Sickness Rate of Service Dogs in Cynological Centers of Ukraine

Tetiana Suprovych*, Mykola Suprovych, Svitlana Lighter-Moskalyuk, Vyachesla Trach, Tetiana Tokarchuk

Higher Educational Institution "Podillia State University"
32316, 12 Shevchenko Str., Kamianets-Podilskyi, Ukraine

Abstract. Service dogs are an important asset of law enforcement agencies. Therefore, understanding their medical problems, knowing general characteristics such as numbers, age, breed, gender, and purpose is crucial to maintaining their health and readiness to perform complex tasks. Analysis and dissemination of such information is an urgent task for specialists and scientists dealing with the problems of keeping, providing, and veterinary care for service dogs. The purpose of this study was to analyse the results of statistical reports on the incidence of service dogs from 24 regional canine centres of law enforcement agencies of Ukraine. In total, data on 822 service dogs and records of 839 cases of diseases were considered. Data on the number, age, gender, and direction of use of service dogs were also analysed.

It was found that internal non-contagious ailments were identified among the diseases. Most of the problems were with the gastrointestinal tract: dyspepsia, alimentary enteritis, and gastritis. It was found that among the diseases of the visual and hearing organs, otitis media and cataracts were most often detected. Traumatic injuries accounted for 16.7% of all records, most of which were classified as wounds. It was found that every seventh disease was related to the skin. Among them, two diseases had a considerable predominance: dermatitis and eczema. Another group was detected with a frequency of more than 5% – parasitic diseases, of which babesiosis was the most common. The study also found that one in twenty animals had diseases of the musculoskeletal system, of which arthritis and hip dysplasia were mainly found. Statistical calculations have shown heterogeneity in the distribution density of dogs, both in relation to the population and the area of the region. Chernivtsi Oblast had the best density indicators, and Zhytomyr Oblast had the lowest. Among service dogs, females have an advantage – sexual differentiation was 1/1.15. An even distribution of the number of service dogs by age was found, ranging from 2 to 7 years, with a weighted average age of 4.9 years. The most common breeds were: German and Belgian shepherds, as well as Labrador. Special and search dogs prevailed for their intended purpose. The practical value of this study lies in the fact that certain patterns of morbidity of service dogs provide an opportunity to change the strategy of their selection, training, and treatment to use this valuable resource more effectively.

Keywords: cynological units, differentiation of diseases, number, age, breeds, sex, areas of use of service dogs
INTRODUCTION

Since their domestication over 30,000 years ago, dogs have played a significant role in human evolution (Wang et al., 2016). Domestic dogs (Canis lupus familiaris) are common in modern society, helping people in various situations. Among domestic animals, dogs have the most developed intelligence. In tests of elementary mental activity, they demonstrate high results, inferior only to great apes, dolphins, and some birds. For instance, dogs successfully solve cognitive tasks to extrapolate the direction of movement of an object and tasks to operate with the empirical dimension of shapes. S. Coren (2016) points out that according to several behavioural indicators, the mental abilities of dogs are close to those of a human child aged 2 to 2.5 years. The strongest instinct of a dog is social behaviour, which manifests itself not only in relation to its species, but also in interspecific interaction. After studying about 500 mammals, Oxford University scientists S. Shultz & R. Dunbar (2010) reported that dogs are the most social of domestic animals. The listed aspects made it the best friend and helper of human from all domesticated animals.

However, dogs have some qualities that allow using them as helpers for special needs. The value of dogs lies in the ability to perform tasks that humans cannot perform, such as detecting odours. Search for explosives, drugs, psychotropic substances, search work, security, and protection – these are functional properties that allowed distinguishing some breeds in the group of service dogs performing specialised tasks.

Bezpalova et al. (2019) note that today, both in Ukraine and around the world, service (working) dogs are used for a vast range of activities – from protection to involvement in combat operations. They are usually used in the field of law enforcement and rescue structures (army, border guards, police, fire departments, customs, mountain rescue services, etc.) where the conditions of maintenance and use differ substantially from the environment where domestic dogs exist.

Service dogs of cynological units of law enforcement agencies perform a variety of tasks, which are usually characterised by considerable deviations from the average loads inherent in pets. This determines the specific features of their maintenance and use, which in turn creates the presence of specific health issues.

Issues with the incidence of service dogs are widely covered in the scientific literature. Currently, there is no centralised method for tracking traumatic injuries or illnesses in service dogs used in law enforcement or the armed forces. However, a memorial site has been created that contains an extensive list of service dogs that have died or been euthanised in service from 1940 to the present day, and new cases are regularly added (Cortina, 2022). M. Martini et al. (2017) note that collecting data on the causes of injury or death in dogs can help develop new treatment, care, and training strategies that can increase their survival.

Numerous results of studies on the incidence of service dogs have been published. Various causes of their death, euthanasia, or culling are reported in the studies, the main ones being osteoarthritis, degenerative joint disease (Parr et al., 2013; Moore et al., 2001), neoplasia (Evans et al., 2017; Jennings & Butzin, 1992), as well as diseases of the gastrointestinal tract (Moore et al., 2008; Andrews et al., 2018). Among similar studies conducted in Ukraine, it is necessary to pay attention to the papers of Levchenko (2008), Fasolia (2011), Gudyma (2013), Demchuk et al. (2005).

The development of a progressive approach to animal husbandry sets new, more humane requirements for animals. M. Demchuk and O. Staenryi (2005) point out that the realisation that an animal is not a mechanism endowed with receptors and reflexes, but a living being with its inherent behaviour, feelings of fear, pain, joy, with its individual needs and personality, not only physiological, but also mental, is necessary for every person. M. Cobb et al. (2021) emphasise that the issue of morbidity of any dog, including service dogs, should be considered in a broader aspect, namely, from the standpoint of the animal welfare concept. D. Mellor et al. (2020) argue that the current idea of animal welfare comprises 5 domains: 1 – nutrition, 2 – physical environment, 3 – health, 4 – behavioural interactions, 5 – mental state. Two of them, the health and mental state of the animal, directly affect the incidence of service dogs.

Data collection for all domains is of broad practical importance. The identified quantitative characteristics allow analysing and identifying the causes of diseases, generalising by breed, age, features of maintenance and performance of official tasks, etc. Equally important is the creation of open databases, based on which to determine the full profile of the risk to which dogs are exposed. Maintaining healthy police dogs costs up to $1,500 per year (Royal Canadian Mounted Police, 2022). Given the massive costs of acquiring, training, and maintaining highly qualified animals, such as service dogs, information from such databases can change strategies for selecting, training, and treating animals to make better use of this valuable resource.

