

ANIMAL KEEPERS' FORUM



JUNE 2008

**The Journal of the American
Association of Zoo Keepers, Inc.**

AKF Managing Editor: Susan D. Chan • **Associate Editors:** Kayla Grams, Lovell, WY; Mark de Denus, Winnipeg, MB • **Enrichment Options Coordinator:** Rachel Daneault, Disney's Animal Kingdom • **Legislative/Conservation Outlook Column Co-Coordinator:** Becky Richendollar, North Carolina Zoo and Greg McKinney, Philadelphia, PA • **Reactions Column Coordinator:** William K. Baker, Jr., Abilene Zoo, Abilene, TX • **ATC Column Coordinators:** Angela Binney, Disney's Animal Kingdom; Kim Kezer, Zoo New England; Jay Pratte, Zoo Atlanta • **Proofreader:** Barbara Manspeaker, AAZK Administrative Office.

Animal Keepers' Forum is published monthly by the American Association of Zoo Keepers, Inc., 3601 S.W. 29th Street, Suite 133, Topeka, KS 66614-2054. Ten dollars of each membership fee goes toward the annual publication costs of Animal Keepers' Forum. Postage paid at Topeka, KS.

AAZK Executive Director: Ed Hansen, AAZK, Inc., Topeka KS

also serves as AAZK Liaison to the American Zoo & Aquarium Association (AZA)

AAZK Administrative Secretary: Barbara Manspeaker, AAZK, Inc., Topeka, KS

BOARD OF DIRECTORS

Shane Good, Cleveland Metroparks Zoo, Cleveland, OH 44109

Denise Wagner, The Phoenix Zoo, Phoenix, AZ 85008

Jacque Blessington, Kansas City Zoo, Kansas City, MO 64132-4200

Tammy Root, Indianapolis Zoo, Indianapolis, IN 46222

Bob Cisneros, San Diego Zoo, San Diego, CA 92112-0551

President

Vice President

COMMITTEES/COORDINATORS

By-laws

Chair - Gisela A. Wiggins, North Carolina Zoo

Grants Committee

Chair - Shelly Roach, Columbus Zoo

Enrichment Committee

Co-Chairs - Dawn Neptune, Utah's Hogle Zoo
and Amy Burgess, Disney's Animal Kingdom

Annual Conferences

Coordinator - Ed Hansen, AAZK, Inc.

Professional Development

Chair - Tammy Schmidt, Peoria Zoo

ICZ Coordinators

Shane Good, Cleveland Metroparks Zoo and
Norah Farnham, Woodland Park Zoo

Ethics

Chair - Denise Wagner, The Phoenix Zoo

Awards

Chair - Janet McCoy, The Oregon Zoo

Marketing Resources

Vacant

Animal Training Committee

Co-Chairs - Angela Binney, Disney's Animal
Kingdom & Kim Kezer, Zoo New England

Bowling for Rhinos -

Coordinator - Patty Pearthree, Cary, NC

Conservation Committee Co-Chairs

Amanda Kamradt, Houston Zoo and
Penny Jolly, Disney's Animal Kingdom

MEMBERSHIP SERVICES

ADT, EDT and ATD Forms

AAZK Administrative Offices/Topeka

AAZK Website - Liaison to Webmaster

Denise Wagner, The Phoenix Zoo

AAZK Historian

Mark Levin, Plymouth Meeting, PA

AAZK Publications/Logo Products

AAZK Administrative Offices/Topeka

Table of Contents

About the Cover/Information for Contributors.....	210
Scoops & Scuttlebutt.....	211 - 212
Coming Events.....	213
From the President.....	214 - 215
National Zoo Keeper Week 2008.....	216
AAZK Announces New Members.....	218
2008 AAZK National Conference Information.....	220 - 221
Enrichment Options (<i>Can Primates Receive Adequate Primary Diet from an Enrichment Unit?</i>).....	222 - 224
ATC Column (<i>Training a Yellow-back Duiker for Radiographs</i>).....	226 - 229
Oldest Captive Gorilla Turns 55.....	230
Now Available - <i>Crisis Management in Zoos</i> - Info and Order Form.....	231 - 232
Implementation of a Positive Reinforcement Training Program for 1:0 Juvenile Giant Panda at Smithsonian's National Zoological Park.....	233 - 238
Reactions (<i>Felid Free Contact Training</i>).....	239 - 240
Using Tivo® to Record Births.....	241 - 244
AAZK Video Night - Submissions Sought.....	245
2007 National Conference Proceedings Now Available for Download.....	245
Keeper Profiles DVD Available for Purchase.....	246
Conservation/Legislative Update.....	247 - 252



34th Anniversary - 1974 - 2008

MISSION STATEMENT

American Association of Zoo Keepers, Inc.

To provide a resource and a forum of continuing education for the animal care professional and to support zoo and aquarium personnel in their roles as animal care givers, scientific researchers, public educators and conservationists. To promote zoos and aquariums as cultural establishments dedicated to the enrichment of human and natural resources; to foster the exchange of research materials, enrichment options and husbandry information through publications and conferences which will lead to a greater understanding of the needs and requirements of all animals.

This month's cover features a juvenile Patas Monkey (*Erythrocebus patas*) named Bhuti drawn by Camille Dorian, a Caretaker at Money Zoo in San Diego, CA. Camille notes that Bhuti enjoys plant foraging and play wrestling with a female housecat named Gretchen and an older Spider Monkey named Samantha. There is a very successful dwarf pomegranate bush in Buhti's enclosure and she picks and eats the small, unsweet, scarlett fruits. In the wild Patas Monkeys live in bands consisting of a dozen or fewer females and only one male, who is twice as large as the females. The band is actually led by one of the females; the male being around for reproduction and to protect the females and young from predators. They are native to the savannahs of Senegal and Kenya in Africa. Terrestrial monkeys, undeniably built for running, they look a bit like greyhounds. They have the same long legs, narrow body and prominent rib cage. It is probably the fastest primate on earth, its long legs giving it a tremendous loping stride. The coat of the male is a bright copper on the back and white on the underside and paws. The male has short whiskers, also white, which surround his face. The females are a quieter tawny rust color. Patas feed on plants, fruit, berries, grains, and mushrooms. They also eat insects and grubs. They almost never drink, taking their water from fruit and dew. Females have a 30-day reproductive cycle with births taking place at any time of the year. There is only one offspring which remains with the mother until it is independent. Unlike baboons, Patas Monkeys do not maintain a "nursery" within the group. Overnight, the Patas stay in sleeping trees, preferring to sleep one individual per tree, except in the case of mothers with infants who will remain together. This behavior reduces the risk of predation and assists with concealment as it is difficult to see one individual in the crown of a tree. Thanks, Camille!

Articles sent to *Animal Keepers' Forum* will be reviewed by the editorial staff for publication. Articles of a research or technical nature will be submitted to one or more of the zoo professionals who serve as referees for *AKE*. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves 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, appropriately-sized envelope. Telephone, fax or email contributions of late-breaking news or last-minute insertions are accepted as space allows. Phone 785-273-9149; FAX (785) 273-1980; email is akfeditor@zk.kscoxml.com< If you have questions about submission guidelines, please contact the Editor.

Deadline for each regular issue is the 10th of the preceding month.

Dedicated issues may have separate deadline dates and will be noted by the editor.

Articles printed do not necessarily reflect the opinions of the *AKE* staff or the American Association of Zoo Keepers, Inc. Publication does not indicate endorsement by the Association.

Items in this publication may be reprinted providing credit to this publication is given and a copy of the reprinted material is forwarded to the editor. If an article is shown to be separately copyrighted by the author(s), then permission must be sought from the author(s). Reprints of material appearing in this journal may be ordered from the editor. Regular back issues are available for \$4.00 each. Special issues may cost more.

E-Mail Addresses:

You may reach Barbara Manspeaker at AAZK Administrative Offices at: aazkoffice@zk.kscoxml.com<

You may reach Susan Chan and *Animal Keepers' Forum* at: akfeditor@zk.kscoxml.com<

Mailing Address:

AAZK, Inc., 3601 SW 29th St., Suite 133, Topeka, KS 66614-2054

AAZK website Address: www.aazk.org

BFR Website: <http://aazkbfr.org>

Scoops & Scuttlebutt



Thanks Go Out to Chapter Challenge Donors

The Utah Chapter of AAZK would like to acknowledge and thank those Chapter that have contributed their generous support to 2008 Chapter Challenge thus far: Lincoln Park \$1250; Galveston \$1250; New Orleans \$500; St. Louis \$500; Little Rock \$500; Omaha \$350; Northern Lights \$350; Puget Sound \$350; Brookfield \$350; Snake River, \$200; and West Michigan \$100. THANK YOU!

We are quickly approaching the deadline for the Chapter Challenge drawings. Entries must be received by the **1st of July** to be eligible. Winners will be notified by the 15th of July so you can still make the early conference registration deadline. All donations are accepted and appreciated. For more information, see the conference information elsewhere in this issue or visit our website at www.utahaazk.org <

A Note to Submitting Authors from the Editor

All those submitting manuscripts to *Animal Keepers' Forum* are asked to include information on whether or not they have also submitted the same manuscript to another publication for consideration. This information should include name of other publication and contact information (telephone or email address) if possible, and when it was submitted.

We have run into a situation recently where we published articles in *AKF* that had previously appeared in another publication. We have a liberal and cooperative relationship with most other zoological journals and as editors we frequently grant permission to reprint material in each other's publications. This is a professional courtesy we wish to maintain. It is important that good information get out to as many professionals as possible to help them do their jobs better.

What does this mean for submitting authors? Just because you have submitted something for publication in another journal does not mean it will **not** appear in *AKF*. However, if it was accepted and published in another journal before it appears in the *Forum*, we want to give first print credit to that publication. This happens frequently when original *AKF* material appears in another publication—they acknowledge *Animal Keepers' Forum* as the original publication source. This is why it is important for submitting authors to let us know where all they have submitted an article. We greatly appreciate your cooperation in this matter. Let's keep the information flowing in a courteous and professional manner. ~ Susan Chan, *AKF Editor*

Searching for Your Support!

What if AAZK earned a penny every time you searched the Internet? Or how about if a percentage of every purchase you made online went to support our cause? Well, now you can! GoodSearch.com is a Yahoo-powered search engine that donates half of its advertising revenue, about a penny per search, to the charities its users designate. Use it just as you would any search engine, get quality search results from Yahoo, and watch the donations add up! Each search generates a penny for AAZK - and that can add up quickly!

Here's an example of how much AAZK can earn:

100 supporters search 4x a day = \$1460/year

500 supporters search 4x a day = \$7300/year

1000 supporters search 4x a day = \$14,600/year

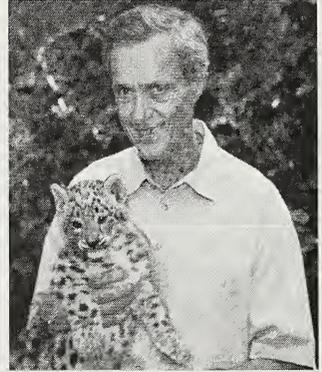
We have approximately 1500 professional AAZK members - imagine the amount we could bring in if everyone got on board! Go to the AAZK website (www.aazk.org) and look on the right-hand side of the homepage near the bottom—there you will find the GoodSearch icon. Click on it to get started today and support your organization every time you do an Internet search! You can also help out AAZK by shopping through the iGive.com link from our homepage. This site offers over 680 retailers to choose from including stores like the GAP, Staples, Land's End, Home Depot, Addidas,

and many more. A complete listing of all the participating merchants is available at the iGive site. A percentage of each purchase comes back to AAZK. Just register, select American Association of Zoo Keepers as your organization to support and you're ready to shop!

Distinguished Field Biologist Receives 2008 Indianapolis Prize

Relentless in his pursuit to save endangered species across the globe since 1952, the world's pre-eminent field biologist, George B. Schaller, Ph.D., has been named the 2008 recipient of the Indianapolis Prize, the world's leading award for animal conservation. In recognition for his lifetime achievements, Dr. Schaller will receive \$100,000 and the Lilly Medal at a gala ceremony presented by the AES Corporation and hosted by award-winning actress and environmentalist Jane Alexander on Sept. 27, 2008, in Indianapolis.

As Senior Conservationist for the Wildlife Conservation Society, Dr. Schaller's successes are numerous, including his recent work with the endangered Tibetan antelope or chiru - at times slaughtered for its exquisite wool used to make shahtoosh shawls. He trekked a thousand miles across Tibet's rugged Chang Tang Reserve to study the chiru, wild yak and other wildlife and make recommendations to the Chinese government. Schaller now strives to save Marco Polo sheep, snow leopards and other wildlife and assist the nomadic local people in achieving a measure of harmony between rangelands, livestock and wildlife. He is also working to create an international peace park in the four corners of Pakistan, Afghanistan, China and Tajikistan.



Dr. Schaller turns 75 in May and shows no signs of slowing down. He has worked for months on the Tibetan Plateau at altitudes of 16,000 feet and more; traveled remote, war-torn areas of Afghanistan; and, in 2006, revisited the Arctic National Wildlife Refuge, the site of one of his early forays into the wild in 1956 and the start of his lifelong devotion to conservation.

Inspiring countless field biologists, notable in their own rights, Dr. Schaller has written more than 220 popular and scientific articles and 16 books, including *The Serengeti Lion: A Study of Predator-Prey Relations*, a National Book Award winner. He has also helped establish more than 15 wildlife reserves throughout the world.

"No other individual exemplifies the spirit of this award better than George Schaller," said Michael Crowther, President/CEO, Indianapolis Zoo. "He truly leads and propels others to join him in his fight to save animals everywhere, from the tigers of India to the gorillas of Rwanda."

True to his view of working with locals and an eye on the future, Schaller plans to use the Prize money to give grants to young biologists in their own countries enabling them to gain experience in wildlife research and conservation.

"George Schaller has literally defined the endeavor of wildlife biology in the service of conservation. Practically anywhere conservation is done, George has either contributed the first great scientific study or inspired a generation of scholarship and conservation activity — or both," said Steve Sanderson, CEO of the Wildlife Conservation Society. "He is the single most distinguished conservation practitioner I know, and his lifetime relationship with WCS has brought great luster to our organization."

The Indianapolis Prize was initiated by the Indianapolis Zoo as a significant component of its mission to inspire local and global communities to celebrate, protect, and preserve our natural world through conservation, education and research. This biennial award brings the world's attention to the cause of animal conservation and the brave, talented and dedicated men and women who spend their lives saving the Earth's endangered animal species.

Source: Indianapolis Zoo Press Release 5/14/08 Photo courtesy Wildlife Conservation Society

Coming Events

AZA (American Zoological Association) Annual Conference - September 12-18, 2008 at Milwaukee County Zoo, WI. For more info see <http://www.aza.org>

EAZA (European Association of Zoos and Aquariums) Annual Conference - September 16 to 21, 2008 in Antwerp Zoo, Belgium. For further information please visit <http://www.eaza.net><

35th Annual American Association of Zoo Keepers National Conference - September 24-28, 2008 in Salt Lake City, UT. The guiding theme, "Elevating Animal Care", will focus on concepts that highlight professionalism, creativity and initiative in the realm of conservation, education and animal husbandry. For more information, please visit www.utahaazk.org, contact the Utah Chapter AAZK at utahaazk@hoglezoo.org or call (801) 584-1784.

