

CHIMPANZEE HEALTH-CHECKS

AT TACUGAMA CHIMPANZEE SANCTUARY
FREETOWN, SIERRA LEONE.

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Tacugama Chimpanzee Sanctuary was founded in 1995 by the Government of Sierra Leone with conservationist Bala Amarasekaran to home and rehabilitate confiscated pets, orphaned and abandoned chimpanzees. At present, the sanctuary cares for more than 70 chimpanzees of the endangered subspecies *Pantroglydytes verus* (the western chimpanzee) and unfortunately, each year more orphan chimpanzees continue to arrive at Tacugama.

Despite the hunting and trading of chimpanzees having been made illegal in Sierra Leone since 1972, they have continued to suffer from human encroachment of their forest habitat for logging and farming, hunting pressure as a result of the bushmeat trade, and live capture of babies for the entertainment and pet trades. The population is threatened with extinction and their successful conservation requires a multi and interdisciplinary approach. The Sierra Leone National Chimpanzee Census Project (SLNCCP) conducted by the Tacugama Chimpanzee Sanctuary (TCS) between 2009 and 2010 estimated a total population of 5,500 wild chimpanzees widespread across Sierra Leone; more than half of these were located outside protected areas. The sanctuary has evolved from the rehabilitation of confiscated chimpanzees to include other important dimensions of chimpanzee conservation including local environmental education,

development of methods that can minimize human-wildlife conflicts, surveys and assessments of the wild chimpanzee population nationwide, habitat conservation, community-outreach activities and wildlife law enforcement.

Tacugama veterinary team has undertaken extensive health-checks on all the chimpanzees of the sanctuary in early 2016. The health-checks included full physical examination under anaesthesia, rectal culture, bacteriological swabs, TB testing, blood test with haematology and full biochemistry, 12-lead electrocardiograms, echocardiography and blood tests with heamatology and full biochemistry. Using a VetScan VS2 and rotors, we were able to perform comprehensive diagnostic profiles to 60 chimpanzees. Troponin I measurements was also performed with an Abaxis i-STAT 1 on loan from Abaxis and The Jane Goodall Institute, Congo.

Most of the chimpanzees at Tacugama have never gone through such an extensive examination, and collecting baseline data about the health status of our animals give us important tools to fight against diseases. The establishment of a strong preventive medicine program also minimizes responsive medicine needs and is a fundamental component of an appropriate chimpanzee health care program.

Procedure

Chimpanzees were anesthetized with a combination of medetomidine (0,02-0,04mg/kg) and ketamine (4 mg/kg) or with Tiletamine-zolazepam (1,5 mg/kg) and medetomidine (0,015mg/kg) injected intramuscularly through blowpipe darting.



Animals became recumbent after 3 to 10 minutes after injection, and preliminary measurements of axillary temperature, blood pressure, heart and respiratory frequencies were made before transporting the animal to the surgery. There, Dr. Aimee Drane from International Primate Heart Project performed a 12-lead ECG as well as heart ultrasound. In the meantime, the animal underwent a full physical examination and blood was drawn from the femoral vein. Blood pressure and heart and respiratory frequencies were measured each five minutes during the procedure. Urine and feces were collected and analysed. Some females were also implanted with contraceptive implants (levonorgestrel 75mg x2) and some animals underwent routine intradermal tuberculin testing.

Most animals were topped-up with 1mg/kg of ketamine IV during the procedure.

After about 40 minutes, the animals were brought back to their den and the anaesthesia was reverted with atipamezol IM. Animals woke up between 5 and 15 minutes after the reversal. They stayed isolated for a few hours or until the next morning and then were

mixed again with their group and released back into their big forest enclosures.

Results

In general, the chimpanzees at Tacugama Chimpanzee Sanctuary appeared to be in good health.



Nutritional status was found to be good (Body condition scoring 1-5 and on average is 3), as well as dental health, which means that the diet is likely to be well adapted. Some animals had different species of protozoas in the feces. These animals were treated with oral metronidazol (30mg/kg PO BID for 5 days). Seven animals had leucocytes in urine, two of them had ketonuria and one also proteinuria. These animals received antibiotic treatment for urine infection. Animals which were found to be dehydrated on clinical examination received IV fluid therapy during the procedure. Thanks to the availability of the i-STAT 1, it was detected that three animals had high plasmatic troponin I. This is a cardiac biomarker indicator of myocardial damage that can be elevated when acute septicemia and/or renal failure if severe. These animals had no other abnormal parameters but will be further monitored. Biochemistries were overall within normal ranges except one animal who had elevated creatinine and other few animals with hypernatremia. This was corrected with IV fluid administration as it was probably due to dehydration as the healthchecks were performed during the hot west-african dry season. Heart assessments revealed that Tacugama chimpanzees are in general cardiac healthy. Few slight valvular leaks were detected and in general the alpha males showed a slightly thicker and more trabecular heart (Aimee Drane, IPHP). Results of the healthchecks show that chimpanzees at Tacugama sanctuary are overall healthy.

Tacugama Chimpanzee Sanctuary is very thankful to Abaxis for the material provided for these healthchecks and for the future diagnostic capacity of the Sanctuary.