

## **ZOONOTIC PULMONARY PARASITES: A REVIEW**

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### **Summary**

Nowadays most diseases are zoonotic, i.e., they can be transmitted from animals to humans. After a period when this was obvious, during the Covid-19 pandemic, I think we should put an emphasis on these zoonotic diseases, especially zoonotic parasites, which have not been as well studied as infectious ones. Although the number of parasites is continuously decreasing due to the improvement of hygienic, socio-economic conditions, it is increasing in immunocompromised populations, due to climate change - which produces small changes/adaptations in the life cycle of parasites, transmission patterns, but also to travel/transport from one part of the world to another ("a parasite exchange/import"). In this paper we will talk about zoonotic pulmonary parasites belonging to the classes Protozoa, Trematodes, Cestodes and Nematodes.

**Keywords:** zoonotic pulmonary parasites, Protozoa, Trematodes, Cestodes, Nematodes.

**ANTIBIOTIC RESIDUES AND ANTIBIOTIC RESISTANCE OF  
*ESCHERICHIA COLI* IN RAW MEAT**

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**Summary**

Antibiotic residue in meat is a serious public health concern due to its harmful effects on consumer health. This study aimed at estimating the presence of commonly used antibiotics in meat samples using a qualitative rapid test (*MeRA*, Liofilchem<sup>®</sup>, Italy), and evaluating the antibiotic susceptibility of *E. coli* bacteria isolated from the meat, using the automated compact system Vitek 2 (BioMérieux, Marcy l'Etoile, France). A total of 60 samples (pork, beef, goat and chicken) of raw meat from sales points were analysed. Overall, *MeRA* test analysis showed that 14 (23%; 95% CI 14.4-35.4) of the samples tested positive for the presence of antibiotic residues. Furthermore, six strains (60%; 95% CI 31.2-83.1) were resistant to ampicillin, norfloxacin and fosfomycin, and two strains (20%; 95% CI 5.6-50) of *E. coli* were resistant to the trimethoprim/ sulfamethoxazole combination. Consequently, the *E. coli* bacteria under investigation exhibited resistance to four antibiotics, belonging to three classes, namely penicillins, fluoroquinolones and sulphonamides. The high percentage of positive meat samples to antibiotic residue highlights public health concerns. Moreover, the presence of antibiotic residues in raw meat is associated with the occurrence of multidrug-resistant strains of *E. coli*.

**Keywords:** meat, antibiotic residues, *E. coli* antibiotic susceptibility.

## **IDENTIFYING ANIMAL AND VEGETAL SPECIES AND INCORRECT LABELLING IN PET FOODS**

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### **Summary**

Mislabelling, falsifying and substituting food products is a growing problem in highly processed foods, including pet foods. Although there is a regulation for pet food, there needs to be more information on the prevalence of improper labelling of pet food. The study aimed to conduct market surveys of pet foods sold by specialised pet stores to identify the present animal and vegetal species and any instances of incorrect labelling. Twenty commercial dry products were collected from specialised pet stores. DNA was extracted from each product in duplicates, and the component species were identified using polymerase chain reactions (PCR). Species-specific analyses were used to verify the existence of meat species (bovine, pigeon, pig, chicken, turkey, pork and horse). Plant species were present in all the products analysed, a large share, in this case, corn and soybeans. Poultry meat products are the most used in the composition of the analysed products. They are detected in 80% of the samples and are correctly labelled.

Fish meat products are also widely used, especially in cat food. The percentage of 75% is also reached by using fish oils in the composition of these products. Products from ruminants are present in a high percentage, both as the main component and as animal protein or fat sources. Pig and horse products were detected in a reasonably low percentage and level. They are not mentioned on the labels and can be classified as animal protein and fat used in the composition of the analysed pet food. Although these results indicate that pet food labels are misleading, more studies are needed to determine the extent of misleading labels and identify the points in the production chain where misleading labels occur.

**Keywords:** pet food, mislabelling, species composition, DNA-based screening.

## **COMPARISON OF THE PROTEIN PROFILE AND MILK SUGARS OF DONKEY'S MILK WITH THAT OF HUMAN MILK**

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### **Summary**

Donkey milk is considered a potential substitute for human milk for infants affected by cow's milk protein allergy. In order to expand our knowledge about this valuable food, we explored the protein profile of donkey milk using the ELFO technique by comparing it with that of human milk, and the milk sugars were detected by the Brix method. Donkey milk showed a protein and sugar content similar to human milk and essentially different from cow's milk. The results of the performed analysis indicated that the protein profile of donkey's milk is more similar to human milk than that of cow's milk-based formulas, with higher content in sugars and lower in proteins. The total protein content is approximately at the same level in donkey and human milk, 1.14 g/dl and 1.1 g/dl, respectively, while cow's milk contains 2.8 g/dl. Also,  $\beta$ -caseins and  $\kappa$ -caseins are absent in donkey and human milk. Lysozyme content is slightly higher in donkey milk (0.12 g/dl compared to 0.1 g/dl), and lactoferrin is present in a slightly lower amount in donkey milk (0.2 g/dl) compared to human milk (0.24 g/dl). The two protein fractions are missing from cow's milk.

