

## Striped Tail Darter Project

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### Introduction

The goal of the *Etheostoma kenicotti*, Striped Tail Darter, project is to identify effects between the *Aethycteron* species gill parasites on reproduction of the Striped Tail darters by way of fecundity compensation. This summer the first major step was taken towards the goal by extraction of both the gonads and parasites of the fish from a collection of over three months at Estill Fork, Alabama.



**Figure 1**  
*Etheostoma kenicotti* image courtesy of *Fishes of Alabama and Mobile Basin*

### Materials and Methods

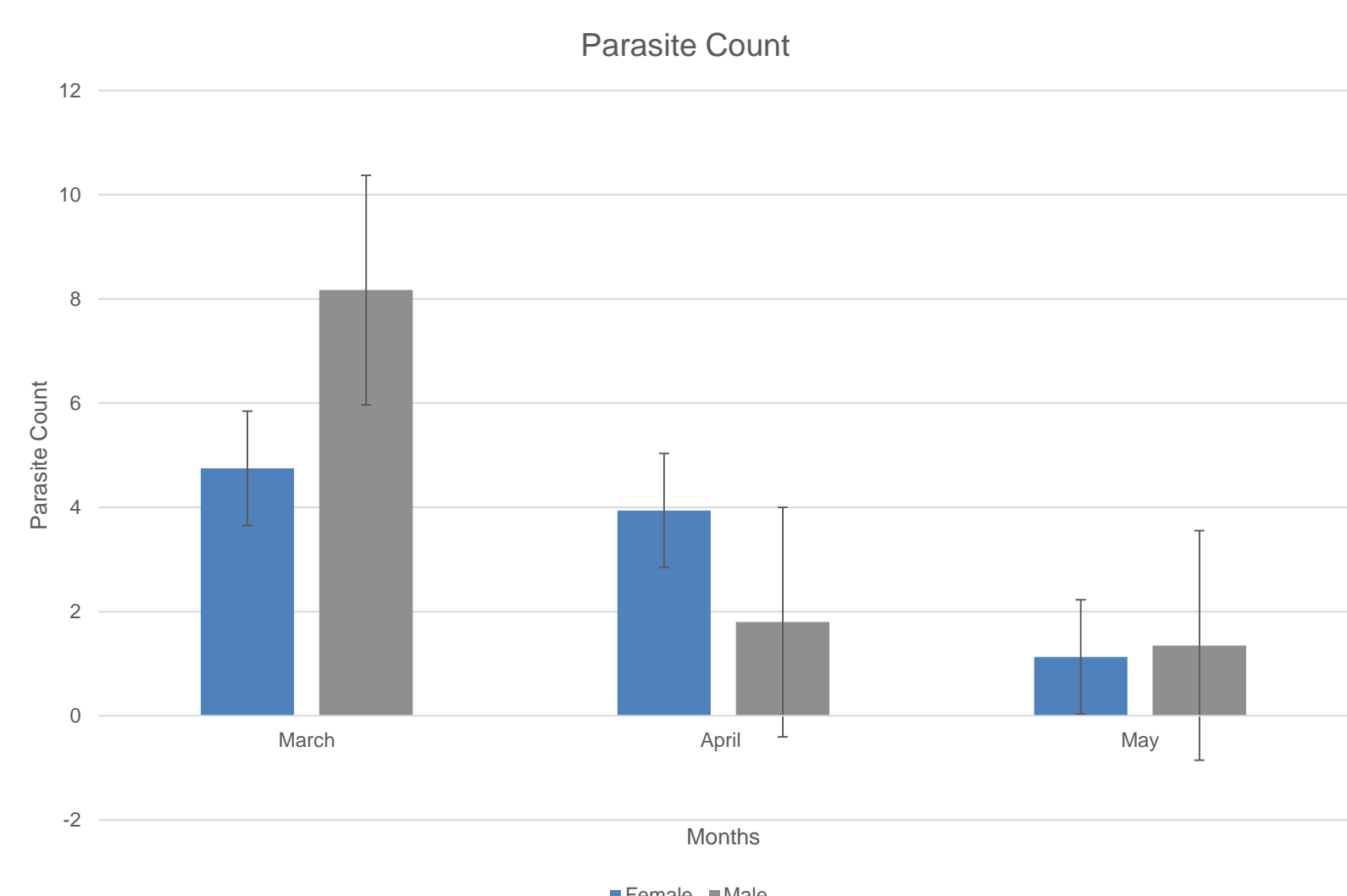
Collection of *Etheostoma kenicotti* was performed and fish were fixed in 10% formalin. The peak reproductive stage was then determined by dissection of each fish greater than 25 mm to remove the gonads, which were then massed and the data was recorded for the Gonadal Somatic Index, parenthetically GSI.

To identify the parasite count for each of the sexually mature Striped Tail Darters, the gills were extracted using Olympus SEX7 dissecting microscope and opening the outer gill flap with a probe and carefully cutting around the gills to extract from the connective tissue. A parasite count was performed by flipping through the gills and examining the gills with a probe. The parasites were then extracted and placed into tubes with 10% formalin.

