Effect of Trioflouperazine on the Induction of Sex-Linked Recessive Lethals by Cyclophosphamide in *Drosophila melanogaster*

By
Fadil Abbas AL-Quraiche

*Thesis submitted in Partial fulfillment of the requirments of the Degree of Masters of Biology at Yarmouk University*

Aproved:

May F. Sadiq  
Associate Professor Of Biological Sciences, Chairman

Wajih M.Owais  
Professor Of Biological Sciences, Member

Hanan I. Malkawi  
Assistant Professor Of Biological Sciences, Member.
Abstract

The antitumor agent cyclophosphamide and the calmodulin inhibitor trifluoperazine (TFP) were evaluated in study for their mutagenic potential by using *Drosophila melanogaster* sex-linked recessive lethal assay was used for this evaluation. Wild type Oregon-k males were injected with 0.2 μl of the different concentrations of the drugs. Complete and mosaic lethals were scored by the Muller-5 method in five successive broods representing the different stages of spermatogenesis.

The results showed that trifluoperazine is highly toxic to *Drosophila melanogaster* flies. The moderately toxic concentration of TFP 0.1 and 5 mM CP were used for testing effect on the mutageenesity of cyclophosphamide following the injection with the drugs together.

The mutagenic concentrations of cyclophosphamide (5 to 100) mM were not very toxic to the injected *Drosophila* males, they induced both complete and mosaic sex-linked recessive lethal mutations in
all stages of spermatogenesis including premeiotic, meiotic and posmeiotic stages, but the trifluoperazine did not induce sex-linked recessive lethal mutations nor potentiated the mutagenic effects of cyclophosphamide in Drosophila melanogaster.