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THE PECULIARITIES OF THE BREEDING, MORTALITY
AND AGE DYNAMICS OF THE FIELD MOUSE *APODEMUS AGRARIUS* PALL.
POPULATION IN THE TERSKO-KUMSKAYA LOWLAND

E. V. Karaseva

Summary

More than 5000 ex. of field mice *Apodemus agrarius* Pall, were studied in 1961 — 1962. It was revealed that in high density conditions the breeding season continued to March from October. The overwintered females had to three litters per year at the litter size in 4,6—7,1. The females of this year matured to age 1 — 1,5 months and the ones born to July and later — to spring of the next year. In regulation of the *A. agrarius* population density in the case the interspecies competition plays a great role. In the years with especially high density the breeding becomes weak and the abrupt inter-annual number fluctuations does not observed.

IMITATING MODEL OF A POPULATION
OF A MARMOT (*MARMOTA BOBAK* MÜLL., 1776)

V.V. Kolesnikov

Summary

For forecasting changes of number and age structure of populations of marmots the imitating model is offered. Long-term supervision for marked marmots, experiments on studying opportunities of populations of marmots, have allowed to create an efficient variant of imitating model in MS Excel environment. The population of marmots is broken into ten are functional-age classes: fingerlings, yearlings, lodgers 2-yearlings and 3-yearlings, migrants 2-yearlings, 3-yearlings and 4-yearlings, residents 2-yearlings, 3-yearlings and adults. Algorithms of 4 basic processes are described: survivals, redistributions, creations of new families and reproduction. Elements of model are connected in the general block diagram describing algorithm of all models. The model adequately reflects a life of a population during one—two tens years. Changing the model can be adapted variable parameters practically for any habitats of marmots. The model is useful in definition of optimum scripts of operation of populations of marmots.

WILD BOAR (*SUS SCROFA*) OF THE EUROPEAN NORTH OF RUSSIA

V.I. Mashkin, A.A. Kulpin. I.N. Kupriyanov

Summary

In the 1950—1960s of the XXth century due to natural dispersion and artificial introduction of wild boar its area in the European part of Russia increased up to the Polar Circle that was caused by the availability of abundant feeds in agricultural fields, and by the fact that wild boar was not hunted there. In the north regions there is nearly a complete lack of key fat-forming feeds (acorns, fruits and nuts of wild plants) in wild boar's ration. So, animal food assumes great importance here, that is, the eating of animal food by wild boar increases. Besides earthworms, wild boar eats eggs, chicks and even adult birds (black grouse, capercaillie, hazel grouse and ducks) nesting on the earth and also other animals significantly decreasing their numbers.

CONSERVATION STATUS OF CHONDRICHTHYAN FISHES
OF THE NORTH-EASTERN ATLANTIC

A.M. Orlov, D.A. Shevernitsky

Summary

The IUCN Red List is widely recognized as the most comprehensive source of information on the global conservation status of plant and animal species. It can be used as a tool for measuring and monitoring changes in the status of chondrichthyan biodiversity and our knowledge of the taxa. The base of Red List is assessments that evaluate the conservation status of individual species, identify specific threats and processes affecting them and propose population recovery objectives. Conservation status of the species is evaluated with the use of nine categories in the Red List system: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD) and Not Evaluated (NE).

Currently 62 of 111 species have been assessed for the North-Eastern Atlantic (NEA) region. Almost one third (32,3%) of assessed NEA chondrichthyan species are threatened (CE, EN or VU), 16,1% are NT (considered close to meeting the criteria for a threatened category), 27,4% are LC and 24,2% are DD. Preliminary results

suggest that to date, the status of chondrichthyan fishes in the NEA and Mediterranean regions is worse than anywhere else in the world.

DEVELOPMENT OF THE OVULE, EMBRYO SAC, AND SEED
IN *PLEUROPETALUM DARWINII* HOOK. F. (CARYOPHYLLIDAE)

T.D. Veselova, A.C. Timonin

Summary

Pleuropetalum darwinii shares different characters with rather distantly related members of Caryophyllidae. It is similar with amaranthaceous in circinotropous ovules, Chenopodiad-type of embryos, multiseriate male archesporium and scanty endosperm in mature seed. It shows closer affinity to *Cactaceae* and *Portulacaceae* in its seed coat structure, however. Yet, its storage substances in embryo and perisperm look like their counterparts in members of *Portulacaceae*, *Caryophyllaceae*, and *Didiereaceae*. Then, *Pleuropetalum* is still an aberrant member of *Amaranthaceae* family.