Association of Zoo Veterinary Technicians 28th Annual Conference - October 2-6, 2008 at Buttonwood Park Zoo in New Bedford, MA. For more information visit www.azvt.org<

2008 Elephant Managers Association Conference - October 3-7, 2008 in Orlando, FL. This meeting will focus on the challenges, experiences and achievements of successful captive management programs. The program organizers, The Ringling Bros and Barnum & Bailey Center for Elephant conservation and the EMA are seeking presentations addressing programs for training qualified elephant personnel, the link between captive management programs and range country populations, as well as research and conservation. Abstracts of no more than 500 words should be sent to: mfrizzell@felding.com and Harry.Peachy@columbuszoo.org< Please include "EMA Conference Abstract" in the subject line. All abstracts must be received by **1 July 2008**. See <http://www.elephant-managers.com/> for further information on making a submission.

4th IUCN World Conservation Congress - October 5 - 14, 2008 in Barcelona, Spain. For more info go to <http://www.iucn.org/congress/2008>

Otter Keeper Workshop - October 9-12, 2008 - Hosted by the Oakland Zoo in Oakland, CA. The focus of the workshop will be North American river otters and Asian small-clawed otters. Topics will include: captive management issues, enrichment, training, water quality, health care, nutrition, diet, hand-raising, exhibit design, lots of sharing of information between keepers. For further information, please contact David Hamilton - call 585-336-2502 or emaildhamilton@monroecounty.gov<

63rd Annual Conference of WAZA (World Association of Zoos and Aquariums) - October 19 to 23, 2008 in Adelaide, Australia. For further info go to <http://www.waza2008.com.au>

2008 Zoological Registrars Association Annual Conference - October 22-25, 2008. Hosted by The Saint Louis Zoo. The Sheraton Westport Chalet has been selected as the conference hotel and they have offered us the government rate of \$106 per night. The hotel provides free airport shuttle and parking. If you have any questions, please do not hesitate to contact Rae Lynn Haliday at haliday@stlzoo.org or at (314) 781-0900 x 372.

The 5th Crisey Zoological Nutrition Symposium - December 12-13, 2008 at the North Carolina State University School of Veterinary Medicine. This year's focus will be "Obesity in Zoological Species". For registration and a skeleton schedule please view www.cvm.ncsu.edu/conted/zoonutrition/

Zoos and Aquariums Committing to Conservation - January 23-26, 2009. Hosted by the Houston Zoo, Houston, TX. ZACC is a bi-annual event that promotes the growth of zoos and aquariums in supporting conservation activities worldwide, both at their institutions and in the field. Bringing together individuals from different countries and disciplines, ZACC conferences help to build a stronger and more effective global network for wildlife and habitat conservation, and to establish direct links to zoos, aquariums, and their constituencies. For info contact: <http://www.houstonzoo.org/zacc> or conservation@houstonzoo.org<

The 9th International Conference on Environmental Enrichment - May 31 - June 5, 2009 in Torquay, Devon, UK. First Call for papers and Registration. Go to www.reec.info for details.

Neotropical Primate Husbandry, Research, and Conservation Conference - October 13-15, 2009 in Chicago, IL. Hosted by the Brookfield Zoo. This conference will focus on a variety of topics pertaining to neotropical primates and will bring together staff from zoological parks, sanctuaries, and universities, as well as field researchers and range country biologists to share the most current information on husbandry, conservation, and emergent issues pertaining to captive and wild populations of neotropical primates. The workshop will include three days of presentations, a poster session, as well as an icebreaker, silent auction, and banquet. Additional information regarding registration fees, travel information, and submission of abstracts will be made available in late 2008. Please contact vince.sodaro@czs.org for additional information.

Post Your Coming Events Here
email to: akfeditor@zk.kscoxmail.com

From the President

The following correspondence is in response to the From the President "Sweet Corn for Sally, A Zookeeper's Perspective on Safety" which appeared in the April issue of *Animal Keepers' Forum* (pgs 138-143).

Dear Shane,

I really enjoyed your article on zookeeper safety in the recent AAZK journal. I agree with your 10 points in your conclusion, especially #10 which is a real problem. I've been a full-time keeper since 1987 and have seen keepers pushed to do more and more each day. Being rushed is probably the number one reason safety suffers.

Thanks,

Senior Keeper, Great Lakes Region.

Dear Shane

As a zoo director, I was very impressed with your insightful story about zookeeper safety. I will distribute this to all of our animal care team and look forward to discussing it with them. I have made safety one of my highest priorities and am working hard to improve our margin of safety. Thank you for the time and effort you put into writing this very thought-provoking article.

I also would appreciate your counsel on whether the AAZK has a recommendation on how discipline for safety violations should be handled. I have always operated as a manager with a minimum of a "two strike rule," where I lean toward "three" more often than not. Where human life is concerned, there are some who counsel a "zero tolerance" rule, with either dismissal or reassignment to a less dangerous animal area as a "minimum" response. An example of leaving a shift gate open in a dangerous animal area resulting in injury is one obviously serious enough that it cannot be ignored, but how is that fairly balanced against 20-plus years without a similar accident? If no action is taken, i.e. a "second" chance is given, it may send a signal to others that safety isn't the priority I say it is or that accountability is lacking.

As a Director, I would appreciate if there is any counsel or history from your peers that would be instructive in this situation and advise how we best manage mistakes so as to encourage both attention and a safer future and at the same time ensure fairness and accountability.

Thank you and again congratulations on a great article!

Zoo Director, Eastern United States

AAZK Executive Director Ed Hansen responds:

Actually this is not a safety question, and therefore not best answered by animal keepers or other animal staff. It is an HR question in where discipline, regardless of origin, must follow a specific matrix in order to be consistent and applied consistently.

A good disciplinary matrix will provide a framework in which to convey discipline, in progressive format, but offer the supervisor corridors (latitude) in which to take into consideration time of service, past history and the seriousness of the event.

The best disciplinary matrix that is available are utilized by law enforcement, because of the life-altering circumstances of most every decision, coupled with the freedom to act that each officer is expected to use, based upon their training.

The key to the matrix is that when an event A happens, the employee can expect B discipline, every time, and the discipline will escalate when there is a reoccurrence. And supervision must hold to

the matrix, or it is doomed to fail. Typically, Law Enforcement deals with 3-5 year windows before a disciplinary event is removed from the matrix.



Ed Hansen
Executive Director, AAZK Inc.

AAZK President Shane Good responds:

Your question brings up an interesting dilemma that zoo managers face on a regular basis. How does a manager act consistently while still allowing their response to fit the situation? I agree with Ed Hansen that consistency, with some allowance for latitude to fit the situation and a progression as opposed to a “no tolerance” rule, is the best model. But as we all know, there can be many gray areas in the field of zookeeping. I don’t think this question applies only to HR staff. The disciplinary consequences of a mistake affect an entire staff. Discipline results in stress, churns up a zoo’s rumor mill, and can negatively affect staff morale if handled improperly or inconsistently. Here are some hypothetical situations to consider:

A. Two zookeepers let a dangerous animal out of an exhibit with the same consequences. One is a new keeper, the other a 20-year veteran with no other mistakes on record. Do they receive the same punishment?

B. Two zookeepers let a dangerous animal out of an exhibit. The first keeper gets the animal back in its cage without incident. The second keeper does not and the result is some sort of tragedy. Do they both receive the same punishment?

C. A zookeeper and a zoo manager both make decisions that result in an animal’s injury. Do they receive the same punishment? Since the zoo manager is hired to make difficult decisions, should they still be held to the same safety standards as a zookeeper?

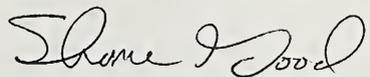
Why do I consider a zero tolerance rule a bad idea? First, I believe it creates unnecessary stress that can increase the chances of making a mistake. Second, it is a fact that even the best zookeepers make mistakes. We shouldn’t expect someone to go through a 30-year career without making a mistake. Hopefully the mistake(s) is never catastrophic. Finally, sometimes mistakes aren’t necessarily as they seem. Here’s a story.

A long time ago in a zoo not too far away, a keeper left a door open and two sloth bears escaped. The keeper, who happened to be a good employee, was fired under “zero tolerance” despite the fact that he swore the door was closed. Not long after his replacement started the job, the new keeper observed the sloth bears using their long nails to open the guillotine style doors, despite the fact that they were closed exactly as they should have been. The keeper who was fired had never done anything wrong. The bears had figured out a way to circumvent the best safety design of the time, and the keeper paid the price. “Chaos Theory” can be a keeper’s worst nightmare.



**AMERICAN
ASSOCIATION
of ZOO KEEPERS**

Shane Good
President, AAZK Inc.



What do you think? Write me at shane.good@aazk.org and let me know your thoughts on discipline for safety violations in the zookeeping profession.

National Zoo Keeper Week 2008

The week of July 20-26 marks the second annual celebration of National Zoo Keeper Week. Zoos across the country are invited to participate in recognizing zoo keepers and the role they play in animal conservation and education. There are approximately 5000 to 6000 animal care professionals in the U.S. who care for captive exotic animals. The dedication of zoo keepers across the country enables visitors to have a greater understanding of the animals on exhibit and an appreciation for the importance of preserving their habitats.

Last year, zoos nationwide honored keepers and the great work they do in caring for captive exotic animals and educating the public about the need to preserve our precious habitats and the animals that inhabit them. It was a long-overdue and well-deserved recognition.

National Zoo Keeper Week is celebrated each year beginning on the third Sunday in July. For more information about National Zoo Keeper Week and how your AAZK Chapter or Zoo can participate in activities, contact Bob Cisneros at bob.cisneros@aazk.org



NATIONAL
ZOO KEEPER
WEEK 20-26 JULY 2008

SUPPORTED BY



AMERICAN
ASSOCIATION
of ZOO KEEPERS

Fostering professionalism
in animal care
among Zoo Keepers



DIETS AS DIVERSE AS THE ANIMAL KINGDOM

Working in partnership with zoos and aquariums, MAZURI® PhD nutritionists develop industry leading products specifically for each species. From armadillos to zebras, we work hard to give your animals the most of what they need.

For more information on MAZURI® products—including nutritional analyses and research findings—visit www.mazuri.com

or call 1-800-227-8941 for the location of your nearest dealer. Because when it comes to great nutrition, we're committed to the health and longevity of every animal.

Mazuri®
The Exotic Animal Feeding Resource

www.mazuri.com

AAZK Announces New Members

New Professional Members

Jacob Schachter, **Franklin Park Zoo (MA)**;
Michael J. Stover, **Cape May County Zoo (NJ)**;
Alyssa Borek, **Bronx Zoo (NY)**; Justine Wilber,
Prospect Park Zoo (NY); William Webster and
Karl Hershey **Catoctin Wildlife Preserve & Zoo**
(MD); Karen Verderame, **The Academy of Natural**
Sciences (PA); K.C. Braesch, **National Zoological**
Park (DC); Martha Hamilton, **Virginia Zoological**
Park (VA); Mary Jayne Churchill, Laura Campbell,
Tim Hunter and Jessica Krippel, **Western North**
Carolina Nature Center (NC); Lauren Stanley and
D. Robin Pepper, **Zoo Atlanta (GA)**; Nicole L.
Wheeler, **Jacksonville Zoo & Gardens (FL)**; Ryan
Zach, **Miami Metrozoo (FL)**; Angella DeSisto,
The Nashville Zoo at Grassmere (TN); Crystal
Champeau, **Racine Zoo (WI)**; Jamie Nicoloff,
Saint Louis Zoo (MO); Autumn Hunter, **Ft. Worth**
Zoo (TX); Jarrod Willis, **Oakland Zoo (CA)**;
Nolan Harvey, **High Desert Museum (OR)**; and
Jessica Sutherland, **Point Defiance Zoo &**
Aquarium (WA). Beginning with the March 2008
issue of *AKF*, we no longer list the names of those
Professional Members who do not list their facility
on their application.

Renewing Contributing Members

Larry Hensel
Tallahassee, FL

New Institutional Members

Tiger World, Inc.
Rockwell, NC
Lea M. Jaunakais, Director

Renewing Institutional Members

Zoo Atlanta
Atlanta, GA
Dennis Kelly, CEO & President

John Ball Zoological Garden
Grand Rapids, MI
Bert Vescolani, Director

Utah's Hogle Zoo
Salt Lake City, UT
Craig Dinsmore, Director

Arizona-Sonora Desert Museum
Tucson, AZ
Robert J. Edison, Executive Administrative
Director

Out of Africa Wildlife Park
Camp Verde, AZ
Dean & Prayeri Harrison, Founders

High Desert Museum, Bend, OR
Forrest Rodgers, President

Point Defiance Zoo & Aquarium
Tacoma, WA
Gary Geddes, Director-ZEED

New Commercial Members

Ocean Embassy, Inc.
Orlando, FL



**THE
GOURMET
RODENT,
INC.™**

RATS AND MICE

Bill & Marcia Brant

12921 SW 1st Rd., Ste 107,
PBM #434
Jonesville, FL 32669

(352) 472-9189
Fax: (352) 472-9192
e-mail: GrmtRodent@aol.com

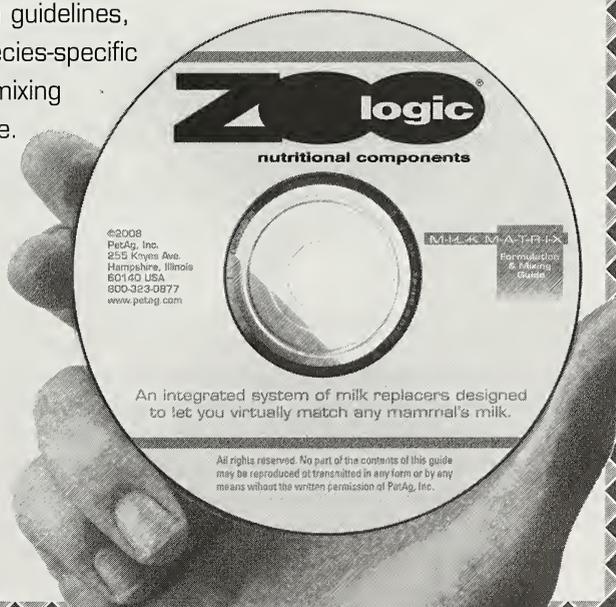
The most complete nutritional component system for over 140 common & exotic species.



Meeet the nutritional needs of many different wild animals with Milk Matrix, a line of five milk replacers from Zoologic® Nutritional Components. Blended or alone, Milk Matrix closely simulates the fat, protein and carbohydrate content of mother's milk. Bene-Bac™ powder and gel are excellent sources of live naturally-occurring microorganisms effective in animals subject to changing environments or conditions. Together, they supply everything an animal needs for optimal health.

Electronic formulation guidelines, nutritional analyses, species-specific data sheets and exact mixing instructions are available.

