center in Borneo.

The prose of *Orang-utan* is a pleasure to read. Not only is it informative about orangs, but it also gives the reader a glimpse of Bornean culture. It is interesting to note that the native people had always respected the apes, but it was the incursion of white men who exploited them recklessly, often in the name of science. The descriptions of early zoo husbandry practices by Ms. Harrisson are enough to make modern zookeepers shudder. When the book was originally published, the average life expectancy of a zoo orang was only three and one half years! The author repeatedly pointed out that zoos should look at the animals' needs in the wild to improve captive husbandry practices.

This book succeeds on many levels. It's great reading, an historical document, scientifically applicable to orang-utan husbandry, an endearing animal story, and most of all, it is a testament to the innovative approach and unselfish dedication of Barbara Harrisson.



CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Regional Coordinators - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 [h].

Director of Chapter Affairs - Chris Garland, Metro Boston Zoos, Franklin Park Zoo, Pier Point Rd., Boston, MA 02121. (617) 442-7408 (w) Home address: 4 Maple Street, West Newbury, MA 01985. (508) 363-2026 [h].

REGIONAL COORDINATORS

Elandra Aum, Woodland Park Zoo, 5500 Phinney Ave. North, Seattle, WA 98103 (206) 625-2244 [w]
for the States of WA, OR (North Pacific Coast)

Art Goodrich, San Diego Zoo, Box 551, San Diego, CA 92112
for the States of CA, NV (South Pacific Coast)

VACANCY for the States of ID, MT, WY (North Mountain)

John Turner, Denver Zoo, 23rd St. & Steele, City Park, Denver, CO 80205
for the States of UT, AZ, CO, NM (South Mountain)

VACANCY for the States of ND, SD, MN, NE, IA (North Plains)

Steve Tigges, Tulsa Zoological Park, 5701 E. 36th St. North, Tulsa, OK 74115
for the States of KS, OK, MO, AR (Central Plains)

VACANCY for the States of TX, LA (South Plains)

Joe Rindler, Columbus Zoo, 9990 Riverside Dr., Box 400, Columbus, OH 43065 (Head RC/Great Lakes)
for the States of OH and KY (Great Lakes Region)

Colleen Kinzley, Brookfield Zoo, 3300 Golf Road, Brookfield, IL 60513
for the States of IL and WI (Great Lakes Region)

Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, MetroParks Zoos, Franklin Park Zoo, Pierpoint Rd., Boston, MA 02121
for the States of ME, NY, VT, NH, MA, CT, and RI (North Atlantic Coast)

Jon Brangan, Virginia Zoological Park, 3500 Granby St., Norfolk, VA 23504 (804) 441-2374 [w]
(804) 480-2606 [h]
for the States of PA, NJ, DE, MD, VA, WVA, and District of Columbia (Mid-Atlantic Coast)

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Vikki Bohnert, 3515 Cobblewood Ct. # 17, Winter Park, FL 32792 (407) 678-0879 [h]
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VACANCY for the State of Alaska

Dan Vitiello, Honolulu AAZK Chapter, Honolulu Zoo, 151 Kapahulu Ave., Honolulu, HI 96815
for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada (204) 489-3893 [h]

Marcia Rasmussen, Calgary Zoo, P.O. Box 3036, Stn. B., Calgary, Alberta, Canada T2M 4R8
for the Provinces of Alberta and British Columbia, Canada (403) 235-5461 [h]

Need membership information? Want to learn more about AAZK or start a Chapter or become more active - then contact your RC! They will be glad to assist you with any information you need about AAZK.

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/ AKF, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

ZOO ATTENDENT...Blank Park Zoo. Requires high school graduation and one year experience in the husbandry of agricultural, zoological or wild animals. Will perform a variety of tasks in the care of the animal collection and the maintenance of facilities. Salary \$14,725 to \$17,554 annually. Apply by 5 p.m. 12 May 1989 to Civil Service, Room 104, City Hall, East First and Locust St., Des Moines, IA 50307. M/F/H EOE.

ZOO KEEPER...duties include routine cleaning, feeding and general husbandry of a wide variety of animals; observation, reporting, record keeping on animal behavior; minor maintenance of exhibits; routine handling of animals for transport and veterinary care; assist public by answering questions; assist in educational programs. Requires working knowledge of care, diet and habits of wild and domestic animals; ability to keep accurate records; willingness to accept regular weekend, holiday and occasional after-hours assignments. Requires graduation from high school or G.E.D. equivalent; college education preferred; experience in the care, feeding, housing and exhibition of wild and domestic animals. Salary \$4.85/hour for 40 hr. work week. Position available immediately. Send resume by 24 April 1989 to: Steven M. Wing, General Curator, Folsom Children's Zoo & Botanical Gardens, 2800 "A" Street, Lincoln, NE 68502.

VETERINARY TECHNICIAN...requires a degree in Veterinary Technician or Animal Health Technician and/or valid license, or be eligible for New York State license. Prefer some exotic animal experience with background of native wild animal care. Salary ranges from \$10,950 to \$16,400, dependent on experience or qualifications. Send cover letter and resume to: Kimberly G. Davidson, General Curator, Utica Zoo, Steele Hill Road, Utica, NY 13501. EOE.

FACILITIES MANAGER/WATERS BIOME...manage the technical and maintenance functions of a major aquatic installation (Waters Building, Marine Mammal Pavilion). Experience in operating a waters system in a live animal environment preferred. Mechanical and hydraulic engineering experience necessary. Supervisory and interpersonal skills a must. Salary: \$28,000-\$34,000. Send resume to: Richard M. Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

REPTILE KEEPER...requires high school diploma or GED; one years paid, full-time experience in exotic animal husbandry with emphasis on reptiles and amphibians, or graduation from an approved animal technology course. Responsible for maintenance of reptile/amphibian collection. Contact: Dr. Hugh Quinn, Curator of Herpetology, Houston Zoological Gardens, 1513 Outerbelt Drive, Houston, TX 77030.

ZOOKEEPER...to work with mammals, birds, and herps. Must have 2 years experience in care of exotics. Degree preferred. Salary - \$20,000/yr.; excellent benefits. Send cover letter and resume by 30 April 1989 to: Tony Vecchio, Acting Director, Roger Williams Park Zoo, Providence, RI 02905.

ZOOKEEPER...some elephant experience required, will work in all areas of zoo operations. Duties will also include, but not be limited to, daily handling of, and educational demonstrations with a four-year-old African elephant. Send resume and salary requirements to: Robert Evans, General Curator, The Zoo, 5801 Gulf Breeze Parkway, Gulf Breeze, FL 32561. Immediate opening.

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AAZK Membership Application

Name _____ Check here if renewal []

Address _____

_____ \$25.00 Professional
Full-time Keepers

_____ \$20.00 Affiliate
Other staff & volunteers

_____ \$25.00 International
All members outside the
U.S. & Canada

_____ \$15.00 Associate
Those not connected
with an animal facility

_____ \$15.00 Library
Library subscription only

_____ \$50.00 Contributing
Organizations and
Individuals

Directory Information: Zoo: _____

Work Area: _____ **Special Interests:** _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

*Articles printed do not necessarily reflect the
opinions of the Animal Keepers' Forum editorial
staff or the American Association of Zoo Keepers, Inc.*

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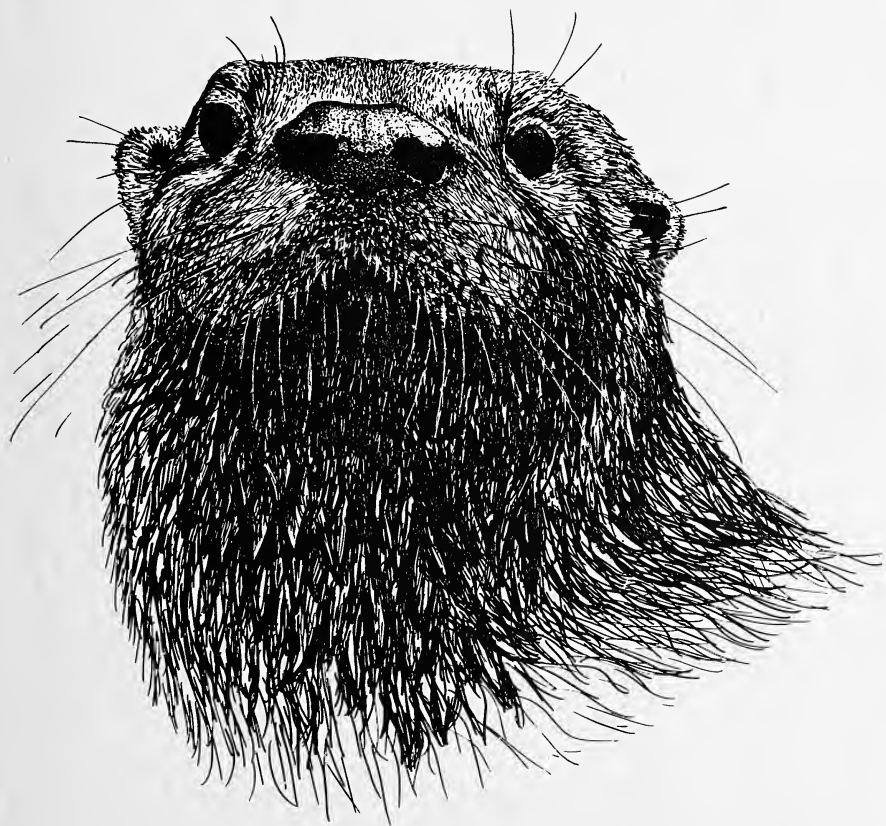


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Washington, DC 20008

Animal Keepers' Forum

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May 1989



Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

May 1989
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Number Five

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Heidi Manicki, Metro Toronto Zoo

Keeper Training Videotape

AAZK Administrative Offices

Keeper Training Materials Identification

Rosemary Jalink, National Aquarium in Baltimore

An Approach to Zookeeping

Pat Sammarco, Santa Fe Teaching Zoo

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Harmony Frazier-Taylor, Woodland Park Zoo

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Biological Values/Gestation

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Nominations & Elections

Rachel Rogers, Miami Metrozoo

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Director of Chapter Affairs - Chris Garland, Metro Boston Zoos, Franklin Park Zoo, Boston, MA

Director of Regional Coordinators - Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

*This month's cover features an American river otter (*Lutra canadensis*) drawn by Elayne Barclay, a keeper at the Washington Park Zoo in Portland, OR. The range of the American river otter extends over most of the New World, and its habitat varies from lakes and rivers to swamps and ocean beaches. It is equally adaptable in its diet, which may include fish, amphibians, birds, invertebrates, and small mammals. It weighs between 5-10 kilograms, and is just over a meter long, with the tail making up 40 percent of its length. The dense, dark brown coat, which fades to light brown and silver at the muzzle, throat and underside, has made the river otter a popular target of trappers from the 18th century through today. Thanks Elayne!*

Scoops and Scuttlebutt

AZH Issues First Call for Papers for '89 Conference

The Association of Zoological Horticulture invites paper and poster presentations for the annual conference to be held in Paignton, England, 8-12 October 1989. At the last annual meeting of AZH in Tucson, AZ, the Steering Committee's recommendation to have the paper sessions focus on a central theme was adopted by the membership. In order to provide a reference base for zoo horticulturists from different regions, countries and continents to learn about the changing role zoos are playing in different countries and to explore the impact zoo horticulture will have on future zoos, this year's theme is "Zoo Design". Since so many opportunities exist for creative horticulture at the design level and so many maintenance problems can be eliminated through good design, it was felt that this topic would be fitting for AZH's first international conference. Persons wishing to present papers and posters in Paignton should submit a subject title or abstract at their earliest convenience to: *Ric Hider, National Zoological Park, Smithsonian Institution, Washington, D.C. 20008.*

Reminder to Members on Certificates of Recognition and Appreciation

AAZK members are reminded that there are two awards which are selected by the Board of Directors for presentation to individuals both in and outside of AAZK for their contributions to the Association. The Certificate of Recognition is presented to an AAZK member who has, by their efforts, enriched the goals and programs of the Association. The Certificate of Appreciation is given to individuals who are not AAZK members for contributions they make to the Association. Although these awards are determined by the AAZK Board, members are invited to let the Board know of any individuals they might know who would be deserving of such recognition. If you have such an individual in mind, send a letter detailing their contributions, etc. to any Board member for consideration by the full Board.

ADT Forms Available Upon Request

Animal Data Transfer Forms for zoos and aquariums are available free of charge upon request. This is a service provided by AAZK. Contact: Bernie Feldman, Burnet Park Zoo, 500 Burnet Park Drive, Syracuse, NY 13204. If your facility is not already using the ADT form, encourage your administration to implement its use whenever an animal is shipped.

AAZK FAX Now On Line

AAZK now has access to a FAX machine thanks to the generous cooperation of the Topeka Zoological Park, headquarters of AAZK Administrative Offices. The FAX

Scoops and Scuttlebutt. *Continued*

number is 913-272-2539. While we do not encourage the submission of lengthy articles by FAX, be aware that this method of information transfer is available for late-breaking job listings, information requests and other shorter AKF submissions.

Alaskan Fish and Wildlife Restoration Fund Established

The National Fish and Wildlife Foundation has announced that it is establishing a special fish and wildlife restoration fund to aid the rescue and recovery of fish, wildlife and plant resources impacted by the Valdez, Alaska oil spill. The Foundation will manage the fund, and monies will be disbursed in concert with and on the recommendations of officials from the USFWS, the National Marine Fisheries Service, and the Alaska Fish and Game Commission.

Contributions should be made payable to the National Fish and Wildlife Foundation and sent to: *National Fish and Wildlife Foundation, "Alaska Fish and Wildlife Restoration Fund", 18th and C Streets, NW, Room 2556, Washington, DC 20240.* The

National Fish and Wildlife Foundation is a non-profit charitable corporation established by Congress in 1984. It is not an agency of the U.S. Government. Donations made to the Foundation are deductible as charitable contributions. In addition, the Foundation has the authority to receive matching funds from Congress.



From the President.....

Four of the five Directors of the Board met at Topeka from 9-12 April to discuss organization business. Many new issues will require some action in the next few months which will have a direct impact on the membership and the continued successful operation of AAZK.

Our financial picture urgently needs study to insure that our membership will be able to receive improving services. In the next few months we will feature articles on the budget and proposed needed changes.

The by-laws have been revised and finalized as voted on by the membership at the Tucson National Conference. They will be reprinted soon. We have also initiated application for non-profit status which will significantly lower our postage costs and allow us to receive grants and donations to fund AAZK publications and other projects. I want to remind Chapters that they should check with Bill Whittaker, Director of Regional Coordinators; Chris Garland, Director of Chapter Affairs; or the staff at Administrative Offices regarding proper procedures for filing financial statements on fund-raisers.

Professional members will be receiving their ballots to elect two new board members in May. Please take the time to look over the nominees and vote for the two candidates that you believe will best serve the organization. Ballots will be due by 15 June so please take prompt action.

We are still looking for bids for the 1991 National Conference. Bids will be made at the National Conference in Syracuse and any interested Chapters should direct their inquiries/bid proposals to Oliver Claffey, AAZK Vice-president at the Metro Toronto Zoo.

We still have many publications and other projects which Chapters may be interested in taking on and/or funding. Please contact Administrative Offices, Bill Whittaker, Chris Garland or any Board member for further information.

Frank B. Kohn
AAZK President



Coming Events

American Minor Breeds Annual Conference

June 2-4, 1989

Wichita, KS

Hosted by the Sedgwick County Zoo & Botanical Garden. For more information contact: Connie Dillion, Sedgwick County Zoo, 5555 Zoo Blvd., Wichita, KS 67212.

The Second Preservation/Conservation Workshop

June 4-11, 1989

Muskigum County, OH

Co-sponsored by the International Center for the Preservation of Wild Animals and the Central Great Lakes AAZK Region. We cordially invite you to this unique workshop which not only will inform you about what is happening with the ICPWA (AKE, Dec. '87) and animal interest groups, but will get you involved. Come join in the fun and camping. For more information, contact: Joe Rindler, 176 Lazelle Rd., Worthington, OH 43085.

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.

13th International Herpetological Symposium on Captive Propagation and Husbandry

June 20-24, 1989

Phoenix, AZ

Those wishing to present papers or conduct workshops should send abstracts as soon as possible to: Mike Goode, Columbus Zoo, 9990 Riverside Dr., Powell, OH 43065 or Dr. Roger Klingenberg, 6297 West 10th St., Greeley, CO 80634.

Fifth Annual AZAD Conference

September 19-22, 1989

Columbus, OH

Hosted by the Columbus Zoo Docent Association. 1989 Conference theme is "Learning, Caring, Sharing", which reflects the essence of being a docent or volunteer. Conference will include paper sessions, educational speakers, and social events. Guest speakers will include Richard Block of WWF, John Becker of the International Society of Endangered Cats, David Jenkins of the International Center for the Preservation of Wild Animals, Andy Lodge of the Ngare Sergoi Support Group, and Cathryn Hilker from the Zoological Gardens of Cincinnati. To receive pre-conference packet with registration/hotel information, etc., please call the Columbus Zoo AZAD Conference Hotline (614) 645-3483 or write to Conference Chairman, Camille Smith, at AZAD Conference '89, P.O. Box 1042, Powell, OH 43065.

Coming Events. *Continued*

AZVT 9th Annual Conference

September 22-24, 1989

Calgary, Canada

Hosted by the Calgary Zoo. For more information please contact: Lori Rogers, A.H.T., Calgary Zoo Animal Health Centre, P.O. Box 3036, Station "B", Calgary, Alberta, Canada T2M 4R8 or call (403) 265-9310 or 265-9376.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.

AAZK Announces New Professional Members



Russell Menard, Roger Williams Prk. Zoo (RI)	Penny L. Cram, Utica Zoo (NY)
Maria Pennine, Roger Williams Prk. Zoo (RI)	Morna Holden, National Zoo (DC)
Carol L. Prima, National Zoo (DC)	James D'Amico, Dreher Prk Zoo (FL)
Russell Schembari, Lowry Prk. Zoo (FL)	Jane McEvoy, Columbus Zoo (OH)
Stephen Kinczel, Cleveland Metroparks Zoo(OH)	Steven Lynch, Mesker Prk. Zoo (IN)
John Dinon, Belle Isle Zoo (MI)	Barbara DeBoer, John Ball Zoo (MI)
Pete Nelson, Racine Zoo (WI)	Betsy Berry, St. Louis Zoo (MO)
Marilyn Timberlake, Topeka Zoo (KS)	Dale Brownlow, Jr., Topeka Zoo (KS)
Diane Callaway, Henry Doorly Zoo (NE)	Ann Newton, Gladys Porter Zoo (TX)
Dale Ashcroft, Willow Prk. Zoo (UT)	Bryan Starrett, Phoenix Zoo (AZ)
Kelley Walsh, Los Angeles Zoo (CA)	Duffy Wade, Los Angeles Zoo (CA)
Patricia Shreve, Sea World of San Diego (CA)	Patricia McNaught, Exotic Feline Breeding Compound (CA)
David Bayless, Sutter Exotic Animal Sanctuary (CA)	Michael Wilcox, National Marine Fisheries - Honolulu (HI)
Linda Santos, Honolulu Zoo (HI)	Anne Hubbs, Metro Toronto Zoo (Ont.)
Scott Barton, Woodland Prk. Zoo (WA)	
Chantal Routhier, Granby Zoo, (Quebec)	

New Contributing Members

New England Regional Primate Research Center Library, Southborough, MA
Lake Superior Zoological Gardens, Duluth, MN
Don D. Farst, DVM, Director, Gladys Porter Zoo, Brownsville, TX
Bruce A. Nasby, President, Greater Los Angeles Zoo Association, Los Angeles, CA
Joyce Mansfield, Marketing/PR Director, Sacramento Zoological Society, Sacramento, CA

Renewing Contributing Members

Friends of the Zoo, Inc., Virginia Zoological Park, Norfolk, VA
Palmer Krantz, Director, Riverbanks Zoo, Columbia, SC
Friends of the Zoo, Greenville Zoo, Greenville, SC
Wayne G. Homan, General Curator, Phoenix Zoo, Phoenix, AZ



Births & Hatchings



Assiniboine Park Zoo...since "Thumper's" birth in 1966, Assiniboine Park Zoo has had great success with the breeding of the Lion-tailed macaque (*Macaca silenus*). The latter half of 1988 marked the 80th, 81st and 82nd births of this Species Protection Plan designated animal. 2.1 Lion-tailed macaques were produced in the two breeding groups, Thumper herself being the mother of #80.

A recent acquisition to our zoo are 12 Egyptian fruit bats (*Rousettus aegyptiacus*) which will inhabit the Kinsmen Discovery Center upon its completion. After a series of aborted pregnancies, 0.0.2 bats were successfully raised in May of 1988.

Two Amur leopard cats (*Felis bengalensis euphilura*) were born in August, unfortunately neither survived. These were the first births at our zoo. APZ has 3.2 of these cats and is looking forward to more successful litters.

After a series of unsuccessful attempts our Malayan giant squirrels (*Ratufa bicolor*) finally experienced their first success in September of 1988. In previous years, one or two young were observed in the squirrel-constructed nest located in a dead tree in the center of the exhibit. The exhibit was left alone except for the placement of fresh food and water, regardless the young never survived more than a few weeks. This year the same routine was met with success; a single female survived and is still thriving.

A pair of twin (1 DNS) and a set of triplet (2 DNS) White-fronted marmosets (*Callithrix jacchus geoffroyi*) were born in August and September respectively. The surviving offspring, both females, are doing well. These are the zoo's first successful births since the zoo obtained the marmosets in 1986. A pair of twins born in the early part of 1988 did not survive.

Our Bush dogs (*Speothos venaticus*) have produced their first second generation. The female born at APZ in 1986 was introduced to a male from Frankfort in the spring of 1988 and this past summer had a litter of 1.1. Unfortunately, the female had bone deformities and had to be euthanized. submitted by Valerie Norquay, Chapter Liaison, Assiniboine Park Zookeepers Association, Assiniboine Park Zoo, Winnipeg, Manitoba, Canada.

Henry Doorly Zoo (Omaha, NE)...the artificial insemination project started last year at the Henry Doorly Zoo has again proven to be successful. On 16 February of this year, the bird department hatched out one Demoiselle crane chick (*Anthropoides virgo*). A.I. was used on these birds because they have a history of eating or stepping on the eggs. The chick is being puppet-raised by the bird crew and we are doing very well.

Problems with various elements were resolved this year and it has resulted in the hatching of ten Emu chicks (*Dromaius novaehollandiae*). Infertility, cold winters and incubator problems have kept us from hatching emu eggs. This year our mild winter enabled the bird department to get the eggs inside before they froze (our emus are housed outside all winter) and a problem-free incubator has helped a great deal. The chicks' average incubation period was 52-53 days. Pip time has been from 16-40 hours. submitted by Carla Weiser, President, Henry Doorly Zoo AAZK Chapter, Omaha, NE.

Columbus Zoo...the months of February and March were relatively low-key for the Columbus Zoo in terms of births, hatchings and acquisitions. However, our Aquarium was a notable exception as it continues to expand its conservation efforts with some very significant hatchings and acquisitions. Our Salton Sea pupfish (*Cyprinodon macularius*)

Births & Hatchings, *Continued*

have continued to spawn prolifically, adding another six dozen or so hatchlings to the collection. This endangered pupfish is found in only a few pools in the desert region of the American Southwest. The Aquarium has also received six species of cichlids endemic to Lake Victoria (*Haplochromis* sp. "Red/Black", *Haplochromis obliquidens*, *Psammochromis riponianus*, *Nedchromis nigricans*, *Prognathochromis pellegrini*, and one unknown species.) Ninety-nine percent of the fauna in Lake Victoria is endemic to the lake. Its cichlids have suffered severe population declines in recent years due to a combination of intense predation from introduced Nile perch, pollution, and over-fishing. In fact, these cichlids may even be extinct in the wild, although this is almost impossible to determine. A slug species found in the lake carries a parasite causing extreme illness and death in humans, thus prohibiting diving expeditions and accurate population counts. Collecting is limited to what can be caught in nets from boats or the shore. Therefore, we have extraordinarily limited information on the cichlids' taxonomy and wild status. Our populations originated from the New England Aquarium and Chicago's Shedd Aquarium and were given to us due to our success in African cichlid husbandry. The water quality of our cichlid tanks duplicates the hard, alkaline water of the Great Rift Valley, facilitating breeding. In fact, *Haplochromis* sp. "Red/Black" didn't spawn until they came to Columbus. We have all 12 adults now known to be in captivity, and 24 fry were hatched in March. If they are indeed extinct in Lake Victoria, we may have the distinction of possessing the entire world's population.

