

**International Conference “Study, Preservation, and Sustainable Use of the Plants of Eurasia”
dedicated to the 90th anniversary of Institute of Botany and Phyto-introduction*
September 7–9, 2022, Almaty, Republic of Kazakhstan**

RESOLUTION

Scientists from 72 scientific centers of Abkhazia, Azerbaijan, Belarus, Germany, Georgia, Israel, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Russia, Tajikistan, and Uzbekistan, including scientists from 23 universities in Kazakhstan, Russia, and Kyrgyzstan, as well as protected areas research staff (two strict nature reserves and four national parks in Kazakhstan) attended the conference, virtually and in-person.

The conference began in plenary session on September 7 with an audience of over 200 people. President of the National Academy of Sciences R. Zhirinov and Chairman of the Forestry and Wildlife Committee (Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan) N. Kylyshbayev welcomed Conference participants. Leading scientists from Kazakhstan and other countries also gave welcoming speeches: National Academy of Sciences of the Republic of Kazakhstan Academician I. Rakhimbayev, National Academy of Sciences of Belarus Academician Reshetnikov V., Professor of L.I. Gumilev ENU S. Abiev, General Director of the Scientific and Production Center for Microbiology and Virology Academician A. Sadanov, and others.

President of Kazakhstan Kassim-Jomart Tokayev sent his congratulations. Leading scientific institutions of the EAEU and foreign countries also noted the anniversary: Brest National Botanical Garden (France), BIN RAS (St. Petersburg), Moscow State University (Moscow), Kuprevich Institute of Experimental Botany of NAS of Belarus (Minsk), Central Siberian Botanical Garden SB RAS (Novosibirsk), etc.

Following the opening, four plenary reports were given by Director General of the Institute of Botany and Phyto-introduction G. Sitpayeva, Director of the Tsitsin Main Moscow Botanical Garden, (RAS), V. Upelniyek, Head of the Laboratory of Molecular Genetics at IWEP, Professor E. Turuskepov, and President of “International Center of Scientific Collaborations,” member preparatory committee of the World Organization for Scientific Literacy (WOSL), member of the Council of Scientific Education (IAP SEP), Dr. L. Kussainova (Nur-Sultan) with a speech “Children in Science: Success Stories”. An anniversary video dedicated to the history of Institute’s establishment was screened. Honored guests and veterans and employees of the Institute were recognized for their service.

On September 8, the Conference continued in three sections “Introduction and biotechnology of plants,” “Flora, vegetation, conservation, and plant resources,” and “Modern issues in the study of spore plants,” reviewing and discussing approximately 150 scientific articles.

Scientists presented 67 reports from the Tsitsin Main Moscow Botanical Garden, RAS (Moscow); Central Botanical Garden of the National Academy of Sciences of Belarus (Minsk); V.L. Komarov Botanical Garden of Peter the Great of Botanical Institute, RAS (St. Petersburg); Mangyshlak Experimental Botanical Garden of the Republic of Kazakhstan (Aktau); Institute of Botany of the Academy of Sciences of the Republic of Uzbekistan (Tashkent); Osh State University (Osh, Kyrgyz Republic); and Institute of Botany and Phyto-introduction (Almaty). They reflected on current trends toward the development of fundamental and applied botanical studies of Eurasian plants.

Conference participants noted the fact that neither natural variability in medicinal plant quality nor timing related to ongoing climate transformation are well-controlled by the pharmaceutical industry. M. Dr. Proskuryakov proposed to monitor medicinal plant variability in Kazakhstan’s changing climate using a chronobiological analysis method. This permits quantitative monitoring of the zonal variability of medicinal plants and the extent of their vulnerability to climate change. This solution can be implemented in other countries’ pharmaceutical industries as well as through environmental monitoring programs carried out by biologists, ecologists, teachers, and agricultural practitioners.

Conference participants agreed that it is expedient and important to develop and adopt national strategies for plant conservation, actively participate in implementation of a Global Strategy for Plant

Conservation, and use complex (species and ecosystem) approaches to identify areas with valuable botanical diversity.

During conference sessions, participants noted the high quality of plenary and sectional reports, summarized conference results in a resolution, and found the conference to be an important scientific event continuing the best traditions of science communication and consolidating researchers and experts in different fields of botany.

Conference participants recommend:

- Recognition as relevant and promising the main directions of botanical research in the study of phyto-diversity presented at the conference;
- Implementation of a pilot project to monitor the variability of medicinal plants for their sustainable use in the context of Kazakhstan's continuously and dangerously transforming climate;
- Uniting efforts of Eurasian botanical organizations and all interested parties to prepare national and regional lists of threatened and endemic plant species, describe rare and threatened plant communities, develop habitat systems, and create a network of Important Plant Areas;
- Facilitate to international cooperation in the development, coordination, and implementation of basic and applied research projects for solving plant conservation challenges for plant diversity and sustainable use of plant resources;
- Participation in comprehensive and international botanical research on the study, conservation, and sustainable use of Eurasian plants;
- Expanding the cultivation of rare and endemic plant species;
- Reviving joint ecological and geographical testing of introduced species samples in botanical institutions of various natural and climatic zones;
- Developing a unified comprehensive methodology for studying the form diversity of model plant species;
- Strengthening and coordinating botanical research with the subsequent creation of a center for the study and conservation of natural populations of *Malus sieversii*;
- Educating state institutions about the need for appropriate and stable financing of scientific research on the study, thoughtful and sustainable use, restoration, and preservation of Kazakhstan's plants;
- Ongoing inventorying and mapping of invasive plant species in Kazakhstan to develop a database of the most aggressive species and predict new vegetation invasions in a changing climate;
- Establish and implement processes to expand scientific literacy using the principles of scientific education based on research among schoolchildren interested in in-depth study of biology;
- Acknowledging gratitude to the organizing committee for planning and hosting the anniversary conference.

The conference resolution will be published on the Institute of Botany and Phyto-introduction's website.

Participants, International Scientific and Practical Conference: "Study, Preservation, and Sustainable Use of the Plants of Eurasia," September 08, 2022

** Republic State Enterprise for the Right of Economic Management "Institute of Botany and Phyto-introduction," Committee of Forestry and Wildlife of the Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan*