

## Exploring the Variety of Native Saltwater Algae in Babeldaob and Koror

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### ABSTRACT

Marine algae play an important role in ocean ecosystems as primary producers, oxygen providers, and contributors to coastal biodiversity. In island nations like Palau, algae are needed to provide food stability and uphold ecological growth in their oceans. This research explores the variety of native saltwater algae found in two major regions of Palau: Babeldaob and Koror (Eouldaob). We hypothesize that the variety and abundance of saltwater algae species will differ between the two regions due to variations in environmental conditions, including human activity and coastal differences. Seven seawater samples were collected in 500ml containers in 8 states throughout both regions. Microscopic analysis of said samples revealed 4 shared species of algae (*Rhizosolenia setigera*, *Pleurosigma normanii*, navicula, and nano algae) from the eastern states in Babeldaob: Ngiwal and Ngchesar. In comparison, two samples from the state of Koror (Long Island and T-Dock; 3.9 kilometers apart) revealed 2 unique algae species (*Chaetocerus didymus* and *Skeletonema sp.2*) located only in their respective areas. Subsequently, different samples will be observed to determine differences in diversity and the presence of saltwater algae. Developing live feed culture will be used for long term sustainable food aquaculture as well. Understanding the diversity of saltwater algae in Babeldaob and Koror may provide insights into environmental health and water quality, contributing to Palau's scientific knowledge of its ecosystems.

**KEY WORDS:** Marine algae, Babeldaob, Koror, Saltwater algae