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PROJECT TITLE: Isolation and characterization of bacterial strains from diseased Indian Horseshoe crabs from Chandipur coast of Odisha.

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PROJECT SUMMARY:

Bacterial diseases of crabs caused by organisms such as *Vibrio cholerae* and *Vibrio vulnificus*. The bacterial diseases of marine crabs occur commonly in blue crab and should be paid much attention because they may represent potential health hazards to human beings as they can cause serious diseases when the crab is consumed as raw sea food. Generally, diseases are the consequence of interactions of the disease agent (bacteria), the crab and the environment. Crabs are continuously affected by environmental fluctuations and poor water quality. Degraded environmental conditions are generally considered to be associated with shell disease in crabs because diseased crabs, were often found in waste disposal areas with sewage sludge. Various factors impose considerable stress on the homeostatic mechanisms of crab rendering them susceptible to a wide variety of pathogens. The nature of the bacterial complex is not entirely understood, but may result in varying degrees of bacterial colonization, shell erosion and tissue invasion. With the development and intensification of aquaculture, new bacterial diseases have recently appeared in commercially exploited in various species. Rapid methods of pathogen testing have been gaining increasing interest, presently diagnosis is made through observation of the symptoms and by culturing the bacterium from the infected horseshoe crab. This project proposal seeks support for the Isolation and characterization of bacterial cultures from the diseased Horseshoe crabs, by means of molecular and met genomics analysis. The biochemical investigation of the isolated strains will also be examined. Antibiotic susceptibility test will be carried out to select the specific drug for weakening the microbial infection. Consequently, we believe the success of this project will make a significant contribution in identifying Potential approaches to control bacterial diseases in horseshoe crabs and will help in improving aquatic and human health.