

# FELID TAG TIMES

A quarterly publication of the Felid Taxon Advisory Group of the Association of Zoos & Aquariums

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November 2008  
Felids of Africa

ASSOCIATION  
OF ZOOS &  
AQUARIUMS

## News

### Conference Proceedings

The 2008 Felid TAG Annual Report (Conference Proceedings) was distributed in late October, and can be accessed through the Felid TAG web site.

### Felid TAG Web Site

The Felid TAG web site ([www.felidtag.org](http://www.felidtag.org)) is growing. Please send questions / comments / criticisms to site administrator, Craig Saffoe, at [saffoec@si.edu](mailto:saffoec@si.edu).

### Regional Collection Plan

The AZA's Wildlife Conservation Management Committee (WCMC) did not approve the Regional Collection Plan (RCP) submitted earlier this year, requesting more details on certain conservation programs. A revised RCP will hopefully be submitted by the end of the year.

### Upcoming Conference

The annual Felid TAG Conference will take place April 27 to May 3, 2009. Hosted by Point Defiance Zoo & Aquarium in Tacoma, Washington, the conference will highlight education and veterinary disciplines. Please send speaker suggestions to Karen Povey at [karenp@pdza.org](mailto:karenp@pdza.org). More details to come in January.



### Cheetah and Clouded Leopard Ambassadors

To be sure your ambassador programs with cheetahs and clouded leopards are compliant with USDA policies, schedule a visit from USDA Big Cat Specialist Dr. Laurie Gage and your respective USDA inspector to showcase your program and discuss any perceived issues or concerns with USDA on-site. Contact either Dr. Betty Goldentyer, APHIS/AC Eastern Region, [Betty.J.Goldentyer@aphis.usda.gov](mailto:Betty.J.Goldentyer@aphis.usda.gov), 919-855-7100, or Dr. Bob Gibbens, APHIS/AC Western Region, [Robert.M.Gibbens@aphis.usda.gov](mailto:Robert.M.Gibbens@aphis.usda.gov), 970-494-7478, to set up the visits.



## Calendar

April 27-May 3, 2009

- Felid TAG Annual Conference, Tacoma

### Fishing Cat Now Endangered on Red List

The IUCN reassessed the fishing cat this year and have assigned it an Endangered designation (used to be Vulnerable), due to a significant population decline in most of its Asian range in the past decade. While research efforts have increased, very few records of fishing cats in the wild have been obtained.





### Quarters for Conservation at Cheyenne Mountain Zoo Supports Felid Conservation

In May 2008, the Cheyenne Mountain Zoo began a Quarters for Conservation program to engage visitors in supporting conservation by allocating a portion of the admission fee (\$0.25), membership fee (\$2.50), and educational programs fee to selected projects. With each admission, visitors receive a "quarter" token. At a voting station, they use the token to choose which particular conservation program they will support. Among the conservation programs to choose from are the African Lion Conservation Fund and International Snow Leopard Trust. To date, Quarters for Conservation has raised \$63,900.00! For more information, contact Tracy Leeds at [tleads@cmzoo.org](mailto:tleads@cmzoo.org).

### Ranger Rick Magazine Writes About Cheetah's Best Friend

Don't miss this the October 2008 issue of Ranger Rick Magazine, published by the National Wildlife Federation. In the article "Cheetah's Best Friend", Dr. Laurie Marker, Executive Director of the Cheetah Conservation Fund (CCF), explains lots of fascinating cheetah facts, and the work being done by CCF to conserve the wild cheetah.



Ranger Rick 



### Funds Allocated for Small Cat Reproduction Center

The Cincinnati Zoo & Botanical Garden received a \$1.5 million allocation from the State of Ohio Capital Bill to assist in the development of the Zoo's Cat Canyon/Small Cat Reproduction Center (SCaRCe). The objective of SCaRCe is to establish the first breeding facility dedicated to endangered small cats in any North American zoo. Both small and large cats will be featured in the new Cat Canyon exhibit.

