Histopathological and Biochemical Studies on the Side Effects of One of Pesticides on Mice and Their Progeny

Thesis submitted for the Degree of Ph. D. in Science

[Zoology]

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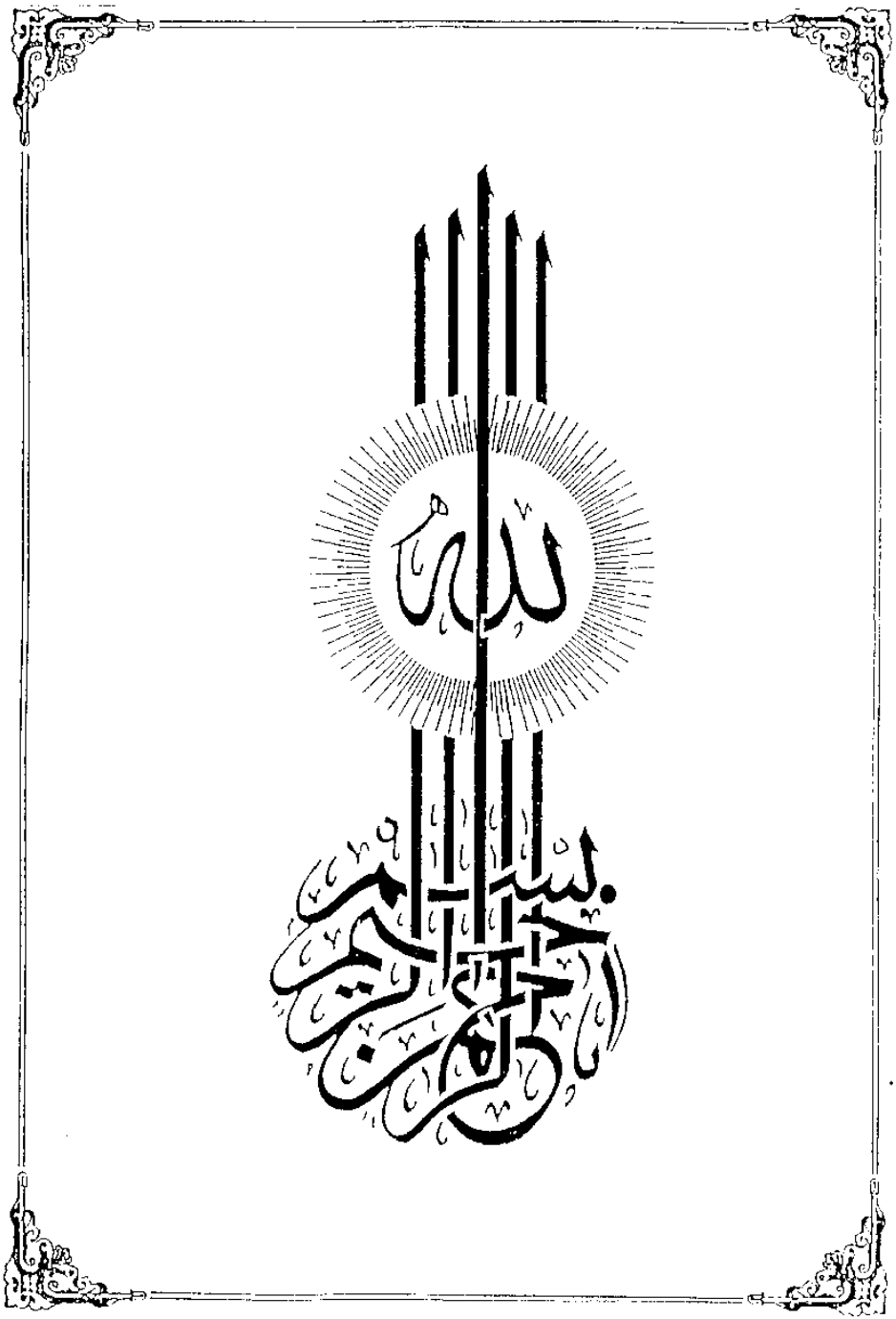

"سبحانك لا علم لنا إلا ما علمتنا
إنك أنت العليم الحكيم

صدق الله العظيم

سورة البقرة

آية (٣٢)

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ABSTRACT

Affaf Abbas Sayed, Histopathological and Biochemical Studies on the Side Effects of One of Pesticides on Mice and Their Progeny. College for Girls, Ain Shams University, 1995.

Profenofos is an organophosphorus insecticide widely used in Egypt to control a wide range of insects. In the present work, the biochemical, histopathological, and teratologiccal effects of Profenofos were investigated in the pregnant female mice and their fetuses. Three groups of pregnanct female mice (Swiss mice) each composed of 30 animals were used. The first group served as control, while the other two groups received orally sublethal doses of 7.5 and 15mg/ kg body weight of Profenofos during organogenesis on days- 7-16 of gestation.

The study of pregnant mothers included the activity of transaminases (GPT and GOT) and alkaline phosphatase in the liver. Also, the concentrations of creatinine and urea were investigated in kidneys. The data revealed that the biochemical constituents were highly affected by the tested insecticide and the liver and kidney function suffered from the side effects of Profenofos.

Histopathological examination in pregnant mice revealed degenerative changes in liver, kidney and lung. The prevailing effect observed in the histological examination was congestion in most of the blood vessels of all tissues with inflammation in different areas. Furthermore, histopathological examination of fetuses showed some histopathological lesions in the liver and kidney.

Examination of fetuses on day-18 of gestation showed apparent teratological effects.The mean numbers of implantation and resorption sites were significantly affected. The fetuses were under-weight, and congenital anomalies were more pronounced. Ossification of skeletal system was retarded.

LIST OF CONTENTS

LIST OF CONTENTS (CONT.)

LIST OF CONTENTS (CONT.)

LIST OF CONTENTS (CONT.)

LIST OF TABLES

Page

LIST OF FIGURES

Page