

Российская академия наук
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ПУБЛИКАЦИИ

В ЗАРУБЕЖНОЙ ПЕЧАТИ



Мурманск
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**Murmansk marine biological institute publications
in international press**

About MMBI

The Murmansk Marine Biological Institute (MMBI) is one of the oldest institutions of the Kola Science Center of the Russian Academy of Sciences and one of the northernmost research institutes in Russia carrying out fundamental and applied research in marine biology, geology, oceanography and ecology.

Since 1981 MMBI has been headed by Prof. Gennady G. Matishov, a full member of the Russian Academy of Sciences. Among the MMBI staff are highly skilled marine biologists, geologists, oceanologists, and chemists.

The basis of MMBI research activities are integrated investigations of marine ecosystems, biological diversity and productivity in arctic seas (Greenland, Norwegian, Barents, Kara, Laptev, and East Siberian Seas) and southern seas of Russia (Black and Caspian Seas, Sea of Azov). MMBI has gained wide experience in developing and introducing methods of prediction of oceanographic and biologic processes, assessment of the state of marine biological resources, and in developing up-to-date biotechnologies for maritime industries, and scientific principles and methods of sustainable development and ecosystem-based management of maritime activities in the Arctic.

Since the 1990s environmental assessment of maritime oil and gas activities in the Arctic (Barents Sea) and in the south of Russia (Caspian Sea) has been a substantial part of MMBI research. This includes environmental engineering, environmental monitoring, and environmental impact assessments of geologic surveys on shelf and activities on development and operation of offshore oil and gas terminals and production sites. This work is done on request from leading Russian companies (Rosshelf, Gazprom, Murmansk Shipping Company, etc).

Building new information technologies and data-bases on oceanography, hydrobiology, chemical and radioactive contamination of seas is a useful and challenging task carried out at MMBI. Over the last years several electronic atlases on the climate, plankton distribution, hydrochemistry and oceanography of the Barents Sea and the Sea of Azov have been created.

This work has been done in close cooperation with the NESDIS/NOAA (USA).

The Institute works out methods of farming and reproduction of valuable marine finfishes, shellfishes, and sea algae. Experiments are carried out on feeding, respiration, growth, cardiac activity of such commercially valuable invertebrates as the edible mussel (*Mytilus edulis*) and the red king crab (*Paralithodes camtschaticus*). These studies enable discovering the adaptation mechanisms of these water animals to different environmental impacts and their survival under unstable environmental conditions, as well as predicting their spread to new areas.

Studies on the biology and ecology of sea algae enable effective methods and technologies for complex reprocessing of brown algae (*Fucus*) to be worked out and biologically active substances to be obtained, which is of great potential of using these valuable marine living organisms in pharmaceuticals and food stuff production.

Technologies for treatment and remediation activities in case of incidental oil spills worked out at MMBI include methods of biological restoration of water areas with the help of biosorbents used in shallow lagoons and fjords where mechanical gathering of floating aggregates is hampered or impossible. The *Laminaria* algae plantation technology based on sorption properties of brown algae prevents oil slick from spreading, acting as a slick bar, and contributes to rapid disposal of petroleum products and their decomposition by oil-oxidizing bacteria, which form a symbiotic association with the algae.

Since the mid 1980s MMBI has been developing biotechnologies for use of marine mammals in technical, rescue, and antiterrorist underwater operations at sea. MMBI's marine mammal center in Kola Inlet (Barents Sea, town of Polyarny) housing open-air cages and enclosures for seals enables all-the-year-round training and studying of Pinnipeds. Research activities include studies on the marine mammal respiration physiology and function of cardiovascular system, metabolic and immunologic adaptations.

MMBI PUBLICATIONS IN INTERNATIONAL PRESS

Books, book chapters and peer-reviewed articles (2000-2013)

Oceanography

Matishov G.G., Dzhenyuk S.L., Denisov V.V., Zhichkin A.P., Moiseev D.V. Climate and oceanographic processes in the Barents sea // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 63-73. ISSN 1866-3192.

Matishov G.G., Matishov D.G. Main problems of Arctic marine ecosystem studies of Murmansk marine biological institute // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 26-47. ISSN 1866-3192.

Matishov G., Moiseev D., Lyubina O., Zhichkin A., Dzhenyuk S., Karamushko O., Frolova E. Climate and cyclic hydrobiological changes of the Barents Sea from the twentieth to twenty-first centuries // **Polar Biol**. 2012. Vol. 35. P. 1773-1790. Published online: 02 September 2012. DOI 10.1007/s00300-012-1237-9 <http://www.springerlink.com/content/8t41515hp0052273/>

Moiseev D.V., Kulygin V.V., Berdnikov S.V. Joint MMBI, SSC RAS and NODC NOAA approach to oceanographic and hydro-biological database organisation for the Arctic and Southern seas OF Russia // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 137-151. ISSN 1866-3192.

Levitus S., Matishov G., Seidov D., Smolyar I. Barents Sea Multidecadal Variability // **Geophysical Research Letters**. 2009. Vol. P. 1-13.

