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CONTENTS

<i>Dmitriev P.P.</i> Zoological Geomorphology: a Role of Burrowing Mammals in Formation of Modern Surface Deposits.....	3
<i>Mashkin V.I.</i> Adaptation Reactions in Eurasian Marmots.....	12
<i>Zolotareva N.N.</i> Influence of anthropogenic factor on vital activity of the alaskan ground squirrel (<i>Citellus uroditellus undulates</i>)	15
<i>Pozdnyakov A.A., Senotrusova M.M.</i> The Analysis of Morphotypic Variability of <i>Lagurus lagurus</i> Pallas.....	18
<i>Rutovskaya M.V.</i> The social behavior of sagebrush vole (<i>Lagurus lagurus</i> Pallas) at the experimental groups.....	24
<i>Okulova N.M., Bidashko F.G., Grazhdanov A.K.</i> Distribution, number and ecological niches division with small gerbils in Western Kazakhstan.....	29
<i>Verevkin M. V.</i> Peculiarities of spatial organization in a midday gerbil (<i>Meriones meridianus</i>) population.....	39
<i>Klueva E.V., Shcherbakova S.A., Bil'ko E.A., Krasovskaya T.Yu., Samoilova L.V., Danilov A.N., Sludsky A.A., Chekashov V.N., Udovikov A.I., Shilov M.M., Knyazeva T.V., Kolnoblitskaya O.N., Popov N.V., Kulichenko A.N.</i> Contamination of small Mammals with Arboviruses over the territory of Saratov region.....	42
<i>Priklonski S.G.</i> Austral unforest districts of the European part of Russia — arena of the hunting beasts fluctuations in second half XX.....	44
<i>Kalmykov N.P.</i> The history of the Mammal Fauna forming of arid Ecosystems of the Pontian-Caspian Region.....	47
<i>Floristic notes</i>	50
<i>Losses of science</i>	
In memory of Olga Leopoldovna Liss	72
<i>Critique and bibliography</i>	
Mirkin B.M., Naumova L.G. Too old recommendation. Review on the book: V.V. Neronov "Field practice on geobotany in Middle Russia".....	77
Majorov S.R. Review on the book: A.V. Poluyanov. "Flora of Kursk province".....	79

ADAPTATION REACTIONS IN EURASIAN MARMOTS

V.I. Mashkin

Summary

1—1,5 months before hibernation healthy and most fattened mature and two-year-old individuals stay in a burrow for 3—8 days at a state of immobility ("lying"). The body temperature of animals decreases to 12—24°, and their response to external factors is reduced. During that period in mature individuals preparation of gonads to the next (spring) reproduction is observed. In females a follicular apparatus activates, and the number of primordial follicles increases. In males the mass of testes and epididymis grows, the number of spermatic ducts and their diameter increase. During hibernation the body temperature decreases to 4—6°C, breathing — to 4—5 times per minute with breathing pauses 1 breath per 2—3 minute. The pulse rate decreases to 2—3 beats per minute. In winter marmots wake up 1—3 times a month to urinate the products of metabolism. During hibernation an abrupt decrease of blood coagulation in marmots takes place. After hibernation when the body temperature increases up to 36° animals' blood coagulates normally.

THE ANALYSIS OF MORPHOTYPIC VARIABILITY OF *LAGURUS LAGURUS* PALLAS

A.A. Pozdnyakov, M.M. Senotrusova

Summary

The analysis of morphotypic variability of the recent and the fossil samples of *Lagurus lagurus* Pallas with the help of the author's technique of the morphotypic analysis has shown that in case Mi 18 morphotypes are revealed on the whole, from them only 4 ones are in a significant amount. Distinctions between recent and fossil samples are shown by frequencies of these four morphotypes only. In case M³ 14 morphotypes are revealed on the whole, from them 5 ones are in a significant amount. Distinction of frequencies of morphotypes on the right and left sides are appeared significant for the one morphotype M₁ of fossil sample only. The diversity of recent sample of *L. lagurus* is lower, than mineral, both in case Mi, and in case M³. The fossil sample is more complex in comparison with recent, that it is possible to explain colder climatic conditions of Pleistocene in comparison with modern. 25 various variants of combinations of morphotypes both in case Mi, and in case M³ are revealed. The frequency of individuals with asymmetric pairs morphotypes M₁ has made 30,3%, M³ — 25,4%. The analysis of compatibility of morphotypes on the left and right sides shown, that almost all morphotypes are connected with each other by a network of asymmetric pairs. As occurrence bilateral asymmetry is explained by errors in ontogenesis it is possible to draw a conclusion that morphotypic variability of *L. lagurus* is caused by the epigenetic reasons.