In modern society, statistics is one of the main tools for analysing any data. Processing and analysis of information allows obtaining the necessary generalisations and draw conclusions about further correction at the macro- and micro-levels of the phenomena and processes under study. The purpose of this study was to evaluate statistical data on the morbidity of the breeds, age, and gender structure of service dogs in the dog training centres of law enforcement agencies of Ukraine.

MATERIALS AND METHODS

To fulfil this purpose, statistical research methods were used, namely: a one-time observation plan and a variational method of grouping by the features under study.
Indicators for calculations were taken from a specialised reporting form, developed by scientific and pedagogical staff of the department, which was sent by the organisation department of the canine service of the National Police of Ukraine to all canine centres. Statistical observations were based on the annual reports of 24 dog training units of the law enforcement agencies of Ukraine for 2021. The objects of observation were service dogs. The study took place in four stages.

The first stage included receiving reports from 24 dog training centres according to a specialised reporting form. The main information concerned the incidence of service dogs. A total of 839 cases of pathologies and lesions were described. The reports also contained information on the total number of dogs, their gender, and breed differentiation, the age of the animals and the number depending on the area of application. The status of animal sterilisation was not recorded.

At the second stage, the received data was verified. At the third stage, two databases were formed: database 1 – indicators of morbidity of service dogs; database 2 – indicators of the number, age, breeds, gender, and area of use of service dogs.

The final fourth stage included statistical calculations and analysis of the results obtained. Calculations were performed in the standard Microsoft Excel 2013 package.

RESULTS AND DISCUSSION

The extent of diseases in dogs depends on many factors. The study of Uddin et al. (2021) shows that such dependence can be based on age, gender, breed, and even season. For service dogs, the risk level for pathologies and lesions increases due to the specifics of the tasks they perform. Therefore, first, the authors consider the statistical calculations regarding the number, breed, age, and gender differentiation and the distribution by purpose of service dogs from 24 cynological centres of Ukraine.

Number of service dogs. The study used data on 822 dogs. The number of service dogs in regional dog training centres of Ukraine is presented in Figure 1.

The kennel unit of the Sri Lanka Police currently has about 250 working dogs in 56 different locations in the country (Dissanayake et al., 2021). The Finnish police employ 260 police dogs and 240 dog handlers (Police dogs, 2022). There are about 2,500 combat and service dogs in the service of the US Army (Lagutchik et al., 2018).

However, an essential point of such statistics is not the quantity, but the quality of providing service dogs to certain regions in different countries. Therefore, truthful information is statistics of relative indicators that show the density of dogs per unit area or the population of the region where the dog training unit patrols. The following is a comparison of the results of the authors’ own research and data from three urban and county dog training centres in Poland, which geographically borders...
Ukraine and has many similar socio-cultural features (Gąsiorowski, 2019). The comparison results are presented in Table 1. Ukraine is represented by three regions: Chernivtsi, Dnipropetrovsk, and Zhytomyr oblasts, respectively, with the highest, average, and minimum density in terms of the ratio of population and service dogs.

### Table 1. Density of service dogs in different regions of Ukraine and Poland

| Regions | Number of service dogs (N) | Population, people (P) | Area, km² (S) | P/N | S/N |
|---------|---------------------------|------------------------|---------------|-----|-----|
| Ukraine |                          |                        |               |     |     |
| Dnipro  | 79                        | 3,176,648              | 31,914        | 404 |     |
| Zhytomyr| 24                        | 1,208,212              | 29,832        | 503 | 1243|
| Chernivtsi | 30                    | 901,632                | 8,097         | 104 | 270 |
| Poland  |                          |                        |               |     |     |
| Bydgoszcz| 89                       | 2,086,210              | 17,972        | 234 | 202 |
| Białystok| 64                       | 1,188,800              | 20,187        | 186 | 515 |
| Gorzów  | 29                        | 1,018,084              | 13,988        | 75  | 482 |

**Source:** compiled by the author

Density indicators for Ukraine are worse than in Poland, except for the Chernivtsi Oblast. But the real need for service dogs is mainly determined by the number of tasks they have to perform, although relative indicators usually correlate with the population density of the region (Shichor et al. 1979; Nolan, 2004).

**Distribution by gender.** The generalised results of the study of the sexual differentiation of service dogs showed that females are more often used in cynological units of Ukraine, and the ratio between males and females is 1/1.15.

Both males and females are excellent service dogs. But statistics from the United States, Canada, Great Britain, Australia, and New Zealand show that males significantly outnumber females. Thus, females make up only 15% of working dogs in Alberta (Canada). In the United States, most dogs that work for the police are males (Is There a Reason…., 2022). During operations Desert Shield and Desert Storm, the United States deployed 118 military working dogs to the Persian Gulf theatre. The sex ratio was 80% of intact males, 12% of neutered females, and 8% of neutered males (Burkman *et al.*, 2001).

Gender plays a substantial role in the abilities of a service dog, such as the ability to detect drugs. German Shepherd males are much easier to train than females. Intact German Shepherd males and females are much more trainable than castrated dogs (Abdel Fattah & Abdel-Hamid, 2020). Male dogs are more aggressive and stronger, so they are often chosen for police service. Most K9 dogs are males. However, females are increasingly joining the work as K9 service dogs (K10 Workingdogs, 2022). But they are used more for a special purpose: detecting bombs, drugs, contraband, etc.

**Age indicators.** Analysis of the distribution of service dogs by age in selected cynological centres of Ukraine showed a uniform distribution of the number with a gradation of 12 months, except for young (up to 1 year, 1.95%) and old dogs (over 7 years, 17.9%) (Table 2). The weighted average age of a service dog was 4.9 years.

### Table 2. Distribution of service dogs by age

| Age of the dog | Up to 1 year | 1-2 years | 2-3 years | 3-4 years | 4-5 years | 5-6 years | 6-7 years | Over 7 years |
|----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| Amount, %      | 1.95        | 11.9      | 14.8      | 16.2      | 14.8      | 13.5      | 8.2       | 17.9        |

**Source:** compiled by the author

Since different breeds are used in law enforcement, the lifespan of service dogs can vary greatly. In general, their life age can range from 9 to 15 years. According to a survey of police canines in New Zealand, the average age of 158 service dogs was 3.2 years (Balzer *et al.*, 2019). A similar figure for 1,220 police dogs referred to Baghdad Veterinary Hospital in 2015-2017 was 4.6 years (Tamimi & Wali, 2019). The average age of military working dogs used during Operation Iraqi Freedom II was 6.33 years (Toffoli & Rolfe, 2006).

