SERBIAN SPRUCE

COMMON NAME

Picea omorika

SCIENTIFIC NAME

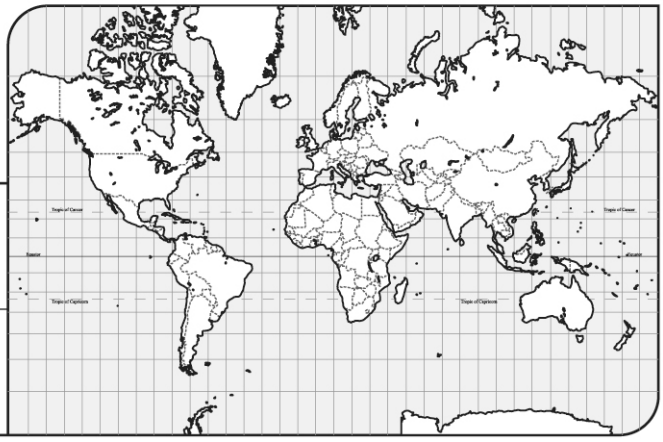
The Morton Arboretum

Photo credit: The Morton Arboretum

Importance

Before the ice ages, Serbian spruce would have been a common sight in European forests. Adapted to grow in different locations and able to withstand heavy snowfalls due to its short, drooping branches, we know from fossilized remains that this tree once covered much of Europe. Over many years, its range narrowed dramatically. Since its discovery in 1877, fire, overexploitation, and competition from Norway spruce and oriental beech have further depleted its wild population. Today, this tree has one of the smallest ranges of any spruce, limited to a small area in southern Europe, with a population of less than 1000 mature trees.

Serbian spruce is highly valued as landscape tree, and many cultivars are available in the horticultural trade. The height, slim graceful form, and drooping branches of this tree, combined with the tree's tolerance for the poor soils, air pollution and occasional drought commonly encountered in urban environments, make it a winning tree for horticultural landscapes. Serbian spruce is also valued as a Christmas tree, for timber,



Pine Family (*Pinaceae*)

FAMILY

Vulnerable

RED LIST CATEGORY

and for paper production. Cultivation of this tree for landscape and economic uses means that the total population of this tree is larger than the remnant natural populations. However, protecting the existing habitat of this tree and the genetic diversity contained in the natural populations will be important to the future of this species.

Description

Form: This evergreen tree often grows to heights of 50 to 60 feet (15 to 18 m), with a canopy 15 to 25 feet (4.5 to 7.6 m) wide. Exceptional specimens may be over 100 feet (30 m) tall.

Leaf: The leaves are flat needles, 0.5 to 1 inch (1.25 to 2.5 cm) long. The needles are a glossy dark green above with 2 white lines on the silvery underside, and the needles tend to point forward and overlap. Needles are pointed on young trees, while mature trees tend to have a rounded needle apex, and the needles tend to leave the petiole on stem when pulled off.

Flower: The purple flowers of this tree are relatively inconspicuous.

Fruit: Cones are found at the ends of branches. The cones are dark blue to purple color when young, and turn to a cinnamon brown at maturity. The mature cones are short; 1.25 to 1.75 inches (3 to 4.5 cm) long and less than 0.75 inches (2 cm) wide, and the cone scales have small toothed margins.

Bark & Twigs: The bark is dark brown, and peels off in thin scales and plates.

Habitat and Ecology

Native to Bosnia and Herzegovina, the Serbian spruce is known from fewer than 1,000 trees. Occurring in 60 ha around the river Drina entirely within the montane forest of the Pancic Narodni Nature Reserve in the Tara Mountains, the modern distribution of this species is extremely limited. The trees standing today are believed to be a relic population of a much wider distribution range prior to Pleistocene ice ages (2.5 million years ago). It is found chiefly on calcareous soils (though occasionally on hydric soils) at 1300 to 5500 feet (400 to 1700 m) elevation, usually on steep north facing slopes, and can occur in pure stands or as part of a mixed forest.

Threats

The primary threat to this tree appears to come from competition with Norway spruce and Oriental beech. These more aggressive species are able to outcompete Serbian spruce, snatching opportunities for establishment of the more rare species. This pressure, combined with the small population size of the Serbian spruce, means that any change to the habitat or pressure from diseases, pests, or invasive species, could significantly affect the viability of the species. As our global climate changes, shifts to the habitat are increasingly likely. Over exploitation, and shifting fire regimes also pose threats to this species.

Conservation action

Though the species was logged until the early 20th century, the few remaining small stands are protected. Because the current habitat is so limited, continuing and expanding protection of the existing habitat is a high priority for conservation of this species. Propagation of

genetically diverse seedlings, reintroduction of Serbian spruces, and ex-situ conservation of genetic material and plants from the native range will also be important to the future regeneration of the species.

The tree's importance to horticulture will help keep this species alive even in the face of threats to natural populations. Establishment of plantations to promote sustainable collection and harvesting of trees for horticultural and commercial use will help protect the limited natural populations. Want to help? Plant a Serbian spruce in your backyard or community if you can. Serbian spruce is amazingly adaptable and grows in a huge range of conditions. By planting a tree, you help compensate for loss and fragmentation of the species' habitat.

References

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