## Conservation Program Updates

### **Black-footed Cat SSP**

Congratulations to the San Antonio Zoo on the recent birth of two kittens. This represents their first births of this species since 1991. Also, congrats to the Riverbanks Zoo on the recent birth of their second kitten to their new pair. Sire 'Alex' was captive born at the Pretoria Zoo while dam 'Hiari' was from the last litter of Riverbanks' prolific pair, now retired at Pittsburgh and Milwaukee. Last, congrats to the John Ball Zoo for the birth of two kittens; the first black-footed cats born at the zoo.



In July, five young black-footed cats (3 males and 2 females) were imported by the Cincinnati Zoo & Botanical Garden and Omaha's Henry Doorly Zoo. These cats are all captive-born offspring (from two litters) of a pair of black-footed cats housed at a private cat facility, the Cat Conservation Trust, in Cradock, South Africa. The sire and dam are unrepresented in AZA zoos so the imported cats represent founders for the Black-footed Cat SSP population. One of the imported females will be paired with the resident black-footed cat male at the Cincinnati Zoo while the other four cats will be paired with unrelated black-footed cats at the Henry Doorly Zoo and possibly other AZA institutions.

The North American population now consists of 18.16.3 (37) cats in 15 institutions and we currently have six institutions that are successfully breeding cats: Omaha, Central Florida, John Ball Zoo, Riverbanks, Kansas City, and San Antonio. Nine pairs are recommended to breed (Omaha, Riverbanks, Cincinnati, Audubon Institute, Santa Barbara, San Antonio, Central Florida, Kansas City and Grand Rapids).

Institutions interested in acquiring cats for exhibit should contact: Steve Wing, SSP coordinator, Louisville Zoo, [steven.wing@louisvilleky.gov](mailto:steven.wing@louisvilleky.gov).

### Creating In Situ – Ex Situ Linkage in Black-footed Cats

In August, an embryo transfer procedure was conducted with a female black-footed cat housed at the Louisville Zoo by scientists from the Cincinnati Zoo and the University of Illinois. Four frozen-thawed black-footed cat embryos were transferred laparoscopically into one oviduct of the synchronized female. Fecal hormone monitoring revealed a prolonged luteal phase but, unfortunately, the female did not become pregnant. However, this first embryo transfer attempt was still noteworthy because of the source of the frozen embryos. To produce these embryos, oocytes were collected from a female black-footed cat at Utah's Hogle Zoo in March 2008 and inseminated with frozen-thawed sperm from a wild, free-ranging male in South Africa. As part of a collaborative field study in 2005, this male had been captured and anesthetized to allow for blood and semen sample collection and then released back into the wild. A similar approach for creating gene flow between wild and captive populations is being attempted with Pallas' cats in Mongolia.



## Ongoing Conservation and Research Programs

Distribution, Habitat Characteristics, and Status of the Black-footed Cat, *Felis nigripes*, in the Northern Cape Province, South Africa—Beryl Wilson (Btech), Alex Sliwa (PhD). Jason Herrick (PhD), Nadine Lamberski (DVM, DACZM)

Analysis and Interpretation of Vaccine Serology in Black-footed Cats—Nadine Lamberski (DVM)

Assistance with this project, which is a partnership between the San Diego Wild Animal Park and Cornell University, is requested.

Reproductive Biology of the Black-footed Cat (*Felis nigripes*) and Sand Cat (*Felis margarita*)—Jason Herrick (PhD)

Reproductive and Health Assessment of Black-footed Cats (*Felis nigripes*) on Benfontein—Jason Herrick (PhD), Nadine Lamberski (DVM), Beryl Wilson (Btech), Alex Sliwa (PhD)



Photo: Alex Sliwa

Prevalence of selected infectious diseases in black-footed cats (*Felis nigripes*) and sympatric carnivores in the Northern Cape—Nadine Lamberski, Alex Sliwa, Beryl Wilson, Jason R. Herrick, Edward J. Dubovi