A thorough investigation of the age indicators of service dogs divided into seven categories of service is presented in the paper (Kania-Gierdziewicz *et al.*, 2018). Considerable variability in the age of dogs at the time of discharge was observed depending on the type of service. Thus, dogs used in riot control units were released at the age of 5.1 years, and service dogs of the patrol and investigative service and anti-terrorist units – at the age of 7 years. The oldest age at the time of release was reached by dogs of the patrol, investigative, and guard
Service, which were 9 years old or older at the time of discharge. Service life was highest in patrol and investigative dogs, at 7.6 and 7.5 years, respectively. The length of service in certain groups showed similar trends to those observed for the previously considered indicator, i.e., the age at dismissal. Gender differentiation. The service dog breeds in 24 cynological centres of were analysed. It was established that 6 breeds are mainly used in law enforcement agencies, among which Labrador, German and Belgian Shepherds are most often involved (Fig. 2).

According to K-9, the most popular breeds are German Shepherds, Belgian Malinois, Dutch Shepherds, and sometimes hybrids of these breeds. Rottweiler, Dobermann, and Flemish Bouvier are less popular. Other breeds are more commonly used as searchers (National Police Dog Foundation, 2021).

The UK Metropolitan Police has approximately 320 dogs working in 6 key locations in North, South, East, and West London, including a dog training facility. Approximately 60% are general purpose dogs. These are mainly German Shepherds or Belgian Malinois. The remaining 40% are specialised search dogs (English springer spaniels, Labradors, and cocker spaniels) (Metropolitan Police Service, 2016).

In the Polish police, the best breed is the German Shepherd. Research results show that more than 73% of dog handlers work with dogs of this breed. Belgian Shepherds are less popular, as only 14.9% of the surveyed dog handlers work with them. The Labrador breed is the least used (1.95%) (Gąsiorowski, 2019).

Similar information can be found in the review (Zink & Schlehr, 2020), which states that the German Shepherd, Belgian Malinois, and Labrador Retriever are the most common breeds of working dogs.

A similar pattern is observed among military dogs. An analysis of the release of 268 US Department of Defense service dogs between 2000 and 2004 found that the main breeds were German Shepherds (120 animals) and Belgian Malinois (100 animals) (Evans, 2007).

Areas of use. Service dogs perform various tasks. They are used in activities related to the search for narcotic drugs (weapons, money), prevention of terrorist manifestations, search for explosives, detention of individuals who are trying to leave the crime scene, when searching for tools or means of committing an offence, to help search for the bodies of dead or missing people, to identify traces of blood, to maintain public safety and order, etc. (Allsopp, 2012). Therefore, the number of service dogs and how they are used may vary. This is also related to the developed strategies of countries according to their policies and needs to achieve the most efficient operation of the dog training service.

In practice, depending on the functional use, the following groups of service dogs are most often distinguished: search, patrol-search, special, convoy, sentry. According to this distribution, an analysis of the use of service dogs of the law enforcement agencies of Ukraine was carried out (Table 3).

### Table 3. Distribution of service dogs of law enforcement agencies of Ukraine depending on the application

| Search | Special | Patrol and search services | Convoys | Sentries | Backup services | Other |
|--------|---------|-----------------------------|---------|----------|----------------|-------|
| 38.81  | 41.73   | 7.66                        | 1.46    | 2.31     | 7.3            | 0.24  |

**Source:** compiled by the author

As of April 2019, 646 dog handlers and 929 service dogs worked in the dog training units of the National Police of Ukraine, of which 390 or 42% were search dogs (Garmash, 2019). For instance, in Turkey, dog handlers are trained in six different areas: narcotics, explosives, arms smuggling, intelligence, corpses and patrol dogs, and the most suitable field of activity for each dog is determined through special ability tests, after which training is carried out in a particular area (Sebnem Özcan et al., 2009).

In Poland, most dog handlers work with patrol and tracking/sniffing dogs (50.65%). They accompany...
police officers on patrol and take part in measures to ensure and restore public order during mass events, mass gatherings and pursuits of suspected criminals, ambushes, and blockades. Overall, more than half of the dogs have single skills compared to individuals that have "dual" skills. Among the categories of dogs with special abilities, the group of dogs trained to detect the smell of drugs is most represented (11.69%). A small percentage of dogs are trained to detect the smell of explosives (3.25%) (Gaśiorowski, 2019).

Morbidity of service dogs. In the study, 839 records of diseases of service dogs in the cynological centres of Ukraine were analysed. They are divided into 10 sectors (Fig. 3). This differentiation allows identifying the 5 most common groups of diseases (together 82.9%), for further and more thorough analysis.

It was found that more than a quarter of all cases are related to internal non-infectious diseases, most of which are associated with the gastrointestinal tract. The following positions were taken by diseases of the visual and hearing organs, injuries, skin diseases, and parasitic ones.

There are some scientific papers that provide generalised data from large-scale studies on the incidence of service dogs. Thus, an analysis of the incidence of 1,220 police dogs sent to the Baghdad Veterinary Hospital in 2015-2017 (mainly German Shepherds and Belgian Malinois, whose average age was 4.6 years) showed that congestive heart failure, babesiosis, various malignant tumours, and intestinal parasites were diagnosed most often (Tamimi & Wali, 2019).

In the paper cited earlier, Uddin et al. (2021) analysed data on 1,557 cases of various diseases collected in the registration book of the Dhaka Central Veterinary Hospital (Bangladesh). The results showed that the highest proportional morbidity was noted for infectious diseases (53.8%), followed by non-infectious diseases (23.4%) and the lowest for non-specific (22.7%) cases.

Quantification of medical problems in 774 military working dogs (US) and analysis of factors associated with common diseases between one and six years of age (mean 2.6±0.5) revealed that 83% of dogs had non-surgical medical problems. The most common of these were dermatological (25%), alimentary (21%), dental (15%), soft tissue injuries (10%), and musculoskeletal conditions (4%) (Schuh-Renner et al., 2021).

A retrospective study of the causes of death or euthanasia of 927 U.S. military working dogs found that 76.3% of cases were associated with appendicular degenerative joint disease, neoplasia, spinal cord disease, non-specific ageing, and stomach inversion. The authors of the study also claim that for most military service dogs, death or euthanasia is the result of several diseases usually associated with old age (Moore et al., 2001).

