

Master thesis subject

## What birch species was where?

Calibration of method for distinguishing between the two Swedish birch species Downy birch (*Betula pendula*) and Silver birch (*Betula pubescens*).



The birch is the third most common tree species in Sweden, but when it comes to management, regeneration and variation of spreading across the country it is far from as explored as Scots pine and Norway spruce. In example, in the Swedish national forest inventory the two birch species are not separated from each other, they are both registered as “birch”. The two birch species have certain morphological differences that can be used to separated them, the shape of the leaves, the bark of the yearly shoots and crown shape at a later age are some examples. The morphological differences of the birches are however not always clear, which creates an uncertainty in this separation technique.

In a project conducted between the autumn of 2019 and summer of 2020, where clearcuts were inventoried on 13 locations across Sweden, the technique used to separate the two Swedish birch species was to look at the morphological differences. The aim of this master thesis is to examine these inventory results.

Research aim: Validate the technique of separating the two birch species through looking at morphological differences with the Platyphyllosid method. Platyphyllosid is a phenol that is found in much higher concentrations in the bark of Downy birch than in the bark of Silver birch. The amount of platyphyllosid can therefore be used as a tool to distinguish between the two birch species with high precision.

Estimated time for fieldwork: 2 week of collecting birch bark samples. + lab work aprox. 2 weeks.

If you have questions, don't hesitate to send me an email!

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