

## CHEMICAL IMMOBILIZATION OF FREE-LIVING MANED THREE-TOED SLOTH (*BRADYPUS TORQUATUS*) FOR BACKPACK RADIO INSTALLATION AND COLLECTION OF BIOLOGICAL SAMPLES

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### RESUMO

Sloths are animals that belong to the suborder Folivora, belonging to the superorder Xenarthra. They are arboreal animals and are represented by two genera, *Bradypus* and *Choloepus*. There are five species of sloths in Brazil and the only species considered endemic in the country is *Bradypus torquatus* or maned three-toed sloth. Its current distribution covers part of Rio de Janeiro state, Espírito Santo state and Bahia state. The species are located in the forest remnants of the Atlantic Forest. *Bradypus torquatus* is classified as vulnerable - B2ab (ii, iii) by the IUCN Red List of Threatened Species. The chemical immobilization of free-living animals is necessary for several procedures in the field, thus allowing safety for the team and for the animals handled. Xenarthra anesthesia should be performed with caution, due to the unique anatomical and physiological characteristics compared to other species of mammals. The use of radios for monitoring free-living animals is common, especially for studies of spatial ecology. During March 2020, 12 free-living maned three-toed sloths were anesthetized at the Sapiranga Ecological Reserve - Mata de São João - Bahia State - Brazil and their physiological parameters were recorded. The animals were captured manually by the climbers and anesthetized with the anesthetic combination of ketamine hydrochloride 4 mg/kg and medetomidine hydrochloride 0.03 mg/kg. Installation of backpack radio, collection of biological samples (blood, feces, hair and swabs) and body biometrics were performed. Vital parameters were monitored every 10 minutes with a portable pulse-oximeter, stethoscope and rectal thermometer. The mean and standard deviation of heart rate was  $58.08 \pm 8.95$  (beats/min), respiratory rate  $16.34 \pm 5.58$  (breaths/min), oxygen saturation (SPO<sub>2</sub>%)  $97.69 \pm 2.52$  and rectal temperature  $34.98 \pm 0.67$  °C. All animals received an antagonist (atipamezole 0.1 mg/kg), 50% of the total dose intramuscularly and 50% intravenously. The first signs of anesthetic recovery appeared after  $2.38 \pm 1.41$  minutes after the application of the antagonist. The antagonists were applied an average of  $58 \pm 6.51$  minutes after application of the anesthetic combination. The animals were considered able to release after  $112.91 \pm 18.68$  minutes after anesthetic induction. Chemical immobilization with ketamine + medetomidine promoted rapid anesthetic induction  $3.21 \pm 0.79$  and can be used for this type of management. It is a safe protocol, because there is an antagonist for the alpha-2 adrenergic agonist and it reduces the animals' anesthetic recovery time.

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