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EXAMINATION OF SCENT TRACES DURING INSPECTION OF THE SCENE AND OTHER INVESTIGATIVE (SEARCH) ACTIONS

Abstract. Purpose. The aim of the article is to reveal the specificities of examining scent traces during the investigation of the crime scene and other investigative (search) actions.

Results. Scent traces are used in law enforcement to detect, investigate, and prevent criminal offences. At present, it is necessary to improve the legal and regulatory framework for the procedure for detection, examination and use of scent traces, development of practical recommendations for processing scent traces. These and other circumstances have led to a broad approach to the methodology of studying the specificities of the use of scent traces in the investigation of criminal offences and the actual crime scene investigation and other investigative (search) actions. Processing of scent traces covers actions related to their detection, recording, collection and examination within the scope of investigative (search) actions, search operations in order to achieve the objectives of criminal proceedings. According to empirical data, frequently scent traces are processed when investigating the crime scene, in some cases, scent traces are found during the search, crime scene reconstruction. In order to identify possible scent traces and scent carriers, it is essential to reproduce the behaviour of the perpetrators at the scene, paying attention to their long-term stay. Sources of scent at the scene are material objects or parts thereof connected with actions or contacts with the offender. These are mainly personal belongings, clothing of a person, biological traces of a person, instruments of crime, stolen things. The scent is often found in the places where the perpetrator or in the vehicles in which he or she was travelling. When searching for objects with scent information on the scene, it should be taken into account that soft, porous surfaces, such as fabrics, wood, paper, snow, grass, relatively well absorb and retain the scent information.

Conclusions. Odorological examination is identified as a means of identifying persons, facilitates the rapid and effective investigation of criminal offences and the search for criminals and missing persons. The key to the successful introduction of modern techniques of odorology (branch of forensic technology that studies scent traces) into the practice of combating crime is qualified actions by the actor of the investigation to detect and collect of scent information at the crime scene, its subsequent examination and use to clarify the objectives of criminal proceedings, as well as an understanding of the importance of such activities.

Key words: scent traces, forensics, crime scene investigation, odorology, examination.

1. Introduction

The investigation of criminal offences in modern conditions requires the use of a wide range of sources of trace information, the use of the results of their examination to furnish proof in criminal proceedings. These are new sources of trace information: scent traces, sound traces, electronic traces, molecular-genetic traces, etc. These and other circumstances lead to new tasks of forensic science, using the latest achievements of natural and technical sciences, adapting them to the solution of individual

tasks of investigation of criminal offenses, transforms them into criminal practice.

Scent traces have been known for a long time but have not been investigated enough. Nowadays, scent traces are used in law enforcement to detect, investigate and prevent criminal offences. However, it should be noted that a number of problematic issues hinder their effective use during criminal proceedings: flaws in the legal framework for the detection, investigation and use of scent traces (according to 90.6% of investigators, 86.6% of experts), lack

of forensic examination of scent traces (according to 88.8% of investigators, 84.4% of experts), lack of practical recommendations for processing scent traces during investigative (search) actions (according to 80.3% of investigators, 76.8% of experts).

The topic is comprehensive, because scent traces during the investigation of criminal offences, using a variety of methods, tools, techniques, are processed by a wide range of actors: investigators conducting criminal proceedings; specialists involved in solving individual tasks (employees of the Canine Service and forensic inspectors of the National Police of Ukraine, experts of the Expert Service of the MIA of Ukraine, conducting forensic examination, the conclusion of which is an important source of evidence in criminal proceedings). In addition, scent traces are subject to laboratory (instrumental) study, and odorological sampling, which is carried out with the help of dog detectors, deserves special attention.

The study of the topic determines a broad approach to the research methodology of using scent traces in the investigation of criminal offences, the crime scene investigation and other investigative (search) actions.

The use of scent traces is widely practiced worldwide. Recently, forensic odorology as a science on the collection, preservation and use of scent information in the detection, investigation and prevention of criminal offences has become the focus of Ukrainian scientists and practitioners. However, modern forensic literature pays little attention to scent traces. As well as the lack of technical and forensic support, the lack of sufficient experience in processing scent traces, the circumstances listed create serious difficulties for the effective implementation of odorological means, methods, techniques in the daily practice of law enforcement bodies, and testify to the relevance of the topic of the scientific article.

Describing the state of art in scientific research on the use of scent traces in criminal proceedings, the monographic study by V.D. Basai *Fundamentals of Forensic Odorology* (Ivano-Frankivsk, 2003) should be noted (Basai, 2003).

