FEDERAL AGENCY OF EDUCATION
VESTNIK OF TOMSK STATE UNIVERSITY. BIOLOGY
SCIENTIFIC JOURNAL
Certification of registration: PI № FS 77-29499 on 27 of September 2007

ANNOTATIONS

BOTANY

Zakharova Vera I. *Institute for Biological Problems of Cryolithozone SD RAS, Yakutsk.* **Relic steppe communities of Yakutia.** Information on the flora and vegetation of relic steppe communities of the Middle Lena valley is given. These steppe communities is studied on the ancient terraces, which are less subjected to anthropogenic factors in compare with above floodplain and floodplain terraces. Relic steppe plant species are survived mainly on the parent river banks. Data on flora of steppe communities of the Yana Tableland in northeastern Yakutia is given for comparison.

Key words: relic steppes, ancient terraces, Middle Lena, Yana Tableland.

Kuprjanov Andrey N. *Institute of Human Ecology, SB RAS, Kemerovo.* ***Ophioglossum vulgatum*** **L. in the south of Siberia.** New locations of the rare fern Ophioglossum vulgatum L. and description of phytocenosis including Ophioglossum vulgatum are given.

Key words: *Ophioglossum vulgatum,* local population, ecological optimum.

Olonova Marina V., Shavrova Polina D. *Tomsk state university.* **The population variability of the feather grasses section *Stipa* (*Poaceae*) in the mountain districts of the South of Western Siberia.** The variability of the «key» characters of the section *Stipa* species is very significant even within populations, so the formal identification, using these characters only may cause some mistakes. The other characters should be taken into account and new ones should be found. The characters of leaf blade indumentum on one side, are of high variability even within the populations, on other side, they need to be described more carefully.

Key words: systematics, Siberia, grasses, *Stipa* L., variability.

Prokopyev Eugenie P., Rybina Tatiana A., Amelchenko Valentina A., Merzljakova Irina E. *Tomsk state university; Siberian Botanical Gardens, Tomsk.* **The modern condition of the flora and vegetation of the University grove and possible ways of its reconstruction in the future.** The modern condition of flora and vegetation of the University grove is considered. The basic sources of formation of flora are discussed. Botanical analysis, the map of modern vegetation and recommendation on reconstruction of grove are given.

Key words: flora, vegetation, map of vegetation.

BIOTECHNOLOGY

Akimova Elena E., Minaeva Oksana M. *Research Institute of Biology and Biophysics of TSU; Tomsk state university.* **The effect of bacteria *Pseudomonas* sp.**

B-6798 on psychopathological state of potato in the field experiments. The effect of bacteria *Pseudomonas* sp. B-6798 on potato plants by *Phytophthora infestans* and tubers by *Rhizoctonia solani* and *Actinomyce*s sp. was studied. The bacteria at this indicated strain are promoted the reduction of *Rhizoctonia solani* on potato tubers in 40–80%, *Actinomyce*s sp. in 30–70%. The reduction of the percent of disease development occurs to a large extent because of the decrease in the quantity of infected tubers. The reduction of Phytophthora infestans development in 40–50 % on potato plants, inoculated by Pseudomonas sp. B-6798, was observed in vegetation period in comparison with control. It was connected with the reduction of the extent of plant infection.

Key words: inoculation, *Pseudomonas sp., Phytophthora infestans, Rhizoctonia solani, Actinomyces sp.,* extent of plant infection.

ZOOLOGY

Legalov Andrei A., Legalova Svetlana E., Shevnin Eugenie Yu. *Institute of Animal Systematics and Ecology, SB RAS, Siberian Zoological Museum*; *Municipal Secondary General Education School № 54, Novosibirsk*. **Dendrophilous weevils (Coleoptera, Curculionidae) of Yevreyskaya oblast.** 25 species of dendrophilous weevils have been revealed in fauna of the Yevreyskaya oblast. 18 species are recorded for the first time. The most part of weevils are characterized by the East Asian distribution. More than a half of species is connected with leaves of host plants. The fauna basis is species developing on birch, willow and oak.

Key words: Coleoptera, Curculionidae, dendrophilous species, Jewish autonomous region.

Chabanenko Elena V., Legalov Andrei A. *Institute of Animal Systematics and Ecology, SB RAS, Siberian Zoological Museum*. **Review of the weevil fauna of the subfamily *Lixinae* (Coleoptera, Curculionidae) from the steppe of Buryatia.** 51 species from 14 genera of subfamily *Lixinae* are discovered in fauna of Buryatia. 6 species are recorded for the first time for Buryatia. Tribe *Cleonini* prevails in fauna of Buryatia. Species of the genus *Stephanocleonus* are the most numerous. 2 genera (*Stephanocleonus* and *Coniocleonus*) are discovered in Eravninsky steppes. Pachycerus costatulus is recorded for the first time for the fauna of Russia.

