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9 Questions with WRG authors

Title of the paper: Biomarkers in tigerfish (*Hydrocynus vittatus*) as indicators of metal and organic pollution in ecologically sensitive subtropical rivers

Journal: Ecotoxicology and Environmental Safety

Authors: R. Gerber, N.J. Smit, J.H.J. van Vuren, Y. Ikenaka, V. Wepener

Read the article: <https://doi.org/10.1016/j.ecoenv.2018.03.091>



[Dr. Ruan Gerber](#)



1. What previous work was integral to the new study?

Determining which and the concentrations of contaminants these fish populations are exposed to.



2. Why do you care about this particular subject?

How animals respond to stressors, especially man-made ones such as pollution and in the future in combination with regional climate change has always been of great interest and in this particular study we could examine how natural tigerfish populations respond at a sub-cellular level.





3. Did any of the findings surprise you?

It was surprising to see that responses to certain types of pollutants were prioritized, i.e. with the animal trying to excrete and mitigate the effects of organochlorine pesticides and thus neglecting to deal with the metal pollution, which led to histopathological alterations as shown in a previous paper.



4. What are some of the limitations of this study?

Not necessarily a limitation, but rather a lesson learnt would have been to include some genetic markers, to provide even more insight to the effects.



5. Do you expect these findings to be controversial in your field?

No. But does show that effects should be measured along the levels of biological organization and not only at a single level.



6. What are the broader implications of these findings?

That using multiple lines of evidence, a suite of multivariate statistics and different levels of biological organization we were able to determine patterns in fish health which were caused by selected contaminants.



7. What do people usually get wrong about this subject?

Many people only consider single pollutants whereas in the field these contaminants are mostly present as mixtures with various interactions.



8. Looking back on the study, what were some of the most memorable moments for you and your colleagues?

The privilege of being able to work within arguably the world's most renowned conservation area. In areas where very few people have been or even seen and having various interactions with wildlife including an extremely inquisitive elephant bull.





9. What are you working on next?

Currently I am working on several papers, all from conservation areas. Two of these papers are regarding organochlorine concentrations in various fish species and Nile crocodiles. The other is similar to this current paper, using the same suite of biomarkers but across several fish species representing the different trophic levels.



Thank you for your time, Ruan!