Analysis of the incidence of service dogs in Ukraine showed that the largest share of problems is associated with internal non-infectious diseases (26.5%), most of which are related to the gastrointestinal tract (69.8%). Among the pathologies of the gastrointestinal tract, there are three problems: dyspepsia, alimentary enteritis, and gastritis (Fig. 4). These diseases cover almost three-quarters of all problems with the digestive system and just over half (51.3%) of all internal non-infectious diseases.
Among other non-infectious diseases that are not related to the digestive system, most of the records were related to the respiratory system (8.1%) and allergies (5.4%).

The study by J. Alves et al. (2021) analysed dyspepsia problems in service police dogs. Among 188 animals with an average age of 5.2 years (80 Malinois, 52 German Shepherds, 25 Labradors and 19 Dutch Shepherds), the prevalence of diarrhoea was 10.6%, and 4% were diagnosed with a liquid form. In 151 police dogs (sentries and search for explosive objects) used to protect organisations of high economic importance and tourism in Egypt, diarrhoea occurred in 9.1%, vomiting – in 5.2% (Haithem et al., 2011). G. Rakha et al. (2015) conducted an extensive study of 3,864 dogs in the city of Cairo, which showed that diarrhoea with vomiting occurred in 29.2% of animals.

Alimentary enteritis is mainly caused by improper feeding of dogs, i.e., it occurs due to problems with the upkeep and maintenance of animals. This arouses the interest of researchers in this problem rather as management and upkeep features than the morbidity of dogs, despite their purpose. In a study of military dogs, Schuh-A. Renner et al. (2021) showed that among the most common non-surgical medical problems, alimentary problems were also in second place (21% of records).

Regarding gastritis, the study by N. Tamimi and A. Wali (2019) indicated a small proportion of animals that had a similar pathology in service dogs (0.66%). In the study of J. Alves et al. (2021), a comparable situation was found in domestic dogs (1.94%).

Problems with the organs of sight and hearing in Ukrainian service dogs were noted in 154 records. Most diseases of the visual organs are associated with cataracts (7.75% of all records), hearing organs – with otitis media (9.65% of all records) (Fig. 5).

**Figure 5. Diseases of the visual and hearing organs in service dogs of Ukraine**

Eye diseases substantially affect the professional fitness of dogs. Thus, ophthalmic diseases in police and military dogs were the cause of 1.4% of medical emergencies (Parr et al., 2013). 2.4% of discharges from service (Evans et al., 2007) and 11% of deaths and euthanasia (Moore et al., 2001). In a study of 71 service dogs (61 police, 10 handlers), eye abnormalities were found in 38 (54%) animals, the most common of which was primary cataract (Oliveira et al., 2020).

Analysis of the spread of otitis media had different results. In the previously cited work (Tamimi & Wali, 2019), the prevalence of otitis in service police dogs is 2.95%. In the general population of dogs, otitis is more common. A detailed analysis of a random sample of 3,884 dogs in England revealed that otitis externa was the most common type (prevalence 10.2%, 95% CI: 9.1-11.3) (Neill et al., 2014). Comparable results were obtained in South Korea, where ear and mammary gland diseases accounted for 10.4% (Kim et al., 2018). In the study of pathologies of service dogs of Ukraine, traumatic lesions were found to be the third most common. It is logical that for this category of pathologies, the predominant share is occupied by wounds (62.1%) because most of the tasks performed by dogs are associated with traumatic risks (Fig. 6).

**Figure 6. Traumatic lesions of service dogs of Ukraine**

Trauma, defined as tissue damage caused by violence or accident that occurs suddenly and involves physical damage to the body, is a common cause of morbidity and death in dogs. In Fleming et al. (2011), large-scale epidemiologic studies of age-, size-, and breed-specific mortality in North American dogs from 1984 to 2004 show that trauma accounts for 11-13% of all animals evaluated in urban veterinary hospitals. Among the
causes of death of 74,556 dogs, trauma was the second most common cause of death in young dogs (after infectious diseases) and adult dogs (after neoplasia).

A statistical evaluation of the trauma of 315 client dogs from 4 veterinary hospitals (USA) showed the following distribution of injuries: blunt (54.9%), penetrating 34%, unknown 11.1% (Hall et al., 2014).

A retrospective study of the deaths of 867 civilian U.S. law enforcement dogs in the line of duty from 2002 to 2012 found that in 318 cases, the deaths were classified as traumatic. Causes of death or euthanasia included: motor vehicle collision (25.8%), heatstroke (24.8%) and penetrating ballistic injury (23%) (Stojših et al., 2014).

Interesting results were obtained in the works of P. Fox et al. (2008) and K. Slensky et al. (2004), which identified the types and incidence of acute injuries and illnesses to working dogs during deployment and rescue operations at the World Trade Center following the September 11, 2001, terrorist attack. The first study examined 27 dogs of the New York City Police Department, the second – 96 search and rescue dogs. Specific conditions related to cuts accounted for 9.3 cases per 1,000 hours of active deployment in the first study, and 5 cases per 1,000 hours of search in the second.

Another study (Edwards et al., 2021) compared the prevalence of injury types among military working, operational, and civilian dogs (193, 35, and 20,699 records, respectively) showed that all groups showed similar trends in injury type. Penetrating injuries were the most common, followed by blunt injuries for civilian and operational dogs. An equal proportion of blunt and penetrating injuries was observed in military dogs. Furthermore, in the study by Takara & Harrell (2014) it is shown that, among the biggest problems of military dogs, non-combat-related soft tissue injuries accounted for 21%.

The next part of the presented study concerns skin diseases in service dogs of Ukraine. Most skin problems related to two diseases: eczema and dermatitis (Fig. 7). In 117 records about skin diseases, eczema accounted for 6.67%, dermatitis – 6.91% (of the total number of records).

**Figure 7. Skin diseases in service dogs of Ukraine**

![Skin diseases in service dogs of Ukraine]

The skin is the largest organ of the body with many functions such as thermoregulation, immune defense, sensory perception, vitamin D production, and it acts as a barrier between the animal and its environment.

For instance, according to the results of research by Hierdieva et al. (2020) on the spread of diseases of non-contagious aetiology in the city of Dnipro, it was established that 20.75% of all cases concern skin diseases. In the structure of these pathologies, dermatitis and eczema are found in the absolute majority, which make up 38.16% and 24.32% of cases, respectively.

Police dogs in Egypt had serious skin diseases. Itching as a sign of a skin problem was recorded in every fourth animal (24.8%) (Haithem et al., 2011). Ticks (16.4%) created more problems. A similar result was obtained for military dogs. The most common non-combat-related problems were dermatological conditions (25%) (Takara & Harrell, 2014). Thus, every fourth to fifth dog has problems with skin diseases. This applies to both special animals and pets. In the study of the incidence of service dogs in Ukraine, the fifth place in frequency of distribution belongs to parasitic diseases (Fig. 8).

