

# Witch's Broom in Eastern Park

## Introduction

There is a Witch's Broom in a Pine Tree in Eastern Park close to Podbury Drive. In the right-hand photo, the Witch's Broom is the dark green area at the bottom left of the tree to the right of the centre of the photo. The Podbury Drive garden is on the far left of that photo.



## Description

A Witch's Broom is a section of a plant, usually a tree, that has excessive growth. This growth may be a mass of leaves, as in this Pine, or it may be several branches joined together along their length as sometimes found in *Allocasuarina* She Oak. The growth has a dense mass of shoots that have emerged from one point, sometimes resembling a broom or bird's nest.

## Causes

Witch's Brooms can be caused by a plant hormone produced by an organism that has lodged in the branch. The organism may be fungus, insect, mistletoe, mite, nematode, virus or other micro-organism.

## Mechanism

Most aspects of a plant's normal development and growth are controlled by chemicals called plant hormones, just as functions in the human body are controlled by our hormones. We take advantage of plant hormones to promote the development of roots in cuttings.

Hormones produced by the infecting organism cause multiple shoots to develop from the one area of a branch, resulting in a Witch's Broom.

As new shoots develop normally, they may produce a hormone that slows the growth of surrounding shoots. This so-called apical dominance is important in helping forest trees put their energies into reaching the forest canopy to obtain maximum light. Hormones produced by the Witch's Broom infecting organism can suppress this apical dominance.

## Horticultural uses

Gardeners suppress apical dominance when pruning plants to produce a compact plant, or in the extreme, a hedge. Note how the photo on the left has the appearance of a hedge.

Sometimes a new horticultural variety, such as dwarf plants, can be derived by grafting a stem from a Witch's Broom onto normal rootstock. The stem continues to exhibit the growth pattern it inherited within the original Witch's Broom. In addition, commercially grown Poinsettia *Euphorbia pulcherrima* plants are infected with an organism that promotes more branches and flowers making for an attractive compact plant.

Various animals, such as moths and small mammals, use Witch's Brooms for shelter.

