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| УДК 553.411.08  О.А. Belavina1, V.А. Shvetsov1, N.V. Agelshina2, V.V. Pakhomova3, V.А. Pakhomov1 (1Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003; 2 Eastern Military Region of the Ministry of Defence of the Russian Federation, Petropavlovsk-Kamchatsky, 683000; 3JSC «Kamchatgeology», Petropavlovsk-Kamchatsky, 683016) **Dependence of the operation duration of drying the gold-quartz ores geological samples from the initial temperature of the sample**  The dependence of the operation duration of drying the gold-quartz ores geological samples from the initial temperature of the sample was examined. It is shown that it is possible to increase the sample preparation rapidity for analysis by reducing the geological samples drying operation by two hours.  **Key words:** laboratory samples drying, a microwave oven, the duration of drying, the moisture content of the samples, quartz-gold ores.  *DOI: 10.17217/2079-0333-2015-34-6-11* |
| УДК 62-192:629.5  O.A. Belov (Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003) **The methodology of analysis and monitoring of ship safety as difficult technical-organizational system**  The general problem of projection and operation of difficult technical-organizational system is guarantee of their safety. The solution of this problem demands systems approach. The analysis and monitoring of safety at the period of technical maintenance have importance meaning along with constructive-technological measures. The modern ship is also difficult technical-organizational system and the guarantee of its safety is concerned with a number of aspects. The scientific aspect of the ship safety connects with working out new methods of research and safety estimation, permitting to prevent the occurrence and development of the dangerous situation in proper time. The technical aspects of safety are concerned with guarantee of system reliability and survivorship, as well organization of optimal maintenance of its elements. Taking into account the importance of human factor in the point of view of system safety, it is necessary to conduct analysis and monitoring of ergonomic factors. The training of operator and creation of effective expert system hold the special place in this aspect. Economic consequence and amount of catastrophe detriment corroborate the urgency of perfection of difficult technical-organizational system safety which can be made at the expense of opportune financing of anti-damage measures.  **Key words:** technical-organizational system, safety, human factor, contingency, dangerous state, constructive measures, training, efficacy, level of readiness.  *DOI: 10.17217/2079-0333-2015-34-12-18* |
| УДК 621.793/.795:621.8  S.A. Matvienko1, A.V. Kostenko2, A.V. Lukichov1, O.P. Sakno1 (1Donetsk Academy of Motor Transport; Donetsk, 83086; 2Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003) **Development of resource-saving technologies of finishing strengthening processing during manufacture of the machine parts**  The article deals with existing methods of finishing strengthening processing (FSP). Perspective in terms of resource- saving and ecological safety way of sound resonance finishing strengthening processing in the quasi-elastic environment (SRFSPQEE) is offered.  **Key words:** finishing strengthening processing, resonance, quasi-elastic environment, deterioration, surface structure.  *DOI: 10.17217/2079-0333-2015-34-19-23* |
| УДК 004.4:550.38  I.S. Solovev1,2, O.V. Mandrikova1,2 (1Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003; 2Institute of Cosmophysical Researches and Radio Wave Propagation of the Far Eastern Branch of Russian Academy of Sciences, Paratunka, Kamchatka, 684034). **Program system on geomagnetic date processing and analysis**  The work is aimed to creation of applied methods and software tools for the study of dynamic processes in the magnetosphere during magnetic storms. The software system is presented in the paper for analyze the variations of the geomagnetic field, which is based on the author's methods and algorithms. The system allows us to assess the condition of the geomagnetic field and allocate geomagnetic disturbances, arising during periods of increased solar activity and magnetic storms. There is a free access to the system through the Internet.  **Key words:** magnetic storm, the geomagnetic data, the wavelet transformation, digital signal processing.  *DOI: 10.17217/2079-0333-2015-34-24-28* |
| УДК 532.529:620.91  A.A. Chermoshentseva1, A.N. Shulyupin2 (1Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003, 2 Mining Institute of the Far Eastern Branch of Russian Academy of Sciences, Khabarovsk, 680000). **The calculation of steam-water flow in geothermal wells by mathematical models WELL**  Mathematical models WELL are developed by the authors for the calculation of steam-water flows in geothermal wells. Review of mathematical models WELL is presented.  Key words: mathematical model of steam-water flow, flow regimes, well.  *DOI: 10.17217/2079-0333-2015-34-29-32* |
