



Molecular identification of some zoonotic bacteria isolated from fishes *Cyprinus carpio* L. and *Oreochromis niloticus* (L.)

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ABSTRACT

Zoonotic bacteria isolated from fish cause many diseases, some of which are transmitted to humans, and it is a danger to public health in light of the recent spread of epidemics. The current study was designed to isolate and indentation bacterial species originating from two types of wild fishes (healthy and infected *Cyprinus carpio* and *Oreochromis niloticus*) in two different locations (Al-Mas'hab and Garmat Ali River) of water in Basrah, southern Iraq, during (2022) in two seasons of the year. The most prevalent species were identified in the two seasons (winter, and summer), the bacteria were isolated from the internal organs of fish (liver, kidneys, and spleen). The morphological and biochemical tests were used to identify the bacteria. The most prevalent species in the two types of fishes were indentation by targeting a specific 16S rRNA gene of the bacteria. The bacterial species successfully identified in *C. carpio* were *Aeromonas hydrophila*, *A. salmonicida*, *Vibrio parahaemolyticus*, and *Klebsiella oxytoca*. Five bacterial species in fish *O. niloticus* were detected (*A. bivalvium*, *V. parahaemolyticus*, *Pseudomonas* sp., *Citrobacter* sp. and *Shewanella algae*). The study showed that the increase in environmental pollution factors the pathogenicity of the disease has been shown to vary seasonally in the internal organs of healthy and infected fish.

INTRODUCTION

Bacteria of zoonotic cause diseases transmitted to humans (Han *et al.*, 2016). The problem of environmental pollution remains the main factor in the increase of zoonotic diseases, both bacterial, parasitic, and viral (Wolfe *et al.*, 2007; Raissy .2017). Opportunistic pathogenic bacteria (Aeromonadaceae, Vibrionaceae, Pseudomonadaceae, Enterobacteriaceae) constitute the largest part of them and the risk of their increase threatens public health and facilitates stress and environmental pollution the increase of negative bacterial species that are resistant to antibiotics (Gauthier 2015, Regev *et al.*, 2020).

Fish have considered one of the most important sources of protein providing about 16% of the animal protein consumed by the world (Al-Hajimi, 2021) as many people around the world depend on fish as a primary source of animal protein. The common carp (*C. carpio*)