To learn more, call
1-800-323-0877



www.petag.com



The "DON'T MISS" Conference! The 35th annual AAZK National Conference -
Salt Lake City September 24-28, 2008

Registration

This year registration will be offered online **only**. To register click the registration link on our website www.utahaazk.org. For organizations and institutions, the online registration process will allow you to register multiple delegates under one account.

Member (AAZK, ABMA, ICZ): \$195*

Nonmember: \$245

** A late fee of an additional \$50 will be charged after August 1, 2008.*

Accommodations

The Salt Lake City Marriott City Center (220 South State Street) is the newest full service Marriott hotel in the Salt Lake City area. Room rates are \$139.00 per night for single or double (plus applicable state and local taxes). These rates are only guaranteed until September 1st, so make your reservations NOW, as rooms will fill up fast! Book your room online through our conference website www.utahaazk.org. For more information call (801)961-8700 or visit www.marriott.com/hotels/travel/slccc-salt-lake-city-marriott-city-center

Transportation

For transportation from the Salt Lake City Airport to the Marriott City Center, we recommend Express Shuttle, who are offering a special rate of \$6.00 per person one way. Reservations, although not required, can be made at 1-800-397-0773. (Passengers with reservations are transported first and reservations are requested 24 hours in advance.) Just let the Airport Desk or phone agent know you are with the American Association of Zoo Keepers to receive the discounted rate. Taxi fare runs approximately \$25 one way to the hotel.

Program

This year the conference program will be changing a bit and we have some exciting plans in store! The national conference will now include more featured speakers & interactive workshops - enhancing our organization's commitment to professional development and increasing our delegates' take home value. Current offerings include dynamic speakers such as Dr. Robert Sapolsky, Amy Sutherland, Tony Vecchio and Polar Bear International scientists. We have workshops on conservation, enrichment, training, communication, problem-solving, team building and a fee-based, full-day symposium (limited to 30 registrants) on Neonatal Care. Check out our website for more information!

Accepted Author Notification **June 1st**

Final Manuscripts due **July 15th**

For submission guidelines and other presentation information, visit www.utahaazk.org.

Trips

Join in the Fun! On September 24th we will explore Northern Utah first with the Bear River Migratory Bird Refuge, which protects critical habitat for migrating birds. After a lovely autumn drive through the foothills of Logan Canyon we will visit a Predator Ecology & Behavior Project, one of the premiere predator research facilities studying coyotes in the world. On September 29th, we will head to Moab in Southern Utah along the banks of the Colorado River in the heart of red rock country. We will be staying in a fantastic hotel in the center of town. We will experience a nighttime motor boat tour up the Green River surrounded by high canyon walls and lit up by an amazing light show. The following day, a Naturalist with Canyonlands Field Institute will guide us on a full day hike of Arches National Park. This park has over 2,000 natural red sandstone arches, amazing plant and animal life, ancient petroglyphs and fossils. We will venture back to Salt Lake City on October 1st. These trips are limited to 28 people, so register soon at www.utahaazk.org!

Chapter Challenge

This year the Chapter Challenge has a new twist, offering many new ways to participate and win. Help us achieve our goal of having 100% participation from **ALL** AAZK Chapters!

Your donation of \$350 will enter your Chapter into a drawing to win the following (two Chapters will have the opportunity to win in this category!):

- One complimentary conference registration
- Guest pass to the VIP book signing and meet-and-greet with keynote speaker Dr. Robert Sapolsky
- Verbal and written recognition throughout the conference

Your donation of \$500 will enter your Chapter into a drawing to win the following:

- All the above and....
- One complimentary hotel room for the duration of the conference

Your donation of \$1250 will enter your Chapter into a drawing to win the following:

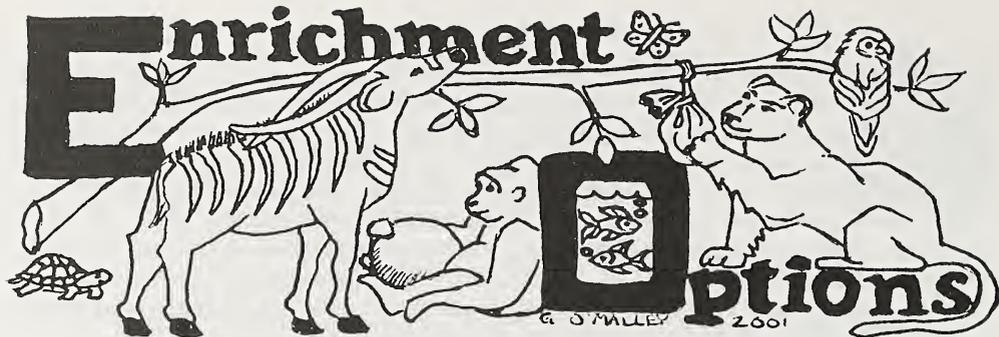
- All the above and....
- One complimentary hotel room for the duration of the conference
- One complimentary round trip airfare to Salt Lake City
- Live elephant painting demonstration and keepsake artwork.

To be included in the drawing, Chapter Challenge donations **must be received by July 1st**. Winners will be notified by July 15th.

Photo Contest

Enter in the 2008 AAZK National Conference Photo Contest! Entry fee is only **\$10**. The top three entries will win fabulous prizes. All full conference delegates will be able to vote, so start campaigning now. **ONLY** one entry per delegate. Photos must be 8" x 10", including any matting and they must be taken from the public's perspective to maintain a naturalistic view. All photos from the contest will be donated to the silent auction, so you can purchase your favorites. Any entries from institutions that require release forms must submit said form when the entry is submitted. A completed 2008 photo release form signed by the donor and any person in the photo must accompany **all** entries. Watch for more information soon!

Any Questions? Email utahaazk@hoglezoo.org or Website www.utahaazk.org



EO Editor - Rachel Daneault, Disney's Animal Kingdom

Can Primates Receive Adequate Primary Diet From an Enrichment Unit?

By Sarah Jane G. Webster, University of New Hampshire
Durham, New Hampshire

Primate survival is increasingly dependent on human support as various species become endangered and due to the rising number in captivity. Primate caretakers are also aware of the demand to provide a natural lifestyle for primates in captivity. The living accommodations and enrichment tools are a vital role in a primate's life under human care. Animals in captivity have a strong need for enrichment opportunities. They need mental and physical stimuli as much as any animal in the wild. Primates are of particular interest because of their close connection to human existence. Foraging is a natural process for most primates that contributes to their mental and emotional well being. In research done at York's Wild Kingdom in York, ME, efforts were made to provide an enrichment opportunity for the primates in captivity using specially designed units described below.

Cebus Capucinus, more commonly known as Capuchins, are of the family Cebidae and can either be found in wet lowland forests or dry deciduous forests. Capuchins usually weigh between 4.4-6.6kg [9.7-14.5lbs]. All Cebidae are omnivorous with diets consisting of fruits, insects, seeds, flowers, and occasional small vertebrates. Like most New World primates in the wild, a good portion of the day is spent foraging. Whether they are foraging in secondary growth, mature forests, or mangrove forests, they will break open seeds and nuts over rocks, consume the ripest fruit by biting, squeezing, and smelling for ripeness.

These nomadic primates occupy areas that vary considerably in size. Some reports give an account of home ranges varying from 1/sq km to 111/sq km [.386 - 42.85 sq. mi.]. Being very territorial, these groups do not typically tolerate different groups of the same species well. However, different groups' ranges often overlap by about 40% and the groups do forage well alongside each other. (Nowak, 1999)

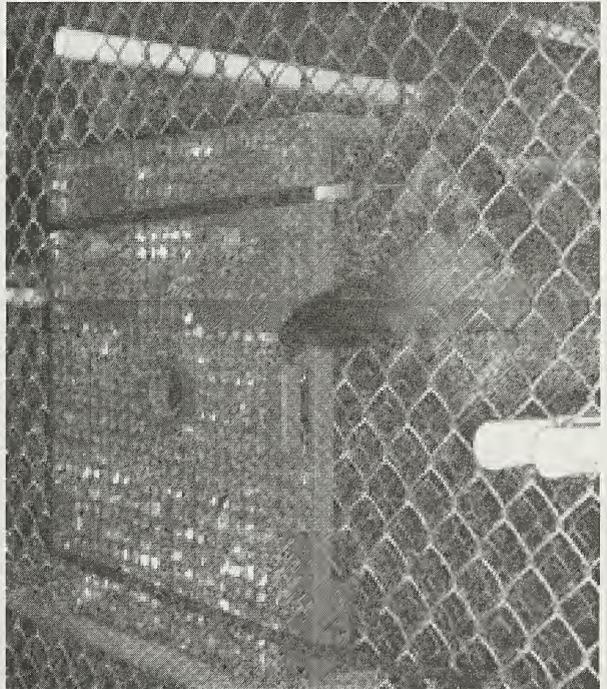
The zoo habitat is designed to be practical for both the animals and zookeepers. The captive enclosures have the necessities of the wild, yet the ease and comfort that the zoo provides. Yet, there are obvious limitations to zoo habitats, such as the enclosure of 300 square meters (0.75 acres) in comparison to the size of their natural habitat. On a typical given day, the Capuchins can be found swinging, jumping, etc. around the enclosure or sitting on perches and ledges. If no stimulus is provided all is either quiet or there is mischief to be had.

The Capuchins are normally fed out of buckets hung on the outside of the enclosure. The buckets

are left up over night and taken down the next morning. The zookeepers in charge of the primates report that the Capuchins normally eat about 80% of their primary diet given to them directly from the standard feeding bucket. The remainder is either spilled on the ground for later consumption or wasted. Given that about 20% of the diet is potentially wasted when feeding from a bucket, Capuchins can do no worse and can only benefit from the mental and physical stimuli of the foraging unit. This keeps the monkeys busy for the allotted time that the unit is available, without hindering their dietary consumption. The Capuchins will forage off of the ground for any food that has been dropped or left over and are busy with this task for much of the remaining daylight hours. Foraging subsides at dusk and then begins as the morning dawns. When the Capuchins are given their diet in the normal daily feeding bucket, they are less busy and less stimulated than in their own habitat, resulting in diminished mental activity. The Capuchins benefit, both mentally and physically, from the use of a foraging unit for their feeding.

Capuchins as well as other primates in captivity tend to lose their natural foraging habits. They lack the opportunity to forage because it is much more convenient for caretakers to feed in buckets. A foraging unit is a human made device that requires physical and mental effort on the part of the forager. The unit itself is 60.96cm wide x 66.04 cm tall x 10.16cm deep [24" x 26" x 4"]. There are 224 cavities on the back of the unit, two circles of 35 cavities each covered by two rotating discs, 60 cavities on the top and bottom ledges, along with two sleeves with 50 hidden cavities. The unit is entirely polypropylene plastic for its durability and weighs about 14.0616 kg [31lbs.]. The capuchins need to align the holes in the rotating disks with the cavities containing the food in order to be fed. For monkeys that are unfamiliar with the units, it can take a few hours or a few days if the introduction of the unit is handled properly. Some primates, as demonstrated by a particular male macaque, are so intelligent that they realize that in captivity they will receive their diet at a particular time and thus are too lazy to forage through the use of a foraging unit.

Given a foraging unit, a Capuchin will utilize it to the best of its ability. Can a primate receive its entire primary diet from a foraging unit, benefiting the primate both mentally and physically? Two Capuchins at York's Wild Kingdom were given (the Macaca, 2008) foraging unit twice a week for approximately ten weeks. The primary diet was cut up and placed in the units' 430 cavities, made available to the monkeys for two to two and one half hours. Both Capuchins worked diligently at the unit, removing pieces of food with all their fingers and thumbs, holding on to the side of the cage with feet and/or tail, until a sufficient amount of the diet was eaten or on the ground, where it would then be eaten. After the time allotted was up, the pieces of food were counted and the percentage was calculated to find the proportion of the primary diet the Capuchins would receive from the unit. On average the Capuchins consumed 81.6% of their primary diet given from the unit, taking more time and effort foraging to receive their diet. The excess food left in the unit was then made available to the primates to ensure the entire diet was available. The highest percent attained from the unit was 90.3% and the lowest was 76.25%. The less frequently



the unit was used for feeding, the lower the percent of the diet was obtained. The lowest percent attained from the foraging unit was after not receiving the unit for an entire seven days

There are fewer leftover pieces of the primary diet when the diet is consumed through use of the foraging unit. This may be due to the size that the fruit and vegetables are cut into, leaving less waste than the larger pieces consumed out of the feeding buckets. The units are a bit more time-consuming for the caretakers to fill and clean, but well worth the extra effort. It is a better alternative to hiding the diet in the enclosed cage (another foraging technique), as this would be unsanitary. On average it would take about 27.49 minutes to fill the Capuchins unit. Yet, over time it became easier and more efficient to fill. At the beginning of the research, it would take anywhere from 32.25 minutes to 45 minutes to fill the unit. Over the past ten weeks, it has become easier, filling the unit as fast as 21.09 and 19.36 minutes.

The Capuchins receive slightly over 81.6% of their primary diet from this unit. While there is only a slight benefit to feeding the Capuchins out of an enrichment unit in terms of the efficiency of feeding, the other benefits are numerous. These benefits include extra mental and physical stimulation and close approximations to wild behavior. It is my assumption that any other species would also benefit from receiving their diet from an enrichment unit. These foraging units provide an excellent opportunity to stimulate and observe foraging behavior of the Capuchins and other primate species.

Reference

Nowak, R.M. (1999). Walker's Primates of the World. Baltimore & London:
The John Hopkins University Press.

Acknowledgements

I thank Fauna-Tek of New England Exotics Inc and York's Wild Kingdom of York, Maine for making this research possible, www.fauna-tek.com.

(Ideas appearing in this column have not necessarily been tested by the editors for safety considerations. Always think ahead and use good judgement when trying new ideas. You are invited to submit material for the Enrichment Options Column. Look in the January 2004 issue of AKF for guidelines for articles acceptable for this column's format or contact the editor at akfeditor@zk.kscoxmail.com for a copy of the guidelines. Drawings and photos of enrichment are encouraged. Send to: AKF/Enrichment, 3601 SW 29th St., Suite 133, Topeka, KS 66614-2054, USA. Eds.)

Big Cat Internships Available

Join us in
"Saving Tigers One by One"

As seen on Animal Planet®
"Growing Up Tiger"



Learn about Big Cat Management. Internship involves Animal Care Apprentice and Public Education. We offer experience that counts towards employment.

TIGER MISSING LINK FOUNDATION / TIGER CREEK WILDLIFE REFUGE

Transform your
workplace, your life,
and the lives of the
animals in your care.



Embassy 180 programs are scientifically based and offered in two unique and beautiful Florida locations: *Dolphin Cove* in Key Largo and *Central Florida Zoo and Botanical Gardens* in Sanford. Our instructors represent more than 100 years of experience pioneering behavioral programs and authoring publications.

Velocity Animal Training Workshops. Achieve maximum effectiveness through an advanced hands-on, 5-day intensive workshop. Limited to 30 zoo and aquarium animal care/behavior professionals per workshop. Program is unique in content, set in a spectacular location and provides access to animals for experiential learning.

Oct. 6-10, 2008 at Dolphin Cove, Key Largo, FL

Dec. 1-5, 2008 at Central Florida Zoo & Botanical Gardens

Momentum Animal Training Seminars. 3-day classes that introduce animal enthusiasts and professionals to the basics of behavioral conditioning and the power of positive reinforcement. Limited to 120 per class.

