SERUM GLUCOCORTICOIDS AND TESTOSTERONE OF SPIDER MONKEYS (*Ateles geoffroyi*) IN CAPTIVITY: RESPONSE TO CAPTURE AND ANESTHESIA.

A. Rodas-Martínez 1,3, D. Canales2, D.M. Brousset 3, W.F. Swanson4, M.C. Romano1

1Dep. de Fisiología, Biofísica y NC., CINVESTAV-IPN, D.F., México; 2Inst. de Neuroetología, Univ. Veracruzana, Xalapa, México; 3Dep. de Etología, Fauna Silvestre y Anim. de Lab, Fac. de Med. Vet. y Zoot, UNAM, México; 4Center for Conservation and Research of Endangered Wildlife, Cincinnati Zoo and Botanical Garden, Cincinnati OH 45220 USA

Presenter’s E-mail albiquis@yahoo.com

The spider monkey (SM) (*Ateles geoffroyi*) is one of the three primate species living in Mexico forests, endangered by environmental perturbations of their habitats and even hunting. The objectives of this study were to investigate SM serum glucocorticoids (GCs) and their adrenal and gonad response to stressful situations. Seven adult male SM living in special facilities at Parque de la Flora y Fauna Silvestre Tropical, Univ. Veracruzana, Mexico were included here. Every 2 months the animals were captured for clinical controls (total 7 times). Three blood samples from each individual were obtained in each capture: (1st) 5–15 min after pre-anesthesia by remote ketamine injection in the outdoor enclosures; (2nd) 3 min after tiletamine-zolazepan injection applied 2-4 h after being moved to the laboratory; (3rd) 20-30 min after the second tiletamine-zolazepan anesthesia. Samples were frozen until cortisol, corticosterone and testosterone were analyzed by radioimmunoassay (RIA). Results: cortisol was the main GC in SM serum (267.01 ± 32.48 ng/ml); corticosterone concentration was significantly lower (18.22 ± 1.84 ng/ml). After the second and third anesthesia both values were significantly increased. Anesthesia decreased testosterone concentrations (1.00 ± 0.21 ng/ml in sample 1st vs samples 2nd and 3rd (0.71 ± 0.10 ng/ml and 0.44 ± 0.07 ng/m). In summary these results showed that cortisol and corticosterone are present in SM serum, being cortisol 15 times higher than corticosterone; both GC respond to capture-anesthetic challenge increasing their serum concentrations, and finally that serum testosterone was rapidly affected by stressful situations as capture-anesthesia.

Keywords: *Ateles geoffroyi*, Glucocorticoids, Testosterone, Stress