**The Role of Dopamine Manipulation on the Life History Traits and Colouration of Male Guppies**

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The Guppy (*Poecilia reticulata*) has a long history of being studied for sexual selection because of males’ conspicuous colour patterns and courtship of females. In this experiment, guppies were treated with RitalinTM, which is known to decrease dopamine levels. This treatment has the potential to affect the guppy’s behaviour, physical appearance and attractiveness to mates. I examined the guppies’ size at maturity and carotenoid-based colouration. Ritalin is known to affect growth patterns in humans. Experiments with other species have shown a relationship between dopamine and melanin, however little research has been done on this pathway in vertebrates. I measured body length, the area of the orange (carotenoid-based) spots, as well as saturation of their carotenoid spots using digital photographs of control and experimental fish. Analyses showed that Ritalin did have a significant effect on carotenoid saturation in addition to body size. Also observed was a significant interaction effect among the fish lineages on orange spot size. This suggests there is a link between carotenoid colouration and dopamine in vertebrates as well as elaborating on the complex effects of Ritalin.