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### Insects and crime investigations

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Medico-legal forensic entomology or medico-criminal entomology refers to the use of insects as tools to give conclusions while investigating legal cases relating to both humans and wildlife to solve the crime puzzles. The crime scene investigation using blowflies, flesh flies, cheese skippers, hide and skin beetles, rove beetles and clown beetles insects can be done on land as well as in water. Forensic entomology depends on the study of insects that sequentially colonize a corpse and develops with the progress of decomposition. Insects arrive at a decomposing body in a particular order and then complete their life cycle based on the surrounding temperature. The insects attracted to a corpse not only utilize it as a food source and habitat but also change its attractiveness to particular species. As a result, the dominance of populations of particular species alters and a succession of insects is recognized. The duration of life cycle stages and the sequence of change of insect species can be used to estimate how long the person has probably been dead through the collection and studying the types of insects found on a body. The information regarding developmental stages can assist postmortem interval determination and the manner of death and answering the main questions (when, where and how). However, for forensic investigations and interpretations, perfect identification, specifically by DNA barcoding of arthropods found in relation with the corpse, life cycle and habits of the insect species and their environmental requirements is necessary. Estimation of PMI relies heavily on the faunal succession of arthropods colonizing or associating with the corpse and the rates of development of the insect.

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