## Study Results

Amyloidosis in Black-footed Cats (*Felis nigripes*)—Veterinary Pathology 45: 393-400; 2008), K. A. Terio, T. O'Brien, N. Lamberski, T. R. Famula, L. Munson

A high prevalence of systemic amyloidosis was documented in the black-footed cat (*Felis nigripes*) based on a retrospective review of necropsy tissues (n 5 38) submitted as part of ongoing disease surveillance. Some degree of amyloid deposition was present in 33 of 38 (87%) of the examined cats, and amyloidosis was the most common cause of death (26/38, 68%). Amyloid deposition was most severe in the renal medullary interstitium (30/33, 91%) and glomeruli (21/33, 63%). Other common sites included the splenic follicular germinal centers (26/31, 84%), gastric lamina propria (9/23, 39%), and intestinal lamina propria (3/23, 13%). Amyloid in all sites stained with Congo red, and in 13 of 15 (87%) cats, deposits had strong immunoreactivity for canine AA protein by immunohistochemistry. There was no association with concurrent chronic inflammatory conditions (P 5 .51), suggesting that amyloidosis was not secondary to inflammation. Adrenal cortical hyperplasia, a morphologic indicator of stress that can predispose to amyloid deposition, was similarly not associated (P 5 .09) with amyloidosis. However, adrenals were not available from the majority of cats without amyloidosis; therefore, further analysis of this risk factor is warranted. Heritability estimation suggested that amyloidosis might be familial in this species. Additionally, tissues from a single free-ranging black-footed cat had small amounts of amyloid deposition, suggesting that there could be a predilection for amyloidosis in this species. Research to identify the protein sequence of serum amyloid A (SAA) in the black-footed cat is needed to further investigate the possibility of an amyloidogenic SAA in this species.



## **Caracal PMP**

Two caracals currently held at the Johannesburg Zoo may soon need placement once their subspecies is verified. If interested in obtaining these animals, please contact Caracal Studbook & PMP Coordinator, Barb Palmer, at [caracal40@gmail.com](mailto:caracal40@gmail.com).



## **Lion SSP**

The Lion SSP held a master planning session in August at the Tautphaus Park Zoo in Idaho Falls. The focus was on making recommendations, and for those of you that have been following this SSP for a while, the future is looking brighter. Thanks to the aggressive strategy employed by my predecessors, there are lions available for new institutions and those looking to replace their generic lions. Look for the 2008 Lion SSP Master Plan to come out this fall. We will meet again at the Felid TAG Conference and invite everyone to join us.

Over the last 6 months I have made contact with the Institutional Representatives of over 100 AZA institutions holding lions. We are now working on updating the generic lion registry, which will assist us in future planning, so if you currently hold generic lions, expect to hear from the SSP soon. – Hollie Colahan, Lion SSP Coordinator



What does a lioness say to her friends before they go hunting for food?

Let us prey.

## Serval PMP

Currently there are 57.53.0 (110) servals in 52 facilities in the AZA PMP population. The studbook was updated on 7 June 2007 and the second edition of the PMP was published on 3 October 2007. Both can be found on the AZA website.

The PMP recommendations were for 6 breeding pairs and three transfers.

Since January 2008 there have been 3.3.0 (6) births, 1.3.0 (4) deaths, and 3.2.0 (5) transfers into the AZA population. These five transfers were cats that were born in facilities outside the PMP population and transferred to AZA facilities as education/program animals.

Special note: A number of servals continue to be recruited from outside the AZA population and from the private sector (34 since 2002). Most of these cats are brought into AZA zoos as education or program cats. Many of these cats are neutered or spayed so there is little concern of them adding additional unknown genetics to the PMP population. However, they take up important serval spaces. In 2005, 1.1 servals were imported from Africa and in 2006 an additional 3.3 were imported. As these genetically valuable cats reproduce, it will be important to work with the Serval Population Manager to locate known-pedigree specimens and ensure space is available for subsequent offspring. On this note, in the near future I will be looking for facilities wishing to receive servals (2.0) that were born in 2008. Contact Bonnie Breitbeil, Serval Population Manager, at [bonnieb@centralfloridazoo.org](mailto:bonnieb@centralfloridazoo.org) if you are interested in obtaining servals.



