

# FELID TAG TIMES

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

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November 2011

ASSOCIATION  
OF ZOOS &  
AQUARIUMS

### Calendar

July 19 - 21, 2012

- Felid TAG Conference, Utah's Hogle Zoo, Salt Lake City, Utah

### Felid TAG News

#### Puma SSP Program Coordinator Receives Award

Congratulations to Michelle Schireman, Oregon Zoo, who was awarded the National American Association of Zoo Keepers (AAZK) Merit in Conservation Award! This award recognizes Michelle's hard work and commitment to the Puma conservation program and her perseverance in locating appropriate permanent homes for wild orphaned cougar cubs. Over the past nine years, Michelle has worked with state Fish and Wildlife departments to place over 50 orphaned cubs in zoo facilities throughout the United States.



#### Fishing Cats Born at Columbus Zoo and Aquarium

Three fishing cats were born at the Columbus Zoo and Aquarium on July 29, 2011. The kittens, two males and one female, are being cared for by their mother. This is the first offspring for this pair of fishing cats that came to the Columbus Zoo in 2010 as part of the Species Survival Plan for these endangered animals. Mom, Parvatti, came to Columbus Zoo and Aquarium from Topeka Zoo on July 15, 2010. Parvatti is a six year old female born at Minnesota Zoo. She had never bred prior to coming to Columbus, having been housed with her sister. The father, Rybar, is a five year old male that came to Columbus from the Omaha's Henry Doorly Zoo. Rybar was born in the Czech Republic so his bloodlines are very important to the U.S. population. Infrared cameras recorded activity in the den and nest box so keepers were able to observe and record changes in behavior and view the birth itself. Keepers worked



with Parvatti to desensitize her while being locked out of the den area even before she was pregnant. Having this as part of the routine enabled us to perform a physical examination on the kittens at 24 hours. Routine and training has enabled the keepers to continue to lock her out of the den to weigh the kittens daily. Developmentally, the kittens are playing in a shallow pool and practicing their climbing skills; they are sharing meat and fish with their mother.

#### New Felid TAG Conservation Projects Web Page

The Felid TAG In Situ/Ex Situ Conservation Survey, which lists current felid conservation projects, is maintained by the Columbus Zoo and Aquarium. It can now be accessed at <http://felidtag.columbuszoo.org>. (The official Felid TAG web site remains at [www.felidtag.org](http://www.felidtag.org).)

## Amur Tigers Go Green!

The final 2011-12 Breeding and Transfer Plans have now been distributed for Amur, Malayan, Sumatran, and generic tigers, and the Amur Tiger SSP has now been elevated from a Yellow to a Green SSP.

## Tiger SSP Breeding Success Study

Understanding the factors that influence breeding success in different species will help SSPs improve the sustainability of their programs and make more informed decisions about breeding recommendations. Breeding success in some Tiger SSP populations has declined over time, but also varies greatly from year to year. To better understand breeding success in tigers, the Tiger SSP is investigating which factors are critical to successful tiger reproduction, using long-term breeding recommendation data and hormonal analyses. Using logistic regression analysis of data from 438 breeding recommendations since 1989, we have examined which factors influenced whether individual breeding recommendations resulted in a pregnancy or litter within one year. Female age had the strongest effect, with older females much less likely to be successful. Whether the female and male were prior breeders also had significant positive effects, and pairs that were already present at the same zoo were significantly more likely to breed successfully within one year. Male age and the experience level of the zoo (measured as whether or not the zoo had produced a tiger litter within the last five years) did not have significant effects on breeding success. Our model was designed to be used at the Tiger SSP meeting when making decisions about breeding recommendations, and can easily be used to predict breeding success for a potential pairing. This prediction can then be entered into PMx population management software to better estimate the number of breeding pairs needed to meet the program goal for the next year. This model was employed at the 2011 Tiger SSP meeting, with the predicted likelihood of success (within the next year) for individual pairings ranging from 1% to 56%. Further data are being compiled to analyze additional factors, which may suggest management strategies to improve breeding success.

