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PII: S0044-8486(17)31092-X
DOI: doi: 10.1016/j.aquaculture.2017.08.037
Reference: AQUA 632801

To appear in: *aquaculture*

Received date: 1 June 2017
Revised date: 26 August 2017
Accepted date: 31 August 2017

Please cite this article as: A. Das, S. Acharya, B.K. Behera, P. Paria, S. Bhowmick, P.K. Parida, B.K. Das , Isolation, identification and characterization of Klebsiella pneumoniae from infected farmed Indian Major Carp Labeo rohita (Hamilton 1822) in West Bengal, India, *aquaculture* (2017), doi: 10.1016/j.aquaculture.2017.08.037

Isolation, identification and characterization of *Klebsiella pneumoniae* from Infected farmed Indian Major Carp *Labeo rohita* (Hamilton 1822) in West Bengal, India.

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Abstract

The present study was conducted to identify and characterize the etiological agent causing mortality in Indian Major Carp, Rohu (*Labeo rohita*) in West Bengal, India. Diseased fish samples having haemorrhages near the tail and intraperitonial region was collected from culture ponds of Burdwan, West Bengal for the isolation of the pathogenic bacteria. Primarily the bacterium was characterized using biochemical and antibiogram studies. The 16S rRNA gene sequence of the isolated bacteria revealed that the isolate was having 100% homology with *Klebsiella pneumoniae* (NCBI Accession Number- KY003130). Intraperitoneal injection with 1.05 X 10^6 CFU per fish causes 50% mortality. The challenged fish showed hemorrhages in the intraperitonial region. The histopathology of the challenged fish liver showed vacuolation, necrosis and disruption of hepatocytes. However, focal necrosis and vacuolation was observed in kidney tissue. This study highlights the first time involvement of *Klebsiella pneumoniae* in the disease outbreak of cultured *Labeo rohita*. Understanding the pathology and pathogenesis studies of this emerging pathogen in cultured carps would help in control of this disease in aquaculture.

Key words: *Klebsiella pneumoniae*, 16S rRNA gene, Histopathology, LD_{50}, Biochemical test.