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Semen characteristics of the captive Indian Leopard, *Panthera pardus*

D. Jayaprakash, S. B. Patil, M. N. Kumar, K. C. Majumdar and S. Shivaji

Centre for Cellular and Molecular Biology, Hyderabad, India.

Semen samples from 11 Indian leopards (*Pantherapardus*) from 3 different zoos in India were collected by electroejaculation. A computer-aided semen analyzer (CASA) was used for assessing the quality of the semen vis-a-vis sperm motility. The volume of the ejaculate, sperm density, and the number of motile and morphologically normal spermatozoa were found to be 1.57 +/- 1.26 mL, 55.78 million +/- 38.67 million per mL, 57.05% +/- 16.96% and 71.92% +/- 15.32%, respectively. Although the spermatology varied between individuals in the study, Box-Whisker-plot analysis suggested that the distribution was normal ($P > .05$). The ejaculated sperm were cryopreserved after diluting in test-yolk buffer. The post-thaw motility was 32.14% and did not differ at 30 or 60 days after cryopreservation. CASA indicated that the progressive velocity (VSL) of cryopreserved spermatozoa was decreased and, as a consequence, they moved more slowly than the neat (VSL 76.3 microm/sec in neat vs 53.8 microm/sec in cryopreserved spermatozoa) and the trajectories were less planar. However, both cryopreserved and neat spermatozoa penetrated the zona-free hamster oocyte with equal efficiency (79% neat vs 80% cryopreserved). The study also reports application of CASA for feline spermatozoa and provides information for the first time on the spermatology of the Indian leopard. This baseline data could be used in captive breeding programs. The results are compared and discussed with the available information on other felines.

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