

## **Fishes as experimental animals**

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The use of teleost fishes as experimental animals is rapidly increasing and zebrafish (*Danio rerio*) has become one of the most popular vertebrate model organisms. From first being established as a model for studies on embryonic development, the use of zebrafish in other fields of biomedical research (e.g., neuroscience, behavioral pharmacology, toxicology etc.) is now rapidly increasing. As a result, the use of adult fish as experimental animals is increasing. This in turn puts higher demands on fish rearing. In addition to zebrafish other teleost species, e.g., sticklebacks, salmonids, cichlids, killifish are frequently used as experimental animals and the use of these as well as other teleost species is likely to increase in the near future. The fact that the fish is kept at high densities in a barren environment is likely to have negative impact on welfare since crowding is stressful and drastically reduces the opportunities of the fish to perform normal behaviour, even in a shoaling species like zebrafish. Moreover, zebrafish and other species used as experimental animals are aggressive and develop strong dominance hierarchy. This is something that has to be considered when optimising fish densities, tank volumes as well as when designing environmental enrichment. Low fish densities and environmental enrichment may result in elevated aggression and chronic stress in subordinate individuals.