Photosynthesis is the process by which plants use sunlight to synthesize nutrients from CO\textsubscript{2} and water releasing oxygen as a by-product. Through this unique specificity, plants are actively involved in biogeochemical cycles, especially controlling the water, carbon and oxygen cycles and are supplying the organic compounds and most of the energy necessary for life on Earth. However, photosynthesis is among the first processes to be affected by drought. Climatic studies predicted that global warming would impact water availability worldwide before the end of the century therefore threatening ecosystems’ functioning. In this context, it is paramount to investigate how plants sustained their photosynthetic processes during periods of past aridification. Such knowledge will allow developing models underpinning accurate predictions of the response of vegetation to droughts and design conservation programs. In addition, drought is responsible for the majority of global crop loss, so understanding the mechanisms that plants have evolved to survive water stress is vital for engineering drought tolerance in crops. About 7% of flowering plants (ca. 16,000 species) have developed a type of photosynthesis (Crassulacean acid metabolism; CAM) allowing coping with droughts by minimizing evapotranspiration. Although the morphological and physiological features of CAM photosynthesis are well documented, the genomic processes triggering its emergence are still poorly known. The PhD candidate will investigate this question by using a multi-disciplinary approach combining gene expression patterns with phylogenomic tools using a group of dry-adapted terrestrial orchids as model. The student will have the opportunity to travel for fieldwork with collaborators. This position includes support in the form of research and teaching assistantships, tuition and fee waiver, and health insurance.

We are seeking someone who 1) possess quantitative and programming skills (or a passion for developing these skills), 2) has field experience in collecting plants in tropical regions, 3) has an enthusiasm for studying evolution and genomics, and 4) enjoys working independently and as part of a team. Master’s degree, a background in analyzing next-generation sequencing data and interest in tropical botany is preferred but not necessary. Please address your qualification for each of these points in your cover letter. The position starts 14 August 2017. The Ecology, Evolution, and Behavior PhD is a new and modern graduate program at Boise State University. To learn more please visit: https://biology.boisestate.edu/graduate-programs/eeb/

To Apply: send via email in a single file attachment (include your last name in the file name): a cover letter that states qualifications and career goals, a CV with the names and contacts for 3 references, copies of transcripts (unofficial are O.K.) and GRE scores and percentiles (not combined) to Sven Buerki (svenbuerki@boisestate.edu). Applications will be reviewed as they are received until 10 June 2017. If you do not have GRE scores by the deadline your application cannot be considered.