JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/Conference Title: Research assistant on a scientific conservation expedition to Cuba.

Travel Dates: The 31st of July 2009 until the 27th of August 2009

Location: Punta Frances, Isle of Youth, Cuba

Group Member(s): Jonna Nilsdotter

Aims: The purpose of the expedition was to collaborate with the University of Havana to assess the biodiversity in a remote area of the Isle of Youth, Punta Frances, which has been designated Marine Protected Area, including:
- doing quadrats estimating the percentage cover of different coral species.
- monitoring manatees in a mangrove habitat.
- monitoring turtle nesting.

OUTCOME (not less than 300 words):-

This summer I spent four weeks on the beach at Punta Frances, on the Isle of Youth, outside the south coast of Cuba. There I attended an expedition as a research assistant, working for the University of Havana, with the organisation Operation Wallacea. The first week was spent getting prepared for doing field work. Firstly, I took a diving certificate and attended a Cuban reef ecology course to be able to do transects of corals in the ocean. The overall purpose of this sub-project was to compare two different sites in the ocean; one where there is frequent diving taking place, and one where there is less diving. Our role in the project was to assess the percentage cover of three different genera of coral at the site with more diving. The three coral genera were *Diploria, Montastrea,* and *Agaricia.* We used quadrats and dived down to between 12 and 15 meters to estimate the percentage cover of the corals and to note down if there were any diseases on any of the corals present. We found that many of the corals were infected by different diseases, mainly the White plague disease and the Black band disease. All three genera were common on the diving sites.

Due to the reduced number of turtle nests this year the turtle project could not be conducted as planned. Punta Frances is an acknowledged site for turtle nesting and there has been turtle monitoring there since 2005, so the objective was to do monitoring of the number of nests, the number and size of the eggs and baby turtles to get an estimation of the size and health of the population. The turtle species found here is mainly *Caretta caretta,* Loggerhead. However, this year only three nests with turtles were found, compared to the normal 40. There are probably natural reasons for the decline in nests, as the number of turtles that return to the beach to nest varies in a cyclic manner. The Loggerhead turtle returns after about 15-20 years to the same place where it was born, to nest. The nests that were found on the beach were marked out and monitored and when the baby turtles were born data of abundance was collected. An important task was to aid in their trip to the sea during night time, making sure they were not disturbed or disrupted. Because it takes so long for the turtles to become sexually mature and nest they need to be able to recognise the beach.

During the third week I helped out on a long-term project run by the University of Havana to estimate the population size of manatees around the Isle of Youth, as well as finding out their genetic origin and how they migrate in the water seasonally. During this week I stayed on a research boat owned by the University of

Havana, the Felipe Poey. Among the tasks was to do observations from a smaller boat which was able to go further in to the mangrove area. During these observations we were looking for any traces from manatees, such as faeces, sea grass floating on the surface, rings on the water or direct evidence of them. We also made a couple of 30-minute point observations where we took data regarding the depth, temperature and visibility of the water, and any observation made at the point. At these points there are upwellings of fresh water, which is essential for the manatees, so it is more likely to observe the animals there. As part of the project was also to monitor the coverage of algae which manatees prefer eating. The same method as for the coral estimation was used, but the water was not very deep and we could duck dive down instead of using diving equipment. We estimated the percentage cover of *Thalassia testudinum,* Turtle grass, using a 1x1 m quadrat. At the site where we dived this species of algae was very abundant.

The last week was spent completing a very interesting and inspiring Cuban wildlife course led by specialist staff from the University of Havana. Antonio Rodríguez, bird specialist, taught us how to do bird song transects in the forest area, as well as introduced us to some of the endemic bird species of Cuba; the Cuban Tody, the Cuban Pewee and the Cuban Pygmee owl. We put up bird mist nets and were taught to put up a record of the birds that were caught. Alejandro Barro, insect and butterfly expert, held a day-course in catching butterflies with nets and using the Mark Release Capture method to estimate the population size of one of the most common butterflies found on Cuba: *Agraulis vanillae*. We also put up so called Malay-traps to catch insects and, during night time, light traps. Adianez García Campos, bat expert, took us to a bat cave inhabited by bats with different niches: insect eaters, nectar eaters and fruit eaters. She taught us how to use a dichotomous key for bats, and to use it we caught bats with nets.

This summer has given me the great opportunity to experience ecological field work on Cuba, both terrestrial and aquatic. The work and research that is carried out by the University of Havana appeared to me to be of major importance to the ecosystem there. Fishing in the area is limited to sustainable fisheries and therefore there is much biodiversity in the area. This will become more apparent when all the data collected by the researchers and assistants is put together and analysed.

Lastly, I would like to thank the James Rennie Bequest for making this expedition possible for me. Hopefully, the experience and knowledge that I have gained during my trip to Cuba can be of use in the hard work of creating a more sustainable and more tolerant future. Thank you!

Dr. Alejandro Barro with a Malay net.

Jonna Nilsdotter