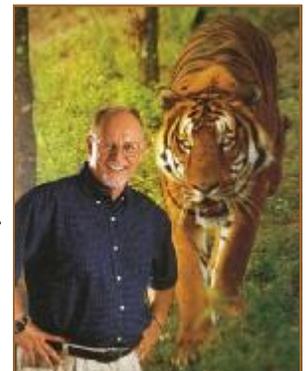
Given that female tiger age is the most influential factor identified in the analysis of breeding success, we also seek to understand if/how female hormone profiles change across the age spectrum. With the help of over 30 participating institutions, we have obtained at least three months of estradiol data each for >40 female tigers. We restricted our analyses to females that had not been contracepted, reducing our sample size to 16 adult female tigers below age 10 (“young”) and 17 female tigers age 10 or above (“old”). For each female, we identified estradiol peaks using an iterative process in which high values were identified if they exceeded the mean + 2.576 SD (i.e., 99% confidence interval). The



remaining values were averaged to determine baseline levels. We found no significant difference in baseline estradiol levels between young and old female tigers. All young female tigers had at least one estradiol peak within a three-month sampling period, whereas this was the case for only 70.6% of old female tigers. Half of young females had multiple estradiol peaks within a three-month period, compared to 41% of old female tigers. These results indicate that there may be some differences in cyclicity for young vs. old female tigers, but some older females clearly continue to cycle, even at age 15. There are likely other reasons, as well, for low breeding success in older female tigers. Future analyses will investigate the extent to which ovarian cyclicity (or lack thereof) influences tiger breeding success.

The Tiger SSP's Breeding Success Study is being conducted by Tara Harris, Kathy Traylor-Holzer, Karen Goodrowe Beck, and Jonathan Ballou, with assistance from Brookfield Zoo's endocrine lab (Nadja Wielebnowski and Jocelyn Bryant), Kevin Willis, and Mara Chin-Purcell. Funding for this study was generously provided by Riverbanks Zoo and the Minnesota Zoo. The Tiger SSP thanks the more than 30 institutions that have participated in the hormone analysis portion of the study, as well as the many institutions that have provided information about their breeding recommendations for this study.

Farewell to Ron Tilson  
Dr. Ron Tilson, who coordinated the Tiger SSP for nearly two decades, was an internationally renowned tiger expert, and served as the Minnesota Zoo's Director of Conservation since 1990, retired in April 2011. Starting in 1995, Tilson coordinated the decade-long Sumatran Tiger Conservation program, which integrated assessments of tiger habitat and prey, tiger-human conflict, anti-poaching patrols, and undercover investigation of trafficking on the island of Sumatra. Since 2000, he served as the senior technical advisor to the State Forestry Administration of China to develop wilderness-based recovery options for South China tigers. For work in tiger conservation, Tilson and his colleagues were awarded the international conservation award by AZA in 1995 and 2004; the significant achievement award in 1993 and 1998; and the Edward Bean award in 1994. Tilson also served as a steering committee member for the Felid TAG, was a member of the IUCN Cat Specialist Group, and co-edited the 1987 and 2010 editions of the book, "Tigers of the World". The Tiger SSP thanks Dr. Tilson for his service and his devotion to securing a future for tigers.



Tiger SSP Website  
The Tiger SSP has a new website: [www.mnzoo.org/tigerssp](http://www.mnzoo.org/tigerssp), with information for AZA professionals as well as the public. Zoos with tiger news can send links to Tara Harris, Tiger SSP Coordinator, for posting on the news page. The Tiger SSP requests zoos with web pages about their tigers to consider adding a link to the Tiger SSP website.

### Announcing the Tiger SSP Education Advisor

The Tiger SSP is pleased to welcome Ally Amavisca, Family Programs Coordinator at the Phoenix Zoo, to her post as the new Tiger SSP Education Advisor.

### Tiger Conservation Campaign

The Tiger SSP has decided to initiate a Tiger Conservation Campaign to encourage zoos to support wild tiger conservation efforts and raise awareness about wild tigers. There are an estimated 3,500 tigers remaining in the wild, with fewer than 500 each for the Amur, Sumatran, and Malayan tiger subspecies. At last November's Tiger Summit in St. Petersburg, Russia, representatives from all 13 tiger range states agreed to a Global Tiger Recovery Plan that aims to double the number of wild tigers by 2022, the next "Year of the Tiger". Implementing the first five years of this plan is estimated to cost \$350 million more than what is currently being invested in tiger conservation.



Briefly, the idea is to have an annual campaign loosely organized by the Tiger SSP, but personalized by individual zoos to raise funding and awareness. Education materials and information about tiger conservation projects will be provided to participating zoos. The Tiger SSP (through the Minnesota Zoo Foundation) will bundle the funds, to highlight the collective efforts of zoos to support tiger conservation, and send them to the supported projects. Though the Tiger SSP recognizes that many organizations and researchers are conducting important conservation efforts for tigers, it has decided to support the tiger conservation projects of the Wildlife Conservation Society (WCS), WCS has well-respected projects on all three Tiger SSP-managed subspecies and is affiliated with the Bronx Zoo, a Tiger SSP member institution. Participating institutions will be able to choose among at least two projects/efforts for each subspecies—Amur, Malayan, and Sumatran. Project updates will be provided to participating zoos, and the Tiger SSP will highlight participants' efforts through its website, presentations at conferences, and other formats. The Tiger SSP is currently working to refine the Tiger Conservation Campaign for initiation in 2012.

