

Life Sciences

James Wesley Anderson is a second semester graduate student in the biological sciences master's



program at UA. He is currently working on two projects in the O'Donnell Lab. His first project deals with investigating the roles that the various isoforms of 14-3-3 zeta proteins have in regulating Tyrosine Hydroxylase (TH) activity in *Drosophila* (fruit flies). TH is the rate limiting enzyme in the dopamine biosynthesis and by studying the regulation of the dopamine biosynthesis pathway. James's project could provide more insight into possible genetic therapeutic targets for curing

Parkinson's disease. His second project involves studying the effects that exposing juvenile flies to paraquat (a neurotoxin) has on those flies in adulthood. James is a devoted researcher with a strong interest in contributing new information to the scientific community. He enjoys his research and takes it very seriously. Upon completion of the master's program, he plans to pursue a Ph.D. in the biological sciences.

Cassandra Lynn Coleman is a first year master's graduate student in the Department of Biological Sciences at UA. She is specializing in systematics within the ecology, evolution and systematics concentration. During her first semesters she was accepted for membership into the Gesneriad Society, American Society of Plant Taxonomists, Botanical Society of America, Society of Systematic Biologists and Sigma Xi. She has received numerous travel awards

to present her research and plans to attend the Botany and Mycology 2011 conference this summer. Also this summer, Cassandra will be returning to Ecuador to finish conducting the field aspect of her research. She is currently constructing a revised phylogeny with multiple genetic markers for the genus *Gasterathus* under the guidance of Dr. John L. Clark. Her field work is an extension of this phylogeny and she is studying the pollination and pollinators associated with these flowering plants to better understand co-evolution and changes in floral morphology. This research has allowed



Cassandra to work with undergraduates and scientists not only in the U.S., but also in South America. Her research also illuminates the problems associated with deforestation, especially in areas of intense biodiversity that have had little or no exploration. Cassandra has shown to be a dedicated and hardworking student. When not putting in long hours preparing her specimens for DNA sequencing or running analyses, she can be found deep in the rainforest battling the elements to better understand the unique characteristics and diversity in multiple plant families. After earning her Ph.D., her ultimate hope is to create a better understanding of evolution of pollination systems and plant diversity in remote and poorly understood tropical areas. She has a profound passion for her work and its potential to benefit the preservation of the world's rainforests.