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OVERCOMING CHALLENGES TO CONDUCTING UNDERWATER BEHAVIOURAL RESEARCH ON CORAL REEFS

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ABSTRACT

Coral reefs are currently facing a range of threats, so it is imperative that we identify and protect the species that are critical to promoting reef health and persistence. My research in the Cayman Islands focused on elucidating the key herbivores that remove the most abundant and problematic macroalgae in that region. Accomplishing this objective involved many hours underwater and many different survey methodologies and experimental protocols. For example, it was necessary that I conduct surveys of the benthos, population estimates, observational studies of fish feeding behavior, and feeding assays to determine fish feeding preference (termed food behavior). There are a host of obstacles specific to conducting research underwater. From the limited time available when on SCUBA, to the issues using equipment in salt water, to the increased health risks of the participants and likelihood of inclement weather interrupting work schedules. Furthermore, conducting behavioural studies underwater also necessitates accounting for the potential impact an observer on SCUBA may have on the species being observed. Navigating such obstacles requires careful planning, efficiency, and an imaginative use of resources. It is also vital that such research is undertaken by divers who are comfortable with the environment, efficient in their air consumption, and who can conduct research with good buoyancy so as not to damage or disturb the environment and species under investigation. In this presentation I will discuss the challenges inherent in conducting research, specifically food behavior studies, on coral reefs. I will also present a range of solutions to these issues so that a researcher can collect reliable data in a safe and timely manner.