

ANNOTATIONS

ZOOLOGY

Babenko A.S., Eremejeva N.I. The peculiarities of ground beetle's fauna on the territories of Siberian towns. The specific features of fauna and territorial distribution of ground beetles (Carabidae) in two Siberian towns conditions have been studied. In Kemerovo the main part of fauna consists of meadow and forest-steppe species, but in Tomsk the species of forest complex are more common. The species structure of beetle's communities and distribution of ground beetles significantly change under the human impact. In the town conditions the bio-diversity of ground beetles decrease in compare with natural ecosystems and level of domination of some species increase as well.

Agulova L.P., Sarychev V.T., Rostov A.P. Resonance and transition processes-supposed mechanisms of exacerbation chronic diseases (by the example of hypertension crises). Resonance frequencies near to rocking frequencies were chosen from high-frequency range of the variation in the heart rate for healthy and patients with hypertensive illness. We assume that hypertension crisis is caused by the resonance of oscillations generated in the vestibular respiratory and vasomotor centers. The occurrence of hypertension crisis strongly depends on the transients so as transfer from night rest to daily activity (transition from supine position to orthostasis) and adequacy of vegetative regulation as well.

Ostroverkhova G.P., Ostroverkhova N.V. Co-adaptive «fungi-mycetophagy» system: ecological-philogenetic aspect. For the first time the ecological features of origin of the co-adaptive «fungi-mycetophagy» system were studied. The mechanisms of formation of this mycetoconsortium and the eumycetophagy of Mycetophiloida (*Diptera*, *Mycetophiloida*) were compared. The evolution sequence of origin of the mycetoconsortiums, determined various ecological fungi groups was estimated and the hypothesis of trophic evolution of macromycetes was proposed. The features, status and significance of mycetoconsortiums and these compounds in the structural-functional organization of the forest ecosystems were characterized.

Romanenko V.N. Mobility of starving taiga ticks (Parasitiformes, Ixodidae) in the place its watch feeder and its pheromones communication. It is shown by special behavior experiments that ticks move in chaotic way in absence attractive stimulus of feeder. Ticks creep up on plant stalk if the first couple of legs touch their. They do periodic perpendicular moving to creep down from one stalk and creep up to other until them watching of feeder. Ticks change place more often in beginning of activity season and longer stay at the same place (on the average) in period of count down. It is shown by direct observation that virgin females attract males from about 1 sm distance.

Bulakhova N.A., Kuranova V.N., Saveliev S.V. Some demographical characteristics of lizards (Lacertidae, Squamata, Reptilia). *Lacerta agilis* L. (1758) and *Zootoca vivipara* Jacq. (1787) populations of the south-east territories of Western Siberia. The average and maximum life intervals, the age of sexual maturity attaining, the age structure and peculiarities of growth are studied by the longitudinal thin sections of cortical bones with the help of polarized light in nine populations of sand (*Lacerta agilis*) and common (*Zootoca vivipara*) lizards of the south-east territories of Western Siberia. The influence of abiotic factors to the main demographical structure characteristics of both populations are shown.

PLANT PHYSIOLOGY

Astafurova T.P., Voitzechovskaya S.A., Verchoturova G.S. Analysis of ways plant's hypobaric hypoxia adaptation. Into assimilating tissues of *Amaranthus* plants cultivar Valentina under hypobaric hypoxia conditions oxidative pentose-phosphate pathway is activated and amarantin content is decreasing. At once in issues of *Amaranthus* plants cultivar Kizljarez the alcohol dehydrogenase activity is abruptly increasing. Different ways of biochemical adaptation of *Amaranthus* plants to the oxygen deficiency are discussed.

Karnachuk R.A., Dorofeev V.Yu., Gvozdeva E.S., Medvedeva Yu.V., Ephimova M.V., Churin A.A., Glukhova L.B. Established of tobacco transgenic cell culture in vitro with interleukin-18 gene as production of medicinal human proteins. The first to take out of callus and suspension cultures in vitro of of transgenic plants with interleukin-18 human gene of IL18№7-1, IL18№7-11 and IL18№28-3 lines, also no transgenic intact SR1 line. Optimized of a nutritious medium with including of 2,4-D и BAP hormones for these lines cultivation. Established of the cells reduplication time at lines of tobacco transgenic and duration of suspension cells cultivation. Showed that established of callus and suspension culture in vitro of IL18№7-1 and IL18№7-11 lines transgenic tobacco the most of interleukin-18 human proteins actively production.

HUMAN AND ANIMAL PHYSIOLOGY

Bushov U.V., Svetlik M.V., Khodanovich M.Y. About functional meaning of high-frequent electrical activity of the brain in the time perception's process. Thirty really healthy person were tested on brain's potentials cortical interactions in different frequent ranges of EEG and during different stages of activity, connected with reproduction of shot time's periods. It is determined that the most considerable changes of cortical interactions are at gamma-rhythm frequency. At the same time phasic connection between gamma fluctuations and alpha brain activity is discovered. It is supposed that such connection influences on effectiveness of brain activity.

CYTOLOGY AND GENETIC

Stegniy V.N., Saydzhafarova A.O., Artemov G.N., Karamysheva T.V., Rubtsov N.B. Comparative analysis of molecular composition of pericentromeric heterochromatin of polytene chromosomes of malarial mosquitos *Anopheles* (Culicidae, Diptera). With using the method of microdissektion of polytene chromosomes with the method of in situ hybridization, we was studied features of chromosomal localization of specific regions probes of DNA from the site of pericentromeric heterochromatin of the chromosomes 2L of *Anopheles beklemishevi* Stegnii et Kabanova and from the site of attachment of the chromosome XL *An. messeae* on polytene chromosomes *Anopheles atroparvus* van Thiel, *Anopheles messeae* Fall and *An. beklemishevi*. We were shown that sequences of DNA-probe from pericentromeric site of heterochromatin of the chromosomes 2L *An. beklemishevi*, are present of all species on chromosomes 2 and 3 in the pericentromeric sites and regions of attachment, however for sites of attachment of the chromosome XL *An. beklemishevi* and *An. messeae* and pericentromeric regions 2R *An. messeae*. Pericentromeric α -heterochromatin sites – 2L *An. messeae* and – 3R *An. atroparvus* does not contain homologous to this probe of DNA-sequences. DNA-probe from regions of attachment of the chromosome XL *An. messeae* was hybridized in pericentromeric regions of all chromosome. The homology was founded out with many intercalary regions of the chromosome 2 and the chromosomes 3 and in blocks α -heterochromatin. The results were compared with the earlier received data of localization species-specifics DNA-probe from the site of the chromosome 2R *An. atroparvus* to the chromosomes of *An. atroparvus*, *An. messeae* and *An. beklemishevi*. The interspecific distinctions revealed in the places of localization of the DNA-probe and specify to intensity of the luminescence were presence on individual combination of sequences in regions of the attachment of chromosomes.

SIOL SCIENCE AND FORESTRY

Seredina V.P. Geochemical features of the potassium conduct in the soil. The paper presents field data and experimental results of potassium conduct in the Western Siberia soils. The mechanisms of functioning of the main components of the potassium condition soils are revealed. The factors and the processes determining geochemical features of the into profile and into landscape distribution of the potassium forms are studied.

Bekh I.A., Danchenko A.M. Aged structure and predicted dynamics of Siberian stone pine forests with green mosses and small grasses, in the middle subzone of taiga in West Siberia. The differences are shown in the aged dynamics and succession duration in of Siberian stone pine forests with green mosses and small grasses.