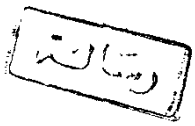
DIFFERENTIAL MUTAGENIC SUSCEPTIBILITY OF THE SUSCEPTIBLE AND RESISTANT MALATHION STRAINS OF THE MOSQUITO *CULEX PIPIENS* TO SOME INSECTICIDES

A thesis
Presented to the Faculty of Science
Ain Shams University



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by
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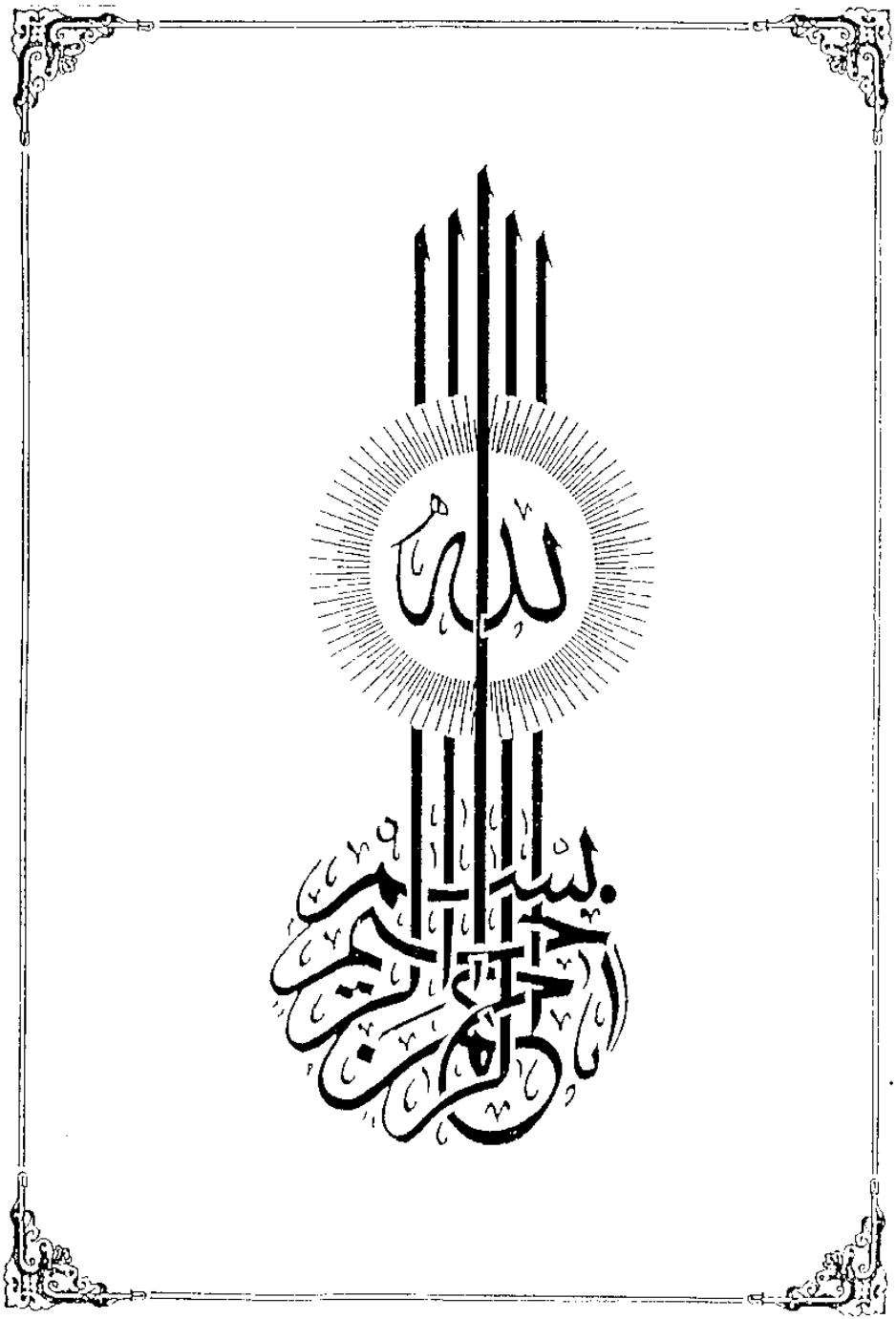
بسم الله الرحمن الرحيم

إن الله لا يستحي أن يضرب مثلاً ما بعوضةً فما فوقها فأما الذين آمنوا فيعلمون أنه الحق من ربهم و أما الذين كفروا فيقولون ماذا أراد الله بهذا مثلاً يضل به كثيراً و يهدى به كثيراً ومايضل به إلا الفسقين.

صدق الله العظيم



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ABSTRACT

The obtained results threw some lights on the induction of dominant lethal, dominant female sterility (either complete or partial sterility) and sex ratio distortion after treatment of the normal and malathion-resistant strains of *Culex pipiens* with malathion and propoxur. The present study indicated the presence of chromosomal aberration, specially translocation enhanced with meiotic drive factor. The electrophoretic banding patterns of five enzymes (α-GPDH, MDH, ME, AO, ADH and EST) proved the mutagenicity of malathion and propoxur in the two strains. However, MDH locus can not be affected.

Key words: *Culex pipiens*, Dominant lethal, Female sterility, Sex ratio distortion, α-GPDH, MDH, ME, AO, ADH, EST, Resistance, Malathion and Propoxur.

List of abbreviations used in this thesis

ADH	: Alcohol dehydrogenase.
AO	: Aldehyde oxidase.
EDTA	: Ethylene diamine tetra-acetic acid disodium salt.
EST	: Eterase.
FAD	: Flavin adenine dinucleotide.
α-GPDH	: α-Glycerophosphate dehydrogenase.
KH_2PO_4	: Potasium dihydrogen phosphate.
MDH	: Malate dehydrogenase.
ME	: Malic enzyme.
$Mgcl_2$	: Magnesium Chloride.
NAD	: Nicotinamide adenine dinucleotide.
NADP	: Nicotinamide adenine dinucleotide phosphate.
NBT	: Nitro blue tetrazolium.
Na_2HPO_4	: Sodium monohydrogen phosphate.
PMS	: Phenazine methosulphate
Tris	: Tris-hydroxy-methyl aminomethane.
Tm	: Treatment with malathion.
Tp	: Treatment with propoxur.
UT	: Untreated.

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