Columbus Zoo Director Jack Hanna and Aquarium Curator Doug Warmoltz recently returned from a collecting trip to Exura in the Bahamas. Amid seven days and six nights of sun and fun aboard the vessel Bottom Time II, they even managed to find time to collect 210 specimens representing 25 species, of which only two DNS in transport back to Columbus. Joining Jack and Doug were 30 paying Zoo members who were given educational seminars throughout the trip on Coral Reef ecology and biology. Part of their fee went for a donation to the Zoo's Aquarium, with \$10,000 being raised. Some of the more notable specimens collected on the trip were: Sand tilefish (*Malacanthus plumieri*), Queen angel (*Holacanthus ciliaris*), Yellow stingray (*Urolophus jamaicensis*), Trumpet fish (*Aulostomus maculatus*), Foureye butterfly (*Chaetodon capistratus*), Green moray (*Gymnothorax funebris*), Remora (*Echeneis naucrates*), and Octopus (*Octopus vulgaris*).

Our Reptile Dept. is pleased to announce another first-time hatching for our institution with the arrival of 0.04 Red-bellied short-necked turtles (*Emydura subglobosa*) on 29 March. The eggs were incubated for 54 days at approximately 82° F. The adults' diet consists of various kinds of meat, fish, produce and trout chow sprinkled with vitamins and minerals. In the wild, these turtles are found in the extreme northern tip of Cape York Peninsula, Queensland, Australia and in New Guinea. We believe this to be the first captive breeding of this species in North America. The reptile staff would greatly appreciate any further information someone might have concerning this.

Other notable events for the Zoo during these months were nene geese hatchings and the acquisition of our first musk ox. 0.02 Nene geese (*Branta sandvicensis*) were hatched in late February. After sitting on the eggs for about three weeks, the female abandoned them and they had to be placed in an incubator. They were incubated at 100-102° F. for two weeks prior to hatching. The chicks are being raised on an infant duck mash and large amounts of greens sprinkled with powdered oyster shells and Vionate. This is the second brood for this pair and the first time they laid outside in the winter. Last year was the first time our nenes were kept outside for the winter but they did not lay. Nenes, native to the Hawaiian Islands, were almost exterminated, but they have bred so well in captivity that they have been reintroduced to the wild. The Columbus Zoo currently owns 1.2 adults. *submitted by Carl Gyarmaty, Columbus Zoo AAZK Chapter, Columbus, OH.*

North Carolina Chapter AAZK...reports notable B&H for January-March 1989 from each participating institution:

Duke Primate Center...significant births include on 22 Jan. and 27 Feb. the births of 2 Sifaka (*Propithecus verreauxi*) whose mothers had conceived in two of our multi-acre forested enclosures. This is important because the last five infants born since 1986 were to

Births & Hatchings, *Continued*

animals that had lived and bred in the enclosures until brought indoors for the winter. This shows the importance of a natural environment for the continued success of reproduction in this species. On 23 and 27 February we also had births of single infants to two pairs of Slender loris (*Loris tardigradus*). One female was in a cage separated from the male and the other was in a large room with the male and her last year's offspring. Although one of these infants was found dead, the other is doing fine and increases our total colony size to 18 (8.9.1) for this rare species. On 2 and 4 March, we had two Slow loris (*Nycticeilus conang*) births. This is the beginning of our birth season which should consist of 6 out of a possible 10 breedable females giving birth. We are having increased success with the reproduction in this species which was thought to be difficult to breed in captivity. *submitted by Ruby Ange, Duke Primate Center, Durham, NC.*

North Carolina Zoological Park...proudly announces our first Lowland gorilla birth (*Gorilla gorilla gorilla*) on 1 March at 10:40 p.m. A male was born to Hope, a female on loan from the National Institute of Health, and Carlos, a male on loan from the Memphis Zoo. The birth, which appeared to be relatively easy, was recorded on monitor filming and discovered minutes later by a keeper. The mother took excellent care of her young from the start. This is her first offspring; however, she was originally raised in a family atmosphere. The sire, Carlos, was housed beside the mother and infant and much vocalization and visual contact occurred continuously between them. The sire was reintroduced to the dam and offspring on 8 March without mishap. The father appears to be interested in the neonate; as of yet, Hope will not let Carlos touch the infant. The infant has been named Kwanza, Swahili for "the first". Kwanza appears to be strong, healthy and beautiful. *submitted by Amy McGuire, Keeper, North Carolina Zoological Park, Asheville, NC.*

On 23 February, 0.1 Gerenuk (*Litocranius walleri*) was born at the African Pavilion. This makes the 6th successful birth at the North Carolina Zoo of this species. Native to Africa, the habitat of gerenuk extends eastward from Ethiopia to most of Somalia, and southward through Kenya to northern Tanzania. The name gerenuk means "giraffe-necked" in Somali which describes the long neck of the gerenuk, an adaptation for their feeding habits. Often when feeding, the gerenuk rise vertically on their hind legs and lean their front legs against a tree trunk or branch enabling them to consume foliage too high for other ungulates. They are not highly dependent on water as most fluid needs are provided from the foliage consumed.

The R.J. Reynolds Forest Aviary reports 0.0.7 (3 DNS) more hatchings of African spoonbills (*Platalea alba*) over the three-month period. As indicated in our last B&H report, the breeding pairs are constantly breeding and hatching eggs creating a surplus. More offspring have been shipped to other institutions. *submitted by Lucy Segerson, Chapter President, North Carolina AAZK Chapter.*

Zoo Atlanta...at 4:20 p.m. on 15 March we were very pleased and shocked to find that one of our female Western lowland gorillas (*Gorilla g. gorilla*) had given birth. Although we knew that three of our females were pregnant, Paki was not expected to give birth for several more months. Paki, a 26-year-old wild-born is on permanent loan (along with 3.6.3 other gorillas) from the Yerkes Primate Center of Emory University. Although this was Paki's fifth offspring, it marks the first gorilla birth for Zoo Atlanta, who had only the silverback, Willie B., until the Yerkes loan last summer. Paki's first infant, Kishina, marked the first birth for the Yerkes Center. Paki's new baby is a healthy male and both are doing well.

At about 10:00 a.m. on 18 March, Lead Keeper Charles Horton noticed vaginal secretions from Machi, another of our pregnant gorillas. Machi was seen collecting these secretions with her hand, and then licking them off her hand. Nearby was the rest of the group - Paki and her newborn son, the silverbacked father, Ozoum, and Paki and Ozoum's 4 1/2-year-old daughter, Kuchi. The group was in their night holding area awaiting the 11 a.m. release into their exhibit yard. For the next two hours Machi would collect and consume her secretions, and would be joined by Kuchi, who was very attentive. At times Machi would assume a tense posture indicative of a contraction. This was to be 13-year-old Machi's first birth and we were delighted that she had experienced Paki's son's birth and care.

Births & Hatchings. *Continued*

Although there was a large crowd waiting to see Paki's baby, it was decided to keep the group together inside. However, the group became restless and Ozoum began displaying towards Machi. It was then decided to let the group out as usual, while keeping Machi inside for greater control and observation. As soon as the others had left their holding area, Machi began to give birth. She laid down on her back and with one good push she gave birth to a female. She immediately placed the baby on her chest and then methodically pulled out and consumed the umbilical cord and afterbirth. Soon afterwards she became restless and expressed an interest in going outdoors.

After Paki was let out into the exhibit she gave the public a glimpse of her son, collected food, and returned to the door that separated her from Machi. At that point we allowed Paki and her three-day-old son into a "tunnel" area with Machi and her newborn daughter. This is an open air area where they were separated from, yet had visual and tactile access to the other gorillas in their group. That evening the group was together as usual with no problems. Both babies are nursing regularly, growing and becoming more active.

This has been a very exciting time for us here at Zoo Atlanta, and we are eagerly awaiting our third gorilla baby! In closing, Zoo Atlanta and the Yerkes Center join the Philadelphia Zoo in the support of allowing gorilla mothers to raise their young. We will make every effort to see this happen. *submitted by Ellen Bradfield, Co-President, Zoo Atlanta AAZK Chapter, Atlanta, GA.*

Los Angeles Zoo...significant occurrences for the month of March include:

Birds: on Easter Sunday, 26 March, the L.A. Zoo received a very special Easter gift—a fertile California condor (*Gymnogyps californianus*) egg. The pair that laid the egg, female Cachuma and male Cuyama, are the first to double clutch in a single season, ever, in captivity. The egg was taken to SDWAP for incubation the following Tuesday. The first egg produced by this pair on 2-20-89, was not fertile. We are anxiously awaiting the hatching of this egg, as the chick will be the first California condor to be produced at the Los Angeles Zoo.

0.1 Andean condor (*Vultur gryphus*): she will be used as one of the test birds in the California condor release program here. When the Andean condors are brought back in and the California condors released (approx. 1991), this bird will be part of an Andean condor release program in the Andes of Columbia.

0.0.1 King vulture (*Sarcoramphus papa*): although Los Angeles has artificially incubated, hatched out and hand-reared three of these birds in the last year, hatchings in captivity are still unusual.

Reptiles: 0.0.2 Northern pine snakes (*P. m. melanoleucus*): this was the first time L.A. has hatched out this species. Pine snakes come from a limited and somewhat pressured geographic area: Pine Barrens, NJ.

0.0.13 Eastern diamondback ratlensnakes (*Crotalus adamanteus*): this was, also, the first time the L.A. Zoo has bred and produced this species.

Mammals: 0.0.1 Short-nosed echidna (*Tachyglossus aculeatus n*): this baby was either the third or fourth echidna born in captivity ever. The day it was found by a keeper it was alive and seemingly doing well, but was found dead later that day. The cause of death has not been determined. The baby weighed 152 grams, which is about half the recorded weight of babies out of the pouch, and had "hair" rather than quills. Because of these abnormalities, our staff has been unable to determine the age of the baby.

0.0.1 Golden-headed lion tamarin (*L.r. chrysomelas*): four zoos in the U.S. currently house and breed this species, with another three U.S. zoos to acquire them in the near future. This birth was the eighth for the dam.

Births & Hatchings, *Continued*

Brazil or Bust: On 3-27-89, a family (3,3) of Golden lion tamarins (*Leontopithecus rosalia rosalia*) were the first of this species to leave the Los Angeles Zoo for the wilds of Brazil. The strawberry blond primates (mom, dad, a set of yearling twins, and a set of three-month-old twins) will spend six months moving freely through the trees at the National Zoo in Washington, D.C. in preparation for their reintroduction to the wild. In October they will be relocated to a protected area in the Brazilian rainforest. The tamarins are one of many species governed by AAZPA Species Survival Plans. A total of 61 Golden lion tamarins have been released in Brazil since 1984. *submitted by Kim Brinkley, Chapter Liaison, Los Angeles Zoo AAZK Chapter, Los Angeles, CA.*



Information Please

I am interested in hearing from keepers who have experienced periodontal problems (gum disease) in their Black and White Colobus Monkeys (*Colobus guereza*). We have experienced periodontal problems with animals in our collection who are 11 years of age or older. I am interested in determining whether this is simply an age-related phenomenon or if it could be related to diet or eating behaviors. Anyone who has had such problems with their Colobus are asked to send any information, including treatments used with these type of problems, to: Mike Yznaga, Topeka Zoological Park, 635 Gage Blvd., Topeka, Ks 66606.

I would like to correspond with any keepers who have had problems with overgrooming in giraffe. We have had a problem with our infant giraffes being overgroomed, especially the ears and tails. I would appreciate any information in this regard. Please write to: Gail Karr, Memphis Zoo and Aquarium, 2000 Galloway, Memphis, TN 38122.

Anyone having any experience hand-rearing Cape hyrax (*Procavia capensis*), please send a copy of diet and hand-rearing protocol to: Kim Brinkley, c/o Los Angeles Zoo, 5333 Zoo Drive, Los Angeles, CA 90027.



Just when you thought it was all over...The Tucson Chapter '89 Conference T-Shirt Sale! All proceeds from the T-shirt sales will go directly to the African Wildlife Foundation to commemorate "The Year of the Elephant". T-Shirts are \$6.00 which includes postage and handling. Limited sizes are available (S, Lg. and X-Lg only). Make your tax-deductible checks payable to the "African Wildlife Foundation". Please state your size preference and a substitute size. Send orders to:

**Tucson Chapter/AAZK
1100 S. Randolph Way
Tucson, AZ 85716**





Book Review

The Elephant Who Walked to Manchester

By David Barnaby, 1988

Basset Publications, North Hill, Plymouth, S. Devon, G.B.

Paperback, 66 pages, Price: £6

*Review by Amy Griffin
Student, Santa Fe Community
College Biological Parks
Program, Gainesville, FL*

How much can I say about a book sixty-six pages long without giving the whole story away? *The Elephant Who Walked to Manchester* tells of the events following the purchase of an elephant, Maharajah, in 1872. The elephant was bought in Edinburgh and was moved to Belle Vue Zoo in Manchester. The book describes the journey of Maharajah and Lorenzo (its handler), walking from Edinburgh to Manchester. It goes further to tell of the elephant and its handlers' long stay at Belle Vue Zoo.

The documentation the author provides in his bibliography help give an eyewitness view of these events which occurred over 100 years ago.

This is a nice, obviously short, book that can be read in an afternoon. If you are interested in zoo history...go for it. I personally would recommend this book for children as well as adults.

Eve and the Apes

By Emily Hahn, 1988

Weidenfeld & Nicholson, a Division of Wheatland Corp.,
10 East 53rd St., New York, NY 10022.

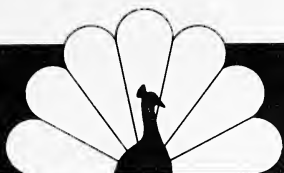
Hardback, 179 pp., Price: \$17.95.

*Review by Melba T. Brown
Keeper - Mammals
National Zoological Park
Washington, DC*

Eve and the Apes is an endearing narrative describing how several women came to care for primates and the joys and hardships they encountered. Anyone who has read historical accounts of captive apes would be familiar with the women highlighted in the book: Belle Benchley, Madam Rosalia Abreu, Maria Hoyt, Gertrude Lintz, Mae Noell, Penny Patterson, Stella Brewer, Barbara Harrison and Jo Fritz. (Ed. Note: Penny and Jo are AAZK members.) The real heart of the book deals not only with these women but with famous apes such as Gargantua, Toto, Tommy, Koko and many others. Often times their personal stories are quite humorous, but in some cases their tales are woeful.

I recommend this book to anyone who has a fascination for primates or just a mere curiosity. It is very entertaining though not always pleasant. It also provides an excellent historical record of some prominent women and the apes within their care. These pioneers provided much insight into primate behavior and thus made a significant impact on primatology.





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Viewpoint

A Response to "Must Zoo Remain Irrelevant?" Published in November 1988 AKF

By
Mike Seidman
Phoenix, AZ

The 'irrelevance' of zoos stems from a contradiction in their role in our society. On the one hand, they claim to be conservationists and educators, spreading knowledge and concern for wild nature, a very serious endeavor. On the other hand, as recreational institutions desiring to maximize attendance (and profits), they want to disturb their customers, who come only for light entertainment, as little as possible. From a conservation point of view, this is worse than being irrelevant. When zoos cater to a general public that is misinformed about and often prejudiced against animals, they unwittingly reinforce one of the causes of animal extinctions.

There are two broad sides to this problem. People have always visited zoos for the wrong reasons, not out of genuine interest in and respect for animals but essentially as a novelty, a superficial diversion. The other side of the problem is that zoos, for business reasons, have always been tempted to give people just, and only, what they want, thereby diluting their educational role to the point of invisibility.

This contradiction carries forward a timeless ambivalence towards animals on the part of human beings. We are, at the same time, in awe of and fearful of their Otherness, for example, their possession of physical and perceptual abilities beyond our own. Their unreasoning power frightens us but we would also like to possess it for ourselves. And so we relate to them with mingled admiration, envy and distrust.

These mixed attitudes were blatantly externalized in the first broad use of captive wild animals in Europe, the Roman gladiatorial contests, which pitted men against animals and animals against themselves. Public humbling of animals to test 'manliness' and/or increase social status continues to this day in bullfights, rodeos, rattlesnake round-ups and circus animal acts.

So-called 'animal people', possessing as they seem to some mysterious rapport with and control over animals, have always been accorded special status among us. In the modern world, this charismatic aura still adheres to animal handlers and trainers and even to zoo keepers; it surely is part of the allure of such professions.

The modern practice of collecting and keeping exotic animals originated among the aristocracy of the late Middle Ages, people very aware of the tenuousness of power, and the need for symbols of that power. Although they were not usually 'animal people', the mere possession and display of the dangerous beasts they collected still seemed, in the eyes of their subjects and fellow aristocrats, to augment and symbolize royal power, in the same way perhaps as the capture and display of an especially strong, fearless enemy warrior.

In a democracy everybody, not just the aristocrats, can share in the feeling of mastery over nature. Exploiting animals is so deep and widespread in our culture that we are frequently entirely unaware of doing it. Keeping captive animals for our leisure-time viewing is so old that we have lost any consciousness of its original, and still underlying, emotional functions. It is the great unstated (and usually unconscious) function of the public display of wild animals to hold up to our self-congratulatory gaze our power over creation. That we can cage and manipulate these animals seems to confirm its rightness; having control over beasts, we magically seem to possess their power. Zoos are entertaining because they reassure us in our feelings of superiority.

Viewpoint. *Continued*

Animals in zoos are forced to exist in cold, unfriendly spaces, wholly alien to their species-typical environments. Sensual-perceptual impressions are severely restricted; every movement is supervised. Those that adjust do so by becoming caricatures of their wild relatives, neurotic, semi-domesticated or near-catatonic automations, numb from an overdose of unnatural stimuli and the interminable, deadening routine. One of these stimuli is the unrelenting presence of vast numbers of human beings, constantly, sometimes viciously, violating their already reduced private space.

The humans, meanwhile, are thoroughly enjoying any neurotic behavior they can provoke. They've got Nature on the run at the zoo. Pumped up by their sheer numbers, immersed in omnipresent signs of casual human dominance (refreshment stands, train rides, animal rides, animal shows, souvenirs, etc.), with complete faith in their safety, they have not come to pay their respects to animals, or to learn any truth about them, but only to project anthropomorphic stereotypes on to them.

In these days of increasing sensitivity to animal rights, with animals fast disappearing from the earth as a result of human expansion, prejudice and greed, zoo people know that all this is morally questionable; thus they seek to justify their existence by emphasizing a conservation and education function. As a business, however, they are in a dilemma: zoogoers do not want their satisfying misconceptions purged or their lifestyles challenged. Stressing education can only hurt profits. With a vested interest in pleasing people, as many as possible, there is always the temptation to downplay that which might be difficult or disturbing, to give people not what they need, only what they want.

This is not meant as a total condemnation of zoos. Nowadays, zoos are helping the cause of conservation through the breeding of endangered species, and the level of concern for and care of their animals has never been higher. But zoo people often seem naive about the unstated social functions that zoos serve. They want to believe that zoos are neutral places where people simply see and learn about animals, as if contradictory emotional responses (awe and fear) were not always distorting peoples' views of the animals they are looking at.

Most people come to a zoo, stare at the animals and misread them as they have always done, indulging themselves in self-satisfying emotional projections ranging from blind sentimentality to arrogant ridicule; yet zoo people want to believe that the experience somehow helps the cause of conservation. Few wonder at the meaning of peoples' interest in captive animals and how this translates into concern for animals in their wild habitats. But only by honestly confronting the human resistance to understanding and respecting the needs of the animals can we possibly hope to overcome it.

Zoo people know (all too well) that most humans in our culture do not relate to animals as equals worthy of respect and freedom but (in their recreational aspect) as objects to excite or reassure them, objects that can be used either as direct sources of entertainment or as backdrops (props) for human festivities. This is unashamedly acknowledged when it is asserted that entertainment is required to bring people through the gates.

In fact, zoos have always been commercial institutions, profiting from the ambivalence, the fears and fantasies, of people toward animals. People will pay for the thrill of standing in front of a creature perceived as utterly bent on their destruction; they will pay to look at unique beings and see only caricatures of people. This is educational in the same way as a horror flick or Disney fantasy.

Despite the official line, educational and entertainment are often irreconcilable. Whereas education implies changing ideas and behavior, recreational pursuits are meant to soothe and reassure us; whereas education broadens us, entertainment brings us back to what is comfortable and secure. To the extent that a recreational (and commercial) enterprise is successful, it provides just what people want, even at the cost of reinforcing their ignorance and prejudice.

Viewpoint. *Continued*

Given the lack of respect for animals in our culture, education must necessarily begin with influencing people to take animals more seriously. In the interests of conservation, zoos should not be taking advantage of the tendency of humans to treat captive animals as scapegoats or clowns. It is only when the zoo is thought of as being in the business of recreation that encouraging such activities seems acceptable. Therefore, only by resolving this contradiction in their primary goals can zoos become positive forces for conservation. Zoos of course must be somewhat business conscious, but pure business considerations (the desire to maximize profits) must never predominate; inevitably this results in activities that have nothing to do with education or that actually miseducate, i.e., reinforce frivolous and/or disrespectful attitudes towards animals.

Zoo breeding programs are an important and respectable conservation activity but zoos are also in a position to influence the root causes of extinction, the attitudes of people towards animals. Education in this sense must teach tolerance of and respect for animals and their land; it must promote an ethic of sharing the world with them that will translate into a change in our lifestyles that will put an end to our rapacious growth and blind consumerism. And yet the modern zoo, itself tied to such exploitive values, cannot seriously mount a critique of them.

Claiming that 'our' zoo is single-handedly, heroically saving an animal from the brink of extinction is, of course, just good business; it makes everybody feel better. Armed with the feeling that we are really doing our part to save animals, we can return without guilt to consuming and exploiting them in our everyday lives. This is a great contradiction both in zoos and in the conservation movement as a whole.



The Can Remover Team **Final countdown.....35,568 cans**

By
Pierre Poirier
AQGAZ, Granby, Quebec, Canada

Here are the results of the recycling activity of the Granby Zoo section of the Association Quebecoise des gardiens d'animaux de zoo (AQGAZ).

All last summer the members of AQGAZ, after their normal working hours, rummaged through the garbage cans. In spite of the smell, the half-eaten sandwiches, squished french fries, melted ice cream cones, candy floss, diapers and bee stings, the harvest was exceptional!

As was agreed with the Societe zoologique de Granby, 25% of the money made went into the AQGAZ-Granby Zoo common donation fund for the tropical forest conservation project. After a careful study of a few projects, AQGAZ chose the "Programme for Belize", sponsored in part by the New York Zoological Society and by the AAZK Chapter of the Bronx Zoo. A \$500.00 (U.S. funds) check was sent to help the Belize project.

We hope to start again this summer as soon as we can unthaw our fingers or as soon as we stop seeing garbage cans in our dreams.....

The Montreal Zoo section of AQGAZ joined in the activity and collected over 4,000 cans during last summer.

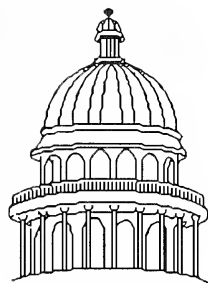
(Editor's note: For those unfamiliar with AQGAZ, it is an organization for French-speaking zoo personnel in the Province of Quebec, Canada.)



Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Amendment to Animal Welfare Act

On 3 January a bill was introduced in Congress designed to improve enforcement of the Animal Welfare Act (AWA). This bill would give the Department of Agriculture (USDA) the authority to request a temporary restraining order or injunction from a U.S. district court in response to AWA violations. The court order will allow the USDA to suspend immediately the operation of animal dealers, carriers, exhibitors, or intermediate handlers who knowingly deal in stolen animals or place the health of animals covered under the act in serious danger.

According to the bill's sponsor it normally take the USDA one to two years to process violations of the AWA. Even if an animal dealer is found guilty of serious offenses, it is highly unlikely that their license will be revoked.

