



Brain allometry and the evolution and behavioral ecology of *Myrmecia*

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The genus, *Myrmecia* is restricted to the Australia continent where the group has diversified nearly 100 species. Their ecology has a broad range from tropical to desert environments and they have extensive activity cycles ranging from strictly diurnal or nocturnal to crepuscular. Although this broad ecological diversity if not unusual in many ant genera, this diversity coupled with a group largely reliant on vision is unique. Perhaps most unique is many species rely on vision for both navigation and foraging at night, something only a few hymenoptera are known to do. We examined the brain investment of *Myrmecia*, along with their neuronal investment in their visual system in comparison to other ants. We also quantified how this investment was distributed between nocturnal and diurnal species. We found that *Myrmecia* brain allometries are different from other ant species and discuss the implications of their diversification in relationship to their ecology.