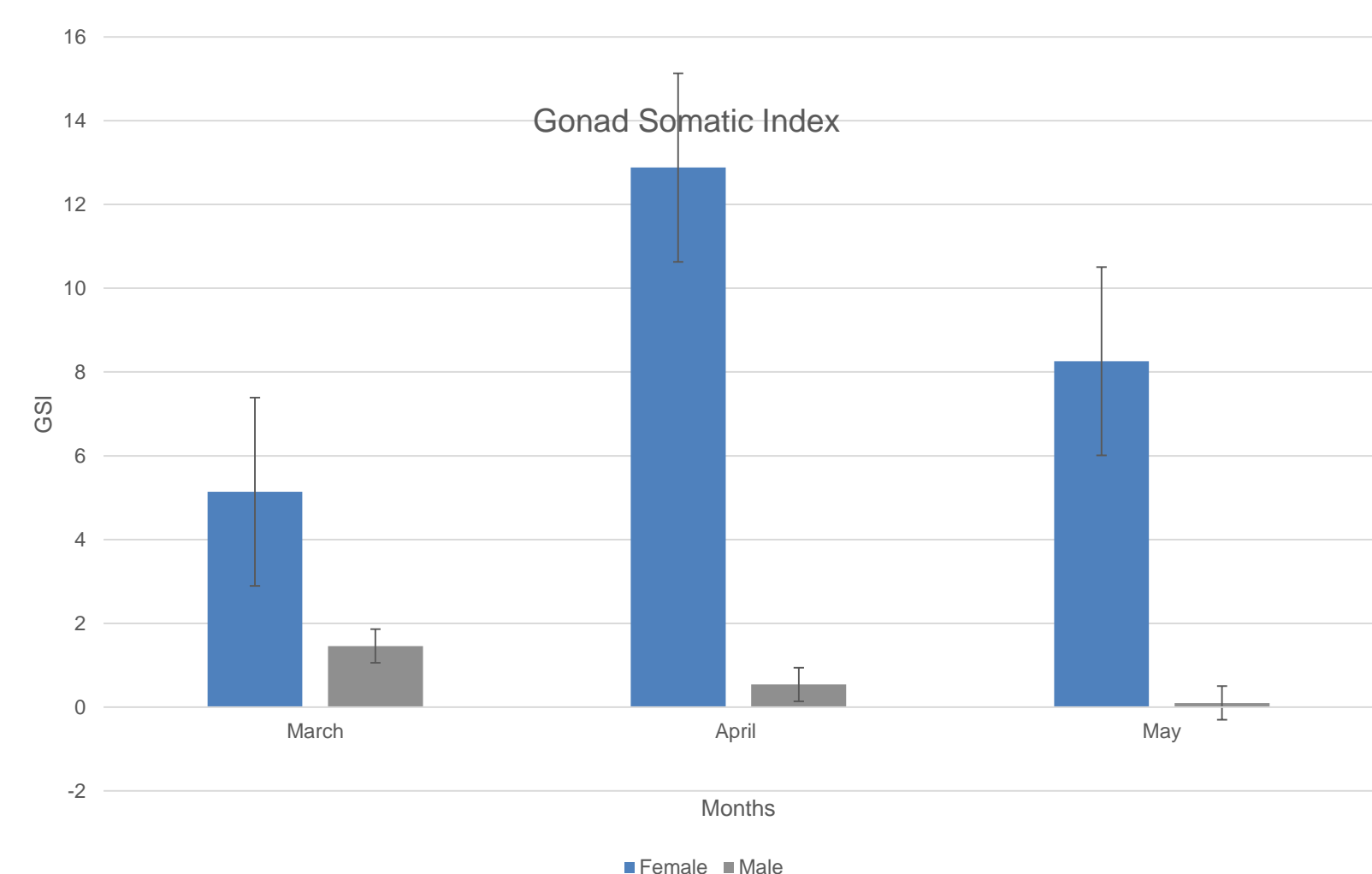
### Acknowledgements

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### Key Findings/Results



**Graph 1** Parasite count with the bars representing Standard Error



**Graph 2** GSI with the bars representing Standard Error

### Impact/Conclusions

As seen in the first graph, parasite count decreases through the three months with the peak being in April and a drop off in May, the beginning of peak reproduction stage. By comparing the **Graph 1** and **Graph 2**, the males average a higher parasite count than females even though females have a larger GSI. The data illustrate a relationship between the parasite and the darters with parasite counts decreasing later in the reproductive stages. Further research must be done on the oocytes of the females regarding clutch size and maturity of the females to begin to understand whether the fecundity compensation hypothesis was true.

### References

Kara M Million et al., "Does Infection by the Monogenean Gill Parasite *Aethycteron Moorei* Affect Reproductive Ecology of the Darter *Etheostoma Flabellare* in Mill Creek, Tennessee?" 105, no. 1 (n.d.): 75–81, doi:10.1643/CE-16-403.