SUMMARY

BIOLOGICAL SCIENCES

Anosov I.P., Stanishevskaya T.I. **Individual Typological Peculiarities of Formation and Nature of Menstruation Cycle of Young Girls Having Different Somatic Types** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 3-11.

Constitutional peculiarities of 16-17-year old girls in the South-Eastern Ukraine have been studied. It has been revealed that megalothomic somatic type is predominant (47% of all the examined girls). This type is followed by a leptosomic one (26%), mesothomic (18%) and indeterminate (9%).

Hate terms of the first menstruation as well as infringement of their smooth functioning can be observed. The earliest menstruation is found with girls of megalosomic type of body constitution, whereas the latest one can be obsewed with girls of asthenic somatic type, having leptothomic constitution.

Keywords: megalothomic, leptosomic, mesothomic, indeterminate somatic types; menstruation cycle.

Baev O.A. **Individual and typical properties of high nervous activity are in the tight relations with senso motoric and vegetative functions of organism** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 12-19.

The article analyses neuron dynamic functions of organism and heart rhythm peculiarities while having long-term physical exercises. It is discovered that at the age of 18-20 the basic nervous formation process and complicated sensor reactions are going on. Long-term physical exercises promote more intensive neuron dynamic functions development. Heart rhythm variability of young sportsmen is characterized with greater activity of parasympathetic section of vegetative nervous system and autonomous outline.: Properties of basic nervous processes become apparent within sensor motive and vegetative reactions.

Keywords: heart rhythm, high nervous activity, physical loads, adaptation.

Bukov J.A. Alpeyeva A.V. **Bioenergetical efficiency of the system of outer respiration of children of 5-6 years old under conditions of adaptation to the respirational training** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 20-26.

Essential lad of indices of respiration mechanics of girls of 5-6 years old if compared to age standards discovered. Proposed method of respiration training ensured the development of functional potentialities of the bronchopulmonary system and increase of bioenergetical efficiency of respirational sunction.

Keyword: bioenergetic efficiency of respiration system, respiration training, girls of 5-6 years old

Vakchrusheva L.P., Kalinushkina E.A., Kotov S.F. **Analisys of acclimatization's degree and perspectivity for using in city greenery of Simferopol trees and shrubs belonging to divisio *Pinophyta* from arboretum of Botanical Garden Vernadsky Taurida National University** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 27-40.

Results of studing the vegetation sphaere, bioecological abilities, phytosanitary stain, reproductive potentiality of introductive and autochtonic species which belong to divisio *Pinophyta* of Botanical Garden Vernadsky Taurida National University are presented. The general floristic composition of gymnosperm plants and geographical genesis all its specimens had determined also. The estimate of acclimatization's degree for natural condition of Crimean piedmount and perspectivity for its using in city greenery of Simferopol had been carried out.

Keywords: divisio *Pinophyta*, introductive plants, vitality, dry - resistance, froze - resistance, reproductive potentiality, acclimatization's degree, perspectivity for using in city greenery, phytodiversity.

Verko N.P., Grigor'ev P.E., Temur'ynz N.A., Kokareva M.A., Dobreva I.I. **Individual sensitivity of a person to heliogeophysical factors** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 41-45.

Individual sensitivity of persons with various vegetative state to heliogeophysical factors has been investigated. As a result of research the authentic correlation between indexes of solar activity and all parameters of psychoemotional condition in group of vagotonics has been found out. In a sympathicotonic group the correlation is marked only in respect of parameters of anxiety and mood. In group of "vegetative balance" the authentic correlation between parameters of psychoemotional condition and solar activity was absent. A shift of leukocytic formula to the left prevailed in the conditions of the "quiet" sun and the decreased solar and geomagnetic activity; the increase in mature forms of neutrophils - in the days of the raised solar and geomagnetic activity. The increased solar and geomagnetic activity contributes to the development of stress reaction in vagotonics and persons with vegetative balance. In the conditions of decreased solar and geomagnetic activity vagotonics are in a condition of reaction of the increased activation, and persons with vegetative balance - in a condition of reaction of training. In group of sympathicotonics in the days of high and particularly low solar and geomagnetic activity an adaptive reaction of increased activation was registered. In the periods of heavy heliogeomagnetic condition the activity of bactericidal system of myeloperoxidase in neutrophils of blood of sympathicotonics and especially vagotonics is suppressed. In persons with vegetative balance the contents of myeloperoxidase in neutrophils of blood in the days with various heliogeophysical activity is within the limits of physiological norm.

Keywords: heliogeophysical factors, individual sensitivity, vegetative status.