**Keywords:** donkey milk, protein profile, sugar content, ELFO technique.

## RESEARCH ON THE EFFECT OF A PLANT EXTRACT ON SPECIFIC IMMUNITY IN BROILER CHICKS VACCINATED AGAINST INFECTIOUS BURSAL DISEASE

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### Summary

During four experiments, the effect on the specific immunity of two live attenuated vaccines against avian infectious bursal disease, whose composition includes the BIA virus, with an immunosuppressive but also immunogenic effect, namely Biavac and Biaromvac-PA, was tested. Of the four batches, two batches (E2 and E4) were given an aqueous extract of oregano (*Origanum vulgare L.*) in the drinking water. The research was carried out on batches consisting of 12 broiler chickens, aged 14 days, coming from a broiler farm, raised in alternative system (on litter, without outdoor access) and in enriched cage system. In each experiment, the administration of the two vaccines was done only once, regardless of the batch, while the immunomodulatory preparation was administered in the drinking water. To evaluate the effect on the specific immune response, blood samples were collected from each chicken, in each experimental stage and the antibody titer was determined by the immunoenzymatic method (ELISA). Analyzing the obtained results, during the experimental period, differences were found from one chicken to another, as well as from one vaccine to another. The most conclusive results were found in the batches to which the aqueous extract of oregano was also administered, the differences between the batches being significant.

**Keywords:** avian infectious bursal disease, aqueous extract of oregano, specific immune response.

## **USUTU VIRUS IN ROMANIA CURRENT KNOWLEDGE AND FUTURE PERSPECTIVES**

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### **Summary**

Usutu virus (USUV) is a mosquito-borne flavivirus that has been emerging across southern and Central Europe since 2001. USUV is maintained by cycling through birds and mosquitoes and is accidentally transmitted to mammals. It shares many features with West Nile virus including a close phylogenetic relatedness and a co-circulation frequently observed in nature. The virus caused large outbreaks of severe neurological disease in birds, especially in blackbirds and, symptomatic neurological human cases. Continuous USUV activity confirmed by the detection or serologic evidence of USUV in birds, humans, horses, mosquitoes, and bats since 2001 indicates the endemization in many Southern and Central European countries. However, due to a limited number of human USUV infections, the zoonotic potential and clinical relevance of USUV need to be further investigated. It is considered that, since the virus activity in birds has increased, also human infection might become more frequent. *Eastern Europe and Romania have reported little data concerning USUV.* The present paper is aiming to discuss/describe the current state and future perspectives of USUV research in our country.

**Key words:** mosquito-borne flavivirus, Usutu virus, opinion, Romania.

**THE IDENTIFICATION OF *SARCOPTES* SPP. MITE IN RED FOX  
(*VULPES VULPES*) SKIN LESIONS - CASE REPORT**

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**Summary**

Sarcoptic mange, caused by the mite *Sarcoptes* spp., is a highly contagious parasitic disease affecting various animal species, including wildlife. This case report describes a red fox (*Vulpes vulpes*) from the hunting grounds Giarmata from Timis County (Romania) which was received from the hunters. A thorough physical examination revealed specific lesions associated with sarcoptic mange, including alopecia, erythema, and crusts, primarily in the head, neck, and tail regions. This emaciated fox female body was examined at the Parasitology Department of the Faculty of Veterinary Medicine. To establish the diagnosis we performed skin scrapings that were collected from the affected areas and microscopic analysis confirmed the presence of *Sarcoptes* spp. mites. The mites were identified based on their morphology and typical pathological signs.

**Keywords:** *Sarcoptes* spp., red fox, Timis County.

## **ASSESSMENT OF WELFARE IN THE DAIRY COW THROUGH THE WELFARE QUALITY SYSTEM**

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### **Summary**

In this paper, we performed a welfare assessment in dairy farms. Welfare assessment in farms allows the farmer (owner) to integrate into the EU requirements, and to have better economic value when it comes to production services. We used evaluation criteria established for dairy cows by the Welfare Quality System (WQS). Welfare Quality defines four principles for assessing animal welfare: proper feeding, proper housing, good health, and the possibility to express specific behaviour, each of them subdivided into specific criteria. We collected data from five farms, and observations were made with reference to the following criteria: body condition score, lifting behaviour, collision with the equipment in the shelter, lameness, body hygiene, the presence or absence of nasal, ocular and vulvar discharge, and the approach test. The results were analyzed using the software program provided by WQS<sup>®</sup>. According to the grading system, two out of the five farms were classified as being "GOOD" while the other three were "ACCEPTABLE".

**Keywords:** cows, welfare, evaluation, health, farm.



## SCREENING OF *CLOSTRIDIUM DIFFICILE* INFECTIONS IN PETS - PILOT STUDY

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### Summary

*Clostridioides (Clostridium) difficile* is an opportunistic toxigenic bacterium involved in mild or severe digestive infections in animals and humans. This condition is often associated with prolonged antibiotic treatment or with immunocompromised patients. In pets, the main reservoir for this microorganism is largely represented by dogs and cats with clinically disease, asymptomatic carriers or contaminated external environment. In this pilot study we tested the presence of toxigenic *Clostridium difficile* in 35 feces samples collected from dogs (n=25) and cats (n=10) with enteritis. A Combo immunochromatography test was used to detect glutamate dehydrogenase (GDH), an antigenic marker of the bacteria proliferation, and, most important, the toxins A and/or B. The results revealed the presence of *Clostridium difficile* in feces samples from 5 dogs and one cat, but in canine samples only 2 revealed to be toxigenic, toxin A being identified in both cases.

