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## ABSTRACTS

### BIOLOGY

- TI: A NEW GENUS AND TWO NEW SPECIES OF MITES (*ACARI: MICROTROMBIDIIDAE, TROMBIDIIDAE*), WITH NEW RECORDS OF *LOBOKTROMBIUM KUTANUM* HAITLINGER, 2005 FROM INDONESIA
- AU: Ryszard Haitlinger
- AD: Institute of Biology, Department of Systematics Ecology of Invertebrates, Wrocław University of Environmental and Life Sciences
- LA: English
- AB: New genus *Javatrombium* and two new species: *Javatrombium surakartense* and *Paratrombium sulawesiense*, both from Indonesia are described and illustrated. New records for *Lomboktrombium kutanum* are given.
- DE: *Acari, Microtrombidiidae, Trombidiidae, Javatrombium, Paratrombium*, new genus, new species, new records, Indonesia
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 11–18.
- TI: ARTHROPODS (*ACARI, ANOPLURA, SIPHONAPTERA*) OF SMALL MAMMALS OF THE LUBUSKIE PROVINCE
- AU: Ryszard Haitlinger
- AD: Institute of Biology, Department of Systematics Ecology of Invertebrates, Wrocław University of Environmental and Life Sciences
- LA: English
- AB: 1283 arthropods belonging to ~84 species were obtained from 15 species of small mammals: 976 *Acari* at least of 62 species, 85 *Anoplura* of 7 species and 123 *Siphonaptera* of 15 species. *Ctenophthalmus bisoctodentatus*, *C. congener*, *Doratoipsylla dasyncema*, *Palaeopsylla kohauti*, *Hoplopleura affinis*, *H. edentula*, *H. longula* and 24 species of *Acari* are recorded for the first time from the Lubuskie province. Most species of arthropods (47) were collected from *Myodes glareolus* and *Apodemus agrarius* (35). Most arthropods were collected from *M. glareolus* (326) and *podemus sylvaticus* (213). The most numerous arthropods were *Laelaps agilis*, *Glycyphagus hypudaei*, *Ixodes ricinus*, *Listrophorus brevipes*, *Echinonyssus sunci* and *Laelaps hilaris*.
- DE: *Acari, Anoplura, Siphonaptera*, mammals, Lubuskie province, faunistic
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 19–38.
- TI: FIRST RECORDS OF ARTHROPODS (*PHTHIRAPTERA: TRICHODECTIDAE, ACARI: IXODIDAE*) FROM *LUTRA LUTRA* (LINNAEUS, 1758) (*CARNIVORA: MUSTELIDAE*) IN POLAND
- AU: Ryszard Haitlinger, Dariusz Łupicki
- AD: Institute of Biology, Department of Systematics Ecology of Invertebrates, Wrocław University of Environmental and Life Sciences
- LA: English
- AB: From single specimen (♂) of *Lutra lutra* collected in Borowa Oleśnicka n. Oleśnica, Poland, 19 arthropods of 3 species were obtained: *Lutridia exilis*, *Ixodes hexagonus* and *I. ricinus*. *L. exilis* is new for fauna of Poland. *I. hexagonus* and *I. ricinus* for the first time were found on this host.
- DE: *Lutra lutra, Lutridia exilis, Ixodes hexagonus, I. ricinus*, faunistic, Poland
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 39–42.
- TI: ELEMENTAL COMPOSITION OF THE SKIN IN THE COURSE OF CANINE ATOPIC DERMATITIS (AZS)
- AU: Krzysztof Kaliński, Krzysztof Marycz, Joanna Czogała, Ewa Wojciechowicz
- AD: Electron Microscope Laboratory, Wrocław University of Environmental and Life Sciences

