

# **The influence of group dynamics on the hunting behaviour of individual archer fish (*Toxotes chatareus*): a laboratory analysis.**

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The archer fish (*Toxotes chatareus*) represents an excellent model for visual research because this fish has to compensate for the different optical features of water and air when hunting airborne prey by shooting (i.e., ejecting water-streams). This foraging strategy relies strongly on visual capacities such as perception of environmental changes, motion perception and object recognition. Individual shooting behaviour has already been described in the literature, but little information is available on group dynamics and its influence on the hunting behaviour of individual fish. From our point of view, there are four important aspects in successful hunting by archer fish: prey detection, shooting accuracy, hunting endurance and catching the dislodged prey. To this end, archer fish (*Toxotes chatareus*, both individually and in groups of 5 individuals) will be presented with immobile (presented in an artificial structure for detection, experiment 1) and living flies (experiment 2). We will record hitting rates, different prey-catching strategies along with shooting performance and its changes within fish when hunting in groups or individually. The experiments will be carried out during the first two years of my dissertation (from June 2018 to June 2020). The results of this study will reveal important new aspects of the hunting behaviour of archer fish with regard to future collaborations with the Departments of Behavioural Research and Cognitive Research as well as teaching at the university.