> From AAZPA Legislation Committee

Dusky seaside sparrow

Recent genetic results show that the dusky seaside sparrow, a Florida bird that was declared extinct last year despite a multi-million dollar effort to save it, may not have been a distinct subspecies as was believed.

Researchers at the University of Georgia announced on 9 February that a comparison of random genetic samples from the dusky with other Atlantic Coast seaside sparrows showed almost no difference. The dusky had officially been listed as a subspecies, prompting the FWS to undertake an expensive, and apparently futile, attempt to save it.

> From the Chicago Tribune (12 Feb. 1989)

FWS listing changes

The following species were added to the Federal list of Threatened and Endangered Species during August and September of last year. All are classified as Endangered.

Tooth Cave pseudoscorpion (<i>Microcreagris texana</i>)	Tooth Cave spider (<i>Leptoneta myopica</i>)	Bee Creek Cave harvestman (<i>Texella reddelli</i>)
Tooth Cave ground beetle (<i>Rhadine persephone</i>)	Kretschmarr Cave mold beetle (<i>Texamaurops reddelli</i>)	Alabama cave shrimp (<i>Palaemonias alabamiae</i>)
Shasta crayfish (<i>Pacifastacus fortis</i>)	Boulder darter (<i>Etheostoma sp.</i>)	Mexican long-nosed bat (<i>Leptonycterus nivalis</i>)
Sanborn's long-nosed bat (<i>Leptonycterus sanborni</i>)	Stephen's kangaroo rat (<i>Dipodomys stephensi</i>)	Visayan deer (<i>Cervus alfredi</i>)

> From USFWS Endangered Species Technical Bulletin (Sep.-Oct. 1988)



Adventure Island at the L.A. Zoo Leads the Way in the Move Toward Education

Computers buzz, lights blink, machines whir. A high-tech office in downtown Los Angeles? Guess again. The sights, sounds and wonder of high technology are coming to Adventure Island, Los Angeles' new children's zoo. The \$8.3 million project is being constructed on the current 3-acre site of the existing Los Angeles Children's Zoo.

With state-of-the-art interactive devices, Adventure Island will teach children about animals of the Pacific Southwest in a fun, futuristic fashion. In years past, children's zoos have focused on petting and feeding domestic animals. While Adventure Island will still allow supervised petting, children and adults will be encouraged to "learn by doing." Visitors are invited to touch, pull, push, jump and listen as they use the participatory devices specially designed for this facility.

The interactive devices, were specifically designed for children ranging in age from 2-10 years and were created by Art & Technology, Inc. of Burbank. Children in this age group are often described as "active learners" who use play as an important means of learning about the world around them. Adventure Island's interactive devices are designed to channel a child's unlimited creativity and imagination into educational adventures.

The devices and games in Adventure Island are as diverse as the animals they teach about. For example, "Animal Eyes" will help children make comparisons between themselves and animals. Three sculptured masks of a bee, mountain lion and rabbit include special optical lenses that simulate each animal's vision. Children peer through these masks to see the world from the animal's point-of-view.

The prairie dog exhibit is also designed to help a child see the world through an animal's eyes. Here, children and adult visitors alike can imitate the furry creatures by popping their heads up into clear plexiglass domes inside the exhibit for a face-to-face look at the playful prairie dogs.

In the Cave, an interactive device is used to teach children about the inhabitants of dark caverns. Young children can feel their way along a 20-foot portion of a cave wall and when they touch certain sensors, an illuminated image of a cave dweller lights up.

A more sophisticated device for older children is called "Where's the Lizard?" which challenges participants to locate the desert iguana in the exhibit and, using a computer game, learn more about desert reptile behavior.

On a lighter note, younger tykes will enjoy "Animal Hopscotch" which allows children to hear the sounds of sandhill cranes, bears or mountain lions when they jump on special animal tracks set in the pavement.

Even getting a drink of water is a fun interactive experience. At the prairie dog drinking fountain it requires two people to successfully quench their thirst. As one visitor prepares to take a drink, a second person pushes the "safe to drink" button located just out of reach of the drinker. Prairie dog sculptures, incorporated into the fountain, depict one animal drinking while the other keeps a look out for predators.

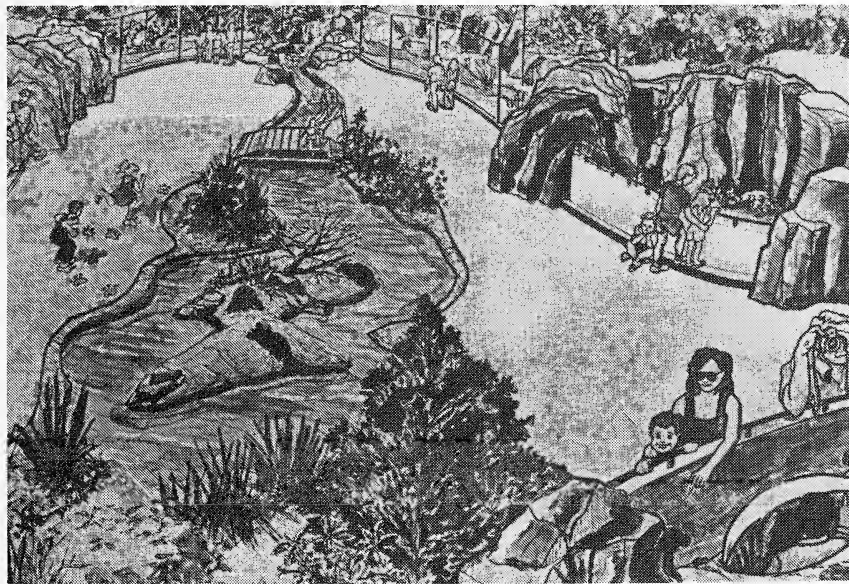
Five major exhibit areas comprise Adventure Island, each representing a different animal environment in the Southwestern United States. The environment are: the Shoreline, the Mountain, the Cave, the Desert and the Meadow. The five environments will feature over 30 different species of wildlife. There is also a Spanish Hacienda which showcases domestic animals, an animal nursery and food service. Adventure Island will also contain a 250-seat amphitheater for a variety of live performances.

The Greater Los Angeles Zoo Association (GLAZA) is raising the entire amount required to construct Adventure Island through donations, major fundraising events, the sale of

L.A. Zoo's Adventure Island. *Continued*

animal paw prints, and individual contributions. Major donors to the project include: The Weingart Foundation, The Milken Family Foundation, The Ruth and Price Davis Fund, California Community Foundation, The Skirball Foundation, Pepsi Cola, Home Savings of America, Arco, Carnation Company, Associated Foundations and Eastman Kodak Company.

Adventure Island opened to the public last month at which time GLAZA donated this unique children's zoo as a gift to the City of Los Angeles.



An artist's rendering of Adventure Island which opened at the Los Angeles Zoo in April. Interactive learning devices play an important educational role in the facility. (Drawing by Berkhemer Kline Golin/Harris)



A Device for Individually Medicating Prairie Dogs (*Cynomys ludovicianus*)

By

Eric Krussman, Brenda Morgan, Carol Prima ,
Roger Darling, Dianne Murnane and Lisa Wilson
Keepers, National Zoological Park, Washington, DC

During the winter of 1988 we were maintaining 25 Black-tailed prairie dogs (*Cynomys ludovicianus*) in holding pending shipments to other zoos. The veterinarian told us that a medication needed to be administered orally to assure each individual received the correct dosage. Holding a prairie dog down and forcing it to eat is stressful to both animal and keeper. Watching 25 prairie dogs eat to assure each had consumed the treated food was far too time consuming given the other demands on our time.

We found a solution to our problem in the Wildlife Management Techniques Manual that described the use by wildlife managers of a wire cone fitted with a block to crowd the animal to the end (Day et al., 1980). Prairie dogs were easily maneuvered into the wire mesh funnel. Once in, they are easily handled with little stress to the animals.

Our funnel was constructed of 1 inch X 1 inch plastic coated wire mesh (Fig. 1). Total length is 23 inches; open-end diameter is 12 inches; small-end diameter is 3 inches. We used burlap as the block to force the animal to the small end.

Wildlife managers use cones with animals the size of chipmunks (*Tamias spp.*) to raccoons (*Procyon lotor*).

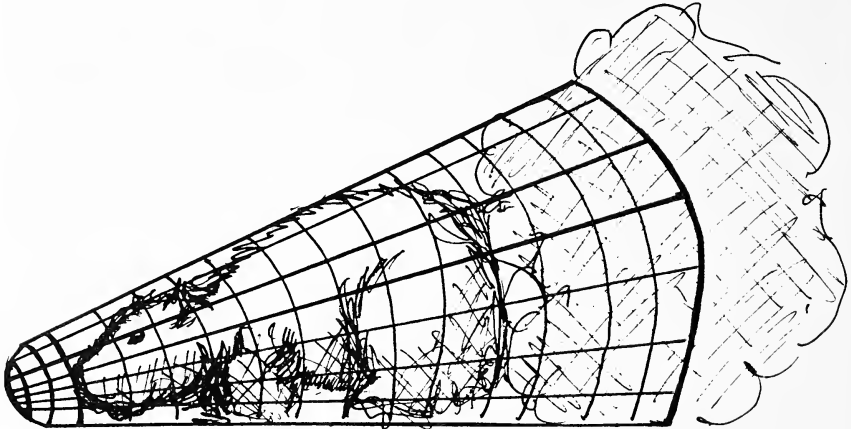


Figure 1. The wire "cone" used for handling prairie dogs.

Literature Cited

Day, G.I., S. D. Schemnitz, and R.D. Taber, 1980. Capturing and marking wild animals. Pages 61-88 In S.D. Schemnitz, ed., Wildlife Management Techniques Manual. Fourth Edition: Revised. The Wildlife Society, Washington, DC.

Acknowledgment

We thank Dr. John Seidensticker for his assistance and support.



Conference '89.....



Second Call for Papers

The Burnet Park Zoo Chapter of AAZK extends this second invitation to individuals in the animal care field to present a paper on their topic of interest. We have decided not to have a particular theme for the Conference, but to have the papers represent the animal care field as a whole. We believe this approach will give the people at the Conference a taste of potentially all areas of the animal husbandry field.

We encourage those who have not presented a paper recently to take advantage of this opportunity. As an incentive, \$25.00 will be refunded from the registration fee upon acceptance of the paper. Outlines and abstracts are beginning to come in and it appears they will provide the Conference participants with a most satisfying experience. In the June *AKF* we will include the Guidelines for typing papers for AAZK Conferences. For further information on how to prepare and submit a paper for AAZK Conferences, please see "How to Write it Right", January 1986 *AKF*, pages 23-26. Reprints of this article are available by writing the Editor of *AKF* and enclosing a self-addressed, stamped legal sized envelope.

Papers will be limited to 20 minutes with a 5 minute question/answer period. Please submit the outline or abstract by 15 August 1989 along with the following information:

Name of Presenter/Author
Zoo Affiliation
Position/Title
Title of Paper
Equipment Needed

Send to: Alan Baker, Burnet Park Zoo, 500 Burnet Park Dr., Syracuse, NY 13204.

AAZK National Committees that plan to have meetings at the Conference should submit time and meeting space requirements by 15 August. The Conference Planning Committee is busy working out details for the Registration Packet, the Conference Schedule, the Post-Conference trip to Niagra Falls & Buffalo among many other things to ensure a truly exciting yet relaxing Conference in Syracuse.

Please start thinking about what you'll bring for the auction. See you at the 15th Annual AAZK Conference, Syracuse, NY, October 1-6!

1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

Is this your first AAZK Conference? ___ Yes ___ No

I will be submitting a paper ___ Yes ___ No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: ___ Yes ___ No

I am bringing an auction item: ___ Yes ___ No

(Describe briefly) _____

Vegetarian: ___ Yes ___ No (Specify type) _____

I am interested in a conference T-shirt? ___ Yes ___ No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
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1989 AAZK National Conference
October 1-5, 1989
Syracuse, NY



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Zip Code _____ Telephone # (____) _____

Arrival Date _____ Check-out Date _____

Room Guaranteed By: _____ Credit Card _____ Check _____

Master Card Visa American Express (please circle)

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***Make check payable to QUALITY INN NORTH. First night's deposit or credit card guarantee required. A 72-hour cancellation is required for a deposit refund.**

I will be sharing a room with: _____

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Single \$50.00 _____ Triple \$65.00 _____

Double \$60.00 _____ Quad \$65.00 _____

Check-in after 3:00 p.m. Check-out time is 12:00 noon. Telephone for Quality Inn North is (315) 451-1212. Deadline for reservations is 18 September 1989.

RETURN THIS FORM TO:

AAZK Conference
c/o Quality Inn North
1308 Buckley Road
North Syracuse, NY 13212-9988

ZOO DAYS

Hi! I'm Bernie Feldman, and this is my colleague, Tom Slick. As Members of the Burnet Park AAZK Chapter, we would like to invite all our friends to attend the 1989 AAZK Conference in Syracuse, N.Y., on October 1st through 5th. It promises to be a great Conference!

Promise?! Do you have to promise?

We'd like to take a couple minutes to let you in on some of the upcoming events.

You mean warn them, don't you?

Registration begins Sunday, Oct. 1, at the Quality Inn. Please reserve your hotel rooms early.

Yeah, otherwise you could end up at the local Bates Motel. Let me know and I'll tell Norman to expect you.

Sunday night is the Icebreaker

You can say hello to all the people you insulted last year

Monday is our first paper Session.

Try not to fall asleep.

Tuesday, we'll all take a trip down to Binghamton, N.Y.. There we will tour the Ross Park Zoo and have the ever popular Zoolympics!

The buses will be late, and it'll rain

WEDNESDAY WILL BE THE SECOND PAPER SESSION.

Snooze time again!

ON Thursday, everyone will go to the Burnet Park Zoo. The AAZK General Meeting will be held at the zoo. After lunch there will be lots of tours and workshops.

It'll rain!

BEFORE LEAVING THE ZOO WE'LL ALL GET A CHANCE TO TAKE THE FECAL IDENTIFICATION CONTEST.

SOUNDS LIKE A PILE OF ---- TO ME.

THEN, BACK AT THE HOTEL, IT WILL SOON BE TIME FOR THE ANNUAL AUCTION. THE AUCTION WILL SOON BE FOLLOWED BY THE BANQUET! SO PLEASE PLAN ON ATTENDING THE 1989 AAZK CONFERENCE. WE'RE WORKING HARD TO MAKE THIS THE MOST ENJOYABLE CONFERENCE EVER!

TIME FOR ME TO PAWN OFF MY OLD JUNK ON SOMEONE.

SO HAVE A NICE DAY!



Sexual Harassment in a Nursery Colony of Hand-Raised Big Brown Bats (*Eptesicus fuscus*)

By
Susan M. Barnard, Lead Keeper
Dept. of Reptiles & Amphibians
Zoo Atlanta, Atlanta, GA

Introduction

During the months of June and July 1986, forty-seven of fifty-eight orphaned big brown bats (*Eptesicus fuscus*) were hand-raised after an unsuccessful attempt to rescue and relocate a colony of over ninety individuals. After the hand-raised infants were able to eat insects on their own, they were housed together in a specially-designed outdoor enclosure (See Figs. 1, 2, 3). As the months passed, copulation within the group was observed, but no births were recorded among females in their first year of age.

From fall 1986 to winter 1988, subdominant males that had been forced out of the roost by the dominant males, were housed singularly in indoor bat cages until they could be surplussed to appropriate institutions for conservation programs. Also, during this two-year period, some bats died from a variety of behavioral and physiological causes. It was thought that the sexes of the remaining individuals in the outdoor roosts were two males and eight females. One male resided with eight females in roost #1 and the other male dwelt separately in roost #2. On 1 March 1988, the male in roost #1 was removed because he appeared to be thin and generally unthrifty. This animal also began hanging away from the females. It was thought that the females were discouraging him from joining them because they were soon to give birth.

Behavioral Observations

On 5 May 1988, the vocalizations of newly born bats were heard in roost #1 during the daily cleaning routine. It was difficult to make a thorough inspection of the colony because the two-year-old mothers were very defensive of their young, and it was feared that they would abandon their offspring if unduly disturbed. However, one neonate had already been abandoned and subsequently died from exposure. Bite wounds covered its 4-g body. At the time this infant was found on the floor of the roost, another was observed falling from its mother. Although the females were tightly grouped together, the mother that had just dropped her infant was hanging alone. The neonate was placed next to its mother and she quickly took it into her wing and inched her way toward the back of the roost. As she attempted to join the others she was met with aggressive vocalizations and resistance by what appeared to be a barren female. The rejected female and infant were forced to remain alone.

Over subsequent days, the same agonistic behavior was directed toward the solitary female with infant. As each day passed, the neonate grew weaker and no measurable growth was observed. On the fourth day, the barren female became more aggressive. Not only did this animal's vocalizations increase in magnitude, frequency and duration, but the lactating female was now being pursued in what appeared to be an attempt to eject her from the roost altogether. The recipient of this harassment began leaving her infant more often. In order to allow the lactating female the opportunity to raise her infant, the aggressive female was removed from the roost. Only then was it discovered that an error in sexing had been made, and the barren female was, in fact, a male.

That evening when food and water were placed in roost #1, it was discovered that the harassed female had not recovered her pup. She had joined the other lactating females, abandoning her weakened infant. In an attempt to save it, the neonate was removed from the colony and placed under human foster care. Unfortunately it was too weak to accept nourishment and died several hours later.

Sexual Harassment in a Nursery Colony of Hand-Raised Big Brown Bats.
Cont'd

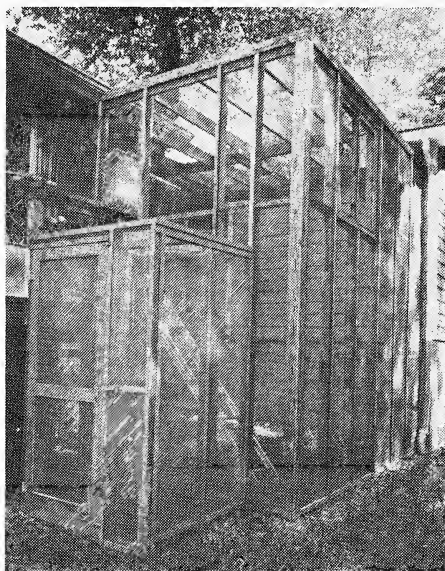


Figure 1

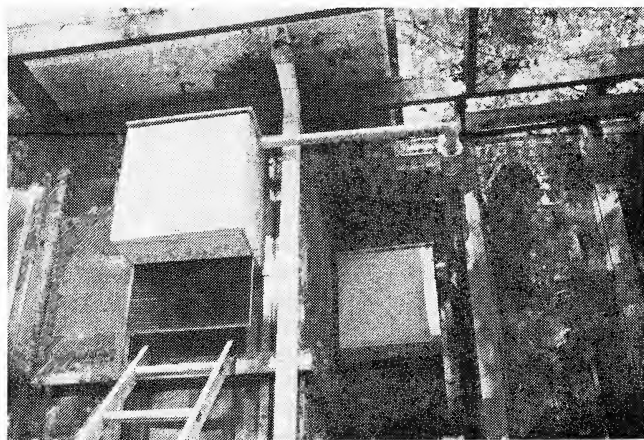


Figure 2

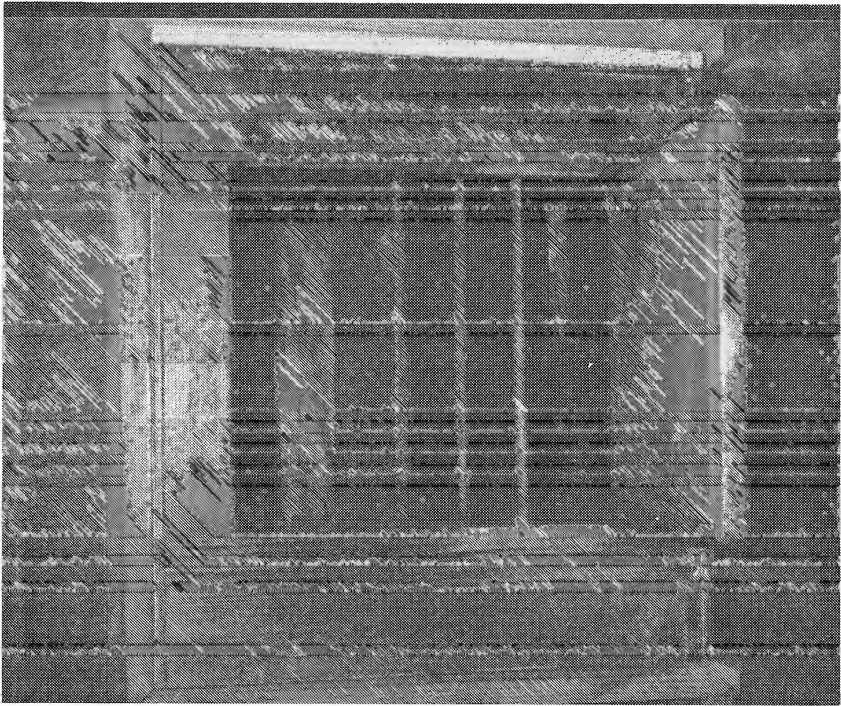


Figure 3

Conclusion

Although Mills *et al* (1975) reported about 2% of big brown bat nursery populations are comprised of males, and Davis *et al* (1968) also observed (few) males within nursery roosts of this species, these authors failed to report observing aggressive behavior in males. The fact that the mis-sexed male roosted harmoniously with six of the seven females, and that he was aggressive toward only one of the the females cannot be explained. However, the fact that all male bats (except the mis-sexed male) left this roost over a two-year period, clearly demonstrates that such behavior would insure that only "adaptable" genetic qualities allowing for a change to a captive lifestyle would be passed to the next generation.

It is reasonable to theorize that the thin, unthrifty male removed from roost #1 in March, was forced into isolation by the mis-sexed male and not by the pregnant females. It is uncertain if the bite marks on the first abandoned neonate were inflicted by its mother, the aggressive male, or the other females. It is also uncertain if the first abandoned infant was a twin that had belonged to the sexually harassed female. It was, however, known that at the time she returned to roost with the other females, she no longer had offspring.

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- Davis, W.H., Barbour, R.W. and Hassell, M.D.: 1968. Colonial behavior of *Eptesicus fuscus*. *J. Mammal.*, 49(1):44-50.
Mills, R.S., Barrett, G.W. and Farrell, M.P.: 1975. Population dynamics of the big brown bat (*Eptesicus fuscus*) in southwestern Ohio. *J. Mammal.*, 56(3):591-604.



Kenya Diary 1988

Part 1

By
Andy Lodge
Keeper, Columbus Zoo
Columbus, OH



On the Brink of Extinction: A Ngare Sergoi Journal

"To see ten thousand animals untamed and not branded with the symbols of human commerce is like scaling an unconquered mountain for the first time or like finding a forest without roads or footpaths or the blemish of an axe."

*Beryl Markham
West with the Night*

March 15, 1988 - Arrived in Zurich, Switzerland early this morning. I'll have a 12-hour stopover before going on to Kenya and Anna's. A good friend and fellow keeper, Dan Hunt, is with me this time.

We visited the Zurich Zoo this afternoon and spent some time with the elephant keeper. They have six Asian elephants: one bull and four cows, one with a three-year-old calf. All the keepers we met were most helpful and it was a pleasant afternoon. Leave tonight for Kenya.

March 16 - Flying over the Sudan tonight (early morning), I wonder if anyone from the comfort of the plane has given thought to the thousands of starving, helpless people on the ground below us, suffering untold agony from the terrible drought that stalks their country. I can see the Sudd, a labyrinth of Nile waterways and the last really untouched habitat for many wild animals. It will only be a matter of time before man will destroy this last bastion.

Arrived in Nairobi this morning and checked into the New Stanley Hotel, a place with much Kenyan history. We spent the afternoon at the Kenya National Museum. This evening we met up with some friends from the Columbus Zoo, had dinner and went to the casino at the hotel to play some blackjack and slot machines. I hit the jackpot on the slots, the first time in my life. We said good-bye to our friends who were returning to Columbus the next day, and went back to our hotel.

March 17 - Our driver arrived early this morning to take us up to Ngare Sergoi. After several stops in Nairobi and Nanyuki to pick up supplies, we reached Anna's around 3:00 p.m. Needless to say, I was very happy to see Anna. The drought is quite bad with a lot of hoofstock carcasses scattered about the reserve.