| УДК 582.263(265.52)  T.A. Klochkova1,2, N.G. Klochkova1, S.O. Ocheretyana1, G.H. Kim2 (1Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003; 2Kongju National University, Kongju 32588, Korea) **Effect of long-term desiccation on the marine green algae *Prasiola delicata* and *Rosenvingiella constricta* (Chlorophyta, Prasiolales)**  This paper discusses desiccation tolerance and ability to recover and successfully reproduce after 3–4 years of drying in the marine supra-tidal green algae *Prasiola delicata* and *Rosenvingiella constricta* from Kamchatka. We collected 3 types of plants with different morphologies belonging to 2 species, such as *P. delicata* (small linear blades) and *R. constricta* (multiseriate filaments with constrictions and hood-like small uniseriate blades, hereafter called *R. constricta* morphotype “constricta” and morphotype “prasiola”, respectively). Collected samples were dried in silica gel to the state when they lost almost 100% of intracellular water and became fragile and crisp. Thereafter, they were held at 4°С condition while being inside silica gel-filled plastic tubes. Rehydration experiments showed that *P. delicata* and *R. constricta* morphotype “constricta” could revive in seawater after 4 years of desiccation and began reproduction by autospores, whereas hood-like blades of *R. constricta* morphotype “prasiola” were able to survive 3 years of desiccation. Alive cell staining with fluorescein diacetate (FDA) showed that after rehydration, cells required 4–12 days to recover metabolic processes in the cytoplasm. Reproduction by autospores was observed in all rehydrated plants, usually starting from the margins of thalli and later covering almost the entire plants’ surface. Therefore, species *P. delicata* and *R. constricta*, including both of its morphotypes, should be regarded as organisms capable of extreme desiccation, since they remain viable for at least 3–4 yeаrs after loosing almost 100% of intracellular water.  **Funding statement:** This research was supported by Golden Seed Project, Ministry of Agriculture, Food and Rural Affairs (MAFRA), Ministry of Oceans and Fisheries (MOF), Rural Development Administration (RDA) and Korea Forest Service (KFS). This research was also a part of the project “Development of selection techniques of suitable industrial variety in Korean coast”, funded by the Ministry of Oceans and Fisheries, Korea, to GHK.  **Key words:** abiotic stress, desiccation, fluorescein diacetate, green algae, rehydration, *Prasiola*, *Rosenvingiella*, survivability.  *DOI: 10.17217/2079-0333-2015-34-33-45* |
| УДК 639.3(571.64)  A.V. Litvinenko, V.N. Efanov (Sakhalin State University, Yuzhno-Sakhalinsk, 693008) **Сurrent status and prospects of aquaculture development in the Sakhalin region**  In October 2015 International marine scientific school-conference on hydrobiont cultivation was held on the basis of Sakhalin State University. The event was organized by Sakhalin region Government, Sakhalin State University, Far Eastern Federal State University and its International UNESCO department "Marine ecology". The necessity of the conference was conditioned by growing demand for Pacific salmon and other hydrobiont products and limited potential for natural reproduction. In addition, the imperfection of the legal framework governing hatchery activity and acute shortage of experienced personnel hinder fishing industry development in the Far East and private investments.  At the conference the solutions to the problems were discovered. Leading scientists, professors, young scientists and specialists from Russia, Japan and China suggested delegating subjects of the Russian Federation to manage fishing industry, including coastal zone. It was suggested improving legal framework; developing the concept of artificial reproduction of salmon and sea hydrobionts in the Far East up to 2030. This concept was based on setting up clusters.  **Key words:** hydrobionts, environmental capacity, innovative methods of reproduction.  *DOI: 10.17217/2079-0333-2015-34-46-53* |
| УДК 582.274(265.52)  N.A. Lopatina (Pisareva) (Kamchatka Branch of Pacific Geographical Institute Far Eastern Branch of Russian Academy of Sciences, Petropavlovsk-Kamchatsky, 683000) **Peculiarities of biology of *Porphyra miniata* (Bangiales, Rhodophyta) in Avacha Gulf in different conditions of man-made pollution**  The peculiarities of biology of *Porphyra miniata* (C. Agardh) C. Agardh in Avacha Gulf are described in the article. Period of life of gametophyte generation of this species in Kamchatka region is 2–2,5 months, frommid May to early August as shown. Its reproduction lasts for a long time and occurs asynchronously. In Avacha Bay coastal areas that are exposed to man-made pollution gametophytes development of *P. miniata* occurs later than in clean waters. Extensive growth of diatoms on the blades surface in Zavoiko Bay hasdepressing effect on their vegetation. Diseases that affect *P. miniata* in man-made pollution areas of Avacha Bay cause pathological changes in its cells.  **Key words:** red algae, *Porphyra miniata*, biology, Avacha gulf, man-made pollution.  *DOI: 10.17217/2079-0333-2015-34-54-61* |
