SUMMARY

Vinnikova O. I. Soil micromycetes and algae of deciduous forest plantations of Seversky Donetz river terrace.

The mycobiota and algoflora species composition was studied in leaf litter and soil of birch and asp plantations. The fungi and algae species composition were floristically compared between different sampling points. The peculiarities of distribution of representatives of the different systematic groups in leaf litter and soil depending on sampling depths and habitat type are discussed.

Key words: fungi, algae, leaf forest plantations.

Ceisler Yu. V., Kalinovsky P. S., Martynyuk V. S. Influence of variable magnetic field on spectral characteristics of albumin upon its interaction with hydrophobic ligands

The influence of variable magnetic field on spectral characteristics of serum albumin in the presence of the chloroform was studied. It was demonstrated that influence of magnetic field leads to increase of chloroform binding with protein molecule in hydrophobic caves and in location peptide groups.

Key words: extremely low frequency magnetic field, hydrophobic interaction.

Bogdan O.V. Systematic structure of lichen flora in the pine forests of Yalta Mountain Forest Nature Reserve

The flora of epiphytic and epixylous lichens in the pine forests of Yalta Mountain Forest Nature Reserve consists of 117 species, 52 genera, 37 families and 9 orders.

Key words: Yalta Mountain Forest Nature Reserve, lichen flora, pine forests

Branovitskaya T. Yu., Chmeleva S. I. Biologically active compounds in wine material production

We studied the quality of wine materials received from the seeds of different sorts of grape such as Magarach Bastardo, Kaberne Sovinion, Saperavi, which had been treated with different concentrations of giberellin (30 and 40 mg/l). The question about influence of exogenous hormone on biochemical structure of juice made of wineberries and on the chemical structure of wine material was discussed.

Key words: grapes, winematerial, giberelin

Brigadirenko V. V. Possibilities of using of litter invertebrates for indication of soil humidity gradations in forest ecosystems

Using variance analysis, it was demonstrated that the number of dominant taxonomical groups of litter invertebrates, the ground beetles species (Coleoptera, Carabidae), separate life-forms of the ground beetles and the values of species diversity indices do not differ in forest ecosystems with different gradations of soil humidity. The most sensitive indicator

of soil humidity gradations in forest ecosystem is the mixophytophagous aspect in the ground beetles' fauna.

Key words: zoological diagnostic, soil humidity, litter invertebrates, *Carabidae*

Godunko R. J. Ecomorphological analysis of mayflies (Insecta: Ephemeroptera)

In this paper the main classification describing the ecological and ecomorphological types of mayfly larvae was analyzed. Papers that could be a basis for creation a general ecomorphological classification of Ephemeroptera are cited.

Key words: ecomorpha, mayflies, Ephemeroptera

Goloborodko K.K. Ecological and faunistic review of *Lycaenidae* (*Lepidoptera, Rhopalocera*) fauna in Dnepropetrovsk Region, Ukraine

A full list of *Lycaenidae* species is established. Previous facts of ecology and landscape-biotypical differentiation are given. There is a forecast of future founds of *H. virgaureae, C. osiris, A. artaxerxes* species in the district, according to analisus of species structure of *Lycaenidae* in neighbouring regions. According to the results of the research *N. rhymnus, T. dispar rutila, T. nogelii dobrogensis, M. telejus, R. bavius hungaricus, P. daphnis, P. pylaon* species are recommended for insertion into the Red Book of Dniepropetrovsk district.

Key words: Dniepropetrovsk district, fauna, ecology, *Lycaenidae*

Gromova E. V., Zalevskaya I.N., Zhukova A. A. The characteristic of a protein spectrum of blood serum in thyroid diseases

Using the method of disk - electrophoresis in polyacrylamide gel, characters of blood serum proteins spectrum were studied in groups of the patients suffering from autoimmune thyreoiditis, adenoma of thyroid gland, cancer, nodose goiter and diffuse toxic goiter. The differences of each of electroforetical spectrums are shown in a variation of general number of protein fractions, change of quantity of fractions in various ef- zones and ef- mobility of separate protein components.