Matishov G.G., Matishov D.G., Moiseev D.V. Inflow of Atlantic-origin waters to the Barents Sea along Glacial Troughs // **Oceanologia**, 2009. V.51. N. 3. P. 293-312. ISSN 0078-3234.

Smolyar I., Adrov N. The quantitative definition of the Barents Sea Atlantic Water: marring of the annual climatic cycle and interannual variability / **Journal of Marine Science**. 2003. Vol. 60. P. 836-845.

Marine Biology

Dvoretzky V.G., Dvoretzky A.G. Summer mesozooplankton community of Moller Bay (Novaya Zemlya Archipelago, Barents Sea) // **Oceanologia**. 2013. Vol. 55 (1). P. 205-218. doi:10.5697/oc.55-1.205 <http://www.iopan.gda.pl/oceanologia/>

Dvoretzky V.G., Dvoretzky A.G. Epiplankton in the Barents sea: Summer variations of mesozooplankton biomass, community structure and diversity // **Continental Shelf Research**. 2013. Vol. 52, N 1. P. 1-11. <http://dx.doi.org/10.1016/j.csr.2012.10.017>; <http://www.sciencedirect.com/science/article/pii/S0278434312002932>

Nekhaev I.O. The first record of *Alvania punctura* from Russian waters (Gastropoda: Rissoidae) // **Marine Biodiversity Records**. 2013. N 6. P. 1-3.

Dvoretzky A.G. Epibionts of the great spider crab, *Hyas araneus* (Linnaeus, 1758), in the Barents Sea // **Polar Biology**. 2012. Vol. 35 (4). P. 625-631.

Dvoretzky V.G., Dvoretzky A.G. Morphometric differentiation of *Pseudocalanus minutus* populations in the Barents Sea // **Acta Zoologica**. Vol. 94, Issue 2. P. 203-214. Article first published online: 28 NOV 2011 DOI: 10.1111/j.1463-6395.2011.00543.x <http://onlinelibrary.wiley.com/doi/10.1111/j.1463-6395.2011.00543.x/abstract>

Druzhkova E.I., Makarevich P.R. The Laptev Sea phytoplankton studies: past and present // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 74-80. ISSN 1866-3192.

Dvoretzky V.G., Dvoretzky A.G. Crustaceans of the Barents Sea: recent studies of Murmansk marine biological institute review // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 162-176. ISSN 1866-3192.

Dvoretzky A.G., Dvoretzky V.G. Does spine removal affect molting process in the king red crab (*Paralithodes camtschaticus*) in the Barents Sea? // **Aquaculture**. 2012. Vol. 326-329. P. 173-177.

Dvoretzky V.G. Seasonal mortality rates of *Oithona similis* (Cyclopoida) in a large Arctic fjord // **Polar Science**. 2012. P. Published online 23 September 2012. <http://dx.doi.org/10.1016/j.polar.2012.09.001> <http://www.sciencedirect.com/science/article/pii/S1873965212000424>

Dvoretzky V.G., Dvoretzky A.G. Estimated copepod production rate and structure of mesozooplankton communities in the coastal Barents Sea during summer-autumn 2007 // **Polar Biology**. 2012. Vol. 12, N 9. P. 1321-1342 DOI: 10.1007/s00300-012-1175-6. <http://www.springerlink.com/content/678x37263140lt67/>

Garbul E.A., Anisimova N.A. Some features of the quantitative distribution of sipunculan worms (Sipuncula) in the central and southern Barents Sea // **Oceanologia**. 2012. Vol. 54 N 1. P. 59-74.

Karamushko O.V. Structure of ichthyofauna in the Arctic seas off Russia // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 129-136. ISSN 1866-3192.

Krasnov Y.V. Main lines of seabird research of Murmansk marine biological institute in Arctic seas of Europe // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 118-128. ISSN 1866-3192.

Lebedeva N.V. Oribatid mites transported by birds to polar islands. A review // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 152-161. ISSN 1866-3192.

Lyubina O.S., Frolova E.A., Dikaeva D.R. Current zoobenthos monitoring at the Kola Transect in the Barents Sea // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 177-189. ISSN 1866-3192.

Makarov M.V., Voskoboynikov G.M. Effects of light and temperature on the Barents Sea macroalgae // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 101-117. ISSN 1866-3192.

Makarevich P., Druzhkova E., Larionov V. Primary producer of the Barents Sea // **Diversity of Ecosystems** / Ed. by A. Mahamane. Rijeka, Croatia: In Tech, 2012. P. 367-392. ISBN978-953-51-0572-5. Book can be found at www.intchopen.com

Matishov G.G., Voinov V.B., Mikhaylyuk A.L. Arrhythmic Phenomena in Organization of Cyclic Processes in Organisms of Pinnipedia and their Behaviour // **Advances in Zoology Research** / Ed. by Owen P. Jenkins. NY: Nova Science Publishers Inc. USA, 2012. Vol. 1. P. 155-171. ISBN: 978-1-61470-960-2 <https://www.novapublishers.com/>

Spiridonov V., Gavrilov M., Krasnov Yu., Makarov A., Nikolaeva N., Sergienko L., Popov A., Krasnova E. Toward the New Role of Marine and Coastal Protected Areas in the Arctic: The Russian Case // **Protection of the Three Poles** / Ed. by F. Huettmann. Part V. Tokyo: Springer, 2012. P. 171-202. DOI: 10.1007/978-4-431-54006-9_8 <http://www.springerlink.com/content/1161950548110512/>

