CHRONICLE

The Tallinn Botanical Garden in Estonia – 40 years

History

The first botanical gardens in Estonia were founded in Tartu in 1803, under the local university reopened in the previous year. The idea of also founding botanical gardens in Tallinn emerged in the 1860's. It took almost 100 years for the idea to be materialized. On December 1, 1961, the Tallinn Botanical Gardens was established as a subordinate institution of the Academy of Sciences of the Estonian SSR.

Preparatory works for the establishment of the Botanical Gardens were commenced much earlier. The idea was revived in 1946. The first experimental gardening farm in Tallinn was established in 1950, on the plot expropriated from gardener Otto Kramer (1883-1972) in the city district of Lilleküla. There, the gathering of plants for the future botanical gardens was commenced. By the late 1955, 2,900 taxa of ornamental plants had already been gathered there.

In search of a new location for the Botanical Gardens, a suitable tract of land was spotted in the Pirita River valley at Kloostrimetsa (Forest of Cloister) northeast of Tallinn in the 1950's. The tract was mainly composed of farmland belonging to Konstantin Päts (1874-1956), the former president of Estonia (in 1938-1940).

The territory of TBG is divided by the river Pirita, bordered by a large area of sandy pine forests. In the neighborhood, Metsakalmistu (Forest Cemetery) is located. The Tallinn TV tower is standing right next to the Botanical Garden. The cafe of the TV tower is at the height of 170 m, offering a good panoramic view of the surroundings.

In 1959, the first workers arrived at Kloostrimetsa and the establishment of the Botanical Gardens (TBG) began. Subsequently, the TBG developed into a comprehensive research institute dealing with a vast number of issues in natural science. Because of the transformations in Estonian science in the 1990's, the TBG lost its importance as a scientific institution. In 1995, the TBG was transferred into the ownership of the city of Tallinn. Currently, the TBG consists of the following departments: Accountancy Department, Administrative Department, Marketing and Sales Department, Department of Woody and Herbaceus Plants, Department of Tropical and Subtropical Plants, Department of Environmental Education and Department of Research.

At present, the TBG covers an area of 109 hectares and has 46 employees. It has been headed by Director Veiko Lõhmus since 2001.

In 1961, collectioning of tropical and subtropical plants was started in two hothouses (600 m²). In 1971, five new greenhouses were built, including the 9 m high palmhouse, and the total covered area under the glass expanded to 2100 m². In 1994, the greenhouse for succulent plants was rebuilt using modern construction methods and computer climate control. In 1999 reconstruction of Palm house was finished. There is a glass house for palms and other subtropical plants, which is of 500sq/m, its max. height is 20 m, a conference hall for 120 people, a lecture room for 25 students, a coffe-shop and rooms for the staff of departments of environmental education and subtropical and tropical plants. During the reconstruction a new heating center was set up and new pipelines were installed.

Woody plants collections

The development of the TBG collections owes much to numerous expeditions. Nearly 50 expeditions have been organized to this effect, and plant material has been collected from 30 floristic regions. Other botanical gardens have been interested in obtaining seeds from natural habitats and we have tried to meet these requests.

The total number of taxa in the living plant collections was 7,979 (2000). The collections of tropical and subtropical plants together include 2261 axa. All in all, 5718 taxa grow on open ground, of which 2119 are woody plants. Most of the woody plants grow in the arboretum (1140) and the rosary (578 vareieties).

The establishment of the Arboretum was started in the spring of 1963. To date, the area of the arboretum, with its roads and water bodies, covers 17 ha. The initial plan of the arboretum was drafted by landscape architect Aleksander Niine. The arboretum has been established on the basis of the systematic principle. The positioning on the landscape of plant families has mainly been based on the system developed by the Soviet Russian academician A. Grossheim, of plant genera and species on that developed by the German scientist Engler. In the process of planting, the initial plan has steadily been improved and, because of the ecological perspective, also slightly modified.

The collections of woody plants have been arranged in individually designed sections, such as the Main Arboretum, the Heather Garden, the Garden of Ornamental Conifers, the Rose Garden and the Audaku Experimental Station on the island of Saaremaa in the west of Estonia.

