

## Perception and Status of Medicocriminal Acarology/Entomology

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Medicocriminal acarology/entomology is the application of the insects and mites as forensic indicators and trace evidence to violent crimes such murder, suicide, rape and physical abuse or any other illegal activities.

Although mites are easily missed by untrained eyes, they are already present on and in the human body during life inhabiting face, eyelashes, ear, scalp, nipples, upper chest, penis and buttocks (Breackenridge, 1953 and Gothman-Yahr, 1998). Moreover, scab mites colonize the vagrant people and old persons who have not been assisted in maintaining their bodily hygiene (Rasmy, 2008).

It is of interest to note that once death takes place, different mite species will arrive and colonize the body as well as insects visiting the corpse (Perotti & Braig, 2010). Megnin (1894 & 1895) was the first acarologist using mites to estimate time of death in forensic investigations. He realized that the first colonizers are not only insects but also mites. The sixth wave of arthropods was composed exclusively of mites. After that, only a few researchers have specially studied the Acarines in forensic investigations (Goff *et al.*, 1986; Goff, 1989, 1991; Leclercq & Verstraeten, 1989). Recently, forensic acarology has international recognition (Rasmy, 2007, 2008; Perotti *et al.*, 2009).

In addition, Astigmatid mites are noted associated with forensic cases and have been found in masses on an insect free corpse (Russell *et al.*, 2004; O'Connor, 2009). Proctor (2009) reported that submerged bodies do not seem to be associated with fresh water mites.

On the other hand, forensic entomology has been around since the 13<sup>th</sup> century as the earliest record came from China when all villagers were required to bring their sickles to one spot. The Chinese criminalist Sun Tz'U noted that blowflies congregated on only one, had traces of blood and tissues. This evidence caused the guilty villager to confess (Cheng, 1890; cited in Greenberg & Kunich, 2002).

Later on, the medicocriminal entomology use was recorded in the West near Paris in 1850. A baby's mummified body, encased in a chimney in a boarding house, was revealed when renovation work was being undertaken. By evaluating the insect fauna on the mummified remains, Bergeret (1855) concluded that the baby had been dead about 2 years, thus exonerating the current inhabitants of the house, while the previous occupiers were accused. This case represents the first application of insect succession data in forensic entomology (cited in Gennard, 2007).

Thereafter, in the twentieth century insects were shown to be of value in legal investigations involving insect colonization for body recovered from water and not just found on land. In 1935, two corpses of females were recovered from a river near Edinburgh, Scotland. The identities of the deceased women were determined. The presence of larvae of the blowfly indicated that the eggs had been laid prior to the bodies being dumped in the river. The combined evidences revealed that the husband was the murder of his wife and her maid.

Recently, in 2008 a mosquito showed to be of value in a court case in Finland. DNA analysis was undertaken for this engorged mosquito that was found in a car, where the driver was found dead. Analysis indicated that DNA was similar to that of one of the defendants who was accused to murdering.

Obviously, it seems that the interpretation of entomological/acarological evidences may eventually be an important factor in the determination of guilt or innocence in court of law.

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