



Cincinnati Rhino Pregnant by Bronx Rhino, But the Two Have Never Met Cincinnati Zoo Scientists Used Sperm Frozen for Four Years at -320°F

Cincinnati, OH (November 5, 2009) – “Nikki,” the Cincinnati Zoo’s 18-year-old female Indian rhino is expecting. The father, “Vinu”, is a 38-year-old male Indian rhino at the Bronx Zoo. However, the two rhinos have never met.

Scientists at the Cincinnati Zoo’s Lindner Center for Conservation and Research of Endangered Wildlife (CREW) collected Vinu’s sperm in 2005 and stored it at -320°F in CREW’s CryoBioBank for four years before it was thawed and utilized in the successful artificial insemination (AI) procedure in June 2009. Today is day 133 of Nikki’s 480-day gestation and the Zoo anticipates the pitter-patter of baby rhino feet in October 2010.

“We are very excited to prove that the science of artificial insemination using frozen thawed sperm in the Indian rhino can be repeated” said Dr. Monica Stoops, the Reproductive Physiologist at CREW responsible for developing the AI technique in rhinos.

Three years ago, Nikki was the first endangered rhino species to become pregnant through artificial insemination of frozen-thawed sperm. Unfortunately, after completing a full term pregnancy, Nikki delivered a stillborn calf. Approximately 50% of Indian rhinos that become first time mothers over the age of 10, like Nikki had been, experience a stillbirth. Despite the devastating outcome, Dr. Stoops and her team looked to the future and were comforted by the fact that female Indian rhinos experiencing a stillbirth following their first pregnancy have successful live births with subsequent pregnancies. It was not long before Dr. Stoops and her team were able to repeat the successful AI procedure.

Nikki’s pregnancy is important not only for the captive population of Indian rhinos, but for the fact it demonstrates the scientific achievement of AI using frozen thawed sperm can be replicated. With only 60 Indian rhinos in captivity in North America and approximately 2,500 remaining in the wild, successful breeding between rhino pairs is important to maintain the genetic diversity necessary to keep a population healthy and self-sustaining. Unfortunately, natural breeding attempts in captive Indian rhinos frequently result in severe aggression between the male and female. Because of this behavioral incompatibility, genetic management of the Indian rhino is a challenge. Artificial insemination can be used to improve the genetic health of captive Indian rhinos by infusing genes from non- or under-represented rhinos. “By developing a technique for

freezing rhino sperm, we can collect semen from males at other facilities and use it to inseminate females at the Cincinnati Zoo, thereby enhancing genetic variation,” said Dr. Stoops. Therefore, the Cincinnati Zoo celebrates Nikki’s second pregnancy as a solid step towards ensuring the long-term sustainability of the species and its genetic diversity.

The heart of the Cincinnati Zoo’s CREW, both for its Animal and Plant Research Divisions, is the CryoBioBank. This genomic resource bank consists of thousands of cryopreserved tissues from over 75 animal species and over 135 plant species that are conserved for future use. CREW scientists have expanded upon this effort by creating a genome resource bank specifically for male Indian rhinos. Collecting and banking sperm from genetically valuable male Indian rhinos is an important step toward prolonging the genetic life of founder animals and preserving the genetic potential of males that may otherwise never contribute to the captive population. Over the past eight years, CREW scientists have refined semen collection in the rhino and developed a successful method of freezing rhino sperm. Using this technology, CREW scientists have collected sperm from the top genetically valuable male Indian rhinos from zoological institutions throughout North America.

Dr. Stoops and Cincinnati Zoo keeper staff continue to monitor Nikki, conducting monthly ultrasounds and collecting urine samples several times a week to monitor her hormone levels. To date, Nikki’s pregnancy is progressing well and the ultrasound exams reveal a healthy, growing rhino baby.

Rhinos once ranged over large parts of Africa, the Middle East and southern Asia. Of the five living rhino species, the Indian rhino is the second largest, weighing in at up to 6,000 pounds. It primarily inhabits the floodplain grasslands of northern India and southern Nepal.

Poaching of wild Indian rhinos in Nepal and India has been on the rise over the past five years. Rhino horns are sold on the black market, as an ingredient in traditional Chinese medicines or as dagger handles in Yemen and Oman. Laws banning the use of rhino horn have helped, yet poaching and smuggling still persists. Continued protection and law enforcement will be necessary for their survival.

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The world famous Cincinnati Zoo & Botanical Garden was rated the #1 attraction locally and one of the top zoos in the nation by Zagat Survey. It was recognized by Parents Magazine as #7 on the “Top 10 Best Zoos for Kids.” It has also been recognized by Child Magazine as one of “The 10 Best Zoos for Kids.” Over one million people visit the Zoo’s award-winning exhibits, and more than 500 animal and 3000 plant species annually. The Zoo is an accredited member of the American Zoo & Aquarium Association (AZA) and the American Public Gardens Association (APGA), is internationally known for its success in the protection and propagation of endangered animals and plants, and engages in research and conservation projects worldwide.

The Carl H. Lindner Jr. Family Center for Conservation and Research of Endangered Wildlife (CREW) is a state-of-the-art research facility dedicated to science that will help save endangered plants and animals from extinction. CREW is home to both the Plant and Animal Research Divisions of the Cincinnati Zoo & Botanical Garden, with a staff consisting of up to ten scientists.