Dvoretzky A.G., Dvoretzky V.G. Population biology of *Ischyrocercus commensalis*, a crab-associated amphipod, in the southern Barents Sea: a multi-annual summer study // **Marine Ecology**. 2011. Vol. 32, № 4. P. 498-508 [Электронный ресурс] doi: 10.1111/j.1439-0485.2011.00450.x

Dvoretzky A.G. Epibionts of the great spider crab, *Hyas araneus* (Linnaeus, 1758), in the Barents Sea // **Polar Biology**. 2012. V. 35 (4). P. 625-631 / [Электронный ресурс] DOI 10.1007/s00300-011-1087-x. Publish online 30 August 2011. P. 1-7. <http://www.springerlink.com/content/p271615mhg657763/>

Dvoretzky A.G., Dvoretzky V.G. Does spine removal affect molting process in the king red crab (*Paralithodes camtschaticus*) in the Barents Sea? // **Aquaculture**. 2011. Vol. 326-329. P. 173-177. / [Электронный ресурс] DOI: 10.1016/j.aquaculture.2011.10.028. <http://www.sciencedirect.com/science/article/pii/S0044848611008441>

Dvoretzky V.G. Distribution of *Calanus* species off Franz Josef Land (Arctic Barents Sea) // **Polar Science**. 2011. Vol. 5. P. 361-373. / [Электронный ресурс] DOI 10.1016/j.polar.2011.06.004. Publish online 24 June 2011. P. 1-13. <http://www.sciencedirect.com/science/article/pii/S1873965211000521>

Dvoretzky V.G., Dvoretzky A.G. Copepod communities off Franz Josef Land (northern Barents Sea) in late summer of 2006 and 2007 // **Polar Biol.** 2011. Vol. 34, P. 1231-1238. / [Электронный ресурс] DOI 10.1007/s00300-011-0977-2. Publish online 02 March 2011. P. 1-8. <http://www.springerlink.com/content/dkt82274760gw686/>

Dvoretzky V.G., Dvoretzky A.G. Mesozooplankton structure in the northern White Sea in July 2008 // **Polar Biol.** 2011. Vol. 34, N 3. P. 469-474. / [Электронный ресурс] DOI 10.1007/s00300-010-0901-1. Publish online 03 November 2010. P. 1-6. <http://www.springerlink.com/content/6646387p87k5225w/fulltext.html>

Matishov G.G., Ognetrov G.N. White whale (*Delphinapterus leucas*) of the Russia Arctic Seas: biology, ecology, protection and exploitation of resources / Ed. by G. Matishov, M. Castellote & S.M. Gendron. Spain: Fundaci?n Ciudad de las Artes y las Ciencias - Comunitat Valencuiana, 2011. 302 c.

Dvoretzky A.G., Dvoretzky V.G. Epifauna associated with an introduced crab in the Barents Sea: a 5-year study // **ICES Journal of Marine Science.** 2010. Vol. 67 P. 204-214.

Dvoretzky A.G., Dvoretzky V.G. The amphipod *Ischyrocerus commensalis* on the eggs of the red king crab *Paralithodes camtschaticus* Egg predator or scavenger? // **Aquaculture.** 2010. Vol. 298, Issues 3-4. P. 185-189.

Dvoretzky A.G., Dvoretzky V.G. Hemolymph molting hormone concentrations in red king crabs from the Barents Sea // **Polar Biology.** 2010. Vol. 33. P. 1293-1298.

Dvoretzky V.G., Dvoretzky A.G. Checklist of fauna found in zooplankton samples from the Barents Sea // **Polar Biology.** 2010. Vol. 33. P. 911-1005.

Dvoretzky V.G., Dvoretzky A.G. Mesozooplankton structure in Dolgaya Bay (Barents Sea) // **Polar Biology.** 2010. Vol. 33. P. 703-708.

Dvoretzky A.G., Dvoretzky V.G. Distribution of amphipods *Ischyrocerus* on the red king crab, *Paralithodes camtschaticus*: Possible interactions with the host in the Barents Sea // **Estuarine, Coastal and Shelf Science.** 2009. Vol. 82, Issue 3. P. 390-396.

Dvoretzky A.G., Dvoretzky V.G. Fouling community of the red king crab, *Paralithodes camtschaticus* (Tilesius 1815), in a subarctic fjord of the Barents sea // **Polar Biology**. 2009. Vol. 32 (6). P. 1047-1054.

Dvoretzky A.G., Dvoretzky V.G. Limb autotomy patterns in *Paralithodes camtschaticus* (Tilesius, 1815), an invasive crab, in the coastal Barents Sea // **Journal of Experimental Marine Biology and Ecology**. 2009. Vol. 377, Issue 1. P. 20-27.

Dvoretzky A.G., Dvoretzky V.G. Some aspects of the biology of the amphipods *Ischyrocerus anguipes* associated with the red king crab, *Paralithodes camtschaticus*, in the Barents Sea // **Polar Biology**. 2009. Vol. 32(3). P. 463-469.