THE SOCIAL BEHAVIOR OF SAGEBRUSH VOLE (*LAGURUS LAGURUS* PALLAS) AT THE EXPERIMENTAL GROUPS

M.V. Rutovskaya

Summary

The social interactions between sagebrush voles (*Lagurus lagurus* Pall.) at the experimental groups are described. The experimental groups were formed by adult animals: 4 males and 2 females — in the enclosure of 6 sq m. We registered the moving activity and all the interactions between the animals. All interactions were divided into six types: aggressive, amicable, identification, avoidance, sex and defense of the shelter. We described all the interactions and the frequency of its demonstrations. The sagebrush vole's behavior of the particular groups was analyzed: the proportions of aggressive and amicable contacts between males, females in each group, relations to the unfamiliar animal and manner of using the shelter. We compare the behavior of sagebrush voles with the behavior of bank voles in the same experimental groups. We supposed that sagebrush voles have the social structure that may be characterized as family-grouping.

DISTRIBUTION, NUMBER AND ECOLOGICAL NICHES DIVISION

WITH SMALL GERBILS IN WESTERN KAZAKHSTAN

N.M. Okulova, E.G. Bidashko, A.K. Grazhdanov

Summary

Midday gerbil *Meriones meridianus* (MM) and Tamarisk gerbil *M. tamariscinus* (MT) in Western Kazakhstan occupy the centre and marches of Volgo-Ural Sands and any regions of Zauralye. It's used jointly about 70% of territory. The MM is more heat-loving and xerophilous than MT; the last is more cold-resistant and moisture-persistent. The MM part in guild of small gerbils is more in heat and dry years. The ecological niches overlapping by territory, biotopes, daily activity, years and fodder in whole is 0,176 that is to say little.

PECULIARITIES OF SPATIAL ORGANIZATION IN A MIDDAY GERBIL (*MERIONES MERIDIANUS*) POPULATION

M.V. Verevkin

Summary

The territorial structure of population of midday gerbil (*Meriones meridianus*) in Zaunguzkie Karakuma is subjected by considerable changes. It depends from conditions of living and generative conditions of individuals. If density of population is less than 15—20 of individuals on 1 hectare, midday gerbils spend single way of life independently from participate in breeding. If density is more than 15 individuals on 1 hectare (among non-breeding individuals) it is possible that one hole will be use by several groups.

The territorial structure of population midday gerbils is more stable in the period of breeding. The females use home range with size about 1000—2500 m², defending the border from others adult females. The mails attend the territory of 2—7 females, avoiding contacts with each other. The mails don't defend there home range.

During the most severe individualization of territory social relations of midday gerbils direct not only on dispersal among territory but also on consideration in inside population groups. Conservatism is peculiar to adult gerbils, they use the same home range during whole life. The most mobility is character to young individuals in the period of their settle and adult mails during the period of breeding. The range of changes territory organization and structure population of midday gerbils recover variety spatial organization representatives of genus of *Meriones*.

CONTAMINATION OF SMALL MAMMALS WITH ARBOVIRUSES OVER THE TERRITORY OF SARATOV REGION

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Summary

Using immunoassay analysis we have detected Tyaginia, Batai, Sindbis, West-Nile fever and Congo-Crimean hemorrhagic fever arboviruses antigens in small mammals over the territory of Saratov region. Species communities of rodents and insect — consuming animals the natural reservoirs of arboviral infections pathogens were determined.