**Keywords:** *Clostridium difficile*, pets, Combo immunochromatography, GDH, A/B toxins.

**THE INFLUENCE OF THE BREEDING TECHNOLOGY ON THE  
HEALTH OF THE CALVES FROM TWO FARMS IN TIMIȘ  
COUNTY**

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**Summary**

The purpose of this work was to assess the efficacy of two different breeding technologies in dairy farming, based on the weight of the calves at weaning and on the frequency of veterinary interventions during this period. Three lots of calves were selected from Farm A, an intensive breeding farm, where the calves are separated from the cows shortly after birth and fed using artificial feeding until they are 2 months old (weaning age). A group of calves were selected from Farm B which is using a traditional breeding technology, the cow and the calf being separated after de 15th-day post-birth. The separated calves are kept in groups and fed exclusively with collected milk for a 30-day period. The results revealed that the lot of calves from Farm B didn't need any type of medical intervention, while the groups from Farm A displayed respiratory and digestive pathologies during this time interval. The calves from Farm B had a higher average weaning weight than those from Farm B.

**Keywords:** technology, housing, treatment, calves.

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## **DISORDERS OF SEX DEVELOPMENT IN CATS – TWO CASE STUDIES**

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### **Summary**

Disorders of sex development (DSD) include any congenital or developmental abnormality of any part of the female or male reproductive tract, definition that is used also in veterinary medicine and science, not only in humans. In feline's DSD, abnormalities of chromosomal sex, gonadal sex or phenotypic sex are reported. In this article we want to shortly review the embryogenesis of the reproductive tract, to describe the possible causes that can generate such abnormalities of sexual development and to provide two examples – one case with bilateral ovarian agenesis and another one with unilateral ovarian agenesis and complete unilateral aplasia of the uterine horn, abnormalities identified during routine elective ovariohysterectomy. The aim of this paper is to contribute to a better understanding of DSD feline's case studies seen in practice.

**Keywords:** sexual development, reproductive abnormalities, Mullerian aplasia, disorder of sex development, ovarian agenesis.

**STUDY ON THE EXPERIMENTAL INFESTATION OF RATS WITH  
LARVAE OF *TRICHINELLA* SPP.**

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**Summary**

Nematodes of the *Trichinella* genus are among the most widespread zoonotic parasites located in the muscle tissue of a wide variety of terrestrial vertebrate species native to all continents. *Trichinella spiralis* is the species most adapted to domestic and wild pigs and rats, having a cosmopolitan distribution. This species is also the most important etiological agent of human disease. Rats play a role in the transmission of *Trichinella* spp. from domestic to sylvatic animals and vice versa. In this context, the aim of the study was to evaluate the viability of *Trichinella* spp. larvae and the parasite load of the muscles with which the rats were experimentally infested. Experimental infestation in rats proved to be possible by administering samples from pigs (70 g) with a parasite load of 500 larvae, respectively with samples from foxes (5 g) with a parasite load of 2300 larvae. The obtained results emphasize the fact that the rat remains the most important vector in the transmission of trichinellosis and its maintenance in animals.

**Keywords:** trichinellosis, experimental infestation, rat.

## **USSING CHAMBER: THE STUDY OF TRANSEPITHELIAL TRANSPORT IN THE SMALL INTESTINE**

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### **Summary**

The Danish zoologist and physiologist Hans Henriksen Ussing invented the device named after him in the 1950's as a means to measure the short-circuit current with interest to the passage of ions through frog skin. The device suffered modifications over time as today there are many models in use. The Ussing chamber system provides a physiological method for studying the transport of ions, nutrients and farmaceutical compounds across epithelial tissues *ex vivo* in health and disease. Studies can be done either on native preparations of epithelial tissues or on cell monolayer cultures. The technique is suitable for quantifying transport and barrier functions of tissues. The focus of this study is directed towards the conformation, principle and method applied in the study of intestinal absorption and secretion with interest to the Ussing chamber and also to outline the advantages and limitations of the technique. The importance of the technique resides in the fact that it is versatile regarding the substances that can be used in the experiments, yields well controlled experimental conditions and offers possibilities of better understanding the dynamic of ions, nutrients and drug compounds transport across the intestinal tissue and can provide precious data to the medical researchers and developers of pharmaceutical preparations.

**Keywords:** rat, intestine, epithelial transport, Ussing chamber.

**MORPHOLOGICAL ASPECTS OF THE CELIAC ARTERY IN SHEEP CORRELATED WITH THE STAGES OF DEVELOPMENT OF THE GASTRIC COMPARTMENTS**

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**Summary**

The study of the development of the digestive system in ruminants, especially the gastric compartments, has been and still is a subject of interest to many researchers. The main characteristic of adult ruminants is their ability to consume large amounts of forage, which they break down into simpler, easily absorbed components. Thus, fermentative digestion is initially carried out, followed by gastric and intestinal digestion. The different development of the gastric compartments, depending on the age of the animal and the type of feeding, leads to variations in the morphology and topography of the arteries supplying these components of the digestive tract. The aim of this research is to identify possible variations in the celiac artery in terms of its origin and its collaterals and to observe whether these variations are the result of changes in the proportions between gastric compartments. Thus, in animals fed exclusively on maternal milk, the abomasum is the only functional compartment, which is reflected by the strong development of the gastric and gastroepiploic arteries. As the animal is weaned and the diet changes, the volume and especially the functional importance of the rumen increases, as the compartment plays a key role in carbohydrate degradation. Similar aspects regarding the vascularization have been observed in individuals belonging to different age groups, but also some differences, such as: origin of the celiac artery (from a common trunk with the cranial mesenteric artery, but also independent from the aorta artery), numerical and topographical variations of the splenic artery.