- LA: English
- AB: In the following research skin biopsies coming from atopic dogs were examined by means of scanning electron microscope LEO 435 VP LEO (Zeiss+Leica). The study was conducted on two groups of dogs eight individuals each. The first group was experimental one with clinical diagnosis of atopic dermatitis and the second was control healthy animals group. After collecting 7mm skin biopsy from each individual the specimens were fixed immediately in 2,5% glutar aldehyd for 48 hours and then after routine preparation were examined by means of scanning electron microscopy. The general appearance of skin surface and hair as well as skin cross sections were analyzed. Moreover elemental composition of the epidermis including macroelements, trace elements and heavy metals were performed using scanning electron microscopy combined with microroentgen analyzer Roentec. The conducted research showed marked differences in epidermal structure and elemental composition of the skin between atopic and healthy dogs.
- DE: AZS, canine atopic dermatitis, elemental composition of the skin
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 43–54.
- TI: MUTATIONS OF 1, 11 AND 20 EXONS OF THE *TCOF1* GENE IN PATIENTS WITH TREACHER COLLINS SYNDROME
- AU: Barbara Wierzbicka<sup>1</sup>, Bożena Marszałek-Kruk<sup>1</sup>, Piotr Wójcicki<sup>2</sup>, Robert Śmigiel<sup>3</sup>, Barbara Kosowska<sup>1</sup>, Magda Moska<sup>1</sup>, Tomasz Strzała<sup>1</sup>
- AD: <sup>1</sup> Department of Genetics and Animal Breeding, Wrocław University of Environmental and Life Sciences  
<sup>2</sup> Plastic Surgery Hospital, Wrocław Medical University  
<sup>3</sup> Department of Genetics, Wrocław Medical University
- LA: Polish
- AB: Treacher Collins Syndrome (TCS) is caused by about 150 different mutations. The study concentrated on the search for two mutations: c.106C>T in exon 1, (the effect in Q36X protein), c.3121C>T in exon 20, (the effect in Q1041X protein) as well as one polymorphism: c.1552 G>A in exon 11, (the effect in V518I protein). The examinations involved a group of 20 patients with TCS and 100 healthy control subjects. The analysis was performed on DNA isolated from peripheral blood lymphocytes by means of precipitation with salt. The investigations were performed by means of PCR method which was used for the amplification of DNA fragments, electrophoretic separation, RFLP and sequencing. The analysis revealed lack of the investigated mutations in the *TCOF1* gene in 20 patients and 100 healthy subjects. This may indicate that TCS in the investigated group was caused by other mutations.
- DE: Treacher Collins syndrome, mutations, polymorphism
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 55–64.

## ANIMAL BREEDING

- TI: THE CONTRIBUTION OF PROTEIN FRACTIONS IN WHEY OF COLOSTRUM AND MILK OF SOWS, DEPENDING ON THE BREED AND LACTATION STAGE
- AU: Olga Boruta<sup>1</sup>, Ewa Pecka<sup>2</sup>, Stanisław Jasek<sup>1</sup>, Andrzej Zachwieja<sup>2</sup>
- AD: <sup>1</sup> Institute of Animal Breeding, Department of Pigs Breeding, Wrocław University of Environmental and Life Sciences  
<sup>2</sup> Department of Cattle Breeding and Milk Production, Wrocław University of Environmental and Life Sciences
- LA: Polish
- AB: The aim of the study was to determine the content of chosen whey protein fractions – serum albumin, G class immunoglobulins (IgG),  $\beta$ -lactoglobulin,  $\alpha$ -lactoalbumin in samples of colostrum (24–36 hours after farrowing) and milk (10<sup>th</sup> and 21<sup>st</sup> day of lactation). Samples were obtained from 12 sows of Polish Large White (PLW) and 13 sows of Polish Landrace (PL) breed. The level of serum albumin in colostrum whey of PL breed sows was significantly higher ( $p \leq 0.01$ ) comparing to whey obtained from colostrum of PLW breed sows. The reverse relationship was observed for those fraction content in milk whey – it was significantly lower ( $p \leq 0.01$ ) in sows of PL breed (1.7 g/l on average) as compared to whey of PLW breed sows (2.4 g/l on average). The significantly lower ( $p \leq 0.01$ ) content of  $\beta$ -lactoglobulin in milk whey of PL breed (2.5 g/l on average) comparing to milk whey of PLW breed sows (3.2 g/l on average) was noted. The concentration of IgG in colostrum whey of PL breed sows was significantly lower ( $p \leq 0.01$ ) as compared to colostrum whey of PLW breed sows.
- The results of the study suggest the presence of differences in the content of whey protein in colostrum and milk obtained from different sows breeds, that may be a factor influencing results of piglets rearing.
- DE: sows, colostrum, milk, whey protein
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 65–76.
- TI: EFFECT OF NUTRITION ON CALCIUM AND PHOSPHORUS CONTENTS IN COAT AND HAIR OF THOROUGHBRED YEARLING
- AU: Maciej Dobrowolski, Ewa Jodkowska, Krzysztof Marycz, Katarzyna Lisowska
- AD: Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences

