

Bachelor's Thesis topics for the BDSP ANIMAL PROTECTION AND WELFARE for the academic year 2025/26

Dept.	Bachelor's Thesis Topic and Annotation	*	Bachelor's Thesis Supervisor
2150	Genetic structure of the Common Buzzard (<i>Buteo buteo</i>) in the Czech Republic The Common Buzzard (<i>Buteo buteo</i>) is a medium-sized bird of prey. The species lives in most of Europe and has a large breeding range. The aim of the research will be the molecular analyses of the mitochondrial DNA (DNA isolation, PCR, electrophoresis, sequencing) and discovery of the haplotypes present in Central Europe. The student will learn the molecular methods working in the molecular laboratory and work with the sequences using the available software. The student will also analyse the prevalence of obtained haplotypes present in certain areas, the number of different haplotypes (A), the number of private haplotypes (Ph), the effective number of haplotypes (Ne), the haplotypic richness (HR) and Nei's index of genetic diversity (HE).	E	Mgr. Branka Bilbija, PhD
2150	Genetic structure of the Western Marsh Harrier (<i>Circus aeruginosus</i>) in Central Europe The Western Marsh Harriers show a leapfrog migration pattern with individuals breeding in Northern and Eastern Europe wintering further from their breeding grounds than individuals belonging to the populations of Western and Southern Europe. The aim of the research will be the molecular analyses of the mitochondrial DNA (DNA isolation, PCR, electrophoresis, sequencing) and discovery of the haplotypes present in Central Europe. The student will learn the molecular methods working in the molecular laboratory and work with the sequences using the available software. The student will also analyse the prevalence of obtained haplotypes present in certain areas, the number of different haplotypes (A), the number of private haplotypes (Ph), the effective number of haplotypes (Ne), the haplotypic richness (HR) and Nei's index of genetic diversity (HE).	E	Mgr. Branka Bilbija, PhD
2190	Comparative analysis of anaesthetic protocols used in handicapped hedgehogs Both species of hedgehogs are popular and abundant small mammals, which are the most common patients presented for veterinary attention in Czech wildlife rescue centres. Proper anaesthesia is imperative as they frequently require surgical therapy. Here, we will examine the effects of injection and inhalation anaesthetic protocols on development of cardiorespiratory and body temperature parameters. Parameters such as time to induction and onset of deep anaesthesia, and heart and respiratory rates, oxygen saturation, and body temperature will be statistically compared between species, anaesthetic protocols and against pre-anaesthetic values. This bachelor thesis aims to identify the most effective anaesthesia protocol ensuring the well-being of hedgehogs during veterinary procedures, thereby supporting the successful management of handicapped animals.	E	Prof. MVDr. Jiří Pikula, PhD, dipl. ECZM (Wildlife Population Health)
2190	Comparative analysis of anaesthetic protocols used in handicapped insectivorous bats There are 27 insectivorous bat species in the Czech Republic. When rescued, synanthropic species may be presented for veterinary therapy. Despite being among the smallest mammalian species, they undergo surgical therapy for fractures, and knowledge of proper anaesthesia is required. The response of bats to anaesthesia is thought to be influenced by their heterothermy. Here, we will examine the effects of injection and inhalation anaesthetic protocols on development of cardiorespiratory and body temperature parameters. Parameters such as time to induction and onset of deep anaesthesia, and heart and respiratory rates, oxygen saturation, and body temperature will be statistically compared between species, anaesthetic protocols and against pre-anaesthetic values. This bachelor thesis aims to identify the most effective anaesthesia protocol ensuring the well-being of bats during veterinary procedures, thereby supporting the successful management of handicapped animals.	E	Prof. MVDr. Jiří Pikula, PhD, dipl. ECZM (Wildlife Population Health)
2410	Comparison of methods for urine pH measurement in veterinary diagnostics Urine analysis is a fundamental diagnostic procedure in veterinary medicine that is fast, accessible, and technically straightforward. One of the key parameters in chemical urine analysis is pH, which plays a crucial role in diagnosing and monitoring various diseases. Several methods are available for measuring urine pH, differing in accuracy and reproducibility. This bachelor's thesis compares different urine pH measurement methods, including diagnostic test strips, a benchtop pH meter,	Ev	Assoc. Prof. Ing. Jana Blahová, PhD

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	a portable pH meter, and the PocketChem analyzer. The study will be conducted on fresh urine samples obtained by spontaneous urination. The accuracy of each method will be evaluated using samples with different pH values (acidic, neutral, alkaline), with the number of samples meeting statistical validity requirements. The study aims to determine the reliability of each method and its suitability for routine use in veterinary practice.		
2410	Evaluation of lesions on the tails in relation to the assessment of the welfare level in pig farms (bachelor's thesis) The aim of the bachelor thesis will be state the causes of tail damage in pigs, state the possibilities of preventing tail damage in pigs, the main goal will be the evaluation of data from the State Veterinary Administration of the Czech Republic for the period 2019-2024 indicating damage to the tails of pigs slaughtered at slaughterhouses.	Ev	Prof. MVDr. Zdeňka Svobodová, DrSc.
2410	Trends in the popularity of dog breeds with extreme characteristics Intensive selection aimed at highlighting specific breed characteristics has led to extreme changes in appearance in many breeds with a negative impact on the health and welfare of the dogs. However, an effort to restore a more natural appearance often conflicts with the preferences of owners and breeders. For example, brachycephalic dog breeds remain very popular despite health problems and a clear connection between the desired appearance and the impairment of the respiratory system. The popularity of a certain breed is reflected in the number of dogs registered in the stud book and also in the number of dogs entering dog shows. Based on the changes in numbers over a period of time, trends in the preferences of individual breeds can be observed. The aim of the study will be to assess trends in the frequency of selected dog breeds over a period of several years and to evaluate the breed popularity in relation to breed appearance, namely the popularity of breeds with extreme and potentially health-damaging breed characteristics will be evaluated on the basis of analysis of the national stud book, or catalogues of selected dog world, European or national dog shows.	Ev	Prof. Ing. Eva Voslářová, PhD
2420	Assessment of breed representation of dairy cattle in the Czech Republic in period 2015-2024 The dairy cattle farming in the Czech Republic in the last decade has been characterized by a continuous dynamic increase in the average milk yield of cows, which is also associated with a preference for particular genotypes of reared dairy cattle. The genotype of dairy cows is an important factor affecting both milk yield and the quality of the produced cow milk. Data on the number of dairy cows reared by breeds and crossbreeds in respective years will be collected from the database of the performance recording, Yearbooks in cattle breeding, and of database from the Czech Moravian Breeders Corporation. Subsequently, an evaluation of the proportions of reared genotypes in individual years as well as the development of the distribution of reared genotypes of dairy cattle over the entire period under evaluation (2015 to 2024) will be carried out using statistical methods. At the same time, the influence of the dairy cow genotype on milk yield indicators will be assessed for the period under evaluation.	Ev	Prof. Ing. David Zapletal, PhD

* **Bachelor's Thesis type: E...experimental, Ev... evaluative**

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Assoc. Prof. MVDr. Šárka Bursová, PhD
Dean of the FVHE VETUNI