Key words: blood serum proteins, thyroid pathology

Gulevsky A. K., Ryazantzev V. V., Grischenkova E. A., Relina L. I., Fedulova E. S. prooxidant-antioxidant balance in the yellow mealworms after cold acclimation

The content of phospholipid peroxidation intermediates and catalase activity on cold-sensitive and cold-tolerant developmental stages of the yellow mealworms were investigated.

Key words: insects, prooxidant-antioxidant balance.

Hurai R. I. Fauna of pulmonate mollusks (Gastropoda, Pulmonata) pools upper Dniester basin

The specific composition and distribution patterns of of freshwater mollusk groupings in the studied biotopes of upper Dniester bassin are demonstrated. 14 mollusk species were identified.

Key words: freshwater mollusks, communities

Didenko S. Yu., Nicolenko I. A., Movchan T. D., Tymchouk S. M. The oil content and fatty acid composition in the seeds of maize starch-modifying mutants

The maize high-amylose mutants were notable for having the increased germ part, oil content in the germ and the content of oleic acid glycerides. The effect of amylopectin starches formation was not accompanied by significant changes of seeds lipid complex. It was shown that the oil content and the correlation of oleate and linoleate are encoded by a few independent loci of fourth, fifth and sixth chromosomes and modified by the interactions with the polygenic complexes.

Key words: Maize, mutants, oil, fatty acid composition.

Evstafyeva I. A., Evstafyeva E. V., Pavlenko V. B., Demchenko V. F., Krilov D. V., Schegoleva M. G. Psychophysiological particularities of teenagers and microelemetnt balance in human body

The central nervous system was studied in 26 children at age 14-15 years living on urbanized territory. Content of 25 metals in hair was determined. The relationship between 5 metals and cognitive evoked potential parameters was found. The averages of these metals were in the frames of norm but some persons had abnormal meanings. In addition, a deficit of some essential (Cu, Ca, Fe, S) and exceeding of some toxic elements were indicated.

Key words: evoked potentials, metals, children

Yemelyanova N. S., Martynyuk V. S., Kalinovsky P. S., Ceisler Yu. V. Influence of variable magnetic field on interaction of serum albumin with tamoxiphen

The influence of variable magnetic field on interaction of serum albumin with tamoxiphen in vitro conditions was examined. The experiment proved that action of magnetic field increases sorption ability of albumin.

Key words: extremely low frequency magnetic field, dynamic structure of water.

Zhaldak S. N. Estimation of influence of ecological and coenotic factors on anatomy of *Salicornia europaea* L. //

Ecological and coenotic factors impacting on anatomy of *Salicornia europaea* L. were studied. Reducing epidermis cell size and chlorenchyma thickness were the reactions of

plants to an intraspecific competition for soil nitrogen. With increase in ecotope salinity, the tendency to intensive development of water-bearing parenchyma is marked in *S. europaea.*

Key words: competition, salinity, *Salicornia europaea* L., epidermis, water-bearing parenchyma.

Zykova V. K. Bioecological characters of some species of lilac on the South Coast of Crimea.

Results of studying five species of lilac introduced on the South Coast of Crimea are presented. Three of them proved to be resistant under given conditions, grow well and blossom. They are recommended for wider application in landscape gardening on the Crimea.

Key words: bioecology, *Syringa*, introduction, landscape gardening.

Ilchenko E. A., Shugurov O. A. Electromiograms and mechanograms of fingers of a human higher limb

Connection between mechanical processes, i.e. human arm finger bending registered as a mechanogram and electric changes in muscle structures (electromiogram) has been determined. Mechanisms which result in the changes of electromiograms and mechanograms obtained in described experiments are discussed. During simultaneous registration of a mechanogram and an electromiogram, similar changes of some parameters have been found.