Photo: Ray Thomas

## Serval Kittens in Idaho

Three male serval kittens were born August 8, 2008, to a first time mother at the Tautphaus Park Zoo in Idaho Falls. Both parents were imported from South Africa and were bred following a recommendation from the Serval PMP.

## Opportunities & Requests

### Collecting Caracal Information

Gaiot Gioia is a biology student performing an apprenticeship at the Parco Zoo Punta Verde in Italy. As her thesis, Gaiot is collecting information via survey on the behavioral, social, and pathological state of caracals in captivity to inform the creation of husbandry guidelines. The questionnaire was developed in collaboration with the caracal International Studbook Keeper. If you keep caracals at your institutions, please contact Gaiot at [gaiot.gioia@libero.it](mailto:gaiot.gioia@libero.it) for a copy of the survey.

### Servals and Caracals Available for Placement

See Serval PMP and Caracal PMP Updates

### Support the Study of Effects of Bovine Tuberculosis on Southern African Lions

The SSP recently endorsed a conservation project submitted by Dr. Doug Armstrong from Omaha's Henry Doorly Zoo to fund a CBSG workshop investigating the effects of bovine tuberculosis on lions in southern Africa. This is an important project for lion conservation and if you can make a much-needed financial contribution, please contact Dr. Armstrong or Hollie Colahan ([hcolahan@houstonzoo.org](mailto:hcolahan@houstonzoo.org)) for details.

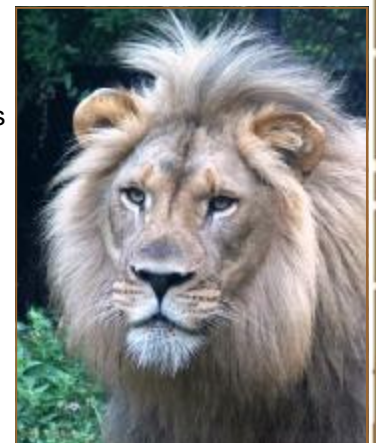


### **Meet Our Cats: Tamarr**

Meet Tamarr, the Akron Zoo's rambunctious three-year-old male lion. Tamarr arrived in Akron from the Cheyenne Mountain Zoo in February 2007 with only a spit-curl mane. Now he's almost full-grown and weighs in at a hefty 400 pounds.

Always playful, Tamarr's favorite enrichment toy is a large Rubbermaid trash can. He carries it around, lays on top of it, and often takes it out on exhibit with him in the morning.

Tamarr is paired with three-year-old female, Shani. Shani came from the Fort Worth Zoo. There is a breeding recommendation for them and the Akron Zoo hopes to have cubs within the next few years.





### Participate in a Cheetah Mate Choice Study

In collaboration with Dr. Bob Lacy and the AZA Population Management Center (PMC), the Saint Louis Zoo is investigating the possible role of mate choice in reproductive success to address the problem of reproductive failure of some individuals recommended for breeding by an SSP or PMP.

If it proves to be an important factor, incorporating mate choice into the breeding recommendations may be possible, within the parameters of good genetic management, to increase reproductive success. Since it would present logistical difficulties in most cases, parallel studies will test whether urine samples can represent the individual odors of the potential breeding partners, an approach that is widely used in rodents.



The Cheetah SSP Management Committee endorsed this project at its fall 2007 Master Plan Meeting at White Oak Conservation Center. One of the goals of this project is to determine if male cheetah urine can be used as a predictor of a female's interest and choice for a potential mate before moving the male or female to that institution. In addition, with a large sample size of known pedigree, we hope this study will reveal whether or not female cheetahs use male urine to select more distantly related mates.