COMPARATIVE ANALYSIS OF MOSS FLORAS
OF APATITY AND KIROVSK TOWNS (MURMANSK PROVINCE,
NORTHERN EUROPEAN RUSSIA)

T.P. Drugova

Summary

Bryofloristic investigation of Kirovsk and Apatity towns (Murmansk province) was carried out. List of mosses of Apatity is given for the first time. Comparative characteristic of moss floras on the basis of list of mosses including 137 species is given. Taxonomic, ecological and geographic differences are discussed. Species diversity of Kirovsk and Apatity floras is compared with floras of other cities of Russia. The group of common mosses of anthropogenic habitats and new localities for 10 rare species are given.

THE PECULIARITY OF THE SYNANTROPIC COMMUNITIES
AS THE OBJECTS FOR CLASSIFICATION:
THE ROLE OF DEDUCTIVE METHOD

B.M. Mirkin, S.M. Jamalov, L.G. Naumova, N.M. Saiphullina, G.Ja. Sujundukova

Summary

The synantropic communities are serial and represent the stages of restoration or retrogressive successions. As the consequence that the classical dichotomy of ecologico-floristical approach is not effective. The deductive method classification advantages are proved and illustrated by examples of the synantropic communities of the wastes, pastures and abandoned fields.

CARPOLOGICAL FEATURES OF THE SHRUB
AND DWARF SHRUB REPRESENTATIVES
OF THE GENUS *PHLOMIS* L. (LAMIOIDEAE, LABIATAE)

A.P. Sukhorukov, M.V. Nilova

Summary

Based on fruit morphology and anatomy, other characters of reproductive sphere, life history and the area of distribution, seventeen shrub and dwarf shrub species of *Phlomis* are separated from other *Phlomis*, as well as from species within genera *Phlomoides*, *Eremostachys*, *Paraeremostachys*, and *Pseuderemostachys*. The fruit shape, specific pubescence details if present, pericarp structure with bone-shaped sclereids containing prismatic crystals are the excellent carpological features of shrub and dwarf shrubs (the first carpological group). Species of *Phlomoides*, as well as herbs and semi-shrubs of *Phlomis* have similar nutlets but different general fruit morphology. The genera *Eremostachys*, *araeremostachys* and *Pseuderemostachys*, as well as of taxa earlier transferred from *Eremostachys* to *Phlomoides* form the third carpological group. The genus *Phlomoides* is often included within *Phlomis*, but morphological features provide good support for their separation. The exact circumscription of *Phlomoides*, as well as *Eremostachys* remains to be clarified.

SCIENTIFIC COMMUNICATIONS

ENDEMICS OF THE KHAIRAKAN MOUNTAIN (CENTRAL TUVA)

I.M. Krasnoborov, D.D. Sarbaa

Summary

Flora of the Khairakan Mountain includes 7 endemic species occurring in the Altai-Sayan area. Three of them: *Hedysarum chaiyrakanicum*, *Eritrichium tuvinense* and *Scutellaria tuvensis* are Tuvianian endemics. Peculiarities of ecology and distribution of endemic species in Tuva and adjacent regions are discussed. The conservation status of each of them was proposed according to IUCN 2001.

TO THE BIOECOGROUPS OF THE MOSSES OF BRYANSK PROVINCE (SOUTH-WEST NONBLACK SOIL REGION OF RUSSIA)

L.N. Anishchenko

Summary

The bryophytes were divided into 12 bioecogroups. The specific diversifications of the other species of the bioecogroups were noted. The belonging of the mosses to the bioecogroups was identified on the basis of the frequency of occurrence and the constancy class of species (not less than the second) in the communities of the associations. The specific diversification of the bryophytes of the bioecogroups reflects a spectrum of the dwelling-places in different types of the landscapes it may serve for diagnostics of microsites and horizontal mosaic pattern of the communities.

NATURE PROTECTION

MERCURY IN THE ECOSYSTEM OF BRATSK RESERVOIR AND ECOLOGICAL CONSEQUENCES MERCURY POLLUTION

P.V. Koval, M.V. Pastukhov, E.V. Butakov, M.G. Azovsky, J.N. Udodov

Summary

The paper reports the main results of large-scale and long-term mercury contamination in the Bratsk water reservoir and its effect on the biotic components of the environment. It was stated that even if the mercury supply from man-made sources into the water reservoir drastically dropped after 1998—1999, in its upper part the fish and bottom sediments still contain plentiful mercury. The mercury contamination of the water reservoir is meant to be the ecological «delayed-action mine», affecting the environment by slowly accumulating negative changes.

JUBILEE

ON THE JUBILEE OF SOLOMON PAVLOVICH WASSER

CRITIQUE AND BIBLIOGRAPHY

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