| УДК 594.35(265.5)  A.V. Martynov1, N.P. Sanamyan2, T.A. Korshunova1,3 (1Zoological Museum Moscow State University, Moscow 125009; 2Kamchatka Branch of Pacific Geographical Institute Far-Eastern Branch of Russian Academy of Sciences, Petropavlovsk-Kamchatsky, 683000; 1,3Koltzov Institute of Developmental Biology, Moscow, 119334) **Review of the opisithobranch mollusc fauna of Russian Far Eastern seas: Pleurobranchomorpha, Doridida and Nudibranchia**  Modern review of three largest opisthobranch groups (pleurobranchomorphs, dorids and nudibranchs) of Russian Far Eastern seas (NW Pacific) is presented. 76 species are included in total. For each species short synonymy, distributional data and taxonomic comments are presented. Taxonomic analysis of fauna is based on broadly integrative approach including morphological and molecular methods. Presence of numerous cryptic species complexes is revealed. It challenges the traditional approach of amphiboreal and other prevailing Pacific species. Novel data on opisthobranch species complexes in the Northern Pacific including descriptions of 6 new species are reviewed. Illustrations including SEM of radulae for several relevant species are provided.  **Key words: systematics, fauna, biogeography, opistobranch molluscs, morphological and molecular study.**  *DOI: 10.17217/2079-0333-2015-34-62-87* |
| УДК 593.96(265.5)  Е.G. Panina, V.G. Stepanov (Kamchatka Branch of Pacific Geographical Institute Far East Branch Russian Academy of Sciences, Petropavlovsk-Kamchatsky, 683000) **List of species of the sea cucumbers (Holothuroidea) in the Far-Eastern seas of Russia, VI. Family Psolidae (Echinodermata: Holothuroidea: Dendrochirotida)**  You can find a list of species composition of sea cucumbers of the family Psolidae of the order Dendrochirotida in the Far-Eastern seas of Russia. Every species is accompanied by modern name, synonymy, information about distribution in the Bering, Okotsk, Japan seas, at south-east Kamchatka and Kuril Islands. Some species is illustrated with original pics of external view and ossicles of the body wall.  **Key words:** holothurian, sea cucumber, Holothuroidea, Dendrochirotida, Psolidae, synonymy, list of species, distribution, Far-Eastern seas of Russia.  *DOI: 10.17217/2079-0333-2015-34-88-101* |
| УДК 004.94:332.1  S.G. Bilchinskaya1, I.N. Siulzhyn2, Yu.A. Chernyavskiy1, E.V. Shabinskaya3(1Academy of Public Administration under the aegis of the President of the Republic of Belarus, Republic of Belarus, Minsk, 220007; Belarusian State University, Republic of Belarus, Minsk, 220045; 3A.N. Sevchenko Institute of Applied Physics Problems of the Belarusian State University, Republic of Belarus, Minsk, 22004) **Two-component economic clusters of the region management system and its analysis**  The report addresses the problem of constructing and analyzing the relationship between the essential parameters that must be considered when building two-component model of economic cluster management. The impact of embedded links on the simulation results and change of the output of the system after the introduction of the relationship with the different behavior of exogenous factors are also considered. The use of models for decision-making on expediency of attracting investment was investigated.  **Key words:** economic clusters, the discount rate, investment management, modeling.  *DOI: 10.17217/2079-0333-2015-34-102-107* |
| УДК 639.2.06(091)(571.66)  S.V. Gavrilov (Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003) **Base of dynamic, experimental catch is father of Kamchatka minesweeping fleet**  In January, 19, 2016 in Kamchatka there will be 80th anniversary of dynamic, experimental catch base foundation, and the first enterprise in peninsular specialized in fish catch in the open sea. Formation process of this father of all modern Kamchatka fishing fleets is described in the article. Illustrations of K.I. Panin borrowed from Kamchatka territorial amalgamated museum were firstly used in scientific paper.  **Key words:** dynamic sea catch, seiner, drifter, trawler, prospector, net, drift, fish plant, catch and delivery of raw fish.  *DOI: 10.17217/2079-0333-2015-34-108-113* |
| **Статья отозвана**  **(прокол № 3 от 02.09.2019 г.)**  УДК 338.5:339.166:639.2(571.66)  S.А. Popova (Kamchatka State Technical University, Petropavlovsk-Kamchatsky, 683003) **Pricing analysis of in a competitive market of fish production in the fishery complex of Kamchatka region**    The article provides an overview of pricing in the market of fishery products in the fishery complex of Kamchatka region. Information about monopolization and cartel collusion in the sector was analyzed. Reasons, curb factors and measures for further development of competition in the industry were revealed.  **Keywords**: fish market, competition, monopolization, cartel collusion, pricing, export, logistics.  *DOI: 10.17217/2079-0333-2015-34-114-123* |