Gidulyanov A.A., Zhdanova H.G. **Influence of chloroform and benzene on electrophoretic mobility of hemoglobin** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 46-55.

Comparative research of influence of chloroform and benzene on electrophoretic mobility of fractions hemoglobin is conducted. As a result of researches the data testifying to change electrophoretic mobility of hemoglobin under influence hydrocarbons are received.

Keywords: hemoglobin, chloroform, benzene, electrophoretic mobility.

Gidulyanova K.V., Konoshenko S.V. **Fat - acid composition of plasma and membranes erythrocytes patients chronic glomerulonephrite** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 56-62.

It is established that at patients chronic glomerulonephrite the expressed changes in fat - acid composition of plasma and membranes erythrocytes are traced. The increase of a level of the contents of the saturated fat acids and decrease of a level of unsaturated fat acids in a membrane is revealed due to representatives of family ω3, in plasma due to fat acids of ω3 and ω6 families. The increase of factor of a saturation is shown.

Keywords: membrane erythrocytes, plasma, fat - acid composition, oxidative stress, pathology.

Glivenko A.V., Reshetnyak O.A., Chegodar A.Y. **The reactivity of cardiovascular system in dependence on concentration of toxic and essential metals in the organism of trained and untrained students** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 63-68.

The investigation of the cardiovascular activity in 18-20 years old trained and untrained 46 students was carried out. The heavy metals (lead, cadmium, strontium) content in their hair was within the normal limits but the calcium and potassium content was at the lower limit of norm. The cadmium and lead showed significant correlations with the cardiovascular parameters during the physical exercises; for calcium and potassium - at rest and after exercises.

Keywords: students, cardiovascular system, heavy metals, essential metals.

Evstafyeva E., Evstafyeva I., Repinskaya E. **Characteristics of cognitive potentials related to zinc concentration in 12-13 year-old children** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 69-75.

The association between characteristics of cognitive potentials and concentration of zinc, lead and cadmium was examined in thirty 12-13 year-old children (both genders) living in Simferopol. Zinc deficiency and normal concentration of toxic lead (was above normal in few cases) and cadmium in hair were determined by roentgen-fluorescent analyses. We revealed correlation between amplitude and latent period of evoked potentials and event related potentials and cadmium (10 parameters), lead (4 parameters)

and in one case correlation between latent period P3 and zinc concentration. Latent period P2 and lead and cadmium concentration were characterized by direct correlation ($0,30<r<0,46$) with high accuracy ($0,05<p<0,001$). These metals also shared same correlation with amplitude of terminal CNV ($0,36<r<0,33$, $p<0,05$). Toxic cadmium and essential zinc also act as synergist on latent period P3 (leads from left hemisphere). These results prove evidence for further investigation and systematizing of such field observations in ecology and elaboration of ecological norms based on this.

Keywords: EEG, evoked related potentials (ERP), lead, cadmium

Evstafyeva E.V., Tymchenko S.L., Negerish A.V., Gruzhevskiy V.A., Chegodar A. Ya. **Functional state of cardiovascular system in 12-13 year-old children related to the content of essential elements in their organism** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 76-79.

Examination of twenty six 12-13 year-old children living in Simferopol revealed deficiency of Cu and Zn. Cardiovascular system was examined by means of rheography and correlations were revealed with the contents of Zn and Cu. The strength of correlation fluctuated from slight to moderate with the high accuracy ($0,30< R_s< 0,50$). Zn appeared to be more significant for cardiovascular system than Cu, which revealed the correlation only with the duration of cardiac cycle ($R_s = 0,40$; $p < 0,04$).

Keywords: cardiovascular system, bioelements.

Zhyzhyna M.N., Kabuzenco S.N. **Influence of the Biologically Active Substances on Mitotic Activity of Root's Meristematic Cells of and Barley in Conditions of Salt Stress** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 80-85.

The possibility of removal the negative influence of salinity stress on maize with the help of growth regulators (6 - BAP, ivin) was studied. Wetting of seeds in solution of the growth regulators promotes to adaptation of plants to salt stress that is displayed in the increasing of the mitotic activity of root's meristem shoots of maize and barley.

Keywords: maize, barley, salt stress, growth regulators, mitotic activity

Zalata O.A. **Correlation between psychophysiological functions characteristic and calcium and strontium content in students of different age** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 86-91.

EEG-examination with biomonitoring of (18)- schoolboys and (33)- students (town Simferopol) carried out. The calcium and strontium contents were determined by the method of X-ray fluorescent spectroscopy. The calcium deficit in students and strontium surplus in schoolboys was discovered. Statistically significant correlation between EEG index (delta-, alpha-, beta-) and calcium, strontium content was shown at schoolboys, during rest and mental activity. Same correlation between cognitive characteristics of evoked potentials (latent period P_{300}, amplitude CNV) with calcium was shown at students.

