

ENVIRONMENTAL VIBRIOS: “A WALK ON THE WILD SIDE”

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Climate change has caused a worldwide increase in reports of vibrio-associated diseases with ecosystem-wide impacts on humans and marine animals. In addition, the rapid growth of aquaculture has been the source of anthropogenic changes on a massive scale. Animals have been displaced from their natural environments, farmed at high densities and exposed to environmental stresses, including antibiotic treatment. Unfortunately but not surprisingly, marine farming areas constitute ideal locations for the study of the emergence of pathogens in real time. The vast majority of our knowledge on vibrio pathogenesis is based on the ancient and well-studied human pathogen, *V. cholerae*. Often neglected and relegated to specialized journals are vibrio infections in non-human species. While the studies of animal pathogens have benefited from the era of genomics, the search for pathogenesis determinants is often biased by what is known from human pathogens, precluding the discovery of new mechanisms specific to marine animal species. Here I describe why vibrios from the wild (as opposed to laboratory model strains) are pertinent to address basic questions such as evolutionary and ecological dynamics of pathogens, as well as how they are a source of original molecular mechanisms for virulence, cell to cell interaction and genetic regulation.