Groups of scientists and practitioners have prepared methodical recommendations on the treatment of odorological objects during investigative (search) actions. For example, *Crime Scene Investigation: Detection and Collection of Biological Objects* (Kharkov, 2009) (Perlin, Shevtsov, Kosmina, Ionova, 2009), *Forensic Examination of Human Biological Traces* (Kyiv, 2010) (Kofanov, Kobylanskyi, Davydova, 2010), *Application of Special Knowledge and Forensic Tools during the Invest-*

igation (Lviv, 2019) (Blahuta, Zakharova, Kovalska, 2019).

However, the detection, collection, examination, use of scents during the crime scene investigation and other investigative (search) actions are accompanied with the problematic issues and the need to address them at the theoretical and scientific levels.

The aim of the article is to reveal the specificities of the examination of scent traces during the crime scene investigation and other investigative (search) actions.

2. Trends of the examination of scent traces

The early detection and examination of traces of a criminal offence helps establish the circumstances and mechanism of its commission, as well as the person to whom they belong.

Processing of scent traces comprises actions to detect, record, collect and examine them within the scope of investigative (search) actions, search operations in order to achieve the objectives of criminal proceedings.

According to empirical data, frequently scent traces are processed when investigating the crime scene, in some cases, scent traces are found during the search, crime scene reconstruction.

For example, the purpose of the investigative (search) action such as scene investigation is: to detect traces of a criminal offence and material evidence; to clarify the circumstances of the incident; to develop theories as to how the criminal offence was committed and who its participants are; to obtain data on persons, who may have seen the commission of a criminal offence, with the purpose of organising operational and investigative measures and carrying out further investigative (search) actions. However, despite the fact that the main information is collected during the crime scene investigation and other types of examination, it can be detected as a result of other investigative (search) actions. This information is illustrated by practical data.

In addition, processing of scent traces can have a psychological impact on the person involved in the commission of a criminal offence and thus contribute to its detection and investigation. As is known, psychological influence is objectively inherent in the activity of investigation, prevention of criminal offences and judicial consideration of criminal proceedings (cases). It is reflected in practice in the application of tactical techniques in the process of fulfilling the tasks of criminal proceedings. In such circumstances, the use of tactics implies thorough training of the investigator, prosecutor, judge, which includes verification of their compliance with

legal and moral norms; assessment of possible tactical risk and their justification; anticipation of the behaviour of participants; identification of measures in case of urgency and out-of-control; use the results obtained. The psychological mechanism of a tactical technique implies: direct or indirect interaction between the person conducting criminal proceedings and his or her respondents; its psychological orientation connected with the reproduction of the event, updating the forgotten, revealing lies, searching for the hidden; psychological effect of the use of a tactical technique (connected with the need to obtain truthful testimony, revealing traces of criminal offense) (Chornous, 2020, p. 17).

Empirical studies can illustrate the psychological impact of scent processing in criminal proceedings. For example, at the scene of the murder, the perpetrator left his clothes. The suspect, identified from his fingerprints, denied involvement in the crime, despite other evidence of the crime. The investigator decided to use odorological information, believing that the result of sampling with the help of a police dog encourages the suspect to give truthful testimony. He was taken to the house where the murder took place, and then wet cleaning and ventilation were conducted in the presence of him and the witnesses. Then the suspect and two invited citizens were asked to put one of their clothes on the floor. After that, a cynologist and a dog were invited, a sealed plastic bag with the object extracted from the crime scene was presented to the attendees, open and handed to a cynologist. The dog sniffed the object and selected one belonging to the suspect from items laid out on the floor. The suspect was told that, if he wished, the sampling could be repeated with other objects and persons involved. But he refused and gave details not only of the crime but also of the attempted murder elsewhere, while his involvement in the crime had not yet been known to the investigation (Kuzmichov, 2000, p. 338).

An important area of the study of scent traces is laboratory. For example, during investigative (search) actions, scent traces subject to laboratory research may be removed. An interesting case from the investigative practice is when air samples were collected in the room where the crime was committed. Gas chromatography identified the brand of cigarettes that were smoked there. The same cigarettes were found during a personal search of the suspect (Kuzmichov, 2000, p. 337).

Therefore, in the light of current developments in science and technology, the attitude of law enforcement practitioners to the importance of scent traces in pre-trial investigations should be reviewed. For example, handprints

are most often of interest to the investigator from the position of identification of the person by the papillary pattern, while blurred ones are always unsuitable for identification and are usually ignored by the investigator. However, it is possible to identify the group membership of a person by sweat-fat composition and by extracting scent traces for the purpose of subsequent identification of the perpetrators by a service dog (Kuzmichov, 2000, p. 332).

