

THE OCCURRENCE OF *VIBRIO PARAHAEMOLYTICUS* IN SHELLFISH OBTAINED FROM RETAIL MARKET OF NADIA DISTRICT, WEST BENGAL, INDIA

C.Dutta*, D.Das, A.K. Panigrahi and C. Sengupta

1 Aquaculture Extension Laboratory, Department of Zoology, University of Kalyani, KALYANI Nadia-741235, West Bengal

2 Microbiology Laboratory, Department of Botany, University of Kalyani, KALYANI, Nadia-741235, West Bengal

The prevalence of *Vibrio parahaemolyticus* in shellfish and ice samples collected from retail fish markets of Nadia District of West Bengal in India were studied. Fresh and ice preserved *Penaeus monodon*, *Penaeus semisulcatus*, *Penaeus indicus* were examined for total bacterial load and presence of *Vibrio parahaemolyticus* by standard microbiological techniques. The number of bacterial flora was more or less comparable in all shrimp samples collected from four different retail fish markets of Nadia District. All the shrimp samples obtained from markets were more or less contaminated with *Vibrio parahaemolyticus* which pose significant threat to public health.

INTRODUCTION

Vibrio parahaemolyticus has emerged as a major cause of seafood associated outbreaks all over the world and become a significant concern of seafood safety. (CDC, 2009; Su YC *et al.*, 2007; Butt *et al.*, 2004). The organism has been reported as the causative agent of gastroenteritis (Fujino *et al.*, 1953), wound infections, and septicemia because of the consumption of contaminated seafoods. Recently with the emergence of pandemic O3:K6 strain of *V. parahaemolyticus* that was reported to cause acute gastroenteritis, this pathogen has acquired greater significance (Matsumoto *et al.*, 2000). Epidemiological studies revealed an association between the Kanagawa positive phenomenon (KP+) and gastroenteritis (Okuda *et al.*, 1997). In the 1980s few gastroenteritis cases were reported from the KP negative *V. parahaemolyticus* isolates, which led to the discovery of the TDH-related haemolysin (TRH) (Hervio-Heath *et al.*, 2002). Studies revealed the thermostable direct haemolysin (TDH) and the TDH-related haemolysin (TRH), encoded by the *tdh* and *trh* genes, respectively, as the major virulence factors of this organism (Shirai *et al.*, 1990). A unique clone of *V. parahaemolyticus* O3:K6 was responsible for many of the recent *V. parahaemolyticus* outbreaks, reported in India, Russia, Southeast Asia, Japan, and North America (Matsumoto *et al.*, 2000). During 1996 the strains of the O3:K6 serovar was reported to emerge in the Eastern province of India accounting for about 50–80% of *V. parahaemolyticus* infections annually. (Nasu *et al.*, 2000). A toxin regulatory gene (*toxR*)

* Corresponding Author