

Russian Academy of Sciences (RAS)  
Division of Biological Sciences (DBS RAS)  
Scientific Council of Hydrobiology and Ichthyology RAS  
Hydrobiological Society at RAS (HBO at RAS)  
RAS Scientific Council of Research, Preservation and Rational Use of Animal World  
RAS Commission of Preservation of Biological Diversity  
International Union of Biological Sciences (IUBS)  
International Society of Zoological Sciences (ISZS)  
US Fish and Wildlife Service (US FWS)  
US Geological Survey (USGS)  
A. N. Severtsov Institute of Ecology and Evolution, RAS (SIEE RAS)  
I. D. Papanin Institute for Biology of Inland Waters, RAS (IBIW RAS)

# **INVASION OF ALIEN SPECIES IN HOLARCTIC. BOROK-VI**

Sixth International Symposium.

Book of abstracts

Borok — Uglich, 11–15 October 2021

UDC 574(063)  
I-70

**Editors:**

Yury Yu. Dgebuadze, Dr.Sci. (Biol.), Prof., Academician of RAS

Alexander V. Krylov, Dr.Sci. (Biol.), Prof.

Varos G. Perosyan, Dr.Sci. (Biol.)

Dmitry P. Karabanov, Ph.D. (Biol.)

*The symposium is held with the financial support of International Union of Biological Sciences  
(<http://www.iubs.org/>)*

I-70            **Invasion of Alien Species in Holarctic. Borok-VI : sixth International Symposium.**  
Book of abstracts / Russian Academy of Sciences (RAS) [et al.] ; Ed. Yu. Yu. Dgebuadze,  
A.V. Krylov, V. G. Perosyan, D. P. Karabanov. — Kazan : Buk, 2021. — 250 p. — Text :  
electronic.

ISBN 978-5-00118-788-2.

The book represents proceedings of Sixth International Symposium “Invasion of Alien Species in Holarctic. Borok -VI” (11 Oct. – 15 Oct. 2021, Borok – Uglich, Russia). The wide spectrum of problems related to appearance and spread of invasive plants and animals is discussed. The book may be interested for specialists in many fields, such as limnologists, hydrobiologists, ecologists, botanists, zoologists, geographers, managers of dealing with nature preservation and fisheries.

UDC 574(063)

ALIEN SPECIES IN THE ZOOPLANKTON OF AQUATIC ECOSYSTEMS IN BELARUS V.V. Vezhnavevets, A.G. Litvinova .....	235
THE "BLACK BOOK" OF THE RUSSIAN FAR EAST FLORA Yu.K. Vinogradova .....	236
IDENTIFICATION OF THE QUARANTINE WEED SILVERLEAF NIGHTSHADE ( <i>SOLANUM ELAEAGNIFOLIUM</i> CAV.), PECULIARITIES OF PUBESCENCE AND DEVELOPMENT OF DNA MARKERS BASED ON CHLOROPLASTIC INTERGENE SPACERS Volodina E.A., Kulakova Y.Y., Dobrovolskaya O.B., Anisimenko M.S. ....	237
DOES THE NATURAL HYBRIDIZATION OF <i>DREISSENA POLYMORPHA</i> (PALL., 1771) AND <i>DREISSENA ROSTRIFORMIS BUGENSIS</i> (ANDR., 1897) OFTEN OCCUR? I.S. Voroshilova .....	238
RAPID ASSESSMENT OF CERAMBYCID BEETLE BIODIVERSITY IN A TROPICAL RAINFOREST IN YUNNAN PROVINCE, CHINA, USING A MULTICOMPONENT PHEROMONE LURE J. D. Wickham .....	239
DISTRIBUTION OF ALIEN FISH SPECIES IN THE FOOTHILL RIVERS OF THE WESTERN SALAIR (UPPER OB' BASIN) E.N. Yadrenkina, A.V. Yadrenkin .....	240
DETECTION OF TWO MYXOSPOREAN SPECIES OF THE GENUS <i>KUDOJA</i> (MYXOSPOREA: KUDOIDAE) IN TWO SPECIES OF INVASIVE GOBIES (ACTINOPTERYGII: GOBIIDAE) IN THE BLACK SEA V.M. Yurakhno <sup>1</sup> , E.E. Slynko <sup>2</sup> , Yu.V. Slynko <sup>1</sup> .....	241
SOME DATA ON <i>AMORPHA FRUTICOSA</i> L. (FABACEAE) IN THE TERRITORY OF KAMYSHIN (VOLGOGRAD REGION) N.A. Yuritsyna .....	242
THE KARA SEA – SINK OR SOURCE OF THE SNOW CRAB <i>OPILIO</i> ( <i>CHIONOECETES OPILIO</i> ) POPULATION? A.K. Zalota, I.M. Anisimov, S.V. Galkin, A.A. Udalov .....	243
ALIEN AND RARE ZOOPLANKTON SPECIES IN MOUTH AREAS OF TRIBUTARIES OF THE MIDDLE VOLGA LOWLAND RESERVOIRS V.S. Zhikharev, D.E. Gavrilko, T.V. Zolotareva, G.V. Shurganova .....	244
NEW DATA ON THE DISTRIBUTION OF THE ALIEN SPECIES <i>PLEUROXUS DENTICULATUS</i> BIRGE, 1879 (CLADOCERA: CHYDORIDAE) IN EUROPEAN RUSSIA V.S. Zhikharev, A.Yu. Sinev, G.V. Shurganova .....	245
INVASION OF THE POLYCHAETA <i>MARENZELLERIA NEGLECTA</i> SIKORSKI & BICK, 2004 (POLYCHAETA: SPIONIDAE) IN THE AZOV SEA BASIN L.A. Zhivoglyadova, N.S. Elfimova .....	246
THE STATUS OF SHRIMP WHITE SPOT SYNDROME VIRUS IN IRAN AND WAYS TO MONITORING AND PREVENTION M. Ziarati, M.J. Zorriehzahra .....	247
IS THE INVASION OF THE EUROPEAN RIVER LAMPREY, <i>LAMPETRA FLUVIATILIS</i> , (PETROMYZONTIDAE) TO THE VOLGA BASIN A RESULT OF HUMAN ACTIVITY IN THE 18–20 CENTURIES? A.O. Zvezdin, A.V. Kucheryavyi, A.V. Kolotei, N.V. Polyakova, D.S. Pavlov .....	248
GENETIC VARIABILITY OF <i>BUNIAS ORIENTALIS</i> WITHIN ITS NATIVE AND INTRODUCED RANGES D. Žvingila, J. Patamsytė, D. Naužemys, T. Čėsniėnė, V. Kleizaitė, O.N. Demina, S.I. Mikhailova, V.A. Agafonov .....	249

