

Abstract

The main objective of this thesis was to test different aspects that might influence the ability of spatial orientation of leopard gecko (*Eublepharis macularius*) in Morris water maze (MWM). This group of animals has already been tested once before (thesis Voňavková, 2013). After a few intervals (two & four months break) this test of allothetic orientation was repeated. Repetition of the test is necessary to verify whether there are evidence of a learned spatial orientation within the long-term memory or not (extinction of spatial information).

The main objective of this thesis is to find out whether the animals are able to remember the orientation marks from the training after a several-months break, or if they will have to learn the task again from the beginning. In 18 % of tested geckos the track has been gradually shortened, but the time of finding goal-location (platform) remained the same. In 43 % of animals the time necessary to reach platform got worse, but the length of the track remained the same. Thus, animals remembered where the platform is located, but their motivation to reach it was much lower than at a first few sessions.

Another objective was to verify whether geckos are even able to compensate the active and passive body movement by their head, keep the graphic marks on the arena in their field of vision and determine whether the graphic marks may be used as a guide in MWM. Coordination of head movements in relation to position of a body has been tested during the rest and during the stress situation in a special device (movable platform). Geckos are able to actively compensate body movement by their head at, in average, 10 % of the movement of the movable platform. They are able to perform better during the stress situations at a slower moving speed of a movable platform. Therefore, it's likely that geckos are able to follow the marks on the arena in the course of their movement.

Using the marks for coding the space is also connected to the ability of association learning. The strength and the speed of the association has been verified by classical conditioning. In 13 % of tested geckos the number of contacts with the bead has gradually increased, contact latency decreased in 16 % of animals. Therefore, we can say that the ability of the associate two stimuli during the simple laboratory test varies between each individual and just a small amount of the individuals succeed in the test. Another objective was to test a set of animals by the reactivity test and define the type of a reactivity within each animal. These reactivity data was strongly evident in the test of associative learning and activity during tests in the MWM.

Keywords: spatial orientation, allothetic orientation, leopard gecko, associative learning, postural corrections, reactivity