# JAMES RENNIE BEQUEST

## REPORT ON EXPEDITION / PROJECT / CONFERENCE

**Expedition/Project/ Conference Title:** Operation Wallace Indonesian research expedition

**Travel Dates:** 22/06/2019 – 21/07/2019

**Location:** BauBau island, Wakatobi Marine Park, Indonesia

**Group member(s):** Jihua Hu

**Aims:** To gain experience of marine biology especially marine conservation,

Collect data for analysing Indo-Pacific biomass and global FinPrint

**Photography consent form attached:** *(please refer to your award letter)*

☒ Yes
☐ No

---

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

The four weeks that I spent in Opwall BauBau marine site allows me to know marine biology and provide me a chance to do real research in the ocean. The first week that students who are not qualified in diving is supposed to be certificated in PADI open water, since my recurrent back problem I am not able to finish my open water course, I did snorkelling instead of diving. During snorkelling, I collected coral bleaching data for Coral Watch program, took pictures for training AI to do coral data analysis, and used benthic to analysis coral biomass in shallow part of the sea. Snorkelling provides me a lot of fun and it is less stressed compared with diving, using roll back and giant stride to get into the sea also interesting and exciting. Besides did snorkelling twice a day, I have three lectures per day to study roles that multiple organisms played in the ocean and the identification of fish, coral and macro-invertebrate. The lectures that I have helps me to have theory about marine biology, some fun facts like clownfish would become female from male with their growth impressed me. The sex change happened in some fish is related with the energy they have: female fish needs more energy to produce egg and be pregnant therefore requires mature fish. Those lectures also arouse us awareness of marine conservation like harvest shrimp actually destroy a part of marine environment. Identification courses provides me knowledge of identifying the species of Indo-pacific fish, coral and invertebrate.

After the first week study, we started to collect data for a long-term global project which is held by Opwall. This project requires data for analysing the changes of biomass with time. Therefore we need to

collect data by diving or snorkelling and record them with GoPro. The method that used for abundance of fish is 50 meter transects, divers record the species and the number of fish they came across during 50-meter transects and use GoPro to make a video during transects. Method for abundance of coral and macroinvertebrates is 50-meter benthic: divers make a video by using GoPro along a random selected 50 meter transect line. After divers came back, the video they made for fish or coral or macroinvertebrates would be analysed by watching video and arranged in Excel. Since this project is a long-term project, by comparing the biomass in different year would provide a trend about the marine conversation situation. I mainly responsible for coral and macroinvertebrates video analysis, by watching videos, the species, the number, and the situation of corals can be recorded. Even though the location that we went has the most diverse coral resources in the world, I still found a large area of dead coral sometimes, this might be caused by original fishing method like stand on corals when low tide to capture fish. I did data collecting and analysing for week 2 and week3, there were still some lectures during week 2 and I took a test of fish, coral, macroinvertebrate identification test in the end of week2.

Time for the last week is different with other weeks, and we do not need to dive to collect data. We moved to the part of sharks, rays and morays. I also had lectures for identification but fortunately no test for shark identification. This part is for global FinPrint to provide snapshot of diversity, abundance and distribution for shark, rays and morays. By using baited remote underwater video system (BRUV) instead of diving, a lot of videos took from different depths and locations can be used for analysis. I spent lots of time on boat to set BRUV and wait for enough time then take those BRUV out. The same thing that I did with week 2 and 3 was watching videos. By watching videos that showed situation underwater without any disturbance, the baited sometimes can attract rays, morays and shark or sometimes camera capture a lucky time that rays or sharks passed by the camera. Sometimes science can be boring with long time sitting in front of a computer and watched nothing for three hours.

Except gained experience and knowledge of marine biology during the expedition, my awareness of marine conservation has been established. I also had a good time to do beach cleaning with local students. I might not do marine biology in the future, but the experience of field research and marine conservation is valuable.