**Keywords:** celiac artery, newborn sheep, gastric compartments.

## **THE ENDOPARASITISM IDENTIFICATION IN JACKALS FROM TIMIS COUNTY HUNTING GROUNDS**

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### **Summary**

The involvement of jackals in regulating small mammal populations is vital for preserving ecological balance and biodiversity. However, the focus on parasitic infestations in wildlife, including jackals, has intensified due to their detrimental effects on animal well-being and potential consequences for human populations. Understanding the prevalence or the co-infestations of cestodes with other parasites is crucial for assessing the health risks associated with jackal populations and the potential transmission to humans. The purpose of this study was to evaluate the endoparasites infection of the jackals from the Timis County hunting grounds. Over a one-year period, necropsies were performed on 41 jackals. The necropsies were conducted at the Faculty of Veterinary Medicine, Discipline of Parasitology, where the gastrointestinal tracts of the jackals have been examined. Among the 41 necropsied jackals, 29% (12) were infested with cestodes. Furthermore, 16% (2) of the infested jackals were positive for both cestodes and roundworms, while 75% (9) were infested with cestodes and other nematodes, and 8% (1) were exclusively infested with cestodes. These findings highlight the high prevalence of cestode infestations in jackals from the hunting grounds of Timis County, as well as the co-occurrence of cestodes with other nematodes. These parasites can have a significant impact on the health and survival of wild animals, as well as the health of domestic animals that may come into contact with infected wildlife.

**Keywords:** jackals, Timis County, parasitic infestations.

**STUDY REGARDING THE INFESTATION WITH  
ENDOPARASITES IN RED FOXES FROM TIMIS COUNTY  
HUNTING GROUNDS**

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**Summary**

Parasitic infestations in wildlife, including foxes, have been the subject of numerous studies due to their impact on animal health and potential implications for human populations. Infestation with cestodes and nematodes in wild animals is common and highlights the importance of monitoring and understanding the impact of these parasites on wildlife populations. The aim of this study was to identify the endoparasitism infestations in foxes from hunting grounds in Timis County. Over a one-year period, a total of 47 foxes have been necropsied at the Faculty of Veterinary Medicine, Discipline of Parasitology. Among the examined foxes, 25 (53%) were found to be infested with cestodes. Out of these 25 positive cases, 4 (16%) foxes were exclusively infested with cestodes, 5 (20%) foxes were infested with both cestodes and roundworms and 18 (72%) foxes were infested with cestodes along with other nematodes. The results of this study indicate a significant prevalence of cestode infestations in the fox population from the hunting grounds in Timis County. Furthermore, the co-occurrence of cestodes with nematodes highlights the complex nature of parasitic infestations in these animals. Further research is necessary to explore the impact of these infestations on the health of foxes and the potential transmission risks to other animals and humans in the region.

**Keywords:** red fox, Timis County, endoparasitism.



## PREVALENCE OF BOVINE MASTITIS AMONG DIFFERENT INDEGINOUS COW BREEDS FROM SELECTED HERDS IN NIGERIA

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### Summary

Bovine mastitis continues to be a burden in the dairy sector worldwide, despite the many mastitis control programs. Nigeria is not exempt from this problem, though there is still a high potential for exploitation in the dairy sector, as about 60% of the consumed dairy products are imported. Nigeria has the sixth-largest cattle population in Africa, fully understanding its cattle structure and dynamics can help harness its potential. This study aimed to determine the prevalence of bovine mastitis among common breeds of dairy cows in Nigeria. Lactating cows in selected peri-urban dairy farms and pastoral cattle herds were evaluated for mastitis by physical examination and using the California Mastitis Test. Milk samples were collected from cows with mastitis for cultural isolation and phenotypic characterization of *Staphylococcus* species. The prevalence of mastitis among the Friesian x Bunaji (FB), Bunaji (BJ), Gudali (GD), and Azawak cattle breeds was 72%, 56%, 41%, and 0%, respectively. Three percent of the udders of the BJ cows were found to have blind teats. Seventy-three percent of the milk samples had isolates suggestive of *Staphylococcus* species based on cultural isolation on Mannitol salt agar and their biochemical profile. Indigenous breeds of cows are known to be less susceptible to mastitis compared to exotic breeds; this could be explained by their udder structure and low milk production potential, which are part of the risk factors for mastitis. This study shows a high prevalence of mastitis in Bunaji of 56% in comparison to other indigenous cow breeds. This can serve as information to guide the breeding selection of indigenous cows for dairy potential with reduced mastitis risk.