- LA: Polish
- AB: The aim of the study was to define effect of the nutrition supplement on calcium and phosphorus contents in coat and hair of thoroughbred yearling from Jarosówka Stud. The experimental group received a feeding supplement „Advance Concentrate” by Equimins.
- In the January and in the March the samples of coat from neck, mane and tail were taken and proportional contents of calcium and phosphorus were analyzed by scanning microscope procedure. The highest increase of calcium (0,048%) was found at the experimental group between first sample of mane and the second one. It was highly significant. Increase of phosphorus at the mane was observed as well, however was no significant. On the basis on comparison of calcium contents in mane, tail and neck coat, the significant and highly significant calcium level were found in the neck coat either at the experimental and the control groups. The chest circumference in the experimental group was significantly higher to compare with control one.
- DE: calcium, phosphorus, coat, mane, tail, horses, thoroughbred, feeding supplement, Advance Concentrate
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 77–86.
- TI: FEEDING OF FATTENING PIGS WITH THE CONCENTRATE MIXTURES CONTAINING MINERAL AND/OR ORGANIC FORMS OF Cu, Zn, Mn AND Fe
- AU: Bogusław Fuchs, Janusz Kubizna, Anna Szuba-Trznadel
- AD: Department of Animal Nutrition and Feed Quality, Wrocław University of Environmental and Life Sciences
- LA: English
- AB: In the first and second phase of fattening three groups of pigs were fed three diets containing different forms of Cu, Zn, Mn and Fe. Group I was fed with diets containing inorganic salts of these metals applied at relatively high levels. In group II and III the elements were applied at much lower levels in the form of soya amino acid or crystalline glycine based chelates. In the experiment pig performance, physiological and biochemical indices, as well as the degree of bone mineralization and retention of microelements were evaluated. The fatteners fed with organic forms of metals showed better performance and higher carcass leanness than the control animals fed inorganic forms. Most profitable results were obtained when pigs were fed with glycine based chelates.
- DE: amino acid based chelates, Cu, Zn, Mn, Fe, fatteners, microelement balance
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 87–100.
- TI: THE REARING OF PIGS AFTER WEANING USING DIETS CONTAINING MINERAL AND ORGANIC SOURCES OF MICROELEMENTS Cu, Zn, Mn AND Fe
- AU: Bogusław Fuchs, Anna Szuba-Trznadel, Janusz Kubizna
- AD: Department of Animal Nutrition and Feed Quality, Wrocław University of Environmental and Life Sciences
- LA: English
- AB: The experiment was performed as a continuation of previous investigations carried out with pregnant and lactating sows and their offspring. Weaned piglets were divided to three experimental groups. Group I (control) received the mixture containing high levels of inorganic forms of Cu, Zn, Mn and Fe. Piglets of group II were fed the mixture containing mineral salts partially replaced with low level of soya amino acid based chelates of examined elements. In group III the same amount of microelements was given as in group II, however the crystalline glycine based chelates were applied. In the experiment the growth rate, feed intake and utilisation were examined. Moreover, the blood has been sampled and in serum the proteinogram (protein fraction pattern) as well as other physiological and biochemical indices characterizing animals health were evaluated. In the blood, bones, liver and meat tissue the concentration of minerals were determined. Higher growth rate and better feed utilization were noted in groups fed the organic sources of examined metals. In the liver of control animals higher deposition of Cu i Zn was observed.
- DE: amino acid based chelates, glycin based chelates, copper, zinc, manganese, iron, pigs after weaning, growth
- SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 101–120.
- TI: THE INFLUENCE OF QUALITY AND DILUTION OF BOARS' SEMEN ON INDICES OF REPRODUCTION PERFORMANCE OF SOWS
- AU: Paweł Gajewczyk<sup>1</sup>, Krzysztof Łoś<sup>1</sup>, Jarosław Szurko<sup>2</sup>, Jerzy Akińcza<sup>1</sup>
- AD: <sup>1</sup> Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences  
<sup>2</sup> Pig Farm Łosice
- LA: English
- AB: Properly organized reproduction of pigs is among other factors a warranty of satisfying results in piglets production. On farms that everyday deal with article insemination, a special emphasize is put on a reasonable usage of very well boars, bought sometimes for high prices, in a reproduction. The semen of PIC and GP boars was subjected to a careful analyses in the present experiment.
- The aim of conducted research was to determine whether and to what extent, the quality and dilution of semen influence the value of indices of reproduction performance of sows. Research material consisted of 36 ejaculates collected