### Matobo Hills Biodiversity Project Leopard Study Update

This past summer, Carnivore Research Institute staff spent two weeks in the Matobo Hills continuing the leopard study portion of the Biodiversity Project (see August 2011 Felid TAG Times for background on this project.).

Drop door traps were placed in two areas that were determined to be high traffic areas by leopards. These areas were determined during camera trap operations the field team conducted in April and May of 2011. The temperatures of the study area were unseasonably cold for the majority of the study period. Grass fires were frequently encountered and thatch harvesting was current taking place within the

Matobo Hills. Three camera traps were placed in the Game Park within the Matobo Hills to help determine another trapping site. The team will continue with the trapping of leopards at the two established sites. GPS collars are programmed and ready to be placed on a trapped leopard to establish movement patterns. Leopard scat was collected opportunistically from roads and rock formations. The scat will be dried and their contents analyzed to determine prey species of the leopards. Ten samples were collected in the two week period.

The team identified recognized prey species of leopards and did road counts to determine availability of prey items for leopards and other predators. The dassie (rock hyrax) population was prevalent. Numerous young were observed indicating breeding success of a major prey item for the carnivores of the Matobos.

### Program Success is Rather Cloudie

The Clouded Leopard SSP® has had some recent success with the births this year of eight clouded leopard (*Neofelis nebulosa*) cubs! Between March and June 2011, three facilities, Smithsonian Conservation Biology Institute, Nashville Zoo and Point Defiance Zoo & Aquarium, have all produced cubs from five pair of clouded leopards. This was a first time reproduction for three of these pairs. (The story of two of these cubs born at point Defiance Zoo was highlighted in the August 2011 edition of the Felid TAG Times).

While success in reproducing clouded leopards can be challenging enough on its own, these institutions worked together to time the births to occur within a couple months of each other and miraculously they managed to produce an even sex ratio of 4.4 cats! The current philosophy is to pair clouded leopard cubs at young ages so the coordination of births to accommodate these future pairings can be very important. These eight cubs have been hand reared and transfers between the three facilities have just occurred to begin forming the future breeding pairs. Once these cubs have been introduced, the pairs will be transferred to their permanent homes within the SSP.

All eight of these cubs are descendants from cats managed through the Clouded Leopard Consortium in Thailand (CLC). The CLC, initiated in 2002, was established between the Zoological Park Organization of Thailand, Smithsonian's National Zoological Park, Nashville Zoo, Point Defiance Zoo & Aquarium and the Clouded Leopard Species Survival Plan®. This program relies heavily on support from AZA partners and contributions to this program are always welcome. Facilities that are requesting young breeding pairs have pledged their support and contributed financially to this valuable program.



With the continued support of AZA facilities and the hard work and successes of our colleagues both in Thailand and in the US, it looks as if the forecast for the future of this program may be quite cloudie!

Photo: Ken Lang, Smithsonian Conservation Biology Institute, up to his ears in clouded leopard cubs!

### Interested In Exhibiting Caracal?

The Caracal Yellow SSP is looking for more zoos interested in exhibiting and possibly breeding this charismatic cat. There are currently cats available for display and some have good breeding potential. These cats display well and do well in a variety of enclosure types. For more information, contact Barbara Palmer, Caracal Yellow SSP Program Manager: [BarbaraP@sfzoo.org](mailto:BarbaraP@sfzoo.org).



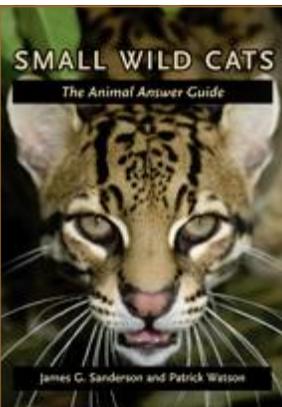
### **Other Felid News**

#### Small Wild Cats Book Published

The book, Small Wild Cats: The Animal Answer Guide by James G. Sanderson and Patrick Watson, was published by The Johns Hopkins University Press in August. The book summary follows.

