

DUSTY BASELINE: THE MERIT OF MUSEUM COLLECTIONS IN BIOLOGICAL INVASION STUDIES

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In most tropical regions, the Nile tilapia (*Oreochromis niloticus*, Cichlidae) has been introduced for aquaculture purposes, making it one of the most widely-introduced species. Adversely, it has escaped aquaculture and became invasive in many places with detrimental effects on the local fauna. It is a fast grower and aggressive species that can hybridize with indigenous cichlids and indigenous cichlid species decline after introduction of Nile tilapia. However, little is known of the detrimental effects of co-introduction of parasites from Nile tilapia and possible parasite spillover and spillback to and from indigenous cichlids. Parasites can strongly influence the fitness and competitiveness of infected individuals and species. Therefore, it is important to monitor host switching between native and invasive fish species.

The most prevalent gill parasites on Nile tilapia are Monogenea (Platyhelminthes). These are obligate parasites which have a direct lifecycle (no intermediate hosts), are species rich and generally host-specific. They mainly infect gills or skin of fish. These aspects make Monogenea ideal candidates for host switching, because they only require a single host species in the invasive area and are easily transferred. Also, because monogeneans are host-specific each host species hosts its own unique fauna of parasites, thus providing a distinguishable character between host species.

The goal of this research is to trace co-introduction of Nile tilapia parasites and subsequent host switching to indigenous cichlids. To trace this, the pre-introduction (or native) parasite fauna is reconstructed by sampling hosts stored in museum collections (baseline data). Contemporary samples from the same localities are compared with the collected baseline data, which allows for a reliable tracing of host switching events. We present results from two ecoregions, Bas-Congo and Bangwuelu-Mweru, both within the Democratic Republic of the Congo.