**Keywords:** Bovine mastitis, dairy, prevalence, indigenous cows.

## SCREENING OF BRUCELLOSIS IN DOGS USING ROSE BENGAL PRECIPITATION TEST (RBPT) AND CANINE BRUCELLOSIS ANTIBODY RAPID DETECTION TEST (GENOMIX)

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### Summary

Serological screening of canine brucellosis was conducted using Rose Bengal Precipitation Test (RBPT) and Genomix Canine brucellosis Antibody Rapid Detection Test Kit. A total of 91 canine serum samples (31 from asymptomatic and 60 from dogs with clinical signs suggestive of brucellosis) were screened with RBPT and Canine brucellosis Antibody Rapid Detection Test (Genomix). The results showed an overall positivity of 4.4 and 1.1 per cents by RBPT and Canine brucellosis Antibody Rapid Test (Genomix) respectively. High percentages of positive cases were seen in  $n \geq 5$  year's age group, females and exotic breeds. Also, high positive cases were seen in dogs with infertility and skeletal problems compared to apparently normal. The study arrived at the conclusion that the screening of brucellosis in dogs could be done with RBPT and Canine brucellosis Antibody Rapid Detection Test (Genomix) for *Brucella abortus* and *Brucella canis* respectively.

**Keywords:** Canine brucellosis, RBPT, Genomix brucellosis antibody detection kit, infertility, skeletal problem.

**STUDY REGARDING THE USE OF MODERN MEANS OF VIDEO RECORDING AND GPS-TRACKING IN MONITORING THE DIPSIC BEHAVIOR IN DOMESTIC CATS**

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**Summary**

Currently, in the specialty literature, the studies about the physical activity, as well as the dipsic and nutritional behavior monitoring in cats are insufficient, despite the current interest of researchers in this direction. An important part of the currently existing studies focuses on analyzing the spatial behavior of domestic cats with outdoors access, being especially directed on studying the territorial and predatory behavior manifestations. In the present study we performed the behavioral analysis of domestic cats living strictly indoors, without access to the outside environment, with an emphasis on the level of physical activity, as a physiological factor with impact on the dipsic behavior. The study was conducted on a number of 15 healthy individuals, adults - aged between 1 and 8 years old, whose physical activity level was monitored using the IKATI GPS collar correlated with the Tractive IKATI software, while the dipsic behavior was monitored using the MiHome video camera. The GPS tracking and the video monitoring was performed 24 hours a day, 5 days in a row for each individual. The aim of this research was to establish a direct correlation between the physical activity level and the dipsic behavior in adult cats, and also to investigate and perfect the modern GPS tracking and video recording means in monitoring different types of behaviors and performing complex ethograms in domestic cats.

**Keywords:** dipsic behavior, GPS tracking, domestic cats.

## **LEGISLATION REGARDING WILDLIFE DISEASES SURVEILLANCE IN ROMANIA**

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### **Summary**

National wildlife diseases surveillance programmes are essential in monitoring, preventing, and controlling programs of human and animal diseases. Regulation (EU) 2016/429 of the European Parliament and the Council completed by Commission Delegated Regulation (EU) 2020/689 provides the rules concerning surveillance, eradication programmes, and disease-free status. At the national level, surveillance diseases in regulated by Order 35/ 2016 on the approval of the Methodological Rules for the implementation of the Program of actions for the surveillance, prevention, control and eradication of animal diseases, those transmissible from animals to humans, animal protection and environmental protection, for the identification and registration of bovine, porcine, ovine, caprine animals and Equidae and the Methodological Rules for the implementation of the Food Safety Surveillance and Control Program.

**Keywords:** wildlife diseases, legislation, surveillance.

**DETERMINATION OF ANTIMICROBIAL DRUG RESIDUES AND  
THE ROLE OF BACTERIOPHAGES IN FALSE POSITIVE  
MICROBIAL RESIDUE DETECTION TEST IN MILK IN KADUNA  
STATE, NIGERIA**

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**Summary**

Antimicrobial residue in milk causes financial losses to dairy farmers due to milk rejection or low pricing. Detection of antimicrobial residues can be a bit challenging due to the presence of bacteriophages in milk, which could cause false-positive results. The aim of this study was to determine the occurrence of antimicrobial residues and lytic bacteriophage in fresh bulk cow milk from peri-urban dairy centers and the influence of phages on antimicrobial residue detection in milk. Antimicrobial residues in fresh bulk cow milk were determined using the standard microbiological methods, the disc diffusion assay and the Delvotest Sp-Nt. The plaque assay method was used for the isolation of lytic bacteriophages. Out of the overall milk sample of 204, antimicrobial residues were detected in 43.6% and 42.2% of the samples using the Delvotest and the disc diffusion tests, respectively. The inter-rater reliability (Kappa) for rating the performance between the Delvotest SP-Nt and Disc diffusion assay test was found to be 0.890 and statistically significant (P-value = 0.00). Lytic bacteriophages were isolated from 30% of all milk samples collected (204 fresh bulk cow milk samples). Ten percent of the antimicrobial positive milk samples were confirmed to be false positives after conducting the two tests in parallel. The false-positive samples were confirmed for the presence of lytic bacteriophage, and 55.5% were found to be contaminated with lytic bacteriophage. Thus, the overall prevalence of antimicrobial residues recorded in this study using the disc diffusion test exceeded the maximum residue levels. Raw milk harbors natural inhibitory agents such as bacteriophages, which often cause the misinterpretation of antibiotic contamination in milk during antimicrobial detection since tests are not specific on the types of antimicrobial residues. It is recommended that more advanced detection kits be used for antimicrobial detection to limit the levels of false positives.

