**The impact of water quality on the abundance of parasites from *Oreochromis mossambicus* at the Phalaborwa Industrial Complex (PIC) and Barrage: preliminary results**

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Fish parasites are believed to cause little or no harm to their host under natural environmental conditions. Chronic exposure to pollutants may cause biochemical, physiological and behavioral host changes that ultimately can influence the intensity and prevalence of parasites. Contaminants in water may increase parasitism if the host defense mechanisms are negatively affected, thereby increasing host susceptibility. However, pollution can also decrease parasitism if the parasites are more susceptible to particular pollutants than the host, or pollution levels eliminate the suitable intermediate host. This project involves seasonal sampling of three sites at the PIC and one site at the Phalaborwa Barrage (Olifants River). The metazoan parasites of *Oreochromis mossambicus* were recorded for the winter season thus far. Water qualities were determined at all the sites. Parasites were fixed and preserved using standard methods. A parasite index (PI), abundance, prevalence and mean intensity of parasites were calculated. The results indicate that the water quality is poor at two sampling sites of the two mines caused by non-toxic constituents (chlorides, magnesium and sulphates) while the pH and TDS of the Barrage and fertilizer plant differed significantly from the other sites. The metal concentrations were acceptable at all sites, except for zinc and potentially lead. The following ectoparasites were recorded: *Cichlidogyrus* spp. from the gills and *Lernaea cyprinacea* from the skin. Endoparasites included digenean larvae (“black spot”) from the skin, *Clinostomum* larvae in the cranial cavity, dilepidid cestode larvae from the liver and intestine*, Contracaecum* larvae from the body cavity and digenean and pentastomid larvae from swim bladder. The lowest numbers of ectoparasites were encountered at the Barrage and fertilizer plant in correspondence with our hypothesis and the lower non-toxic constituents.