

# JAMES RENNIE BEQUEST

## REPORT ON EXPEDITION / PROJECT / CONFERENCE

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| <b>Expedition/Project/<br/>Conference Title:</b>                                        | Operation Wallacea South Africa Research Expedition                                                                                                        |
| <b>Travel Dates:</b>                                                                    | 26 <sup>th</sup> June-10 <sup>th</sup> July 2026                                                                                                           |
| <b>Location:</b>                                                                        | Gondwana Game Reserve, Herbertsdale, 6505, South Africa                                                                                                    |
| <b>Group member(s):</b>                                                                 | Hannah Alice Udall                                                                                                                                         |
| <b>Aims:</b>                                                                            | Monitor the conservation success of current management strategies in Gondwana game reserve through vegetation surveys, dung sampling and mammal transects. |
| <b>Photography consent form attached:</b><br><i>(please refer to your award letter)</i> | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                                                                                     |

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### OUTCOME (a minimum of 500 words):-

This summer I joined the research team at Gondwana Game Reserve and experienced the magic of the fynbos, whilst assisting the reserve in monitoring the mammal population behaviour and health. Gondwana Game Reserve is a special place trying out something novel – they have introduced animals not typically found in the fynbos ecosystem with the goal of both conserving threatened animal species and the highly plant diverse and rare fynbos and renosterveld habitat. I got the chance to speak with the people managing the project, and they spoke about needing to find ways of conserving our natural world which works in the real world and is resilient. Through tourism, primarily to see the large mammals, this project hopes to be economically self-sustaining, preventing the development of the land for other uses and in turn protecting fynbos and renosterveld biodiversity.

The days at Gondwana Game Reserve follow a full schedule with the main task being mammal transects. These involve driving down set routes and recording the mammals seen plus other data such as how far away they are, the vegetation they are in, their health, and sex. We learnt how to identify and record these characteristics during the daily lectures. Some mornings we also did a bird point count survey which involved noting down the birds seen or heard at a point within a set time period – using identification knowledge we also acquired through the lectures.

One particularly interesting project at Gondwana is dung sampling. The dung sampling has two aims- the first, with the elephants, is to monitor the cortisol in the dung as a proxy for elephant wellbeing. Many of the elephants on the reserve are rescued and have had interaction with humans which affects their emotional wellbeing. Furthermore, elephants are not used to being enclosed and are often given contraceptives to prevent population expansion, as there is simply not enough land for lots of elephants. This can also affect their emotional and physical wellbeing. The second aim of collecting the other herbivorous mammal dung was to monitor their diet. Their residence in the fynbos does not reflect their historical distribution so they are often feeding on novel vegetation and is important to know to see if they are getting the proper nutrients, as well as which part of the landscape is under grazing pressure. It is also useful information to understand if their behaviour has changed, from grazer to browser for example, due to being in a new ecosystem. We often observed novel behaviours in the feeding behaviour of the mammals due to this circumstance. To sample the dung, we had to wait for fresh material and then put some into sample tubes following antiseptic protocols, noting down the individuals age and sex.

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One of the more vegetation focused tasks was the vegetation surveys. This involved surveying long term survey plots in areas with different characteristics. They differed by ecosystem type, burn frequency and exclusion or inclusion of herbivores. Here I learnt how to identify various important fynbos species, as well as invasive species. I also got the opportunity to learn how the reserve managers decide the burn frequency and mammal load of the sites to preserve the plant biodiversity, through the monitoring of these experimental plots and a dynamic approach to habitat management. This wasn't all I got to experience of the botany of the area! Despite not being able to roam around the reserve on foot, understandably, due to the presence of lions, elephants and other large animals, the camp managers at Gondwana allowed me to experience special, often endemic, botanical specimens on our drives when it was safe. The team at Gondwana evidently love the biodiversity of the area and were very enthusiastic about any animal or plant requests we had. As long as the main surveys were done we had the opportunity to experience the magic of the biodiversity here. I fell in love with the colour *Erica unicolor* var. *mutica* (a heather species) and *Melinis repens* (a grass species) gave to the landscape! Other favourites include the delicate *Moraea polyanthus* covering the landscape and the fairy-like *Hermannia angularis* which were a joy to see.

My two weeks at Gondwana Game Reserve were life changing. I am so grateful for the experience and very thankful to the James Rennie Bequest Committee for giving me the opportunity to have this educationally rich and formative experience. I learnt such a lot about how conservation decisions are made, especially when priorities can be conflicting and collected data to help make the management decisions at Gondwana Game Reserve achieve their conservation aims.



*Hermannia angularis*, an angiosperm species endemic to the South African Cape.



Taking samples from fresh rhino dung.

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*Moraea polyanthus*, an angiosperm species endemic to the Western and Eastern Cape region.



Waiting for the elephants to drop dung that we could sample.



Collecting data in one of the quadrats of a vegetation survey.