**Figure 8. Parasitic diseases of service dogs of Ukraine**

![Parasitic diseases of service dogs of Ukraine]
More than 80% of the problems related to three parasitic diseases. The following were the most common of them: Babesia canis (40.3%), Toxocara canis (24.2%) and Toxoplasma gondii (16.1%).

Studies of the incidence of service dogs in Ukraine have established significant problems with babesiosis. This disease is spreading rapidly in Central and North-Eastern Europe, and its appearance correlates with the rapid and successful spread of the decorative dog tick (*Dermacentor reticulatus*) population in this area (Bajer et al., 2022). As a result of epizootological monitoring of babesiosis in dogs (Mokryi & Ksyonz, 2017), 7,866 cases of the disease were registered in Poltava over a 9-year period (from 2007 to 2016). Among sick animals, males outnumber females by 20%. Dogs aged 2 to 3 years are the most affected (11.1-16%). Regarding the breed ratio, most cases concern pure-bred dogs (20.9%), German shepherds (13.9%) and Rottweilers (7.5%).

Comparable results were found in a study of 242 blood samples from K9 police dogs in Egypt. Haematological, biochemical, and oxidative stress analysis of blood performed together with expression analysis using two genes (interferon-gamma [IFN-γ] and tumour necrosis factor-alpha [TNF-α]) showed that 25.6% of blood samples were positive for *Babesia* infection. Infection rates were higher in males than in females (Zaki et al., 2021).

Some canine parasitic infections, even if they have little or no effect on the dog itself, are zoonotic and capable of causing disease or disease in humans (Saari et al., 2019).

Studies of non-systemic ecto- and endoparasitism in dogs in Spain (Martinez-Carrasco et al., 2007) showed that faecal stages of parasites were found in 25% of dogs. The species frequency was 6-10% for *Toxocara canis*, *Ancylostomatidae spp.*, *Toxascaris leonina* and *Isospora canis* and 0.4-1% for *Trichuris vulpis*, *Giardia lamblia* and *Diplyidium caninum*. Fleas, ticks, and lice were found in 38%, 6% and 2% of stray dogs.

A study of the prevalence, intensity, and risk factors of ectoparasite infection among 333 dogs was conducted in Nigeria. Two hundred and seventy-one dogs (81.4%) were infected with at least one type of ectoparasite, and multiple infestations were registered, mainly among females. Six species of ectoparasites of three taxa were identified: ticks (*Rhipicephalus sanguineus sensu lato*, *Haemaphysalis leachi* and *Amblyomma variegatum*), fleas (*Ctenocephalides canis* and *C. felis*) and louse (*Heterodoxus spiniger*). The most common was *R. sanguineus s.l.* (70.3%), followed by *C. felis* (42.1%) and *H. spiniger* (30%) (Abdulkareem et al., 2018).

Faecal samples from 180 police and domestic dogs in Egypt were collected and then analysed by Ahmed et al., 2014) by various flotation and sedimentation methods. The prevalence of gastrointestinal parasites in police dogs was 7.5%, and in domestic dogs – 40%. Examination of the faeces of 120 police dogs revealed *Toxocara canis* eggs in 0.8%, *Ancylostoma caninum* in 1.7%, *Trichuris vulpis* in 0.8%, *Cystoisospora canis* in 4.2%, and *Giardia* species in 1.7%.

A study of 39 police dogs in Iraq aged 6 months to 12 years showed that 15 (38.46%) animals were diagnosed with moderate or severe microfilariasis (Al-Salihi et al., 2019). A monitoring programme, aimed at diagnosing subcutaneous heartworm and heartworm in working (police and military) dogs in Slovakia, was performed in the period from September 2007 to February 2008. 710 dogs (591 police and 119 military) were examined for the presence of microfilariae in the blood. They were found in the samples of 118 (20%) police and 10 (8.4%) military dogs. In several areas of southern Slovakia, the prevalence of subcutaneous dirofilariasis in working dogs exceeded 40% (Mitterpáková et al., 2010).

In a study of 668 dogs in Sri Lanka, 25.3% were infected with 7 variants of haemoparasites. The prevalence of infections among military dogs was 22.5%, of which *B. gibsoni* was the most common (13.8%) (Rajakaruna et al., 2021). Among other pathologies, it is important to pay attention to diseases of the musculoskeletal system because the mobility of service dogs can be decisive for the performance of most of the tasks set before them, and, as a rule, is the main reason for the culling of animals. In our study, 5% of animals with such diseases were found, of which arthritis and hip dysplasia were found in 66.7% and 23.8% of cases, respectively.

It is known that the peculiarity of German shepherds, which comprise the majority of personnel in canine units, is orthopaedic problems. Thus, according to A. Worth et al., 2013), the reasons for the loss or retirement of New Zealand police German Shepherds of the nominal age for planned retirement (8 years) reached only 40% of dogs. The main reason for culling was the inability to cope with physical demands (65%) due to diseases of the musculoskeletal system. A comparison of emergency department medical records at the University of Pennsylvania Veterinary Hospital from July 2008 to July 2010 showed that orthopaedic issues in German Shepherds were significantly more common in police dogs compared to domestic dogs (Parr & Otto, 2013).

Within the scope of this work, it is practically impossible to give a comprehensive description of all diseases and pathologies of service dogs of the security forces of Ukraine. Out of more than 80 names, a significant part of the diseases in the records occupies less than 1%. In addition, a dog can have two or more diseases at the same time (Galatyuk et al., 2019). The reports did not indicate the presence of multiple pathologies, but many animals had more than one disease, as evidenced by the preponderance of the number of entries (859) over the official number of dogs (822). Therefore, this topic requires further research on the study of multiple pathologies of service dogs.

**CONCLUSIONS**

An analysis of the records of the incidence of service dogs in 24 cynological centres of Ukraine showed that 82.9% of all cases refer to five groups of diseases: internal
non-contagious diseases (26.5%), organs of vision and hearing (18.4%), traumatic lesions (16.7%), diseases skin (13.9%) and parasitic diseases (7.4%).

The most common diseases and pathologies were dyspepsia, alimentary enteritis, gastritis, otitis, cataarach, traumatic wounds, dermatitis, eczema, and babesiosis. It was found that one in twenty animals had problems with the musculoskeletal system, of which arthritis and hip dysplasia were the most common.

