VanDusen
BOTANICAL GARDEN

Tree of the Month, October & November 2014:
Narrowleaf European ash (*Fraxinus excelsior* 'Angustifolia')

At VanDusen we have a large narrowleaf European ash (*Fraxinus excelsior* 'Angustifolia') that pre-dates the botanical garden - it was planted back when the site was home to Shaughnessy Golf Course. The garden opened in 1975, so the tree must be at least 40 years old. In spring and summer it has a full green canopy of feather-like, compound leaves; each leaflet of 'Angustifolia' is narrower than the typical leaflet of a European ash. The tree really stands out in autumn, when its foliage turns from green to glowing gold, and then bronze-purple. The fall colour is short-lived, as the leaves are quick to drop following frost, heavy rain or winds, so enjoy it while you can.

Today, 'Angustifolia' is an uncommon cultivar in the nursery trade. Descriptions can be found in the New RHS Dictionary of Gardening, by Anthony Huxley (1992), and Trees and Shrubs Hardy in the British Isles by W.J. Bean (1973). 'Angustifolia' is very similar to a species of ash called narrowleaf ash (*Fraxinus angustifolia*), which also has narrow leaflets. The key to telling them apart is flower structure and bud colour. *F. angustifolia* has simple little racemes of tiny flowers, while *F. excelsior* 'Angustifolia' has a more complex, branched flower structure. *Fraxinus* species have velvety buds at the tips of their branches, and *F. angustifolia* often has reddish-brown buds, while *F. excelsior* and its cultivars have dark brown or black buds. Also, the terminal leaflet of 'Angustifolia' has an extra-long stalk, but this character is only really helpful if you have a leaf sample from each species to compare.

Fraxinus excelsior is one of the largest deciduous trees native to Europe, an important part of the landscape and ecology. The species is native from England to Spain, and east to Russia, the Caucasus, northern Turkey and northern Iran.

Fraxinus seeds, called "keys", are flat and winged, so they catch the breeze and spiral to the ground when they are ripe. There are old British recipes for pickling young ash keys – the taste is said to be similar to capers.

In the early 1990s, European ash in Poland began dying off; their leaves wilted and turned black, cankers formed on their bark, and their branches began to die. After a few years of this the entire tree succumbed, and the phenomenon became known as ash dieback. Scientists eventually identified a new species of fungus that was infecting them. It was originally named *Chalara fraxinea*, and although the fungus has since been renamed *Hymenoscyphus fraxineus*, it is still commonly known as Chalara. The fungal spores are carried by the wind, and the infection has quickly spread across Europe, reaching Britain in 2012. The origin of the fungus was a mystery for a long time, but is now suspected to be Asian in origin. Fraxinus excelsior has been nearly wiped out in parts of Eastern Europe, but in some areas 15 to 20% of the tree has survived the disease. Scientists are studying these survivors to see if they have a genetic resistance to the fungus, with the hope of breeding a resistant ash to use for replanting.

Meanwhile, ash trees in North America are being threatened by the emerald ash borer, an Asian beetle that first appeared in Michigan in 2002, and has now spread east to the Atlantic Coast, north to Ontario, and west to Colorado. The ash borer larvae kill ash trees by burrowing beneath the bark, destroying the living tissue of the trunk.

In Vancouver we have over 7,000 ash trees planted along streets, in parks, and residential property. The Vancouver Park Board has stopped planting ash trees because of all the threats facing them, focusing instead on more resistant species. There are 46 ash trees in our collection at VanDusen, and we occasionally add a new specimen – we must be very careful to purchase healthy, disease and pest-free *Fraxinus* to keep our existing trees safe. Our ash trees can mostly be found in our Ash Collection.