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# CONNECT

November 2009

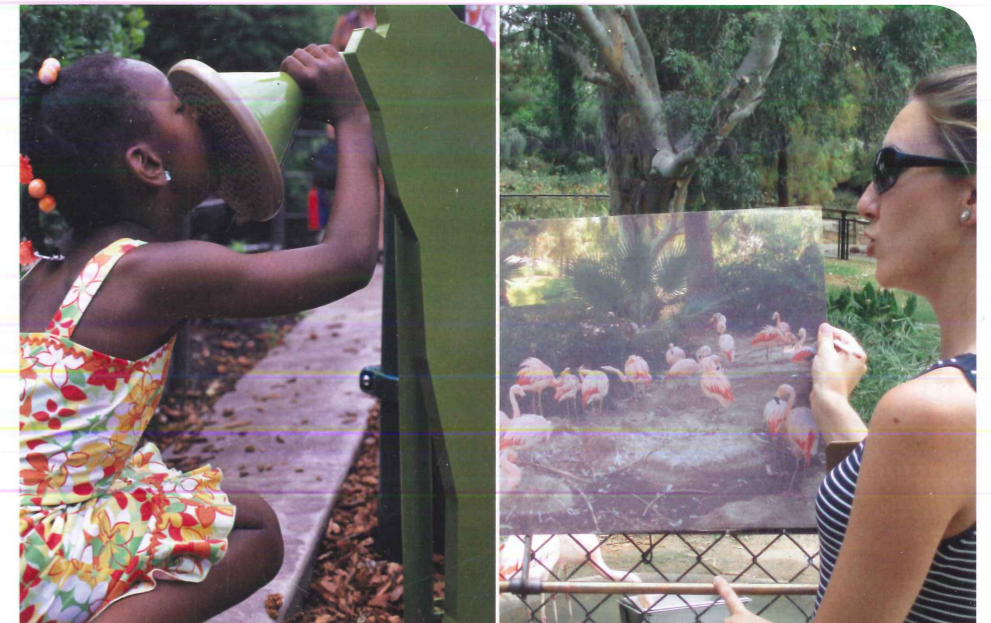
ASSOCIATION  
OF ZOOS &  
AQUARIUMS

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## ON THE COVER

One of only five zoos in the U. S. that are home to sifaka, the birth of this baby Coquerel's sifaka is a major milestone for the Houston Zoo. There are nine living species of sifaka. Their range is not very broad and their numbers are not very large, so sifakas appear as endangered on the IUCN Red List of Threatened Species.

STEPHANIE ADAMS © HOUSTON ZOO



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## COMMITTEE UPDATE



Over the past year the CEC developed an education strategic framework focusing on two overarching themes – visitor studies and nature/conservation-based programs.

First, the CEC is committed to developing and implementing research that builds understanding of our visitor/audience attitudes about nature. The purpose of these studies is to facilitate the creation of educational experiences that increase the impact of zoo/aquarium experiences and shift public behaviors towards achieving measurable conservation outcomes. The CEC will develop and promote messaging about the results of AZA visitor and general public research projects, such as *Why Zoos and Aquariums Matter*, which can be adapted for use in AZA-accredited institutions to enhance their education and conservation goals.

The second area of focus will be to identify and share best practices in conservation education programming in order to increase the capacity and effectiveness of AZA member educators in connecting people with nature and engaging visitors in conservation action. The CEC will work closely with AZA-accredited zoos and aquariums in the implementation of No Child Left Inside activities and capitalize on related funding opportunities. As well, the CEC will continue its work with the Education Advisor Program for AZA's Animal Programs and will continue to promote best practices in the presentation of program animals.

Facilitating ongoing communication among the AZA education community will remain a focus of our committee, as well as collaborating with relevant AZA committees and other related organizations. Working in collaboration with AZA's Conservation & Education Department, the CEC will promote initiatives that engage kids and families in outdoor, nature-based programs. Part of these efforts includes working closely with AZA's PR and marketing committees to shape the AZA – ecoAmerica partnership. Together we are developing a multi-year, multi-faceted initiative on global climate disruption, building on our strength in connecting large numbers of people to wildlife and habitats and engaging this audience in taking action for positive climate outcomes.