Key words: Mechanogram, electromiogram, H-reflex, muscles, limb.

Kim I. G., Kuznetsova E. J., Surova N. A. Environmental pollution in Karadag Natural Reserve as a factor of biodiversity decline

The results of complex study of pollution in ecological systems of Karadag Natural Reserve are presented. The excess of extreme allowable concentration of iron and cadmium in fresh and sea water was found. The raised contents of organic substances in sea water were found.

Key words: biodiversity, environmental pollution , heavy metals, chemical absorption of oxygen

Kokoshkina O. A., Kolomiychuk S. G. Biochemical changes and their pharmacological correction in diabetes mellitus

Data concerning metabolic disturbance, the state of antioxidant system and the role of free-radical processes in diabetes mellitus formation are presented. Efficacy of use a number of medicines and vitamin complexes for prophylactic and treatment of this disease is noticed.

Key words: diabetes mellitus, metabolic disturbance, vitamins.

Koshelev A. V., Dyatlov S. Ye. Adaptative possibility of euryhaline crustaceans

Experimental data on ranges of saline tolerance of crustacean *Eucypris inflata* G. O. Sars and *Cletocamptus retrogressus* Schmankewitsch are presented. The organisms were acclimated to salinity in the limits of 0 – 70 ‰ (*E. inflata*) and 0 – 170‰ (*C. retrogressus*). The most favourable salinity is 0 – 20 ‰ for (*E. inflata*) and 40 – 70 ‰ for (*C. retrogressus*).

Key words: crustacean, salinity, adaptation.

Kuzminova N. S., Kuzuruba I. E. The influence of Kuprocsat fungicide and Ziphos insecticide on *Artemia salina* L.

Data of study of Kuprocsat and Ziphos influence on *Artemia salina* are presented. All studied pesticides in concentrations 0.625, 1.25 and 2.5 mg/l were not toxic for nauplii exposed during 6 days. However, the percentage of hatching rate of *Artemia* and movement were lower for insecticide experiment than for fungicide.

Key words: pesticides, *Artemia*, the hatching out of nauplii.

Lobunskaya I. Status of *Veronica acinifolia L.* population in Crimea.

Unique population of the rare species *Veronica acinifolia L.* was discovered near mountain Aju-Dug (Crimea, Ukraine). The study discovered that the population has all-ages spectrum; large quantity, medium density and high statistic productivity. This population exists under the influence of anthropogenic pressing due to its location near a vineyard. Distribution range of this species reduces every year. Botanists suggest to introduce *Veronica acinifolia L.* into the Red Data Book of Crimea.

Key words: unique population, rare species, anthropogenic pressing, statistic productivity, Red Data Book of Crimea.

Magla M. G. Estimation of vitamin supplies in Black Sea mussels

Efficiency of maintenance of metabolic products of different vitamins in mitochondrions of mussels' hepatopancreas was studied. It was determined that metabolic products of thiamin and nicotinate are less effectively maintained in mitochondrions in comparison with metabolic products of riboflavin, pantotenate, lipoate. It can be connected with the particularity of vitamins metabolism in mussel tissues.

Key words: mussels, metabolic products, mitochondrions, thiamin.

Mozhanovsky V. I. Heavy metals in organism of *Rana temporaria* and *Rana arvalis* from biotopes near some water reservoirs in the city zone of Kyiv

The content and distribution of heavy metals (Pb, Cd, Zn, Cu, Cr) in organs and tissues of *Rana temporaria* and *Rana arvalis* from biotopes near some water reservoirs in the city zone of Kyiv are studied.

Key words: frogs, heavy metals, lakes, ponds, urban ecosystems.