August 8 -10, 2008. Register Now!

CORE INSTRUCTOR TEAM

Thad Lacinak

Ted Turner

Angi Millwood

Alyssa Simmons

Todd Feucht

EMBASSY **180**

Take Your Training Skills 180 Degrees!

www.embassy180.com • 1.877.E180-NOW

The Animal Training Committee Presents



Training Tales...



Where you can share your
training experiences!

*Training Tales Editors – Jay Pratte, Zoo Atlanta;
Kim Kezer, Zoo New England; and Angela Binney, Disney's Animal Kingdom*

Training a Yellow-Backed Duiker for Radiographs

*By Nichole Bouwens, Mollye Nardi and Lisa Smith
Large Mammal Department, Zoo Atlanta, Atlanta, GA*

The African Plains keepers at Zoo Atlanta, like most hoofstock keepers, often face unique challenges in addressing the preventative care and treatment of medical issues for flighty hoofstock animals. One of our more unique challenges we've faced has been in the training of a five-year-old female yellow-backed duiker (*Cephalophus silvicultor*) for standing voluntary chest radiographs. This animal has a history of reoccurring facial abscesses caused by the bacterias *Actinomyces pyogenes* and *Corynebacterium renale*, which have been known to cause internal lesions. This factor lead the management team to believe that preventive monitoring was necessary. Training for routine standing radiographs enabled veterinary staff to monitor her for these potential abscesses or lesions inside the chest cavity without unnecessary stress and anesthetic procedures. Since the male and female yellow-backed duikers are housed together, it was decided to train them both simultaneously.

Keepers, curatorial, and veterinary staff discussed and agreed upon the positioning needed to obtain the x-rays and the shaping plan necessary to complete the behavior. Two key elements were identified as needed for success. First, the animal had to be systematically desensitized to the equipment that would need to be used and secondly, the animal had to be habituated to a higher than usual number

of keepers/vet staff in the stall with her. It was determined that in order to limit the number of staff in the stall and to insure proper positioning for the radiograph, a cassette holder would be constructed and attached to the stall wall. While keepers needed to be creative in trying to find the best way to train the animals to stand against the wall in line with the cassette, this tactic actually sped up the training as the animals were more comfortable having keepers stand on only one side of them versus having keepers on both sides of the animal.



Figure 1: The radiograph cassette holder and training crate.

Since the duikers were previously crate trained, keepers decided to save valuable training time by placing the crate against the wall and targeting the duikers through the crate and out the other side. This technique helped to keep the animal's body position tight against the wall. During this training, the duikers had access to two stalls. The door between the stalls was closed up to the crate so that to get from one stall to another, they had to walk through the crate. In order to facilitate the training, the crate was left in the stall at all times.

After several consecutive days of re-training the animals to walk through the crate in the new position, the radiograph cassette holder was attached to the wall approximately one foot away from the crate exit. The holder was designed to be raised or lowered in small increments to allow for a variety of angles and to be adjusted based on the height of the animal. In order to simulate the radiographic film holders, or cassettes, used at our facility, a piece of plywood was cut to same size/shape and spray painted gray. Initially the animals were allowed to investigate the cassette under supervision, and eventually the wall mounted holder and "cassette" were left in the stall constantly in order to habituate the animals to their presence. Keepers trained the duikers daily to walk through the crate and stop in front of the faux radiograph cassette.

The portable radiograph machine used for the procedure was bright yellow and rectangular box shaped. A yellow, plastic, kitty litter container was secured horizontally to a small wooden table to simulate the machine for habituation. A similar table was used regularly during feeding time so they were already desensitized to that element. From that point forward, this fake "machine" was a regular fixture in the stall. As training progressed, the table was placed 40 inches (1.016m) away from the cassette holder, the distance required for the radiograph. Additionally, the keepers had to desensitize the animals to extension cords and the alignment light of the portable x-ray machine. The cords were easily integrated as they were laid out in the stall, just as they would be for the procedure, and removed immediately afterward. The animals were initially rewarded for investigating them and then for walking away from and ignoring them. The alignment light was duplicated by cutting a hole in the bottom of the kitty litter container for a flashlight to shine through. The keepers initially shined the flashlight on the floor and gradually moved up toward the duiker's body. When the animals were calm with the light, it was flashed through the hole in the bucket when the duiker was in proper position.



Figure 2: Faux radiograph machine

Once the animals were comfortable training with the simulated machine, trainers began to wear the lead vests required to minimize radiation exposure. Desensitizing the duikers to the vests proved to be the most difficult part of the whole process. The vests were a bright blue nylon-material that squeaked as the trainers moved. The animals became very agitated, so position training was temporarily put on hold. Instead, trainers entered the stall very slowly and the animals were given a jackpot any time they made a movement toward the trainer. After a few sessions, the duikers were calmly approaching the trainers and position training began again.

When the animals were comfortable and reliably coming into position with keepers and equipment in place, another person was introduced to play the role of the veterinary technician. This person wore a vest and stood directly behind the simulated radiograph machine just as the technician would.

As training reached the final stages, the veterinary staff was given the opportunity to watch and participate in the training sessions and the fake radiograph equipment was replaced with the real

equipment. After two training sessions with the real equipment in place, radiographs of both animals were taken. Luckily, to date no internal lesions have been found.

The whole training process took about six weeks of daily sessions with two primary trainers. Each session lasted only 15-20 minutes with keepers usually only having time for one session a day. The male duiker proved to be a calming presence for the female as he was always a willing participant. Because both animals were trained, films were also taken of the male for comparison purposes.

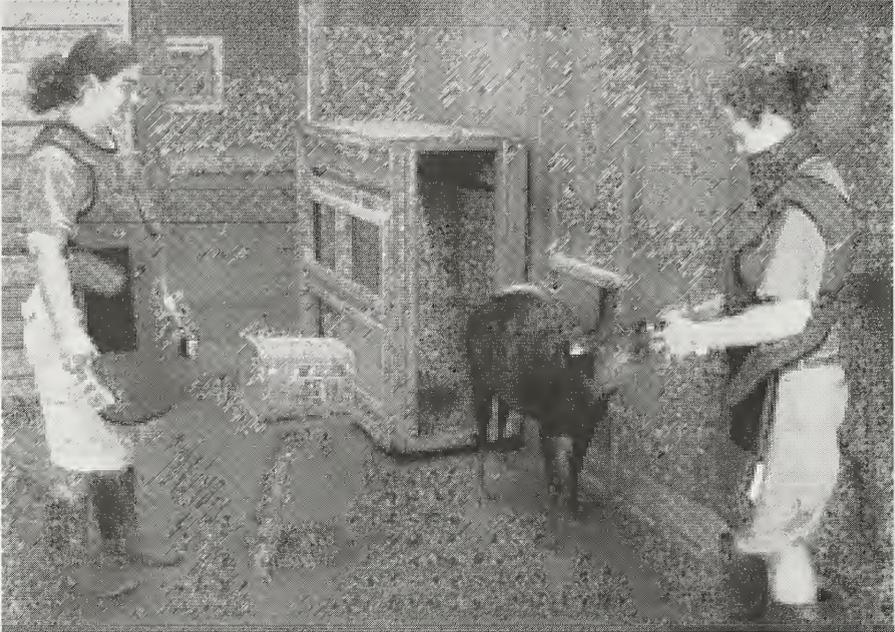


Figure 3: A radiograph training session with one of the duikers.

(Photo by Lisa Smith, Zoo Atlanta)

Special thanks and kudos go to the entire Zoo Atlanta hoofstock team who were involved in this process from start to finish. It is due to their remarkable commitment to professionalism and teamwork that we were successful in this endeavor.

ATC Comments:

by Angela Binney, Disney's Animal Kingdom

Wow! This is a great illustration of the power of positive reinforcement and desensitization. By exposing the animals to everything they would see and hear during a radiograph procedure and pairing these items and events with positive reinforcement, the actual procedure was just another training session. Using successive approximation, working one aspect of the procedure at a time, these keepers were able to achieve something that many hoofed stock keepers would not have the time or patience to complete. Duikers can be very docile and calm, as many forest dwellers are. They definitely don't seem to be as flighty as some of the open grassland species of small antelope (at least they don't flee as quickly or with as much vigor). However, being a quiet and elusive prey species, they can be very cautious and easily alarmed to new sounds and sights. As with many species with this type of disposition, training them requires patience, insight and commitment. Congratulations on your accomplishment, Zoo Atlanta and thank you very much for sharing it with us!

AKF EDITOR'S NOTE: It has been brought to my attention that two articles previously published in this column were not original to *AKF* but had been previously published in *ABMA Wellspring*, the journal of the Animal Behavior Management Association. At the time this material was submitted to the ATC Training Tales column editors for publication in *AKF*, they were not made aware that it had been published previously. Therefore, we wish to give appropriate credit for first publication as follows:

1. Using Enrichment as a Training Tool - *ABMA Wellspring* - Vol. 9, Issue 1 - Winter 2008, pgs 21-23.

2. Injection Training 1.1 North American River Otters Using a PVC Chute - *ABMA Wellspring* - Vol. 8, Issue 4 - Fall 2007 - pgs 12-13

In the spirit of cooperation, *AKF* has a generous reprint relationship with many other professional journals/newsletters including *ABMA Wellspring*, but we do always like to acknowledge "first publication" to these entities. Those submitting material for consideration of publication in *AKF* are asked to note whether or not their article has been previously published elsewhere or if they have submitted it to publications other than *AKF*. ~ *Susan Chan, AKF Editor*

You are invited to submit material for the Training Tales Column. Look in the November 2006 issue of AKF for guidelines for entries acceptable for this column's format. Drawings or photos of training are encouraged. Contact Jay Pratte at jpratte@zoatlanta.org for more details or to submit an entry.

Have You Sent AO Your E-mail Address Yet?

In order to better communicate with our members, and also save the Association the rising costs of mailings/postage, we are working to establish an AAZK member e-mail database. With such a database we would be able to send out electronic membership renewal notices, information about upcoming conferences, and other Association news. In order to make this work, we need your help.

Please send an e-mail to Barbara Manspeaker at aazkoffice@zk.ksoxmail.com with the words "AAZK Email Database" in the subject line. Please be assured that your e-mail address will not be shared with any other group or individual without your express permission. We are simply looking for ways to stay in touch with you as a member and to also help cut the costs of mailings and postage for the organization. Thanks in advance for helping us achieve this cost-cutting goal.

Oldest Captive Gorilla Turns 55

The oldest gorilla (*Gorilla gorilla*) in captivity celebrated her 55th birthday in May at the Dallas Zoo. The International Species Information System, which maintains records on animals at 700 institutions around the world, said Jenny is the oldest gorilla in its database.

"I think it's amazing," said Kristen Lukas, curator of conservation and science at Cleveland Metroparks Zoo in Ohio and the gorilla species survival plan coordinator for the Association of Zoos and Aquariums. "I think it's a testament to the good care that she's received at the Dallas Zoo and also the resilience of gorillas in general."

While Jenny's eyesight isn't as good as it used to be, keepers report she is in overall good health and weighs in at 213 lbs.

"It's a special milestone for us," said Todd Bowsher, curator of the zoo's Wilds of Africa exhibit. "It signifies that we've made great strides in veterinary care, nutrition and animal husbandry."

Born in the wild of western central Africa in 1953, the exact date of Jenny's birth is unknown. She lived with a family on the Cape Verde islands before the Dallas Zoo acquired her in 1957. Jenny gave birth in 1965 to a female named Vicki, who was sent to Alberta, Canada, at age 5. They aren't sure why Jenny hasn't conceived again. Jenny is one of four gorillas exhibited at the Dallas Zoo.



Happy Birthday, Jenny!

(Photo courtesy of Dallas Zoo)

While gorillas in the wild normally live to 30 or 35, only four gorillas in North American zoos are over the age of 50. They are: Jenny of the Dallas Zoo, Trudy at the Little Rock Zoo in Arkansas, Colo at the Columbus Zoo in Ohio, and Helen at the Louisville Zoo in Kentucky. Interestingly, all the gorillas over 50 are females. Sources: *Idaho statesman.com* 5/9/08 and *Associated Press* 5/9/08

Upcoming Animal Training Workshops

Embassy 180: Momentum Animal Training Workshop – August 8-10, 2008. Held at the Central Florida Zoo and Botanical Gardens in Sanford, FL. This workshop is designed to introduce animal enthusiasts and professionals to the fundamentals of behavioral conditioning and the power of positive reinforcement.

Embassy 180: Velocity Animal Training Workshop – October 6-10, 2008. Held at Dolphin Cove in Key Largo, FL. This workshop is limited to zoo and aquarium animal care/behavior professionals. This program covers fundamental to advanced behavioral concepts and provides access to animals for experiential learning.

Embassy 180: Velocity Animal Training Workshop – December 1-5, 2008. Held at the Central Florida Zoo and Botanical Gardens in Sanford, FL. This workshop is limited to zoo and aquarium animal care/behavior professionals. This program covers fundamental to advanced behavioral concepts and provides access to animals for experiential learning.

Workshop instructors: Thad Lacinak, Ted Turner, Angi Millwood, Alyssa Simmons and Todd Feucht. For more information email: info@embassy180.com or call 1-877-E180-NOW. Check out their website at www.embassy180.com<

ANIMAL KEEPERS' FORUM

Special Dedicated Issue on Crisis Management in Zoos

NOW
AVAILABLE

Crisis Management in Zoos

November/December 2007

*The Journal of the American
Association of Zoo Keepers, Inc.*

Special 136-page issue of *Animal Keepers' Forum* dedicated to Crisis Management in Zoos. This special issue contains papers designed to help animal-care facilities supplement their own crisis management protocols and provide information on how various plans have worked at other facilities.

