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# Various methods for the estimation of the post mortem interval from Calliphoridae: A review

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**Abstract** Insects play a fundamental ecological role in the decomposition of organic matter. It is the natural tendency of sarcosaprophagous flies to find and colonize on a food source such as a cadaver as a natural means of survival. Sarcosaprohagous fly larvae are frequently encountered by forensic entomologists during post mortem investigations. The most relevant colonizers are the oldest individuals derived from the first eggs deposited on the body. The age of the oldest maggots provides the precise estimate of the post mortem interval. With advancement in technology, various new methods have been developed by scientists that allow the data to be used with confidence while estimating the time since death.

Forensic entomology is recognized in many countries as an important tool for legal investigations. Unfortunately, it has not received much attention in India as an important investigative tool. The maggots of the flies crawling on the dead bodies are widely considered to be just another disgusting element of decay and are not collected at the time of autopsy. They can aid in death investigations (time since death, manner of death, etc.). This paper reviews the various methods of post mortem interval estimation using Calliphoridae to make the investigators, law personnel and researchers aware of the importance of entomology in criminal investigations. The various problems confronted by forensic entomologists in estimating the time since death have also been discussed and there is a need for further research in the field as well as the laborator. Correct estimation of the post mortem interval is one of the most important aspects of legal medicine.



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**Contents**



## 1. Introduction

Entomology is the study of insects and the related arthropods (crustaceans, spiders and so on). When this science is used for aiding in legal investigations, it is called forensic entomology. The most visible type of forensic entomology is used in the investigation of death, abuse and neglect cases.[1] The most important contribution of this science is the estimation of the post mortem interval or time since death. Many types of information can be extracted from the study of arthropods at crime scenes. Suspects have been linked to a scene by the presence of arthropods. The role of a forensic entomologist in a crime investigation can be a major one. His/her role is to collect and identify arthropod specimens and then interpret findings in relation to environmental variables.

Forensic entomologists can provide an objective estimate of time since death as well as other valuable information concerning the circumstances surrounding the victim's demise, including the season of death, location of death, movement or storage of remains after death, specific sites of injury on the body, post mortem artefacts on the body, use of drugs, and can even provide information for linking a suspect to the scene of a