**Human autosomal DNA and X chromosome STR profiles obtained from *Chrysomya albiceps* (Diptera: Calliphoridae) larvae used as a biological trace**

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**ABSTRACT.** The use of insects to answer questions in criminal investigations, as well as a combination of forensic genetic techniques to obtain human DNA from the organisms, especially necrophagous dipterians, have gained ground in recent decades among researchers and professionals in this area. The objective of our study was to evaluate and compare two methods of human DNA extraction,
commonly used for forensic samples, to obtain human autosomal DNA and X chromosome short tandem repeat profiles from the digestive tract of *Chrysomya albiceps* (Diptera: Calliphoridae) larvae. Immature specimens were collected from corpses at the Institute of Forensic Medicine of Pernambuco and raised in bovine ground meat to allow stabilization of the colony. Groups of larvae in the third instar were provided with bovine ground meat plus human blood for 48 h, dissected, and then subjected to DNA extraction. DNA was extracted using two methods: a DNA IQ™ kit and a phenol-chloroform method. Genomic DNA was amplified using AmpF/STR® Identifiler® Plus PCR and Argus-X-12® kits, and samples were sequenced to determine if the two extraction techniques generated reliable profiles that were compatible with a reference sample. The existence of comparable profiles from both techniques demonstrates the usefulness of dipteran larvae for obtaining human DNA from corpses, which can be further used to correlate genetic profiles in a crime scene when other traces are not available. However, several variables still require revision; thus, the technique should be further investigated for its validity, security, and, in particular, its reproducibility.

**Key words:** Forensic genetics; Forensic entomology; Dipterians; Short tandem repeats; Uniparental markers