Statistical features of the number, breed, age, and sex structure of service dogs have been established. In the cynological centres of Ukraine, the most common breeds were the German Shepherd – 68.5%, the Belgian Shepherd – 16.8% and the Labrador – 6.6%, while special (41.9%) and search (59%) dogs prevailed by purpose. The predominance of females (53.4%) over males was also revealed, which is not characteristic of canine units of the power structures of other countries.

Given the high costs incurred by state and local governments in acquiring, training and maintaining highly trained dogs, as well as the entire infrastructure that supports the canine service, it would seem appropriate to create a broad database that would be distributed across government levels and include all issues that refer to service dogs considered in this work. It is also important to study these issues in dynamics. This will enable a more thorough determination of the full risk profile to which service dogs are exposed. Open information provides the opportunity to identify certain patterns that can be used to change selection, training, and treatment strategies to more effectively use this valuable resource.

Because service dogs are an indispensable asset to law enforcement agencies, gaining a better understanding of their common medical problems and associated risk factors is critical to maintaining their health and readiness for challenging tasks. Identifying the diseases and their causes that shorten a dog’s lifespan would allow the introduction of preventive medicine and treatment methods to increase their longevity. In addition, improved knowledge of medical data can improve preparedness and focus training for veterinary canine service professionals responsible for the comprehensive veterinary care of service dogs. Thanks to veterinarians and scientists working to advance service dog knowledge, service dog care can be improved to help secure the future of this valuable resource that helps humanity solve complex problems.

REFERENCES

[1] Abdel Fattah, A.F., & Abdel-Hamid, S.E. (2020). Influence of gender, neuter status, and training method on police dog narcotics olfaction performance, behavior and welfare. *Journal of Advanced Veterinary and Animal Research*, 7(4), 655-662. doi: 10.5455/javar.2020.g464.

[2] Abdulkareem, B.O., Christy, A.L., & Samuel, U.U. (2018). Prevalence of ectoparasite infestations in owned dogs in Kwara State, Nigeria. *Parasite Epidemiology and Control*, 4, article number e00079. doi: 10.1016/j.parepi.2018.e00079.

[3] Ahmed, W.M., Mousa, W.M., Aboelhadid, S.M., & Tawfik, M.M. (2014). Prevalence of zoonotic and other gastrointestinal parasites in police and house dogs in Alexandria, Egypt. *Veterinary World*, 7, 275-280. doi: 10.14202/vetworld.2014.275-280.

[4] Allsopp, N. (2012). *K9 cops: Police dogs of the world*. Australia: Big Sky Publishing.

[5] Alves, J.C., Jorge, P., & Santos, A. (2021). A survey on the prevalence of diarrhea in a Portuguese population of police working dogs. *BMC Veterinary Research*, 17(1), article number 211. doi: 10.1186/s12917-021-02920-y.

[6] Al-Salihi, K.A., Al-Dabhbawi, A.H., Al-Ramahi, H.M., & Kareem, F.A. (2019). Dirofilaria immitis infestation in imported police (K-9) dogs in Iraq: Clinicopathological and molecular investigations study. *Brazilian Journal of Veterinary Research and Animal Science*, 56(2), article number 152987. doi: 10.11606/issn.1678-4456.bjvas.2019.152987.

[7] Andrews, S.J., Thomas, T.M., Hauptman, J.G., & Stanley, B.J. (2018). Investigation of potential risk factors for mesenteric volvulus in military working dogs. *Journal of the American Veterinary Medical Association*, 253(7), 877-885. doi: 10.2460/javma.2018.253.7877.

[8] Bahar, A., Beck, A., Beck, R., Behnke, J.M., Dwuźnik-Szarek, D., Eichenberger, R.M., Farkas, R., Fuehrer, H-P., Heddegott, M., Jokelainen, P., Leschnik, M., Oborina, V., Paulauskas, A., Radzijevskaja, J., Ranka, R., Schnyder, M., Springer, A., Strube, C., Tolkacz, K., & Walochnik J. (2022). Babesiosis in Southeastern, Central and Northeastern Europe: An emerging and re-emerging tick-borne disease of humans and animals. *Microorganisms*, 10(5), article number 945. doi: 10.3390/microorganisms10050945.

[9] Balzer, C.W., Owen, R., & Bridges, J. (2019). Survey of handlers of 158 police dogs in New Zealand: Functional assessment and canine orthopedic index. *Frontiers in Veterinary Science*, 6, article number 85. doi: 10.3389/fvets.2019.00085.

[10] Bespalova, O.I., Klochko, A.M., Dzhafarova, O.V., Shatrava, S.O., Pchelin, V.B., Rezanov, S.A., Panova, O.O., Ivantsov, V.O., Selyukov, V.S., Kachynska, M.O., Makarenko, V.S., & Chishko, K.O. (2019). *Canine support for the activities of national police units: Information guide*. Kharkiv: Kharkiv National University of Internal Affairs.

[11] Burkman, K.D., Moore, G.E., & Peterson, M.R. (2001). Incidence of zoonotic diseases in military working dogs serving in Operations Desert Shield and Desert Storm. *Military Medicine*, 166(2), 108-111.

[12] Cobb, M.L., Otto, C.M., & Fine, A.H. (2021). The animal welfare science of working dogs: Current perspectives on recent advances and future directions. *Frontiers in Veterinary Science*, 8, article number 666898. doi: 10.3389/fvets.2021.666898.
[13] Coren, S. (2006). *The intelligence of dogs: A guide to the thoughts, emotions, and inner lives of our canine companions*. Atria: Reissue edition.

[14] Cortina, I.A. (2022). *K-9's that died while still in service*. Retrieved from http://www.cpwwda.com/k9kild.html.

[15] Demchuk, M.V., Rudenko, V.P., & Staennyi, O.V. (2005). Disease incidence in dogs in breeding kennels. *Lviv National University of Veterinary Medicine and Biotechnologies named after Gzhynsky*, 3(26), 28-32.

[16] Demchuk, M.V., & Staennyi, O.V. (2006). Ways of keeping and prevention of neurosis in service dogs. *Lviv National University of Veterinary Medicine and Biotechnologies named after Gzhynsky*, 8(29), 56-59.

[17] Dissanayake, D., Jayathilaka, R., & Dangolla, A. (2021). Descriptive information on police dogs died during 2009 to 2018 in Sri Lanka. *Archives on Veterinary Science and Research, AVSAR-110*. doi: 10.37722/AOVSAR.20211101.

