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**"The Project will be Part of a Larger, On-going Study Describing the Reproductive Schedule of Several Species of Cyprinid ("Carp-like") Fishes in the Flint River East of Huntsville"**

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**Faculty Research Mentor**

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**Project Summary**

The project will be part of a larger, on-going study describing the reproductive schedule of several species of cyprinid ("carp"-like) fishes in the Flint River east of Huntsville. This work will help to clarify how these similar species partition ecological resources so as to minimize direct competition with each other for food and habitat. The basic protocols for this work are to make monthly collections of approximately 30 individuals of each study species and especially during the spring/summer spawning seasons for the species to excise gonads and characterize maturation status, overall gonadal size and size, and number of developing eggs of various stages.

**Student Duties**

The student will assist in the capture and identification of fish in monthly collections. Additionally the student will assist in the curation of these monthly collections including length and mass measurement, and quantify reproductive status of fish through gonadal examination. This will involve especially examining female fish ovaries, counting and measuring maturing eggs, and determining maturation of ovaries and eggs. The developing eggs removed from ovaries will be photographed using a digital camera mounted in a dissecting microscope so that the resulting images can be used for semi-automated counts and measurements using software we have adapted for that purpose. Training will be offered in all of these techniques, especially how to use the sophisticated digital camera and its software. The laboratory component of this

work can be scheduled for almost any time on a regular basis once the student is trained in these techniques, which usually takes several days of supervised work to fully understand. The student will be expected to contribute to daily log books about work performed and will contribute to ongoing work, and likely be a co-author of any resulting publication(s).

### **Mentor Supervision and Interaction**

Professor Stallsmith will be working in Huntsville all summer on this and other projects. Work will be based in his lab in the Shelby Center. This is an ongoing project, so work will be coordinated with and by several graduate students. The student will receive help and guidance, along with feedback, directly from Professor Stallsmith on a near daily basis who will always be available during the project especially for organizing and doing field work in the river.