I'd like to thank all of the members and advisors of the CEC for sharing their deep expertise and for their strong commitment to continuously improving conservation education throughout the AZA community. I encourage everyone to utilize and provide feedback on the messaging and materials that we are developing. Finally, the CEC will be meeting at the AZA Mid-Year Meeting in Virginia Beach, Virginia, and I invite all interested AZA members to attend this open meeting and follow our developing plans.

ALLYSON ATKINS

Chair, Conservation Education Committee  
Curator of Education, Disney's Animal Kingdom



You can observe a lot just by watching.

- Yogi Berra



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## SIGNIFICANT EFFORTS IN CONSERVATION

### FIRST SUCCESSFUL REARING OF THE ENDANGERED DUSKY GOPHER FROG

An eight-year effort has yielded a cohort of captive-bred dusky gopher frogs (*Rana sevosia*) at the Memphis Zoo. Wild-caught specimens were first obtained through the U.S. Fish and Wildlife Service by the Detroit Zoo and Audubon Nature Institute in 2001 and by the Memphis Zoo in 2003. The subsequent six years were spent applying various environmental manipulations in an attempt to induce natural reproduction. Some progress was made during these years, but no reproduction occurred. In 2008, using technology developed by Memphis Zoo research staff, the first captive in-vitro fertilization (IVF) and larval rearing was accomplished, but the tadpoles developed deformities and did not survive metamorphosis. Numerous changes in husbandry and larval diet were implemented in 2009, resulting in successful rearing of several dozen IVF tadpoles into healthy frogs. This marks the first time that *Rana sevosia* has been successfully bred and reared in captivity. With fewer than 120 adults surviving in the wild, restricted to a single ephemeral breeding pond, the dusky gopher frog is the most imperiled frog in the U.S. Five zoos – Memphis, Detroit, Omaha, Audubon, and Miami – are working in partnership with the USFWS to save this species from extinction. A Studbook and PMP are currently under development.

### ENDANGERED INDIAN RHINOCEROS BORN AT TAMPA'S LOWRY PARK ZOO

An endangered Indian rhinoceros – also known as the great one-horned rhinoceros – was born on 7 July at Tampa's Lowry Park Zoo to first-time mother Jamie, in her night house within the Zoo's Asian Gardens exhibit area. The Indian rhino birth is the

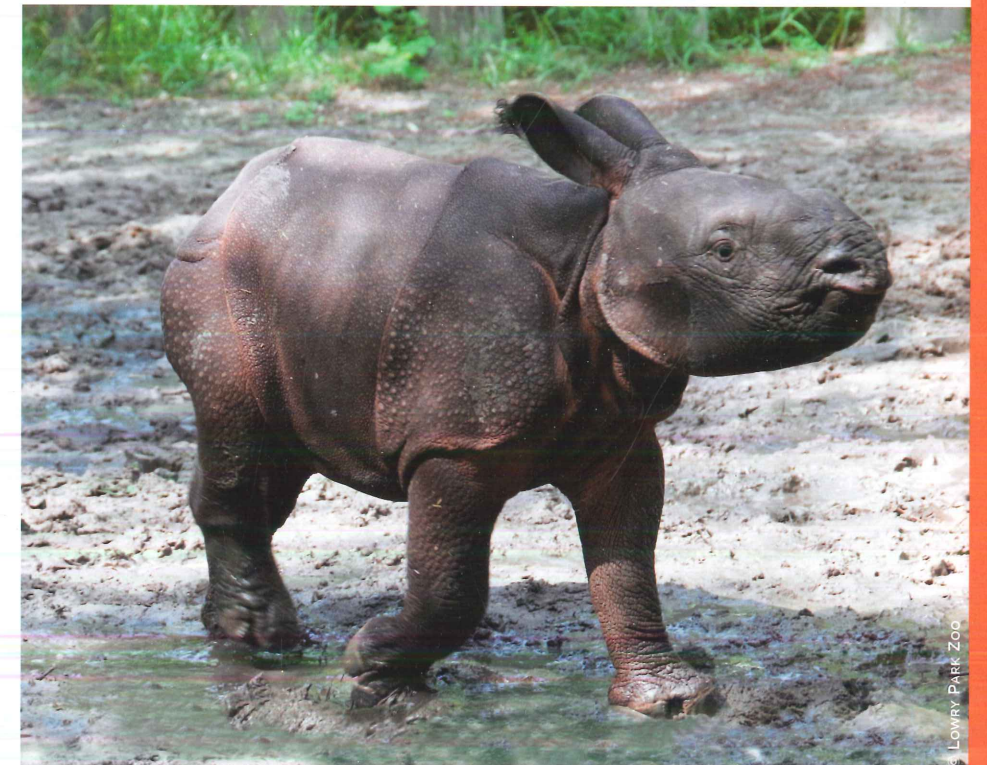
first for the Zoo and a significant conservation milestone for the species in captivity with only a few documented births each year.

