

The Succulent Flora of the Crimea

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Fieldwork on the succulent flora of Crimea by us in 2005 was part of the project "The Succulent flora of Russia and bordering states", which covers all the territory of the former USSR.

The Crimean peninsula is an area of eastern Europe rich in representatives of the Cactaceae naturalized and cultivated in open ground. This is thanks to the moderately warm climate of the Mediterranean region, and hence the long history of human population in the Crimea. *Opuntia* naturalization is connected with German colonists who lived in the steppe Crimea and in along the coast of the Black Sea in the 18th and 19th centuries. Some places with naturalized *Opuntia humfusa* Raf. can be found at German cemeteries: for example, in Gurzuf near Sudak (eastern Crimea) and in Oktyabrskoe settlement of the Pervomayskiy region (the steppe Crimea). *Opuntia* was found wild at the neglected 19th century Italian (Sardinian) cemetery 20 km to the north-east of Sevastopol.

The second reason for *Opuntia* naturalization in Crimea is a result of the successful experiments of acclimatization of cacti in the open ground, which took place in the Nikitsky Botanical Garden, and also by the amateur gardeners. In modern times we know of at least four such places: *Opuntia engelmannii* Salm-Dyck ex Engelm. is on the Plak cape near the resorts the "Utyos" (the cliff) and the "Karasan" (the former mansion of Raevskiy-Gagarin princes); *Opuntia humfusa* Raf. is in the deserted park in the mountain of Hasta a bit higher than Gurzuf in the park of "New World" of the former estate of Prince L.S. Golitsin (1845-1915) near Sudak, and *Opuntia camanchica* Engelm. et Bigel. is in the estate of Prince L.D. Vyazemskiy (1849-1909) in the Karadag of the eastern Crimea.

These are also different species of *Yucca*, *Agave*, *Aeonium*, *Echeveria*, *Sedum*, *Asphodeline* and others in open ground. The number of the succulents cultivated in greenhouses of Crimea is over 1000. There are 1007 taxa and 187 genera of succulents from 19 families only in the Nikitsky Botanical garden.

The most number of native succulents in Crimea are from the Crassulaceae family (4 genera, 13 species) and the Chenopodiaceae (5 genera, 10 species). Other families are represented fewer genera and species: Portulacaceae (1 genus, 2 species), Zygophyllaceae (2 genera, 2 species), Apiaceae (1-2 genera, 1-2 species).

The most genera and species of the Crassulaceae are spread in the mountains and foothills of Crimea; only two species (*Sedum acre* L. and *Hylotelephium stepposum* (Boriss.) Tzvel.) are met with in the steppe. The most widespread species are the biennial *Sedum hispanicum* L. and *Sedum pallidum* Bieb., and the perennial *Sedum acre* L.

The halophyte succulents of the Chenopodiaceae are most often met in the steppe Crimea and along the coast of the Black and Azov seas. There are representatives of the following genera: *Suaeda* Forssk. (3 species), *Petrosimonia* Bunge (3 species), *Bassia* All. (2 species), *Salicornia* L. (1 species) and *Halocnemum* (1 species).

The smaller families represented in Crimea are Portulacaceae (genus *Portulaca* L. with 2 species), Zygophyllaceae (2 genera and 2 species), and Apiaceae (*Crithmum maritimum* L., *Seseli gummiferum* Pall.).