

## Research project IZS VE 16/10

***Vibrio* spp. in crustaceans and their potential pathogenicity for seafood consumers**

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*Vibrio* spp. are widely distributed bacteria that colonize aquatic habitats, occurring in marine and estuarine environment. The genera is one of the most important pathogen for reared aquatic organisms such as crustaceans, several fish species and molluscs. Major species affecting crustaceans include *V.harveyi*, *V.campbellii*, *V.alginolyticus*. Furthermore the genus has been identified as food-borne pathogen for humans, including three main pathogenic species: *V.cholerae*, *V.vulnificus* and *V.paraahaemolyticus*, transmitted via undercooked or uncooked seafood products, and responsible of acute gastroenteritis.

Regarding safety of seafood in Italy, our country is an important importer of crustaceans : more than 60% of total product is provided by foreign countries. Large amounts of crustaceans and shrimps are imported from Japan, South East Asia, and South America. Moreover, new raising alimentary habits have incremented and favoured importation from abroad: there is a growing demand of "Sashimi" or other raw products and certainly this increments the risk of seafood poisoning. Besides shrimps, also crabmeat, Norway lobster and mantis squillid constitute a product highly consumed in Veneto region.

In addition, the Adriatic sea is highly productive from the point of view of fishery, and at local level there is a consistent fishing activities. Nevertheless seafood products are often eaten undercooked or completely uncooked: this is the case of prawns and shrimps.

At present little is known about prevalence of these pathogens in crustaceans: in our country quality control on these products remains poor. Moreover diagnostic tools allowing to study vibriosis in shrimp or in general in crustaceans have seldom been developed.

The proposal for this project is to set up a multidisciplinary research program regarding an epidemiological study on *Vibrio* spp. in crustaceans and the related public health implications. The main research objects aim at the developing of rapid, reliable and accurate diagnostic tools for the monitoring in our territory of vibrios in different crustacean products, the study of their potential pathogenicity, and the definition of a control plan for preservation from transmission of vibriosis through their consumption.