The Association of Zoos and Aquariums (AZA) Indian/Nepalese Rhinoceros Species Survival Plan (SSP) maintains a record of all captive specimens of that species in North America. According to the SSP's most recent report in June 2009, there were a total of 54 Indian rhinos among 17 AZA-accredited institutions in North America, with just nine animals born in the last three years. Indian rhinos are listed as an endangered species, with an estimated wild population of about 2,000.

The Indian rhinoceros is one of five species of rhinos worldwide and one of three species found in Asia. It is native to the remote, swampy grasslands of India, Assam and Nepal. Weighing several thousand pounds on average, the Indian rhino's most distinct feature is a single horn on the end of its muzzle (three species have two horns), which is composed of keratin – the same pro-



© MEMPHIS ZOO



© LOWRY PARK ZOO

## SIGNIFICANT EFFORTS IN CONSERVATION

tein that forms human fingernails and hair. The species has a unique upper lip, known as a prehensile lip, which acts as a hook to grasp onto plants and food in its herbivore diet (grass, twigs, bamboo shoots, water hyacinths and various produce). Indian rhinos have been described with "armor-like skin" due to the presence of skin folds; however, the skin is actually supple due to frequent wallowing in water and mud.

The gestation period for Indian rhino pregnancies is approximately 16 months. When born, calves normally weigh in the range of 75-to-100 pounds and will nurse throughout their first two years. They are normally able to stand just hours after being born.

### RARE EASTERN MASSASAUGA RATTLESNAKE RECOVERY EFFORTS AT LINCOLN PARK ZOO

A female eastern massasauga rattlesnake (EMR), which is believed to be one of the last remaining individuals of her species locally, gave birth to four babies on 28 July at Lincoln Park Zoo thereby doubling the local snake population.

Earlier this year, the U.S. Fish & Wildlife Service, Illinois Department of Natural Resources, Cook and Lake County Forest Preserve Districts and Lincoln Park Zoo united to save this species through capture and recovery efforts. The goal is to locate the last remaining snakes in northeastern Illinois and place them in appropriate propagation facilities, including Lincoln Park Zoo, to bolster the population and ensure the species long term survival.

Throughout spring and early summer, search teams scoured local areas where the rattlesnakes had been observed over the past several years, devoting hundreds of man hours to hunt for the last wild rattlesnakes. Only two snakes – one male and one female – were located and transported

to Lincoln Park Zoo for protected breeding efforts. Biologists already knew that the population had reached critically low numbers, and it is possible that these two individuals, which some Zoo staff affectionately refer to as Adam and Eve, are the last remaining EMR in northeastern Illinois.

Ironically, the two snakes had not yet been introduced for breeding when the female gave birth. "Although it's possible the female may have bred right before we located her, it isn't likely," explained Lincoln Park Zoo curator Diane Mulkerin. "She was found in early April – right after emerging from hibernation – a time of year when breeding is not typical. I think she probably bred in the fall before going into hibernation, and the sperm did not implant until this spring." According to Mulkerin, delayed implantation of this kind appears to be common for snakes, and admits there are still a lot of scientific unknowns about snake reproductive physiology.

One question that remains to be answered is if the babies were sired by 'Adam' or if it is possible that another elusive male remains at large. When the babies shed their first skin it may be possible to run DNA testing to solve the mystery. Either way, the rattlesnake recovery team plans to continue snake searches next spring and summer to hopefully locate and recover any more of the last remaining rare snakes.

The newborn rattlesnakes, which were born live, are as thin as a pencil and when coiled up only slightly larger than a silver dollar. "They are miniature replicas of the adults – gorgeous – tiny little pink on their tails," said Lincoln Park Zoo's Joanne Earnhardt, PhD, EMR Species Survival Plan coordinator.

