



*Ain Shams University
Women College
Arts, Science and Education
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Ecological Studies on Benthic Invertebrates as Indicators of Organic Pollution in El- Rahawey Region, Giza, at River Nile, Egypt

A Thesis

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of Ph.D. in Zoology
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جامعة عين شمس
كلية البنات للآداب والعلوم
والتربية
قسم علم الحيوان

دراسات بيئية على اللافقاريات القاعية كأدلة بيولوجية على التلوث العضوى فى منطقة الرهاوى بالجيزة فى نهر النيل - مصر

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Abstract

The present study is an attempt to detect the effect of organic pollution discharge from El- Rahawey drain on macroinvertebrates in relation to some abiotic and biological variables during 2004.

Temperature, water depth, water transparency, Hydrogen ion concentration and dissolved oxygen were measured. In the area investigated collected macrobenthic fauna by grab were identified. Three phyla namely Mollusca, Annelida, Arthropoda were distinguished. Mollusca ranked the highest percentage of population density (P.D.) of the community (43%) followed by Arthropoda (42%), Annelida (15%) the highest average of P.D. was estimated in section 2 East and the lowest average of P.D. was recorded at section 2 West (at the discharge point of Rahawey drain).

The macrobenthic invertebrates associated with macrophytes were rich. In this area, three phyla namely Arthropoda, Mollusca, Annelida were recorded.

Insecta represented the main component of benthic fauna related to macrophytes, while the second was Mollusca represented by few numbers and Annelida were very rare.

Insecta had the highest percentage of population density of the community (89%) followed by Mollusca (10%), the Annelida (1%).

Macroinvertebrates is the most important group used as biological indicators of pollution in rivers. It was a limited migration and it is easy to identify them.

As the result of population increasing, pollution and economic development, benthic fauna of River Nile have stressed or eliminated pollution sensitive species. So, the development of water quality indicators of benthic fauna should be a part of Egyptian Environmental Agency and other scientific institutions.

ABSTRACT



INTRODUCTION

*MATERIALS
&
METHODS*

*REVIEW
OF
LITERATURE*



RESULTS