**Keywords:** residue, milk, bacteriophages.

**STUDY REGARDING THE ACCURACY OF THE CHEMICAL  
COMPOSITION OF COMMERCIAL DIETS FOR DOGS**

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**Summary**

The aim of this study was to compare the accuracy of the chemical composition of dry dog food with the nutritional values printed on their labels. To conduct this study, five diets were randomly selected from each type of commercial diets: economy, basic and premium class. The results showed an increased in the dry matter content, compared to the values written on the labels. For all three categories of commercial diets analysed, the crude protein content showed values below those registered on the labels by 1-4%. The fiber content was higher, especially for the economy class and the ether extract showed higher values in 3 premium class diets, varying by 1.18%.

**Keywords:** dog, commercial diets, nutritive value, chemical composition.

## **MICROSPORUM CANIS STRAINS SENSITIVITY TO ANTIFUNGAL DRUGS**

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### **Summary**

Researches presented in this study underlines results obtained in sensivity of *Microsporium canis* strains from dogs and cats on different antifungal drugs. It was found that of the five antifungal substances tested by the diffusimetric method, in terms of efficacy on isolated *M. canis* strains (n = 116), Clotrimazole showed special activity, with the inhibition zones diameter ranging from 21 mm to 40 mm, with an average of  $31.28 \pm 5.18$  mm. With lower efficacy, causing areas of inhibition smaller than Clotrimazole, from intermediate to sensitive, Miconazole and Nystatin acted. There were strains sensitive to Miconazole, but intermediate sensitive to Nistatin, suggesting the need to test the sensitivity to the antifungal substance before starting a treatment.

**Keywords:** dermatophytosis, *Microsporium canis*, antifungal substances, sensitivity test.

## EVALUATION OF ENDOPARASITISM IN FALLOW DEER (*DAMA DAMA L.*) FROM BIHOR COUNTY (ROMANIA) HUNTING GROUNDS

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### Summary

The fallow deer (*Dama dama L.*) is a notable representative of the *Cervidae* family in the Romanian fauna, particularly of the genus *Dama*, being an allogeneic species reintroduced into the country's fauna during antiquity by the Romans. The species do not live alone, at the habitat or ecosystem level they form a union, a conglomerate, together with other species between which various relationships or interactions are established. This interaction between two or more species takes various forms: competition, commensalism, mutualism, predation, or parasitism. From this point of view, the fallow deer (*Dama dama L.*) is no exception. In this context, the purpose of the study was to identify the possible presence of endoparasites in fallow deer from Bihor County using classical coprological methods, macroscopic and microscopic examination of the gastrointestinal mass and organs and evaluation of the impact of the results on the host. We identified, morulated strongilid eggs (gastrointestinal nematodes), *Nematodirus* spp. eggs and *Dicrocoelium lanceolatum* eggs. These results disclose the importance of the presence of parasitic endofauna with obvious repercussions on the health status of the parasitized host and, equally, with implications in its ecological relationships.

**Keywords:** fallow deer, endoparasites, Bihor County.



## **STUDY REGARDING THE AGE INFLUENCE ON SERUM PHOSPHORUS LEVEL IN FELINE CHRONIC KIDNEY DISEASE**

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### **Summary**

Chronic kidney disease (CKD) is the progressive loss of kidney function and its prevalence has been estimated to be between 1% and 3% in felines. However, its occurrence increases with age, especially in the geriatric feline population (about 80%) CKD is a prevalent clinical condition characterized by elevated phosphorus (P) retention and protein catabolites in felines, also a common cause of morbidity and mortality in felines. The purpose of this study is to evaluate from biochemical point of view (the level of serum phosphorus, urea and creatinine), patients of different ages who present symptoms that lead to the diagnosis of chronic kidney disease and to investigate the possible correlation between feline aged 10 years or aging over 10 years. The study was performed within the University Emergency Hospital Prof. univ. Dr. Alin Bîrțoiu, Bucharest on a number of 18 felines with chronic kidney disease, 10 of these, over 10 years old, being considered eloquent for our study. The clinical examination was performed on each patient separately, by general methods, as well as by paraclinical methods, such as: biochemical and hematological examination, urine sediment examination, symmetric dimethylarginine (SDMA), ultrasound examination. From the total number of patients included in this study (n=10), one feline, an 11-year-old patient in uremic coma (n=1) presented the highest value of serum phosphorus and the others 9 patients (n=9), between the ages of 11 and 15, presented serum phosphorus values above 7.35 mg/dl. From the total of 10 patients included into the study (n=10), 8 were male (80%) and only two female (20%), all patients belonged to European race (100%).

