

Acarology and the Law: History and Areas for Future Research

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Forensic Acarology is the area of forensic science in which information provided by the Acari is used in the investigation of a crime scene and concerned with illegal activities or suspicious death. This term is firstly initiated by the author (2007).

In general, flies with phoretic mites reach cadavers within few hours after death. Thereafter, forensic mites feed on flies immature stages and develop faster than their carriers (Perotti & Braig, 2008).

The use of Acari in forensic investigation could has a role as markers to estimate the time when the dead body was exposed to flies and mites, particularly in habitat where insects are rare or absent. Indeed, few studies have been carried out in this area (Goff, 1988 & 1991 and Leclercq & Verstraeten, 1989).

The most notable case in which information provided by the Acari was used to draw forensic investigation could be traced back to 1894 when Mégnin in France estimated the postmortem interval of a newborn baby. The determination of time of the baby death was based on the biology of the associated stored product mite, *Tyrophagus longior* (Gerg).

Recently, the scope of forensic acarology goes a step further than the application of mites as indicators of scene or time of death. The author (2008) reported that mites have a part to play as indicators in case of neglect or physical abuse. For example, the scab mite, *Sarcoptes scabiei* L. tends to colonize the vagrant persons, as a result of their poor hygienic conditions, and old people who have not been assisted in maintaining their bodily hygiene. Moreover, sarcoptid mites may cause barrows in the skin of the host (Nutting, 1991).

However, the areas for future research are varied and come from investigating aspects of stimulated crime scenes. There will be variation in the forensically important mite species which colonize a body at different habitats. For example, bodies which lay on the surface or under the ground could, in reality, be colonized by different mite species. Such studies enrich the database of the distribution of Acari species associated with corps. Therefore, such research provides a source of further information from which to refine forensic deductions from forensic evidence in the field and specify which species are of forensic importance (Gennard, 2007).

In addition, because of their high diversity and wide occurrence, mites have a role to play in analysing trade evidence including illegal trade of drugs, plants and animal materials or any other suspects. Mites collected from such substances destined to be used illegally can indicate the country from which the materials originated before smuggling.

The requirement for these studies contributing greatly to the advancement of forensic acarology in medico-legal investigation.

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