

JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

**Expedition/Project/
Conference Title:**

Operation Wallacea Expedition – Mexico 2012

Travel Dates:

11th June 2012 – July 8th 2012

Location:

Calakmul Biosphere Reserve and Akumal

Group member(s):

Francesca Jagger

Aims:

To collect data for a baseline biodiversity survey of Calakmul Biosphere Reserve.

To assist Centro Ecológico Akumal in beach surveys and turtle monitoring and reef conservation projects.

OUTCOME (not less than 300 words):-

The money provided to me through the James Rennie Bequest allowed me to spend four weeks as a research assistant in the Yucatan peninsula, Mexico. The first three weeks were spent in the Calakmul Biosphere Reserve conducting studies for a baseline biodiversity survey. The final week was spent in Akumal working in partnership with Centro Ecológico Akumal (CEA) to conduct beach surveys of tourists and monitor turtle populations both laying on the beach and feeding in the sea grass beds.

The three weeks spent in the jungle were used to help gather data on mammals, birds, herpetofauna and bat populations. Data on the vegetative composition of the forest was also gathered. In total there were 10 transects within the reserve. Five were situated 20km into the reserve around the base campsites for the project. One was situated at kilometre 27 (km 27) and four were located around the Mayan ruins of Calakmul (Fig. 1), two within the ruin site and two outwith.



Figure 1 – One of the ruins located at Calakmul. The forest has grown over many of the old pyramids and a variety of wildlife may be found both in and around the site.

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Mammal data was collected through spot counts of selected species and through the identification of tracks whilst walking along a 2km transect. This taught me the necessity of staying quiet in mammal surveys and provided me with the ability to spot tracks.

Bird and bat data was collected using mist nets to capture, mark, and release individuals. During the course of the three weeks I became proficient at setting up and taking down mist net. I also gained experience handling wild birds (Figure 2), knowledge about relevant data to collect and marking techniques. The bird team also performed point counts within the quadrats. Whilst the level of knowledge to perform this was outside the ability of research assistants, I learnt through the ornithologists some of the local bird calls and became capable of identifying a number of species by site.

Herpetofauna data was collected using a catch and release method of active searching along a transect. This experience allowed me to practice reptile handling techniques along with capture techniques to minimise lizard autotomy.

Habitat surveying of vegetation involved identifying tree species, measuring diameter at breast height (dbh) and using a clinometer to calculate tree height. This had to be done for every tree with a dbh of over 15cm within a 20x20m quadrat of dense forest. There were approximately 50 quadrats and thus was quite a task. Without the aid of research assistants like myself, this would have been nearly impossible to complete within the three months which the project ran for. Through participating with the habitat team I gained relevant experience in identification of Mexican tree species and also skills clearing transects using a machete.

My time in the jungle gave me a feel for forest life and a wide variety of abilities and knowledge regarding a range of animal and plant species.

The final week of my expedition was spent in relative luxury when compared to the forest. The week at Akumal was spent scuba diving, snorkelling and carrying out beach and turtle surveys as well as completing a reef ecology course.

I worked to assist Dr. Gregory Cowie from the University of Edinburgh in his research into water quality in and around Akumal. This involved acting as his dive partner during a survey dive in which water and algal samples were collected. Through the opportunities to scuba dive I gained an understanding of sub-aquatic research techniques as well as confidence as a newly qualified diver.

I also assisted CEA staff in their turtle monitoring. This involved identification of turtle species and gender during snorkelling sessions in Akumal Bay. Furthermore, I participated in night time surveys of nesting turtles, marking egg sites when the turtles had finished laying, as well as measuring the size of the females which came up to shore. Lastly, I got the opportunity to release baby turtles back into the sea. These experiences gave me an appreciation for the plight of sea turtles as well as knowledge of turtle identification and survey techniques.

Figure 2 – A male Northern Royal Flycatcher, *Onychorhynchus coronatus mexicanus*, caught in one of the mist nets.



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The final task during my week in Akumal was beach surveys. This involved patrolling the beach and counting tourists. Whilst not directly related to zoology this was an important task to monitor tourist numbers both in the water and on the beach which could impact the sea grass beds in the bay and the turtles directly.

In conclusion, through my three weeks living in the forest and my one week of reef ecology I feel I learnt a great deal about the local wildlife, both through hands on data collection and via the supplementary lectures. It has acted as a learning experience that is beneficial to myself as a person and also to my degree interest as a zoologist. Without the aid of grants like the James Rennie Bequest I would have been unable to gain this experience and organisations like Operation Wallacea would be unable to perform vital conservation research.