**Keywords:** serum phosphorus, chronic kidney disease, geriatric patients, felines.

**MORPHOLOGICAL PARTICULARITIES OF THE SKULL IN THE  
SOUTH AMERICAN SEA LION (*OTARIA FLAVESCENS* S.  
*OTARIA BYRONIA*) – CASE STUDY**

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**Summary**

The South American sea lion - *Otaria flavescens* or *Otaria byronia*, is part of the Family *Otariidae*, Order *Carnivora*, Genus *Otaria*. The international scientific community accepts both variants of the scientific name. Considering that the skull's morphology is important in the classification and differentiation of marine mammals, this study aimed to describe the morphological particularities of the skull of the South American sea lion, an exotic species for Europe found only in zoos and dolphinariums. Data in the scientific literature regarding the skull morphology of this species are limited. The study was conducted on one skull belonging to a female South American sea lion from the collection of the Anatomy discipline at the Faculty of Veterinary Medicine of Bucharest. Among the most important aspects observed, we can list: the presence of a high, thin, and sharp rectilinear external sagittal crest that, in the aboral part of the frontal bone, divides into two unequal temporal lines; the absence of the supraorbital foramen; the absence of the lacrimal bone; the presence of a long nasopharyngeal canal; the presence of the hypoglossal canal that crosses the lateral portion of the occipital (with the entrance on the internal face of the condyle and the exit located on the ventral face of the basioccipital); the angular process of the mandible with a blade-like appearance and orientated medio-aborally.

**Keywords:** South American sea lion, morphology, skull.

**USE OF CONTRAST ENHANCED CT IN FELINE AORTIC  
THROMBOEMBOLISM: A CASE REPORT OF A 2-YEAR-OLD  
BRITISH SHORTHAIK CAT**

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**Summary**

Feline aortic thromboembolism (FATE) is a syndrome that occurs secondary to embolization of thrombi of cardiac origin with any possible localization, although the aortic bifurcation is the most commonly affected site. The most common causes that lead to FATE are hypertrophic cardiomyopathy (HCM) and unclassified cardiomyopathy (UCM); dilated cardiomyopathy (DCM) rarely leads to this syndrome. Certain cat breeds - the British shorthair included - are at risk for developing FATE due to predisposition to these cardiac conditions. Presentation is usually acute with some of the most common complaints being sudden collapse, hemiparesis/paresis and vocalizing due to severe pain. Coexisting cardiac conditions are frequently present. Diagnostic tools vary, although findings on physical examination and history are usually suggestive; imaging studies may be useful in some cases. The patient presented here had signs specific for a saddle thrombus. Severe HCM and dilation of the left atrium were diagnosed using echocardiography. CECT (contrast enhanced computed tomography) was useful in localizing the thrombus, due to its uncommon localization. Taking into account the severity of this condition, high probability of recurrence, prolonged and partial recovery, owners elected euthanasia.

**Keywords:** FATE, British shorthair, echocardiography, contrast enhanced CT.

## **STUDY REGARDING THE PHARMACOLOGICAL AND DIETARY TREATMENT IN CANINE MALABSORPTION SYNDROM**

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### **Summary**

Canine malabsorption syndrome includes a group of chronic enteropathies characterized by intestinal absorption deficiency due to mucosal damage and increase of intraluminal osmotic pressure, which can lead to chronic diarrhea. Numerous chronic enteropathies associated with the malabsorption syndrome include small intestinal inflammatory diseases and exocrine pancreatic insufficiency. The aim of this study is to establish a conclusive diagnosis of malabsorption syndrome, based on symptomatology and hematological, biochemical exams and then to follow the response to a combined dietary/immunosuppressive pharmacological treatment. The study was performed over a period of two years, on a number of 18 dogs with malabsorption syndrome (12 males and 6 females of various breeds, ranging from 2-6 years of age). All patients present chronic diarrhea (characterized by pale-colored stools with steatorrhea) which persisted for more than 4 weeks. In addition, all the dogs suffered weight loss, despite of the polyphagia reported by the owners. Hematological and biochemical exams (urea and creatinine, hepatic ALT-performance, total serum protein, albumin levels and albumin/globulin ratio) were performed. Hematological parameters of all individuals were within normal, physiological limits. The 18 dogs with malabsorption syndrome were divided into two groups, based on the presence or absence of hypoproteinemia (serum protein levels below 4.5 g/dL). Group 1 is represented by 10 dogs in which the proteinemia was within normal limits and all the individuals from this group received a treatment based on Prednisone and group 2, consists of 8 dogs with hypoproteinemia, which received a treatment based on metronidazole and prednisone. The doses were gradually reduced and the intervals at which they were administered were adjusted. Canine malabsorption syndrome can be treated by means of a combination of dietary therapy (low-fat, low-fiber, highly digestible diet) and pharmacological treatment with immunosuppressive agents.

**Keywords:** malabsorption, dietary therapy, pharmacological treatment, dogs.

## **ANALYSIS OF CHEMICAL COMPOSITION IN SOW'S MILK**

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### **Summary**

In this paper, the chemical composition of sow milk from birth to 28 days was analyzed, quantitatively and qualitatively, in order to conclude if there it is possible to intervene in any way in the technology of breeding, that can reduce piglets' morbidity and mortality. Collecting milk from the sow is more difficult than from the cow, and from the seventh day was very difficult, therefore samples from several sows were needed to get enough milk for one determination. From each sample, protein, fat and lactose were determined using standard methods. It was found an increase in protein synthesis by the 14<sup>th</sup> day, followed by a decrease. The milk analysis revealed relatively higher levels of fat (7.5% vs. 6.5%), lower lactose levels (5% vs. 6%) and similar protein expression (5%), when compared to colostrum.

