

CABCN members:

- **Republic of Korea**
 - Korea National Arboretum
 - Baekdudaegan National Arboretum
- **Republic of Kazakhstan**
 - Institute of Botany and Phytointroduction of the Committee of Science, Ministry of Education and Science
 - Almaty branch Scientific Research Institute of Forestry and Agroforestry Limited Liability Corporation (LLC) of the Ministry of Agriculture
- **Kyrgyz Republic**
 - Department of Forest Ecosystems Development of the State Agency on Environment Protection and Forestry
 - Scientific Research Institute Botanical Garden named after E. Gareev of the National Academy of Sciences
- **Republic of Uzbekistan**
 - Institute of Botany of the Academy of Sciences
 - Botanical Garden named after acad. Rusanov F.N of the Institute of Botany of the Academy of Sciences
- **Republic of Tajikistan**
 - National Biodiversity and Biosafety Centre of the Committee for Environmental Protection under the Government of the Republic of Tajikistan
 - Pamir Biological Institute named after Yusufbekov Kh. of the Academy of Sciences

Baekdudaegan Global Seed Vault newsletter in cooperation with CABCN

Greetings from the staff of the Seed Conservation division of the Baekdudaegan Global Seed Vault (BGSV)

Dear colleagues and friends!

It is much honor to greet you and express my sincere hope that collaboration between the Baekdudaegan National Arboretum and the advancing Central Asian organizations will strengthen and include more aspects and directions such as seed research.

The Seed Conservation division is one of two divisions of the BGSV. In total, 20 researchers work in the division. Our research area covers different directions of seeds study such as establishing of the optimal germination environment for wild plant species, dormancy characteristics of different seed types and dormancy breaking techniques, developing physiological indicators to predict seed storage longevity and many others. We believe that only safe and reliable operation of storage facility may guarantee security of unique collections of native plant species. We also established data management system for efficient and reliable recording of information which helps in future to establish or develop strategies to restore or protect disappearing or endangered wild plant species. We hope to collaborate with Central Asian organizations and conserve our common treasure—biodiversity of wild plant species.

Sincerely yours,
Kee-Hwa Bae
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Senior Manager Kee-Hwa Bae



Seed storage research team, BGSV



Seed viability research team, BGSV



Inside this issue:

- Greetings from the staff of the Seed Conservation division, BGSV.* 1
- 1st International Conference on Wild Plant Seeds, 19 June 2019. BDNA, Republic of Korea* 2
- Seed collection of wild plants from local flora of Tajikistan. Pamir Biological Institute, Republic of Tajikistan* 3
- Seed propagation of Magnolia tripetala L. Botanical Garden named after E. Gareev, Kyrgyz Republic.* 3
- Seed collection of wild plants from local flora of Kyrgyz Republic. Department of Forest ecosystems development, Kyrgyz Republic* 4
- Bonghwa Native Plants Festival, 20 July — 11 August 2019., BDNA, Republic of Korea.* 4
- Contact information and announcements* 5
- About CABCN* 5

Seed Conservation division, BGSV. August, 2019





Baekdudaegan National Arboretum/ Baekdudaegan Global Seed Vault, Republic of Korea
**1st International Conference on Wild Plant Seeds,
19 June 2019.**



The Baekdudaegan National Arboretum (BDNA) in cooperation with Asian Forest Cooperation Organization (AFoCO) hosted the 1st International Conference on Wild Plants Seeds on the 19th June in the frame of “2019 Asia–Pacific Forest Week” which was hold during 17—21 June 2019 at Songdo Convensia, Incheon, Republic of Korea. More than 200 experts from domestic and overseas organizations participated at the event.



The main purpose of the conference was forests restoration and seed conservation policy in Asia-Pacific region. The key point in the presentations of distinguished speakers from Cambodia, Myanmar, Thailand and Korea was necessity to unite efforts and act together to preserve forest genetic resources. One of the effective ways is seed conservation on long term conditions. Seed research, seed quality control, and sustainable management and development of forests were considered as essential components of forest restoration programs and action plans.

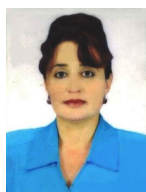


Technical cooperation in long term storage of the seeds is important requirement for biodiversity conservation. The Baekdudaegan Global Seed Vault is an important perspective for long term conservation of wild plants seeds and safety policy for many plant species worldwide.



During the APFW2019 two MoU were signed, i.e. between BDNA and AFoCO, and BDNA and Institute of Forest and Wildlife Research and Development of the Forestry Administration of Cambodia aiming at establishing and developing collaboration for biodiversity conservation for present and future generations.





*Pamir Biological Institute named after Yusufbekov Kh./
Pamir Botanical Garden of the Academy of Sciences, Republic of Tajikistan*

Seed collection of wild plants from local flora of Tajikistan (Khorog, Pamir).



Tajikistan is a mountainous, landlocked country with an incredibly rich landscape, wildlife and culture. It is characterized with diversity of landscapes ranging from hot, dry deserts to frozen mountains and glaciers.

This diversity of ecosystems results in biodiversity of plant and animal species. Tajikistan is recognized as a part of the Mountains of Central Asia biodiversity hotspot.



