

Abstract

Hormones influence life of all animals. Not only they affect physiological changes in organisms, but also impact their behaviour. This work focuses at two main groups of steroid hormones: glucocorticoids and androgens. Glucocorticoids are activated in response to stress. Their levels can be measured using non-invasive methods, which have a range of advantages. The main advantage is the feedback-free sample collection for enzyme immunoassay. As the measurement involves metabolites of the hormones rather than the hormones themselves, prior validation of the method is, however, necessary. This work reports on a study aiming to validate non-invasive measurement on the Madagascar Ground Gecko (*Paroedura Picta*). The validation was based on ACTH challenge test: Synacthen Depot was injected, which should lead to increased blood level of glucocorticoids. The validation, however, was not successful. The measurement did not discover significant increase in the levels of the metabolites of glucocorticoids. In addition, the work focuses on behavioural effects of testosterone, the primary androgen. Hormonal manipulations have been carried out on several male and female specimens. The results have discovered differences in sexual behaviour between control groups. On the other hand, the hormonal manipulations had no significant effect on agonistic behaviour of the specimen.

Key words: non-invasive methods, glucocorticoids, enzyme immunoassay, faeces, reptiles, testosterone, hormonal manipulation, sexual behaviour