Guest Editor's Note on the Special Issue of Indian Journal of Virology: Viruses of Cultured Aquatic Animals in the Asia–Pacific Region

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The contribution of aquaculture to global food production has been steadily increasing and this sector has been recognised as one of the fastest growing food production sectors globally. According to recent FAO statistics, global farmed food fish production in 2010 was 59.9 million tonnes with a farm gate value estimated to be at US \$119.4 billion. Asia contributed about 89 % of global aquaculture production. Fish and fishery products are also one of the most traded food commodities and in 2010, the trade was valued at US \$109 billion. Aquaculture thus, contributes to both food security and economic development in several developing countries. However, the sector is facing serious economic and production losses due to diseases. It is estimated that up to 40 % of tropical shrimp production valued at more than US \$3 billion is lost due to viral diseases. Viral disease outbreaks have been the main reason for shift in cultured species from black tiger shrimp (*Penaeus monodon*) that is native to several countries in Asia to the exotic Pacific white leg shrimp (*P. vannamei*).

Viral diseases have been a significant threat for the ornamental fish industry and diseases of ornamental fish may also affect food fish as exemplified by the herpes virus of the ornamental Koi carp affecting common carp. The problem of viral nervous necrosis by betanodavirus and the threat to the budding Asian seabass, a marine fish whose culture is being promoted, calls for urgent strategies to identify and manage such viral diseases. Management of disease problems require scientific knowledge of the

pathogen including its environmental reservoirs, understanding of the pathogenesis, its pathogenicity and the effect of environment on the virulence attributes, availability of diagnostic methods and immune response of the host. Significant advances have been made by molecular biological studies and the complete genomes of several viruses have been sequenced. This has led to improved diagnostic methods, but the unavailability of preventive and therapeutic measures is a serious constraint for aquaculture. This special issue covers viral diseases affecting both finfish and crustacean not only in the Indian subcontinent but also in other countries in the Asia-Pacific region. The special issue covers a wide range of subjects including epidemiology, genomics, diagnostics, risk assessment, and possible control measures such as vaccines and RNA interference. It is hoped that the volume will be an invaluable source of scientific information on the viral diseases of aquacultured species.

Author Biography

Indrani Karunasagar is currently the Head of the Department of Microbiology and Director, UNESCO MIRCEN for Marine Biotechnology, Karnataka Veterinary, Animal and Fisheries Sciences University, Mangalore, India. Prof. I. Karunasagar's major research area is Aquaculture and Marine Biotechnology. She is one of the notable researchers on the viruses affecting aquatic cultured animals. Prof. I. Karunasagar performed the role of a guest

editor to bring out the special issue.

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