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BIOLOGY AND NATURAL SCIENCES

N.D. Kruglov

**Two Systems of Mollusks of Family Lymnaeidae
(Gastropoda Pulmonata): European and Russian. Where is the truth?
Part II. Life forms of pond snails and the problem of species in malacology
(Pulmonata Gastropoda Lymnaeidae)**

Key words: *life form; conchology; pond snail; subgenus; genus; convergent similarity; adaptation; mollusks; habitat; anatomy; malacology.*

*The subject of present research embraces conchological and anatomical peculiarities of pond-snail family in Europe and Northern Asia. We have found that conchological similarities of different pond-snail species are formed in the process of long-term adaptations to identical habitats. This causes a convergent conchological similarity at the level of species, subgenus, and even genus. For instance, the species from the Omphiscola subgenus (*L. glabra* and *L. clavata*) are conchologically indistinct from the species of the Aenigmomphiscola genus (*Ae. europaea*, *Ae. uvalievae*). As a result of these processes numerous life forms of pond snails are formed which are recognized as separate species. The structure of coital system (as opposed to that of the shell) retains genus-specific peculiarities which do not depend on the change of the habitat. Thus, pond-snail systems, created only on the conchological basis appear to be artificial and, hence, non-objective. Modern pond-snail systems must be created on a complex basis.*

M.Yu. Gildenkov

The New Data on the Distribution in Palaearctic Region of the Species of Genus *Thinodromus* and the Species of Genus *Carpelimus* from Subgenera *Carpelimus s.str.*, *Paratrogophloeus*, *Bucephalinus* (Coleoptera, Staphylinidae)

Key words: *Palaearctic region; the distribution; new data; Coleoptera; Staphylinidae; Thinodromus; Carpelimus; Paratrogophloeus; Bucephalinus.*

*In the article the results of studying palaearctic materials for genera *Thinodromus* and *Carpelimus* (subgenera *Carpelimus s.str.*, *Paratrogophloeus*, *Bucephalinus*) from 7 museums of the world and 6 private*

collections are presented. New points of distribution of species in Palaearctic region are specified.

For species the new data on the distribution in the certain countries and regions of Palaearctic region are marked, according to rules of the catalogue (Catalogue of Palaearctic Coleoptera): *Th.arquatus* for the first time for Macedonia and Yugoslavia, ***Th.coloripennis*** for the first time for Sudan, ***Th.pilosellus*** for the first time for Turkey, ***C.gusarovi*** for the first time for Sicily and Iraq, ***C.nitidus*** for the first time for Macedonia and the Asian part of Kazakhstan, ***C.obesus*** for the first time for Byelorussia and the Asian part of Kazakhstan, ***C.siamensis*** for the first time for Afghanistan, ***C.tener*** for the first time for Afghanistan and China (province Shantung), ***C.tenerepunctus*** for the first time for Azerbaijan, ***C.bilineatus*** for the first time it is authentic for Byelorussia, ***C.rivularis*** for the first time for Yugoslavia, ***C.similis*** for the first time for Greece, Bosnia and Herzegovina.

Russian administrative units, for which the distribution is new, are specified: ***C.anthracinus*** from the Chita area, ***C.lindrothi lindrothi*** from Buryatiya, ***C.obesus*** from Buryatiya.

The article presents the first part of materials from the research of the author for 2002 – 2008.

N.N. Voitenkova

**Seasonal Dynamics of the Population of Genus *Gyrophaena*
(Coleoptera, Staphylinidae) on Fruit Bodies of Mushrooms of
Tricholomataceae in Smolensk Region Conditions**

Key words: *Staphylinidae*, *Gyrophaena*, *G. fasciata*, *G. gentiles*, *G. joyioides*, seasonal dynamics, mushrooms, *Tricholomataceae*.

On 5 species of mushrooms of family *Tricholomataceae* (*Melanoleuca grammopodia*, *Leucopaxillus gentianus*, *Tricholoma sulphureum*, *Tricholoma scalpturatum*, *Tricholomopsis rutilans*) from the Smolensk area 14 species of representatives of genus *Gyrophaena* are marked: ***Gyrophaena affinis* Mannerheim 1830**, ***G. bihamata* Thomson 1867**, ***G. boleti* (Linnaeus, 1758)**, ***G. fasciata* (Marsham, 1802)**, ***G. gentilis* Erichson 1839**, ***G. joyioi* Wendeler 1924**, ***G. joyioides* Wusthoff 1937**, ***G. lucidula* Erichson 1837**, ***G. manka* Erichson 1839**, ***G. nana* (Paykull, 1800)**, ***G. orientalis* Strand 1938**, ***G. poweri* Crotch 1866**, ***G. pulchella* Heer 1839**, ***G. williamsi* Strand 1935**. The seasonal dynamics of the population of the given species *Gyrophaena* is investigated, their connections with mushrooms *Tricholomataceae* are specified. For the first time ***G. joyioi***, ***G. lucidula***, ***G. lucidula***, ***G. williamsi*** was found in Smolensk region.

