**Faculty of women for Arts,
Science & Education
Department of Zoology**

Ecological Studies on Plankton and Fishes Inhabiting Lake Burullus

A Thesis submitted
In partial fulfillment for the requirement of the degree of
Ph.D in Histology and Histochemistry

By

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Abstract

Abstract

The study is carried out at 7 stations along Burullus Lake. The parameter determined in water samples that collected seasonally from autumn 2016 to summer 2017 included some physicochemical parameters (water temperature, electrical conductivity, transparence, pH value, oxygen studies, nutrient salts), distribution of heavy metals in water (Fe, Zn, Cd, Cu, Mn and Pb) and investigation of phytoplankton and zooplankton in water.

Fish analysis included the determination of heavy metal accumulation in muscles of fish, histopathological changes in some organs of fish (muscles, liver and ovary) and histochemical investigation of protein in muscles of *Oreochromis niloticus* fish.

The present study showed that the west of Burullus lake that included (drain7,8,9) was considered the most polluted site because the heavy metal concentrations are high at this site especially during the cold seasons.

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LIST OF ABBREVIATIONS

Code	Name
µg	Microgram
APHA	American public Health Association
BOD	Biological Oxygen Demand
Bs	Blood sinusoids
Cd	Cadmium
Cm	Centimeter
Cn	Congestion
COD	Chemical Oxygen Demand
Cu	Copper
D	Degeneration
Di	Dilation
DO	Dissolved Oxygen
Dr	Dermal layer
E	Edema
EC	Electrical Conductivity
Ed	Epidermal layer
Ep	Epithelial layer
Fb	Fibrosis
Fe	Iron
Ft	Fatty degeneration
Gm	Gram
H	Hepatocytes
H_2SO_4	Sulfuric acid
$HClO_4$	Perchloric acid
Hd	Hypoderm
Hn	Hemosidrin
HNO_3	Nitric acid
Hp	Hyperplasia
Hr	Hemorrahge
KH $(IO_3)_2$]	Potassium bi-iodate
KI	Potassium iodide
Km	Kilometer

Code	Name
L	Liter
LS	Longitudinal Section
Mg	Milligram
Ml	Milliliter
Mn	Manganese
N	Normality
N	Necrosis
NaOH	Sodium hydroxide
NED	1-Naphthyl Ethylenediamine Dihydrochloride
Ng	Nanogram
NH^{+}_{4}	Ammonia
NO^{-}_{2}	Nitrite
NO^{-}_{3}	Nitrate
P	Parasitic form
PCA	Principal Component Analysis
Pb	Lead
pH	Hydrogen Ion Concentration
PK	Pyknosis
S	Separation
TDS	Total dissolved Solids
Th	Thickness
VS	Vertical Section
WHO	World Health Organization
Zn	Zinc

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