Munasypova I. A. Some aspects of morphology of the Limnocardiidae (Bivalvia: Cardioidea)

The first detailed description of some morphological characters of 4 estuarine Limnocardiidae species: *Hypanis caspia grossui* Scarlato et Starobogatov, 1972, *Hypanis colorata* (Eichwald, 1829), *Hypanis jalpugensis* (Borcea, 1926), *Hypanis laeviuscula fragilis*(Milachevitch, 1908) is presented. Some of these characters are important for taxonomy of Limnocardiidae.

Key words: Limnocardiidae, siphons and tentacles, ctenidia.

Myakushko S. A., Chovgal N. V. The particularities of intrapopulation variability in rodents.

The analysis of variability processes on individual and group levels has been undertaken. The particularities of adaptive mechanisms to the long-term dynamic shifts of the life conditions in rodents were studied.

Key words: population, rodents, variability, dynamics

Nyporko S. A. Bryophyta of Obukhov district, Kiev region

Bryoflora of Obukhov district (Kiev region) was studied. It includes 58 species of 2 divisions – liverworts (Hepatophyta) and mosses (Bryophyta), 3 classes, 21 families and 35 genera. The analysis of moss distribution on the substratum and plant coenoses was carried out.

Key words: bryoflora, Obukhov district, distribution on coenosises.

Nyporko A. Yu., Demchuk O. E., Emets A. I., Blum Ya. B. The influence of acetilation on the spatial structure of plant tubulins

For the first time modeling and comparative analysis of acetylated and non-acetylated forms of plant a-tubulin was carried out. It is shown that the conformational changes caused by acetylation have cluster character and are spatially distant from each other. It is demonstrated that value of RMS deviation between acetylated and non-acetylated forms of plant α-tubulin twice exceed a similar parameter for pair "plant a-tubulin - animal α-tubulin". The discovered facts confirm the assumption about non-local character of influence of acetylation on spatial structure of α-tubulin molecule.

Key words: posttranslational modification, tubulin, spatial structure.

Petrosian A. L. Free aminoacids level in rat gastrointestinal tract under conditions of closed space hypoxia

20 min after closed space hypoxia, content of almost all free amino acids (except glutamine) validly increased in the mucous membrane of the stomach of Wistar rats, alanine and asparagine content increased in the mucous membrane of the small intestine.

35-45 min after closed space hypoxia (agonal period), concentrations of leucine, glutamate and asparagine increased in the mucous membrane of the stomach, concentrations of glutamate, glutamine, asparagine, aspartic acid and arginine increased in the mucous membrane of the small intestine. Concentrations of almost all free amino acids (except valine) validly increased in the duodenum.

Key words: aminoacid, hypoxia, SIT.

Podoprigora V. N. Aspects of growth of blue gurami under the different conditions of photoperiod in closed water systems.

The results of experiment carried out according to original technique are presented. The effect of photoperiod on aggression, coefficient of variation of mass and total body length in blue *Trichogaster trichopterus sumatranus* is proven. Photoperiod is suggested to be a factor not affecting the early growth of gurami. The relationship between aggression and size structure of fish group is not found.

Key words: growth of gurami, photoperiod, aggression, coefficient of variation.

Ponomaryova V.P., Chuyan E.N, Tumanyants E.N. Change of organism response on hypokinesia in rats with various typological features under influence of EMF EHF of different localization.

The dependence of antistress effect of elecromagnetic fields (EMF) of extremely high frequency (EHF) from localization of the influence was studied. In rats with the middle mobile activity in "open field" test the mostly pronounced antistress effect of EMF EHF influence on occipital region, as well as on the right thigh lateral surface, was observed. In rats with low mobile activity under the EMF EHF influence on occipital region, as well as on the lateral surface of the right and of the left thighs, the antistress effect has been demonstrated. In rats with the high mobile activity in "open field" test the antistress effect was found under the EHF influence on the occipital region and on the left thigh lateral surface.

Key words: EMF EHF, antistress effect, localization of the influence, typological features.