Table of Contents

Acknowledgements - Susan D. Chan, Managing Editor, *Animal Keepers' Forum* • *Preface* - Ed Hansen, Executive Director, AAZK, Inc. • *Forward* Kris Vehrs, Executive Director, Association of Zoos & Aquariums • *Introduction* - W.K. Baker, Jr., Director, Abilene Zoological Gardens, Abilene, TX • *Crisis Management Planning in Zoological Institutions* - Geoff Underwood, Stirling, South Australia • *Disease Risk Communication and Highly Pathogenic Avian Influenza* - Robyn Barbiere, D.V.M., Lincoln Park Zoo, Chicago, IL • *Developing a Weapons Team for Dangerous Animal Emergencies: Organization and Training* - Norm Piwonka, Departmental Technical Analyst and Ken Kaemmerer, Curator of Mammals, Dallas Zoo, Dallas, TX • *Who's Afraid of the Big Bad Wolf? Dealing with a long-term, high-profile animal escape* - Jennifer Barnett, Director of Wildlife Management, Binder Park Zoo, Battle Creek, MI • *Chemical Restraint of Exotic Animals in an Emergency Situation* - Marilyn M. Baeyens, DVM, Veterinarian, Little Rock Zoo, Little Rock, AR • *The Veterinary Role as First Responders to a Medical Emergency in a Crisis Management Situation* - W.K. Baker, Jr., Director, Abilene Zoological Gardens, Abilene, TX • *Critical Incident Stress Management: A Proven Tool for Addressing Staff Needs After a Traumatic Event* - Lisa Fitzgerald and Gary Sanchez, Dallas Zoo, Dallas, TX and Jay Pratte, Zoo Atlanta, Atlanta, GA • *Developing a Program for Dangerous Animal Emergencies: Procedures for Animal Escape, Unauthorized Person in with Dangerous Animals, and Unified Command System* - Ken Kaemmerer, Curator of Mammals, and Norm Piwonka, Departmental Technical Analyst, Dallas Zoo, Dallas, TX • *Dive Safety in Zoos and Aquariums* - Gil Falcone, Senior Dive Safety Officer, Monterey Bay Aquarium, Monterey, CA • *Wildfire! One Facility's Response and Lessons Learned* - Chuck Brinkman IV, Professor, Moorpark College, the Staff of America's Teaching Zoo and the Students from the Classes of 2004 and 2005 • *Keep Communication Equipment Powered in an Emergency, Part 1 What to Put in Your Emergency Power Kit* - Thomas Shaddack, TechSoup.com • *Keep Communication Equipment Powered in an Emergency, Part 2 How to Convert Your Devices to Run Off Batteries* - Thomas Shaddack, TechSoup.com • *The Terrorist Threat to Zoological Institutions* - W.K. Baker, Jr., Director, Abilene Zoological Gardens, Abilene, TX and Commander W.S. Graves, U.S. Navy, Retired • *Hurricane Preparedness: Lessons Learned from Hurricane Katrina* - Elizabeth E. Hammond, DVM, Lion Country Safari, Loxahatchee, FL and Daniel K. Maloney, General Curator/Life Sciences, Zoos Victoria, Parkville, VIC, Australia • *Training Dangerous Animals Safely is No Accident* - Gary M. Priest, Curator-Applied Animal Behavior, San Diego Zoo/San Diego Wild Animal Park/Zoological Society of San Diego, San Diego, CA • *Firearms Use and Training in AZA Institutions* - Dan Beetem, Director of Animal Management, The Wilds, Cumberland, OH • *Aspects of a Safety Program for Zoos and Aquarium Facilities in the United States* - Ed Hansen, Risk Management Coordinator, City of Tucson, Tucson, AZ

Crisis Management in Zoos Order Form

(Please type or print clearly)

I wish to order _____ copy (ies) of the Crisis Management in Zoos dedicated issue of *Animal Keepers' Forum*.

AAZK Member \$25.00 Non-Member \$50.00

_____ #copies x price \$ _____

Price includes Domestic media rate postage and Canadian airmail postage.

Total for Order \$ _____

Name _____

Address _____ Apt. # _____

City _____ State/Province _____

Zip/Postal Code _____ Country _____

Payment Options: check enclosed _____ Mastercard _____ VISA _____

(checks payable to AAZK, Inc. U.S. Funds ONLY)

Credit Card # _____ - _____ - _____ - _____

Exp. Date _____

Name on Credit Card _____

(please print clearly)

Signature _____

Phone # _____

Email _____

Mail completed Order Form and payment or authorization to: AAZK, Inc., 3601 SW 29th St., Suite 133, Topeka, Kansas 66614-2054 USA ATTN: CMZ Order. **North American phone orders** using a Mastercard or VISA credit card may be placed by calling 785-273-

Implementation of a Positive Reinforcement Training Program for 1.0 Juvenile Giant Panda (*Ailuropoda melanoleuca*) at Smithsonian's National Zoological Park

By

Nicole Meese, Animal Keeper

Smithsonian's National Zoological Park, Washington, DC

History of Giant Pandas at Smithsonian National Zoological Park

The Smithsonian's National Zoological Park (NZIP) has a long history in both the husbandry and research of giant pandas (*Ailuropoda melanoleuca*). The first pair of giant pandas, Ling Ling and Hsing Hsing, arrived as a gift from the Chinese government in April of 1972. Over the last 35 years, NZIP has been committed to learning more about the species both *in situ* and *ex situ*. In December of 2000, Mei Xiang (2.5 year old female) and Tian Tian (3 year old male) arrived on a loan from the People's Republic of China. After several years of unsuccessful attempts at natural mating, an artificial insemination was performed by our team of reproductive scientists in 2005. This resulted in the 9 July 2005 birth of a male cub named Tai Shan (which means "peaceful mountain").

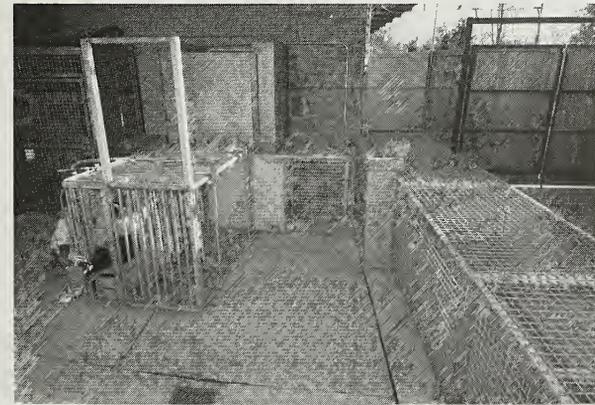
Panda Training At NZIP

Mei Xiang's and Tian Tian's training program began when they arrived at NZIP. First they learned to shift on and off- exhibit using the verbal commands "inside" and "outside." The formal training program began in February 2001. The pandas were scale trained and trained to present body parts. Later in 2001, the pandas were also introduced to the training cage.

The training cage is located at the end of a chute in the runway behind the panda exhibit. It is made of stainless steel, and the interior measurements are 1.1m (3'7") height, 2m (6'5") length and 1.2m (4') width. The vertical bars are spaced 7.6cm (3") apart. There are removable sections of barred

windows in the front that slide through a 43cm (1'5") track.

These sections allow openings to be made at different heights to allow for radiographs, testicle measurement, vaginal cytology and ultrasound. There is a squeeze mechanism at the rear of the cage allowing it to be squeezed down into one of five positions. The training cage has two attachments—a blood sleeve and a blood pressure attachment. The blood sleeve is an enclosed metal tube with a hinged opening and a handle at the end for the pandas to grab with their front paw. The blood



Training cage is shown at left. (Photo: Meghan Murphy/NZIP)

pressure attachment resembles a shelf, and also has a handle at the end for the pandas to grab. It is open to allow space for the blood pressure cuff to be wrapped around the foreleg. At NZIP, keepers have found that the blood pressure attachment works better for blood draws, although everyone must be vigilant to assure that neither a keeper nor vet is able to be scratched. Panda trainer Paul Ng, from Ocean Park in Hong Kong visited NZIP in 2001 to train the pandas and the panda trainers. With his guidance and expertise, the pandas were trained for blood draws in only a few sessions. (Perry et. al., 2006)

Tai Shan's training program began as a result of a need to reduce overtime for keepers. Prior to beginning training, keepers frequently had to stay at the zoo past the end of their shifts, waiting for Tai Shan to be motivated to come down out of the trees and shift indoors for the night. The initial goal was simply to have him shifting off and on exhibit reliably.

Target Training

Tai Shan's training program began informally at the age of seven months in an attempt to reduce keepers' late nights at the zoo. Around the age of six months, Tai Shan began spending late afternoons and evenings sleeping high in trees, even after his mother Mei Xiang was called inside for the night.



Tai Shan in tree late at night

(Photo: Ann Batdorf/NZP)

The problem became worse as Tai Shan approached seven months, resulting in keepers staying until midnight on several occasions, waiting for him to come down. Target training began in the hopes of solving this problem. Tai Shan began following a fruitsicle (frozen apple juice and water with pear and apple bits) "target." The fruitsicle was placed under his nose, while he was still in the tree. When he approached it, he was given the verbal bridge "good boy" and then given a chance to lick the fruitsicle. At that point, Tai Shan could be picked up and carried into the panda house. He was allowed to lick the fruitsicle as he was being carried. Once at the doorway to the panda house, he was placed in a holding area with the fruitsicle, and the door was opened so that he could be reunited with his mother. Mei Xiang ate the fruitsicle, after first inspecting and grooming Tai Shan. Then there would be a brief period of nursing before both would shift indoors for the night.

We broadened the "targets" to sweet potatoes on sticks at eight months and bamboo shoots at nine months. During this time we were also familiarizing Tai Shan with his name, calling him down from the tree when we were showing him the target.

The first real progress in target training was at nine months of age when he followed a fruitsicle halfway through the yard. He was given the opportunity to lick the fruitsicle as reinforcement every five to ten feet, with the verbal bridge "good boy, Tai Shan," to reinforce his name recognition. At ten months, Tai Shan walked all the way from the hemlock at the front of the yard to the sidewalk leading indoors (a distance of approximately 40 yards) on his own power, following the fruitsicle target the entire way. The whole process took about 20 minutes. Just five days later, Tai Shan followed the fruitsicle target from the hem-



Tai Shan with fruitsicle target

(Photo: Frances Nguyen)

lock all the way inside in only ten minutes. Four days after that the time was reduced even more. He moved from the front of the yard to the back of the yard in only five minutes! This greatly reduced not only the need to carry Tai Shan indoors, but also the number of hours of overtime put in by keepers waiting for Tai to be motivated to come indoors on his own. At 14 months of age, Tai Shan was more reliable at responding to keepers calling his name, and was fully reliable at 1.5 years of age.

At 11 months, Tai Shan was introduced to a more formal-looking target—a tennis ball on a stick. At 13 months, Tai Shan followed the new target all the way inside from the yard, touching his nose to the tennis ball about every ten feet for a small piece of gorilla-sized leaf eater biscuit. The next day he followed his target when shifting from indoor to outdoor enclosures and vice versa. After a few sessions, we were able to phase out the target. We were then able to get Tai Shan to shift on the verbal cues “inside” or “outside” just like the adult pandas.

Training Foods and Bridges

Starting at about one year of age, Tai Shan was given the gorilla-sized leaf eater biscuits that we feed to the adult pandas as a training reward. However, even when they are broken in half, they are still rather large for a panda cub and take a long time to chew. Tai Shan was switched to lemur-sized Marion leaf eater biscuits after about two months. The lemur-sized biscuits are thinner as well as shorter, and are bite-sized for panda cubs, making them ideal for training rewards. It was around the same time that cooked sweet potato was determined to be one of Tai’s preferred foods, so that is typically what is used for his jackpots, (although pear is sometimes used as well).

On 18 September 2006 (when Tai was 14 months old) he was introduced to a whistle as a training bridge. After much discussion with our unit biologist, Laurie (Perry) Thompson, on 14 November 2006 we switched to a clicker instead. One reason was that Tai Shan was still living with his mother Mei Xiang. Although they frequently separated themselves during the day (this was when training was opportunistically done at the mesh), once Mei Xiang heard the whistle, she would come to the back of the exhibit. She would begin to perform the same behaviors being asked of Tai Shan, anticipating her own reward.

Also, clickers are the bridges commonly used in the breeding centers in China. Since Tai Shan will return to China per our loan agreement, it makes sense to train him with the same bridge he will use someday in China.

Other Husbandry Behaviors

As Tai Shan got older and more responsive to our commands, he began to learn the other husbandry behaviors that we use with our adult pandas. Just before his first birthday, Tai Shan was introduced to a new command—“paw”—where a keeper tapped the ground under the mesh, and he placed his paws under the mesh in response. Tai Shan was also introduced to the paw on mesh command (where keeper places a hand on the mesh and the panda mirrors that with the opposite paw) a month later. He was reliable on both of these behaviors in less than ten training sessions, which were spread out over a period of three months.

We introduced Tai Shan to the training squeeze cage on 11 November 2006 (at the age of 16 months), and began positioning for upcoming vaccines. We had him stand in the training cage with his face toward the opening for the blood pressure attachment. When he stood still and allowed the cage to be squeezed down, he was bridged and rewarded. Once he was comfortable with those behaviors, he was poked in the leg with an empty syringe. For the next session, he was touched twice with a needle, with no reaction! He received his vaccines in the training cage after only three sessions.



Positioning Tai Shan for vaccinations

(Photo:Laurie Thompson/NZP)

Between the ages of 16 and 18 months, Tai Shan learned to sit on the scale, first by following a target, and eventually by climbing onto the scale upon hearing the voice command. This behavior proved challenging for a number of reasons. First, it was difficult to separate Tai Shan and Mei



Tai Shan on scale

(Photo: Jessee Cohen/NZP)

Xiang in the scale area that was located just outside of the door from their night holding. Once the door was opened in the mornings, both would try to squeeze through the door at the same time, making it nearly impossible to isolate one on the scale at a time. Second, with six panda keepers, consistency in training was a problem, since different keepers work the morning shift each morning. Therefore, there were several breaks in the scale training. Third, after switching to a smaller target (a small dog Kong® on a bamboo pole) that would fit through the mesh to the scale area, Tai Shan treated it as a game, and rather than touching his nose to the Kong® target as he had the tennis ball, he would often try to bite and/or steal the Kong® target. Luckily, during this time our new Curator for Training and Enrichment, Heidi Hellmuth, provided a new target, a solid plastic “lollipop” that Tai Shan was unable to take apart, but that still fit through the mesh. It was during this time that Tai Shan learned to generalize to different targets, and now if he

hears the verbal command “target”, he will touch his nose to whatever target (including a closed fist) is presented.

During the winter and spring of 2007, Tai Shan learned many new behaviors—stand, back paws, training cage positioning, lie down, etc., as well as polished up some old ones by learning to hold them for longer periods of time. We also began a different approach with new behaviors. Each of the panda keepers was assigned a new behavior, instead of Tai Shan just having primary and secondary trainers. We felt that would maximize his potential, given his eagerness to learn, and given the fact that he works with six different keepers throughout the week.

Blood Sleeve

Tai Shan was first introduced to the blood sleeve in November 2006. Only 40 sessions were completed between November 2006 and July 2007 due to the need for modifications for the adults’ blood sleeve, Tai’s short attention span, and malfunctions in the door leading to the squeeze cage. During that time, Tai Shan “grew into” the training cage and was able to stay focused for longer periods of time. In the meantime, several behaviors, including rear paws, were introduced, which later helped with the seated position in the training cage. Tai Shan also learned to grasp the blood sleeve bar, first by shaping him to grasp an unattached bar. By the end of July everything fell into place, and on 21 July 2007 Tai Shan had his first successful blood draw. Dr. Carlos Sanchez was able to collect three vials of blood, with total cooperation from Tai Shan.

Future Goals

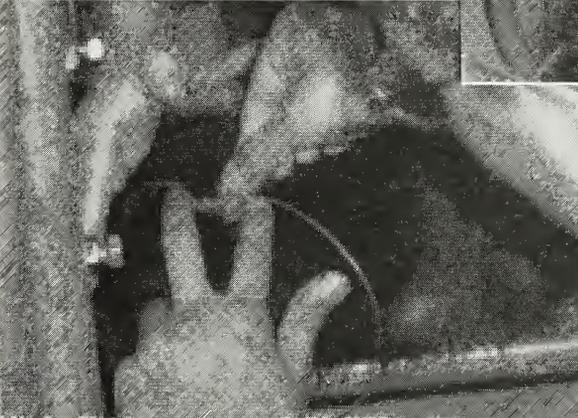
Future training goals include blood pressure measurement, positioning for kidney ultrasound, and positioning for testicle measurements. Given Tai Shan’s strong food motivation and willingness to



At left: Holding bar in blood sleeve
(Photo: Laurie Thompson/NZP)



At right: Holding off vein
(Photo: Laurie Thompson/NZP)



At left: Inserting needle for blood draw
(Photo: Laurie Thompson/NZP)



At right: successful blood draw
(Photo: Laurie Thompson/NZP)

learn, we feel that these goals will also be able to be achieved before he returns to China for breeding in 2009.

