

Dr. Binod Kumar Choudhary, Senior Scientist (Fish & Fisheries Sciences)

Graduated from College of Fisheries, Mangalore (UAS, Bangalore), and Post Graduated from ICAR-CIFE, Mumbai, and obtained Ph.D from ICAR CIFE, Mumbai in the discipline of (Fisheries Biotechnology), qualified for ARS-NET 2006 batch joining the Agricultural Research Services as scientist in 8th January 2007. I have been associated with the research work on different aspects of fisheries as working at ICAR CIFA Bhubaneswar, I have been associated with Genetic improvement of rohu for growth and disease resistance against *A. hydrophila* through sustainable selective breeding: have been associated in Developed standard protocols for selective breeding of rohu: PCR amplification of Mitochondrial Genes and further sequencing of Indian major carps for genomics study: Mitochondrial genes such as Control region (CR) and ATPase-6 were PCR amplified in Rohu, Catla, Mrigal and Fimbriatus total 500 samples using universal primers. We have also done sequencing of Whole mitochondrial genome of rohu (16.5 MB) and mrigal (16.4 MB) was sequenced for the first time in any IMCs under the ICAR- Network Project On Fish Genetic Stocks. Partial Genomic Library in *L. fimbriatus* for Microsatellite isolation was done. Multiplex Genotyping of *Labeo fimbriatus*: 12 polymorphic rohu microsatellite loci (fluorescence labeled) have been selected and standardized for multiplexing (3 in a group) in order to characterize *Labeo fimbriatus* population. Have also done the Characterizations of Prioritized cultivable fish species across their natural range of distribution in Rivers in terms of production values and variations in terms of molecular and morphological changes were done and in-situ conservation was planned. Worked on Improvement and refinement of production and breeding efficiency of fish farming system was evaluated. Demonstration of prawn/ Magur fish farming was done. IFS system was developed and model was set for fish cum livestock farming system in multiple water use efficiency at Bihar. Refinement, Up scaling and models of different IFS system was evaluated and demonstrated for sustainable livelihood improvement was successfully done at different NAIP sites and AICRP sites in various districts of Bihar.

Presently at ICAR-NIBSM, Raipur we are working on Isolation and characterization of pathogens causing diseases in animal and fishes for One health in central India, where in we reported First report of isolation of *Raoultella ornithinolytica* from Fishes from India, Report of isolation and Characterization of drug resistant *Providencia species* a food borne pathogen from Indian Carp Fishes: and First Isolation and Description of drug resistant *Chromobacterium species* from multi- use common water bodies in India: we found that Rohu fish were carrying a pathogen associated with hospital-acquired infections. The isolation of R ornithinolytica isolate with reduced susceptibility to antibiotics was relatively high in this study and in previously reported cases. Frequent hospital outbreaks of infection caused by the selection of multidrug-resistant R ornithinolytica strains have been reported worldwide,” the study published in recent issue (2018) of Current Science said. The study which has detected this pathogen for the first time in India found the presence of such a pathogen in the gastrointestinal tract of a Rohu widely consumed fish; it has highlighted the extent of improper waste management and water pollution that has resulted in contamination of the aquatic environment. Studies were also carried out on Vector-borne zoonotic infections -ecological and serological studies in Chhattisgarh region: we have deposited and got Accession number of 25 numbers of novel bacterial isolate from Fish and Animal origin from ICAR-National Centre for Veterinary Type Culture, Hisar for further uses and genetic resource characterization. Presently our lab focuses on Isolation and Characterization Of Bacterial Secondary Metabolites For Biotic Stress Management In Agriculture.

Authored more than 40 research publications including research papers in peer reviewed journals, 15 review and book chapters apart from a number of bulletins, popular article and extension folders/cards etc. Received CSIR-UGC JRF/SRF Fellowship for pursuing doctoral studies, selected for Junior Research Fellowship of ICAR and recognized as fellow of societies (Society of Life Sciences, Satna). Received Best poster presentation award in X Agricultural Science congress and 9th Indian fisheries forum. Received the Young Scientist Award from Society of Biological Sciences and Rural Development, Allahabad in November 2011. Received *Recognition award of Society of Life Sciences*, Satna in 2011. Acted as a co-opted member of “Preparation of fisheries Policy of Bihar” and “Preparation of Fisheries Road map” of Bihar Government, Patna. Serving as Board of examiner for Biotechnology and microbiology courses of Central University of South Bihar, CAU, Manipur, ICAR-CIFE, Mumbai, SAU CGKV Durg, NDKV Jabalpur. Acted as DBT external expert for Central University of Bihar during 2011-2015. Received Best Article award Jalchhari from ICAR-CIFE Mumbai 2019. Bagged Best Scientist Institutional award of ICAR-NIBSM, Raipur in 2019.

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