

A preliminary study on mitochondrial DNA of some species of family Muscidae (Diptera) of INDIA

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Flies belonging to the family Muscidae are the most cosmopolitan among the insects. This family is amply represented in all biogeographical regions with approximately 5000 described species within 170 genera (Kutty et al., 2008). They are of great importance to medicine because of their ability to transmit diseases to humans and animals. Adults of many species are passive vectors of pathogens for diseases like typhoid fever, dysentery, anthrax, cholera and African sleeping sickness (Kettle, 1995). Immature stages of many species of the Muscid flies have similar morphological characters that make their identification difficult (Benecke and Wells, 2001). To solve these problems

Deoxyribonucleic acid (DNA) based methods for species identification are used. Animal mitochondrial DNA (mtDNA) has been used extensively in studies of evolutionary and population genetics in recent years (Avice et al., 1987). The present study is designed to help us the identification for 5 species of family Muscidae. The flies were collected from various districts of Punjab during March 2016 to September 2016. The mt cytochrome oxidase subunit II (COII) has been used for this purpose. This gene has been extensively used to address phylogenetic questions in insects at different taxonomic level.

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