

Paper birch (*Betula papyrifera*)

Other names: White birch, Western paper birch, Canoe birch, Silver birch.

Background

The Paper birch is a variable species with numerous growth forms and several recognized varieties. The genus name *Betula* means 'pitch' referring to the bituminous content of the bark that makes it highly flammable. The species name *papyrifera* means 'paper bearing' in reference to the white, papery, peeling bark. Paper birch hybridizes readily with other birch species including Water birch (Parish et al 1996).

Plant Morphology

The Paper birch is a deciduous tree that grows 30-40 metres tall; often it is multi-stemmed with upward-angled branches. The bark is reddish to coppery-brown when young turning white to cream and peeling with age. The peeled sections expose a reddish-orange inner bark that turns black with time. Horizontally elongated lines called lenticels mark the bark. The leaves are oval with pointed tips and have coarse, irregular, double-toothed margins. The leaves are pale green in summer and turn bright yellow in the autumn. The flowers are borne in male and female catkins on the same tree and emerge before the leaves. The male catkins are longer and fatter than female catkins. The fruits are small winged nutlets in the female catkins that fall apart upon ripening (Parish et al 1996).

Ecology

A transcontinental tree, Paper birch grows in all forested regions in Canada, north to the treeline. It grows on forest edges, lakeshores, and roadsides on a wide variety of soils, but does best on well-drained sandy or silty loams. It commonly grows in association with conifers such as spruces, pines, hemlocks and balsam fir as well as in pure stands or mixed with poplars, maples, northern red oak and pin cherry. It is not a shade tolerant species. Paper birch is often a

pioneering species in that it is among the first to reforest areas that have been cut or burned. When the associated vegetation such as spruces and balsam fir are removed, Paper birch tend to lose vigor and die within a few years (Farrar 1995). Birch increases site productivity by its ability to cycle nutrients and by adding organic matter by the loss of its leaves (Parish et al 1996). Figure1 shows the biogeoclimatic zones and subzones that *Betula papyrifera* can be found in the southern interior of BC (Province of BC – Ministry of Forests 1983).

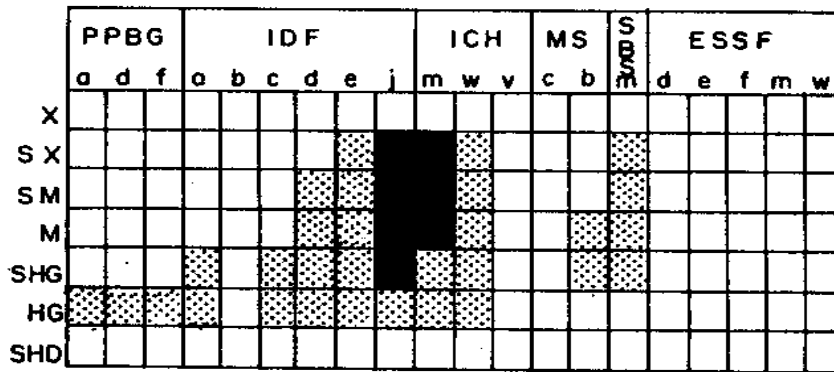


Figure 1. The darkened areas indicate where the plant is more common and abundant; the dotted areas indicate where the plant has limited distribution and abundance.

Food

Paper birch produce large volumes of sap in the spring. The Nlaka'pamux used the sap straight from the tree as a tonic (Parish et al 1996). Others boiled the sap down to make a syrup or made a tea with young twigs and bark (Kershaw 2000).

Medicine

The Thompson people tapped Paper birch trees in the spring. The sap was drunk as a medicine for colds (Turner et al 1990). Recent research has indicated that betulinic acid, the component in the bark that makes it white, has shown promise in the treatment of skin cancer and could potentially be added to sun screens and tanning lotions (Parish et al 1996). The leaves, twigs and buds contain salicylates (the ingredient used to make aspirin), so they have been used to make teas to relieve pain and inflammation (Kershaw 2000).

Other Uses

As a result of its wide distribution, many First Peoples in Canada extensively used Paper birch. The bark of Paper birch is easily stripped off the tree in sheets making it an easily accessible material for the manufacture of goods. The people from the Interior of BC most commonly made baskets and canoes from the bark of Paper birch sewing it with split cedar or spruce roots (Turner 1998). Strips of the bark was also used to store food, line underground caches, line graves and cover corpses, to splint broken bones and bind tools, and as roofing and siding for temporary shelters (Ibid.). The Stl'atl'imx made birch bark funnels and placed them beneath raised food caches to protect them from climbing rodents. The Tahltan made snow goggles from the bark, the Dunne-za made moose calls, the Carrier made toboggans, and the Stl'atl'imx, Nlaka'pamux, Secwepemc and others made infant carriers and cradles from birch bark (Ibid.). The Dena'ina of Alaska used the bark to make hats and made an infusion from it to dye skins (Ibid.). Additionally, the wood was used by various peoples to carve dishes, cups, spoons, snow shoe frames, boat frames, bows, arrows, gambling sticks and digging stick handles, to name a few (Ibid.). The wood was also used for construction and as a fuel (Ibid.). The Secwepemc used a tonic of birch leaves steeped in water as a shampoo and mixed birch leaves, children's urine and alkali clay from certain lakes to make soap for washing the skin (Ibid.). The foliage of paper birch provides valuable forage for animals such as deer and moose, as well as the seeds attract many birds in autumn (Parish et al 1996).

Warning

Do not strip the bark off living birch trees as this can cause unsightly black scars and can also permit the entry of pathogenic fungi that can eventually kill the tree.

Note

Trees showing evidence of past harvesting (known as culturally modified trees – CMT's) are common in parts of BC's interior and show evidence of traditional use.

References

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