Some good news: Despite the drought, two rhino calves have been born in the last three

Kenya Diary - 1988, *Continued*

weeks. One female, Solia, who is the mother of Samia (the baby Anna has raised), has accepted her new calf and both seem to be doing very well.

Spent the night catching up on the news of the past year.

March 18 - Went out early this morning to see the new fence extension. Work is progressing at a good rate. This extension will increase the area of the reserve from 5,500 acres to 10,000 acres. Anna and I went on the rhino check and to take lucerne (an alfalfa and timothy mix) to the rhinos. This must be done every day and placed as close to each rhino as safety allows.

All the rhinos seem alright, although the adults are a bit thin. The expense of feeding lucerne is too much to accommodate all the animals and, unfortunately, much of the hoofstock are dying. The rhinos must and always will be the number one priority, and so far none have been lost.

As Anna's husband, Karl, is ill, he must have a 24-hour-a-day nurse. Karl and the nurse are staying in the guest house where I usually stay, so Dan and I are living in a tent near Anna's house.

Dan and I have use of a four-wheel drive Subaru so we can come and go as we please. We went over to Lewa Downs this afternoon to see the elephant herds that are passing through. There are probably between 50 and 60 animals. It's still a thrill for me to be with the wild elephants.

Spent the rest of the day with Anna discussing the plans for the reserve in the future.

March 19 - Went to see another section of the new fence extension. We observed work on an earthen dam being built as a catch basin for water runoff. When finished, it will make an excellent watering hole not only for the rhinos but for all the wildlife on the reserve.

Anna informed me that last week one of the fence workers was attacked by a buffalo. He received a bad wound and was taken to the hospital in Nairobi. Another had a bad scare from a mother leopard with cubs. Both workers are alright.

Last evening, three of Anna's friends arrived at the reserve. One was her godchild whom she hadn't seen in years. The other two were an Austrian countess and a lady bush pilot who has flown for Air Kenya for 20 years. Lots of stories at dinner. I was quite at ease with all of them, especially the pilot.

March 20 - We all went down to the river this morning for breakfast. Then everybody kind of went their own way.

It rained last night for the first time since last June. It wasn't a lot, but maybe it's a beginning. The wildlife of the reserve need the life-giving rains so very badly.

This afternoon Dan and I took Niomi, Anna's goddaughter, around Lewa Downs in the Subaru to see the wildlife. On the way back to the reserve we were caught in a downpour, and the road quickly became very muddy. I almost made the drive back to Anna's, but got stuck on the last hill up to the reserve. Everyone got soaked pushing the car out of the mud. I think we would have done better pushing if we weren't laughing so much. All three of us were soaked and covered with mud when we finally got back to Anna's. Anna just looked at us and shook her head.

The countess fixed us an exotic chicken dish for dinner. The three guests will be going back to Nairobi tomorrow. It's raining very hard tonight. I just hope it keeps up for a while.

Kenya Diary - 1988, Continued

March 21 - We heard on the radio this morning that a poacher was caught with 19 elephant tusks in Tanzania last week and was given one day in jail. What the hell's going on? Doesn't anybody want to stop this slaughter? We, as concerned professionals in the United States, had better get our heads out of the sand and start doing something or it's going to be over for the elephant and rhino. I'm very angry right now.

Things were not good this afternoon. Anna's husband, Karl, took a turn for the worse and had to be taken to the hospital in Nairobi. Dan and I helped carry him from his bedroom to the Subaru. He was taken to the airstrip and Ian Craig (son of David and Delia Craig, owners of Lewa Downs) flew him to Nairobi. Anna and his nurse went with him. As I write, we don't know how things are. He seemed alright this morning, but when Anna's friends left, he appeared to become depressed.

Dan and I are alone on the reserve tonight. We will do what has to be done until Anna returns.

To be continued.....

(Note: Andy is available to give talks and a slide presentation on the Ngare Sergoi Rhino Project. If you are interested in having Andy speak to your Chapter or group you may contact him at (614) 766-3413. If you would like to make a contribution to help in the Sanctuary's work, you may send it to: Ngare Sergoi Support Group, Inc., 5814 North Meadows Blvd., Apt. D, Columbus, OH 43229. Tax-deductible contributions should be made payable to "Ngare Sergoi Support Group, Inc.")

Small Cats in Big Trouble



By
Rick Passaro, Zoology Curator
Virginia Living Museum
Newport News, VA

Recently during a trip to San Diego, I naturally visited both the San Diego Zoo and the Wild Animal Park. I was treated to extensive behind-the-scenes tours and the keepers there were, for lack of any better word, great. I even attended an AAZK meeting/lecture at the WAP. It was here that I met Pat Quillen. Pat is the Executive Director, sole proprietor and inspiration behind the Society of Scientific Care. On over two acres at her home in the foothills of Escondido Pat houses, cares for and maintains four separate species of small exotic cats: Ancillas (*Felis tigrina*), Geoffroy's Cat (*Felis geoffroyi*), Leopard Cat (*Felis bengalensis*), and Margays (*Felis wiedii*), approximately 35 specimens total. All reside and hopefully breed under Pat's watchful eye.

These small cats (and many others) while somewhat unspectacular when compared to their gigantic relatives, are in dire need of our attention. Unfortunately many facilities choose not to exhibit many species of small cat for reasons ranging from hypersensitivity to being poor exhibit animals. As such they remain something of an "underground" group of animals that rarely receives any public or even professional attention for that matter.

That is why the work Pat is doing is so important. She not only conducts behavioral research, trains volunteer observers and keepers, but also functions as an information clearinghouse for small and large cats, assisting in the placement of unwanted animals. She also works as an international consultant chiefly through the International Society for Endangered Cats which is based in Columbus, OH. In her "spare time" she handraises rejected cubs, sometimes zipping across country to pick up an orphan-in-trouble.

Pat is entirely nonprofit and virtually a one-person operation. I think the work she is doing deserves our support. I urge you to contact her for additional information regarding her work and how you or your Chapter can help.

Pat Quillen
Society of Scientific Care
P.O. Box 7535
San Diego, CA 92107
(619) 749-3946





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What's Up Down Under?



(Editor's note: Pam McDougall, AAZK's International Affairs Coordinator-West, has been corresponding with Larry Perry, International Affairs Coordinator for the Australasian Society of Zoo Keepers (A.S.Z.K.). The following was excerpted from this correspondence and offers information on A.S.Z.K. and what's been happening recently at Australasian zoos.)

A.S.Z.K. is busy preparing for their 10th Annual National Conference to be held 5-8 May at the Melbourne Zoo. The Association currently has just over 600 members and are hoping to boost this with an overseas membership drive. Larry has written to most of the major zoos around the world who house animals from the Australasian region in hopes that some of those keepers involved in their husbandry may be interested in joining the Society.

Melbourne Zoo is currently developing a new Master Plan based on a bioclimatic theme. Zoo architect (and ex-Director from Woodland Park Zoo), David Hancocks has developed a plan which will divide the zoo into seven major zones, and we will be attempting to make the zoo visitor part of the environment, and not just a spectator looking into small pieces of each particular habitat. Many more mixed species exhibits will be included, and we will endeavor to make the visitor feel as though they have just stumbled upon a group of animals which are in the same environment as the visitor.

Many new species will be acquired for this Plan, and there will be some big changes for our keepers, who currently work with animals of the same orders. With the new Master Plan, keepers will be working with birds, mammals, reptiles and invertebrates, all of which belong in specific habitats. The next five to ten years will prove to be a challenging and exciting time at Melbourne! Perhaps we could get someone from one of the U.S. zoos which currently displays their collection in this way to write an article for *Thylacinus*.

There have been a few major happenings in the Australasian zoos over the last few months:

Wellington Zoo in New Zealand has recently bred Tuataras. This species of reptile is the sole remaining representative of an otherwise extinct reptile order, and is a unique creature. Only five zoos outside of New Zealand are fortunate to have this species in their collections.

A pair of Giant Pandas, currently on loan to the Australian Government as part of our Bicentennial celebrations, have recently left Melbourne Zoo after spending a very successful three months here. This pair of animals came from the Baishuijiang Nature Reserve in the Gansu Province of China. They are spending three months at Taronga Zoo, Sydney, before leaving Australia to spend another four months at Auckland Zoo, New Zealand.

A shipment of 2.1 Leadbeater's possums, a species which is endangered in the wild due to continuing habitat destruction, was recently sent to Metro Toronto Zoo from Melbourne as part of the Association of Zoo Directors of Australia and New Zealand's Species Management Plan. Metro Toronto is only the second zoo outside of Australia to have this species, the other being Regent's Park Zoo in London. With less than 60 specimens currently in captivity, and possibly only 200-300 in the wild, it is important that this species be encouraged to breed in captivity. These possums were thought to be extinct until 1961, when a colony was discovered in a small area of southeast Victoria.



Australasian Society of Zoo Keepers

Formed in 1976 by a small group of keepers at Adelaide Zoo, the headquarters of the **Australasian Society of Zoo Keepers** is now based at Melbourne Zoo. The primary aim of the Society is to increase liason between zoo keepers and anyone who works with or is interested in the husbandry of wild animals. This is mainly achieved through our quarterly journal **Thylacinus**, which contains articles on husbandry and breeding, short reports, book reviews and news from Australasian Zoos.

Overseas Membership for individuals is available for Aus \$30.00 and Overseas Corporate Membership for any group or organisation is Aus \$45.00.

.....

For more information or subscriptions, write to:

The Membership Officer,
A.S.Z.K.
Melbourne Zoo,
P.O. Box 74,
Parkville. Vic. 3052.
AUSTRALIA.



What's Up Down Under? *Continued*

A.S.Z.K. has recently produced a booklet containing the names of all of the papers which have been written for *Thylacinus* or presented at A.S. Z.K. Conferences. We have also established a Keeper Accommodation List. For details about this list, please contact: Ms. Vicki Power, c/o Perth Zoo, 20 Labouchere Rd., South Perth, W.A. 6151.

Articles from *Thylacinus*, Vol. 13, No. 2, 1988 winter:

1. Giant Pandas Visit the Metro Toronto Zoo by Richard Johnston
2. New Nature Experiences Around Adelaide by Gert Skipper
3. The Handrearing of a Common Marmoset (*Callithrix jacchus*) by Graham Cook
4. Red Pandas (*Ailurus fulgens*) at Adelaide Zoo by Graham Cook
5. The Breeding of Tuatara in the Wild and in Captivity in New Zealand by Barbara Blanchard

Articles from *Thylacinus*, Vol. 13, No. 3, 1988 spring:

1. Pinniped Management at Melbourne Zoo by Ron Prendergast
2. So You Want to write an article? by Chris Banks
3. Breeding Magpie Geese (*Anserana semipalmata*) at Healesville Sanctuary by Bronwyn Macready
4. Observations on Breeding of Wonga Pigeons (*Leucosarcia melanoleuca*) at Taronga Zoo by Steve Gallivan
5. Successful Captive Breeding of the Olive Python (*Liasis olivaceus*) by Peter Moran
6. Case Report of a Mandible Fracture in a Giraffe by Hero Nuus and David Schultz

For information on these issues, write to Les Peach, Editor *Thylacinus*, c/o A.S.Z.K., P.O. Box 74, Parkville, Vic. 3052 Australia.

NOW AVAILABLE - 1987 A.S.Z.K. Conference Proceedings containing the papers given at the conference held at Perth Zoo in April, 1987.

Titles include: Churchill Study into Endangered Species Captive Breeding and Raptor Rehabilitation; Breeding of Reptiles at Wildworld Australia; The Transfer of an Asian Elephant to a New Enclosure at Perth Zoo; Healesville's Nocturnal House in Operation 10 Years; The Red-eared Firetail Finch in Captivity; The Role of Docents; Orang-utan Husbandry; A Different Perspective on Keeping Australian Fauna - Temporarily; A New Species and a New Exhibit for the Marine Mammal Dept. at Taronga Zoo; Longevity of Captive Platypus; Observations on Aviary Birds to Determine Sex and Age; AAZK - State of the Association 1987; Abduction of Young by Equids; Growth Rate of Emu Chicks in Captivity; A Review of the Western Massasauga; Numbat Conservation; Taronga Zoo's Bird Department; Management of the Slender Loris; Platypus Facilities at the Royal Melbourne Zoo; A Transition in Zoos and the Keeping Sector; The Development of a Rehabilitation Programme for Native Wildlife at Taronga Zoo; Design and Development of a Macquarie Island Exhibit at Taronga Zoo; The Jersey Wildlife Trust Training Programme.

Copies are available from: *The Secretary, A.S.Z.K., P.O. Box 74, Parkville, Vic. 3052 Australia. Price Aus. \$5.00. Price includes Air Mail Postage. Please make checks payable to A.S.Z.K. (Note: check with the International Desk at your local bank for an International Money Order in Australian currency.)*



Chapter News

Henry Doorly Zoo AAZK Chapter

The new Omaha Chapter of AAZK is just a few months old, but it looks like we have a good start. Our initial fundraisers gave us some "mad money" to get our bank account started. We are doing the recycling of cans as a simple moneymaker, but the funds do add up. Wildlife artist David Shepard was in Omaha the first week of March. During his lecture at the zoo, AAZK did a coat check for the tips (and of course as a nice gesture), we earned \$105.00 for three hours work.

We have committees working on a Chapter logo, a newsletter and a film crew looking into interesting subjects to fill time slots in our meetings. They are compiling footage of old Omaha zoo films as well as knock-downs and A.I. projects. We also have a couple of members looking into organizations which would be good for our Chapter to donate funds to (of course we must earn the funds first). So we are starting at a good pace and hope to become more active as warm weather approaches.

Our first Vice President, Stacie Runyan, left the zoo to go back to school. Our new VP is Jack Hetherington.

*---Carla Weiser
Chapter President*

Fort Wayne AAZK Chapter

Newly elected officers of the Fort Wayne Chapter are:

President.....Elaine Kirchner
Vice President.....Marian Powers
Secretary.....Michelle Alwine
Treasurer.....Mary Lyons
Chapter Liaison.....Keith Roche

Our Chapter participated in Toledo's Bowling for Rhinos fundraiser back in February and had a great time

while raising money for the Ngare Sergoi Rhino Sanctuary in Kenya. We are also working on setting up a booth for Conservation Day at the zoo. We are going to show the role of zoos in the conservation effort.

---Michalle Alwine, Sec'y

North Carolina AAZK Chapter

During the fall months of 1988, the North Carolina Chapter sold chances for a Caribbean Cruise "giveaway" to raise money for the national Regional Coordinator system as well as the North Carolina Chapter. Although the project was a greater undertaking than anticipated, it was successful. The winner of the cruise was David Thornton, a fellow AAZK member from the Brookfield Zoo Chapter. The amount of money raised for the Regional Coordinator System has not been determined yet because payment for the cruise has not yet been made to the Travel Agency.

At the January meeting, Ron Key of the North Carolina Herpetological Society presented an informative slide show on venomous snakes of North Carolina at the Natural Science Center of Greensboro. After the slide show, he exhibited and talked about some live reptiles from his personal collection.

Our March meeting was held at the Duke Primate Center and Dr. Laura Vick, an anthropologist at the University of North Carolina at Greensboro, gave an enlightening discussion of her research on juvenile chimpanzees. She described how she uses computers to help with data taking and analysis.

The annual meeting was held in April and the following officers were elected:

President.....Lucy Segerson
Vice President.....Louise Martin
Secretary/Chapter Liaison...
Cynthia Hanson
Treasurer.....Ruby Ange

--Lucy Segerson, President

Chapter News, Continued

Zoo Atlanta AAZK Chapter

One of our AAZK Chapter members recently took a tour of Africa at which time donations in our Chapter's name were made to the following: the Ngare Sergoi Rhino Sanctuary operated by Anna Mertz, and The African Wildlife Foundation.

Most recently our Chapter was an active participant in the AAZPA Southern Regional Conference held at Zoo Atlanta. We assisted with the Breakfast Roundtable discussions and other Chapter members made presentations at the conference. We would like to extend our appreciation to the 306 delegates who were in attendance at the conference.

Another project our Chapter has currently undertaken is aluminum can recycling. We intend to keep this project ongoing.

--Lisa Hughes, Chapter Liaison

St. Louis AAZK Chapter

Our lunchtime lectures are a success. We have had two per month. Lecture topics have included Cheetah Survival Program, Primate Behavior, Crowned Pigeon Chick Feeding, and Hoofstock.

On 23 May we will host Andy Lodge, Columbus Zoo, who will present his lecture on Black rhinos. We look forward to this lecture and plan on a successful fundraising outcome. Also on 1 June we will have a rock band concert benefit for black rhinos - "Rockin' for Rhinos". Everyone is welcome. Out-of-town visitors please call Rick Smith (314-781-8037) and we'll find accommodations for you. "Rockin' for Rhinos" will benefit the Ngare Sergoi Rhino Sanctuary. Future benefit concerts are being planned.

We are also beginning to create a paper recycling plan for the zoo. Come and join in the fun on 1 June!

--Rick Smith, Chapter Liaison

Bronx Zoo AAZK Chapter

Rosemarie Gnam gave a presentation at our March meeting about the research she has done on the endangered Bahama parrot of Abaco Island. She set up a program of education and research and hopes, with the cooperation of the Bahama National Trust and island residents, to create a local parrot reserve in Abaco. The population of the Bahama parrots on Abaco is unique because they are ground-nesters, using natural limestone cavities. Very few parrot species nest on the ground and scientists are interested in knowing more about how this unusual behavior evolved and how it may effect the parrots' survival.

Our speaker in April was Daniel Katz, President of the Rainforest Alliance. He gave an enthusiastic talk on the goals of the Alliance and how it has been able to get people and corporations involved in trying to stop the destruction of tropical rainforests. The Rainforest Alliance is made up primarily of volunteers. It has been particularly effective in getting pharmaceutical and architectural groups concerned about the future of species diversity in the rainforest.

--Wendy Worth, Chapter Liaison

Tucson Chapter AAZK

The Tucson Chapter had a Valentine's Day aluminum can crunch and raised \$170.00. In our sincere desire to support animal conservation worldwide, we will be sending the money to the Ngare Sergoi Rhino Sanctuary. We're sure Andy Lodge and Anna Mertz will use the money to further their efforts in rhino conservation.

We also held our general election in March and newly elected officers for the year are:

President.....Leslie Wood
Vice President.....Chuck Waters
Secretary.....Barbara Palmer
Treasurer.....Jill Hickey
Chapter Liaison.....Gale London

--Gale London, Chapter Liaison

Chapter News, Continued

National Zoo AAZK Chapter

March 2nd 1989 marked the National Zoo's 100th birthday. It was celebrated with a parade through the park attended by First Lady Barbara Bush. The AAZK Chapter marched along with groups of local school children, clowns and marching bands (see photo insert).

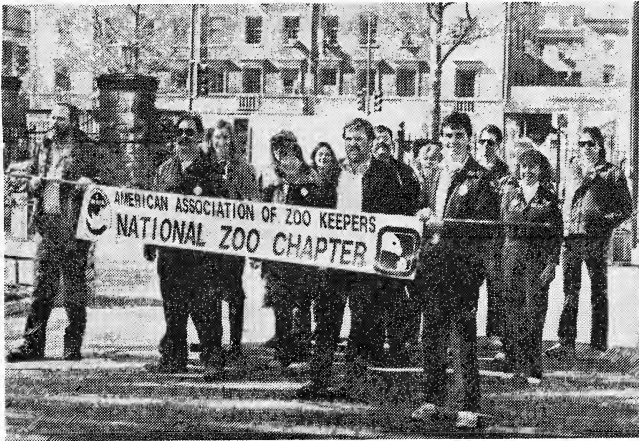
After the parade there was an awards ceremony. The officers of the AAZK Chapter presented the Zoo's Director, Dr. Michael Robinson, with a plaque

commemorating the Zoo's 100 years of service.

Newly elected officers are:

President.....Eric Krussman
Vice President.....Greg Peterson
Secretary.....Teresa Cummings
Treasurer.....Melba Brown
Chapter Liaison..Sally Hart Hunt

--Sally Hart Hunt
Chapter Liaison



Members of the National Zoo's AAZK Chapter marched in the parade commemorating the Zoo's 100th birthday.

The Virginia Chapter AAZK

Elected as officers for 1989 for the Virginia AAZK Chapter, Norfolk, VA were:

President.....Jon Brangan
Vice Pres.....Jonathan H. Bronson
Secretary.....Mary Lawless
Treasurer.....Betty Jean Schmitt
Chapter Liaison..Della A. Johnson

--Della A. Johnson
Chapter Liaison

Central Arizona Chapter AAZK

Following is a reprinting of a letter sent to the Environmental Defense Fund by the Central Arizona Chapter AAZK. The Chapter also sent a donation of \$150.00 earmarked for the Chico Mendes Fund to show their concern for what is happening in the Brazilian rainforests. Mendes, a spokesman for more than 165,000 rubber tapper families in Brazil, and numerous native Indian tribes, was allegedly gunned down on 22

Chapter News. *Continued*

December 1988 by local cattle ranchers angered by his success in stopping their expansion into the rain forest. The letter reads as follows:

Stephen Schwartzman
Environmental Defense Fund
1616 O Street NW
Washington DC 20036

Dear Mr. Schwartzman:

The Central Arizona Chapter of the American Association of Zoo Keepers wishes to express its support of the invaluable work of Francisco Mendes. We sincerely hope our donation will further the work he so deeply believed in and for which he was murdered.

Our Chapter is concerned with how the United States and Brazilian governments are enacting the programs begun by Mendes. We would like to receive information on the status of his environmental protection projects, such as the

movement to halt funding of highway BR-364 and the attempt to conserve 5 million acres of Brazilian rain forest. We would also appreciate information on the enforcement of the rights of rubber tappers over the violent and destructive demands of cattle ranchers, large land owners and land-burning technology.

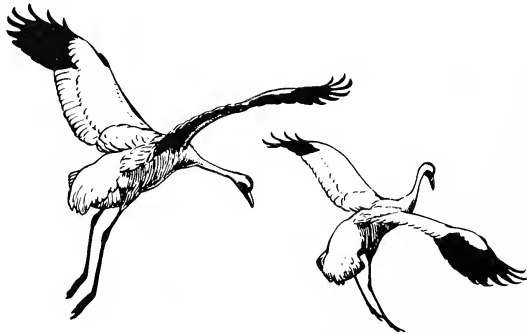
Thank you for continuing the work of Francisco Mendes.

Sincerely,

Central Arizona Chapter AAZK

cc: Mr. Jose Sarney, President, Brazil
Mr. Romeu Tuma, Superintendente Geral da Policia Federal
Mr. Sepulveda Pertence, Procurador Geral da Republica
Governador Flaviano Melo
Mr. George Bush, President, U.S.A.
Animal Keepers' Forum
World Wildlife Fund
Nature Conservancy - AZ Chapter
Arizona Rainforest Alliance

The Greenville Zoo AAZK Chapter is beginning to collect information including newspaper and magazine articles concerning exotic animal attacks or escapes. They are particularly interested in incidents involving privately owned animals. They intend to establish a database and use the information in public education programs as well as make it available to anyone upon request. **This will be a perpetual project.** If you have any such information or come across articles and news clippings on this topic, please forward them to: Janie Raxter, Greenville Zoo AAZK Chapter, 150 Cleveland Park Dr., Greenville, SC 29601.



CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Regional Coordinators - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 [h].

Director of Chapter Affairs - Chris Garland, Metro Boston Zoos, Franklin Park Zoo, Pier Point Rd., Boston, MA 02121. (617) 442-7408 {w} Home address: 4 Maple Street, West Newbury, MA 01985. (508) 363-2026 [h].

