



DIVERSITY OF PARASITE POPULATIONS IN *GAMBUSIA AFFINIS* AND *CYPRINELLA LUTRENSIS*

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Complex life cycle parasite diversity have previously been studied as an indicator of ecosystem's health. The goal of this study is to identify parasites found in two commonly found fishes in the Colorado River at Timberlake Biological Field Station, *Gambusia affinis* (Western Mosquitofish) and *Cyprinella lutrensis* (Red Shiner). Analyzing data comparing the two fish species will allow for determining whether the two species living in different niches drastically changes the parasite diversity. Another aspect of the study was to compare the parasite prevalence and abundance between the two years of data collection. The parasites were isolated from necropsies of fish caught on Timberlake Biological Field Station. There was no significant difference in prevalence or abundance between the two years of study or the different species of fish except for abundance of *Rhabdochona* sp. varying between years, *Lernaea cyprinacea* differed between years and between species, and the prevalence of *Posthodiplostomum* sp. greater in *G. affinis* in both 2018 and 2019. These differences can be hypothesized to show the differences in the living environment of the species of fish. *Gambusia affinis* are commonly found in slower moving pools of water while *C. lutrensis* thrive in the faster moving parts of the Colorado River. Due to this difference in habitat, free-living infective parasites such as *L. cyprinacea* and *Posthodiplostomum* sp. have shown to have a higher rate of infection in *G. affinis* than in *C. lutrensis*.