from chosen boars in a period from November 2005 to February 2006. Boars were kept individually and fed with all-mash feed mixture of PLK type, and, depending on age and a level of exploitation, daily feeding dose was from 2 to 2,5 kg. Semen from boars was obtained by „on-hand” method. Collected ejaculates were subjected to quantitative and qualitative analyses. Also samples from fresh semen were collected for laboratory analyses. Each preparation was examined under a microscope (1000 x magnification) in 5 fields of vision on average, so that the sum of spermatozoa was 200. A classification described by Blom was applied for spermatozoa morphology assessment.

Conducted research demonstrated that spermatozoa concentration did not influence the number of live born piglets in a litter, and influenced only the number of dead born piglets. It applies to a concentration of spermatozoa in a range from 4,4 to 6 mld. Concentration of spermatozoa in a range from 7 to 17 mld clearly affected the limitation of dead piglets born in a litter. As a result of sows' mating with diluted semen, differentiated results with respect to a number of piglets born in a litter depending of an age of a sow were obtained. Multiparous sows inseminated with diluted semen gave a birth to a satisfactory number of piglets in a litter. Dilution of ejaculates favored the decrease in a percentage of spermatozoa with loops. Application of diluted boars' semen in multiparous sows insemination on a farm with 1100 sows in foundation stock is fully effective with insemination of multiparous sows, however worse results are obtained with primiparous sows insemination.

DE: insemination, diluted semen, reproductive performance of sows

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 121–134.

TI: ESTIMATION OF UTILITY VALUES OF NOBLE HALF-BRED HORSES TAKING PART IN DRESSAGE AND SHOW JUMPING EVENTS IN THE LOWER SILESIA IN THE YEARS 1997–2007

AU: Henryk Geringer de Oedenberg, Katarzyna Neuberg, Edyta Pasicka, Katarzyna Kamińska, Natalia Badura

AD: Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: Estimation of utility values of noble half-bred horses taking part in dressage and show jumping equestrian events in the Lower Silesia in the years 1997–2007 was studied. For the purpose of this paper, 49 dressage and 90 jump horses have been surveyed. Their results have been analyzed and the average score in one event has been calculated. This constituted the base for the assessment of the value in use of each horse. The horse representing the highest value in use in the jumping events is Dywizja (a mare), and in the dressage it is Rabiato Z (a stallion). The influence on the utility value of the following factors has been analyzed: father, father's breed, sex, breeder and breeding. The study has proved that there is a significant connection between the father and the sex and the value of use of the jump horses. The study has revealed no relations between these factors and dressage horses.

DE: useful value, noble half-bred horse

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 135–148.

TI: THE LEVEL INFECTION OF ENDOPARASITES OF PIGS IN SMALL-COMMERCIAL HOUSEHOLD

AU: Damian Knecht<sup>1</sup>, Marcin Popiołek<sup>2</sup>, Anna Jankowska<sup>1</sup>

AD: <sup>1</sup>Department of Animal Breeding, Wrocław University of Environmental and Life Sciences

<sup>2</sup>Institute of Biology, Department of Systematic and Ecology of Invertebrates, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: The aim of the study was to determine species composition and level of infection with endoparasites in pigs from different technological groups in small-commercial household. The research material contained 75 samples of faeces. The samples were collected from pigs with wbp x pbz genotype from six technological groups. The level of endoparasites infection was estimated with the use of basic parasitology coefficients: prevalence of infection and mean number of eggs per sample.