REGIONAL COORDINATORS

Elandra Aum, Woodland Park Zoo, 5500 Phonyney Ave. North, Seattle, WA 98103 {206} 625-2244 [w]
for the States of WA, OR (North Pacific Coast)

Art Goodrich, San Diego Zoo, Box 551, San Diego, CA 92112
for the States of CA, NV (South Pacific Coast)

VACANCY for the States of ID, MT, WY (North Mountain)

John Turner, Denver Zoo, 23rd St. & Steele, City Park, Denver, CO 80205
for the States of UT, AZ, CO, NM (South Mountain)

VACANCY for the States of ND, SD, MN, NE, IA (North Plains)

Steve Tigges, Tulsa Zoological Park, 5701 E. 36th St. North, Tulsa, OK 74115
for the States of KS, OK, MO, AR (Central Plains)

VACANCY for the States of TX, LA (South Plains)

Joe Rindler, Columbus Zoo, 9990 Riverside Dr., Box 400, Columbus, OH 43065 (Great Lakes Region)
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for the States of IL and WI (Great Lakes Region)

Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, MetroParks Zoos, Franklin Park Zoo, Pierpoint Rd., Boston, MA 02121
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Jon Brangan, Virginia Zoological Park, 3500 Granby St., Norfolk, VA 23504 {804} 441-2374 [w]
{804} 480-2606 [h]
for the States of PA, NJ, DE, MD, VA, WVA, and District of Columbia (Mid-Atlantic Coast)

VACANCY for the States of TN, NC, SC, GA, AL, MS (South Atlantic Coast)

Vikki Bohnert, 3515 Cobblewood Ct. # 17, Winter Park, FL 32792 {407} 678-0879 [h]
for the State of Florida

VACANCY for the State of Alaska

Dan Vitiello, Honolulu AAZK Chapter, Honolulu Zoo, 151 Kapahulu Ave., Honolulu, HI 96815
for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada {204} 489-3893 [h]

Dean Treichel, Valley Zoo, Box 3259, Edmonton, Alberta, Canada T5J 2R7
for the Provinces of Alberta and British Columbia, Canada

AAZK announces the resignation of Marcia Rasmussen as RC for the Provinces of Alberta and British Columbia. Many thanks to Marcia for her service to AAZK. Her position is being taken on by Dean Treichel of the Valley Zoo.



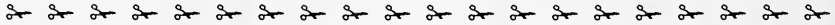
AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

ANIMAL KEEPER...requires six month full-time experience with captive exotic animals. Degree preferred. Responsible for daily care of mixed collection. Base salary \$23,088 to \$24,440 per year. Contact Personnel Manager, Cleveland Metroparks System, 4101 Fulton Parkway, Cleveland, OH 44144. (216) 351-6300. **Deadline is 26 May 1989.**

REGISTRAR...requires understanding of animal record keeping, taxonomy, and the use of an IBM-PC. Prefer experience in zoo animal management. Responsible for record keeping of the Zoo's 3,100 animals and analyzing the data for genetic purposes. Salary \$21,094-\$26,790 plus medical and dental benefits. Contact Personnel Manager, Cleveland Metroparks System, 4101 Fulton Parkway, Cleveland, OH 44144 (216) 351-6300. **Deadline is 23 June 1989.**

SENIOR KEEPER/AQUATIC BIRDS...requires two (2) years experience in the captive husbandry of aquatic birds (Penguins, Alcids, Shorebirds). Must possess strong communication and interpersonal skills. Salary commensurate with experience. Send resume **by 31 May 1989** to: Richard Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

TRAVELING ZOO INSTRUCTOR...to work under the direction of the Staten Island Zoo's Education Dept. staff in planning, scheduling, conducting and evaluating off-site zoo education programs for school classes and other groups. Qualifications include ability to relate to and teach elementary school children using live animals. Must be experienced driver with a good driving record. Full-time internship for 35-hour week at \$9.00/Hour (\$315.00 a week) plus social security, mid-September thru mid-June 1990. For additional information on job specifications/qualifications or to submit a resume contact: Bob Szita, Traveling Zoo Coordinator, Staten Island Zoo, 614 Broadway, Staten Island, NY 10310 (718) 442-3174 **by 16 June 1989.**

PRIMATE BEHAVIORAL TECHNICIAN... duties include: 1) census and reproductive observations of free-ranging rhesus monkeys; 2) computerized record keeping; 3) trapping and handling rhesus; 4) maintenance work, some physical labor, and boat handling. Prefer degree in social or biological sciences, but experience may be substituted. Salary \$12,500-\$13,500, plus benefits. Contact: Dr. Patrick Mehlman, Scientist-in-charge, Morgan Island Rhesus Colony, L.A. B. S., P.O. Box 557, Yemassee, S.C. 29945. Phone (803) 589-5190. EOE. Send C.V. and references **by 31 May 1989.**

SENIOR KEEPER/ANIMAL ENCOUNTERS...experience with domestic animals preferred. Animal training skills and horse driving experience a plus. Will supervise keeper staff under the direction of head keeper and area curator. Area has high level of interaction with zoo public. Teamwork and well-developed interpersonal skills mandatory. Salary \$7.21 to \$10.10/hr. Respond **by 21 May 1989** to: Richard M. Hurst, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

SENIOR AQUARIST...requires two years experience in the captive husbandry of aquatic animals (fish and invertebrates). Must possess strong communication and interpersonal skills. Salary commensurate with experience. Send resume **by 31 May 1989** to: Richard M. Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

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Opportunity Knocks, *Continued*

ZOO CURATOR(Administration)...for the City of Albany,GA. Salary commensurate with qualifications. Plans and monitors the development of the animal collection and related facilities at Chehaw Wild Animal Park. Ensures compliance with State and Federal regulations. Supervises the zoological administrative services of the Park. Requires a combination of seven years demonstrated experience in animal care with three years supervisory experience or equivalent education. BS in Zoology, Biology, Animal Husbandry or related field desirable. For application and complete description call (912) 431-2817. Anticipated hiring date is 1 July 1989. EOE/AA/M/F/H.

CAREGIVER...requires primate care experience, good references, and ability to work well with peers. Assist in the responsibility for maintaining and caring for approximately 60 chimpanzees (*Pan troglodytes*). Salary: \$12,000. Excellent benefits. NOTE: ALL personnel must have a negative T.B. skin test and a negative Hepatitis B Surface Antigen test prior to employment. **Deadline for applications is 15 June 1989.** Send letter of interest, resume, and 3 references to: Jo Fritz, Director, Primate Foundation of Arizona, P.O. Box 86, Tempe, AZ 85280.



An Encouraging Word....

(Editor's Note: The following item was sent to the AKF office by Ann Radmacher of the Rocky Mountain AAZK Chapter in Denver, CO. This article appeared on 10 March in the Rocky Mountain News, written by staff writer Mark Brown.)

Cost Plus Imports, Inc. will stop selling ivory in its 38 stores nationwide in response to a protest that started in Denver. After the ivory jewelry in stock sells out at the two Cost Plus stores in Denver and the other 36 U.S. outlets, no more will be ordered, said Cost Plus chief executive officer Steve Boone.

An estimated 80% of the ivory jewelry sold in America originates from poached elephants in Africa. Up to 70,000 a year are killed for their ivory, and the ivory is often shipped through Hong Kong or the Middle East to disguise its origins.

"We've been watching the African situation for a couple of years," said Boone from his San Francisco office. In February, articles began appearing about the ethical questions surrounding the sale of ivory, he said.

"The first comments we got here in the office were from our Denver store people and so our Denver customers," Boone said. "Their comments were they didn't think we should be in that business."

Even though Cost Plus bought only from government-approved sources, "we concluded that any importation of ivory really runs the risk of adding to the consumer demand for the product. And even we can't be 100% sure that every piece we get is legal. We just felt we couldn't take that risk...We just couldn't in good conscience be part of that."

Nicole Florian, assistant manager at the Cost Plus in Aurora (CO), said a customer there voiced concern about the ivory. "So we just took care of it--called the (corporate) office and wondered what we could do about it."

Cost Plus sold \$250,000 worth of ivory last year, Boone said. "But one thing we didn't do was look at our sales before we made the decision," he said. "We made it on the belief that how we do business is based on the values of those of us who work at Cost Plus and those of our customers."

Boone said he sees a shift in business thinking. "Five years ago every yuppie in business wanted a sports car and that's all they cared about. But that has been replaced with concern about values."



AAZK Membership Application

Name _____ Check here if renewal []

Address _____

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_____ \$50.00 Contributing
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Directory Information: Zoo: _____

Work Area: _____ Special Interests: _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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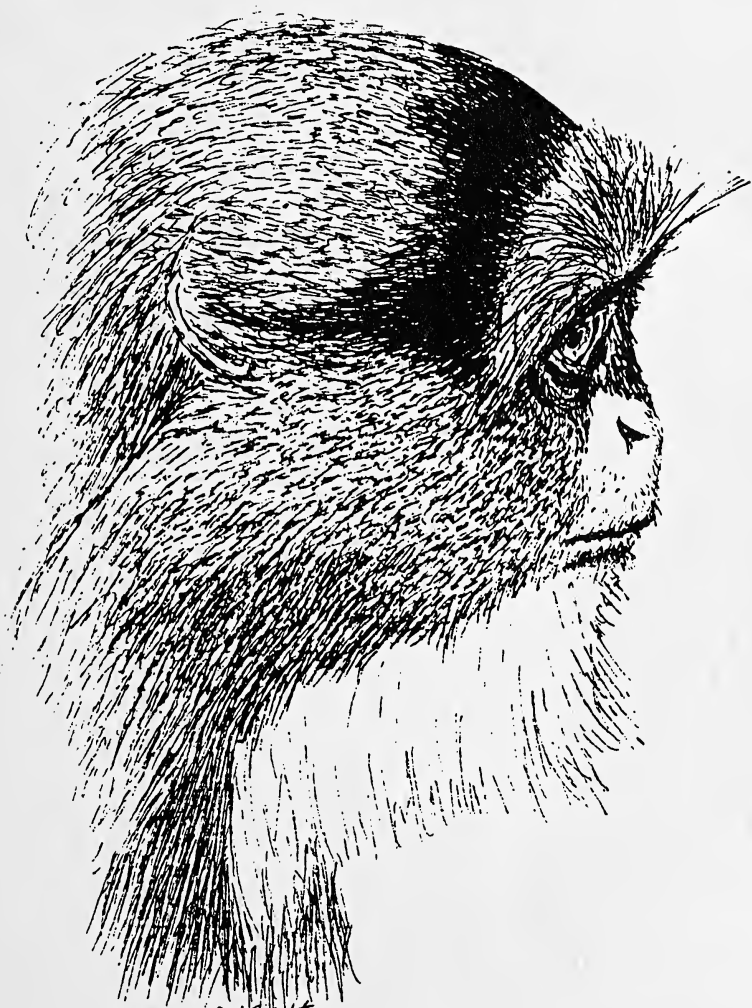
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Animal Keepers' Forum

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June 1989



Tim F.P. Knight

Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

June 1989
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Number Six

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Keeper Training Materials Identification

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An Approach to Zookeeping

Pat Sammarco, Santa Fe Teaching Zoo

Handbook of Mother-Reared Infants

Harmony Frazier-Taylor, Woodland Park Zoo

AAZK Manual of Resources

Elandra Aum, Woodland Park Zoo

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Diet Notebook

Susan Bunn, Minnesota Zoo

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Greater S. F. Bay Area Chapter

Exhibit Design Form

Mark de Denus, Assiniboine Park Zoo

Legislative Advisor

John Stoddard, Brookfield Zoo

By-Laws Review

Marilyn Cole, Metro Toronto Zoo

Zoo/University List

Mike Illig, Washington Park Zoo

Nominations & Elections

Rachel Rogers, Miami Metrozoo

CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Chapter Affairs - Chris Garland, Metro Boston Zoos, Franklin Park Zoo, Boston, MA

Director of Regional Coordinators - Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKE.

This month's cover features Turnip, an adult female De Brazza's Guenon (Cercopithecus neglectus), drawn by Tim Knight, a volunteer researcher at the Woodland Park Zoo, Seattle, WA. Turnip recently gave birth to her fourth offspring, Parsnip - following 180 days of gestation. Since 1967, twenty-four De Brazza's have been born at Woodland Park, providing keepers and researchers with many opportunities to study the behavior, reproduction, and development of these unique primates. Thanks, Tim!

Scoops and Scuttlebutt

Help Out the African Elephant--Send Attached Postcard NOW!

Please take a moment right now and sign the attached postcard and put it in the mail. It is part of a campaign by the World Wildlife Fund to alert the U.S. Congress and the Appropriations Committee to our desire to see stricter controls on elephant ivory sales and to encourage continued funding for African elephant conservation programs. It will only take a minute and will cost you only the price of a stamp. DO IT NOW!

Australasian Rap Session Scheduled for Syracuse

Make plans to join us for the annual Australasian Rap Session. This will be held at 7:00 p.m. on Tuesday, 3 October. Over the past years the session has grown from a small group of keepers talking about Australasian animals to more than 60 people last year in Tucson. We shared information and ideas for over two hours, and many new contacts were made among keepers of Australasian animals.

This year's session is being co-chaired by Judie Steenberg, Woodland Park Zoo, and Christa Larrow of Burnet Park Zoo. If you have a subject you want to discuss, or perhaps a short 5-10 minute presentation on a particular species, problem or situation, let us know well enough in advance so we can schedule time for it. Although the rap session is basically an informal discussion, we do want to insure that problems are discussed and good ideas shared.

We'll be looking forward to seeing you there. If you have attended previous rap sessions and have any ideas or suggestions that might be considered for the Syracuse ARS, please drop me a line--DO IT NOW: Judie Steenberg, Woodland Park Zoological Gardens, 5500 Phinney Ave. North, Seattle, WA 98103-5897.

AAZK Member Working in Brazil Seeks Donations of Bird Bands

Jim Ellis, formerly of the Santa Fe Community College Teaching Zoo, is currently working as a visiting scientist at the Museu Paraense Emilio Goeldi in Brazil. In recent correspondence to our office, Jim noted that bird bands are not easily available in Brazil and that the supply he had brought with him in 1985 has been exhausted. They are in desperate need of bands for conures, Amazon parrots and Macaws as well as for shorebirds (Egrets, Herons, etc.). Their entry rate for these species now numbers several hundred a year and being able to adequately band them is vital.

If anyone would like to donate some bird bands (all sizes, used or new) to Jim for his field work, you can send the bands to AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 and we will see that they are forwarded to Jim in Brazil.

Revised By-Laws Now Available

Copies of the AAZK Statement of Purpose and By-laws as voted on by the membership at the Tucson Conference are now available. They will be sent to all new members with their membership packet. If you would like to have a copy of the revised bylaws, please send a stamped, self-addressed legal size envelope to AAZK Administrative Secretary Barbara Manspeaker, 635 Gage Blvd., Topeka, KS 66606.



**World Wildlife Fund
Conservation Award**



World Wildlife Fund is requesting nominations for the 1989 Conservation Award to be presented to an AAZK Chapter for its contributions to conservation. The selection will be based on the significance and impact of the Chapter's conservation project(s). Nominations should include a description of the project(s) along with reports, articles, press clippings, etc., that the project(s) produced. These projects can encompass education, research, or fund-raising for conservation activities. The nominated project(s) should be AAZK Chapter initiated and supported.

Please submit nominations to: *Rich Block, Director of Public Programs*
World Wildlife Fund
1250 24th Street, N.W.
Washington, DC 20037

The deadline for submitting nominations is 15 August 1989.

AAZK Announces New Professional Members

Lorraine A. Grady, Bronx Zoo (NY)	Frank M. Greco, NY Aquarium (NY)
Deborah Burke, North Carolina Zoo (NC)	Sandy Wieprzkowski, Sea World of Florida
Alice Pedone, Miami Metrozoo (FL)	Dennis Highlands, Dreher Park (FL)
Leig Ann Refosco, Dreher Park (FL)	Mark A. Perry, Gatlinburgh Municipal
Cathi Benner, Toledo Zoo (OH)	Black Bear Habitat (TN)
Keith Roche, Ft. Wayne Children's Zoo (IN)	Nancy Butler, Lake Superior Zool Gdns (MN)
Randy Scheer, Henry Doorly Zoo (NE)	Theodore Beimler, Gladys Porter Zoo (TX)
Anita Schanberger, Phoenix Zoo (AZ)	John Heston, Playboy Mansion Zoo (CA)
Carole Catlin, Marine World-Africa (CA)	Mary Jo Douglas, High Desert Museum (OR)
Helen Shewman, Woodland Park Zoo (WA)	Elaine Willms, Calgary Zoo (Alberta)

New Contributing Members

New York Aquarium, Brooklyn, NY Denver Zoological Foundation, Denver, CO
Dolly R. Graham, Catoctin Mt. Zoo Park, Thurmont, MD

Renewing Contributing Members

Gene De Beaver, Chicago, IL El Paso Zoological Society, El Paso, TX
Edmonton Parks & Recreation Resource Centre, Edmonton, Alberta, Canada



Coming Events

Fertility in the Great Apes

June 15-17, 1989

Atlanta, GA

Sponsored by Yerkes Regional Primate Research Center of Emory University, Zoo Atlanta and the National Zoo. For preregistration and information contact: Dr. Kenneth G. Gould, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 (404) 727-7720.

13th International Herpetological Symposium on Captive Propagation and Husbandry

June 20-24, 1989

Phoenix, AZ

Those wishing to present papers or conduct workshops should send abstracts as soon as possible to: Mike Goode, Columbus Zoo, 9990 Riverside Dr., Powell, OH 43065 or Dr. Roger Klingenberg, 6297 West 10th St., Greeley, CO 80634.

Fifth Annual AZAD Conference

September 19-22, 1989

Columbus, OH

Hosted by the Columbus Zoo Docent Association. 1989 Conference theme is "Learning, Caring, Sharing", which reflects the essence of being a docent or volunteer. Conference will include paper sessions, educational speakers, and social events. Guest speakers will include Richard Block of WWF, John Becker of the International Society of Endangered Cats, David Jenkins of the International Center for the Preservation of Wild Animals, Andy Lodge of the Ngare Sergoi Support Group, and Cathryn Hilker from the Zoological Gardens of Cincinnati. To receive pre-conference packet with registration/hotel information, etc., please call the Columbus Zoo AZAD Conference Hotline (614) 645-3483 or write to Conference Chairman, Camille Smith, at AZAD Conference '89, P.O. Box 1042, Powell, OH 43065.

AZVT 9th Annual Conference

September 22-24, 1989

Calgary, Canada

Hosted by the Calgary Zoo, Botanical Gardens & Prehistoric Park. For more information please contact: Lori Rogers, A.H.T., Calgary Zoo Animal Health Centre, P.O. Box 3036, Station "B", Calgary, Alberta, Canada T2M 4R8 or call (403) 265-9310 local 376.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.

Coming Events, *Continued*

American Pheasant & Waterfowl Society

October 18-21, 1989

Ft. Lauderdale, FL

This convention affords the opportunity to meet people with similar bird interests. Tours will include Miami Metrozoo, the Everglades and Parrot Jungle. Talks by informative and knowledgeable bird breeders as well as panel discussions will be included. To receive a convention packet please write or call: Lloyd Ure, R.R. 1, 164-A, Granton, WI 54436 (715) 238-7291.

10th Annual Elephant Workshop

November 1-4, 1989

Tulsa, OK

Hosted by the Tulsa Zoo. For further information contact: Larry Nunley, Tulsa Zoo, 5701 E. 36th St. N., Tulsa, OK 74155. Phone (918) 596-2400.

Public Education Committee



In the January '89 issue of *AKF*, the Public Education Committee solicited answers from the membership to questions frequently asked by zoo visitors. The committee is seeking the "best" answers to such questions to incorporate in a booklet. The following is the seventh question restated and the "best" answer to that question. Another frequently asked question will appear at the end of the article -- please take a few minutes and put your thoughts together and send them to Ellen Bradfield at the address given below.

Question #7 was:

Why are these nocturnal animals awake now?

The answer to Question #7 is:

In order for people to observe the natural behaviors of nocturnal animals, zoos may create nocturnal areas. In these areas special colored lights are used to make the animals "see darkness" and therefore they become more active. While people are at home at night, these lights are turned up so that the animals "see daylight" and therefore become less active or sleep. Some animals like the Great Horned Owl can see and be awake or active during the day without the use of special lights. (Thanks to Rena Schisky again for her input!)

Question #8 will be:

Why do animals pace?

Please send any answers, comments or suggestions to: Ms. Ellen Bradfield, Zoo Atlanta AAZK, 800 Cherokee Ave. S.E., Atlanta, GA 30318.

Publications Available



♦♦♦♦ Zoo staff may be interested in a special issue of *American Forests*, (1988) Vol. 94, Nos. 11 & 12, devoted exclusively to tropical deforestation issues. This resource covers a wide range of topics including "jungle" misconceptions, political issues, sustainable use, animal farming, etc. If interested, contact the American Forestry Association, P.O. Box 2000, Washington, DC 20077-4244 or phone (202) 667-3300. (submitted by Barbara A. Birney, Brookfield Zoo, Brookfield, IL)

♦♦♦ Dr. Michael Robinson's (National Zoo) article "Zoos Today and Tomorrow" has been published in *Arthrozoos*, 2, 1, pp. 10-14. Requests for reprints can be directed to: University Press of New England, Box 979, Hanover, NH 03755. Dr. Robinson outlines some challenges for zoo and aquarium design, suggesting the need to change how we teach the public to view the natural world. (submitted by Barbara A. Birney, Brookfield Zoo, Brookfield, IL)



Births & Hatchings



Reid Park Zoo, Tucson, AZ... twin Ruffed lemur babies (*Lemur variegatus*) were discovered in the lemur nighthouse the morning of 11 April. Zoo staff were surprised at the rare birth of lemur twins since the chance of twins is less than fifty percent. Ruffed lemurs are primates found only on the island of Madagascar. At one time there were as many as 36 species of lemurs and now there are only 22. The ruffed lemur is one of 37 Species Survival Plan animals presently being monitored by zoos across the country and worldwide. Ruffed lemur parents are unusual in that they do not carry their young constantly. They are just as apt to "plant" the baby in the crotch of a tree or in a bunch of grass at ground level. The behavior is known as "parking". Parents of the twins are Fizzigigg and Domino II. --from Tucson Parks and Recreation Dept. News Release.

Columbus Zoo... on 27 February, the Columbus Zoo received our first musk ox (*Ovibos moschatus*), an eight-month-old male from the Calgary Zoo. He is currently being kept in an off-display bison stall until we find suitable exhibit space for him. Musk oxen are superbly adapted to their frigid tundra habitat with their excessively shaggy coats, widely-splaying hooves for walking in deep snow and on ice, and their ability to subsist on sparse vegetation. These rambunctious bovids are also famous for their anti-predator strategies, which consist of the adults forming a circle around the youngsters and facing their enemies with a ring of formidable horns. It will be quite interesting to see how our little guy handles the upcoming summer in Ohio--particularly if it is like last year's drought! I suspect that, unlike his keepers, he will appreciate the winters alot more! submitted by Carl Gyarmaty, Columbus Zoo AAZK Chapter, Columbus, OH.

Avicultural Breeding & Research Center... significant hatchings for the months of March and April included: 8 Moluccan cockatoos, 3 Bare-eyed cockatoos, 3 Rose-breasted cockatoos, 19 Umbrella cockatoos, 3 Major Mitchell's cockatoos, 3 Great sulphur-crested cockatoos, 3 Black palm cockatoos, 2 Green-wing macaws, 2 Scarlet macaws, 9 Amboina king parrots, 4 Australian green-wing parrots and 23 Eclectus parrots. submitted by E. Trent Swigert, Manager, Avicultural Breeding & Research Center, Loxahatchee, FL.

Monkey Jungle (Miami, FL)... on 11 May 1989, 0.0.2 Golden lion tamarins (*Leontopithecus rosalia rosalia*) were born at our facility. This brings our total of captive births to 72. The Monkey Jungle is an active participant in the AAZPA SSP for this species. Golden lion tamarins are the rarest primates in the world, with an estimated population of 400 left in the wild. Tamarin mothers usually bear twins. The adult male carries the infants shortly after parturition, surrendering them to the female only during nursing periods.

Helping to define strict dietary, environmental, and social requirements for this delicate monkey has insured our continued success with this species in the past several years. Breeding Golden lion tamarins in captivity has been successful enough to permit the reintroduction of a select few into the wild. A female born at Monkey Jungle was released into a protected habitat in Brazil in 1985.

Monkey Jungle also reports the following significant births for the months of January through April 1989: 12 Jan., 0.1 Brown headed spider monkey (*Ateles fusciceps robustus*); 07 Feb., 0.1 Patas monkey (*Erythrocebus patas*); 17 Mar., 0.0.1 Diana monkey (*Cercopithecus diana*); and 24 Apr., 0.0.2 Cotton-top tamarins (*Saguinus oedipus oedipus*). submitted by Eric Carlson, Keeper, Monkey Jungle, Miami, FL.)