Conclusion

This paper outlines the development of a positive reinforcement training program for a giant panda cub between the ages of six and 24 months. The time when giant panda cubs are beginning to explore their worlds and sample solid foods (between six months to one year) is an ideal time to begin a basic training program. At that age, they are able to learn multiple bridges, verbal commands and complex sequences of behaviors. With several short sessions throughout the day, keepers can train behaviors that will help to manage giant pandas in captivity. Training can help cubs to be more reliable at shifting, which maximizes time in keepers' workdays.

Many basic veterinary procedures, such as positioning for vaccines and blood draws can be trained, without the need for pandas to be anesthetized. Training can further our knowledge of blood chemistry and other physical parameters of developing panda cubs.

Acknowledgements

I would like to thank Lisa Stevens, Curator of Primates and Giant Pandas, for giving me the opportunity to be Tai Shan's primary trainer, and for assisting with the final edit of this paper. I would also like to thank Laurie Thompson, Primate/Panda Biologist, for all of her guidance with the training and help with all of the drafts of this paper. Thanks to Heidi Hellmuth, Curator of Training and Enrichment, for the clickers and targets, and for her training advice. I would also like to thank Dr. Carlos Sanchez and the rest of the vet staff for making blood draws and vaccinations as stress-free as possible for the pandas and the keepers. And last but not least, I would like to thank Brenda Morgan, Primate/Panda Keeper, for all of her encouragement and suggestions.

Reference

Perry, Laurie; Stevens, Lisa; Powell, David. Positive reinforcement Training for Biomedical and Reproductive Management of Giant Pandas.
Animal Keepers' Forum. Vol. 33, No. 9: 394-401. | 2006



REACTIONS

A Question and Answer Forum for the Zoo Professional on Crisis Management

By William K. Baker, Jr., Director
Abilene Zoo, Abilene, TX



Question

You have often spoken of your free contact training experiences with felids, what have they taught you?

Comments

Over the years I have tried whenever possible to stay away from writing about this particular aspect of animal training. Having been a marine mammal, elephant, and cat trainer over the years, I am cognizant of the differences in working with these specimens, although the training dynamics have similar components based in operant conditioning.

Conversely, I am also aware that there is a wide variance in professional opinions when you start talking about free, limited, and protected training styles. Having worked in all three major styles, I tend to favor the emerging approach of using “everything in the tool box”. That is, if it works and can be interposed into your training plan without an ethical or moral impasse, then it’s appropriate in application.

In reflection, if someone asked, “Does this mean you would use free contact techniques?” Then my answer would have to be “yes”. I’ll be the first to admit that free contact is not for everyone or every institution and that I respect my colleagues and their point of view when they choose not to utilize this style within the framework of their training regimen.

Conversely, I am aware that not every professional favors doing free contact work with felids. Still, like other sessions I believe that it is based on the animal species, their personality, and environment. Based on personal experience, most professionals don’t have a problem going into the exhibit with a smaller felid such as margay, jaguarondi, or ocelot. In my experience, where it becomes an issue for others is when the relative size of the cat exceeds that of the trainer or keeper.

For example, I have seen cheetahs successfully worked over the years as part of numerous Cat Ambassador Programs. And to be honest, they are one of the reasons that cheetah conservation efforts are so successful. A live cat will always beat out a picture in a book or a DVD. It’s the same rationale that we use for education outreach programming: a live animal provides a better catalyst for capturing your audience and getting the conservation message across. This just does it on a larger scale.

I have also seen cougars and clouded leopards utilized for outreach programming without incident and under behavioral control. I will be the first to defend these species as being in the same size range as cheetahs and workable in this aspect. At this point, relative size hasn’t exceeded that of the trainer and like all animals in a training environment, relative success is dependent on the trainer’s skill, the animals’ aptitude, and the animals’ personality.

Conversely, the comfort zone shifts drastically when you move towards lions and tigers. I am aware that there are still a few institutions that work tigers free contact and do it very well. But for myself, I have been in free contact situations with tigers on five occasions and I never really developed an affinity for it, which in retrospect is strange as I never had a problem adapting to working free contact with elephants or male sea lions.

After a lot of soul searching, I think it really is more of a personal affinity for working with the medium and smaller class of felids, as opposed to the larger felids such as lions and tigers. Conversely, I am somewhat concerned that some professionals are okay with free contact elephant work, yet flinch when tiger trainers do their sessions. That philosophy always struck me as something of a double standard; as does the statement that cats are dangerous. Sure they are, but so are most exotic animals. So back to the heart of the question, what have I learned? I would say I am a better trainer for doing felid work because it is so demanding. I can also say that it has taught me to be more patient and insightful, not only in my training sessions, but in daily life as well.

I consider myself a better person than what I was due to the felid training and research that I perform and it has also given me a great deal of insight into advance planning for crisis events as well. I can add that it is a real plus being able to check eyes, teeth, gums, and other parts of the body without resorting to chemical anesthesia every time you want to look at something.

I have also learned that some species, and in this instance felids, are highly charismatic and capable of holding any crowds attention for an unlimited span of time, which in turn allows me to get a strong conservation message across to the patrons. In addition, I have learned that the camera loves cats. They are remarkable subjects for our television program and can reach those who can't make it to the zoo in person.

Conclusion

Even though there have been several high profile cat incidents lately, I would still have to advocate the continued existence of Cat Ambassador Programs. What these programs and their cats do is nothing short of spectacular. To this very day, I can still remember Walt Disney with leopards lounging on his desk and the impression it made on me as a child. Not to mention that this past week I saw an ambassador who had a cougar on the tonight show. For myself, I'm pleased that this tradition is being kept alive

Coming in n September 2008 AKF: A few years ago you ran a column on nets; would you provide an updated version?

If you would like to submit a question for this column or have comments on previously published materials, please send them to AAZK, Inc., 3601 S.W. 29th St., Suite 133, Topeka, KS 66614-2054 Attn: Reactions/AKF or email to: akfeditor@zk.kscoxmail.com< Please put "Reactions" in the subject line.

(About the Author: Since 1985 Bill has been active in the fields of science, zoology, and wildlife management. His education and experience include a B.S. in wildlife management and post-graduate studies in zoology, Lab and Museum Assistant, Shoot Team Leader, ERT Member, Large Mammal Keeper, Senior Keeper, and Zoo Curator at various zoological facilities. His area of research is crisis management in zoological institutions, which draws upon practical experience and training as a Rescue Diver, Hunter Safety Instructor, NRA Firearms Instructor, and Red Cross CPR/First Aid Instructor. Away from work he operates Panthera Research, and may be contacted at puma_cat@hotmail.com.)

Using TiVo® to Record Births

*By Kevin Rhodus, Media Productions Department
Columbus Zoo and Aquarium, Powell, OH
Kevin.rhodus@columbuszoo.org*

Introduction

Recording TV shows to tape is almost obsolete these days thanks to devices like TiVo® and Digital Video Recorders (DVR). Now all your shows can digitally be recorded to a unit and played back in full quality instantly. Some units even allow you to transfer your shows to a computer. The real question is how can we use this technology to help animal care? One of the many functions of the Media Productions Department of the Columbus Zoo and Aquarium is to setup and maintain birth watch systems. Whenever an animal is expected to give birth we will install a basic CCTV system designed to allow remote monitoring and recording of the events leading up to, during, and after the birth. This data is then historically documented and made available to our Zoo staff. Currently there are two methods we utilize for installing birth watches systems: tape and IP-based cameras. In January of this year we started experimenting with a third method, using a DVR.

Tape Systems

The first and most typical method consists of installing one or more cameras in the den connected into a time-lapse VHS deck and a TV monitor located in another room, such as a break room. This allows keepers to remotely monitor animals and check on the birthing process without disrupting the animals. Ideally, a week or more pre-birth and a few weeks post-birth are recorded and saved. Special time-lapse VHS decks can record 24, 40, even 120 hours onto a single two-hour VHS tape. Some decks can go as high as 960 hours onto a single two-hour VHS tape. While VHS offers high compression hours, there are many problems associated with using tape. The first is tape is an old and dying format. Quality wise, VHS is very poor, especially when dealing with time-lapse applications. Slowing down frame by frame and speeding up can result in tracking issues. Also color saturation and sharpness can be lost between decks. To play back a time lapsed tape at normal speed requires a special deck that can record and play at that specific compression speed. In addition, running decks through the length of a birth watch puts extreme wear and hours on the head. Some decks that we currently have in use have over 60,000 hours of tape - threading time on them. Also, with tape, you need multiple decks or special hardware to record multiple camera setups. When you use only one deck and a device such as a sequencer or a switcher, you are only recording whichever camera/s is visible on the monitor at that time. If action is happening on two or more cameras, the only recording you can possibly capture without another deck is a multicam screen. While with large animals this may be sufficient, it can be impossible to tell small details and animals apart when you are only looking at 1/4 or less of the screen.

The major advantage of tape however is the portability. We can install a tape-based system anywhere there is power available. It does not require a network connection such as an IP-based system. Tape can also be monitored at the site, which can be very valuable to keepers in determining an animal's location at that time. The portability of tape is a significant advantage because most of our installations are in older facilities that do not yet have a network connection to the den room.

IP-Based Systems

The second method we use are IP network based cameras or video converter boxes. The FlexWatch converter boxes are mini-webservers that convert 2, 4, or 6 video signals (coming from installed cameras) into a viewable webpage. Keepers are able to remotely login over the intranet or Internet and view the cameras. Software available allows recording and storage of up to three days of data on our server. IP-based cameras directly connect to the network and offer the same view ability. Pan, Tilt, and Zoom cameras can be remotely controlled via the webpage. While this option does move towards digital, it is lacking in the ability to archive IP-based cameras video. Despite being



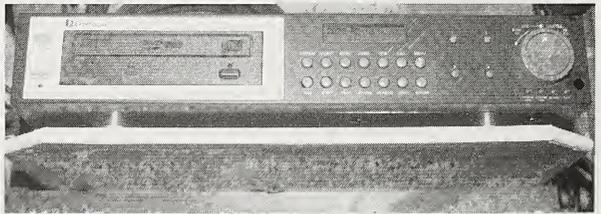
Camera installed over public viewing den of North American river otter exhibit.
(Photo by Kevin Rhodus)

digital, the quality is not the best. It also requires the use of a computer. IP based cameras are not able to be viewed at the head end. This can cause problems both for media staff (seeing where the camera is pointed), and for keepers (monitoring the camera from the installed exhibit when a computer or network connection is not available). While most new facilities are wired with a network connection, some of our older facilities and off-grounds yards are not. This makes the possibility of a network camera very difficult. The cost of running the network to these locations is too great to constitute running connections. While not a huge issue, each IP-based camera and FlexWatch box require their own IP and also their own window for control. When our adult volunteers conduct birth watches, it is very common to have multiple computers going all at once, each one with multiple camera pages up. The major advantage for a network-based system is that keepers, vets, and curators can all view the cameras from anywhere in the world with an Internet

connection. It allows keepers to login from home and check on behaviors that may be questionable to a docent or volunteer observing the animal without making a trip to the zoo.

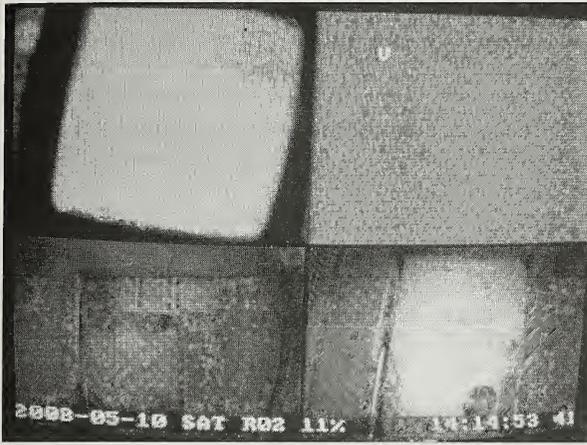
DVR Systems

In late January we started to explore the idea of a digital video recording system (DVR). We looked to combine the advantages of IP-based systems with the portability and head end viewing capabilities of a tape based system. The idea was approved by our animal department and it was determined that it would be installed in our North American river otter (*Lontra canadensis*) exhibit. Our female otter was expected to be pregnant with her second litter. Since there were complications with her first litter, it was very important to thoroughly document and archive this birth. This facility has no network connection, but has multiple cameras installed from previous birth watches, making it an idea candidate for the DVR. We chose a 4-channel EverFocus DVR with a 250-gigabyte hard drive. We chose it based on price, storage size, and the built in DVD-burner. The EverFocus unit allows recording of up to four cameras simultaneously. It also allows remote viewing through a network connection. The unit records each camera to an individual file that then can be burned to a DVD or copied to a drive connected to the USB port. It has the built in ability to control Pan, Tilt, Zoom cameras and can also auto record when it senses motion in the enclosure.



EverFocus DVR installed in North American river otter exhibit. (Photo by Kevin Rhodus)

Limited by time, we had to choose a system and immediately install it, leaving us no time to test it out and iron out all the kinks. We installed three infrared security cameras (two new Speco VL-66 Color/B&W IR varifocal and one Silent Witness B&W IR fixed focal with audio) in the holding dens. Each den was outfitted with its own camera. While the Silent Witness has lower performance in low light, the built-in microphone, lacking in the Speco, is sensitive enough to pick up the audio from all three dens. The signals from the cameras were routed out of the den room and into the adjacent pump room. In the pump room, we installed the DVR and a 13" preview monitor. The TV monitor allows keepers to watch and listen to each den live, and also review previous recordings



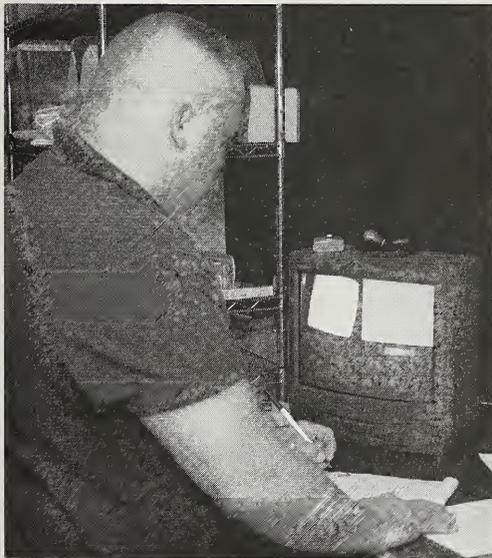
Monitor showing the three holding dens of North American river otter exhibit.
(Photo by Kevin Rhodus)

of the time this doesn't create too many problem, but when working with menus it can be difficult to read the small screen from across the room. We have talked with the company and they are willing to fix the problem for us once our birth watch has concluded and we can ship the unit for repair.