**Keywords:** sow, colostrum, determination, sampling, husbandry.

## HANTAVIRUS INFECTION IN EUROPE: THE IMPLIED STRAINS AND THEIR EPIDEMIOLOGY – A SHORT REVIEW

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### Summary

Rodents make up about 40% of all mammal species and can be found in various habitats around the world, except for Antarctica. They are known to play an essential role in transmitting various diseases with zoonotic potential. Throughout history, there have been numerous infectious episodes, starting from the Bubonic Plague pandemic, produced by *Yersinia pestis*, transmitted to humans through fleas previously fed on rats, and up to the viroses and bacterioses that currently manifest themselves globally. This category includes Typhus (infections caused by *Rickettsia* species), Rat-bite fever, Yersiniosis, Leptospirosis, Tularemia, as well as Tick-borne encephalitis, Hantavirus, Hepatitis E, Borna virus, Lassa fever, Omsk hemorrhagic fever or even Cowpox. In 1978, the causative agent of Korean hemorrhagic fever was isolated from infected small field rodents, *Apodemus agrarius*, near the Hantan River in South Korea. The virus was named the Hantaan virus after the nearby river. Its electron microscope images soon revealed that the virus was a new member of the *Bunyaviridae* family. It has been observed that hantaviruses, unlike other members of this family, do not have an arthropod vector and cause a persistent infection in the population of their specific rodent hosts. The genus includes the viruses that cause hemorrhagic fever with renal syndrome (HFRS) in Europe and eastern Asia and hantaviral cardiopulmonary syndrome (HCPS) in the Americas. Currently, the genus includes more than 21 species and exceeds 30 genotypes, expanding to multiple territories in the world. A good knowledge of the epidemiology, symptomatology, but above all, of the main species of rodents that can be involved in the transmission of zoonoses, plays an important role in preventing potential outbreaks of infection and narrowing the area of diseases. While most countries in Europe report Hantavirus infections in humans, such data is very limited in Romania due to the lack of studies or official reports. In this review, we aim to update the data on the spread of Hantaviruses in Europe.

**Keywords:** rodents, zoonoses, hantavirus.

**THE EFFECT OF WHITE CLOVER (*TRIFOLIUM REPENS L.*) AND  
NITROGEN FERTILISATION ON BIOMASS PRODUCTION,  
MORPHOLOGY, CHEMICAL COMPOSITION AND WEED  
INFESTATION OF WILLOW (*SALIX VIMINALIS L.*) USED FOR  
GRAZING SHEEP**

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**Summary**

This study aimed to determine the effect of nitrogen fertilization and the use of white clover on biomass production on land, where willows were naturally grown. The morphology and chemical composition of the biomass was assessed in order to determine if the land can be used as a grazing area for sheep or the green mass can be converted into animal feed. The experiment started in 2018 at SCDCOC Caransebeș and was carried out until 2022, on the part of the pasture where willow plants naturally appeared. It was found that the number and dry mass of willow stalks reported at 1m<sup>2</sup> and their fresh weight yield was lower where the clover was sown. It was found that the willows were taller after fertilization with nitrogen, and the yield expressed in Dry matter and their diameter did not depend on the method of cultivation. Fertilization with nitrogen led to a higher ash content and clover content where the willow stalks were larger, and higher nitrogen values were obtained compared to the pure crop. The ratio of DM of willows and DM of clover to nitrogen fertilization was 3.97:1 and 3.91:1 for the control. It can be concluded that in the first years after the sowing of the white clover, the presence of willows can be a good alternative to improve the nitrogen level in the soil, thus the pasture can be converted into high-quality forage for sheep.

**Keywords:** grazing, sheep, analysis, pasture.

## OCCURRENCE OF VERO-TOXIGENIC PRODUCING *E. COLI* (VTEC) IN SOME COMMERCIAL LIVESTOCK FARMS IN KANO STATE, NIGERIA

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### Summary

Vero-toxin-producing *E. coli* (VTEC) have gained increasing global concern as food-borne pathogens and are the only diarrhoeagenic *E. coli* pathogroup with an ascertained zoonotic origin, with ruminants being regarded as the main animal reservoir. This study aimed at determining the occurrence of VTEC in some commercial livestock farms in Kano State, Nigeria. A total of 240 samples were collected from the three Agro-climatic zones in Kano State with 80 samples per zone. The samples were processed in accordance with the International Standards Organisation reference method (ISO 16654) for the isolation of *E. coli*, 195 (81.3%) samples were suggestive of *E. coli* on Eosin Methylene Blue Agar (EMB). The Isolates were further screened biochemically [42 (17.5%) isolates are positive] and on CT Smac agar for selection of *E. coli* 0157 were 30 (12.5%) isolates were suggestive of *E. coli* 0157. These isolates were further screened using Latex Agglutination Test, where 24 (10%) isolates were confirmed to be *E. coli* 0157. This study showed that Cattle from commercial livestock farms shed *E. coli* 0157 in their faeces. *E. coli* 0157 is widely distributed across commercial livestock farms.

**Keywords:** *E. coli*, vero-toxin, livestock, Nigeria.