

## Plants

### *Elodea nuttallii* (Planch) H. St. John Nuttall's waterweed



Photo: V. Vladimirov

**Native region (Continent):** North America.

**First introduction, current status and distribution in Bulgaria:** It was recorded in Bulgaria for the first time in 2002. Distributed in the following floristic regions: Black Sea Coast (Southern), Northeast Bulgaria, Danubian Plain, Forebalkan, Balkan Range (Western), Sofia region, Vitosha region, Znepole region, Western Frontier Mountains, Valley of River Struma (Northern), Rhodopi Mts. (Western), Thracian Lowland, up to 1200 m a.s.l.

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** Unknown.

**Observations:** It grows in still or slow-flowing water, eutrophicated water bodies, usually in communities poor in other macrophytes. Does not tolerate drought. Overwinters under the ice with a large number of winter buds. It spreads very quickly, owing to its ability to reproduce vegetatively. Parts of the plants are transported by water currents and waterfowl, mainly geese and swans, as well as by humans with boats and fishing equipment.

***Ailanthus altissima* (Mill.) Swingle**  
**Tree of heaven**



Photo: V. Vladimirov

**Native region (Continent):** East Asia.

**First introduction, current status and distribution in Bulgaria:** It was introduced to Bulgaria in the second half of the 19<sup>th</sup> century for cultivation. It is distributed throughout the entire country up to 1800 m a.s.l.

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** Most likely natural spread through seeds transported by wind from neighbouring territories.

**Observations:** Prefers loose, deep soils, but grows well on rocky and poor soils. It does not tolerate wet and swampy soils. Drought-resistant, heliophyte, but also tolerates some shading, wind-resistant. It is resistant to heavy air pollution. Rapidly growing tree species.

***Opuntia engelmannii* Engelm.**  
**Engelmann's prickly pear**



Photo: V. Vladimirov

**Native region (Continent):** North America.

**First introduction, current status and distribution in Bulgaria:** Reported for the first time from Bulgaria in 2019. It is distributed in two floristic regions: the Black Sea Coast (Southern) and Sredna Gora (Western – Mt. Lozenska).

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** Most likely planted deliberately in the area by nature lovers.

**Observations:** It grows on shallow, stony soils on a slope with a high inclination and southwestern exposure. At the locality of Lozenska Mountain it is found together with two other species of *Opuntia* – *O. fragilis* and *O. humifusa*.

***Opuntia fragilis* (Nutt.) Haw.**  
**Little prickly pear**



Photo: V. Vladimirov

**Native region (Continent):** North America.

**First introduction, current status and distribution in Bulgaria:** Reported for the first time from Bulgaria in 2019. It is distributed only in the floristic region of Sredna Gora (Western – Mt. Lozenska).

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** Most likely planted deliberately in the area by nature lovers.

**Observations:** It grows on shallow, stony soils on a slope with a high inclination and southwestern exposure. It is found together with two other species of *Opuntia* – *O. engelmannii* and *O. humifusa*.



***Opuntia humifusa* (Raf.) Raf.**  
**Eastern prickly pear**



Photo: V. Vladimirov

**Native region (Continent):** Central America and the eastern parts of North America.

**First introduction, current status and distribution in Bulgaria:** In Bulgaria the species was deliberately introduced in the 1930s for cultivation as an ornamental plant. It is distributed in the following floristic regions: Black Sea Coast, Forebalkan (Eastern), Valley of River Struma, Pirin Mts (Southern), Mt Sredna Gora (Western – Mt. Lozenska), Rhodopi Mts. (Central), Thracian Lowland, Tundzha Hilly Country, up to 700 m a.s.l.

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** Most likely planted deliberately in the area by nature lovers.

**Observations:** It grows on shallow, stony soils on a slope with a high inclination and southwestern exposure. In the locality of Lozenska Mountain it is found together with two other species of *Opuntia* – *O. engelmannii* and *O. fragilis*.

***Platycladus orientalis* (L.) Franco**  
**Oriental thuja**



Photo: V. Vladimirov

**Native region (Continent):** Northern parts of East Asia.

**First introduction, current status and distribution in Bulgaria:** It was first reported as established in Bulgaria in 2012, however, the species had been introduced much earlier and cultivated as an ornamental plant. It is distributed in the following floristic regions: Northeastern Bulgaria, Forebalkan (Western), Sredna Gora (Western – Mt. Lozenska).

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** It was most likely planted originally in the area as an ornamental plant, after which the species self-spread by seed propagation.

**Observations:** It grows at rocky and stony sites on slopes. It has grown at many places in the country as an ornamental plant, which provides possibilities for establishment of other self-spreading populations in natural and semi-natural habitats.

***Robinia pseudoacacia***  
**Black locust**



Photo: V. Vladimirov

**Native region (Continent):** North America.

**First introduction, current status and distribution in Bulgaria:** It was probably transferred to Bulgaria in the middle of the 19<sup>th</sup> century for cultivation. It is distributed throughout the entire country up to 1000 m a.s.l.

**Local status:** Established.

**Entry paths in the region of Pancharevo Lake (if known):** It was most likely originally planted in the area as an ornamental plant, after which the species self-spread by seed propagation.

**Observations:** It grows on any type of soil but it does not tolerate swampy sites. Drought-resistant, heliophyte, but also tolerates some shading, wind-resistant. It is resistant to heavy air pollution. Due to its symbiotic relations with nitrogen-fixing microorganisms, the species has the ability to fix atmospheric nitrogen, which is why it can grow on very poor soils.

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