A problem we ran into and discovered once installed is that the video can only be taken off the unit in two-hour segments per camera. This makes it very time consuming to dump an entire month of data (each day uses approximately 6% of the 250 GB hard drive). We have recently learned that a new firmware update should allow longer time periods when a external hard drive is connected to the unit. Our solution to the problem was to purchase additional internal hard drives. A 500GB hard drive costs around \$100 from our local computer store. At this price, we decided it would be easier to switch out hard drives and keep the full drives for historical archives. When someone needs access to the video, we put the drive in an external enclosure and hook it up to their computer. The unit can support two hard drives simultaneously and will switch to the empty drive when the first one is full, thus ensuring no loss of data.

Our most recent problem deals with a corrupted hard drive. When the unit experienced a power

failure, the structure of the hard drive was corrupted. The unit was not "seeing" and started to record over data. Luckily, Everfocus assured us that our IT department can recover and rebuild the hard drive, saving the data that has not been recorded over. As a result, we are now recommending that a UPS backup battery be placed on the DVR unit in future installations.



Keeper Scott Shelley viewing monitor of DVR showing baby otter pups. (Photo by Kevin Rhodus)

Due to a lack of network connection at the otter exhibit we have not yet been able to test out the network-based functionality of the unit. However, we have used footage pulled off the unit. The footage originates as a proprietary file that only Everfocus' free utility can watch. This also holds true for burning a DVD. The DVD will not be readable in a stand-alone DVD

saved on the unit. We set the DVR unit to constantly record 24/7 and left it on for the duration of the month leading up to the birth.

Problems Experienced

Overall the unit has worked phenomenally. We have only experienced small issues here and there and most are problems on our end and not with the unit. The biggest inconvenience we have experienced is the unit shipped with a defective IR port. This made it impossible to use the remote. As it is now currently installed, the DVR unit sits on a shelf on one side of the room and the TV on a table on the other side. For most

player. It can only be read in a computer with the viewer software. The software controls the file just like any other media player, and allows the footage to be exported to a AVI file that then can be edited or distributed.

One setting we have yet to experiment with is the recording frame rate. Each DVR can handle recording a certain amount of frames per second. This number is then divided by the number of cameras to determine the frame rate for each camera. The slower the frame rate of the unit, the less frames per camera per second. This translates to a more "choppy" image. Using the default settings we have noticed a little bit of choppiness, but the image is still superior to tape and easily usable.

Conclusion

Overall the transition from a tape based system to a digital system has been very easy and definitely a step in the right direction. The keepers enjoy the ability to play back video instantly and watch only one camera while still simultaneously recording all the cameras. In a tape-based system it required stopping recording to review the tapes. By recording all the cameras we are able to see action in multiple dens at once. From the media standpoint we enjoy the ability to set up the unit and let it record approximately a month of footage at a time without needing to be serviced. When a hard drive needs swapped, it is a simple five-minute fix. The system experiences very little down time. There is no gap where tapes would be changed. With our IP-based cameras, the footage recorded is dumped every three days to help keep room on our server. Unlike our IP-based camera system, the footage on the DVR is saved forever. The physical storage requirements for archiving births has also drastically reduced from boxes of tapes down to a few hard drives. Also this DVR gives us the IP-based ability in the future to remotely monitor the video while still recording to a device that archives continuously. This provides the advantages of tape but the convenience of IP. For us, it has been a win-win solution that we definitely look forward to using more often in the future.

Products mentioned in the text:

Tivo® - www.tivo.com
2160 Gold Street, P.O. Box 2160, Alviso, CA 95002-2160
Tel: 408-519-9100 Fax: 408-519-5330

FlexWATCH™
www.flexwatch.com
Seyon Technology Co., LTD.
3460 Wilshire Boulevard, Suite 121, Los Angeles, CA 90010
Tel: 213-383-6764 Fax: 213-383-6756

Speco
www.specotech.com/
Speco Technologies
200 New Highway, Amityville, NY 11701
Tel: 631-957-8700 Fax: 631-957-9142

EverFocus
www.EverFocus.com/
EverFocus Electronics Corporation
1801 Highland Ave Unit A, Duarte, CA 91010
Tel: (626) 844-8888

Silent Witness
www.silentwitness.com/
CCTVProducts.com
3080 E. Post Rd, Las Vegas, NV 89120
Tel: 1-877-628-2283 or 1-877-847-066 Fax: 1-702-367-3653

AAZK Video Night - Submissions Sought

The AAZK Enrichment and Training Committees invite you to submit your enrichment and/or training videos to be presented at Video Night during the 2008 AAZK National Conference. Submissions should be in the following format:

- ◆ In VHS or CD format
- ◆ No more than seven minutes long.
- ◆ Good quality (steady frame, appropriate or no sound, clear picture)
- ◆ Videos may be edited for content and to accommodate time restraints.

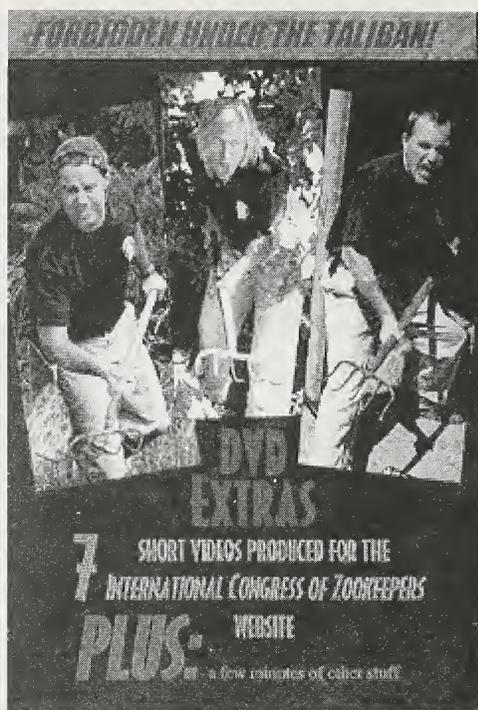
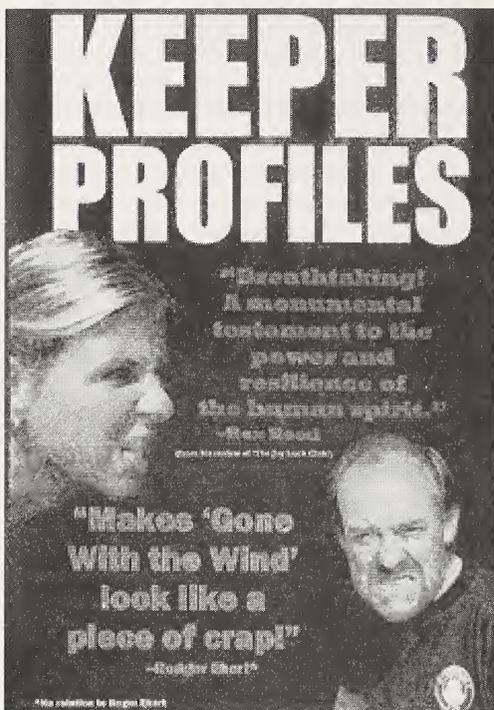
We would like to see enrichment that encourages species specific behaviors and innovations in training that help facilitate husbandry and specific conditions. All submissions will be put onto one comprehensive CD. A complementary CD will be given to each facility that contributes a video. Please plan on having a representative present during video night to narrate your facility's submission. Submissions are **due by August 1, 2008** and should be sent to:

Rachel Daneault
1200 N. Savannah Circle E.
Bay Lake, FL 32830

You will be notified prior to the conference if your video is selected to be viewed at video night. Please contact Rachel Daneault rachel.b.daneault@disney.com or Nikki Bowens rhinogirl1@yahoo.com if you have any questions.

2007 AAZK Conference Proceedings Now Available for Download

The papers, posters and workshop summaries from the Galveston, TX 2007 National AAZK Conference are now available to download from the Member's Only Section of the AAZK website (www.aazk.org) They are available either as a complete download of all materials or as individual papers in pdf format. Proceedings will not be published in hard copy, so this will be your only way to access these materials. If you are not currently registered on the Member's Only Section of the AAZK website, you are encouraged to do so soon. You must be a current member of AAZK, Inc. in order to gain access to this section. Besides the Conference Proceedings, there is also lots of other good information available only to AAZK members in the Member's Only Section. See Scoops & Scuttebutt from the March 2008 issue of *AKF* for further information on what is currently available there. The AAZK Board, Staff and Committees will continue to add information to this section. So check back often to see what's new!



You've Heard About It!
 You've been looking for it!
 Here it is!

Keeper Profiles - The hilarious DVD that combines the original film clips that dissect the personalities of your fellow keepers with outtakes and other footage. Produced by the Southern Ontario AAZK Chapter, all profits from the sale of this DVD go to support AAZK, Inc. and its projects and programs.

\$15.00 U.S. and Canada
 (includes shipping and handling)
 \$17.00 International
 (includes shipping and handling)

Order from the AAZK website at www.aazk.org (under New Merchandise) OR purchase with Visa or Mastercard by calling the AAZK Administrative Offices at 785-273-9149.

Conservation/Legislative Update

Column Coordinators: *Becky Richendollar, North Carolina Zoo*
and *Greg McKinney, Philadelphia PA*

This month's column was put together by
column co-coordinator *Becky Richendollar*



Panda Sexercise - Plans are underway to build the world's largest panda (*Ailuropoda melanoleuca*) breeding center in southwest China. The center, which will be able to house up to 200 pandas, will be an extension of the already existing Wolong Nature Reserve. The Reserve is China's largest sanctuary for pandas.

Pandas are notoriously poor breeders and officials at the Wolong Nature Reserve are brainstorming ways to tackle this problem. Chinese officials are using measures as extreme as "panda porn" and "sexercises" in which male pandas walk bipedally to strengthen their pelvic and hip muscles. At the end of last year, the Wolong Nature Reserve had bred 130 pandas from an original 10 animals. Officials there hope that their new breeding center will enable them to continue this trend. *Source: AFP - 4-21-08*

"Semi-pro" Star Grizzly Kills Trainer - In late April, a grizzly bear (*Ursus arctos*) attacked and killed one of its trainers. The bear, that recently made an appearance in the Will Ferrell film "Semi-pro", killed 39-year-old Stephen Miller, an experienced handler and one of the bears' trainers. The attack, which occurred at the Predators in Action Wild Animal Training Center in California, ended with the use of pepper spray. However, it was too late for paramedics to revive Stephen Miller. The bear, named Rocky, weighs 700 lbs. and stands over seven feet tall. In addition to Rocky, the center also trains lions, tigers, leopards, cougars, and wolves for use in films and advertising. The State Department of Fish and Game and Occupational Safety and Health Administration are investigating the incident. *Source: AP 4-23-08*

With His 15 Minutes Past, Knut May Have Issues - One year ago, Knut the abandoned polar bear (*Ursus maritimus*) cub made headlines worldwide. As the bear has grown into a 350-lb adolescent, German media has taken issue with everything from Knut's weight to his sexuality. But the question that is asked the most often is how being hand-raised by keepers would affect Knut as he grew up.

Knut and his primary handler, Thomas Dörflein brought in an estimated \$8 million in extra revenue for the Berlin Zoo last year. But Knut's popularity has waned as another new star has come on the scene. Flocke, or Snowflake, was introduced to the public in April at the Nuremberg Zoo. Now large groups of spectators are flocking to that zoo to meet the new cub.

But experts continue to focus on Knut's welfare. "With Knut, it's clear that he has imprinted on humans, and when neither his keeper nor visitors are there he cries out," said Thomas Pietsch, a biologist for the animal-welfare group Four Paws in Germany.

Andre Schüle, a veterinarian at the Berlin Zoo, discounted concerns about Knut's health. "I am very, very pleased about his development," said Mr. Schüle. And even though "the cuteness factor is falling", Knut remains a healthy polar bear.

Source: New York Times, April 30, 2008



Scientists Shocked by Road Kill Stats - Researchers at Purdue University recently uncovered some shocking statistics about road kill, saying that traffic fatalities may be contributing to the decline of entire populations of species. This is especially noticeable among amphibians.

The research was conducted over a period of one year on four roads in Indiana. The roads, which covered 11 miles, ran through both urban and rural areas. To find their data, researchers drove slowly in marked vehicles and stopped at each road kill. They used GPS units to note each spot.

During their survey, the researchers found 10,500 dead animals representing 69 species. Ninety-five percent were reptiles and amphibians, with frogs (often too damaged to identify at the species level) at the top of the list. The most frequently listed mammals were opossums and the most often found bird were chimney swifts. Also found were the bodies of shrews, skunks, voles, muskrats, mice, raccoons, squirrels, Eastern cottontails, song sparrows, European starlings, American robins, turtles and snakes.

The majority of vehicle-induced deaths occurred from July through September during periods of high temperatures and rainfall. The researchers suspect the birds of flying too low to chase insects. The amphibians and mammals appear to have been drawn by water sources lying close to the road, or they were hit while trying to cross roads that cut through their habitat.

Co-author David Glista said, "I think most of the problem is habitat-driven — no pun intended — especially when roads bisect prime habitat." He added that amphibian deaths were highest on a road that cut a wetland in half. *Source: Discovery News, 4-17-08*

Naked Penguin Gets New Threads - Biologists at the California Academy of Sciences are helping one African penguin keep warm. Pierre, a 25-year-old Jackass penguin (*Spheniscus demersus*) started to go bald, leaving him with an exposed, pale pink backside.



Photo: California Academy of Sciences

Without the aid of his waterproof feathers, Pierre was unable to dive into the penguin tank at the Academy. He would shiver on the side of the pool while his 19 fellow penguins played in the water.

"He was cold; he would shake," said Pam Schaller, a senior aquatic biologist at the academy.

After trying a heat lamp to keep Pierre warm, Schaller came up with the idea to try a wetsuit. She contacted staff at Oceanic Worldwide, a supplier of dive gear. They were happy to help.

The suit, which fastens with Velcro® and covers Pierre's torso, has small openings for the bird's flippers.

"I would walk behind him and look at where there were any gaps, and cut and refit and cut and refit until it looked like it was extremely streamlined," Schaller said.

After being outfitted with the suit, Pierre has gained weight and grown back some feathers. Schaller can't say for sure whether the wetsuit allowed Pierre to recover his feathers, but "certainly we were able to keep him comfortable during a period of time that would have been very difficult for him to stay comfortable."

With his plumage restored, Pierre is being weaned off the suit, taking more and more dips in the buff. *Source: Associated Press, 4-25-08*

Research Finds Baby Birds Begin by Babbling - As any parent can tell you, human babies spend much of their time playing with their voices, babbling away as they prepare to learn the intricacies of speech. New research shows that young birds behave in much the same way.

Researchers at the Massachusetts Institute of Technology studied the brains of baby zebra finches (*Taeniopygia guttata*) as they learned the song they would use as adults. The researchers reported that the baby birds incessantly practiced making various sounds, while adult birds produce a very specific song pattern. This babbling emphasizes the important role that play activities can have in learning.

