

Research Assistantship/Internship – 1 June to 22 August 2009
Female Choice Experiments with Tungara Frogs
Smithsonian Tropical Research Institute, Panama

Assistants are needed for a continuing study of sexual selection and the evolution of the communication system in the tungara frogs by Dr. Mike Ryan, University of Texas and Dr. Stan Rand (who recently passed away), Smithsonian Tropical Research Institute. The main part of this study involves conducting female choice experiments for 3 months (June-August) each wet season. Each year the tungara group includes a pair of assistants, one a North American student and the other a student from Latin America who have formed a competent and reliable team. Typically, the assistants become well integrated into the conceptual background of the project and often conduct their own independent studies which have been published in international peer-reviewed journals. Working and living closely together provides both assistants with an intensive intercultural exchange that has been positive for them and for us. Dr. Ryan is usually present during the month of June. The day-to-day operations are run by one or two of Ryan's post-docs or graduate students, who have had multiple years of experience in studying tungara frogs for their Ph.D. theses.

The assistants, after an initial training period, are responsible for collecting mating pairs of tungara each evening in the vicinity of STRI's facilities in Gamboa. The females are brought back to the lab in Building 183 where the phonotaxis studies are conducted. Females are placed in a large, walk-in acoustic chamber and allowed to choose between pairs of stimulus calls, presented from opposing speakers. The assistants record choices made, paths traveled, time spent choosing, etc. After the test session the assistants mark the females and return them to the sites where they had been collected. A typical working night is from 7:30 PM until 3:30 AM. The assistants shift their daily schedule to a nocturnal one for these three months.

The stimulus calls are computer synthesized and computer presented. The assistants become familiar with this operating system, Signal. They also enter the data they have collected in Excel ,and learn these data management tools as well.

The initial training includes an introduction to the tungara project as a whole and the rationale underlying the tests to be running, the protocols, experimental design and statistics to be used are discussed. Each day the test results of the previous night are reviewed and the selection of new tests discussed. Often research reports are presented and discussed. The papers, reports, grant proposals and manuscripts that have resulted from the project so far are made available and the assistants are encouraged to read and discuss these and the related literature with us. The assistants are expected to work about 8 hours a day, on an average of 5 days a week. Assistants often will accumulate days off to afford hem the opportunity for extended trips in Panama. How students spend their time off has varied greatly, depending on the individual. Most have taken advantage of opportunities to explore the local environment, talk to other STRI visitors and residents in Gamboa and at other facilities, and to visit other parts of Panama. Some conducted pilot research for their PhD theses, three others completed small but publishable projects on

frog oviposition behavior, still another collected the data for her master's thesis, others have collaborated with Ryan and Rand on short papers on results during the season.

Two assistants share a 1 bedroom apartment in the STRI building in Gamboa. Round trip airfare to Panama will be paid by the project and an assistant will receive \$1,000 per month to cover living expenses in Panama.

Assistants are usually beginning graduate students or advanced undergraduates. They must have a working knowledge of English, a drivers license is useful. Preference will be given to applicants with an interest in pursuing studies in animal behavior.

For more information about the tungara frog project contact Dr. Michael Ryan at mryan@mail.utexas.edu. Additional information about the tungara project and Ryan's other research interests can be found at his web site at <http://www.sbs.utexas.edu/ryan/>.