# Histopathological observation of black gill disease in shrimp farm, *Litopenaeus vannamei,* in Boushehr province, Iran

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**Abstract**

The aim of this study was evaluate tissue lesions caused by black gill disease and its causes in 85-80 days old *Litopenaeus vannamei* with an average weight of 13-15 g located in the Delvar shrimp rearing site from Bushehr province during August to September 2017. Primary and secondary gill lamella was necrosis, central axis were not arranged and gill lamella swelling, epithelial cell necrosis along with karyorrhexis and pyknosis of gill lamella was observed in wet mouth examination and tissue sections. Also, *Epistylis* protozoan parasite were observed in gill tissue. The high prevalence of *Epistylis* protozoa (84.58%) in gill tissue, indicates the proper condition of gill tissue for colonization of this parasite. Increased sedimentation of phytoplankton and folding on the gill tissues is considered as an exacerbating factor in the disease. Based on the results, it can be admitted that *Epistylis* protozoan parasite can be a factor cause of black gill disease in *L. vannamei* shrimp farms of Delvar shrimp rearing site from Boushehr province. On the other hand, black gill can be caused by several environmental and infectious agents, including fungal and bacterial agents, but in this study were not detected any other pathogen. Hence, in further studies, more comprehensive research is needed to isolate and identify the primary cause of the disease for the management of health and treatment.

**Keyword:** Black gill, *Litopenaeus vannamei*, *Epistylis* protozoan parasite, histopathology.

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