Transgenic ornamental fish out of control in Brazil

Scientists worry about ecological balance

15 February 2022 / A recent study from Brazil shows that genetically engineered fluorescent ornamental fish (zebrafish, *Dania rerio*) have escaped from breeding facilities in large numbers and spread into regional river systems. The transgenic fish are sold in various countries as ornamental fish for aquariums under the trade name GloFish. The paper was published in the *Studies on Neotropical Fauna and Environment* journal, and was picked up in the current issue of *Science*, among others.

According to the study, the red- or green-fluorescent transgenic fish, which contain genetic material from corals or jellyfish, respectively, were first spotted several years ago in a river system in southern Brazil, where numerous fish farms are located. The authors subsequently studied, among other things, the diet and reproduction of the genetically engineered fish at various sites in the region. According to the researchers, it is the first study worldwide to analyse the behaviour of transgenic fish in a real world ecosystem.

The authors were able to show that the fish exhibit invasive characteristics that are potentially harmful to the local ecosystem. For example, they show early sexual maturity, feed primarily on aquatic insects, and have no natural enemies in the waters where they have appeared so far. However, based on the data collected, the scientists are not yet able to make any statements about the broader effects of the engineered fish on the ecosystem as a whole.

Nevertheless, they express concern about the careless handling of the genetically engineered fish in Brazil and call for, amongst other things, strict controls and further data for a comprehensive risk assessment.

Testbiotech has shown in various publications that genetically modified organisms (GMOs) that can persist and/or spread in the environment pose particular challenges for risk assessment, and in this context calls for the introduction of cut-off criteria in the authorisation process. Accordingly, if the "spatio-temporal controllability" of a GMO cannot be guaranteed, an automatic stop of the authorisation process should be possible.

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Further information: The current study [2]
News in 'Science' journal [3]
Testbiotech publication on GE plants that can persist in the environment [4]

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