



PRESS RELEASE

INTERNATIONAL ELEPHANT FOUNDATION

Contact Information

Program Director: Deborah Olson, Program Director

Email Address: dolson@indyzoo.com

Website: www.elephantconservation.org

FOR IMMEDIATE RELEASE

Announcement of the 2006 Elephant Conservation and Research Funding Awards

Elephant Semen Cryopreservation – Standardization of Techniques for Assessing Sperm Structural Integrity

Development of artificial insemination and semen preservation for elephants requires an improved understanding of sperm biology. In most mammalian species, fertilizing potential of spermatozoa is determined by its morphology, motility characteristics (i.e. mitochondrial activity) and acrosomal integrity (i.e. ability to penetrate the outer covering of the oocyte, the zona pellucida). Therefore, it is important to develop reliable methods for assessing sperm structural integrity as a means of determining fertilizing ability. However, there currently are no standardized methods available to assess structural integrity for elephant spermatozoa. This project will evaluate various staining techniques for evaluating plasma and acrosomal membrane integrity, and mitochondrial functionality by:

- identifying optimal techniques for assessing elephant sperm structural integrity through validating a staining method that utilizes fluorescein isothiocyanate-conjugated peanut agglutinin and propidium iodide to simultaneously assess both acrosomal integrity and viability in elephant spermatozoa;
- comparing other staining techniques; and
- assessing the utility of JC-1 as a marker for mitochondrial function in elephant spermatozoa.

This project will establish an accurate, repeatable and easy to use method for assessment of elephant sperm structural integrity.

###