

November 21, 2013

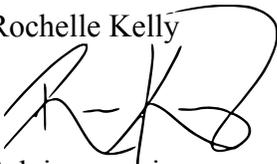
Dear Dr. Cook,

I would like to request specimens (skulls) of *Antrozous pallidus* and *Macrotus californicus* to photograph for a preliminary analysis comparing their cranial and dental morphology. I will use clay to carefully position the skulls and mandibles on a stage and take digital photographs in the lateral, dorsal, and ventral view. Specimens will be stored within specimen cases at the University of Washington's Burke Museum Mammal collections.

I am a first year graduate student in Dr. Sharlene Santana's lab and I am interested in comparing the cranial and dental morphology of these two species in their region of sympatry. To assess whether competition for food resources has led to character displacement in *A. pallidus*, I will compare the sympatric populations with allopatric populations along a latitudinal gradient of their range. Previous traditional morphometric analysis found latitudinal variation in the cranial morphology of *A. pallidus* (1). Using a geometric morphometric approach, I will investigate the cranial shape variation of *A. pallidus* and compare this with an ecologically similar species (*M. californicus*). While these species are distantly related, the similarity of their foraging strategies and documented prey types (2, 3), make them ideal to investigate whether resources partitioning has led to character displacement. Including a gradient of samples will permit me to explore whether character displacement may be the mechanism explaining the observed variation, or the alternative hypothesis that variation in the cranial and dental morphology of *A. pallidus* may represent a response to local environmental conditions. Thus, I am requesting a preliminary sample of the skulls of the specimens listed in the attached file.

Thank you for your consideration,

Rochelle Kelly



Advisor co-sign:



Dr. Sharlene Santana

1. C. O. Martin, D. J. Schmidly, *Spec. Publ. Museum Texas Tech Univ.* **18**, 1–48 (1982).
2. G. P. Bell, *Behav. Ecol. Sociobiol.* **10**, 217–223 (1982).
3. G. P. Bell, *Behav. Ecol. Sociobiol.* **16**, 343–347 (1985).