Dvoretzky V.G., Dvoretzky A.G. Distribution of the under-ice mesozooplankton in the Kara Sea in February 2002 // **Polar Biology**. 2009. Vol. 32. P. 1227-1231.

Dvoretzky V.G., Dvoretzky A.G. Life cycle of *Oithona similis* (Copepoda: Cyclopoida) in Kola Bay (Barents Sea) // **Marine Biology**. 2009. Vol. 156. P. 1433-1446.

Dvoretzky V.G., Dvoretzky A.G. Morphological plasticity in the small copepod *Oithona similis* in the Barents and White Seas // **Marine Ecology Progress Series**. Vol. 389. P. 165-178.

Dvoretzky V.G., Dvoretzky A.G. Summer mesozooplankton distribution near Novaya Zemlya (eastern Barents Sea) // **Polar Biology**. 2009. Vol. 32. P. 719-731.

Dvoretzky V.G., Dvoretzky A.G. Spatial variations in reproductive characteristics of the small copepod *Oithona similis* in the Barents Sea // **Marine Ecology Progress Series**. 2009. Vol. 386, P. 133-146.

Dvoretzky V.G., Dvoretzky A.G. Summer mesozooplankton structure in the Pechora Sea (south-eastern Barents Sea) // **Estuarine, Coastal and Shelf Science**. 2009. Vol. 84, Issue 1. P. 11-20.

Makarevich P.R. Annual succession cycle of pelagic phytocecnoses in estuary ecosystems of northern seas of Russia // **International Journal on Algae**. 2009. Vol. 11. N 1. P. 57-63.

Dvoretzky A.G., Dvoretzky V.G. Epifauna associated with the northern stone crab *Lithodes maia* in the Barents Sea // **Polar Biology**. 2008. V. 31(9). P. 1149-1152.

Makarevich P.R. Annual succession cycle of planktonic algal cenoses of estuarine ecosystems of northern seas of Russia // **Algologia**. 2008. Vol. 18, N 4. P. 386-392.

Timofeev S.F. Euphausiid biomass in the Arctic Ocean // **Crustaceana**. 2006. V. 79. No 2. P. 157-165.

Timofeev S.F., Selifonova Zh.P. Euphausiid larvae in the ballast waters of commercial ships; evidence for a possibility for biological invasion // **Crustaceana**. 2005. V. 78. No 11. P. 1395-1398.

Timofeev S.F., Sklyar V.V., Savinov M.V. Stabilizing selection on egg size in the euphausiid, *Thysaniessa raschii* (M. Sars, 1864) (Euphausiacea) in the Barents Sea // **Crustaceana**. 2004. V. 77(3). P. 265-275.

Timofeev S.F. Sex rations in the population of *Thysanoessa raschii* (M. Sars, 1864) (Euphausiacea) // **Crustaceana**. 2002. V. 75, No 8. P. 937-956.

Gudimov A.V., Gudimova E.N. Behavioural and physiological responses of two benthic invertebrates in bioassay of the sublethal effects of coastal pollution // **Natural Wetlands for Wasterwater Treatment in Cold Climates**. WITPRESS Southampton, Boston. Series: Advances in ecological Sciences. 2001. V. 12. P. 225-248.

Druzhkov N.V., Druzhkova E.I., Kuznetsov L.L. The sea-ice algal community of seasonal pack ice in the southwestern Kara Sea in late winter // **Polar Biology**. 2001. V.24, N 1. P. 70-72.

Druzhkov N.V., Makarevich P.R., Druzhkova E.I. Phytoplankton in the southwestern Kara Sea: composition and distribution // **Polar Research**. 2001. V. 20 (1). P. 95-108.

Makarov M.V., Voskoboynikov G.M. The influence of ultraviolet-B radiation on spore release and growth of the Kelp *Laminaria saccharina* // **Botanica Marina**. 2001. V. 44. P. 89-94.

Mishin V.L., Zyryanov S.V., Goryaev Yu.I. Preliminary insight into the harbour seal population of the East Murman coast of the Barents Sea // **Mammalia**. 2001. V. 65, N 3. P. 295-300.

Druzhkov N.V., Druzhkova E.I. The Dynamics of the nanophytoplankton community in the coastal ecosystem of the Southern Bight (North Sea) during the winter-spring period // **Journal of Sea Research**. 2000. V. 43, ?2. P. 105-111.

Druzhkov N.V., Marasaeva E.F., Druzhkova E.I. New records of the carnivorous pelagic polychaete, *Phalacrophorus pictus borealis* Riebisch, 1895 in the Arctic Ocean // **Sarsia**. 2000. N 9.

Timofeev S.F. Discovery of eggs and larvae of *Thysanoessa raschii* (M. Sars, 1846) (Euphausiacea) in the Laptev Sea: proof of Euphausiids spawning on the shelf of the Arctic Ocean // **Crustaceana**. 2000. V. 73 (9). P. 1089-1094.

