

It is generally believed that the presence of male traits is regulated by androgens. This thesis is designed to reveal the influence of testosterone on male traits in the leopard gecko, *Eublepharis macularius*. The noninvasive skin application mixture of vegetable oil and testosterone was used to manipulate the hormonal status of females and castrated males. This method has proven to be an effective alternative to the widely used hormonal implants. Manipulation was successfully validated, and there was apparent progressive increase of male sexual behavior in both groups. In females, the onset lasted much longer time, but both groups were able to perform all components of males sexual behaviour. Furthermore, I found that, contrary to widespread view, male sexual behavior persisted several weeks after reduction of testosterone levels in both manipulated groups. These results bring new evidence for temporary organization of male sexual behaviour by testosterone.