Identifying New Sponge Species From Qatar Marine Environment Using Molecular Techniques

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The Arabian Gulf, known for its extreme conditions, supports a diverse marine ecosystem. Its isolation and harsh environment have led to a high number of unique species. However, much of the marine life here remains unexplored, offering potential for new discoveries. Sponges, in particular, are intriguing for their ability to filter large amounts of water and produce antibacterial compounds. Despite their importance, our understanding of sponge diversity in the region, especially around Qatar, is limited. Aim: This study aimed to use molecular techniques to identify two potentially new sponge species found in Qatar's marine environment. Methods: We selected two sponge species, "Chalinula qatari" and "Suberites luna," obtained from the Environmental Research Center. We extracted DNA and amplified specific genes using PCR. Sequencing and analysis were performed using various software. Results: Our analysis revealed that "Chalinula qatari" and "Suberites luna" are indeed new species, forming a distinct branch in the phylogenetic tree. This highlights Qatar's unique marine biodiversity. Conclusion: This study marks a significant genetic exploration of sponge species in Qatar's waters. It emphasizes the importance of further research to uncover more undiscovered species and broaden our understanding of marine life in the region.

Awards Won:
Sigma Xi, The Scientific Research Honor Society: First Life Science Award of $1,200