In co-authorship with Russian and foreign partners

Coulson S.J., Fjellberg A., Gwiazdowicz D.J., Lebedeva N.V., Melekhina E.N., Solhoy T., Ers?us Ch., Maraldo K., Miko L., Schatz H., Schmelz R.M., Soli G., Stur E. Introduction of invertebrates into the High Arctic via imported soils: the case of Barentsburg in the Svalbard // **Biological Invasions**. 2013. V. 15. P. 1-5. DOI 10.1007/s10530-012-0277-y

Coulson S.J., Fjellberg A., Gwiazdowicz D.J., Lebedeva N.V., Melekhina E.N., Solhoy T., Erseus C., Maraldo K., Miko L., Schatz H., Schmelz R.M., Soli G., Stur E. The invertebrate fauna of the anthropogenic soils in the High Arctic settlement of Barentsburg; Svalbard // **Polar Research**. 2013. Vol. 32. 19273, <http://dx.doi.org/10.3402/polar.v32i0.19273>

Coulson S., Lebedeva N. Flying without wings // **International Innovation**. 2013. № 3. P. 98-101. (Research Media, UK, ISSN 2041-4552).

Frie A.K., Hammill M.O., Hauksson E., Lind Y., Lockyer C., Stenman O., Svetocheva O. Error patterns in age estimation and toothreadability assignment of grey seals (*Halichoerus grypus*): results from a transatlantic, image-based, blind-reading study using known-age animals // **ICES Journal of Marine Science**. November 2012. doi:10.1093/icesjms/fss169

Lynghammar A., Christiansen J.S., Mecklenburg C.W., Karamushko O.V., Moller P.R., Gallucci V.F. Species richness and distribution of chondrichthyan fishes in the Arctic Ocean and adjacent seas // **Biodiversity**. 2013. Vol. 14. Issue 1. P. 57-66. <http://www.tandfonline.com/toc/tbid20/current> <http://dx.doi.org/10.1080/14888386.2012.706198>

Aarvak T., Eien I.J., Krasnov Y.V., Gavrilov M.V., Shavykin A.A. The European wintering population of Steller's eider *Polysticta stelleri* reassessed // **Bird Conservation International**. 2012. P. 1-7. Published online: 04 July 2012 DOI: <http://dx.doi.org/10.1017/S0959270912000251> <http://www.sciencedirect.com/science/article/pii/S1873965212000424>

Arcy J.D., Dunaevskaya E., Treasurer J.W., Ottesen O., Maguire J., Zhuravleva N., Karlsen A., Rebours C., FitzGerald R.D. Embryonic development in ballan wrasse *Labrus bergylta* // **Journal of Fish Biology**. 2012. Vol. 81, Issue 3. P. 1101-1110. Article first published online: 13 JUN 2012 doi:10.1111/j.1095-8649.2012.03337.x. available online at wileyonlinelibrary.com

Durant J.M., Krasnov Y.V., Nikolaeva N.G., Stenseth N.C. Within and between species competition in a seabird community: statistical exploration and modeling of time-series data // **Oecologia**. 2012. Vol. 169. P. 685-694. Publish online: 18 December 2011. DOI 10.1007/s00442-011-2226-3. <http://www.springerlink.com/content/x6619v515j601374/>

Frederiksen M., Moe B., Daunt F., Phillips R.A., Barrett R.T., Bogdanova M.I., Boulinier T., Chardine J.W., Chastel O., Chivers L.S., Christensen-Dalsgaard S., Clement-Chastel, C., Colhoun, K., Freeman, R., Gaston, A. J., Gonzalez-Solos, J., Goutte A., Gromillet D., Guilford T., Jensen G.H., Krasnov Y., Lorentsen S.-H., Mallory M.L., Newell M., Olsen B., Shaw D., Steen H., Strom H., Systad G.H., Therarinsson T.L., Anker-Nilssen T. Multicolony tracking reveals the winter distribution of a pelagic seabird on an ocean basin scale // **Diversity and Distributions: A Journal of Conservation Biogeography**. Wiley, Blackwell Publishing. Ltd, 2012. N 18. P. 530-542. Article first published online: 26 NOV 2011. doi: 10.1111/j.1472-4642.2011.00864.x <http://onlinelibrary.wiley.com/doi/10.1111/j.1472-4642.2011.00864.x/abstract>

Kaliszewicz A., Panteleeva N., Olejniczak I., Boniecki P., Sawicki M. Internal brooding affects the spatial structure of intertidal sea anemones in the Arctic-boreal region // **Polar Biol**. 2012. Vol. 35. P. 1911-1919. Published online 05 September 2012. DOI 10.1007/s00300-012-1232-1

Frie A.K., Fagerheim K.-A., Hammill M.O., Kapel F.O., Lockyer C., Stenson G.B., Rosing-Asvid A., Svetochev V. Error patterns in age estimation of harp seals (*Pagophilus groenlandicus*): results from a transatlantic image-

based blind reading experiment using known-age teeth // **ICES Journal of Marine Science**. 2011. Vol. 68(9). P. 1942-1953.

Savinov V., Muirb D.C.G., Svetochev V., Svetocheva O., Belikov S., Boltunov A., Alekseeva L., Reiersen L-O., Savinova T. Persistent organic pollutants in ringed seals from the Russian Arctic // **Science of The Total Environment**. 2011. Vol. 409, issue 14, P. 2734-2745.

