**Experimental microsatellite primers for *Ornithodiplostomum ptychocheilus*, a trematode fathead minnow parasite**

*Ornithodiplostomum ptychocheilus* is a Digenea of the family Streididae. During its complex life cycle it encysts and lays dormant in fathead minnows awaiting the ingestion of its final avian host. Its presence alters the morphology and behavior of the minnow increasing the risk of predation. This evolutionary arms race between host and parasite has begun to be studied, but no molecular techniques have been employed to explore *O. ptychocheilus*’s population dynamics. This study has found five potential primers that may amplify microsatellite regions with *O. ptychocheilus*’s genome. The primers screened were from the related human parasite, *Schistosoma mansoni*, of the family Schistomatidae. The success of the primers indicates the usefulness of future screening of genetic markers in closely related families including the aforementioned, well-studied Schistomatidae.

**Genetic Variation in a Retail Population of Zebrafish (*Danio rerio*) and Implications for Ecotoxicology Studies**

*Megan Lisburg and Brian Johnson*

Zebrafish (*Danio rerio*) are popular model organisms in experiments designed to assess the effects of chemical pesticides on populations. However, the fish used in these tests were obtained from lab populations with unknown genetic backgrounds. We designed an experiment to determine if the genetic background of captive populations is significantly different from wild populations. In order to do this, we extracted genomic DNA from 32 zebrafish obtained from a captive population. We then amplified 5 microsatellite loci using PCR primers to assess genetic heterozygosity at each locus. The results were visualized using agarose gel electrophoresis. Our results were inconclusive, since all of the amplified PCR fragments ran to the same base-pair size on the agarose gel. We concluded that there could be an error in the PCR protocol.

**The assessment of DNA damage in zebrafish (*Danio rerio*) using a comet assay**

To assess the water quality of the Red River, in two different trials, zebrafish were exposed to river water samples upstream from post-waste water effluent discharge. After the exposure period, zebrafish erythrocytes were assessed using the comet assay to determine if there was DNA damage. The importance of these findings will indicate if the water quality, in the Red River contains genotoxic substances and the capability of producing carcinogenic affects in fish populations as well as detect if there is an environmental problem in this area from pollution produced by urban communities and industries.