

Effect of Different Concentrations of Polluted Water on Growth and Physiological Parameters of Two Green Algae *Scenedesmus obliquus* and *Cosmarium* leave

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Abstract : Both *Scenedesmus obliquus* and *Cosmarium* leave were subjected to different concentrations (5, 10, 20, 50, and 80 %) of highly polluted water collected from Haddows drainage, which receives high amount of domestic sewage, and also the increasing agriculture run off and industrial effluent, then disbursed it in El-Salam fresh water canal. The water in that canal dramatically used as drinking water alongside using in irrigation. A total of 25 physicochemical parameters were determined within the drainage polluted water and also up-stream of El-Salam fresh water canal's water. The effect of five concentrations of the tested polluted water were determined on growth density, dry algal biomass, net photosynthetic oxygen production, catalase activity and ascorbic acid content on the two algae "*Scenedesmus obliquus* and *Cosmarium* leave". The result reveal that, low concentration support the growth and the physiological activities of both algae. However, the situation is different in the case of high concentrations, where it encourage the growth of *Scenedesmus obliquus* , meanwhile the same concentration were inhibited the growth and physiological activities of *Cosmarium* leave. Which indicated that, *Scenedesmus obliquus* tolerated high pollution better than *Cosmarium* leave. Finally it can be concluded that, different organisms, however, have different sensitivities to the same pollutants and the same organisms may be more or less damaged by different pollutant. Also, the inhibitory and stimulatory effects of different species varied with concentrations.

Keywords : catalase activity, ascorbic acid content, *Scenedesmus*, *Cosmarium*, pollution, biomass

Conference Title : ICEM 2017 : International Conference on Environmental Microbiology

Conference Location : Zurich, Switzerland

Conference Dates : April 20-21, 2017