Thus, working with scent (odorological) traces at the crime scene includes detection, fixation, examination and their direct use for organising the search for people and things in "hot pursuit." Odorological traces can also be used in further pre-trial investigations by forensic and odorological examination to obtain evidence.

In order to identify possible scent traces and scent carriers, it is necessary to reproduce the behaviour of the perpetrators at the scene, paying attention to their long-term stay.

3. Use of scent traces in criminal investigations

Sources of scent at the scene are material objects or parts thereof connected with actions or contacts with the offender. These are mainly personal belongings, clothing of a person, biological traces of a person, instruments of crime, stolen things. The scent is often found in the places where the perpetrator was or in the vehicles in which he or she was travelling.

When searching for objects with scent information on the scene, it should be taken into account that soft, porous surfaces, such as fabrics, wood, paper, snow, grass, relatively well absorb and retain the scent information. Smooth surfaces such as glass, asphalt, plastics, lacquered or polished metal products can less absorb and retain scent.

Having determined the possible locations of scent traces, the specialist covers with the sorbent (sterile gauze or flannel napkin) each place or item. After that, the fabric is pressed with foil fastened with adhesive tape and remains for the time necessary to absorb the scent trace. But if there may be other traces at the place of scent, then sorbent insertion and pressing is carried out in such a way as not to break these traces. As a rule, the sorbent absorbs the scent throughout the inspection of the scene. After that, the foil is removed, and the sorbent is gently removed from the object with tweezers and placed in a hermetically sealed (canned) jar. For example, if liquid blood stains are left at the scene, samples are taken for a 4–5 layer of sterile bandage by soaking the blood. Gauze or clothes with traces of blood must be dried at room temperature, as the rotting blood is not suitable for odorological

examination. In the future, all traces collected in the presence of comparative material are sent for odorological examination to solve identification and non-identification tasks (Mazur, Antoniuk, 2020, p. 210).

In addition, the use of specially trained dogs when investigating the scene of an incident and correctly detecting the location of scent footprints allows for a rapid search arrest of persons involved in the commission of criminal offences in "hot pursuit."

Furthermore, that is not all possibilities of using scent traces in criminal investigations. For example, Vinnytsia RFC of the MIA conducts unique research using detection dogs. A specificity of odorological research is the identification of scent information collected from the crime weapon. The adjacent territory of the laboratory is equipped with modern enclosures with a walking area, which provides a comfortable stay of "four-legged" experts at different times of the year. Experts take care of the health of detection dogs (maintaining immunity, vaccination, current minimally invasive manipulation). One alternative method of odorological research is the use of a universal non-contact vector complex with video fixation and light process identification (Official site of Vinnytsia Research Forensic Centre of the Ministry of Internal Affairs of Ukraine, 2019).

The units of the National Police of Ukraine have own Canine Service. It is also noteworthy that, according to the National Police, there are currently 929 dogs working in the Canine Police Service. 646 cynologists across the country, along with their four-legged assistants, search for criminals, patrol cities, find explosives, weapons, and drugs. In total, there are 929 service dogs in the Canine Service of the Police, most of them search dogs (390). The service dogs are located in the centres of the National Police General Directorates, and they assist the bomb squad personnel, patrol officers, rapid action corps and security police. Over the past year, cynologists have found 325 firearms, 303 kilograms of drugs and 1,500 explosive devices. In addition, canine police with service dogs made more than 26,000 visits to the scene and helped solve almost 13,000 crimes (Website of the Multimedia Platform of Foreign Broadcasting in Ukraine "Ukrinform", 2019).

Therefore, odorological examination is identified as a means of identifying persons, facilitates the rapid and effective investigation of criminal offences and the search for criminals and missing persons. The key to the successful introduction of modern techniques of odorology (branch of forensic technology that studies scent traces) into the practice of combating crime is qualified actions by the actor of the investiga-

tion to detect and collect of scent information at the crime scene, its subsequent examination and use to clarify the objectives of criminal proceedings, as well as an understanding of the importance of such activities.

When working with items that are trace sources of the human scent, it is necessary to comply with rules as follows:

- The item should be processed for the presence of traces of papillary patterns; foreign micro- and macroscopic traces, such as overlays; biological human traces (blood, saliva, sperm, etc.);

- Small items shall be inspected with tweezers and large ones should be examined only in gloves;

- After inspection, the scent source should be preserved, that is, placed in a hermetically sealed container. For small items or things (cap, glove, scarf, handkerchief, glasses, pen, etc.) glass jars with studded lids are used. If the latter are absent, the jar can be closed with food foil, and covered with a polyethylene lid. Large objects and things are placed in polyethylene bags and tied, creating a tightness of the package.

