CSUN Department of Biology

BIOSPHERE

The Weekly Bulletin of Biology

Biology Colloquium: Friday, 21 September 2012, 2:00 pm in CR 5125

"Ontogenetic Shifts in Functional Roles in Tropical Forest Plants"

Alexandra Reich-Tower, Ph.D.
Department of Life Sciences, Santa Monica College

Jeanne Robertson, Evolutionary Biologist

Dr. Jeanne Robertson is a new Assistant Professor. Here's our interview.

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Biosphere: Welcome to CSUN.
Robertson: Thanks. I'm thrilled to be here!
B: What are the biological questions that excite you most?
R: They're about the process of diversification at the population level. How populations diverge. I study genetic diversity, phenotypic diversity—like differences in color and behavior—and geographic distributions. All of these aspects of diversity are involved in lineage diversification and potentially speciation. It will be easy for students to come into my lab and study the divergence of genes, color, and behavioral. Many vertebrates use color to communicate socially, such as in male–male competion or mate recognition.
B: Can you give some examples?
R: I have worked on lizards that live on white sands or darker soils where natural selection has shaped their color, but social selection also affects color. An example would be the blue belly patches of fence lizards. These patches are used in both male–male aggressive encounters and for

mate attraction.
B: You're into vertebrates then?
R: I like catching hand-sized animals. It's fun to hold them in your hand, and I think it's important to have fun. My research mostly involves reptiles and amphians, but I'd also welcome students who study invertebrates or plants.
B. What kinds of local fieldwork would you'd be interested in starting?
R: The local work I'm excited about is on the Channel Islands. I am working on comparative phylogeography of most of the amphibians and reptiles there. Islands

are very interesting because they are isolated from the mainland, start from a small founding population, and evolve island adaptation

B: What are the groups?

R: Fence lizards, side-blotched lizards, night lizards, treefrogs, and two salamanders (one that lives only on the Islands). So I welcome students who want to spend time on the Islands.

B: And abroad?

R: The other work I'm doing is in Costa Rica and Panama on the role of sexual selection in mediating color divergence in Red-eyed Treefrogs. My previous work suggests sexual selection plays a role. We now need behavioral trials to test whether there's local preference for color-specific mates. I'm looking for a student to come to Costa Rica and Panama next summer.

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B: You're also teaching the new course, Molecular Markers in Evolution & Ecology?

R: Yes, in the lab component, students learn how to extract DNA, amplify mitochondrial and nuclear genes, and genotype individuals using microsatallites. Students will score and clean up the sequence data, then analyze it. We're using local lizards because we have collecting permits. After students finish the class, they can apply the methods to other organisms—fishes or whatever.

B: Tell us about your education etc.

R: Most recently I was a postdoc at Colorado State working on the landscape genetics of frogs from the Pacific Northwest. Before that I was a postdoc at the University of Idaho studying lizard behavior in New Mexico. I earned my Ph.D. at Cornell, with fieldwork done in Central America. My Masters was done at Southern Illinois University, and I did my undergrad at UC Davis.

B: What were some of your formative teaching experiences?

R: As a grad student, I TA'd Vertebrate Evolution, Herpetology, Intro Biology, and a field course in Costa Rica. One of my most powerful teaching experiences was at Southern Illinois University. I had a veteran who got an "F" on his first test in Intro Bio. I told him, "Come to my office hours." and pretty soon I told him, "Instead of me telling you, you tell me what you learned, and if you can teach it to me, then I'll know you've started to understand it." He rose to the challenge! Before you knew it, he was taking responsibility for his own learning. He ended up with an "A." That's when I knew I loved being part of other peoples' learning.

B: That was Intro GE Biology?

R: Yes, that class made me love teaching Intro Bio, because of the diversity of students and how they get really excited about learning biology.

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B: So why did you choose CSUN?

R: The focus on organismal biology and field biology. This department values what I value: whole organisms studied in the field and understanding their natural history. The location is phenomenal for field studies: the Santa Monica Mountains, the desert, the Channel Islands, the higher mountains. And I also really wanted to be at a place that serves a very diverse population. Education is really important to me, and I want to be a part of providing education to people who want to learn, like my veteran student.

B: What are your hobbies?

R: I'm really excited about bringing surfing back into my life. I like being outside: biking, hiking, and surfing.

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