DEPARTMENT OF BIOLOGY | UNIVERSITY of WASHINGTON

Aubrey Gorbman Endowed Biology Seminar

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Mechanistic Flexibility Shapes Behavioral Evolution

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Genetic, developmental, and physiological mechanisms all impact evolutionary trajectories and hence may shape responses to selection. We examined the extent to which genetic and neural mechanisms limit behavioral evolution in guppies by leveraging the parallel evolutionary transitions in Trinidadian guppies. Much prior work has characterized the parallel changes in a suite of social and antipredator behaviors that follow independent colonization of low-predation sites by guppies originally from high-predation localities. Genetic, transcriptomic, and functional neuroanatomical studies all indicate that diverse mechanistic changes can mediate parallel behavioral variation, and that this mechanistic flexibility promotes novel phenotypic combinations and rapid behavioral evolution.

Seminar Speaker Host: Sujay Balebail