

Hughie Jones - January 2018

Dwarf Birch
***Betula nana* - Betulaceae**

This year tornados have been stronger than ever. The warming Atlantic has increased their force and path of destruction. This year part of a glacier on Antarctica the size of Prince Edward Island broke off. And fires have had one of their most intense years. Fires don't seem to be a seasonal thing anymore. There is no doubt about the extremes of global warming and some of the most dramatic changes are taking place in the Arctic.

This got me thinking about dwarf birch (*Betula nana*), a small bush that circumvents the polar tundra region. I wondered what kind of studies were being done on it pertaining to global warming. I found a number of studies on dwarf birch but was most interested in the one by SW Simard and JR Deslippe of the Faculty of Forestry at UBC. They concluded that below-ground carbon transfer among dwarf birch may increase with warming in Arctic tundra. They stated that shrubs were expanding in Arctic tundra, but the role of mycorrhizal fungi in this process is unknown.

In their experiments they noted that mycorrhizal networks exist in tundra among dwarf birch individuals, but not between or within the other tundra species examined. Their research on *Betula nana* showed below-ground carbon transfer was of sufficient magnitude to potentially alter plant interactions in Arctic tundra. This would increase the competitive ability and mono-dominance of dwarf birch.

And dwarf birch is wind pollinated. It reproduces by seed and vegetatively by branch layering and sprouting. It is not surprising that this small shrub is on the increase and constantly referred to in articles on 'the greening of the Arctic'.

Now thinking about the gardening side of things, you might want to grow *Betula nana* if you have a moorland garden, a rockery or a bee pasture. Its spikes of pendant, light brown flowers come in April and brown, erect samaras in summer. This multi-stemmed shrub with a crawling habit reaches a height of .5 - 1 metre and a width of .5 - 1.5 metres. Its bark is a red-copper colour.

Dwarf birch has small leaves that are rounded with a bluntly toothed margin. They have a darker green on their upper surface and turn red in fall. *Betula nana* favours wet but well drained sites with nutrient poor, acidic soil in a sunny place. In VanDusen bed 44 and bed 51, each has one dwarf birch planted in 1974. Another one was planted in 1977 in TR21.

Meanwhile whether you study dwarf birch or grow it, moose, caribou (reindeer) and muskox are still busy grazing on it, while ptarmigan wait for the buds and grouse the seeds.



Betula nana



Betula nana in fall colour

New Phytologist; issue TOC; Volume 192, Issue 3; November 2011; pages 689-698
<https://www.fs.fed.us/database/feis/plants/shrub/betnan/all.html>
http://en.hortipedia.com/wiki/Betula_nana