

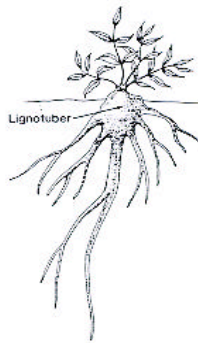
Dandenong Ranges National Park

Fire Ecology

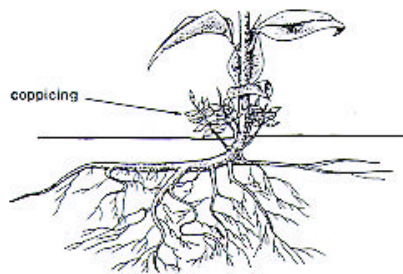
The Australian bush is able to recover after a bushfire due to the evolution of many fire adaptations. Many gums have a substance called kino in their bark which aids in the resistance to heat penetration.

ADAPTIONS OF FIRE RESISTANT PLANTS

LIGNOTUBER (common in eucalypts) - a large woody swelling of the stem that occurs below the soil surface. These large woody structures bear many dormant buds which are stimulated to grow by the destruction of the plants above the ground. The lignotuber gives the plant the ability to survive fire, drought and grazing by regrowing from it.



COPPICING - If trees are felled after a fire, they coppice, or reshoot, from the trunk. The plants are able to grow from the dormant buds in the stem.



SUCKERING (Some melaluecas and blackwoods) - Suckering is the development of new shoots from roots.



EPICORMIC BUDS (Messmates and Mountain Grey Gums) - Epicormic buds are present below the bark where they are protected from both fire and insect attack. After a fire the plant is able to use energy stored in the stems and roots to produce dense leaf growth.

SEEDS

REGENERATION FROM SEED

Some acacias and banksias rely on fire to crack their seeds open. The seed is stored within protective structures on the stems of mature plants. As a result of fire, the hard woody fruits (follicles) open, allowing the seeds to fall.

MOUNTAIN ASH (Eucalyptus Regnans)

Mountain Ash is a fire succession species.

- Mountain Ash has thin bark, and no epicormic buds.
- Deep litter covers the ground. Seed fall from E Regnans is held in this litter layer.
- Mountain Ash forests are killed by severe fire.
- For germination of seeds, fire is an essential factor.
- The ash bed created as a result of the fire forms an ideal seed bed, as it is rich in minerals and nutrients.
- After a fire, the fallen seed germinates and grows without competition.
- If another fire occurs before the young trees reach maturity, the species may be removed completely.

Fire is essential to the survival of Mountain Ash forests, but their life cycle is adapted to a very defined fire regime.

For further information contact Parks Victoria on 13 1963 or visit Parks Victoria's web site at www.parkweb.vic.gov.au/education