Weineroither R.M., Nedreaas K.H., Uiblein F., Christiansen J.S., Byrkjedal I., Karamushko O. The marine fishes of Jan Mayen Island, NE Atlantic - past and present // **Marine Biodiversity**. 2011. V. 41, №. 3. P. 395-411.

Britayev T.A., Rzhavsky A.V., Pavlova L.V., Dvoretiskij A.G. Studies on impact of the alien Red King Crab (*Paralithodes camtschaticus*) on the shallow water benthic communities of the Barents Sea // **J. Appl. Ichthyol**. 2010. V. 26 (Suppl. 2). P. 66-73.

Christiansen J.S., Karamushko L.I., Nahrgang J. Sub-lethal levels of waterborn petroleum may depress routine metabolism in polar cod *Boreogadus saida* (Lepechin, 1774) // **Polar Biology**. 2010. Vol. 33. P. 1049-1055.

Aschan M., Karamushko O.V., Byrkjedal I., Wienerroither R., Borkin I.V., Christiansen J.S. Records of the gadoid fish *Arctogadus glacialis* (Peters, 1874) in the European Arctic // **Polar Biology**. 2009. Vol. 32. P. 963-970.

Dahle S., Anisimova N.A., Palerud R., Renaud P.E., Pearson T.H., Matishov G.G. Macrobenthic fauna of the Franz Josef Land archipelago // **Polar Biology**. 2009. Vol. 32. P. 169-180.

Barrett R.T., Anker-Nilssen T., Bakken V., Strom H., Krasnov Yu.V., Aarvak T. Biometrics as a determinant of the origins of seabirds killed in oil spills and other incidents // **Bird Conservation International**. 2008. Vol. 18. P. 229-241.

Lebedeva N.V., Lebedev V.D. Transport of Oribatid mites to the Polar areas by birds // **Integrative Acarology**. 2008. N 7. P. 359-367.

Sukhotin A., Krasnov Yu., Galaktionov K. Subtidal populations of the Blue mussel *Mytilus edulis* as a key determinant of waterfowl flocks in the south-eastern Barents sea // **Polar Biology**. 2008. Vol. 31. P. 1357-1363.

Krasnov Y.V., Barrett R.T., Nikolaeva N.G. Status of black-legged kittiwakes (*Rissa tridactyla*), common guillemots (*Uria aalge*) and Brunnich's guillemots (*U. lomvia*) in Murman, north-west Russia, and Varanger, north-east Norway // **Polar Research**. 2007. Vol. 26. P. 113-117.

Zhuravleva N.G., O.H. Ottesen, J.Treasurer, M.Herlin, A.Steinarson, D.Hansen, K.Fjalestad, O.Nicolaisen, A.Karlsen, I.Babiak, D.Penman, W.Roy. Oed fry project is truly international // **Fish farmer**. 2006. Vol. 29, N 4. P.24-27.

Krivolutsky D.A., Lebedeva N.V. Oribatid mites (Orabatei, Acariformes) in bird feathers Non-Passerines // **Acta Zoologica Lituanica**. 2004. V. 14, N 1. P. 26-47.

Krivolutsky D.A., Lebedeva N.V. Oribatid mites (Oribatei) in bird feathers. Part 2. Passeriformes // **Acta Zoologica Lituanica**, 2004. V. 14. N.2. P. 19-38.

Zhuravleva N.G., Minchenok E.E. Immunological reactions in the early ontogenesis of Atlantic salmon and humpback salmon // **Phytochemistry Reviews**. 2004. Vol. 3. P. 431-439.

Deubel H., Engel M., Fetzer I., Garaev S., Hirche H-J., Klages M., Larionov V.V., Lubin P., Lubina O., Nothig E.-M., Okolodkov Y., Rachor E. The southern Kara Sea ecosystem: Phytoplankton, zooplankton and benthos communities influenced by river run-off // **Proceedings in Marine Sciences**. 2003. V. 6. P. 237 -265.

Karamushko L.I., Christiansen J.S. Aerobic scaling and resting metabolism in oviferous and post-spawning Barents Sea capelin *Mallotus villosus villosus* (Muller, 1776) // **J. of Experimental Marine Biology and Ecology**. 2002. V. 269. P. 1-8.

Timofeev S.F. B.I. Sirenko (ed.), 2001. List of species of free-living invertebrates of Eurasian Arctic seas and adjacent deep waters: 1-131. (Zoological Institute, St. Petersburg) // **Crustaceana**. 2002. Vol. 75. No 10. P. 1285-1287.

Timofeev S.F., Sklyar V.V. Egg size in the euphausiid, *Thysanoessa raschii* (M.Sars, 1864)(Euphausiacea) in the Barents Sea // **Crustaceana**. 2001. Vol. 74, No. 11. P. 1201-1211.

Smolyar I., Makarevich P., Timofeev S., Zuyev A. Biological atlas of the Barents and Kara Seas // **Earth System Monitor**. 2000. V. 11, No. 2. P. 1-10.