A graduate student at the Saint Louis Zoo has begun recording observations of male cheetah marking sites and collecting male cheetah urine. Various designs for urine collection devices, including PVC tubes or metal funnels attached to marking posts or trees, have been tested. Urine is frozen and stored until needed.

Eventually, the protocols and urine collection devices will be sent to other zoos that have volunteered to participate in the project, including the National Zoo, White Oak Conservation Center, Wildlife Safari, and Fossil Rim. If your institution is interested in participating in this study, please contact Karen Bauman, [bauman@stlzoo.org](mailto:bauman@stlzoo.org), at the Saint Louis Zoo.

- Cheri Asa, Karen Bauman, Steve Bircher

### Support The African Predator Conservation Research Organization

The African Predator Conservation Research Organization (APCRO) is an NGO created in 2004 to focus on the conservation and research of free ranging large carnivores. This organization takes a holistic approach to a variety of integrated conservation principles with the primary focus on veterinary medicine. With the expertise of the founders, which includes over 20 years field and zoo research experience, APCRO was created to move swiftly into a pure research role.

The study species includes the major mammalian carnivores in the sub-Saharan region of Africa, including the African wild dog, lion, leopard, spotted hyena, and side-striped and black backed jackal. The study examines both the inter- and intra-species disease transmission of disease and evaluates the current health of the population on several fronts. By correlating exposure with the determination of overt disease through physical examinations and conducting field post mortems and pathology analysis, we can determine the effects of emerging disease on naïve populations. With the collaboration of several other institutions, we will perform a complete genetic analysis of each species and will relate

disease exposure to both historic and contemporary gene flow.

Through the use of cutting edge satellite tracking collars techniques and utilizing field staff with VHF collars, we can combine

these two technologies to determine geographical areas of intra and interspecies interaction, as well as duration. This will ultimately lead us to the answers of where novel disease exposure may be emerging and what the covert sources are. We can determine which animals are showing an immunological reaction to this exposure and the consequences of the exposure. Using GIS technology in the region, we will be able to determine environmental factors that may alter frequency and duration of interactions. By assessing populations' level of exposure and response to a variety of pathogens in relationship to their genetic health, we will be able to estimate the level of risk for current and future disease exposure. With this information in hand,

conservation managers can better determine steps needed to manage inbreeding, isolation of populations, and any potential steps to take in the presence of an impending disease outbreak.

The African Predator Conservation Research Organization is completely supported by donations from individuals, AZA zoos, and universities, and by conservation grants. Several zoos institutions also provide in-kind support such as supplies, technology, and staff involvement. Learn more at [www.apcro.org](http://www.apcro.org).



## Meet Our Members—Steve Wing



To most of those in the zoo field, Steve Wing is known as the “Bat guy.” (Maybe it has something to do with his last name? But probably because of his enormous interest in bats!) But there is another tiny, nocturnal jewel in which he also has a passion—the black-footed cat.

My first black-footed cat experience was with “Frank,” a ferocious and brave little guy, at the Milwaukee County Zoo in 1986. Later, when I joined the Riverbanks Zoo, I became closely involved in the black-footed cat breeding program. At that time, there were only 17 black-footed cats in eight AZA zoos (and five of those at Riverbanks—with the only breeding pair). I became passionate about the species, knowing that the population was in serious threat of disappearing from zoos, and that we might lose the opportunity to learn about them and share them with our visitors.”

Now, thanks to Steve and a dedicated core of black-footed cat aficionados, including Dr. Alex Sliwa, Dr. Nadine Lamberski, Dr. Jason Herrick, Dr. Karen Terio, Dr. Bill Swanson, Danny Morris and Liz Harmon, the population has grown to more than 40 cats!

### Felid TAG Steering Committee Members

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### Submissions

Felid TAG Times is edited by Shasta Bray, Felid TAG Education Co-Liaison. Please send comments, suggestions, and submissions to [Shasta.bray@cincinnati-zoo.org](mailto:Shasta.bray@cincinnati-zoo.org). Submission deadline for the February 2009 newsletter, highlighting Felids of Tropical Asia, is January 1.