

COLLECTION, EVALUATION AND CRYOPRESERVATION OF CAPTIVE JAGUAR (*PANTHERA ONCA*) SEMEN IN FOUR COLOMBIAN ZOOS

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The jaguar (*Panthera onca*) is classified as a species vulnerable to extinction. The main menace comes from destruction of its environment in order to use lands for agriculture and livestock.

The aim of the present work was to collect, evaluate and cryopreserve captive jaguar's (*Panthera onca*) semen at four Colombian zoos, located at different altitudes, as the first effort in the country to establish an ex situ conservation project. Eight animals were immobilized and chemically restrained with tiletamina-zolazepam or ketamine-xilacine administered using a dart. The animals were examined physically and morphometric data were obtained: body weight (83.14 ± 20.33 kg), scrotal circumference (18.77 ± 1.32 cm) and testicular measures (length: 4.34 ± 0.44 cm; width: 3.34 ± 0.29 cm; thickness: 3.0 ± 0.40 cm). Electroejaculation was performed using a ram rectal probe and an electroejaculator of 60 Hz. Three series of 120 ± 45 stimuli were applied, with a 2–10 min interval between series. The length of intervals depended on the anesthetic plane.

Semen samples were obtained from six animals, and several samples in each procedure, with the following traits: volume, 3.7 ± 2.89 ml; pH, 7.87 ± 0.70 ; forward motility, $62.10 \pm 25.72\%$; concentration: $8.16 \times 10^6 \pm 9.04 \times 10^6$ spermatozoa/ml; $32.22 \pm 9.40\%$ primary and secondary morphological abnormalities.

Five of these samples were diluted 1:1 in Hepes–Talp and centrifuged at $800 \times g$. Resulting pellets were cryopreserved, using a commercial Tris–citrate diluent, with 20% egg yolk and 4% glycerol, packed in 0.5 ml straws sealed with polyvinyl alcohol powder. After thawing the samples at 37°C for 1 min, post-thaw motility was assessed ($32 \pm 24.33\%$).

This is the first report describing the preservation of *Panthera onca* semen in Colombia. It is concluded that the responses to electroejaculation protocols varies between animals, and between the same animal in different procedures. The characteristics of ejaculates showed wide variation among animals and in the same animal in different replicates. It is recommended to continue the development of works, which will establish methods and protocols for assisted reproductive programs in endangered species in Colombia.

Keywords: *Panthera onca*; Semen; Cryopreservation; Ex situ conservation; Germoplasm