Pristinskaya V.V. Contribution to the knowledge of the fauna and biology of the pill beetles (Coleoptera, Byrrhidae) of Ukraine

New data on the pill beetles fauna, biology and trophic specialization are presented. The fauna of Ukrainian byrrhids is presented by 26 species. Adults are bryophagous and larvae are detritivorous and feed on dead leaves, moss and other vegetable matter in the soil. The life cycle depends on climatic conditions.

Key words: fauna, biology, Byrrhidae, Ukraine.

PotyomkinaN.V., Bugara A.M., Stavtseva I.V. Cytogenetic sdudy of interspecific hybrids of sage grown in culture of immature embryos.

Interspecific crossing is a routine method in the breeding of many essential oil crops. This method allows to accumulate important characteristics of different species in the geno-

type of interspecific hybrid. However, survivability of these hybrids in the first phases of the onthogenesis is unsatisfactory. This problem has been decided in our research on the example of sage breeding using immature embryos culture. Cytogenetic studies revealed combinative inheritance of regenerants, some marker chromosomes of maternal form *(S. sclareaL.)* and allowed to reconstruct the idiogramms of caryotypes of initial strains and interspecific hybrids.

Key words: sage, cytogenetics, strain, hybrid, cariotype.

Prokopov G. A. On the knowledge of distribution of hydrofauna of the Alma River in Crimean Natural Reserve.

Distribution of 46 species of macrozoobenthos fauna along the longitudinal profile of the Alma River within reserve territory is analysed. Specific features of life in flood-land reservoirs are demonstrated. Comparison of hydrofauna in upper part of the rivers at boreal and austral macroslopes of the Crimean mountains is made.

Key words: macrozoobenthos, Alma River, environmental problems.

Ranska E. M., Masikevich Yu.G. The investigation of the adaptation of *Rhodiola rosea* L. to excessive ultra-violet radiation

The adaptation possibilities of *Rhodiola rosea* L. in mountain and plain conditions have been studied. The dependence between ecological conditions of spreading places of *Rhodiola rosea* L., its development and accumulation of salydroside by rootstocks has been established.

Key words: adaptation, introduction, development, ultra-violet radiation, glycoside-salydroside.

Saschuk E., Furtat I. M., Nogina T. M., Kovalenko E. A., Mykhalsky L. A. The chemical and haemagglutinating properties of the biopolymers of the non-pathogenic corynebacteria cell wall

The cell wall characteristics of biopolymers of the archived and new isolated strains of non-pathogenic *Corynebacterium* species are described. It was shown that biopolymers, extracted from the cells by 1% DS Na solution surface, contain the considerable amount of carbohydrate and protein components with M_m 10,0 – 120,0 кDa and do not display the haemagglutinating properties. The haemagglutinating activity (from 64 up to 2048 units) in the internal cell wall layers has been detected in all the studied strains.

Key words: non-pathogenic *Corynebacterium*, surface biopolymers, haemagglutinating properties.

Slusarenko A. E.,.Evstafyeva E. V., Derkach U. V., Ovsjannikova N. M. Cellular and humoral immune status in children of different age depending on toxic metal content in human body

The immune system of 80 children at age 1-8 and 9-15 years, who live on urbanized territory, was studied. Average of lead, mercury and cadmium content in hair was in normal

limits exceeding them in some cases for lead and cadmium. The immune system was the most sensitive for mercury. Mercury and cadmium stimulated cellular immunity of 1-8 aged children and depressed of humoral and cellular one of 9-15 aged. Pb led to cellular immunity depression in 1-8 aged children.

Key words: immune system, children, lead, cadmium, mercury

Solovyov S. V. Goreyko V. A. The modern status and tendency of development of wood ecosystems of wetlands of middle Dnieper

In the article the modern status of wood ecosystems and wetland soils of middle Dnieper on an example Dniprovsko-Orelskiy Natural Reserve is characterized. The tendency of simultaneous development of plants and soils is shown. The basic characteristics of organic substance of soil are defined.