E.V. Denchenkova
Morpho-anatomic features of sporophytes *Thelypteris palustris* Shott

Key words: *Thelypteris palustris*; longrootstock ferns; morphology and anatomy of a rootstock; long and short rootstocks.

The morphological and anatomic structure of rootstocks and vaies is investigated. In structure rootstocks it is revealed two variants: short and long rootstocks. The anatomic structure of rootstocks in zones of an internode, units, places of branches adventitious roots, vai, in range of branching is investigated. The structure of leaves photosynthesizing and died vaies is considered. Questions of secretion of an individual at longrootstock ferns and a structure of a kidney are mentioned. It is found out, that during an ontogenesis there is a change of a biomorphe.

G.V. Vyugina
**The Structure of Spring Soft Wheat Harvest
and the Change of Mineral Level Wheat Feeding**

Key words: *wheat; productivity; manure; sort.*

Biometric indicators of spring soft wheat of 6 sorts are analysed on the basis of field experiments (1980–2002). Close positive connection between fertilizers application and plants productivity is established. Sort peculiarities of wheat mineral feeding are noticed.

I.A. Zaharenko
The explorations in the Far East by N.M. Przhevalsky

Key words: *statistics; description; military geography; geopolitics; route; nature; topography; observation; journey; expedition; landscape.*

The article is devoted to the description of a relatively unknown period of explorations and journeys of N.M. Przhevalsky – the Far East period, highly meaningful for geopolitics. N.M. Przhevalsky explored a wide range of problems, such as topography, climate, wild animals, vegetation cover, mode of life of the population from the Far East. The first journey of N.M. Przhevalsky in Ussuriisky land is analyzed.

O.D. Bochkareva, S.P. Evdokimov

The Stages of Becoming of Paleogeography

Key words: *paleogeography; geology; geography; history; uniformitarianism; actualism; evolution; development; quaternary; cainozoic.*

Three stages in the development of paleogeography are distinguished and described. The most important events, conceptions are considered within these stages. The conclusion is made that the state of modern paleogeography cannot be explained without historic analysis of the sciences about the Earth.

V.I. Chasovskiy

The Territorial Transformation of Sectoral Structure of Russian Industry in 1991–2006

Key words: *the territorial transformation; the sectoral structure of industry; the structural changes; the economic crisis; the compensation rise; the industrial sector; the structural proportion; modernization of national economic; the gross internal product; the extractive industry; the manufacturing industry; the interindustry complexes; the industrial products; the industrial specialization; the international division of labour.*

This article deals with the structural changes in the industry of the country caused by an economic crisis and the compensation rise of its economy at the end of the 20-th and the beginning of the 21-st centuries. Some factors influencing the development of branch structure of the gross internal product are described. Attention is paid to uneven structural proportion of the industrial sectors resulting in the ratio of the extractive to the manufacturing industry and within interindustry complexes. The changes of branch structure of the national industry and the volume of the industrial production are analyzed.

A.S. Kremen, Y.I. Stepkin

Mineral and Resources Potential of Smolensk Region and Problems of its Rational Utilisation

Key words: *Carboniferous period; bloomery iron; Mezolithic Age; Neolithic Age; non-traditional raw materials; potential; sapropel; sustainable (regulated) development of the region.*

On the basis of systematic historical approach the authors for the first time over the recent years present analysis of the resource and mineral potential of Smolensk region and of its long-term usage (several thousand years) and the consequences. The paper also deals with the ways of further rational utilization

of mineral resources, leading to the maintenance of the sustainable development of the region.

D.V. Kovalev
Security of Subsoil Waters of Smolensk Region

Key words: geoinformation system; subsoil waters; geology; raster; coefficient of filtration; security; lithology.

Security of subsoil waters on the territory of Smolensk region is analyzed, degree of security of areas is estimated. V.M. Goldberga's technique has been modernized so as to apply within it modern geoinformation technologies. The geoinformation method of definition of security of subsoil waters is developed.

T.V. Vatlina
Tularemic Granuloma Natural Foci in Smolensk Region

Key words: sick rate; tularemia; natural factor; natural focus (foci); infections with natural focality; infection; relief; landscape.

The article deals with the factors influencing the formation of natural foci of infections with natural focality. In Smolensk region tularemia is the most active among different infections with natural focality. Tularemia is associated with azonal components of landscapes.

V.M. Bortacovskiy
Population and Labour Resources in Smolensk Region

Key words: population; labour resources; demographic situation; natural increment of population; migration of population; age and sex structure of the population.