[18] Evans, R.I., Herbold, J.R., Bradshaw, B.S., & Moore, G.E. (2007). Causes for discharge of military working dogs from service: 268 cases (2000-2004). *Journal of the American Veterinary Medical Association*, 231(8), 1215-1220. doi: 10.2460/javma.231.8.1215.

[19] Edwards, T.H., Scott, L., Gonyeau, K.E., Howard, E.H., Parker, J.S., & Hall, K. (2021). Comparison of trauma sustained by civilian dogs and deployed military working dogs. *Journal of Veterinary Emergency and Critical Care*, 31(4), 498-507. doi: 10.1111/vec.13064.

[20] Fasolja, P., & Rusak, V. (2011). Clinical and biochemical status, diagnostics and treatment of dogs with signs of hepatoportal syndrome. *The Animal Biology*, 13(1-2), 336-340.

[21] Fleming, J.M., Creevy, K.E., & Promislow, D.E. (2011). Mortality in north American dogs from 1984 to 2004: An investigation into age-, size-, and breed-related causes of death. *Journal of Veterinary Internal Medicine*, 25(2), 187-198. doi: 10.1111/j.1939-1676.2011.0695.x.

[22] Fox, P.R., Puschner, B., & Ebel, J.G. (2008). Assessment of acute injuries, exposure to environmental toxins, and five-year health surveillance of New York Police Department working dogs following the September 11, 2001, World Trade Center terrorist attack. *Journal of the American Veterinary Medical Association*, 233(1), 48-59. doi: 10.2460/javma.233.1.48.

[23] Galatyuk, O.Ye., Romanyshyna, T.O., & Lakhman, A.R. (2019). Pathogenetic aspects of dogs’ infectious hepatitis treatment. *Scientific Messenger of Lviv National University of Veterinary Medicine and Biotechnologies. Series: Veterinary Sciences*, 21(94), 3-8. doi: 10.32718/mlvet9401.

[24] Garmash, V.V. (2019). Location of Cynological units in the structure of the national police of Ukraine and in the system of the Internal Affairs. *Law and Safety*, 5(74), 24-29. doi: 10.32631/pb.2019.3.03.

[25] Gąsiorowski, M. (2019). Use of police dogs in the polish police in the opinion of dog handlers. *Internal Security*, 11(1), 159-168. doi: 10.5604/01.3001.0013.5350.

[26] Gudyma, T.M. (2013). Clinical and morphological blood analysis under clinical examination of dogs in breeding nursery. *Lviv National University of Veterinary Medicine and Biotechnologies named after Gzhynsky*, 1(55), 43-48.

[27] Haithem, M., Wael, F., Kelany, M., & Ebada, M. (2011). Field survey on most common medicinal and surgical diseases in police guard and explosive dogs from 11/2007- 2/2010. *Journal of American Science*, 7(4), 816-826.

[28] Hall, K.E., Holowaychuk, M.K., Sharp, C.R., & Reineke, E. (2014). Multicenter prospective evaluation of dogs with trauma. *Journal of the American Veterinary Medical Association*, 244(3), 300-308. doi: 10.2460/javma.244.3.300.

[29] Hierarchy, A., Bilyi, D., Sapronova, V., & Bondar, R. (2020). Effectiveness of complex therapy for allergic pododermatitis in dog in the state of sity. *Agrarian Bulletin of the Black Sea Littoral*, 98, 33-40. doi: 0.37000/abbsl.2021.98.06.

[30] Is there a reason you see more male police dogs than female? (2022). Retrieved from https://iheartdogs.com/ is-there-a-reason-you-see-more-male-police-dogs-than-female/.

[31] Jennings, P.B., & Butzin, C.A. (1992). Epidemiology of gastric dilatation-volvulus in the military working dog program. *Military Medicine*, 157(7), 369-371.

[32] Kania-Gierzdiewicz, J., Patka, S.E., Kozioł, K., & Gierzdiewicz, M. (2018). Duty period and discharging reasons of K-9 Workingdogs B.V. Holland. Are k9 dogs male or female? (2022). Retrieved from https://k10workingdogs.com/are-k9-dogs-male-or-female/.

[33] Lagutshik, M., Baker, J., Balser, J., Burghardt, W., Enroth, M., Flourny, S., Giles, J., Grimm, P., Hiniker, J., Johnson, J., Mann, K., Takara, M., & Thomas, T. (2018). Trauma management of military working dogs. *Military Medicine*, 183(2), 180-189. doi: 10.1093/milmed/usy119.

[34] Levchenko, V., & Fasolja, V. (2008). Spread of polimorbidinterual pathology in the dogs of service breeds. *Scientific and Technical Bulletin of State Scientific Research Control Institute of Veterinary Medical Products and Fodder Additives and Institute of Animal Biology*, 9(3), 179-183.

[35] Martini, M., Menati, M., Agosti, M., Cassini, R., Drigo, M., Ferro, N., Guglielmini, C., Masiero, I., Signorini, M., & Busetto, R. (2017). A surveillance system for diseases of companion animals in the Veneto region. *Revue Scientifique et Technique (International Office of Epizootics)*, 36(3), 1007-1014. doi: 10.20506/rst.36.3.2752.
[38] Martínez-Carrasco, C., Berriatua, E., Garijo, M., Martínez, J., Alonso, F.D., & de Ybañez, R.R. (2007). Epidemiological study of non-systemic parasitism in dogs in southeast Mediterranean Spain assessed by coprological and post-mortem examination. *Zoonoses and public health*, 54(5), 195-203.

[39] Mellor, D.J., Beausoleil, N.J., Littlewood, K.E., McLean, A.N., McGreevy, P.D., Jones, B., & Wilkins, C. (2020). The 2020 five domains model: Including human-animal interactions in assessments of animal welfare. *Animals: An Open Access Journal from MDPI*, 10(10), article number 1870. doi: 10.3390/ani10101870.

[40] Metropolitan Police Service. (2016). Retrieved from https://policecareers.tal.net/candidate/so/pm/6/pl/1/opp/11616-M07-Taskforce-Kennel-Staff-Dog-Training-Establishment-Band-F/en-GB.

[41] Metripáková, M., Antolová, D., Hurníková, Z., Dubinský, P., Pavlacka, A., & Németh, J. (2010). Dirofilaria infections in working dogs in Slovakia. *Journal of Helminthology*, 84(2), 173-176. doi: 10.1017/S0022149X09990496.

[42] Michel, D., & Ksyonz, I. (2017). Epizootology monitoring of babsieal invasion among dogs in Poltava. *Scientific Messenger of LNU of Veterinary Medicine and Biotechnologies. Series: Veterinary Sciences*, 19(73), 149-153. doi: 10.15421/mlvet7331.

