

Libby Daley – Madagascar 24<sup>th</sup> July – 26<sup>th</sup> August 2018

This summer I spent 2 months in Anjajavy Private reserve in the north west of Madagascar, working as a Scientific Intern in Anjajavy le Lodge, the ecotourism hotel that governs the 750-hectare reserve and recently acquired greater Protected Area. Owing to extended isolation, its latitudinal range and topographic variability which has prompted extensive evolutionary diversification, Madagascar was an extraordinary level of biodiversity and an exceptionally high level of endemism. The country further achieves “biodiversity hotspot” status due to extent of anthropogenic habitat destruction which constitutes a real and pervasive threat to the weird and wonderful creatures living there.

In Anjajavy, the primary ecosystem type is a critically endangered dry deciduous forest composed of old growth trees like Palisanders, Ebonies and the iconic Baobabs, which is under threat from deforestation and a lack of seed dispersing giant tortoises. Madagascar used to host two species of giant tortoises, the Abrupt Giant Tortoise and Granddier’s Giant Tortoise, both of which were hunted to extinction by humans in the last few centuries. Their loss has had a large impact on the local ecosystem, the extent of which is only now becoming apparent. Baobabs, in particular, are now considered seed dispersal limited and have extremely poor germination success rates in the absence of giant tortoises, the guts of which both release the seeds from the hard-coated fruit and stimulate growth. In recognition of the importance of giant tortoises in ecosystem maintenance, Anjajavy is now conducting the first rewilding project of Aldabra Giant Tortoises on mainland Madagascar, following the success of similar projects on nearby Indian Ocean islands. The twelve newly introduced tortoises mark the start of a population that will hopefully replace the function of their extinct relatives, boosting ecosystem regeneration and complementing the hotel’s reforestation efforts.

The purpose of my stay in Anjajavy was to study this project while it is in its infancy. During my two-month stay I conducted a vegetation survey across the distinct ecosystems found in the reserve which included black mangrove, deciduous forest, beach peripheral and savannah to characterise species composition and follow any changes across the dry season. I further mapped the distribution of old growth Baobabs across the Private Reserve to test the seed-dispersal limitation hypothesis. In addition to potentially forming the basis of one of my part II projects, this information will provide a baseline assessment allowing further research into the impacts of these tortoises to be able to compare to a pre-tortoise control data set.

I am extremely grateful to the college for helping fund this trip, the experience of viewing this front-line conservation project first hand was utterly inspirational to me. In addition to allowing me the possibility of using my own independent research to compose part of my assessed part II projects, it further provided me with personal context to apply to the content of my lectures and valuable transferable skills.