Births and Hatchings, Continued

Bronx Zoo...the Dept. of Mammalogy is proud to announce the birth of a male Proboscis monkey (*Nasalis larvatus*) on 8 April. This infant is the offspring of our more recently acquired male, Ed, and the mother, Bernadette, is the daughter of the first male in the exhibit, Basle. This makes the newborn an important representative in the gene pool of the troop. Proboscis monkeys, well known for their unusual noses, are leaf-eating monkeys of the sub-family Colobinae. In nature they inhabit the mangrove and lowland rainforests of Borneo, at the Bronx Zoo they can be seen in Jungle World. We have the only breeding troop in North America of these endangered primates who are listed on Appendix I by CITES.

In March and again in April, twin Red-handed tamarins (*Saguinus midas*) were born; they are listed on Appendix II by CITES. In March, twin Moustached tamarins (*Saguinus mystax*) were born; also Appendix II of CITES. Twins are the norm for tamarins and they usually are not identical. It is interesting that tamarins have a monogamous breeding system; their troops are most often made up of the breeding pair and their offspring who help care for the younger siblings.

The Dept. of Ornithology is pleased with the continuing success with the breeding of the Red birds of paradise. In April two more chicks were hatched from the same female as last year, but this year she mated with a different male. This is her third clutch this year, a clutch is one to two eggs, and incubation is only about 14 days. We pull the eggs after 10 days and move them to an artificial incubator. When the altricial chicks hatch, they are hand-raised, with feedings every two hours from 0600 to 1800 hours. Birds of Paradise are not often in zoo's collections and breeding pairs are rare. The Bronx Zoo has an important collection of these exceptionally beautiful birds.

Another Green-naped pheasant pigeon (*Otidiphaps noblis*) hatched and is being hand-raised. It is often difficult to hand-rear squabs in the pigeon family as it is necessary to simulate the crop milk the hen produces. A diet of equal parts of egg whites and water augmented by a ground frugiverous pellet and calcium carbonate has worked well for our pheasant pigeons. *submitted by Wendy Worth, Chapter Liaison, Bronx Zoo Chapter AAZK, Bronx, NY.*

Central Arizona Chapter AAZK...would like to announce the following significant births and hatchings for two of our institutions from January through May.

At the **Phoenix Zoo**, two Ruppell's griffin vultures (*Gypa rueppellii*) hatched on 9 Feb. on exhibit and are currently being reared by their parents. These are the second and third to have hatched in the United States. Both pairs of adults were acquired in Oct. '84 and moved to the African Savannah exhibit. Nest building was first observed in Jan. '87. Four eggs were laid during the succeeding two years (Jan. '87, Dec. '87, Jan. '88 and Nov. '88), all of which were pulled and placed in an incubator. Although three of these were fertile and developed from half to full term, none actually hatched. A fifth egg was laid on 16 Dec. '88; it was decided to yield to nature and let the vultures have a go of it themselves. The second pair then hastily threw together a nest and laid an egg of their own on 20 Dec. The male and female of each pair shared in the brooding of the eggs, which hatched on the same day (55 and 51 days incubation), and now share in feeding the chicks.

Also at the Phoenix Zoo, we were blessed with the birth of our first second-generation Bornean orangutan (*Pongo pygmaeus pygmaeus*) in February. The mother and new male infant are doing well. This is the second offspring at our zoo, sired by Billy, a male on loan from the Lincoln Park Zoo.

Our pair of Green-winged macaws (*Ara chloropters*) hatched two more chicks that they raised well. The chicks fledged in April and are still with the parents learning to eat on their own (as of this writing 13 May). Our first chick that hatched last year was sent to Reid Park Zoo on breeding loan.

In March came the birth of a Brazilian tapir (*Tapirus terrestris*) and the hatching of two SSP Bali mynahs (*Leocopsar rothschildi*). All three are continuing to do well, although for a time the infant tapir had a bout with pneumonia.

Births and Hatchings, Continued

In April, the Phoenix Zoo's first Kirk's dik-dik (*Madoqua kirki cavendishi*) arrived as well as a Suni antelope (*Neotragus moschatus*). Both babies are getting along well with their mothers. In May a second female dik-dik gave birth. Also in May, 0.0.7 San Francisco garter snakes (*Thamnophis sirtalis tetrataenia*) were born, one did not survive. We acquired the parents, a male and two females, from the Memphis Zoo through the USFWS. The second female is gravid, at the time of this writing, and due anytime.

At the **Wildlife World Zoo** the New Year started with the birth of 1.0 Hanuman langur (*Presbytis entellus*). Our breeding pair was born at the Washington Park Zoo in Portland, OR. The original group was imported from Sri Lanka by San Francisco. Our pair are some of the first offspring of the original group. This original group and the subsequent offspring are the only Sri Lanka subspecies in the country.

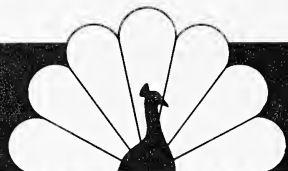


Hanuman langur (*Presbytis entellus*) born at Wildlife World Zoo, pictured at one day of age. (Photo © Steve Cherneĳ, Daily News-Sun)

In March, we had two notable SSP births including our first Arabian oryx (*Oryx leucoryx*) and 1.0 Addax (*Addax nasomaculatus*). These rare hoofstock species thrive in our Southwest desert climate.

Our first Blue neck ostrich (*Struthio camelus*) was hatched on 30 April. This is the first ostrich hatched since the zoo opened in 1984. Currently it is being raised with 6 Emu. Our second younger pair of ostrich has just started to lay this year, so we are hopeful for more chicks in the near future. Another notable hatching was 0.0.1 Lesser razorbill curassow (*Mitu tomentosa*). We are one of only two zoos to exhibit this rare species. Submitted by Luke Thirkhill, Chapter Liaison, with thanks to Terri Volk of the Phoenix Zoo and Kara Wells of Wildlife World Zoo for their submissions.





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Discovery Channel and World Wildlife Fund Join Forces to Produce African Elephant Documentary: "IVORY WARS"

The Discovery Channel (TDC) and World Wildlife Fund (WWF) are joining efforts to produce an original TDC documentary titled "Ivory Wars", a one-hour special on the African elephant and the notorious ivory trade which threatens the species with extinction. Scheduled to make its world premiere in September, "Ivory Wars" will examine the behavior and habitat of the African elephant and the illegal import and export trade of its tusks which are used worldwide for ivory goods.

Produced by London-based Pathfinder Films, Ltd., this film represents television's first comprehensive look at the African elephant as a global conservation issue. The African elephant, the largest land animal, is being slaughtered at a rate of 260 per day, 1,900 per week, 100,000 per year, mostly by poachers who are cashing in on a voracious ivory market worldwide. Scientists estimate that a total of 90 percent of traded ivory comes from illegally poached African elephants. At this rate of decimation, the African elephant will be rendered all but extinct within the next five to seven years; their numbers will be so small that they will be economically unfeasible to be mined for their ivory. Because of the elephant's two-year gestation period, its reproduction age of 25 years, and man's increasing encroachment upon its natural habitat, odds will be against the African elephant making a comeback before succumbing to extinction. The only way, however, of saving the African elephant from immediate danger is to wipe out the world-wide demand for ivory.

"The African elephant is the conservation test case of the 1990s," said Kathryn S. Fuller, President of WWF. "If we cannot save the earth's largest living mammal from being wiped out, then mankind will have painted a very bleak future for himself. The Discovery Channel is a most natural partnership for us," Fuller continued. "Together, we can send a powerful message and call-to-action to the public worldwide to begin turning the corner on the conservation of the African elephant, its habitat and all the other rich flora and fauna which live in its environment."



Information Please

I am looking for any information regarding Bee-Eaters (Family Meropidae). Specifically diets, inter and intraspecies relationships and housing conditions. Please send information to: Kim Livingstone, Zoological Society of San Diego, Box 551, San Diego, CA 92112 or call (619) 557-3977. Thank you!

I would like to hear from keepers who have had success in breeding *Dendrobatid* spp., especially *D. auratus* and *D. leucomelas*. Please send a copy of breeding protocol to: Kim Clarke, c/o Metro Toronto Zoo, P.O. Box 280, West Hill, Ontario M1E 4R5 Canada. This information will be greatly appreciated.

I am looking for any information on vaginal cytology studies or routine procedures particularly for elephants. Also any information on hormonal results for correlation on both Asian and African elephants. Please contact: Renee Harris, AHT, Topeka Zoological Park, 635 Gage Blvd., Topeka, KS 66606 (913) 272-5821 or at home (913) 235-1672.



Kenya Diary

1988

Part 2

By
Andy Lodge
Keeper, Columbus Zoo
Columbus, OH



On the Brink of Extinction: A Ngare Sergoi Journal

March 22, 1988 - The news from Nairobi is that Karl is in intensive care. His Swiss doctor is with him, as is my friend Jilly, who is a nurse now at the hospital where Karl is staying. Dan and I are looking after things here, feeding the horses and making the rhino checks. We will have to stand by and wait for developments.

Kenya had its national election yesterday. As President Moi runs unopposed, these elections are for members of parliament. From what we saw in the villages, the elections are hotly contested, with people taking to the streets and shouting their support for their candidate. This is the fifth election since independence, and the people take their government and the new democracy quite seriously. Kenya shows that democracy can work in third world nations. I hope it can enlighten other, more backward African nations toward the road to a brighter, more prosperous future.

I truly care about this country and its people. I've learned and gained a special feeling for this land.

March 23 - Anna came back from Nairobi last night. She told us Karl was still in intensive care but stable. The doctor suggested that the best thing for her to do was to come back to the reserve, let Karl rest, and they would keep her informed of his condition.

I went with her to check the rhinos this morning. Even with the little bit of rain we had, some new plants came up -- enough that we are not taking lucerne to the rhino.

The drought has taken a terrible toll on some of the hoofstock, particularly the eland. Of the 70 on the reserve before the drought, only five remain. Of 35 kudu, four remain. Three of the nine buffalo have also died. We can only hope for more rain so that what remains of these animals will survive.

This area of Kenya can be a cruel land at times, but the people here would live nowhere else.

March 24 - It's raining this morning, for which everyone is grateful. Anna and Dan went to Nanyuki to pick up supplies and to call Nairobi to check on Karl.

Dan and I are to leave in the morning for a camel safari. We will be dropped somewhere about 25km from here, where we are to meet up with three African men and the camels. Neither of us knows what to expect, but it should be interesting.

Kenya Diary - 1988, *Continued*

The rains came hard as the morning wore on. I hope Anna and Dan will be able to get back to the reserve. If this downpour keeps up, our camel safari will be called off, but it is of little concern as the rain will breathe life into the drought-ridden reserve and save the wildlife here from starvation.

I'm sitting in the tent watching the rain and I'm also watching Samia, who is three years old now and getting big. She has been running about in the rain having a fine time. She charges forward and then plants all four feet and slides in the mud.

I would hate to think what would happen if we lose the black rhino. We must not let this happen. I hope we can get many people to get behind Anna's efforts. We American keepers are her best hope. She has told me that and I believe her. Many people have promised help, but very little has come through. I know I can depend on AAZK. They've come through before, and I know they will again. I know people get tired of me beating the drum for the rhino, but if they could see first-hand as I have what's happening to the animals, they would be as concerned as I. End of sermon.

Dan and Anna made it back safely. The news is that Karl is still in intensive care, but stable.

Looks as though we will be hanging around the house for a day or so as the roads are too muddy to get out. Dan and I have moved from the tent to the guest house, which is certainly warmer and drier.

March 25 - The sun came out this morning and it's a beautiful sight to see all the green around the reserve again. The animals are so lively - the lucky ones that survived the drought. A sad note - Ian has lost more than 100 head of cattle. They were just too weak to survive the drop in temperature and the cool rain.

We are still waiting word on the camel safari. We should know something tonight. More good news: Both newborn rhino calves are females.

March 26-27-28 - Word came last night that Dan and I would be going on the camel walkabout today. We left early for the area above Samburu Park and met up with our camels and the people who were to take us on the trip. They were all from the Samburu tribe, a people very much like Masai.

There was one old man who would lead and two young Samburu Morani (young Samburu warriors entering manhood) who would handle the camels.

We walked until about 2:00 in the afternoon and made camp. They made us their tea, of which they seem to drink a lot. For supper, we had boiled cabbage and an African cake they call Ugali, which is just powdered milk with water and corn flour. They eat this every night at their only meal of the day, plus tea in the morning and afternoon.

Our guides spoke no English at all but we could communicate with them in other ways. We were very dependent on them.

This was not a tourist camel safari in any way. It was set up for us by Ian and Anna. I guess they want us to have the real 'African experience'. We are both grateful to be able to do things here that not many people have an opportunity to do.

The first night, about 11:00, the dog that was with us started barking and we could hear, not far away, a lion that he had scented. The lion made some noise and then went away. The only other night visitor was a lone elephant that ventured near camp.

The second day was a lot of walking. We saw some game, usually small antelope. We spent a peaceful second night and the next day walked to our pick-up point. We were driven back to the reserve after stopping in Isiolo to pick up supplies.

Kenya Diary - 1988. *Continued*

I think the thing I'll remember most about the last three days was living, eating and being with the Samburu. We got to know them as a people and maybe understand a little bit about them and the way they live. We were among not just our guides, but the Samburu themselves who lived in the area. We watched them tend their cattle and goats and observed their daily lives. I will remember the safari and the people always.

When we returned to the reserve, we learned that Anna had gone to Nairobi to see Karl, so Dan and I are alone here tonight. We took long, hot baths; this was nice. After three days we were both getting a little ripe.

We fixed a big supper of beef, potatoes, and whatever else we could find. After three days of eating cabbage and Ugali, it was a feast. We were quite tired and went to bed early. My only discomfort was a sunburn and a blood-soaked sock from a bad blister on one of my feet. I'll gladly do it all again, but not for a few days.

March 29 - Anna will be in Nairobi at least until tomorrow, so Dan and I are minding the store. We did the rhino count this morning with Anna's head tracker named Origo and got a real close look at Rongoni and her calf. The calf is very active and alert.

Just rested our feet the rest of the day.

March 30 - Went to Nanyuki this morning on a supply run, to the post office, food store and several other places.

When we got back to the reserve, Anna had come back from Nairobi. She said Karl was not too good; he had another slight stroke Monday night. Anna's having a hard time right now. I wish there was something we could do, but it is out of our hands.

She wants us to go to Nanyuki and pick up the payroll tomorrow. All we can do is help her as much as we can.

To be continued.....

(Note: Andy is available to give talks and a slide presentation on the Ngare Sergoi Rhino Project. If you are interested in having Andy speak to your Chapter or group you may contact him at (614) 766-3413. If you would like to make a contribution to help in the Sanctuary's work, you may send it to: Ngare Sergoi Support Group, Inc., 5814 North Meadows Blvd., Apt. D, Columbus, OH 43229. Tax-deductible contributions should be made payable to "Ngare Sergoi Support Group, Inc.")



Greenpeace Offers Tips on Ecologically Safe Alternatives

--- reprinted from The Ark, newsletter of the Lincoln Park Zoo Docents

Greenpeace has produced an excellent guide to alternatives to household products that are health hazards to individuals and hazardous wastes when discarded. It's a recipe book on how to prepare your own household cleaners and polishes, laundry detergents and bleaches, carpet cleaner, metal polish, drain cleaners, air freshners, and pesticides. For a copy, write: Greenpeace, 1436 U St., NW, Washington, DC 20009.



Book Review

Communication and Expression in Hoofed Mammals

By Fritz R. Walther

Indiana University Press, Bloomington. 1984.

Hardback, 423 pages. Price \$40.00

*Review by Celeste Schwenn
Loan Keeper, San Diego Zoo
Biology Major, San Diego
State Univ., San Diego, CA*

While observing Western tufted deer (*Elaphodus cephalophus cephalophus*) I came across a peculiar behavior. Two males were together in an enclosure, and when the smaller male came close to the larger one, the large male would pursue the small one until he laid down flat with his head out straight in front of him, almost an imitation of a hiding fawn. It was obviously a type of submissive gesture that seemed to end pursuit, but why so extreme? I wondered if there was a specific term for it, if it occurred in other species, or if it were direct imitation of a helpless fawn (if the smaller adult deer could ever be that smart). Communication and Expression has been helpful in finding some of those answers.

This book offers extensive information on the behavior of ungulates, specifically odd-toed (Perissodactyla), and even-toed (Artiodactyla) mammals. Tactile, auditory, olfactory, and visual communication in ungulates in wild and captive conditions are described as a result of research and observational study. Dr. Walther, considered to be an expert in ungulate behavior, contributes more than twenty-five years of ungulate observations in addition to his excellent illustrations of expressions and interactions.

When the keeper, student, or docent uses this book for reference there may be an "A-ha" reaction upon finding the answer. The mysterious gestures, sounds, positions, etc. performed by the observed ungulate are "decoded" or scientifically described, and as a result gives the reader new insight into what the animal is communicating. For example, the reader may have observed a type of behavior in certain spiral-horned antelopes (*Tragelaphus*): A male lesser kudu (*Tragelaphus imberbis*) is seen pursuing a female with his head and neck stretched forward and is snapping with his mouth. Although the "neck-stretch" is an aggressive prelude for fighting in spiral-horned antelope, the author points out that this behavior combined with the "symbolic snapping" is a type of courtship ritual.

Even the most seasoned keeper is bound to get some use out of this book since it covers nearly every species in the orders Artiodactyla or Perissodactyla. In addition to precise description of courtship displays there are chapters on marking behavior, alarm and fright signals, mother-offspring relations, threat, submission, and dominance displays, and comparative distribution. The reader will find a full explanation and plenty of examples of the differences between aggression, threat displays, and territoriality. Exotic hoofstock in a captive environment benefit from a keeper aware of the interpretation of their actions; compatibility of cagemates and successful breeding depends upon this awareness.

This is not a good book for pleasure reading--it is more scientific than easy reading and sometimes requires flipping back to other chapters to find the meaning of a termed behavior. It is like learning a new language because every type of behavior has a name, but the reader will benefit from learning terms which are now universal such as leg kick

Book Review, Continued

(laufs Schlag), flehmen, estrous face, preorbital (antorbital) marking, and the associated behaviors as well.

Everyone will find this book helpful in field studies or simply casual observing in the wild. The reader will know why the topi bull prefers to stand on a termite mound, how mountain goats fight, why male Grant's gazelle graze a noticeable distance from their harems, and the real reason why Thompson's gazelle are seen stotting after pursuit from a predator. It is exciting to watch animals in the wild, and even more so when we can understand their actions in their own environment.

This book contains many good photographs (over 140), excellent illustrations, and a complete table of each genus and species illustrating the occurring behaviors. Although it may be a little bulky for carrying on a safari, this book is an important addition to the library of anyone who admires hoofstock, from mouse deer to rhinos.



Foreign Keeper Sponsorship Update

The Foreign Keeper Sponsorship Program continues to grow with 24 individuals now being sponsored in 5 countries. The following are the most recent individuals added to the list of Sponsored Foreign Keepers along with the individual or AAZK Chapter serving as sponsor.

Khoo Say Kin
Zoo Negara, Hulu Kelang
6800 Ampang P.O.
Selangor, Malaysia

sponsored by Nancy Hanson, Los Angeles Zoo

Mr. Sophon Dummui
Khon Khen Open Zoo
P.O. Box 6, Bang Pra
Churacha, Cholburi
Thailand

sponsored by Melba T. Brown, National Zoo

Usha Matthews
Zoo Negara, Hulu Kelang
6800 Ampang P.O.
Selangor, Malaysia

sponsored by the Greater San Francisco Bay
Area AAZK Chapter

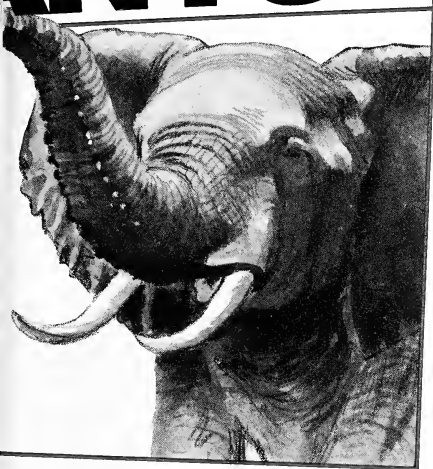
Duan Xo
Beijing Milo Ecological
Research Center
Da Xing County, Nan Yuan
Beijing, P.R.C.

sponsored by Art Cooper, National Zoo
Conservation/Research Center, Front Royal, VA

If you or your Chapter is interested in sponsoring a foreign keeper's membership in AAZK, contact either of the Association's International Affairs Coordinators: Pam MacDougall, Calgary Zoological Gardens, Box 3036, Station B, Calgary, Alberta, Canada T2M 4R8 (for Asia and Australia); OR Lisa Bauer Saban, 190 St. Charles Ave., San Francisco, CA 94132 (for Europe, Africa, Mideast and South America).



ANTS



Dear Congressman Yates:

I am very concerned about the drastic decline of the African elephant in recent years, and strongly support Congress' effort to halt this catastrophe through the African Elephant Conservation Act.

The \$5 million that Congress authorized in the Act is desperately needed to help African countries control poaching and stop the illegal ivory trade. I strongly urge your Committee to appropriate the full amount this year.

Sincerely,

Name _____

Address _____

City/State/Zip _____

Guidelines for Typing Papers for AAZK Conference Proceedings

1. Manuscripts intended for publication should be submitted on one side of 8 1/2" x 11" paper. Pages should be neatly typewritten using a 70-space line. You will have narrow margins on Pica type and wider on Elite. This format makes it more consistent for the staff to figure number of characters per line/lines per page.

2. Papers must be double-spaced. This will also make it easier for you to read when you present it.

3. Titles should be brief and descriptive. Put the title of the paper on the first sheet as well as your name, title or classification, zoo identification, city and state. Number pages consecutively in the upper right-hand corner.

4. All graphs, charts and illustrations must fit within a 6" by 10" border. These must be in black and white only (no faded gray xerox copies, please) and should each be submitted on a separate sheet of paper and not run within the text.

5. Presenters are encouraged to submit photographs to accompany their text in the published proceedings. Photos must be black and white and should be clean, of good contrast and preferably on glossy stock. 5" x 7" works best for our purposes, but other sizes are acceptable. Be sure and give photographer's name if other than your own.

6. Please use the metric system for weights and measures (standard equivalents may be noted in parenthesis). Use the continental dating system (day-month-year). Times should be listed as per the 24-hour clock (0800, 1630 hrs., etc.).

7. Use both scientific and common name the first time a species is mentioned in the text. Thereafter the common name may be used.

8. Avoid footnotes. Identify Registered or Trademark products by ® or ™ respectively.

9. References should be listed alphabetically at the end of the paper - author's surname first

(Ricter, J.W. 1984. How To Be A Good Keeper. AKF, Vol. 11, No. 6: 12-22)
Within the text, references should be cited as Ricter (1984). or (Ricter, 1984)

10. Manuscripts must be submitted before presentation.

(Editor's note: For further information on how to prepare and submit a paper for either a National Conference or for submitting for publication in Animal Keepers' Forum, please see "How To Write It Right!", January 1986 AKF, pages 23-26. Reprints of this article are available by writing the editor and enclosing a self-addressed, legal-sized stamped envelope.)

1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

Is this your first AAZK Conference? Yes No

I will be submitting a paper Yes No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: Yes No

I am bringing an auction item: Yes No

(Describe briefly) _____

Vegetarian: Yes No (Specify type) _____

I am interested in a conference T-shirt? Yes No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
Conference '89, 500 Burnet Park Drive, Syracuse, NY 13204.

Hotel Reservation Request

1989 AAZK National Conference

October 1-5, 1989

Syracuse, NY



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Room Guaranteed By: _____ Credit Card _____ Check

Master Card Visa American Express (please circle)

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Check-in after 3:00 p.m. Check-out time is 12:00 noon. Telephone for Quality Inn North is (315) 451-1212. Deadline for reservations is 18 September 1989.

RETURN THIS FORM TO:

AAZK Conference
c/o Quality Inn North
1308 Buckley Road
North Syracuse, NY 13212-9988

ZOO DAYS

THE ADVENTURES OF A
CONFERENCE PLANNING
COMMITTEE.