Researchers did find one important distinction between baby zebra finches and human babies. They found that one part of the finch brain produces the adult song, while the babbling was controlled by a different part of the brain.

“In birds, the exploratory phase ends when learning is complete. But we humans can always call upon our equivalent of LMAN, the prefrontal cortex, to be innovative and learn new things,” noted one of the research team members. *Source: Associated Press, 5-1-08*

Injured Eagle to Get Prosthetic Beak - Beauty, a seven-year old bald eagle (*Haliaeetus leucocephalus*) living in Idaho is about to get a new lease on life. The eagle’s beak was shot off years ago, leaving her disfigured and unable to care for herself.

“For Beauty it’s like using only one chopstick to eat. It can’t be done” said biologist Jane Fink Cantwell, who operates a raptor recovery center. “She has trouble drinking. She can’t preen her feathers. That’s all about to change.”

Cantwell has spent the past two years assembling a team to design and build an artificial beak. “She could not survive in the wild without human intervention,” Cantwell said.

The eagle was found at a landfill in Alaska in 2005, slowly starving to death while she scrounged for food.

Most of her curved upper beak had been shot away, leaving her tongue and sinuses exposed. She could not clutch or tear at food. Beauty was taken to a bird recovery center in Anchorage, where she was hand-fed for two years while her caretakers waited in vain for a new beak to grow. In 2007 Beauty was taken to Cantwell’s Birds of Prey Northwest ranch in Idaho.

Soon after, Cantwell met mechanical engineer Nate Calvin during a speaking engagement in Boise. Calvin offered to design an artificial beak. A dentist, veterinarian and other experts also volunteered to help. Molds were made of the existing beak parts and scanned into a computer, so the bionic beak could be created as accurately as possible.

A successful attachment of a prosthetic beak is rare but not unprecedented, said Dr. Julia Ponder, executive director of The Raptor Center at the University of Minnesota.

“Not enough of these have been done out there to say, ‘yes, it can be done successfully,’” Ponder said. “Whether or not it will be functional is a question.”

Shooting a bald eagle, though they are no longer on the Endangered Species List, remains a violation of federal law. *Source: Associated Press, 5-5-08*

Trapped Sea Lions Shot - For years, the sea lions at Bonneville Dam on the Columbia River have had their pick of salmon waiting to go up fish ladders to spawning grounds. After pressure from fisherman and American Indian tribes who sought to protect the salmon, Washington and Oregon were granted federal authorization to capture or kill up to 85 sea lions a year for five years at the base of the dam.



Photographer: Young Kawak

For one gunman, however, these measures were not enough. In early May, a gunman shot and killed four California sea lions (*Zalophus californianus*) and two Steller sea lions (*Eumetopias jubatus*) as they lay in traps set to humanely capture and relocate them.

State and federal authorities were investigating the shootings, and trapping has been suspended for the investigation. In the meantime, the Humane Society of the United States has gone to court to challenge the authorization allowing the capture of the animals. Until a judge rules, no animals may be legally killed. *Source: Associated Press, 5-5-08*

Lautenberg Introduces Bill To Prohibit Inhumane Killing Of Animals - U.S. Sen. Frank R. Lautenberg (D-NJ) has introduced legislation that would prevent importing and confining exotic animals for the purpose of hunting. This type of hunting, commonly known as “canned hunting,” is a brutal practice of placing an animal in an enclosure that severely limits its ability to escape.

“There is nothing sportsmanlike or skillful about shooting an animal that cannot escape. The idea of a defenseless animal meeting a violent end as the target of a canned hunt is, at the very least, distasteful to many Americans,” said Sen. Lautenberg. “Canned hunting is a form of brutality that has no place in our society.”

The Humane Society of the United States estimates that more than 1,000 canned hunting ranches offer non-native animals as targets in at least 28 states. And prices for these animals depend on their rarity, ranging from \$800 for a gazelle to up to \$8,000 for an antelope. Many states have made canned hunting illegal.

Lautenberg’s legislation, the Sportsmanship in Hunting Act of 2008, prohibits the transfer, transport, and possession of a confined exotic animal for the purpose of killing it for trophy or entertainment. The bill applies only to exotic (non-native) mammals in areas smaller than 1,000 acres.

Lautenberg’s bill does not regulate the hunting of native mammals, such as white-tail deer; nor does the bill regulate the hunting of any birds. Additionally, the measure does not regulate the hunters who patronize canned hunt facilities; merely the conduct of persons who operate canned hunts or traffic in exotic mammals used in such hunts. The Lautenberg legislation will have no effect on cattle ranching, the hunting or breeding of any animals that live in the wild in the United States, rodeos, livestock shows, petting zoos, or horse or dog racing. *Source: Senator Lautenberg’s Office Press Release, 4-14-08*

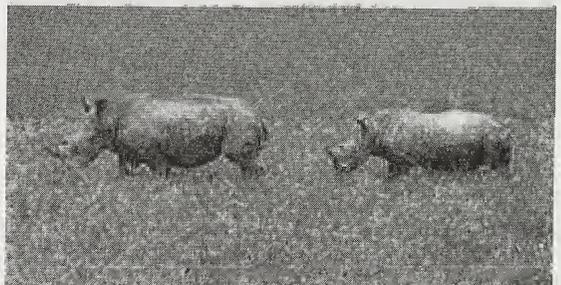
Northern White Rhinos Near Extinction - It has been coming for a long time – the first extinction of what zoologists refer to, ironically, as the Charismatic Megafauna, the group of big wild animals that have always captured our imagination, from lions and tigers to elephants and giraffes.

And if it cannot be stopped by the revolutionary technique that we report on today, the disappearance of the northern white rhino (*Ceratotherium simum cottoni*) will mark a milestone in man’s unhappy impact on the natural world.

It will show that, despite the most tremendous conservation efforts, some of the great beasts of the Earth simply cannot be saved.

The moment may nearly be here. The northern white rhino is a creature that is now as close to the brink of extinction as it is possible to get without toppling over, with perhaps as few as three animals left in the wild, and a tiny population of less

Photo: www.biaza.org.uk/ A& S Toon



than a dozen held in zoos across the US and Eastern Europe, which is probably non-viable from a breeding point of view.

The wild animals have the misfortune to exist in a single site, the Garamba National Park, which lies in one of the most war-torn countries in the world, the Democratic Republic of the Congo (DRC), near the border of another such ravaged land, Sudan.

The collapse of civil order in so much of Africa in recent decades has been the bane of this species, which, besides the DRC, once ranged over north-west Uganda, southern Chad, south-western Sudan and the eastern side of the Central African Republic.

As late as the early 60's, there were thought to be about 2,000 northern white rhinos left but, during the next 20 years poaching started to take a toll, and eventually devastated the population until, by 1984, the numbers were down to 15. The poaching was driven by a specific demand – for rhino horn, which was used to make dagger handles in Yemen.

International efforts were then focused on saving the animal and, under a strictly monitored protection regime, the numbers climbed back to about 30 by 1993. But then the Rwandan genocide spilled over into civil war in the DRC, and preserving wildlife became both a much lower priority for the Congolese government and a much more dangerous affair for park wardens.

Several of the guards at Garamba have been killed in clashes with poachers, and the enforcement regime in this desperately poor country has simply not been able to prevent the rhino's slide towards extinction. *Source: TheIndependent.com Michael McCarthy, Environment Editor, 4-18-08*

Mythical Giant Turtle Found in Vietnam - Researchers from the Cleveland Metroparks Zoo have discovered a rare giant turtle in northern Vietnam, giving scientists hope for the species they believed was extinct in the wild. The scientists from the Cleveland Zoo discovered the Swinhoe's soft-shelled turtle (*Rafetus swinhoei*) when they followed up reports from villagers of a mythical creature living in a lake. Vietnamese legend tells of a huge turtle that helped the country fight off Chinese invaders in the 16th century. "This is one of those mythical species that people always talked about but no one ever saw," said the zoo's curator.



"This is an incredibly important discovery because the Swinhoe's turtle is one of the most critically endangered species of turtle in the world," Doug Hendrie, the Vietnam-based coordinator of the U.S. zoo's Asian Turtle Program, said in the statement. "This species has legendary status among the people of Vietnam, so this is perhaps an opportunity for the legend to live on," Hendrie added.

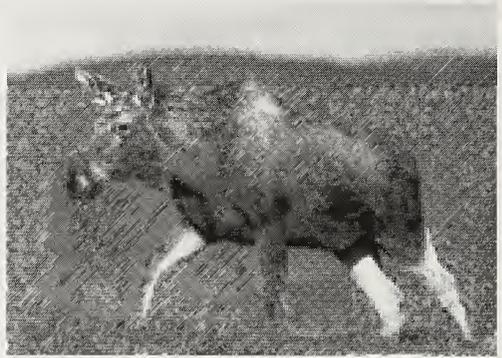
Researcher Tim McCormack of Cleveland Metroparks Zoo declined to provide the name of the lake or give other details of the turtle's location for fear it would be hunted and sold into the wildlife trade. *Source: the NationalLedger.com by Jon Shanks, 4-19-08*

Moose Return to the Highlands After Long Absence - Last seen several thousand years ago loping through the ancient forests and glens of Scotland, two moose have arrived at a remote reserve in the Highlands as part of plans to reintroduce wild animals now extinct in the UK.

The male and female moose are part of ambitious and controversial proposals by a millionaire landowner to recreate an ancient mountain habitat, complete with wolves, lynx and brown bears roaming freely within a vast fenced-off wildlife reserve north of Inverness.

Paul Lister, the son of the founder of the MFI furniture chain, wants to “re-wild” 50,000 acres around his 23,000 acre estate at Alladale to create a safari-style wildlife reserve. The moose are to join a family of wild boar living within a far smaller 500 acre enclosure at the estate where he is already recreating ancient Caledonian forest, planting 80,000 native trees.

He has been keenly pursuing his proposals for several years, but the scheme is attracting substantial opposition. Critics insist his plans are unlikely ever to be realized. It would, they argue, be a giant zoo and would illegally put predators and prey together. A herd of moose, otherwise known as European elk (*Alces alces*), and fenced off wolves already live in a Royal Zoological Society of Scotland wildlife park in the Cairngorms - carefully separated by several large fences.



(Photo: Peter Cairns/PA)

Executives in Scottish Natural Heritage believe releasing wolves would break the key principle in reintroducing wildlife, that it should be socially acceptable. Local farmers are worried these predators would threaten livestock, and Lister has yet to persuade neighboring estates to let him use their land.

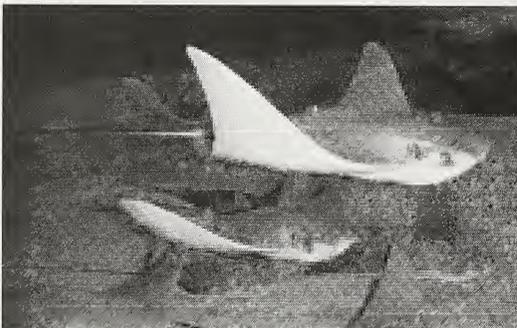
The Ramblers' Association believes Lister's proposals to erect an 85-mile long, three-metre high fence around a 50,000 acre area is a clear breach of Scotland's countryside access laws and would be a blight on the landscape. *Source: guardian.co.uk The Guardian News and Media Limited 2008 4-15-08*

The Ramblers' Association believes Lister's proposals to erect an 85-mile long, three-metre high fence around a 50,000 acre area is a clear breach of Scotland's countryside access laws and would be a blight on the landscape. *Source: guardian.co.uk The Guardian News and Media Limited 2008 4-15-08*

34 Rays Die Mysteriously at Canadian Zoo - Authorities announced on 13 May that they suspect foul play in the recent deaths of dozens of rays at a zoo in western Canada. Staff at the Calgary Zoo are “puzzled and shocked” by the sudden deaths of its rays, said spokeswoman Laurie Herron.

“It's really devastating for the staff that cared for the animals,” she told AFP, calling the deaths “suspicious.”

“We cannot find a reasonable explanation for why this happened,” she said, adding that “activists' groups or individuals who have become more militant” may be responsible. The deaths were “certainly not for lack of care,” Herron said.



(Photo: Calgary Zoo)

According to a zoo statement, keepers noticed the rays swimming erratically on 12 May and observed that they seemed to be in “extreme distress.” By 13 May, 34 of the 43 cownose rays (*Rhinoptera javanica*) were dead. A preliminary examination found that their gills were very irritated, but otherwise, the animals had seemed in good health.

The zoo's director of conservation Cathy Gaviller said there was no mechanical failure in the tank's life support system, and numerous water tests since the exhibit opened

in February were normal. The zoo has sent food and water samples, as well as ray tissue samples to a lab for testing to determine if there were toxins in the water.

“We're still waiting for the latest water chemistry results,” Herron said. The nine surviving rays, meanwhile, were transferred to a separate holding tank and “appear to be doing marginally better today,” she said. *Source: AFP.google.com 5/14/08*

AAZK Membership Application (Please Print)

check here if renewal []

Name _____

Email _____

Mailing Address _____

City _____ State/Province _____ Zip/Postal Code _____ Country _____

U.S. Members
\$40.00 Professional
Full-time Keepers

\$35.00 Affiliate
Other staff & volunteers, or those interested in the profession but not associated with a zoo or aquarium

\$25.00 Student
Must supply a copy of current student ID at time of application

\$65.00 or up - Individuals Contributing/U.S.

\$125.00 or up Institutional/U.S.
(requires Board approval)

\$125.00 Commercial Members
(i.e. Animal-related food & supplies)

International Members
\$55.00 International *All members outside U.S. & Canada regardless of category*

Canadian Members
\$40.00 Professional
Full-time Keepers

\$40.00 Affiliate
Other staff & volunteers or those interested in the profession but not associated with a zoo or aquarium

\$25.00 Student
Must supply a copy of current student ID at time of application

\$65.00 or up - Individuals Contributing/Canada

\$125.00 or up Institutional/Canada
(requires Board approval)

Library Only *Available ONLY to public & university libraries (in U.S.)*
\$40.00 Library

Zoo Affiliation (if any) _____

Zoo Address _____

Title _____

My check is enclosed (AAZK, Inc.)
(U.S. Funds Only)

Please charge my credit card

MASTERCARD VISA Card # _____ - _____ - _____

Name on card _____ Expiration date _____

Signature _____

Mail this application to: AAZK Administrative Offices, 3601 S.W. 29th, Suite 133 Topeka, KS 66614-2054. Make checks/money orders payable to AAZK, Inc. Must be in U. S. FUNDS ONLY. Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free or discounted admission to many zoos and aquariums in the U.S. and Canada.



**AMERICAN
ASSOCIATION**
of ZOO KEEPERS

3601 S. W. 29th St.
Suite 133
Topeka, KS
66614-2054
U.S.A.

Return Service Requested

*"Dedicated to
Professional Animal Care"*

Non-Profit Organization
U.S. POSTAGE PAID
Topeka, KS
Permit # 646



3 9088 01383 2837

*****MIXED AADC 640
9/09 GRP 1
National Zoo Library TRAY 10
Visitors Center - MRC551
P.O. Box 37012
WASHINGTON DC 20013-7012



Animal Keepers' Forum
Anniversary
74 - 2008

