

Introduction of Microbial Symbiosis in Genus of Tridacna and Kiwaidae with Insights into Aquaculture

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Abstract : Aquaculture plays a significant role in the diet of people in many regions. However, problems such as bioaccumulation have risen with the rapidly growing industry due to a lack of control in the feeding process, which brings uncertainty to the quality of the products. The paper tackles the problem by introducing the symbiosis of the Giant Clam (Tridacna) with photosynthetic algae and Yeti Crab (Kiwaidae) with chemosynthetic bacteria in molecular and developmental details. By combining the knowledge gained from the two models and past studies, innovative ideas such as using mass selection methods to domesticate and farm those symbiotic species, as well as improvements for the current farming methods, such as introducing algae feeding, are discussed. Further studies are needed, but experiments are worth conducting since it increases the variety of choices for consumers and can potentially improve the quality and efficiency of aquaculture.

Keywords : the giant clam Tridacna, yeti crab Kiwaidae, autotroph microbes, microbial symbiosis, aquaculture, bivalves, crustaceans, mollusk, photosynthesis, chemosynthesis

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