Keywords: EEG, evoked potentials, calcium, strontium, schoolboys, students.

Ibragimova E.E. **Anthropogenic phytocenosis under condition of airtechnogenic pollution of environment** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 92-98.

Male reproductive system of long-term plants, growing along the roads with intensive traffic was studied. Production of sterile pollen of the cultures turned to increase as a result of mutagenic effect of air pollution on the reproductive bodies

Keywords: pollen, reproductive system, sterility, fertility, airtechnogenic pollution, phytocenosis

Ivanov S. P. **Classification of megachilid-bees' nests (Hymenoptera: Apoidea: Megachilidae)** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 99-110.

A new classification of megachilid-bees' nests was proposed. The nests were divided into 2 types by the ways of cell building, into 3 subtypes by the cell construction and into 4 classes by the dimension indexes of the cell. The hierarchy of the classificational subdivisions corresponds to the general ways and phases of evolution of megachilid-bees' nest building instincts which allows us to consider this classification to be a natural one.

Keywords: Megachilidae, nest construction, classification of nests.

Katsev A. M., Makemson J. **Identification of luminous bacteria isolated from Black and Azov seas** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 111-116.

In this paper identification procedure for luminous bacteria isolated from Black and Azov seas has been described. Microbiological, biochemical methods as well as phenotyping were used to define their species. Results were compared with Gram negative bacteria database.

Keywords: luminous bacteria, bioluminescence.

Kirillova A.V., Panova S.A., Lesova L.D. **The analysis of lavanda ether oil influence on the psyho-physiological state of man** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 117-120.

EEG records and psychological testing showed that lavanda ether oil odoraration enhanced general level of brain activation.

Keywords: electroencephalogram, EEG rhythms, ether oil lavanda, psycho-physiological testing.

Koreniyuk I.I., Gamma T.V, Ladigina T.M., Baevsky M.Yu., Baevsky A.M. **Effect of 3-methyl-2,3,4,5-tetrahydro-1H-1,5-benzodiazepin-2- ones on behavioral reactions of rats** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P.121-126.

Under conditions of Porsolt and "Tail-hanging" tests there was found, that 3-methyl-2,3,4,5-tetrahydro-1H-1,5-benzodiazepin-2- ones in a dosage of 50 mg/kg bears antidepressant property, while in the dosage of 75, 100 and 150 mg/kg provokes further

depression. "Black-and-white camera" test showed anxiogenic properties of 3-methyl-2,3,4,5-tetrahydro-1H-1,5-benzodiazepin-2-ones.

Keywords: benzodiazepin, test Porsolt, the "Black-and-white camera", "Tail-hanging", rats.

Koreniuk I.I., Ravaeva M.Yu., Orehova V.V., Kuryanov O.V., Chupachina T.A. **Behaviour of rats in some stress - tests under effect of N-uronoyl-derivative L-leycine and L-valine** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 127-134.

Psychotropic activity of new N-uronoyl-derivative L-leycine and L-valine in experimental stress-models studied. N-uronoyl-valine renders stress-protective and antidepressant effect, N-uronoyl-leycine has stress-protective and anxiolitic properties.

Keywords: N-uronoyl-derivative L-leycine and L-valine, behaviour of rats, stress-tests.

Krivozubova C.V. **Psychophyziologycal peculiarities of left-handed schoolboys** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 135-141.

The analysis of literature allowed to conclude that left-handed children turned to have specific difficulties in education process. It is definite, that unfavorable psychophysiologycal properties of left-handed students are conditioned by the character of interhemispheric and cortical-subcortical interaction different from those of right-handed students. Origins of left-handedness phenomena hypothesized. The use of biological feed-back in correction of unfavorable psychophysiologycal states of left-handed students is offered.

Keywords: functional asymmetry of brain, left-handedness, psychophysiology of schoolboys.

Lysyakova N.Yu., Haraim N.M., Polyakova S.V. **Anatomic-morphological and embryological peculiarities of some species of family *Orchidaceae* Juss** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 142-150.

Peculiarities of endomycotrophic component localization, dynamics of symbiotic interaction on ontogenesis phases, influence of edaphic and climatic factors on the degree of micotrophity in 12 representatives of subfamilies *Neottioideae* and *Orchidoideae*, related to the groups of rhizomatous and rhizocarpous geophytes, discovered. Negative correlation between the degree of micotrophity and morphometric parameters, as well as potential and real seed efficiency of rhizomatous species of Crimean orchids.