Material items processing, such as trace sources of scent and scent traces, from the procedural perspective, does not have any exceptions from the general procedure and is carried out most often during urgent investigative (search) actions to identify and fix the traces of a criminal offence. Therefore, any actions by the investigator to detect, fix, collect and preserve odorological traces should be reflected in the record of the relevant investigative (search) action under the CPC of Ukraine. Manipulations to select, preserve and pack traces should be carried out in the presence of attesting witnesses, besides this action should be specially paid their attention, they shall see the location and method of trace detection, and sometimes be aware of the nature of the action and the purpose of collecting items with scent traces (Ruvina, 2019).

When collecting scent traces, the records of the crime scene investigation or other investigative (search) action should include information about: the name and location of the item with scent traces; accurate localisation of the surface from which the scent is taken; the type, condition and material of the surface from which the scent adsorption is collected; method of extraction of scent; material, dimensions, quantity and colour of adsorbent; contact time of adsorbent with surface; ambient temperature and weather conditions; method of packaging of scent traces, type and capacity of packaging; method of sealing, explanatory inscriptions on the package; method of packing scent carriers.

4. Conclusions

Therefore, we can now state a qualitatively new development of examination and use of scent traces in the investigation of criminal offences. Scientists have developed some innovative provisions regarding the effective study of scent traces in modern conditions during the crime

scene investigation and other investigative (search) actions. However, many issues need to be addressed urgently and, in particular, the legal and regulatory framework for the use of scent information in criminal investigations should be improved, as well as guidelines for practitioners on these issues should be developed.

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ДОСЛІДЖЕННЯ ЗАПАХОВИХ СЛІДІВ ПІД ЧАС ПРОВЕДЕННЯ ОГЛЯДУ МІСЦЯ ПОДІЇ ТА ІНШИХ СЛІДЧИХ (РОЗШУКОВИХ) ДІЙ

Анотація. Мета. Мета статті – розкрити особливості дослідження запахових слідів під час проведення огляду місця події та інших слідчих (розшукових) дій.

Результати. Сліди запаху використовуються у правоохоронній діяльності для розкриття, розслідування та попередження кримінальних правопорушень. Нині необхідним є удосконалення нормативно-правової регламентації порядку виявлення, дослідження та використання запахових слідів, розробка практичних рекомендацій щодо роботи із запаховими слідами. Вказані та інші обставини зумовили широкий підхід до методології дослідження особливостей використання запахових слідів під час розслідування кримінальних правопорушень і безпосередньо – проведення огляду місця події та інших слідчих (розшукових) дій. Робота із запаховими слідами охоплює дії з їх виявлення, фіксації, вилучення та дослідження у межах проведення слідчих (розшукових) дій, оперативно-розшукових заходів з метою досягнення завдань кримінального провадження. Як засвідчили емпіричні дані, робота із запаховими слідами найчастіше відбувається під час огляду місця події, у окремих випадках запахові сліди виявляють під час обшуку, слідчого експерименту. Для визначення можливих місць перебування запахових слідів і з'ясування об'єктів – носіїв запаху – необхідно моделювати поведінку злочинців на місці події, звертаючи увагу на місця їх тривалого перебування. Джерелами запаху на місці події є матеріальні об'єкти або їх частини, які пов'язані

з діями або контактували зі злочинцем. Переважно йдеться про: особисті речі, одяг людини; біологічні сліди людини; знаряддя вчинення злочину, викрадені речі. Нерідко сліди запаху знаходять на місцях, де перебував злочинець, чи транспортних засобах, у яких він пересувався. – У разі пошуку предметів на місці події, які несуть на собі запахову інформацію, слід врахувати, що відносно добре вбирають у себе та зберігають запахову інформацію м'які, пористі поверхні: тканини, дерево, папір, сніг, трава.

Висновки. Встановлено, що одорологічні дослідження є одним зі способів ідентифікації осіб, сприяють швидкому та ефективному розслідуванню кримінальних правопорушень, розшуку злочинців та осіб, зниклих безвісти. Запорукою успішного запровадження в практику боротьби зі злочинністю сучасних напрацювань одорології (галузі криміналістичної техніки, що вивчає сліди запаху) є кваліфіковані – дії суб'єкта розслідування з виявлення до вилучення запахової інформації на місці події, її наступного дослідження і використання з метою з'ясування завдань кримінального провадження, – а також розуміння великого значення такої діяльності.

Ключові слова: запахові сліди, криміналістика, огляд місця події, одорологія, дослідження.

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