Keys words: plant, wetland, soil, genesis.

Samchyshyna L. V. Scanning electron microscopy of diaptomids eggs shell (Copepoda: Calanoida)

Scanning electron microscopy examination of eggs in freshwater Calanoida *E. graciloides* and *E. gracilis* allowed to find peculiarities of structure and egg surface in diapause and subitaneous eggs. The comparative morphometric analysis was carried out. The significance of the thickness of the egg envelope of these two types is discussed in connection with their different ecological role.

Key words: egg shell structure, SEM, Diaptomidae

Stukaljuk S. V., Ivanov S. P. Special thesaurus and some biocoenotical indices of ants (Hymenoptera: Formicidae) of Crimean jailas

A list of 20 ant species found at highland plateaus in Crimea is given. Species - *Myrmica sulcinodis* Nyl. and *Lasius paralienus* Leach were found at Crimean jailas for the first time. Data on landscape distribution and number of species are presented. For seven species with the highest abundance, area of nest territories and density of families are shown. Information about particularities of application of new technique of ant study previously published in shortened form is offered.

Key words: ants, special composition, relative number, density of nests, methodic.

Kharchenko A. L. The biomorphological characteristics for the representatives of the family *Lauraceae* Lindl. introduced in the South coast of the Crimea

A biomorphological characteristics for the representatives of the family Lauraceae introduced in the South coast of the Crimea. There are: *Cinnamomum camphora (L.) Presl., Laurus nobilis L.* and 17 cultural forms, *Lindera angustifolia Cheng., Neolitsea sericea (Bl.) Koidz., Umbellularia californica (Hook & Arn.) Nutt.* The precious qualities of these plants for practical using are shown.

Key words: biomorphology, *Lauraceae*, introduction.

Kchlystun N. Ya. The short analysis of adventive flora of the Chernivtsi

68 adventive species from 27 genera currently occur at the area of Chernivtsi.Climat conditions of Chernivtsi are favourable for growth of adventive species of American and Mediterranean-Iranian-Turanian origin.

Key words: adventive species, their prevalence, and origin

Tsyba A. O. Morphological and biological characteristics of the perch (*Perca fluviatilis* L.) of some reservoirs of Middle Dnieper

In the present paper the data on the morphological and biological characteristics of the perch of some reservoirs of Middle Dnieper basin are given. The study has shown that difference in body size of perch have more influence on plastic characteristics and fatness than difference in habitat condition.

Key words: perch, morphology, fatness.

Sherbina T. I., Korobova E. A. State of health and physical development of the schoolchildren with the eyesight defect

Lower level of physical development of the young schoolchildren with the healthy children can be explained with the existence of the basic defect and the secondary defect of the development also. In its turn, these factors deepen the state of hypodinamy of these children while they grow up.

Key words: children diseases, eyesight defect, develôpmental retardation

Yavorskaya E. S. Growth peculiarities of the *Ficus* L. species shoot system

The results are given as for the development of 5 *Ficus* L. species shoot system, introduced into the Donetsk Botanical Gardens, Nat. Acad. Sci. of Ukraine. Specific differences and the general adaptive features of the genus are determined, the structural-and-temporal scheme of plants being adduced.

Key words: *Ficus*, development, structural-and-temporal scheme.

Yakovenko N. S. Rotifers (Rotifera) of the South Coast of Crimea.

47 rotifer species of 11 genera and 6 families are found in plankton, mosses, lichens and soil collected in the territory of SCC from Sebastopol to Karadag Reserve. 43 species proved new to the fauna of Crimea and 14 species and one genus (*Didymodactylos* Milne, 1916) are new for the fauna of Ukraine. Rotifer distribution in terrestrial and marine habitats of SCC is discussed.

Key words: Rotifera, Crimea, fauna, ecology