Keywords: orchids, micotrophity

Makhonina M.M., Chuyan E.N., Berdzhansky V.N., Popov V.V. **Changes of serotonin concentration in leucocytes of rat blood under effect of low-intensity ultra-high frequency electromagnetic field** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 151-160.

Microspectral luminescent analysis helped find serotonin concentration changes in leucocytes of rat blood under isolated and combined with stress-factor influence of electromagnetic field of very high frequency under normal conditions as well as under condition of the opioid peptides receptors blockade. Opioid peptides system turned to be engaged in realization of biologic effect of E-field radiation of very high frequency so to increase serotonin concentration in leucocytes of peripheral blood.

Keywords: low-intensity ultra-high frequency electromagnetic field , serotonin, leukocyte

Pavlov V.V., Martinyuk V.S. **Hydrodynamic design of the dorsal fin of Black Sea dolphins** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 161-166.

In this paper the shape of the dorsal fin of three species of Black Sea dolphins was analysed with the basic wing and airfoil parameters. It was found that the cross–sections of the fin in all species studied have a symmetrical profile similar to known airfoils. It was stated that the variability of the dorsal fin shape related with species, sex and age peculiarities doesn't exceed the strict morphological limits which lead to effective hydrodynamic function of the dorsal fin.

Keywords: dolphin, fin, hydrodynamics

Palyonaya Yu.V., Harchenko V.Z., Temur'ynz N.A., Chuyan E.N. **EHF radiation as the correction method of ionizing irradiation influence** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 167-172.

Preventive use of millimeter band electromagnetic field resulted in diminished damage effect of gamma irradiation.

Keywords: oncology, ionizing radiation, millimeter bands.

Rovnaya O.A. **Dynamics of cardiorespiratory system parameters during faltering hypoxia at synchronized swimming sportswomen** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 173-176.

The possibility of use the session of faltering normobaric hypoxia as a criterion for determining the readiness level of sportswomen to competitive activity discussed. The features of adaptive mechanisms to hypoxia at the given category of sportswomen discovered.

Keywords: cardiorespiratory system, synchronized swimming, faltering normobaric hypoxia.

Simagina N.O. **Allelopathic characteristics of glycohalophyte *Artemisia santonica* L.** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 177-185.

Artemisia santonica L. possesses high allelopathic activity that is provided by water soluble and gaseous physiological active substances which are excreted by upground and underground organs of plant. The excretion of components of allelopathic substances

Artemisia santonica L. connects with presence of specialized endogenous and exogenous terpenoid-containing glandular structures.

Keywords: allelopathy, glycohalophytes, *Artemisia santonica* L.

Snegirev F.F. **Some defense indices of pigs of two to three months in the time of feeding the nutrition substance** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 186-189.

The effect of the nutrition substance on physiological and biochemical blood indices of pigs in feedings described. Some recommendations on using the nutrition substance presented.

Keywords: nutrition substance, pigs, blood, defense of animals.

Syshko D.V., Mutev A.V. **Vestibular vegetative types of reactions in deaf sportsmen** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 190-194.

Deaf sportsmen have two basic reactions on the vestibular irritations: hyperkinetic and eukinetic. These reactions turned to be connected to the properties of perception of vestibular irritations and direction of training process.

Keywords: vestibular irritations, deaf sportsmen, reaction type.

Fokina J.O., Kylichenko A.M., Pavlenko V.B. **The interconnection between activity of tegmentum ventralis dopaminergic neurons and EEG – rhythms** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 195-200.

The article analyzes the type of interconnection between impulse activity of dopaminergic system neurons and EEG rhythms amplitude of cats.

Key words: neuron, dopamine, tegmentum ventralis, EEG-rhythms.

Cherniy S.V., Kovalenko A.A., Pavlenko V.B. **The peculiarities of processing affective information on the basis of probabilistic EEG - tomography data** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 201-207.

The peculiarities of tomogram picture during thinking of negative emotional situations discussed. Possible centers of EEG rhythms generation during the experiment hypothesized.

Keywords: negative emotional states, EEG, tomography.

Chuyan E.N., Dzheldubayeva E.R., Grigor'ev P.E., Chuyan E.V. **Effect of low intensity ultra-high frequency electromagnetic field on relationship of infradian rhythmicity of pain sensitivity of rats with variations of the heliogeophysical factors** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 208-216.