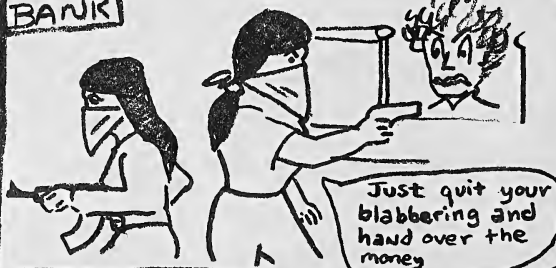
Syracuse ---

THE HEART OF UPSTATE NEW YORK

WHERE THE BURNET PARK AAZK Chapter
is preparing for 1989 Annual
AAZK Conference. LET'S look in ON OUR
Conference Planners busy at work...

① Nancy Poorhouse &
Andrienne Morebucks, the
Budget Committee, coming up
with creative fund raising ideas...

BANK



② Charlotte Tootmeyer,
arranging for buses
and an official
Conference Airline...



③ Kristi Gravid, arranging a
Post-Conference Trip...



④ Alan Bakersworth,
Busy with the
Conference scheduling...



⑤ Tom Slick, runs into a
snag, planning the 1st
Fecal Identification Contest.



⑥ MEANWHILE...
ELVIS IS SEEN HELPING THE
KEEPERS CLEAN THE WATERFOWL
POND.



PLACE
STAMP
HERE

TO:

The Honorable Sidney R. Yates
Chairman, Subcommittee on Interior
and Related Agencies
Committee on Appropriations
U.S. House of Representatives
B308 Rayburn House Office Bldg.
Washington, D.C. 20515

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World Wildlife Fund

1250 Twenty-Fourth Street, N

Washington, DC 20037

Geomatrix Matting Proven Helpful in Combating Avian Foot Problems

By
Dr. William Russell, D.V.M.
Tulsa Zoo, Tulsa, OK

During a 30-month testing period, AZKO's Enkamat 7010 and 7020 (three-dimensional, compression-resistant geomatrix resembling a tangle of very heavy nylon fishing line) was used in various experimental applications at the Tulsa Zoo. The primary use of these materials was as an over-concrete substrate for several captive avian species, with particular emphasis on foot health of those animals. The matting was used less extensively in husbandry practices for several mammalian species.

It is not uncommon for many species of birds, especially perching, ground-dwelling, raptorial and wading types to develop severe swelling and infection of the feet (also known as infectious pododermatitis, poditis, or bumblefoot) when kept on smooth, hard surfaces. Problems seem to occur most commonly when birds are made to perch or walk on hard wooden branches where the bark has worn away or on wire, concrete, tile or similar man-made materials. Because this has been such a problem, many modern zoos have attempted to display their avian species in naturalistic surroundings using little if any man-made materials. Unfortunately, this is a very expensive and time-consuming process requiring constant maintenance and cannot often be applied to "off exhibit" areas and, consequently, it is here that many foot health problems occur.

There are many commercial matting materials that might be useful in preventing the bad effects of many unnatural surfaces on avian feet. Unfortunately, most of these are not considered ideal for this purpose due to expense and difficulty in handling. Many are bulky, hard to disinfect and not resistant to water and other solutions used for cleaning. Of the many types of matting evaluated, Enkamat is the one of choice for use in our zoological setting. It is lightweight, therefore easy to handle, yet non-buoyant when used over concrete pool bottoms. It is durable and shows little effect from chewing and biting by the animals. While it provides support for the heaviest birds and mammals placed upon it (less than 20 kg) and seems unaffected by the weight of animal care personnel weighing as much as 80 kg, its porous nature allows hosing of floors without removal of the matting.

Nail overgrowth, often a problem with other types of matting, seems to be self-limiting, as the animals' toenails reach through the porous Enkamat and continue to be worn away by the abrasive concrete surface below. This is a definite advantage compared to other matting materials used.

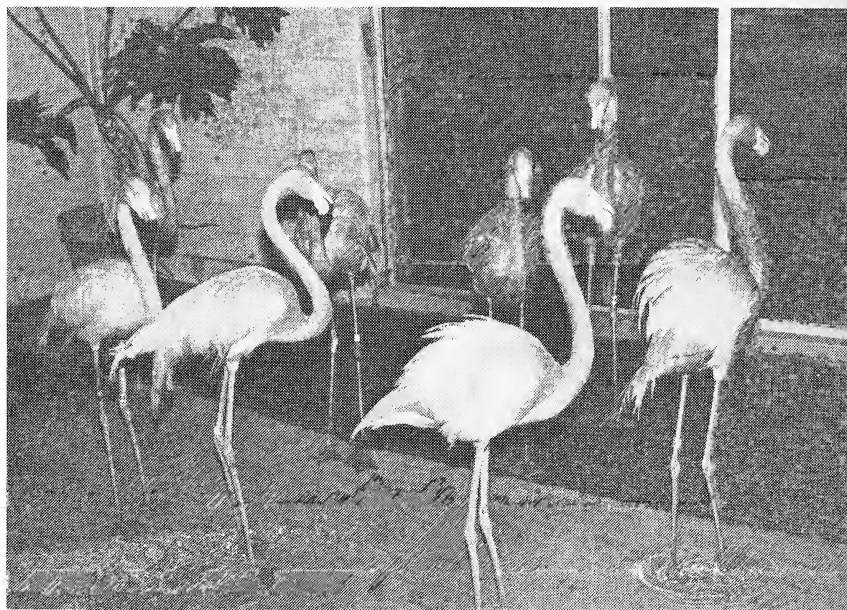
Both the Enkamat 7010 and 7020 were tried as a substrate over concrete and Formica-covered wood flooring in the treatment wards of the zoo's animal hospital facility. Several types of animals were kept on it including beaver, otter, prairie dog, assorted hawks, owls, ducks, a snow goose, flamingo, ostrich, pocket gopher, wallaby, opossum, ferret and arctic fox. It was used as a cage bottom spacer covered by hardware cloth to act as a "do-it-yourself" urine collection chamber for the latter two species. It performed well in all applications, being ignored by most of the mammals, especially those prone to excessive gnawing and chewing of items in their captive environments.

Our hope that Enkamat might be used as sleeping mats and for "toys" for several of the higher primate groups has not been realized in two brief trials with baboons and chimpanzees. This appears due mostly to lack of interest by these highly intelligent and social animals, somewhat disappointing, but a definite advantage in the case of several more destructive species, such as those mentioned above.

Geomatrix Matting Proven Helpful in Combating Avian Foot Problems,

Continued

The origin of our search for a more suitable substrate at the zoo began with the group of 20 American flamingo, which were kept in the collection since 1962. These birds had a chronic history of cracking and bleeding of toes and feet, noted mostly each winter when cold temperatures demanded they be moved from their outdoor dirt and grass-covered area. Foot lesions were often quite debilitating, with number affected and degree of severity in direct correlation to the amount of time spent upon the concrete floor and pool surfaces of the heated, indoor display. Numerous unsuccessful efforts to improve their condition included the use of various substrates and, in 1984, a resurfacing and re-texturing of the floor and pool in the indoor display. This included a bonded epoxy coating to aid in cleaning and lessen the build-up of potentially pathogenic bacteria which can contribute to poor foot health.



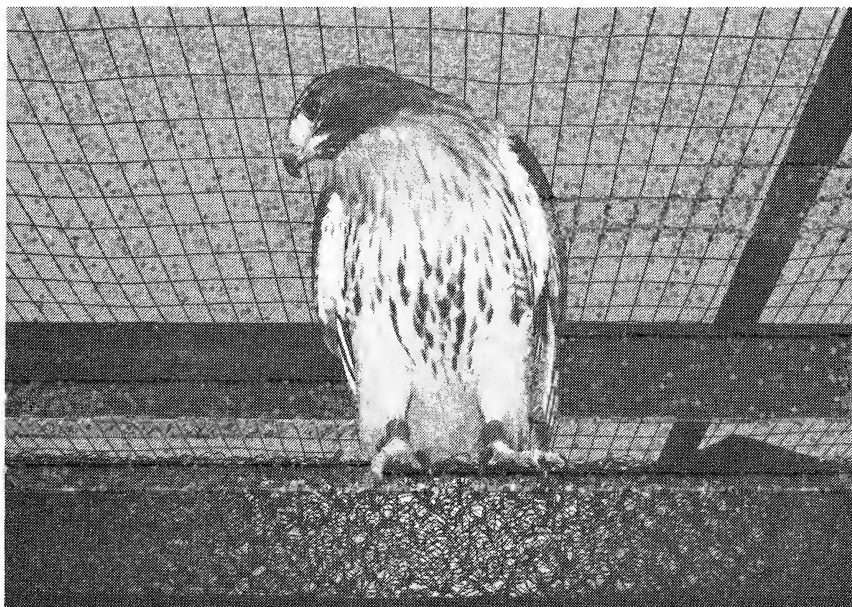
Flamingoes at Tulsa Zoo on Enkamat, a product designed to lessen foot problems in avian species. (Photo by Cyndy Marcoux, staff photographer for the Tulsa Zoo)

A number of available mattings were evaluated over the years, but none were found totally satisfactory for several reasons. Most were not only prohibitively expensive, but were either buoyant in water or too heavy to move easily for cleaning. Several types frayed excessively when chewed by the birds and one type was actually ingested, requiring surgical removal of the matting from the two birds' glottis and throat.

The zoo's second major use of Enkamat was its application as an over-concrete liner in the winter quarters of our group of Marabou stork. These large, social, ground-dwelling birds have done poorly each winter, when confined for extended periods of extremely cold weather. They are quite active and aggressive in nature and were plagued continually by abrasions and other self-inflicted injuries to feet and toes, while kept on bare concrete. Since initial use of the 7020 matting, there have been no clinical cases of foot or toe injury, a definite asset to captive management of this difficult species.

Geomatrix Matting Proven Helpful in Combating Avian Foot Problems. *Continued*

The most current, significant application of Enkamat is as a covering for perching in the zoo's recently-completed Avian Rehabilitation facility. This is an enclosed, off-exhibit area constructed specifically for holding and exercising ill, injured or otherwise "grounded" birds which show promise of survival upon release to the wild. Most of our birds show preference for the matting, when allowed to choose either the bare wood perch or that covered with Enkamat. The lighter Enkamat 7010 is used for smaller birds and the 7020 for heavier species like owl and large hawks. The latter species are notorious for development of "bumblefoot" lesions when kept for extended periods in captivity, especially those individuals under stress of capture and not yet adjusted to the captive environment.



Enkamat is also used by the Tulsa Zoo for birds housed in their Avian Rehabilitation Facility. *(Photo by Cyndy Marcoux, staff photographer for the Tulsa Zoo)*

Based upon our use of Enkamat 7010 and 7020 in the zoological environment, we feel that it is an excellent product for the prevention of trauma-associated disease affecting the feet and toes of a variety of avian species displayed or otherwise kept on smooth, hard surfaces. It has proven itself not only by the correction of several cases of existing, long-term foot disease in our avian collection, but by the obvious prevention of similar problems in a variety of other highly susceptible avian and mammalian species for which it was utilized prophylactically.

Additional information on Enkamat may be obtained by contacting AZKO Industrial Systems Company, P.O. Box 7249, Asheville, NC 28802, phone (704) 258-5050.



AAZK Accessories and

Where to Order Them



AAZK Stickers & Auto Decals; the official AAZK logo in sticker form is available from the AAZK Appalachian Chapter. Suitable for any smooth, hard surface. There are two sizes available - 2" x 3" stickers are \$1.50 and 1" x 1 1/2" are \$.75 each. The auto decals measure 5" x 3" and are \$2.50 each. Please send your order along with payment to: AAZK Sticker/Decals, Mill Mountain Zoo, P.O. Box 13484, Roanoke, VA 24034. Please make checks payable to: AAZK Appalachian Chapter.

AAZK License Plates; the official AAZK logo with the American Association of Zoo Keepers on the license plate is available from the Detroit AAZK Chapter. The cost is \$2.50. Make checks payable to and send to Detroit AAZK Chapter, P.O. Box 39, Royal Oak, MI 48205.

AAZK Coffee Mugs; these beige porcelain mugs display the AAZK logo design in dark brown. The cost is \$5.50. Make checks payable to and send to: Milwaukee AAZK Chapter, 10001 West Bluemound Road, Milwaukee, WI 53226.

AAZK T-Shirts and Sweatshirts; the price for T-shirts is \$7.00, which includes postage. The T-shirts are available in tan, blue and brown in sizes S, M, L, and XL. The material is 50/50 polyester/cotton. The AAZK logo is located on the left front pocket area of the shirt. The sweatshirts are 50/50 poly/cotton in grey with the AAZK logo in black. They are available in sizes M, L and XL. The price per sweatshirt is \$15.00 plus \$3.00 for shipping. Please send your order along with payment to: AAZK T-Shirt/Sweatshirt, c/o Maria Schmude, AAZK Little Rock Chapter, #1 Jonesboro Drive, Little Rock, AR 72205. Please make checks payable to AAZK Little Rock Chapter.

Available from AAZK Administrative Offices are the following items:

Pins and Charms; enameled three-quarter inch pins and charms with the official AAZK logo are done in the same colors as the AAZK patch. The charms are suitable for necklaces. Price per pin or charm is \$3.50.

Patches; AAZK patches featuring the rhino logo are available for \$3.00 each.

AAZK Membership Directory; available for \$4.00 for members; \$7.00 for nonmembers.

Zookeeping As A Career Brochures; \$10.00 per hundred plus postage. Send requests to Administrative Office and you will be billed for brochures and postage. (For a single copy, send a self-addressed stamped legal-sized envelope.)

Chapter News

Jacksonville AAZK Chapter

The Jacksonville Chapter of AAZK has managed to keep up a steady pace during the first four months of 1989.

We started the year with a goodwill project of a clothing drive for our city's Rescue Mission. Several free ads were run on the local radio stations instructing our zoo's visitors to clean out their closets and drop off the clothes at the zoo's entrance in our Chapter's collection boxes. The participation by the public and employees was tremendous, and we collected and donated an estimated \$2,000.00 worth of goods to the mission.

On 9 February, Steve Shurter, who is now employed at nearby White Oak Plantation, was a guest speaker at our night meeting. Steve gave an excellent and informative talk and slide show on the Okapi project he was involved in for 1 1/2 years over in Africa.

Our chapter has also held two more bake sales since my last writing. The first netted a little over \$90.00, the small amount due to poor weather conditions and few zoo visitors to purchase the goods. The second sale was quite successful and brought close to \$250.00 to our treasury.

To further our education the Chapter has voted on and passed the decision to purchase a book for our library. At this time Judy Tuttle is looking into acquiring the book "Mammals: Their Latin Names Explained" for our collection and use.

Several of our AAZK members took part in a survey sent to us from St. Louis Zoo about "Becoming a Zoo Professional". We hope the results of this survey will help those interested in a zoo career.

The highlight of all our recent activities, though, has been the AAZK Keeper/Docent Day the Chapter hosted on 15 April. Catherine Gerdes, one of our zoo educators and our weekend volunteer supervisor, suggested this as

something our Chapter host. She assured us this would be well received, rain or shine. On the morning of the big day I awoke to look outside and see one of the most dreaded mornings a zookeeper has come to know all too well, dark and rainy. Let the truth be known, I underestimated these fine people and never thought the 12 volunteers who signed up for this adventure would show up for this kind of punishment. But show up they did and eager to jump right in and get to work.

After donuts and coffee, which Jeff Stafford had ready upon our arrival, the docents were paired up with their assigned keepers. Boots and raingear were loaned out to those who were in need, and we all sloshed off to work. At this time it was just a mild rain falling, but as the day progressed we experienced one of Florida's famous torrential downpours. During one point I remember looking back at my docent riding in the back of my trailer as she was being drenched by sheets of rain and thinking she'd soon want to leave. If the thought ever occurred to her she never mentioned it and never complained; she was a real trooper and seemed to be enjoying herself.

Right before lunch the rain let up which made the cooking on grills a whole lot easier for our head chef, Jeff Bullock, who was assisted by several other keepers. Our Dietician, Mike Moore, set up a very pleasing buffet table, both to the eye and palate!

For the second half of the day all docents were once again paired with their assigned keepers; it seems they all wanted to switch to another area to experience as many different animals as possible. The good weather held up for the rest of the day and everyone enjoyed themselves immensely! Most keepers having done their more laborious jobs in the morning hours, were observed giving their docents tours of their areas and answering all the many interesting and intelligent questions. In fact, I found myself having to do a little reading up at home that night because some of their questions had me stumped, and all, both keepers and docents, came away from this a little more educated.

As the day came to a close the keepers

Chapter News, *Continued*

and their docents started the closing up routine. One of my added responsibilities that day, due to a keeper being on vacation, was to bottle feed a young male Thomson gazelle. Having raised three such babies since being employed at the zoo, I take this chore for granted and have forgotten how much of a true joy this can be. Seeing my docent, Lisa, feed that baby made the thrill of it all come back to me through her eyes. I'm sure it's a memory she'll cherish for some time as she watched in amazement as "Rudy" sucked the bottle down in his usual record time.

Five o'clock arrived and docents and keepers were exchanging their goodbyes. The docents expressed many thanks for an interesting day and also the desire to take part in another adventure like this one soon. I'm sure that this will help them in their volunteer work here at the zoo as they are asked many questions by the visitors and now have some "first hand" experience with the actual workings of the animal areas. I knew we had truly made them feel like "animal keepers for a day" as I overheard one docent remark, "All I want to do is get home and take a hot shower!"

--Betty A. Grogan, *President*

AAZK Welcomes Newest Chapter

AAZK is pleased to welcome the Greater Baltimore Chapter to the Association. Chartered in January of 1989, the Chapter includes members from the Baltimore Zoo, The National Aquarium at Baltimore and the Maryland Science Center. They currently have 27 members. Their mailing address is: Greater Baltimore AAZK Chapter, Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217.

Newly elected officers are:

President.....Rosemary Jalink
Vice President.....Karen Brown
Secretary.....Christine Bartos
Treasurer.....Joanne Shaffer
Chapter Liaison...Kathy Bennett

San Diego AAZK Chapter

Our Chapter held a fund-raiser for the Ngare Sergoi Rhino Sanctuary by selling tickets to a special AAZK April meeting featuring Andy Lodge as our guest speaker. We hosted talks at the Wild Animal Park and the San Diego Zoo and conducted a bake sale and raffle after the talks. We were able to raise \$2,837.35 from ticket sales, raffle, the bake sale, and a donation box set up at each talk. Members did not mind paying for a ticket for the special meeting, and many zoo employees who could not attend the talks donated money to the cause. The Oak Crest Junior High School's Ecology Club, in Encinitas, CA, raised over \$150.00 for Ngare Sergoi from car washes and T-shirt sales. Andy spoke at the school and the kids were thrilled to see how their efforts for conservation are put into action. As a result, the kids have decided to "adopt" Ngare Sergoi for continuous support.

We communicated with the other chapters in California and were able to coordinate Andy's visit here with the Fresno and Los Angeles chapters. Both chapters hosted Andy as a speaker for a combined total of over \$5,000.00 raised for Ngare Sergoi by all three chapters. We plan to continue with increased communication between chapters for future events.

Our guest speaker for May was Ollie Ryder from the Center for the Reproduction of Endangered Species (CRES).

Our Chapter has decided to use recycled paper for all flyers, newsletters, etc. We also no longer supply styrofoam cups at meetings -- anyone wanting coffee must bring his or her own cup! The response has been positive to our conservation efforts and the Zoo no longer uses styrofoam cups at the food stands as well.

--Celeste Schwenn, *Chapter Liaison*

Chapter News. *Continued*

Greater San Francisco Bay Area AAZK Chapter

On 13 May, 1989, approximately 80 people from all walks of life joined forces in the biggest fundraiser in AAZK history. The Bowl-A-Thon for Ecosystem Survival Plan was a huge success, with roughly \$10,500 collected in pledges. A wild time was had by all as the AAZK members and friends took over the Haight Street Rock and Bowl for a Saturday night. While watching the latest in rock videos (including World Wildlife Fund's "Rainforest Rap"), the bowlers vied for high scores which led to greater total funds raised.

When the \$10,500 pledged is added to the \$6,000 already raised for ESP, we have the potential for preserving over 130 acres of Costa Rican rainforest. This is roughly the combined areas of the zoos making up the Bay Area Chapter.

Our 1989 Zoo Medical Symposium series began on 16 May with Dr. Murray Fowler DVM speaking on New Techniques in Zoo Medicine.

--David Bocian, Chapter Liaison

Keeper's Alert

AAZK has been notified of the following by Thomas Kilbane, General Curator of The Alaska Zoo: The Alaska Dept. of Fish and Game has issued the following pertaining to the future availability of Alaskan brown and black bears (*Ursus arctos* and *Ursus americanus*) for placement in zoos outside of Alaska --

"Any zoos interested in the acquisition of brown and/or black bears should contact either the Alaska Zoo or the Alaska Dept. of Fish and Game (see addresses below). Interested zoos will be placed on a list and as the bears become available, the zoo or zoos will be contacted so that arrangements for transportation can be implemented. The Department's current policy states that any problem brown or black bears, after aversion tactics have been employed and proven unsuccessful in altering the unacceptable behavior, will be captured and immediately destroyed unless the Department has been previously notified by a zoo interested in obtaining Alaskan brown and/or black bears. This policy also pertains to orphaned bear cubs as well."

Kilbane added that currently in Alaska they are approaching the time of year when bear cubs and problem bears are most commonly encountered; so that any interested zoos should contact the zoo or Alaska Fish and Game as soon as possible. The Department can then save as many bears as there are adequate facilities available to receive them.

Thomas Kilbane
General Curator
The Alaska Zoo
4731 O'Malley Road
Anchorage, AK 99516

All AAZK Chapters which produce an in-house newsletter are requested to please add AAZK Administrative Offices to your mailing list. Also, if you have not as yet sent in a sample of your Chapter logo, along with the recently sent questionnaire, please do so. We would like to have a complete file of logos so that we may put together a display of Chapter Logos for the Syracuse conference. If you have a Chapter patch, consider sending one to us for display on the 'Piece of Your Zoo' patch board.

Many Thanks!

Bronx Zoo Chapter AAZK

At our May 3rd meeting, Louisa Gillespie gave a wonderful slide show and video presentation on her work as a surrogate mother for the baby gorillas for the New York Zoological Society.

We held our annual elections and are proud to announce the following officers for 1989:

President.....Mark Hofling
Vice President.....William Sheshko
Treasurer.....Robert Edington
Corres. Sec.....Lori Grady
In-house Sec.....Jacqueline MaCray
Chapter Liaison.....Wendy Worth



Dave Harkness
Alaska Fish and Game Dept.
333 Raspberry Road
Anchorage, AK 99518



Famed Indian Zoo Director Dies

By Sally Walker, Z.O.O., India International

Dr. Reuben David, a zooculturist of international reputation, died at his residence in Ahmedabad, Gujarat, India after a prolonged illness. He was 78.

Dr. David, who was awarded the status of veterinary doctor by the state of Gujarat on merit, was the founder of the famous Kamala Nehru Zoological Garden (also known as the Hill Garden Zoo) in Ahmedabad as well as the "Balvatika" or Children's Zoo which included the first Natural History Museum in India.

Dr. David began his career as a zooculturist when the city council of Ahmedabad approached him and requested him to make a zoo out of the small collection of birds and fish which they had purchased from a circus that had come to the city.



Dr. Reuben David with one of two orangutans which were presented to the Hill Garden Zoo by the Perth Zoo in Australia in November 1985.

In his attempts to build up a proper zoo, Dr. David had to employ many ruses as well as skill. The municipal councilors at the time were all strict vegetarians and did not want carnivorous animals in the zoo as that would necessitate the purchase of beef.

Knowing the psychology of this community however, David, with his own money, purchased a pair of lions and told the councilors that the animals had been "donated" by someone to the zoo. Unable to refuse a "free gift" the councilors agreed to accept the lions and thus carnivorous animals were kept and bred in the zoo!

Although the Hill Garden Zoo was situated on a rather small piece of land by today's standards and had to use cages rather than open enclosures, Dr. David, by introducing scientific diet and care for the animals as well as an immeasurable amount of love, bred more rare and delicate species of endangered animals than any other zoo in the country.

