

# Successful cryopreservation of African wild dog (*Lycaon pictus*) spermatozoa: Towards developing the frozen zoo.

F. Van den Berghe<sup>1,2</sup>, M.C.J. Paris<sup>1,2,3</sup>, Z. Sarnyai<sup>1</sup>, M.B. Briggs<sup>4</sup>, W.K. Farstad<sup>5</sup> and D.B.B.P. Paris<sup>1</sup>

<sup>1</sup>College of Public Health, Medical and Veterinary Sciences, James Cook University, Townsville, QLD, Australia

<sup>2</sup>Institute for Breeding Rare and Endangered African Mammals, Edinburgh, UK

<sup>3</sup>Wageningen Livestock Research, Wageningen, The Netherlands

<sup>4</sup>African Predator Conservation Research Organisation, Bolingbrook, Illinois, USA

<sup>5</sup>Department of Production Animal Clinical Sciences, Norwegian University of Life Sciences, Oslo, Norway

Sperm freezing and artificial insemination can aid species management and conservation of the African wild dog (*Lycaon pictus*). Freezing attempts have previously been unsuccessful with sperm motility dropping to nearly 0% within 2 h of thawing. We examined the quality of wild dog spermatozoa subjected to 2 routine canine cryopreservation protocols: 1) 1-step dilution in TRIS-egg yolk extender containing 8% glycerol and 20% egg yolk; and 2) 2-step dilution in TRIS-egg yolk extender to a final concentration of 5% glycerol, 20% egg yolk and 0.5% Equex STM. Protocol 2 showed a significantly higher post-thaw viability, acrosome integrity and longevity of spermatozoa with motility present for up to 8 h after thawing; making it suitable for sperm banking and downstream use in species management by artificial insemination for the first time.