

Cytochrome B Marker Reveals Three Distinct Genetic Lineages of the Oriental Latrine Fly *Chrysomya megacephala* (Diptera: Calliphoridae) in Malaysia

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Abstract : This study investigated the hidden genetic lineages in the oriental latrine fly *Chrysomya megacephala* (Fabricius) across four states (i.e., Johore, Pahang, Perak and Selangor) and a federal territory (i.e., Kuala Lumpur) in Malaysia using Cytochrome b (Cyt b) genetic marker. The Cyt b phylogenetic tree and haplotype network revealed three distinct genetic lineages of *Ch. megacephala*. Lineage A, the basal clade was restricted to flies that originated from Kuala Lumpur and Selangor, while Lineages B and C, comprised of flies from all studied populations. An overlap of the three genetically divergent groups of *Ch. megacephala* was observed. However, the flies from both Kuala Lumpur and Selangor populations consisted of three different lineages, indicating that they are genetically diverse compared to those from Pahang, Perak and Johore.

Keywords : forensic entomology, calliphoridae, mitochondrial DNA, cryptic lineage

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