In the article characteristics of population (in numbers) are given; particular factors which influence dynamics of the amount of population are considered. The analysis of demographic situation in Smolensk region is presented. Measures, which are devoted to the improvement of qualitative indexes of demographic development in the region, are defined.

MATHEMATICS AND TECHNOLOGICAL SCIENCES

D.S. Bukachev, K.M. Rasulov
**On a Four-Element Boundary Value Problem of Riemann Type
for Metaanalytical Functions in a Circle**

Key words: *boundary value problem; metaanalytical function.*

The article is devoted to the investigation of four-element boundary value problem of Riemann type for metaanalytical functions. The conditions under which the problem is Noetherian were discovered and a constructive method for its solution in a circle was found.

E.G. Kirjatskij
Some Properties of the Functions of the Class $\tilde{L}_n(E)$

Key words: *holomorphic functions; class; derivative; coefficients; Chebyshev system.*

The present work investigates different characteristics of functions from the class $\tilde{L}_n(E)$ which is a natural generalization of a known Levandovsky's class $\tilde{L}_1(E)$ consisting of univalent normed in a single circle E functions.

V.I. Matyukhin
Solvable and Nilpotent Matrix Group over Rings

Key words: *matrix group; commutative ring; normal divisor; the class of ideals; isomorphism.*

The article is devoted to the investigation of some matrix groups over basic commutative rings.

V.A. Petrov
On Involutives of Conic Sections

Key words: *involute of the surface in the plane; surface of the straight circular cone; conic section; Cartesian and polar coordinate system.*

The equations of involute of conic sections are given in the note as well as examples of computer plotting of the graphs of these equations.

V.I. Hrisanfov
**On a Nonclassical Boundary Value Problem of Riquier Type in the Class
of the Generalized Metaanalytical Functions in a Circle**

Key words: *Boundary Value Problem of Rimann; generalized metaanalytical Function; single Circle; differential Equation.*

In the present article we investigate unclassic problem of Riquier type for the generalized metaanalytical functions in the single circle. It has been established that the decision of the considered problem is reduced to the decision of a two-element scalar problem of Rimann in the class of sectionally analitical functions whose line of jumps is the single circle. The result is illustrated by a concrete example.

V.V. Kruglov
**Technique of the Estimation of Stability of Organizational,
Economic and Social Systems**

Key words: *technique of the estimation of stability of organizational, economic and social systems; indistinct logic; expert approach; criterion of stability.*

The article presents the technique of the estimation of stability of the organizational, economic and social systems, based on the expert approach and the device of fuzzy logic. The corresponding criterion of stability is formulated.

F.A. Khotova
**Overview of the Means of the MATLAB Package
in Genetic and Direct Search Algorithms**

Key words: *optimization problem; genetic algorithms; direct search algorithms; pattern search algorithms; fitness function.*

The article deals with the possibilities of the MATLAB advanced package in genetic and direct search algorithms – Genetic Algorithm and Direct Search Toolbox – in solving optimization problems. The structures and graphical interface possibilities of these algorithms are considered.

PHILOSOPHY, SOCIOLOGY AND CULTURAL STUDIES

I.V. Declerk
**The Postmodern Everyday Life as Space for a Human Life Course
Realization**

Key words: *postmodern; life-world; everyday life; life course; life strategy; sense of life; cultural order.*

The article concerns the problem of sense of life searching by a human in the postmodern epoch. From this perspective such concepts as life-world, everyday life, life course, life strategies, sense of life are analyzed and ranged. According to the author's point of view, the postmodern epoch gives a human the unique opportunity of acquiring the global civilization experience. The postmodern everyday life can be conceived as an environment, in which the «natural selection» goes on, and the creative person survives. In the postmodern epoch an individual creates new forms, structures, parameters of social and interpersonal interaction, new values, norms and senses.

S.N. Makarov
Public Administration and Social Reforms in Russia

Key words: *state; public administration; administrative reform; administrative staff reform.*

The article deals with reforms of the administrative staff and gives the retrospective analysis of different aspects of the public administration in correlation with the social changes in Russia.

D.A. Kotov
**Tolerance as a Necessary Social and Cultural Factor
of Development of the Russian Far East**

Key words: *tolerance; intolerance; ethnic migration; social intensity; interethnic conflicts; social and cultural environment; depressive region.*

The article deals with the issues of formation of a civil society in Russia through the prism of ethnic interaction and formation of principles of tolerant consciousness.

The author researches possible factors of development of intolerance in society, connected both with result of a system crisis, and with growth of national consciousness as well as the strengthening of cultural differentiation of

the people. Special attention is given to the regional aspect, in particular to the concept «depressive region» where negative processes are revealed most sharply and painfully.

PSYCHOLOGY AND PEDAGOGY

T.V. Ivanova

Elective Courses in Biology and Ecology in Specialized Schools

Key words: specialized school; elective courses in Biology and Ecology; modern educational technologies; professional self-determination.