Correlation between many-days dynamics of animal pain sensitivity and variations of heliogeophysical factors found. The type of correlation turned to change under influence

of low intensity ultra-high frequency electromagnetic field (UHF EMF). There was discovered the significant correlation between pain threshold index and geomagnetic activity «day in a day», and with sun activity – with delay of 2-3 days and passing on 6-8 days in animals, exposed to the isolated effect of pain stress. Under influence of UHF EMF the organism tolerance to the pain factor increases, while correlation between pain threshold dynamics and geomagnetic and sun activity diminishes.

Keywords: ultra-high frequency electromagnetic field, pain sensitivity, geomagnetic activity, sun activity.

Chuyan E.N., Zayachnikova T.V. **Modification effect of hypokinetic stress on change of pain sensitivity of rats in the electrostimulation test** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 217-222.

Modifying influence of hypokinetic stress on change of pain sensitivity level of rats at sharp pain modeled in the test of electrostimulation studied. Hypokinetic stress turned to modify the level of pain sensitivity in animals, taking into account the change of pain threshold at experimental electric pain influence. The direction of changes of pain sensitivity in rats in the electrostimulation test depends on hypokinetic stress duration: on adaptation of rats to short hypokinetic stress (up to 6 days) there developed the resistency to pain stress as the pain threshold increased, though long restriction of mobility (7-9 day) resulted in decrease of pain threshold.

Keywords: hypokinetic stress, the test of electrostimulation, pain threshold, pain sensitivity.

Yurakhno M.V., Stryukov A. A., Demidenko L.A. **Experience of parasitology data application at finding origin, evolution, systematics and zoogeography of hosts** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 223-227.

Helmintology material from 2435 pinnipeds of 13 species studied. Applicability of parasitology data at finding origin, evolution, systematics and zoogeography of hosts analysed.

Keywords: parasit, host, coevolution, zoogeography.

Yanchuk P.I., Veselsky S.P., Parchamy Gasaee Sepideh, Gorenko Z.A., Spivak L.S. **Influence of vasopressin on secretion and excretion liver functions** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 228-234.

The influence of vasopressin on bile formation in dogs was investigated in chronic experiment. It was shown that vasopressin reveals modulatory effect on the cholepoietic function in the liver. Peptide at the dose 0,1 ng/kg increases level of bile flow and intensies protein secretion, but does not change the bilirubin excretion level. Vasopressin at the dose 0,2 ng/kg does not affect secretion in the liver, but activates the hepatic excretive function.

Keywords: liver, bile secretion, vasopressin, bilirubin, protein.

CHEMICAL SCIENCES

Dovgii I. I., Grishkovets V. I., Kachala V. V., Shashkov A. S. **Triterpene glycosides from flowers and stems of *Cussonia paniculata*** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 235-240.

Isolation and structure elucidation of triterpene glycosides from *Cussonia paniculata* flower buds and stems are described. The qualitative differences of triterpene glycosides composition of studied organs are shown.

Keywords: triterpene glycosides *Cussonia paniculata*, *Araliaceae.*

Sheikh-Zade M.I. **The phenylantranilyc acid molecular forms spectroscopic investigation** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 241-244.

The infrared spectrum solutions of 2-NH(C_6H_5)-C_6H_4COOH in C_2Cl_4 were obtained in valency vibrations of hydroxyl, amino and carbonyl groups in the temperature interval of 25-110 ^oC. The identification of νOH, νNH, νC=O bands have been made. From the analysis of the bands frequency, concentration and temperature dependences of the intensity of bands the conclusion has been made about the conformation of monomers and dimers of this acid under the conditions chosen for this experiment.

Keywords: infrared spectrum, phenylantranilyc acid, conformation.

Shul'gin V.F., Obuch A.I., Zub V.Ya. **Space-armed copper(II) dimers with the acylbishydrazones of 1-phenyl-3-methyl-5-hydroxy-4-formylpirazole** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 4. – P. 245-252.

Dimeric copper(II) complexes with acylbishydrazones of 1-phenyl-3-methyl-5-hydroxy-4-formylpirazole (H_4L) $Cu_2L^n \cdot mPy(Pipe) \cdot xH_2O$, where the coordination polyhedrons are connected by polymethylene chain any long (from 2 to 5 linkage), have been synthesized and investigated. Seven lines of hyperfine structure with constants 36 and 44 Oe as a results of unpaired electrons and two nonequivalent copper nuclei were observed in electron paramagnetic resonance spectra of succinic and glutaric acids acylbishydrazones. Polymetilene chain increasing to 4 and 5 linkage prevents to coupling interaction and usual for monomeric copper(II) complexes four lines of the hyperfine structure was detected in the electron paramagnetic resonance spectra.

Keywords: copper(II) acyldihydrazon, copper(II), dimer, electron paramagnetic resonance.