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Effect of Alterations in Water Quality Parameters on Evoking of Bacterial Diseases in Aquatic Environment

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The pollution of water became an international concern. Regardless which purpose water is used, it should not be contaminated by pathogenic microorganisms or harmful heavy metals. Aquaculture is an emerging food producing sector that needs constant research with scientific, technical and innovation developments. Marin in Egypt suffers from poor water quality because water is contaminated with the sewage disposal and agrochemical, in addition to exposure to high environmental factors leading to the outbreak of bacterial infection among fish, besides the wastes discharged from the neighboring villages without treatment. Qaroun Lake and the Marriotiah stream are among the most sensitive areas. The current study was carried out to isolate and identify some of bacteria infecting fish to evaluate the health status of fish and investigate the quality of water and at these two locations. Water and fish samples were taken from each of the locations and examined to evaluate the physicochemical and microbial characteristics. A total number of 30 *Oreochromisniloticus*frys fish samples (weighing 3 gm.), 50 artemia shrimp (weighting 1 gm.) and 5 Tilapia zilli were collected from Shakshouk area, Lake Qarun at Fayoum province, Egypt. A total of 5 *Oreochromisniloticus* (Nile Tilapia) weighing 50g were collected from ElMariotteya stream. All fish samples were examined clinically while necropsy was performed on variable number of freshly dead and moribund fish. Bacteriological examination was done on all samples and gram positive and negative bacteria were isolated. Differentiaon of bacteria were done in all positive examined fish organs samples (gills, liver and kidney) using different selective media, where the isolated bacteria belonging to *Vibrio*, *Pseudomonas and Aeromonas*. Samples collected from Nile tilapia frys in Qarun Lake showed a percentage of: *vibrio* spp (16.6%), *aeromonasspp* (66.6%) and pseudomonas spp (16.6%). Samples of artima shrimps showed: *vibrio* spp (40%), *aeromonasspp* (20%) and pseudomonas ssp (20%). Tapliazillii showed: *vibrio* spp (40%), *aeromonasspp* (40%) and pseudomonas spp (20%).While in Nile taplia samples which were collected from the Mariotteya stream showed: no *Vibrio* spp retrieved *aeromanosspp* (80%) and pseudomonas spp (20%). In addition to that the water samples were contaminated with Cu, Cd and P. Finally, it can be concluded that the death of fish happening in those places is multi-factoring.

Keywords: Water Quality; bacterial ; Carbon nanoparticles; Qaroun Lake and the Marriotiah