In the article the peculiarities of methods of teaching Biology and Ecology in specialized schools are considered. The role of elective courses in Biology and Ecology is revealed in developing cognitive interest, independence and creative activities in students.

It is shown that the ecologically orientated educational activity determines students' consciousness of their emotional and educational potential. Results of the research are presented and they prove that elective courses in Biology and Ecology influence professional interests of senior students.

B.V. Selyuk

The Tasks of the Increased Complexity with a Computer Illustration

Key words: tasks of the increased complexity; computer models; training to solve the tasks.

The article suggests using «Interactive physics» and MathCAD computer programs for training school students to solve the tasks of the increased complexity. Computer modeling allows making the phenomenon examined in the tasks more evident and MathCAD helps to overcome mathematical difficulties. The application of the given technology is illustrated by the example of several tasks.

O.S. Filimonova

Some Aspects of Planning the Task Book

Key words: task book; the system of tasks.

This article analyzes such type of teaching means as task books and analyses their contents from the point of view of contemporary demands.

Due to the absence of regulations concerning task book structure and the system of tasks, the author of the article describes requirements for the content, designed by herself.

G.S. Evdokimova

**The Ratio Between Psychologo-pedagogical and Logic Factors
at Studying Stochastics**

Key words: psychology; pedagogics; logic; teaching problems; thinking; stochastics; training; factors; individuality; teaching; inductive; deductive.

The article is devoted to the investigation of the role of formal logic in training stochastics. The author shows that teaching only formal-logic part of stochastics is not enough to master it. It has been proved that the main role in training stochastics belongs to the influence of psychologo-pedagogical factors.

A.A. Komarov

**Media Education: the Interaction of School and Media in Order to Form
Student's Information Culture**

Key words: information; information society; information culture; media education; development of media education; integration of media education with basic education.

In this article we deal with the problem of students' special training for the life in modern information society, which is very actual for contemporary school. The concept of media education and its influence on the formation of students' information culture is also discussed, as well as the process of development of media education in Russia and abroad, the increasing necessity of integration of media education with basic education, so that the school could provide education in the sphere of information in close cooperation with the media.

V.I. Turkovski

**Organizational, Pedagogical and Content-based Foundations of Training
Magistracy Students to Carry out Pedagogical Research**

Key words: training of students who take a Magistracy course; scientific competence; pedagogical knowledge; educational field; content of

methodological training; stages of magistracy course development; difficulties in training students who take a Magistracy course.

The article reveals the factors and conditions of training students who take a Magistracy course at the modern university. The stages of development and the peculiarities of Magistracy course functioning at Vitebsk State University named after P.M. Masherov are shown. The main directions of Magistracy activity are presented.

The content of students' pedagogical training is reasoned. Approaches for effective development of research competence are revealed. The peculiarities of functioning of full-time and part-time Magistracy are shown.

I.S. Galchenkova

Algorithm of Implementation Strategies of Distance Learning

Key words: distance learning; algorithm of implementation; purpose; problem; basic directions and forms; educational content; practical recommendations.

The article is devoted to an actual problem of implementation of distance learning. In the article the purposes, problems, basic directions and forms, educational content of distance training are consistently characterized.

The article presents stages and activity structure at each step of the implementation of distance learning, offered by the author, which will make it possible to take into consideration many details arising at these stages in educational institutions.

The subject of implementation, the form and the training mode, technological means and the budget are characterized.

N.P. Senchenkov

The Pedagogical Support of the Process of the Development of School Students' Creative Skills at the Leader's Camp

Key words: leader's camp; pedagogical team; senior pupils; role play.

In this article we present the information about the work of a leader's camp – Smolensk regional meetings of creative youth – which is devoted to developing senior school students by means of role-play. These role-plays are aimed at the formation of civic mindedness, moral development, character education and tolerance of the modern students.

G.N. Mezhentseva
**The Comparative Characteristic of Intellectual Abilities of Juniors
with Normal and Broken Sight**

Key words: visual perception; acoustic perception; touch; attention; imagination; thinking; memory; cognition.

The comparative psychological characteristic of juniors' cognition with normal and broken eyesight is presented in the article.

G.V. Shavyrina, N.N. Trushina
**Psychological Features of Students' Personal and Professional Development
when They Enter the Profile Stage of Education**

Key words: age features; professional development; profile education; new formations in psychology; teens.

This article deals with the psychological features of teenagers' personal and professional development when they enter the profile stage of education.

The goal of this work is to help teachers, school psychologists and parents in such upbringing of teenagers, which permits them to make the right professional choice.

The most favourable conditions, which enhance personal and professional development and new personal formations typical for this age, are analyzed in this article. We have worked out methods and ways of practical work using the diagnostic developing programs, which are also presented in the paper.