



Four decades of the Velebit Botanical Garden

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THE VELEBIT BOTANICAL GARDEN – THE BEGINNINGS

The initiative to establish the Velebit Botanical Garden came from Dr. Fran Kušan, Full Professor of pharmaceutical botany at the School of Pharmacy and Biochemistry Faculty of the University of Zagreb, and several of his associates. Professor Fran Kušan presented his vision of the Garden in a guide published in »*Senjski Zbornik*« (The Senj Chronicle) in 1971: »The natural plant communities growing in the Garden and the Reserve already contain a large number of the best known plants from Velebit. This primordial plant community will not be disturbed, since it represents the basis of the plant world in the Garden. The already existing forms of vegetation will be enriched with new plants that will be collected along the entire Velebit range. They will be brought in the Garden and planted in suitable environments, whether they are forests and grasslands or rocks. The introduction of new plants must not disrupt the harmony among the plants already growing in the Garden area. Plants in the Garden will give impression of natural plant cover, with the only difference that every plant growing in optimal life conditions will be labeled with its botanical name. Individual communities will also be labeled so that visitors can easily see which plants belong to what community, and in what surroundings and company they grow. In several years' time we plan to gather the entire plant world of Velebit in the Garden.«

The idea to establish the Garden was accepted by the Republic Institute for Nature Protection of Croatia and the Senj Forest Administration. In the summer of 1966 the Commission for terrain surveillance and site selection made a round of the terrain and selected Modrić Dolac (1,480 m) as a site for the future garden. They were influenced by several reasons, of which the most important was that this small area boasted a large variety of different habitats and landscapes. Easily accessible by road, the location was also furnished with a mountain chalet and the Zavižan meteorological station. In addition, the Garden also contained a spring of fresh water, an indispensable necessity for both plants in the nursery and for expert teams stationed in the Garden. Fortunately, the area was managed by the Senj Forest Administration, which undertook the obligation to secure the land needed for establishment of the Garden. The Garden was finally laid out in 1967 over an area of 50 ha.

Two years later, the Republic Institute for Nature Protection adopted a resolution proclaiming the Velebit Botanical Garden a protected monument of nature in the »monument of garden architecture – botanic garden« category. In 1971 the area of adjacent peaks, covering 68 ha, was proclaimed a special botanic reserve »Zavižan-Balinovac-Velika (Zavižanska) Kosa«.

After establishment of the Botanical Garden, the Republic Institute for Nature Protection took charge of its management and administrative affairs. The Senj Forest Administration secured the land for the Garden and assumed care of technical operations, which were performed by the workers of the Krasno Forest Office. The establishment of the Garden was immediately followed by specialist botanical work and the construction of the necessary infrastructure. The majority of technical operations in the Garden were accomplished shortly after it had been established. A botanical station was built, a well was constructed and benches and a shelter were erected. A circular stone path was built around the Balinovac sinkhole with diverging roads to Balinovac, Veliki Zavižan and the bottom of the Balinovac sinkhole.

The majority of plants in the Garden had originally been growing in their natural habitats, and only a small number was brought in from other parts of Velebit. Several rockery were laid out, plants were furnished with name plates in Croatian and Latin, and a register of plant species was set up. In the past four decades, the Garden has been the site of extensive specialist and scientific research. Research involves the study of vegetation and flora, but also measurements of the height of snow cover, the study of pollen dispersal, soil research, bird ringing and other research activities. Modrić Dolac and its surroundings belong to the pre-alpine vegetation belt. It is inhabited by plant communities of colder regions with a distinct height distribution and a characteristic appearance conditioned by adverse climatic conditions. Vegetation research has revealed as many as fifteen plant communities, which proves that the location for the Garden was properly chosen. Of the forest communities in the Garden, the most important are the forest of spruce with small-reed (*Calamagrostio-Piceetum*), the phytocoenoses of pre-alpine beech forests (*Ranunculo platamifoliae-Fagetum* and *Polysticho lonchitis-Fagetum*) and forests of Mugho pine (*Pinetum mugii* s.l.). Of grass communities, the best represented are mountain grass lands of fescue (*Festucetum bosniacae*) and mat-grass (*Nardetum strictae*).