**GENETIC VARIABILITY OF *BUNIAS ORIENTALIS* WITHIN ITS NATIVE AND INTRODUCED RANGES**

D. Žvingila<sup>1</sup>, J. Patamsytė<sup>1</sup>, D. Naugžemys<sup>2</sup>, T. Čėsniėnė<sup>1</sup>, V. Kleizaitė<sup>1</sup>, O.N. Demina<sup>3</sup>, S.I. Mikhailova<sup>4</sup>, V.A. Agafonov<sup>5</sup>

*Institute of Biosciences, Life Sciences Center, Vilnius University, Lithuania,*

*e-mail: [donatas.zvingila@gf.vu.lt](mailto:donatas.zvingila@gf.vu.lt)*

<sup>2</sup>*Botanical Garden of Vilnius University, Vilnius University, Lithuania,*

<sup>3</sup>*Karachay-Circassian State University, Russia,*

<sup>4</sup>*National Research Tomsk State University, Russia,*

<sup>5</sup>*Voronezh State University, Russia*

Warty cabbage (*Bunias orientalis*) (Brassicaceae) is widely spread across Europe (except the southern part), western Asia, Siberia, Russian Far East, and North America. In some parts of central and northern Europe, this species is considered an invasive species where it penetrates in seminatural ecosystems. *B. orientalis* is also well adapted to occupy anthropogenized habitats. We evaluated genetic diversity patterns of *B. orientalis* (Brassicaceae) in three geographically distant areas. Using inter-simple sequence repeat fingerprinting, we studied warty cabbages, including non-native populations, from the eastern Baltic and western Siberian (Tomsk) regions and native populations from southwestern Russia. The genetic structures of the native and non-native *B. orientalis* populations were assessed through analysis of molecular variance (AMOVA) and the Bayesian clustering method and by determining the main measures of genetic diversity. We studied 8 Baltic populations (including populations from Lithuania, Latvia, Poland and Russia), 8 populations from the native region in southwestern Russia, and 7 Siberian populations. The inter-population component was high and constituted 49% of the total genetic diversity. Principal coordinate analysis clustered the 23 populations into two groups that generally corresponded to the native and non-native ranges of *B. orientalis*. The larger group mostly included non-native populations. The smaller, native population group, showed relatedness only between native populations. Differences between the populations from the native and non-native groups were found in both cases, despite the locations of the non-native populations. In contrast, no statistically significant difference in diversity parameters was detected between the groups of populations from the two different nonnative regions (Baltic and Siberian, Tomsk). Our study did not reveal a decrease in genetic diversity due to genetic drift in the non-native populations of *B. orientalis*. This phenomenon can be explained by multiple species germplasm introductions into non-native area.

*Электронное научное издание*

**ЧУЖЕРОДНЫЕ ВИДЫ В ГОЛАРКТИКЕ. БОРОК-VI**

*Electronic scientific edition*

**INVASION OF ALIEN SPECIES IN HOLARCTIC. BOROK-VI**

*Texts are printed in the author's edition*

Page layout by authors

Signed to use 07.10.2021. Page format 60x84/8. Conventional printed sheets 28,83.  
Order 1374.

"Buk" Publishing House. 25 Ak. Kirpichnikov Ave., Kazan, 420029, Russia.