

**SPECIFIC CHARACTERISTICS OF THE DETERMINATION OF BIOLOGICAL TRACES OF CRIME**

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Abstract

In the process of committing a crime, invisible (hidden) traces appear as a result of the criminal's direct contact with the victim's body, clothes, and other surrounding objects in some cases. The difficulty of completely destroying or falsifying traces of biological origin increases the importance of these traces as physical evidence. These physical evidences, which are used to identify the suspect, are the most reliable in determining whether the suspect is involved in a crime. The widespread introduction and use of methods that allow for the identification of DNA-preserving biological traces provide an opportunity to quickly solve serious and extremely serious crimes.

Keywords: Identification, biological traces, crime scenes, blood, physical evidence, DNA, human biological materials.

Introduction

It is impossible to imagine solving any crimes without actions aimed at identifying traces important to the case. It is known that actions aimed at identifying traces consist of several stages: detection, collection, research, evaluation, and use. If the specialists involved in these stages do not organize their actions correctly, it can lead to the excessive mobilization of resources. A lack of high qualifications and procedural correctness in detecting and collecting crime-related traces can negate the possibility of using these traces to prove guilt.

Crimes against a person's life (murder), health (various degrees of bodily harm), and sexual freedom (rape) require clearly defined specialists to be involved in the investigation area. Otherwise, important traces might be lost. Therefore, involving forensic medical and biological specialists in the investigative team for such crimes is crucial. Their tasks include identifying and collecting human body excretions.

Human body excretions, i.e., biological traces, are any biological materials from a person that contain DNA molecules. These include:

- Blood traces at the crime scene;
- Dried traces of blood and body excretions;
- Biological traces on physical evidence (blood, saliva, sweat-grease traces);
- Biological traces on murder weapons (blood, sweat-grease traces);
- Hair roots;
- Teeth;



- Bone fragments;
- Seminal cells;
- Excretions;
- Amniotic fluid and aborted material;
- Chorionic tissue and other biological materials containing DNA molecules.

Each of these materials can be used to isolate DNA molecules and perform comparative analysis. Every cell in the human body contains DNA. However, the nucleotide composition of DNA, its primary structure, is unique and strictly individual for each organism, written in the form of a genetic code.

The complexity of collecting biological traces from serious and extremely serious crime scenes is due to the fact that these traces can undergo various destructive changes and quickly deteriorate. This can lead to losing the opportunity to use them for future identification purposes. Biological objects can be identified from various locations and carriers, depending on the crime scene and external environment. Incorrectly performing activities such as detecting, collecting, researching, and evaluating biological objects can lead to the destruction of DNA or contamination with foreign genetic material, negatively affecting future research results.

Detecting biological objects begins with inspecting the crime scene and items, using both natural and artificial lighting. Specialists involved in this process must be equipped with the appropriate tools, such as special (medical) clothing, shoes, masks, and gloves. They should use disposable tools or carefully clean tools with alcohol after each use. In practice, criminals may attempt to hide crime traces, but these attempts are often incomplete.

Properly introducing and using methods that allow for the identification of visible and hidden biological traces at crime scenes significantly enhances the efficiency of rapid investigation actions for solving serious and extremely serious crimes and reliably uncovering crime traces.

References

1. 'Uzbekistan Forensic Examination' legal, social, scientific, and practical journal. 2023, No.2(9).
2. Sobolevskaya S.I. 'Working with biological traces at the crime scene' // Concept scientific-methodological electronic journal – 2014.- Special Issue No.29.
3. Ministry of Justice of the Republic of Uzbekistan 'Modern methods and priority directions of developing forensic expertise' materials of the international scientific-practical conference. Tashkent 2023, September 22-23.
4. uz.m.w.wikipedia.org.