Jrgensen L.L., Pearson T.H., Anisimova N.A., B. Gulliksen, Dahle S., Denisenko S.G., Matishov G.G. Environmental influences on benthic fauna associations of the Kara Sea (Arctic Russia) // **Polar Biology**. 1999. V. 22. P. 395-416.

Environment Pollution

Matishov D.G., Matishov G.G. Radioecology in Northern European Seas. Springer, 2004. 335 p.

Golubeva N., Burtseva L., Matishov G. Measurements of mercury in the near-surface layer of the atmosphere of the Russian Arctic // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 3-9.

In co-authorship with Russian and foreign partners:

Savinov V., Muirb D.C.G., Svetochev V., Svetocheva O., Belikov S., Boltunov A., Alekseeva L., Reiersen L-O., Savinova T. Persistent organic pollutants in ringed seals from the Russian Arctic // **Science of The Total Environment**. 2011. Vol. 409, issue 14, P. 2734-2745.

Sagerup K., Savinov V., Savinova T., Kuklin V., Muir D.C.G., Gabrielsen G.W. Persistent organic pollutants, heavy metals and parasites in the Glaucous gull (*Larus hyperboreus*) on Spitsbergen // **Environmental Pollution**. 2009. Vol. 157. P. 2282-2290.

Dahle S., Savinov V., Petrova V., Klungsoyr J., Savinova T., Batova G., Kurshveva A. Polycyclic aromatic hydrocarbons (PAHs) in Norwegian and Russian Arctic marine sediments: concentrations, geographical distribution and sources // **Norwegian Journal of Geology**. 2006. Vol. 86. P. 41-50. Trondheim, 2006. ISSN 029-196X.

Polder A., Savinova T., Becher G. Skaare J. Temporal Changes of PCBs, PCDD/PCDFs and Chlorinated Pesticides in Human Milk from Murmansk, Russia, and Tromso Norway // **Organohalogen Compounds**, 2004. Vol. 66. P. 2795-2799.

Dahle S., Savinov M.V., Matishov G.G., Evenset A., Nes K. Polycyclic aromatic hydrocarbons (PAHs) in bottom sediments of the Kara Sea shelf, Gulf of Ob and Yenisei Bay // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 57-71.

Muir D., Savinova T., Savinov V., Alexeeva L., Potelov V., Svetochev V. Bioaccumulation of PCBs and chlorinated pesticides in seals, fishes and invertebrates from the White Sea, Russia // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 111-131.

Savinov M.V., Savinova T.N., Matishov G.G., Dahle S., Nes K. Polycyclic aromatic hydrocarbons (PAHs) and organochlorines (OCs) in bottom sediments of the Guba Pechenga, Barents Sea, Russia // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 39-56.

Savinov V.M., Gabrielsen G.W., Savinova T.N. Cadmium, zinc, copper, arsenic, selenium and mercury in seabirds from the Barents Sea: levels, inter-specific and geographical differences // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 133-158.

Skotvold T., Savinov V. Regional distribution of PCBs and presence of technical PCB mixtures in sediments from Norwegian and Russian Arctic Lakes // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 85-97.

Zauke G.-P., Clason B., Savinov M.V., Savinova T. Heavy metals of in-shore Benthic invertebrates from the Barents Sea // **The Science of the Total Environment**. 2003. Vol. 306, No. 1-3. P. 99-110.

Matishov G., Matishov D., Namjatov A., Smith N.J., Carroll J. Radioactivity near the Sunken Submarine "Kursk" in the Southern Barents Sea // **Environmental Science & Technology**. 2002. Vol. 36, N 9. P. 1919-1922.

Matishov G.G., Matishov D.G., Namjatov A.A., Carroll J., Dahle S. Discharges of nuclear waste into the Kola Bay and its impact on human radiological doses // **Journal of Environmental Radioactivity**. 2000. V. 48. P. 5-21.

Savinov V.M., Savinova T.N., Carroll J.L., Matishov G.G., Dahle S. and Nes K. Polycyclic aromatic hydrocarbons (PAHs) in sediments of the White Sea, Russia. // **Mar. Poll. Bull.** 2000. 40. P. 807-818.

Marine Geology

Matishov G., Kovaleva G., Novenko E., Krasnorutskaya K., Pol'shin V. Paleogeography of the Sea of Azov region in the Late Holocene (reconstruction by diatom and pollen data from marine sediments) // **Quaternary International**. 2012. P. 1-9. <http://dx.doi.org/10.1016/j.quaint.2012.05.044>

Taldenkova E., Bauch H.A., Stepanova A., Ovsepyan Y., Pogodina I., Klyuvitkina T., Nikolaev S. Benthic and planktic community changes at the North Siberian margin in response to Atlantic water mass variability since last deglacial times // **Marine Micropaleontology**. 2012. Vol. 96-97. December 2012. P. 13-28. doi: 10.1016/j.marmicro.2012.06.007 <http://www.sciencedirect.com/science/article/pii/S0377839812000618>

Tarasov G.A. Sedimentation processes and glacial history in the Western Arctic Ocean // **Berichte zur Polar- und Meeresforschung**. Reports on Polar and Marine Research. 2012. N 640 / Ed. by G. Hempel, K. Lochte, G. Matishov P. 81-100. ISSN 1866-3192.

