



The Department of Ecology and Evolutionary Biology Spring 2018 Seminar Series

Mammalian Thermoregulation in Hot Climates: Clues for Deciphering the Past and Predicting the Future

Despite a large body of knowledge on the thermoregulation of temperate and cold-climate endotherms, our functional knowledge of endotherms in tropical and subtropical climates remains incredibly scarce. In particular, their use of facultative heterothermy, lowering or raising body temperatures to conserve energy and/or water, has been understudied. Small endotherms (<5kg) are often assumed to live predominantly at temperatures below thermoneutrality. Tropical and subtropical mammals, however, routinely experience temperatures above the lower critical limit of the thermoneutral zone. Therefore, unlike temperate species, that must consistently generate heat to maintain elevated body temperatures, low latitude species spend more time at thermoneutrality and therefore can spend the energy elsewhere. As well as providing a general overview of some of the forms of heterothermy observed in warm climates, I will review the results of field studies on a highly heterothermic nocturnal mammal (the greater hedgehog tenrec, *Setifer setosus*) and a homeothermic (yet thermally labile) diurnal mammal (the large treeshrew, *Tupaia tana*). I will discuss the costs and benefits of heterothermy in warm climates, the evolution of homeothermy in mammals, and how knowledge of all of these factors can help predict which species will be the most vulnerable to climate change.

Friday, March 2, 2018

SERF 307 - 3:30 PM

Pre-talk Reception 3:00 PM in Dabney 575