The Arboretum (1999) comprises 1,138 taxa from 157 genera of 54 families. Most of the taxa represent the following genera: *Rosa* – 71, *Salix* – 49, *Acer* – 45, *Lonicera* – 35, *Spiraea* – 35, *Prunus* – 31, etc.

The largest number of foreign species has been brought in from the temperate zones of East Asia and North America, since many of them acclimatize themselves well to the Estonian ecological and climatic conditions. The introduction of woody plants from other regions of the northern temperate zone has been less successful, the least effective being that of plants from the Caucasus and southern Siberian mountains.

The northern part of the Arboretum has been planted with groups of conifers (*Pinaceae*, *Cupressaceae*, *Taxaceae*). Next to these, groups of deciduous trees and shrubs from the families *Oleaceae*, *Ulmaceae*, *Fagaceae*, *Betulaceae* have been planted. The next zone accommodates groups of woody plants from the families *Rosaceae*, *Berberidaceae*, *Aceraceae*, *Caprifoliaceae*, *Juglandaceae*, etc. The peripheral zone is occupied by the families *Fabaceae*, *Celastraceae*, *Anacardiaceae*, *Cornaceae*, *Rhamnaceae*, *Salicaceae*, etc.

The Heather Garden (0.6 ha) is located near the conifers. It was planted in 1970 at a special site under the canopy of a pine and oak stand. It holds 79 identified taxa from the following genera: *Rhododendron* – 46, *Vaccinium* – 13, *Erica* – 7, etc.

In 1989, a new Garden of Ornamental Conifers was founded near the office building of the TBG. The garden features 120 cultivars of ornamental conifers.

There is a collection of wild species of *Rosa* (71 species), planted since 1980, between the Main Arboretum and the Rose Garden.

In 1963, the first 45 taxa of introduced woody plants were planted at the Audaku Experimental Station (Saaremaa Island) of the TBG. The woody plants collection comprises today 221 taxa (2000).

Inspired by advancement in introduction of woody plants from the Southern Hemisphere to botanical gardens and arboreta of Nordic countries, experiments on introduction of plants of the temperate zone of this region to Estonia were made in Kloostrimetsa and Audaku in1994-1997. There were 49 species (93 accessions, 831 plants) planted on experimental beds in Kloostrimetsa and 26 species (61 accessions, 561 plants) in Audaku.

The scientific activity and education

The scientific activity of the TBG is focused on plant horticulture and plant introduction.

Fairly extensive is the activity of the TBG in the domain of environmental education. The research and educational staff of the TBG hold lectures on botany, ecology, ornamental gardening, etc. in the lecture hall of the TBG as well as at different colleges, high schools and other venues in Tallinn. The number of attendees increased to 40,158 in 1999.

In the last years, the most crowded botanical exhibitions were "Exotic fruits", "Irises", "Fragrant Plants and Spices" and "Days of Orchids". The Finnish-Estonian joint exhibition of the Baltic Sea titled "The Same Sea in Us All" drew great crowds in the winter of 2001.

In 1994, the TBG joined the "Botanical Garden Conservation International". In the next year, the Society of Friends of the TBG was started, and the first volunteers engaged themselves in the educational work aimed at the general public.

Library

The establishment of the library of the TBG was started in the initial years of the institution. Its main collection is composed of 10,100 items, including 5,000 volumes of books and 4,200 items of periodicals and serials. In addition, it houses manuscripts and abstracts of dissertations along with slides and photos. The books are arranged systematically using the Universal Decimal Classification (UDC). Alphabetical and systematical (UDC) catalogues are available on cards.

The establishment of the herbarium of the TBG was started in the initial years of the institution. The earliest herbarium sheets were prepared even before the foundation of the Botanical Gardens. The size of the herbarium is 80,500 sheets. Tracheopytes take up approximately 9,500 herbarium sheets, including 6,500 sheets of woody plants and approximately 3,000 sheets of herbaceous plants. The mushroom herbarium contains 6,000 specimens, the moss herbarium 15,000 specimens and the lichen herbarium 50,000 specimens. The woody plant herbarium of the TBG is the richest in Estonia of its kind.

Outputs in English

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The Internet: http//:www.tba.cc/TBGeng.htm

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