AUSTRAL UNFOREST DISTRICTS OF THE EUROPEAN PART OF RUSSIA - ARENA OF THE HUNTING BEASTS FLUCTUATIONS IN SECOND HALF XX

S.G. Priklonski

Summary

Quantity of the moose, wild boar, wolf and the fox determined in region consisting from 8 Austral-European flat unforest subjects of Russian Federation in 1964—2001 with the help of the winter transect count (WTC). In investigated region are included the Astrakhan, Volgograd, Rostov range and Kalmykia (austral bunch of ranges with 4,9% forestly), and also Voronezh, Saratov, Samara and Orenburg range (tioreal bunch, with 9,6% forestly). WTC allows to receive the minimal parameters of number of a species in an annual cycle, as will be carried out after end of a hunting

season and before the breeding. The quantity (in thousand of specimens) moose during research was reduced on 12,78 up to 6,64; but other species has increased. Wild boar: with 9,8 up to 17,9, wolf: 0,77 up to 4, fox: with 30,6 up to 106. The surveyed terrains give congenial opportunities for a habitation of the wild boar, wolf and fox. For the moose, to which are peculiar wood association, this region no favorable. Its relative abundance in the beginning of the term of research is explained by moving of a high number moose in a area in 50—60. Recently, tending to reduction, it is sustained at a stable but low level only due to the strengthened measures of its reservation.

THE HISTORY OF THE MAMMAL FAUNA FORMING OF ARID ECOSYSTEMS OF THE PONTIAN-CASPIAN REGION

N.P. Kalmykov

Summary

The structure of mammal fauna of the Pontian-Caspian Region at different stages of ecosystem's evolution in Late Cenozoic is adduced. The analysis of the theriofauna shows, that since Miocene the mammal variety reduction began. The mass radiation of genus *Villanyia* representatives of Late Pliocene testifies that from that time the forming of arid ecosystems in the Pontian-Caspian area began. Their occurrence has resulted not only to changes in structure of trophic succession and systems, quantity and a variety of mammals, but also to "truncation" of food series when many large predators have disappeared. Arid ecosystems of Pontian-Caspian Region in the end of Neopleistocene and Holocene become more and more unstable and susceptible to environmental changes.

FLORISTIC NOTES

A.N. Sennikov. *PUCCINELLIA NUTTALLIANA* (SCHULT.) HITCHC. (*GRAMINEAE*), A NEW ALIEN SPECIES FOR NORTH WEST RUSSIA

A.A. Notov, O.M. Volkova, V.A. Notov. RECORDS OF NEW ALIEN PLANTS IN TVER PROVINCE

A.A. Notov, L.V. Kolosova, V.A. Rybkina. *AGRIMONIA PROCERA* WALL. (*ROSACEAE*), A NEW SPECIES IN THE NATIVE FLORA OF TVER PROVINCE

A.A. Notov. ADDITIONS TO BRYOFLORA OF THE TVER PROVINCE

V.I. Radygina, A.G. Yelenevsky, Yu.A. Stashevskaya. FLORISTIC RECORDS FROM THE SOUTH OF SMOLENSK PROVINCE

A.P. Seregin. SOME NEW AND RARE SPECIES OF VLADIMIR PROVINCE FLORA. SECOND REPORT

N.V. Voronkina, A.V. Krylov, N.M. Reshetnikova, A.A. Shmytov. ON RECORDS OF RARE PLANTS OF KALUGA PROVINCE BASED UPON COLLECTIONS FROM THE HERBARIUM OF THE KALUGA STATE PEDAGOGICAL UNIVERSITY

I.A. Samarina. ON THE RECORD OF *CAREX UMBROSA* HOST (*CYPERACEAE*) FROM KALUGA PROVINCE

A.V. Shcherbakov. FLORISTIC RECORDS IN RYAZAN PROVINCE

A.V. Poluyanov, N.I. Zolotukhin, I.B. Zolotukhina. NEW ADDITIONS TO THE FLORA OF KURSK PROVINCE

A.P. Sukhorukov. NEW FLORISTIC RECORDS FROM TAMBOV PROVINCE

O.G. Baranova, K.P. Glazunova. NEW AND RARE SPECIES OF THE GENUS *ALCHEMILLA* L.
(*ROSACEAE*) FOR UDMURTIA

A.S. Zernov. MATERIALS FOR THE FLORA OF RUSSIAN WESTERN CAUCASUS. PART 5

S.H. Shkhagapsoev, E.V. Karachaeva-Aksenova. FLORISTIC RECORDS FROM KABARDINO-
BALKARIA