Key words: Coleoptera, Curculionidae, Lixinae, Siberia, Buryatia, steppe.

SOIL SCIENCE AND FORESTRY

Bekh Joseph A., Krivets Svetlana A., Chitorkin Vladimir V., Pats Elena N., Korovinskaya Ekaterina N., Skorokhodov Sergey N. *Institute of Monitoring of Climatic and Ecological System, (IMCES, SB RAS)*; *Gorno-Altaisk State University*. **The results of the aerial chemical treatment of dark coniferous-deciduous young forests in the middle subzone of the taiga in Western Siberia.** Growth of preserved undergrowth after final harvest and aerial chemical treatment was analyzed in order to form a stand composition. A dark coniferous stand with prevailing Siberian stone pine was produced instead of the dark coniferous-deciduous young trees treated by 2,4D chemicals 35 years later.

Key words: final harvest, aerial chemical treatment, dark coniferous stand.

Danchenko Anatoly M., Bekh Joseph A. *Tomsk state university; Institute of Monitoring of Climatic and Ecological Systems (IMCES, SB RAS).* **Estimation of typological diversity of forest ecosystems on the base of the taxation data and landscape-typological analysis of pattern territories**. Typological diversity of the dark coniferous – Siberian stone pine forests is considered in the extreme northern, northern, middle, and southern subzones of taiga in West Siberian Plain. The diversity of forest types and their environmental amplitude increase from the north to the south.

Key words: typological diversity of forest ecosystems, typological analysis of sample regions.

Dyukarev Anatoly G., Pologova Nina N., Krivets Svetlana A., Bisirova Elvina M. *Institute of Monitoring of Climatic and Ecological Systems (IMCES, SB RAS), Tomsk.* **Near settlement *Pinus sibirica* forests as the object of conservation and reconstruction.** Conservancy status and current state of near settlements Pinus sibirica forests, which are unique forest ecosystems and reservations in Tomsk region, are examined. Ecology and economic zoning of Pinus sibirica tracts is carried out taking into consideration of structure and functional diversity, biological stability and degradation level. Measures of conservation and reconstruction are proposed.

Key words: Siberian stone pine forests near settlements, reservations, ecology and economic zoning.

Efremova Tamara T., Efremov Stanislav P., Avrova Ada F. *V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk.* **Structure and spatial-temporal variability of the forest bedding accumulation in the bog birch forests in Western Siberia.** Heavily decomposed, middle decomposed, rhizomelike, turfy and turf litters form in the transitional zone between forest types with tall grass-dominated ground vegetation and those where this vegetation is represented by sphagnum, and sites without of ground vegetation. These types of forest litter are objectivity corresponding to certain forest growing conditions. Litter thickness and stock change accordingly: 5,7 sm (4,5 kg/m^2) > 4,7 (3,7) > 3,6 (2,1) < 4,5 (2,5) < 6,2 sm (3,0 kg/m^2). Litter stock is notable for high spatial variability. Temporal dynamics is characterized by low and as a rule reliable variability. Forest litter type forming are defined both the composition of litter and influence of organogenic silt deposition, introducing by flood. 393 million ton of organic matter and 204 million ton of carbon concentrate in the birch bog forest litter of Western Siberia.

Key words: bog birch forest, litter, variability, multi-statistical analysis.

Zakharikhina Lalita V. *Geotechnological Scientific Research Center of the FEB RAS, Petropavlovsk-Kamchatsky* **Kamchatka soils provinces distinguishing by the composition and age of volcanic ashes on which they are formed.** The soil provinces are distinguished on the territory of Kamchatka peninsula. Diagnostic differences of the soils of these provinces are determined by volcanism differing by the composition of materials, scales, eruptions frequency and belonging to volcanoes of different stages of activity. Formed on andesite volcanic ashes layered-and-ashy soils are typical for province soil cover developing nearby volcanoes which are on a young stage of activity. Volcanic ochreous soils formed on rhyolite-dacite pyroclastic deposits are typical for mature caldera-forming stage.

Key words: active volcanism, soils subdivision.

Nikolaeva Svetlana A., Savchuk Dmitry A. *Institute of Monitoring of Climatic and Ecological Systems (IMCES, SB RAS)*, *Tomsk.* **Comprehensive approach and methods for the growth reconstruction and development of trees and forest community.** Comprehensive approach is offered for study of development of plant objects of various level of organization (individual, population, and community). The statistic methods are combined with dendrochronological The stages of the object growth identified by vegetative and generative time series are combined with the stages of the object development identified by qualitative parameters at the observation moment. The approach is tested on Pinus sibirica coenopopulations from the most typical in the West Siberian taiga Pinus sibirica communities.

Key words*: Pinus sibirica,* approach and method of study, growth and development.