THE VELEBIT BOTANICAL GARDEN TODAY

When the North Velebit National Park was established, its boundaries absorbed part of the nearby Velebit Botanical Garden. Care of the Garden was taken over by the Public Enterprise »North Velebit« National Park. The Botanical Garden is among the most attractive and the most frequently visited localities of the Park. Ever since it was established in 2001, the Public Institution »North Velebit« National Park has continually implemented a revitalization and maintenance project of the Velebit Botanical Garden in cooperation with the Botanical Garden of the Botanic Institute, Faculty of Science in Zagreb. In the course of years, species lists have been re-determined and their nomenclature adjusted to valid norms. The names of plant species have been coordinated with the »Flora Croatica« database. According to the current field and literature data, there are about 500

species in the Garden, of which the strictly protected species of *Sibiraea altaiensis* ssp. *croatica* and *Degenia velebitica* are the best known. Apart from these two, many other plant species in the garden are rare, protected or endangered at the Croatian and international level. Some of the strictly protected plant species in the Velebit Botanical Garden include *Paeonia mascula* (L.) Miller, *Polygala alpestris* Rchb. subsp. *croatica* (Chodat) Hayer, Alpine pasqueflower (*Pulsatilla alpina* (L.) Delarbre), *Scorzonera purpurea* L. subsp. *rosea* (Waldst. Et Kit.) Nyman, *Seseli malyi* A. Kern., *Campanula waldsteiniana* Schult., *Cardaminopsis croatica* (Schoff, Nyman et Kotschy) Jáv., *Dianthus velebiticus* Borbás, *Lonicera borbasiana* (Kuntze) Degen, mountain avens (*Dryas octopetala* L.), Alpine sea holly (*Eryngium alpinum* L.), *Lilium carniolicum* Bernh. ex Koch, *Aquilegia kitaibelii* Schott, *Primula kitaibeliana* Schott, bearberry (*Arctostaphylos uva-ursi* (L.) Spreng.), and great yellow gentian (*Gentiana lutea* L. subsp. *symphyandra* (Murb.) Hayek.

Latin	English
<i>Paeonia mascula</i>	peony
<i>Polygala alpestris</i>	mountain milkwort
<i>Scorzonera purpurea</i>	viper-grass
<i>Seseli malyi</i>	Maly's moon carrot
<i>Campanula waldsteiniana</i>	Waldstein's bellflower
<i>Cardaminopsis croatica</i>	Croatian bittercress
<i>Dianthus velebiticus</i>	Velebit pink
<i>Lilium carniolicum</i>	Carniolan lily
<i>Aquilegia kitaibelii</i>	Kitaibel's feather
<i>Primula kitaibeliana</i>	Kitaibel's primrose
<i>Arctostaphylos uva-ursi</i>	common bearberry

As part of regular revitalization and maintenance activities in the Garden, small rockeries have been constructed in the immediate vicinity of the botanical station, as well as large rock areas, while plants have been furnished with plates carrying new names.

MARKING THE 40TH ANNIVERSARY OF THE VELEBIT BOTANICAL GARDEN

The year 2007 marks the 40th anniversary of the establishment of the Garden. In addition to their regular gardening and botanical activities and maintenance of the Garden and its infrastructure, the Public Institution marked this occasion by organizing numerous extra activities such as setting up exhibitions, printing publications (brochures, guidebooks) and promotional material, erecting interpretive panels in the Garden, and issuing souvenirs. Special mention should be made of a four-language guidebook that contains all relevant information on the Garden's history and features. Another very valuable project in the informative and educational sense concerns fifteen interpretive panels along the Garden trails set up in 2007.

The central ceremony of marking the 40th anniversary of the Velebit Botanical Garden was held on August 10 in

the presentation hall of the The North Velebit National Park Administration headquarters in Krasno. The gathering was attended by a large number of persons who have, in different ways, been involved in the care of the Velebit Botanical Garden in the past forty years. Ideas that guided the founders of the Velebit Botanical Garden in the 1960s are equally topical today. Scientific research

and protection of Velebit plants on one hand, and education and presentation on the other, are permanent missions of all those entrusted with the management of the Velebit Botanical Garden.