Pamir Biological Institute named after Yusufbekov Kh. and Pamir Botanical Garden scientists conduct seed collection of the plant species of local flora. Collaboration between the botanists of the Pamir Botanical Garden and Korean organizations give possibility to protect unique ecosystems in Pamir Mountains, share knowledge and experience in seed collection, conservation and protection of the unique ecosystem of Pamir Mountains. In figures: seed collection of *Lepidium latifolium* L., *Allium elatum* Regel, *Ferula grigoriewii* B Fedtsch from wild flora.



Scientific Research Institute Botanical Garden named after E.Gareev of the National Academy of Sciences, Kyrgyz Republic

Seed propagation of *Magnolia tripetala* L.

Magnolia tripetala L., commonly called umbrella magnolia or simply umbrella-tree, is a deciduous tree native to the eastern United States. The name "umbrella tree" derives from the fact that the large leaves are clustered at the tips of the branches forming an umbrella-shaped structure.

The scientists of the Gareev Botanical Garden introduced this beautiful species in the conditions of the Botanical Garden. The methods of plant propagation from the seeds were developed and published in the Proceedings of the Scientific conference devoted to the 120th anniversary of academician Cicin N.V. "Legacy of the academician Cicin N.V. Botanical gardens in modern time" hosted by Main Botanical Garden in Moscow in 2019. The title of the published article is "Seed propagation of *Magnolia tripetala* L. in the Gareev Botanical Garden of the NASc of Kyrgyz Republic" by G.V. Malosieva (gulbutak@yandex.ru), L.M. Andreychenko.

This article presents the results of the five-year experiments on the seed reproduction of the *Magnolia tripetala* L. in the collection of the Gareev Botanical Garden of NAS KR. As best option of seed propagation was chosen presowing processing of seeds of the *Magnolia tripetala* in the water during three days with the following removal of the sarcotesta. The percent of the sprouted seeds in this case was in average 75.63%, whereas in control—44.37% .



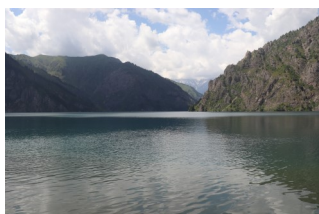


Department of Forest Ecosystems Development, Kyrgyz Republic

Seed collection of wild plants from local flora of Kyrgyz Republic (Jalal-Abad region, Western Tien Shan).

According to the latest estimations, the flora of Kyrgyz Republic includes about 3,900 plant species, of which about 10% are endemics. Some of these endemics have narrow distribution areas, being confined to a few mountain ranges or even small valleys. The flora of Kyrgyz Republic is still incompletely explored. The majority of the territory is characterised by mountains, the highest of which are Lenin Peak (7,439 m) and Khan Tengri Peak (6,995 m). Some areas of the Fergana and Chui valleys exhibit the lowest altitudes in the country (between 500 and 600 m).

The researcher of the Department of Forests ecosystems development conduct seed collection from local flora of Jalal-Abad region (Western Tien Shan). This year seeds were collected in Arkyt, Aksyi and Avletim forestries. The collected seeds are aimed for long term conservation and seed research.



Baekdudaegan National Arboretum/Baekdudaegan Global Seed Vault, Republic of Korea

Bonghwa Native Plants Festival, 20 July — 11 August 2019.

Bonghwa Native Plants Festival started on the 20th July 2019 in the Baekdudaegan National Arboretum. The Festival was opened by the Director General of BDNA Dr. Kim Yong Ha, the Director of the Gardening and Exhibition division Dr. Shin Chang Ho, and distinguished guests, including famous artist An Chang Su. He gifted one of his masterpieces to the BDNA. During the festival visitors will be able to enjoy blooming wild plants such as *Lythrum salicaria* L., *Veronica longifolia* L. and hundreds others from wild flora. Among blooming paradise, water lily *Nymphaea tetragona* is attracting with its beautiful flowers welcoming visitors at the entrance.



Contact information and announcements

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Global mission of Baekdudaegan Global Seed Vault is to store seed samples from the world's most diverse ecoregions and natural communities, and by this way, to harbor the most of the Earth flora biodiversity, which will be potential to survive in the events of natural disasters and anthropogenic catastrophes not only to human being, but animals, birds, insects and other creatures.

Announcements

Incoming Conference and Workshop events.

- Bishkek, Kyrgyz Republic. 20 September, 2019.** International conference devoted to 100th anniversary of professor Tkachenko V.I. "The role of botanical gardens in enrichment and conservation of natural and cultural flora" organized by Gareev Botanical Garden, Kyrgyz Republic.
- Republic of Korea. 17-20 October, 2019.** Symposium and short term training course within "1st Central Asia Green Road project".
- International conference** in Astana, Kazakhstan. (information will be available later)

About CABCN

Central Asia Biodiversity Conservation Network (CABCN) is an initiation of Korea Forest Service (KFS) and Korea National Arboretum (KNA). The network serves as platform for flora research and biodiversity conservation projects based on comprehensive Agreement between the Republic of Korea and Central Asian countries concerted during the 7th Korea-Central Asia Cooperation Forum held in Bishkek in 2013, and 8th Korea-Central Asia Cooperation Forum in Seoul in 2014.

The KNA and Central Asian Forestry and scientific-research prominent organizations strengthened their efforts in biodiversity conservation through the "Central Asian Green Road" and "Research of the Tien Shan flora" projects.

The projects also contribute to biodiversity conservation activities at global level through trainings and education programs, knowledge and expertise sharing.

CABCN welcomes new organizations to the network and their valuable contribution into biodiversity conservation and hope our cooperation will be beneficial not only for our organizations and countries, but for nature conservation as well.

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