The Red Sea has been increasingly impacted by heavy metals released from anthropogenic activities, especially industrial activities, incidental oil leakage, ship traffic emission, wastewater outflows, and dust precipitation.

Heavy metals are one of the most serious environmental pollutants for their high toxicity, non-biodegradation, and ease of bioaccumulation. Some heavy metals (e.g. Pb and Hg) are highly poisonous, and they have no known beneficial effect on organisms.

Zooplankton play an important role in the marine food chain, and they may contribute to the transfer of heavy metals to higher trophic levels. Consequently, zooplankton have been chosen as one of the recommended indicators for the baseline studies of metals in the marine environment.

Aims of the study
- To gather baseline information to describe zooplankton assemblages in the Red Sea
- To assess the content of metals and other elements on zooplankton along the Red Sea
- To investigate if there is any existing heavy metal pollution in the Red Sea

Study sites and methods
- 8 zooplankton samples were collected by 100 µm WP2 plankton net during the Deep Cruise in April, 2019. More supplemental zooplankton samples will be collected from future cruises.
- Part of the zooplankton samples were preserved in 95% ethanol for further species composition analyses, while the rest were vacuum-freeze dried and subjected to TOC and TN analyses (CHNS element analyzer), and element analyses (ICP-OES).

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Conclusion and future studies
- Gastropod larvae, Chaetognatha, Appendicularia, and Ostracoda were the predominant zooplankton species in the Red Sea.
- The abundances of Gastropod larvae, Chaetognatha, Appendicularia, and Decapoda changed along with latitudes.
- The concentrations of Al, As, B, Ca, Cu, Fe, Mn, Ni, Sr, and Zn showed remarkably positive correlations with P and Cd. The Red Sea zooplankton might be under the threat of Cd and Zn pollution.

Further studies will be conducted to supplement the current results.

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My current interest is focused on the biological and chemical behavior of trace metals in marine phylloplankton, zooplankton, and bivalves.