Suzanne McGaugh

Title: "Little blind cavefish lead to big evolutionary insights"

Abstract:

Examples of parallel genetic evolution are impressive. With thousands of genes in the genome, why phenotypic evolution would be driven by the same gene across multiple species is a mystery. In this talk, I will introduce an emerging model system to study convergently evolved traits, the eyeless Mexican tetra, Astyanax mexicanus.

We have found evidence that geneflow transports cave-derived alleles among cave populations, and we discovered a population where rapid shifts to a cave phenotype have occurred, allowing us a unique opportunity to study potential rapid evolution in a population that is likely not experiencing geneflow with established cave populations.

Cavefish are also remarkable in that they sleep substantially less than surface fish. We found sleep homeostasis is intact in cave population, despite dramatic reduction in baseline sleep duration. Finally, we find that cavefish exhibit highly dysregulated circadian clocks compared to surface fish.