

Can insects be used as evidence to tell if a body has been moved?

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Dermestid beetles and flies on a skeletonized human skull. Credit: Damien Charabidze

The use of insects as indicators of post-mortem displacement is a familiar technique depicted on many crime investigation TV shows. In reality, this practice is far from clear-cut.

To cut through the hype, researchers have looked across existing studies to review how exactly insects have been used in legal investigations and to what extent these methods have been useful.

Based on more than 170 publications over the last century, this review, published in the open-access journal *PeerJ*, reveals weaknesses and [mistaken beliefs](#) regarding the use of [forensic entomology](#) as evidence of cadaver displacement as well as many promising aspects and development opportunities.

Though insect analysis has been used in legal investigation for decades, only a few forensic cases have successfully applied such a method to tell a body was moved.

Based on a case-by-case approach, species distribution, temporality, behavior and genetic analysis can be useful to infer postmortem relocation. However, such inferences should not be based on general trends or previous results at a broader scale but always rely on local experiments performed a posteriori to comply with the circumstances of a given forensic case.



Necrophagous blow flies larvae feeding on a cadaver. Credit: Damien Charabidze

Researchers also found that time is a key factor: a cadaver that remains only briefly in the first location is unlikely to be colonized by local insects, whereas a cadaver that remains for a very long period will have been abandoned by insects before cadaver relocation occurs.



Two blow flies feeding on a blood pool. Credit: Damien Charabidze

More information: Charabidze et al. (2017), Use of necrophagous insects as evidence of cadaver relocation: myth or reality? *PeerJ* 5: e3506; [DOI: 10.7717/peerj.3506](https://doi.org/10.7717/peerj.3506)

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