Reuben-David had a particular interest in albino animals and bred dozens of albino porcupines as well as other species. Once the writer, thinking that his interest extended to any unusual white colored animal, arranged for a rare and costly white tiger to be given to his zoo on permanent loan. He refused the valuable tiger (with thanks) because the Indian white tiger is not an albino but a mutant!

In addition to his pioneering work with breeding rare species of animals, Reuben David wrote dozens of articles on animal welfare, wildlife protection and zoology for the lay public and converted thousands of people to the joy of loving and studying animals. He was guru to many prospective young zoologists who are now serving the cause of captive breeding, wildlife protection and animal welfare in an official capacity today.

Even though he suffered ill health for the past two decades, first through cancer of the throat from which he lost his power of natural speech, and later through five heart attacks, Dr.

Famed Indian Zoo Director Dies. *Continued*

David continued to serve the zoo (and many other organizations) as Honorary Advisor and attended the zoo daily almost up to the day of his death.

Death is inevitable and for a man of Dr. David's stature, age and achievements, one should not feel regret, but simply a selfish loneliness at his demise. However, Dr. David's last years were embittered by complaints of local and international animal welfare groups over alleged cruelty to an elephant in his zoo because she performed a perfectly harmless five-minute show for visitors every day. These unreasonable complaints led David to believe his life's work had not been appreciated and created a great sadness in him.

The writer, for whom Reuben David was as a father as well as a guru, feels profound regret for this lack of perspective on the part of zoo and animal welfare activists. Not one saw fit to take the time to meet Dr. David and let him defend the care of his elephant. Although his death is by no means tragic as his life was well-lived, let this anomaly be remembered by all of us in animal work as a reminder to keep sanity and perspective in our criticism of our colleagues.



Successful Reintroduction of Red Wolf Pups After Prolonged Separation from Parents

By

*Tom LaBarge, Alan Baker and Don Moore
Burnet Park Zoo, Syracuse, NY*

The Red Wolf (*Canis rufus gregoryi*) remains one of America's most endangered species. With the exception of several pairs released into North Carolina's Alligator River National Wildlife Refuge, it is extinct in the wild state. With less than 100 red wolves alive today it is imperative that zoos properly manage the new generations of these animals now being born.

The following is a footnote to be added to the pages of Red Wolf management, relating a situation that occurred at the Burnet Park Zoo of Syracuse, NY in the summer of 1988.

Burnet Park is one of only a handful of zoological institutions that are currently contributing to the management of red wolves in captivity, following the guidelines of the joint U.S. Fish & Wildlife Service (USFWS) and the American Association of Zoological Parks and Aquariums (AAZPA) Species Survival Plan (SSP) for this species.

The zoo has housed and exhibited a pair of red wolves since 1986. The male came out of the Audubon Zoological Park in New Orleans, LA; and the female arrived out of the main breeding facility at the Point Defiance Zoo & Aquarium, Tacoma, WA. The pair is exhibited in a 60' x 140' exhibit. It is comprised of #9 gauge chain link fencing set to 18" below grade and rising to a 10' height above the ground. It is well planted with a variety of trees and brush, and is typical of the type of exhibit used for this species at other zoos.

In 1987 there were no pups born to this pair. The animals were given Megage acetate in their diets to prevent reproduction that year according to a directive from the Species Coordinator.

In 1988, SSP made the decision to breed our pair of wolves. Breeding probably occurred near mid-March, as on 18 May 1988 the female gave birth to 2.2 pups.

Reintroduction of Red Wolf Pups, *Continued*

At first all went well with our new arrivals. Twenty-four hours after the birth the pups weighed in at just shy of one pound each. On 28 June the pups weighed in at seven pounds each, and were given parvovirus and canine distemper shots at that time. At eight weeks of age, approximate weaning time (20 July), the pups weighed in at 13 pounds each and were given Panacur as a dewormer.

Between 26 July and 29 July two of our pups, a male and a female, died of parvovirus infection. The remaining two pups were removed from the exhibit and brought to the zoo's clinic for treatment. Parvovirus is an extremely virulent agent and we were fortunate to save the other two pups. The recovery period lasted approximately one month, and we now faced the prospect of reintroducing the animals to their parents.

On 24 August the pups were brought back into the exhibit. At 9:00 a.m. the pups were placed inside the nestbox located in the rear of the exhibit. A heavy sheet of 1" x 1" mesh was attached over the door of the box to prevent them from leaving the box and to prevent immediate physical contact between the wolves and their pups. Except for the addition of food and water at 4:00 p.m. the pups were left undisturbed.

It was our shared opinion that leaving the pups confined overnight was a better course to take than releasing them into the exhibit. The wire barrier gave the wolves time to smell each other without physical contact. And it gave the pups a while to pick up some of their parent's scent from the nestbox.

The next morning, with a couple of the zoo's Animal Behavior Watch Volunteers on hand, we were ready to release the pups. The wire barrier was removed from the box at 9:15 a.m. The first pup left the box at 9:40 a.m. followed by the other pup ten minutes later. At 10:00 the male Red Wolf was seen following one of the pups through the underbrush. Twenty minutes later the male was seen grooming the pup. Throughout the day our volunteers saw many interactions between the pups and the adults, and none of these behaviors were aggressive. Much later, at 6:10 that evening it was reported that the female was seen bringing food to the pups, and we felt the introduction was a success.

At the time of this publication the two pups are now adult size, and we hope well on their way to becoming valuable members of the Red Wolf population. No doubt the successful reintroduction of canid offspring to their parents has occurred with other canine species. But since we believe that this may have been the first time it was done with Red Wolves, we feel the information is worth passing on to others who deal with this species.





AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Regional Coordinators - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 {h}.

Director of Chapter Affairs - Chris Garland, Metro Boston Zoos, Franklin Park Zoo, Pier Point Rd., Boston, MA 02121. (617) 442-7408 {w} Home address: 4 Maple Street, West Newbury, MA 01985. (508) 363-2026 {h}.

REGIONAL COORDINATORS

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Art Goodrich, San Diego Zoo, Box 551, San Diego, CA 92112
for the States of CA, NV (South Pacific Coast)

VACANCY for the States of ID, MT, WY (North Mountain)

John Turner, Denver Zoo, 23rd St. & Steele, City Park, Denver, CO 80205
for the States of UT, AZ, CO, NM (South Mountain)

VACANCY for the States of ND, SD, MN, NE, IA (North Plains)

Steve Tigges, Tulsa Zoological Park, 5701 E. 36th St. North, Tulsa, OK 74115
for the States of KS, OK, MO, AR (Central Plains)

VACANCY for the States of TX, LA (South Plains)

Joe Rindler, Columbus Zoo, 9990 Riverside Dr., Box 400, Columbus, OH 43065
for the States of OH and KY (Great Lakes Region)

Colleen Kinzley, Brookfield Zoo, 3300 Golf Road, Brookfield, IL 60513
for the States of IL and WI (Great Lakes Region)

Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, MetroParks Zoos, Franklin Park Zoo, Pierpoint Rd., Boston, MA 02121
for the States of ME, NY, VT, NH, MA, CT, and RI (North Atlantic Coast)

Jon Brangan, Virginia Zoological Park, 3500 Granby St., Norfolk, VA 23504 {804} 441-2374 [w]
{804} 480-2606 [h]
for the States of PA, NJ, DE, MD, VA, WVA, and District of Columbia (Mid-Atlantic Coast)

VACANCY for the States of TN, NC, SC, GA, AL, MS (South Atlantic Coast)

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for the State of Florida

VACANCY for the State of Alaska

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for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada {204} 489-3893 [h]

Dean Treichel, Valley Zoo, Box 3259, Edmonton, Alberta, Canada T5J 2R7
for the Provinces of Alberta and British Columbia, Canada (403) 483-5525 [w]

AAZK announces the resignation of Marcia Rasmussen as RC for the Provinces of Alberta and British Columbia. Many thanks to Marcia for her service to AAZK. Her position is being taken on by Dean Treichel of the Valley Zoo.

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

REGISTRAR...requires understanding of animal record keeping, taxonomy, and the use of an IBM-PC. Prefer experience in zoo animal management. Responsible for record keeping of the Zoo's 3,100 animals and analyzing the data for genetic purposes. Salary \$21,094-\$26,790 plus medical and dental benefits. Contact Personnel Manager, Cleveland Metroparks System, 4101 Fulton Parkway, Cleveland, OH 44144 (216) 351-6300. **Deadline is 23 June 1989.**

PROGRAM LEADER...the Wildlife Discovery Program (a Houston I.S.D. Magnet School) is now taking applications for the 1989-1990 school year. The Program Leader vacancy will become available in August of '89 and continue through June of '90 (10 month contract/benefits). The duties of this position include planning and experiential instruction in an outdoor setting at the Houston Zoo to 3rd graders. Requirements are two or more of the following: 1) high school diploma (required); 2) education experience; 3) wildlife biology background; 4) environmental/outdoor education experience. Send inquiries to: Ms. Karyl Watz, Coordinator, Wildlife Discovery Program, 1513 Outer Belt Drive, Houston, TX 77030.

KEEPER- CHILDREN'S ZOO/BIRDS...the Atlanta-Fulton County Zoo, Inc. has an immediate opening for a full-time Keeper position in the Bird Dept. and Children's Zoo. This position involves responsibility for animal care and exhibit maintenance for a wide variety of birds and mammals. An ability to work with domestic animals and the public is required. Experience with a wide variety of birds and an interest in an expanding bird collection is highly preferred. A B.A. or BSc degree in Biology, Animal Science or a related field desired, but relative work experience will also be considered when evaluating candidates. Salary commensurate with experience and education. Please send letter of intent, resume and references to: Margery Jackson, Human Resources Manager, Zoo Atlanta, 800 Cherokee Ave. S.E., Atlanta, GA 30315 (404) 624-5600. EOE.

VETERINARY TECHNICIAN...assist veterinarian in surgeries and examinations. Conduct diagnostic tests and maintain hospital clinical records. One or more years experience. Veterinary tech or medical tech degree required. Salary \$15,000-\$18,000. Submit resume to: Richard M. Hurst, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

AREA SUPERVISOR...requires a minimum of five years of zoo animal experience in positions of increasing responsibility. Experience with a wide variety of zoo animal species required, with emphasis on birds and reptiles preferred. Bachelor's degree and supervisory experience preferred. Will be responsible for supervising keepers, scheduling, exhibit renovation and record keeping. Salary commensurate with experience. Send resume **by 30 June 1989** to: Wendy Turner, General Curator, Cheyenne Mountain Zoo, 4250 Cheyenne Mountain Zoo Road, Colorado Springs, CO 80906.

SUPERVISOR OF BIRDS...requires college degree and three years experience caring for birds in a zoo setting, with one year at the supervisory level. Experience may be considered in lieu of degree. Responsible for overseeing bird care, supervising bird keepers, record keeping and some report writing under the direction of the Curator of Birds. Salary \$15,562 to \$20,398, depending on experience; benefits. Send resume **by 30 June 1989** to: Jack Meyer, General Curator, Jacksonville Zoological Park, 8605 Zoo Road, Jacksonville, FL 32218.

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Opportunity Knocks. *Continued*

ZOO ATTENDANT... requires high school graduation and one year working with exotic birds. Must have prior experience in hand-raising altricial birds and in artificial incubation techniques. Salary \$1,242 to \$1,635 per month. Non-residents, if appointed, must establish residency within the city limits of Kansas City, MO. Send resume by **7 July, 1989** to: Personnel Department, 12th Floor, City Hall, 414 E. 12th St., Kansas City, MO 64106.EOE.MF.

AVICULTURAL BREEDING / RESEARCH CENTER...has positions available: requires experience and ability to discern health/diet problems. Responsible for cleaning, feeding and caring for cockatoos and macaws, including maintenance. Salary \$13,000-\$16,000. On-site housing available. Send resume or call: E. Trent Swigert, Manager, Avicultural Breeding Center, 1471 Folsom Road, Loxahatchee, FL 33470 (407) 793-5135.

SENIOR ELEPHANT KEEPER...requires three (3) years experience in "hands-on" elephant management program, preferably with 2 young African elephants. Supervisory ability and degree preferred. Starting salary mid-teens. Send resume by **25 June 1989** to: Daniel Baffa, Director, Lee Richardson Zoo, P.O. Box 499, Garden City, KS 67846.



A.A.Z.K. Belt Buckles

The San Diego Zoo AAZK Chapter still has a limited supply of these high quality, solid brass belt buckles in the small size (fits a 1" belt). The buckles feature the official AAZK Rhino Logo.

The Chapter plans to terminate this project after the '89 Conference so **ORDER NOW!** They will be collector's items thereafter!

Cost per buckle is \$16.00 plus \$1.80 each for shipping & handling. Send your name, full mailing address and number of buckles desired along with a check or money order made payable to "San Diego AAZK Chapter" to:

AAZK Belt Buckles c/o Terri Schuermann
San Diego Wild Animal Park
155500 San Pasqual Valley Road
Escondido, CA 92027



AAZK Membership Application

Name _____ Check here if renewal []

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Full-time Keepers

_____ \$20.00 Affiliate
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All members outside the
U.S. & Canada

_____ \$15.00 Associate
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Work Area: _____ **Special Interests:** _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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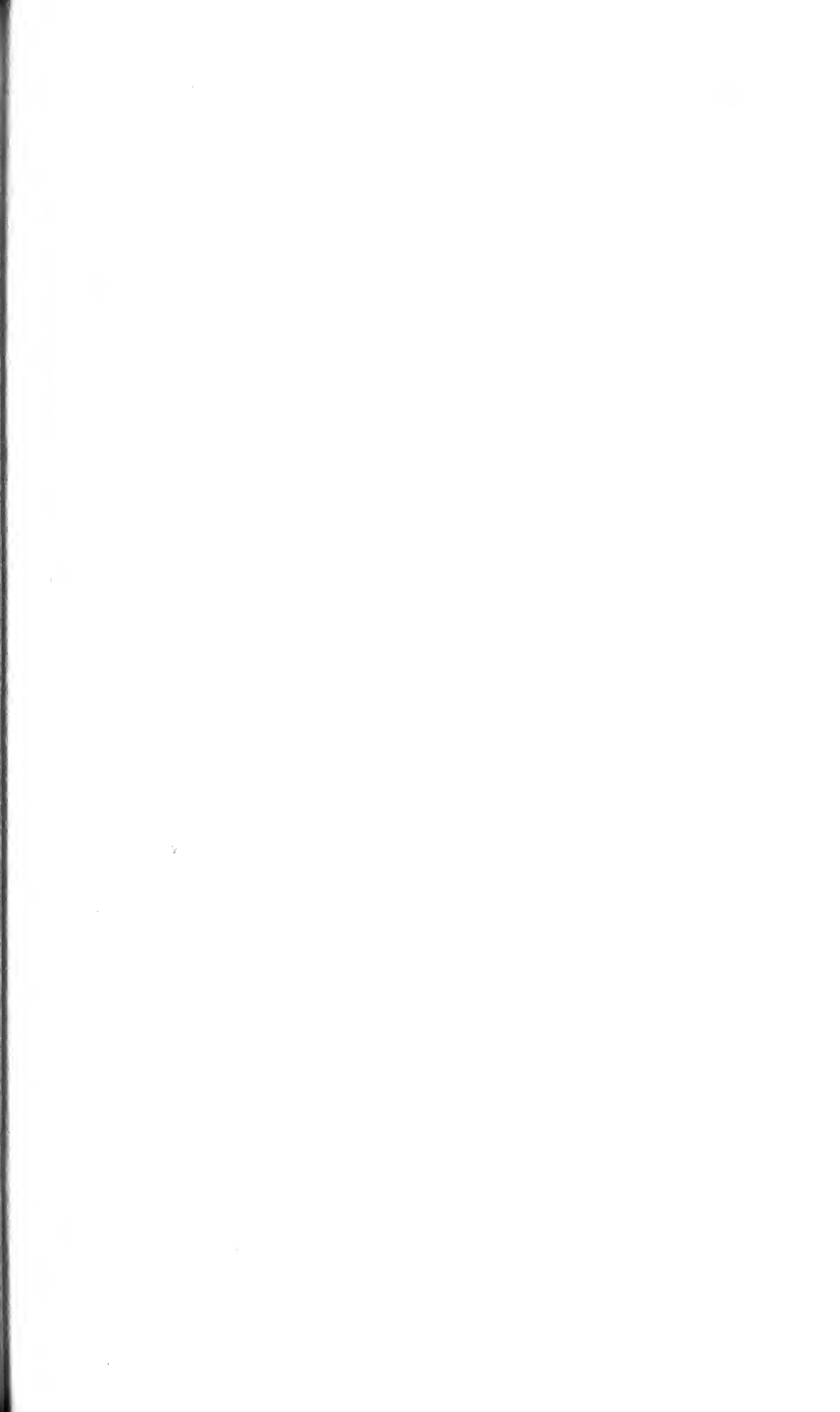
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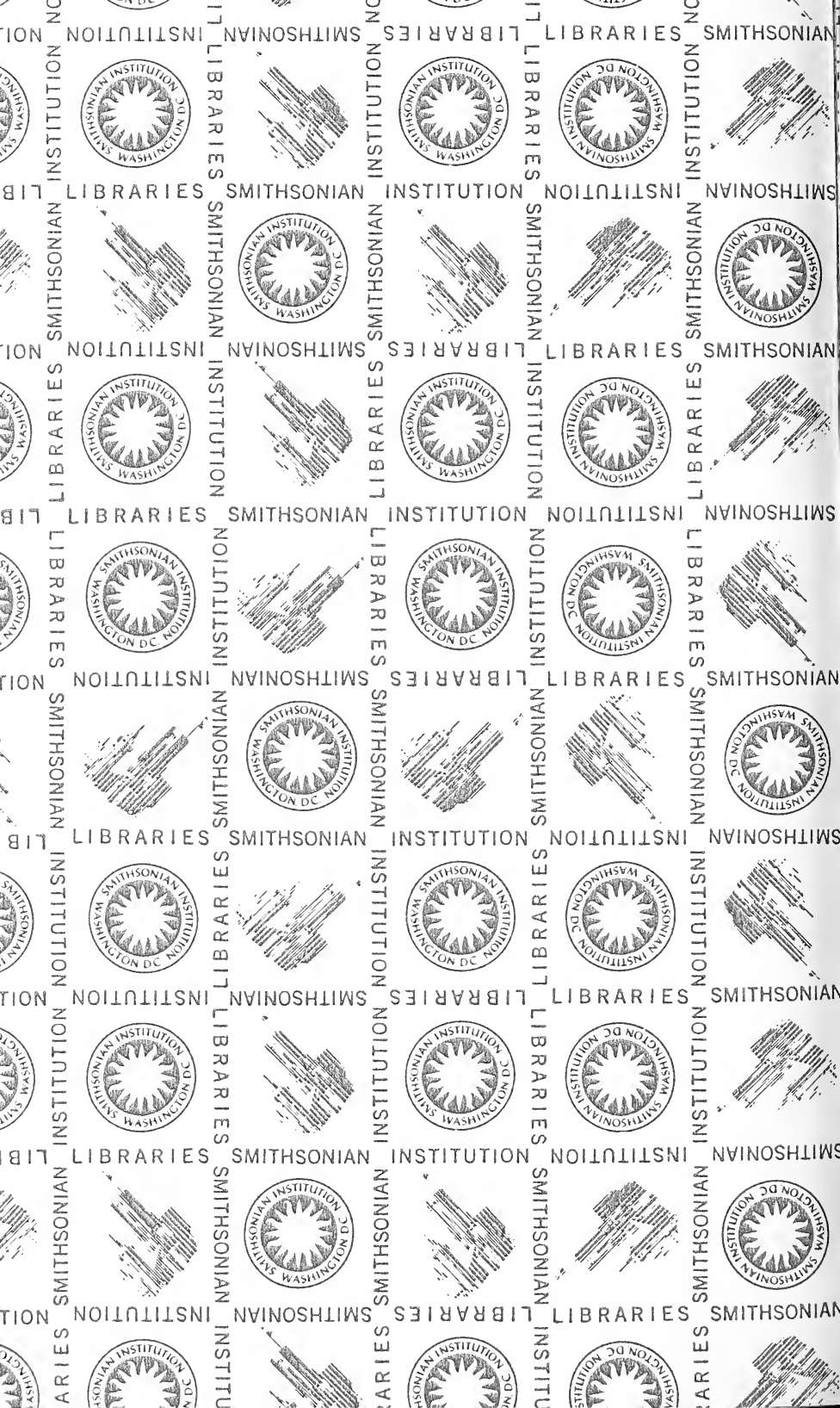
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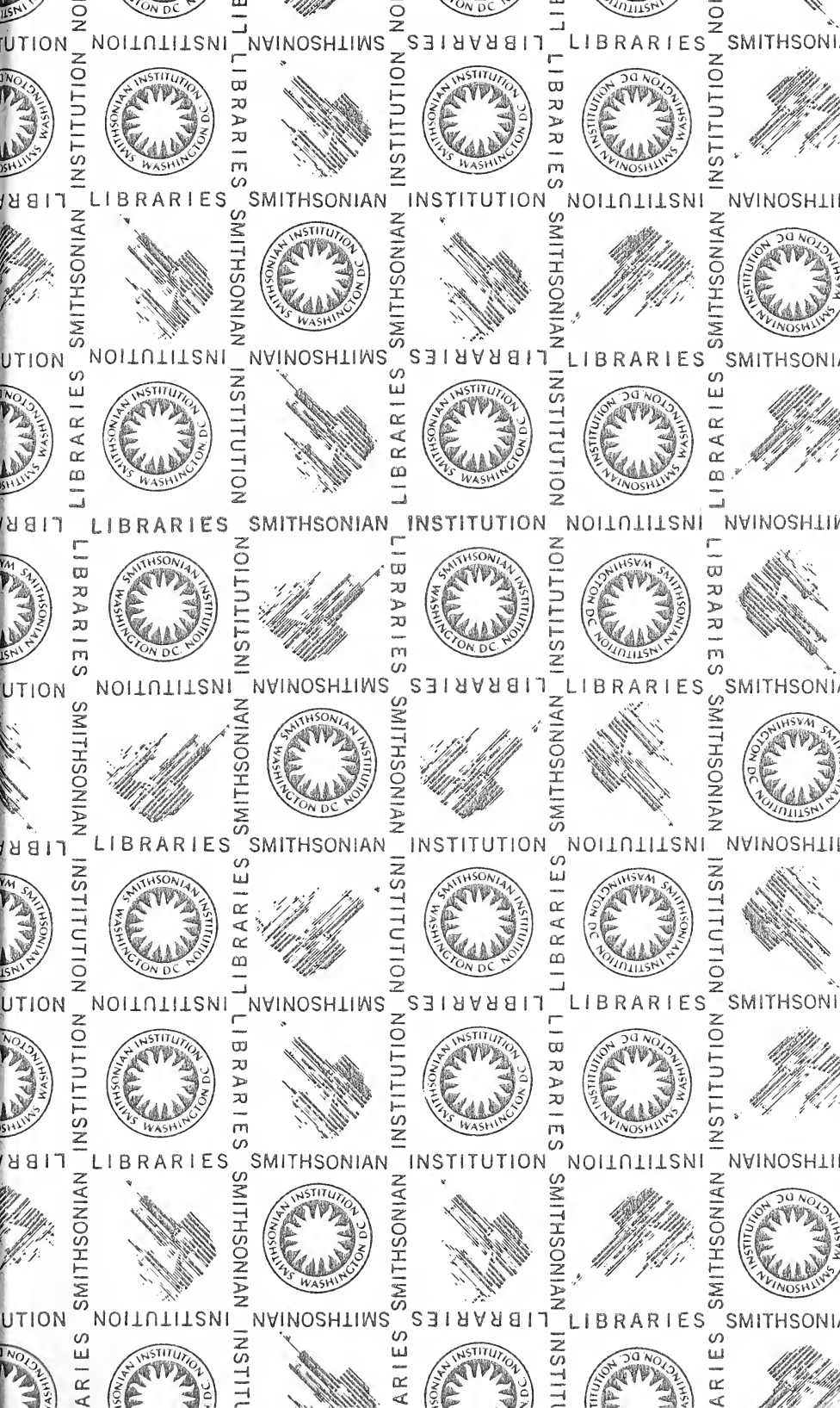


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