[43] Moore, G.E., Burkman, K.D., Carter, M.N., & Peterson, M.R. (2001). Causes of death or reasons for euthanasia in military working dogs: 927 cases (1993-1996). *Journal of the American Veterinary Medical Association*, 219(2), 209-214. doi: 10.2460/javma.2001.219.209.

[44] Moore, G.E., Levine, M., Anderson, J.D., & Trapp, R.J. (2008). Meteorological influence on the occurrence of gastric dilatation-volvulus in military working dogs in Texas. *International Journal of Biometeorology*, 52(3), 219-222. doi: 10.1007/s00484-007-0115-6.

[45] National Police Dog Foundation. (2021). Retrieved from https://www.nationalpolicedogfoundation.org/faq.

[46] Nolan, J.J. (2004). Establishing the statistical relationship between population size and UCR crime rate: Its impact and implications. *Journal of Criminal Justice*, 32(6), 547-555. doi: 10.1016/j.jcrim jus.2004.08.002.

[47] Oliveira, J., Bortolini, M., Schaller, M., Schuchmann, R., Moore, B., & Montani-Ferreira, F. (2020). The ophthalmic health and refractive state of working dogs in South Brazil. *Open Veterinary Journal*, 10(2), 22-30. doi: 10.4531/ojv10i15.

[48] Neill, D.G., Church, D.B., McGreevy, P.D., Thomson, P.C., & Brodbelt, D.C. (2014). Prevalence of disorders recorded in dogs attending primary-care veterinary practices in England. *PloS One*, 9(3), article number 90501. doi: 10.1371/journal.pone.0090501.

[49] Parr, J.R., & Otto, C.M. (2013). Emergency visits and occupational hazards in German Shepherd police dogs (2008-2010). *Journal of Veterinary Emergency and Critical Care*, 23(6), 591-597. doi: 10.1111/jvec.12098.

[50] Police dog and Police horse numbers between 2009-2019. (2019). Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/827115/Number_of_police_dogs_and_horses_between_2009_and_2019.pdf.

[51] Police dogs. (2022). Retrieved from https://poliisi.fi/en/police-dogs.

[52] Rakha, G.M., Abdl-Haleem, M.M., Farghali, H.A., & Abdel-Saeed, H. (2015). Prevalence of common canine digestive problems compared with other health problems in teaching veterinary hospital. *Veterinary World*, 8(3), 403-411. doi: 10.14202/vetworld.2015.403-411.

[53] Rajakaruna (Amarakoon), R., Jayathilake, P., Wijerathna, H., Fernando, A., Ginarathne, K., Naullage, N., Silva, S., Thananjayan, K., Amarasiri, L., Jayasundara, N., Mallawa, M., & Dangolla, A. (2021). Canine vector-borne diseases of working dogs of the Sri Lanka Air Force, free-roaming, and privately-owned dogs. *Veterinary World*, 15(1), article number 105390. doi: 10.3390/ani10101870.

[54] Royal Canadian Mounted Police. (2022). Retrieved from https://www.rcmp-grc.gc.ca/policedogs-chienspoliciers.

[55] Saari, S., Nääreo, A., & Nikander, S. (2019). *Canine parasites and parasitic diseases*. Uitgever: Academic Press.

[56] Sebnem Ozcan, S., Akin, H., Bayram, H., Bas, M., Yildiz, A., & Ozdemiroglu, A. (2009). Utilization of police dogs: A Turkish perspective. policing. *An International Journal*, 32(2), 226-237. doi: 10.1108/13639510910958154.

[57] Slensky, K.A., Drobatz, K.J., Downend, A.B., & Otto, C.M. (2004). Deployment morbidity among search-and-rescue dogs used after the September 11, 2001, terrorist attacks. *Journal of the American Veterinary Medical Association*, 225(6), 868-873. doi: 10.2460/javma.2004.225.868.

[58] Suprovych et al. (2012). Encephalization is not a universal macroevolutionary phenomenon in mammals but is associated with sociality. *Proceedings of the National Academy of Sciences*, 109(14), 547-555. doi: 10.1073/pnas.1005246107.

[59] Schuh-Renner, A., Rappole, C., Mullaney, S.B., Venn, E., & Grier, T.L. (2021). Factors associated with medical problems among young non-deployed U.S. military working dogs. *Preventive Veterinary Medicine*, 193, article number 105390. doi: 10.1016/j.prevetmed.2021.105390.

[60] Shichor, D., Decker, D.L., & O’brien, R.M. (1979). Population density and criminal victimization some unexpected findings in central cities. *Criminology*, 17, 184-195. doi: 10.1111/j.1745-9125.1979.tb01285.x.

[61] Stojsih, S.E., Baker, J.L., Les, C.M., & Bir, C.A. (2014). Review of canine deaths while in service in US Civilian Law Enforcement (2002-2012). *Journal of Special Operations Medicine*, 14(4), 86-91. doi: 10.55460/7R21-PW29.
Захворюваність службових собак в кінологічних центрах України

Тетяна Михайлівна Супрович, Микола Петрович Супрович, Світлана Василівна Лайтер-Москалюк, Вячеслав Володимирович Трач, Тетяна Сергіївна Токарчук

Заклад вищої освіти «Подільський державний університет»
32316, вул. Шевченка, 12, м. Кам'янець-Подільський, Україна

Анотація. Службові собаки є важливим активом силових структур. Тому розуміння їх медичних проблем, знання загальних характеристик, таких як чисельність, вік, порода, стать, призначення є вирішальним для підтримки їх здоров'я та готовності до виконання ними складних завдань. Аналіз та поширення подібної інформації є актуальним завданням для спеціалістів та науковців, які займаються проблемами утримання, забезпечення, та ветеринарного обслуговування службових собак. Тема науково-дослідної роботи полягає в аналізі результатів статистичних звітів щодо захворюваності службових собак з 24 регіональних кінологічних центрів силових структур України. Всього розглянуто дані по 822 службовим собакам та записи про 839 випадків захворювань.

Аналіз та поширення подібної інформації є актуальним завданням для спеціалістів та науковців, які займаються проблемами утримання, забезпечення, та ветеринарного обслуговування службових собак. Тема науково-дослідної роботи полягає в аналізі результатів статистичних звітів щодо захворюваності службових собак з 24 регіональних кінологічних центрів силових структур України. Всього розглянуто дані по 822 службовим собакам та записи про 839 випадків захворювань.