

**GENETIC DIVERSITY OF MITOCHONDRIAL
CYTOCHROME C OXIDASE 1 GENE AND PHYLOGENETIC
RELATIONSHIPS OF BLACK SOLDIER FLY
(*Hermetia illucens*) IN VIETNAM**

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Summary

The study was conducted to analyze the genetic diversity of partial mitochondrial *COI* gene in some Vietnamese black soldier fly (BSF) (*Hermetia illucens*) populations. Moreover, phylogenetic relationship between BSF in Vietnam and BSF in some other countries such as USA, Canada, France, Italy, Russia, Korea, Malaysia and Nigeria was also investigated based on the sequences from *COI* gene. In this study, 106 individuals BSF were collected from 6 populations belong to provinces Hanoi, Binh Dinh, Can Tho, Long An and Ho Chi Minh city for the population genetic study using 616 bp long partial *COI* gene sequence to understand genetic diversity of BSF in Vietnam. The results show that 4 haplotypes were identified with haplotype diversity (H_d) was 0,636. The haplotype 1 resembles with the haplotype from USA and is the most popular one. The phylogenetic tree provided evidence that Vietnamese BSF populations have closely relation with BSF in other countries. This result was the molecular genetic evidence for exotic origin of BSF in Vietnam.

Keywords: *COI* gene haplotype, *Hermetia illucens*, genetic diversity.