DE: loose sow, suckling sow, in-pig sow, piglets, fattener, parasites in pigs

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 149–156.

TI: AN ALTERNATIVE DRYING OFF OF HIGH YIELDING COWS

AU: Marian Kuczaj<sup>1</sup>, Jerzy Preś<sup>2</sup>, Tadeusz Szulc<sup>1</sup>, Jan Twardoń<sup>3</sup>, Stefania Kinal<sup>2</sup>, Jan Kuryszko<sup>4</sup>

AD: <sup>1</sup>Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences

<sup>2</sup>Department of Animal Nutrition and Feed Quality, Wrocław University of Environmental and Life Sciences

<sup>3</sup>Department and Clinic of Obstetrics, Ruminant Diseases and Animal Health Care, Wrocław University of Environmental and Life Sciences

<sup>4</sup>Department of Anatomy and Histology, Department of Histology and Embriology, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: Analysis of numerous studies determined that an elimination or considerable shortening of drying off period causes a decrease in milk yield of cows even up to 25% in the first 100 days of lactation. The decrease is partially compensated

in a further part of lactation. Continuous milking of cows without a drying off period unprofitably influences a development of mammary gland, and negatively effects colostrums quality and efficiency of calves rearing.

Elimination or shortening of drying off period cannot apply to cows after the first calving, since it considerably decreases their yield, condition and development. Shortening of drying off period do not decrease reproduction indices of cows. An analysis of milk performance of cows points that drying off period as long as about 6 weeks is the most optimal. Proper feeding of cows in drying off period is the best guarantee of a high milk yield in subsequent lactation.

DE: cows, drying off period, mammary gland, milk yield, colostrum, calves

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 157–174.

TI: GROWTH OF BOTH SEX PIGEONS WROCLAW MEAT BREED

AU: Edward Pawlina, Katarzyna Borys

AD: Department of Genetics and Animal Breeding, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: Analyzed the growth of both sex pigeons Wrocław Meat breed. This breed was created in 1998 by prof. Boleslaw Nowicki. The research was made in the Department of Genetics and Animal Breeding at the Wrocław University of Environmental and Life Sciences. The research included 57 pigeons. The aim of the research was to update the results and to compare them with the results from the previous researches. Due to the lock of selection over the three recent years, both males and females eight has decreased. It has turned out that it does not make sense to leave males or females to fatten, because there have not been any significant differences in the weight of 4 week pigeons within these groups. Slaughtering the pigeons at the age of 4 week seems to be the most economical since after the fourth week of life there is a fall of daily body gains. The conclusions drawn from the research provide the potential pigeon breeders of this race with useful information.

DE: pigeons, wrocław meat breed, growth, body weight, trunk length

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 175–182.

TI: INHERITING REPRODUCTION TRAITS IN SILESIA HORSE LINES

AU: Ewa Walkowicz

AD: Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: This paper analyzes the reproduction coefficients of Silesian mares, in order to determine the influence of male lines and relationships between lines on passing down selected reproductive traits. The study involved 22 216 breeding seasons of mares divided according to the breed of covered mares, covering stallions, fathers and relationships between the lines. The fertility coefficient was 79.16% (range from 70 to 93%) at the 16.92% coefficient of infertility (range 5–22%) and 3.92% of miscarriages (1.3–7.4%). The paper shows the differences between the values of the examined coefficients between the lines, between mares and stallions within lines, and the combinations of lines of mothers and fathers. The obtained results proved to be sufficiently interesting to formulate a conclusion on the usefulness of further research.

DE: horses, Silesian breed, mares, lines, fertility coefficients

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 183–192.

## OTHERS

TI: ELEMENTS OF THE ENVIRONMENT IN THE AGRIBUSINESS

AU: Damian Knecht, Anna Jankowska

AD: Institute of Animal Breeding, Wrocław University of Environmental and Life Sciences

LA: Polish

AB: Agribusiness has the institutional environment, an integral part of it, and the other being his future environment. In the article, an analysis company environment Konary Sp. z o.o. with the multi-sectoral nature of the company. Detailed analysis helps to identify environmental factors affecting the company's management.

DE: agribusiness, management

SO: Zesz. Nauk. UP. Wroc., Biol. Hod. Zwierz., LIX, 575, 193–205.