Chapter 5

Conclusion

Two colonies of *An.minimus* were maintained in the insectary of the Department Entomology, Faculty of Agriculture, Kasetsart University. The experiment has been selected for deltamethrin resistance by placing the 3-5 days old adult females to WHO cone lined with deltamethrin impregnated papers up to 19 generations.

Resistance in mosquito population was measured in both selected populations and control colonies. Female mosquitoes were exposed for 1 h to diagnostic dosages of deltamethrin (0.05%). It was found that *An. minimus* population showed some degrees of resistance to deltamethrin, as evidenced by the parent mortality. Parent mortality of *An. minimus* at the 19^{th} generation after exposing to 0.05% deltamethrin was approximately 48%.

A population is considered resistance when over 20% of test population survive the diagnostic dose as compared to the control (WHO, 1981b). Cross resistance to DDT was also observed as a result of similar actions of DDT and pyrethroids (as voltage – dependent sodium channel of nerve axons).

Three enzyme assays, Elevated esterase, MFOs and GSTs were performed on deltamethrin selected mosquitoes(F_8, F_{12}, F_{18}) and control colony (F_0). Results indicated that MFOs were the only found enzyme that may play a significant role in pyrethroid detoxification.