

TREE OF THE MONTH – December 2011

Serbian spruce (*Picea omorika*)

Every year for Festival of Lights, we decorate one of our most beautiful spruce trees with lights that the visitor can control, blinking them on and off to create their own dancing light show. We call it the Sparkling Spruce, but it is actually a Serbian spruce, *Picea omorika*, a rare tree from the Balkans that has a rough history.

Serbian spruce is found only in the Drina River Valley, which runs through parts of Serbia, Bosnia and Herzegovina. It grows in mid-alpine areas with lots of rain and snow, often in the shade on north-facing slopes. It grows tall and skinny to shed snow ('omorika' is Serbian for 'spruce', but also means 'slender'). Serbian spruce grows slowly and populations don't regenerate very quickly. Over thousands of years, the range of this species has been reduced to small, scattered sites by glaciation, and more recently by clearing, logging and fires – there was a huge forest fire in the 1950s, and during the Bosnian conflict of 1992-1993, large sections of the forest were deliberately burned. Today, some populations are impossible to reach for study because the ground is still full of land mines.

While only tiny, isolated populations of *Picea omorika* remain today, fossils and pollen deposits suggest this spruce used to grow all over Europe, from Germany to Central Russia. This was back in the Pleistocene, before the last ice age began (approx. 25,000 years ago). 18,000 years ago, Northern Europe was covered in ice, Central and Western Europe was tundra, and the only forested areas remaining were in the mountains of southern Europe. The ice locked up a huge amount of water, and the climate became so dry that Serbian spruce survived only in moist mountain environments.

Although the ice began to melt around 15,000 years ago, the European climate remained quite dry for a long time. This may have prevented Serbian spruce from expanding from its refuge, while the more adaptable Silver fir (*Abies alba*) and Norway spruce (*Picea abies*) spread from the mountains and took over the newly available habitat. *Picea omorika* never bounced back. This year, the International Union for Conservation of Nature (IUCN) declared *Picea omorika* an endangered species (in 1998 it was considered vulnerable).

Luckily, Serbian spruce is a fairly popular garden conifer, so specimens are growing in gardens in Europe and North America – we have at least 8 specimens here at VanDusen. A coordinated international *ex-situ* conservation program, combined with seed banking, could protect this species from extinction in the wild.

At VanDusen Botanical Garden, Serbian spruce can be found in the Stanley Smith Rock Garden and the Conifer Collection near the Northwestern shores of Heron Lake.