Taldenkova E., Bauch H.A., Gottschalk J., Nikolaev S., Rostovtseva Y., Pogodina I., Ovsepyan Y., Kandiano E. History of ice-rafting and water mass evolution at the northern Siberian continental margin (Laptev Sea) during Late Glacial and Holocene times // **Quaternary Science Reviews**. 2010 V. 29. P. 3919-3935.

MacDonald G.M., Gervais B.R., Snyder J.A., Tarasov G.A., Borisova O.K. Radiocarbon dated *Pinus Sylvestris* L. Wood from beyond treeline on the Kola Peninsula, Russia // **The Holocene**. 2000. Vol. 10. P. 143-147.

Snyder J.A., MacDonald G.M., Forman S., Tarasov G.A., Mode W.M. Postglacial climate and vegetation history, north-central Kola Peninsula, Russia: pollen and diatom records from lake Varnyshnoe-3 // **Boreas**, 2000. V.30. P. 102-112.

Forman S.L., Lubinski D.G., Zeeberg J.J., Polyak L., Miller G.H., Matishov G.G., Tarasov G.A. Postglacial emergence and Late Quaternary glaciation on northern Novaya Zemlya, Arctic Russia // **Boreas**. 1999. V.28, N1. P. 133-145.

Large Marine Ecosystems

Denisov V.V., Shavikin A.V. Water quality assessment and the problem of marine ecosystem stability // **Dynamics of the White Sea Ecosystems**. Springer, 2005. P. 325-340.

Makarevich P.R., Krasnov Ju.V. Aquatic ecosystem profile // **Dynamics of the White Sea Ecosystems**. Springer, 2005. P. 155-178.

Sherman K., Sissenwine M., Christensen V., Duda A., Hempel G., Ibe C., Levin S., Lluch-Belda D., Matishov G., McGlade J., O'Tool M., Seitzinger S., Serra R., Skjoldal H.R., Tang Q., Thulin J., Vandeweerdt V., Zwanenburg K. A global movement toward an ecosystem approach to management of marine resources // **Marine Ecology Progress Series**. 2005. Vol. 300. P. 241-296.

Matishov G.G., Denisov V.V., Dzhenyuk S.L., Karamushko O.V., Daler D. The impact of fisheries on the dynamics of commercial fish species in Barents Sea and the Sea of Azov, Russia: a historical perspective // **AMBIO: A Journal of the Human Environment**. 2004. Vol. 33. No. 1-2. P. 63-67.

Matishov G.G., Denisov V.V., Dzhenyuk S.L. Contemporary state and factors of stability of the Barents Sea Large Marine Ecosystem // **Large Marine Ecosystem of World: Trends in Exploration, Protection, and Research**. ELSEVIER, 2003. P. 41-74.

Atlases

Matishov, G., D. A. Zuyev, V. Golubev, N. Adrov, S. Timofeev, O. Karamushko, L. Pavlova, O. Fadyakin, A. Buzan, A. Braunstein, D. Moiseev, I. Smolyar, R. Locarnini, R. Tatusko, T. Boyer, S. Levitus, 2004: Climatic Atlas of the Arctic Seas 2004. NOAA Atlas NESDIS 58, World Data Center for Oceanography-Silver Spring, International Ocean Atlas and Information Series, Volume 9, U.S. Government Printing Office, Washington, D.C., 148 p., CD-ROM.

Matishov, G.G., P. Makarevich, S. Timofeev, L. Kuznetsov, N. Druzhkov, V. Larionov, V. Golubev, A. Zuev, N. Adrov, V. Denisov, G. Iliyn, A. Kuznetsov, S. Denisenko, V. Savinov, A. Shavikyn, I. Smolyar, S. Levitus, T. O'Brien, O. Baranova, 2000: Biological atlas of the Arctic Seas 2000: Plankton of

the Barents and Kara Seas. NOAA Atlas NESDIS 39. U.S. Gov. Printing Office, Wash., D.C., 348 p.

Matishov G., Zhev, A., Golubev, V., Adrov N., Slobodin, V., Levitus, S., Smolyar, I., 1998: Climatic Atlas of the Barents Sea 1998: Temperature, Salinity, Oxygen. NOAA Atlas NESDIS 26. U.S. Gov. Printing Office, Wash., D.C., 144 p.

Maps

Bathymetric Map of the Franz Josef Land Area, Geological Society of America Map and Chart Series. MCHO80. Map Scale 1:500 000/ *Matishov G., Cherkin N., Vermillion M., Forman S.* Colorado, USA, 1995.

Levels and Main Directions of Radionuclides Transfer in the Barents and Kara Seas. Scale 1:4 704 075 / *Matishov G., Matishov D., Nazimov V., Rovaniemi (Finland)*, 1994.

Ecology of Novaya Zemlya Region. Map Scale: 1:2 000 000/ *Matishov G., Sahatdinov A., Weslawski S.* Polish Academy of Sciences. Sopot, 1992.

Barents Sea Biological Resources and Human Impact. Map Scale: 1:3 000 000/ *Matishov G., Weslawski S.* Norwegian Polar Inst. Oslo, 1991.