This paper presents the ecological niche separation between *Lemur catta* and *Eulemur* sp., and the limits of that niche that may allow both native ring-tailed and introduced brown lemurs occur in sympatry in fragmented gallery forest. The study has been accomplished during one year long in 2009. Diet and habitat use have been recorded at 5-min time points on focal animals. 5-min scan sampling has been employed to describe the activity and ranging patterns of both species. Multivariate and bivariate analysis of frequencies will be used to evaluate the niche partitioning between both species according to sex and season. This study will determine the effects of the resulting hybrid population on the behavior and distribution of the endemic ring-tailed lemurs and whether feeding competition with brown lemurs are among the reasons of forest declining and changes of ring-tailed behavior. Evidence shows that ring-tailed lemurs shift from dense, territorial spacing in the gallery forest to smaller and undefended ranges, in adjacent open forest and tourist areas that contain alternative food sources. From this research, we hope to understand the development of primate niche separation and to provide conservation recommendations for management of fragmented gallery forest under extinction.

Keywords: niche partitioning, habitat use, feeding competition, fragmented forest.