

Project Update: May 2018

This project is currently in the stage of data entry and biological sample analysis. My current goal is to use the fecal samples (n=283) collected from my field season (August-December 2017) to assess physiological stress in golden-crowned sifakas (*Propithecus tattersalli*) by measuring fecal glucocorticoid metabolites (FGMs). However, few studies have evaluated whether FGMs are a reliable proxy of glucocorticoids within the blood. Since there are no longer any *P. tattersalli* in captivity, blood and feces from a related species must be used to effectively perform a hormonal validation. The coquerel's sifaka (*P. coquereli*; pictured on the left) is the closest extant relative to *P. tattersalli* and



displays similar life history characteristics including group and home range size, reproduction, and diet. Thus, I am currently working with the Duke Lemur Center in North Carolina, USA to complete a hormonal validation using captive *P. coquereli* blood and fecal samples. This extensive validation, a crucial step in understanding the importance of FGMs, will be performed to ensure that FGMs are an effective measure of stress responsiveness. We have currently obtained eight blood samples (with six more to go) and corresponding fecal samples to conduct the validation and run an RIA (radioimmunoassay) to quantify stress levels. Once the validation is complete, we will be able to effectively quantify glucocorticoid levels in golden-crowned sifaka fecal material. The resulting data will be used to determine the influence of habitat

type and degree of fragmentation on *P. tattersalli* stress physiology and determine the degree of fragmentation they can handle before declines in their physiological health occur. Knowledge of this threshold will allow us to focus restoration efforts and forest protection in appropriate habitat types and locations.