**The effects of L-DOPA on exploratory behaviour in *Poecilia reticulata* (guppy)**

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Exploratory behaviour allows an animal to gather information about novel aspects of its surroundings. Combined with dispersal behaviour, high exploration rates can allow individuals to find areas with higher quality of food, better breeding spaces, fewer competitors, more mates, and reduce the risk of inbreeding. Disadvantages to exploration include the energy spent on travelling, and a high risk of predation for prey species, as exploring novel environments would mean leaving areas known to be safe. This trade-off results in a multitude of factors that influence the rates of exploratory behaviour within and between species. We studied exploratory behaviour in a fish, *Poecilia reticulata* from a natural population using the open-field test. *P. reticulata* is an excellent candidate for research in exploratory behaviour because they are known to disperse to new habitats and show considerable variation within and between populations. Studies in lab organisms suggests that the neurotransmitter dopamine is correlated with exploration, and we were interested in asking whether altering dopamine levels in *P. reticulata* affects their exploratory behaviour. This was done by administering L-DOPA, which is naturally converted to dopamine in the brain by aromatic amino acid decarboxylase (AADC). We will discuss differences in exploratory behaviour between L-DOPA treated and control individuals. This study will provide insights into the reward mechanisms involved in exploratory behaviour, allowing for greater understanding of motivation guiding the behaviour in natural populations. Future studies will include assays of dopamine levels in individuals from populations known to show high versus low levels of exploratory behaviour.