



**TIDES** **HURI** **COLLEGE OF COASTAL GEORGIA**

## ROPE SPONGE DIVERSITY AND HEALTH STATUS IN RO...

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**Introduction**  
 Rope sponges are a diverse and ecologically important group of sponges that inhabit shallow to deep water environments. They are characterized by their elongated, branching morphology and are often found in association with other marine organisms. This study aims to investigate the diversity and health status of rope sponges in the coastal waters of Georgia.

**Methods and Materials**  
 A total of 100 rope sponge specimens were collected from various locations along the Georgia coast. The specimens were preserved in formalin and processed for histological analysis. The health status of the sponges was determined based on the presence and abundance of various symbiotic organisms and pathogens.

**Results**  
 The study identified 15 different species of rope sponges, representing a significant increase in diversity compared to previous studies. The health status of the sponges was found to be highly variable, with some specimens showing signs of disease and others appearing healthy. The presence of symbiotic organisms was observed in 80% of the specimens, while pathogens were detected in 30%.

**Figure 1: Rope sponge diversity in Brunswick, GA. (A) Bar chart showing the number of specimens for each species. (B) Pie chart showing the percentage of specimens for each species.**

**Figure 2: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 3: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 4: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 5: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 6: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 7: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 8: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 9: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 10: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 11: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 12: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 13: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 14: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Figure 15: Rope sponge health status in Brunswick, GA. (A) Bar chart showing the number of specimens for each health status. (B) Pie chart showing the percentage of specimens for each health status.**

**Discussion**  
 The results of this study indicate that rope sponges in the coastal waters of Georgia exhibit a high degree of diversity and health status variability. The presence of symbiotic organisms and pathogens suggests a complex and dynamic ecological relationship between these sponges and their environment. Further research is needed to understand the factors that influence the health status of rope sponges and the role of symbiotic organisms in their survival and reproduction.