“Did you know that most wild cat species are small and that lions, tigers, and other large cats are the exception? That adult bobcats, clouded leopards, and other small wild cats are completely asocial? And that they fight only as a last resort? This entertaining and informative book reveals these and hundreds of other facts about the behavior, biology, and conservation of the more than 30 small wild cat species.

From bobcats to servals, small cats are spread across the globe. They range in size from the rusty-spotted cat and African black-footed cat, each of which weighs around 5 pounds when fully grown, to the Eurasian lynx, which can reach an adult weight of 60 pounds. These felids are elusive, some are nocturnal, others are arboreal, and all are rare and secretive, making them especially difficult to study. James G. Sanderson, the world's leading field expert on small wild cats, and naturalist and wildlife artist Patrick Watson provide informative and entertaining answers to common and unexpected questions about these animals. The authors explain why some small cats live on the ground while others inhabit trees, discuss the form and function of their coat types and colors, offer scientifically sound information on human–small wild cat interactions, and even review the role that small wild cats have played in literature, religion, and mythology.



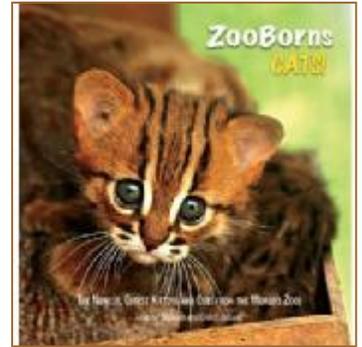
The world of cats is as fascinating as it is diverse. *Small Wild Cats: The Animal Answer Guide* shows just how important and interesting the littlest of the nondomesticated feline family are.”

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### ZooBorns Cats! Book Published

Check out the new ZooBorns Cats!: The Newest, Cutest Kittens and Cubs from the World's Zoos by Andrew Bleiman and Chris Eastland available for purchase on November 1, just in time for holiday gift-giving.

“ZooBorns showcases the newest and cutest animal babies from accredited zoos and aquariums around the world. With interesting animal facts and background stories on the featured babies, *ZooBorns* illustrates the connections between zoo births and conservation initiatives in the wild.”



### Shop for Snow Leopards

Looking for a one-of-a-kind gift that gives back this holiday season? Check out the Snow Leopard Trust's online shop ([www.snowleopard.org/shop](http://www.snowleopard.org/shop)) for handcrafted gifts, holiday cards, clothes, and more. Your purchases help protect snow leopards and improve the lives of impoverished families.



**Snow  
Leopard  
Trust**

### Tragic Animal Deaths in Ohio May Lead to Strengthened Regulation of Exotic Animal Ownership

On October 18, 2011, Terry Thompson, owner of a 73-acre private farm in Zanesville, Ohio, set loose 56 exotic animals before committing suicide. Sheriff's deputies shot and killed 48 of the animals, including 18 rare Bengal tigers, 17 lions, six black bears, two grizzly bears, a baboon, a wolf, and three mountain lions. Six of the released animals - three leopards, a grizzly bear, and two monkeys - were captured and taken to the Columbus Zoo.



The tragedy has spurred a public outcry and plea for stronger restrictions on exotic animal ownership. Ohio is one of only a handful of states that has no license or permit requirements for the possession of exotic animals.

Since the Zanesville incident, Ohio governor John Kasich has signed an executive order that calls on local officials to aggressively enforce animal welfare laws already in place. The governor also plans to introduce a new bill by November 30 that regulates dangerous, non-native animals.



### Meet Our Cats: Larry

Meet Larry, a 16-year old bobcat from the Salisbury Zoo. Larry is hard to impress when it comes to enrichment items, but when his keepers introduced bison fur into his enclosure, he went wild rolling around on it and rubbing his face in it. The next morning, the keepers found bits of bison fur strewn all over the enclosure. Larry also gets excited by the scent of oregano and can be quite possessive of his rope ball.



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Happy Holidays!

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Jaguarundi Phase-in  
 Caracal Yellow SSP  
 Serval Yellow SSP  
 Fishing cat Red Program  
 Amur leopard Yellow SSP  
 Canada lynx Yellow SSP  
 Lion Green SSP  
 Cheetah Yellow SSP  
 Snow leopard Yellow SSP  
 Sand cat Red Program  
 Ocelot Yellow SSP  
 Pallas' cat Red Program  
 Puma Yellow SSP  
 Clouded leopard Yellow SSP  
 Bobcat Yellow SSP  
 Tiger Yellow SSP  
 Jaguar Red Program  
 Black-footed cat Yellow SSP

### 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 2012 issue is January 3.