The snakes, which are solitary and independent from the moment of birth, were immediately removed from the mother's enclosure and each given their own housing.

"The team's objective was to build a zoo population that can fuel a future reintroduction as part of a recovery effort. So this is a great beginning," said Earnhardt.

While EMR live in small pockets from western New York and southern Ontario to southern Iowa and north-eastern Missouri, a recent genetic study identified three distinctive genetic groupings of EMR in North America. The northeastern Illinois snake population is a variation that needs swift conservation action.

### FIFTH PANDA BORN AT THE SAN DIEGO ZOO

The 24-hour birth watch at the San Diego Zoo came to an end on 5 August when giant panda Bai Yun gave birth to her fifth cub. The birth was witnessed at 4:58 a.m. by the giant panda team watching the Zoo's closed-circuit camera placed in the birthing den.

Bai Yun will care for the cub, which is estimated to weigh about four ounces, unless there are complications and the giant panda team will need to intervene. In the past, Bai Yun has been a careful, attentive mother and there has been no need for human involvement. The Zoo's panda team does not expect to examine the cub until the mother begins to regularly leave the den.

Bai Yun gave birth in an off-exhibit den used during her previous pregnancies. Bai Yun and the cub will remain in the den for four-to-five months. The father, Gao Gao, has no role in raising the cub.

A second fetus was detected during an ultrasound in July, but the giant panda team believes it was re-absorbed in the uterus, leaving only one cub to be born. A similar situation happened during Bai Yun's pregnancy in 2005.

A panda's fertilized egg remains suspended in the uterus until a prompt in the environment causes it to implant. Scientists do not know what prompts

the implantation. Implantation of the fetus can be delayed as much as two to three months after fertilization. After implantation, the fertilized egg begins to develop. Impending birth is predicted on the basis of behavioral, hormonal and anatomical changes that are documented by scientists at the San Diego Zoo's Institute for Conservation Research.

### LEMUR PAIR BORN AT DETROIT ZOO

Two black-and-white ruffed lemurs were born 2 June at the Detroit Zoo. The twins join mother, Fleur, and father, Goodall, doubling the Zoo's ruffed lemur population. The male and female newborns are yet to be named.

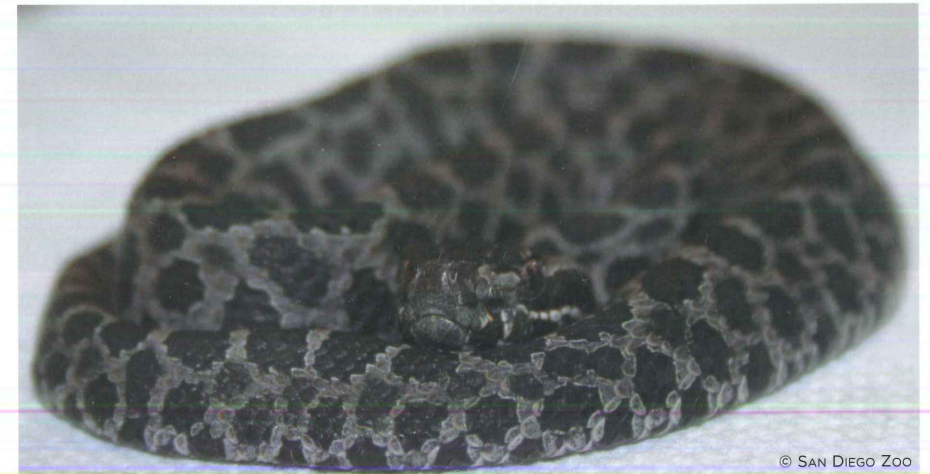
Black-and-white ruffed lemurs are a critically endangered species from one of the most at-risk habitats on earth. These babies are a welcome addition to a small population of captive lemurs that could help keep this species from

extinction. There are approximately 215 black-and-white ruffed lemurs in North American zoos.

The black-and-white ruffed lemur (*Varecia variegata*), a tree-dwelling primate native to eastern Madagascar, is the largest of all lemur species. A mature ruffed lemur can weigh eight-to-ten pounds and reach four feet in length, including a two-foot tail which it uses for balance. ■



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