Giant Clam (Tridacna gigas) Variations Based on Size and Density at Different Underwater Depths

Journal of Health Disparities Research and Practice

Volume 12
Issue 4 *2019 STEP-UP Special Issue*

Article 26

2018

Giant Clam (Tridacna gigas) Variations Based on Size and Density at Different Underwater Depths

Olyvia Ta'ase
Ian Moffit, MS , *National Park Service of American Samoa*

Giant Clam (Tridacna gigas) Variations Based on Size and Density at Different Underwater Depths

Abstract

The *Tridacnae* family, locally known as Faisua, are bivalve mollusks that thrive in tropical coral reef ecosystems. Faisua harbor photosynthetic zooxanthellae that provide the majority of their energy through photosynthesis. They are typically found in shallow water where they get the most sunlight. Faisua are considered a delicacy in American Samoa and populations are diminishing due to overfishing, especially in depths accessible to free divers (1-10m).

The National Park of American Samoa (NPSA) is interested in learning more about what drives giant clam distributions in NPSA waters, and one day hopes to outplant farmed Faisua to help increase population levels. Surveys were conducted to assess Faisua population density and analyze correlations with depth. With this data NPSA will be able to make more informed resource management decisions

Three 50m transects were conducted on the reef flat of Fagasa to assess Faisua density. size and location of each clam was recorded to the nearest cm. This data was then compared to Faisua surveys conducted by NPSA divers at 10, 20, and 30 m depths. It was hypothesized that there would be higher density and larger clam size in shallower depths, because there is more light available for photosynthesis.

Keywords

Tridacnae Family; Giant Clam (Faisua); Transect; National Park of American Samoa (NPSA); Population analysis

Cover Page Footnote

The STEP-UP HS program is supported by the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institute of Health, Grant number: R25DK78386-12.

Journal of Health Disparities Research and Practice
Volume 12, STEP-UP Special Issue, Summer 2019, pp. 41

School of Public Health
University of Nevada, Las Vegas

Giant Clam (*Tridacna gigas*) Variations Based on Size and Density at Different Underwater Depths

Olyvia Ta'ase
Ian Moffit, MS, National Park Service of American Samoa
Coordinating Center: University of Hawai'i at Manoa

ABSTRACT

The *Tridacnae* family, locally known as Faisua, are bivalve mollusks that thrive in tropical coral reef ecosystems. Faisua harbor photosynthetic zooxanthellae that provide the majority of their energy through photosynthesis. They are typically found in shallow water where they get the most sunlight. Faisua are considered a delicacy in American Samoa and populations are diminishing due to overfishing, especially in depths accessible to free divers (1-10m).

The National Park of American Samoa (NPSA) is interested in learning more about what drives giant clam distributions in NPSA waters, and one day hopes to outplant farmed Faisua to help increase population levels. Surveys were conducted to assess Faisua population density and analyze correlations with depth. With this data NPSA will be able to make more informed resource management decisions

Three 50m transects were conducted on the reef flat of Fagasa to assess Faisua density. size and location of each clam was recorded to the nearest cm. This data was then compared to Faisua surveys conducted by NPSA divers at 10, 20, and 30 m depths. It was hypothesized that there would be higher density and larger clam size in shallower depths, because there is more light available for photosynthesis.

Keywords: Tridacnae Family, Giant Clam (Faisua), Transect, National Park of American Samoa (NPSA), Population analysis

ACKNOWLEDGEMENTS

The STEP-UP HS program is supported by the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institute of Health, Grant number: R25DK78386-12.