



## Trees and Forests

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# Mountain Ash

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*Eucalyptus regnans*, or Mountain Ash, is the world's tallest flowering plant, reaching heights of more than 100 metres. Extensive Mountain Ash forests occur in Victoria's Central Highlands (east of Melbourne), the Otway Ranges and Strzelecki Ranges in Gippsland. The Mountain Ash tree usually has a very long straight trunk with a small open crown. The lower part of the trunk has rough bark, which further up the trunk is shed in long ribbons to leave a smooth white or greenish-grey bark. Mountain Ash tend to grow in areas of high rainfall in deep, fertile soil, on sheltered sites.



*Where Mountain Ash grows*

White flowers appear in stalked, many flowered umbels, during Summer and Autumn (January to March). Between 7 and 12 buds form a cluster, and the fruit is hemispherical to pear shaped. The timber from Mountain Ash is hard and durable and milled for flooring and construction purposes, packing cases, veneer and pulp for papermaking.

Under the Mountain Ash canopy, Silver Wattle (*Acacia dealbata*) and Mountain Hickory Wattle (*Acacia obliquinervia*) can be found.

A dense layer of small trees and shrubs, including Hazel Pomaderris (*Pomaderris aspera*), Prickly Currant Bush (*Coprosma quadrifida*), Musk Daisy Bush (*Olearia argophylla*), Blanket Leaf (*Bedfordia aborescens*) and Soft (*Dicksonia antarctica*) and Rough (*Cyathea australis*) Tree Ferns occupy the lower levels up to 15 metres.

The ground cover comprises Forest Wiregrass (*Tetrarrhena juncea*), bracken (*Pteridium esculentum*) and other plants that tolerate the shady, damp conditions on the forest floor.

The dense layers of vegetation of Mountain Ash forests provide a variety of habitats for animals. The leaves, flowers, fruits, seeds and nectar of plants provide food for many species.



*Mountain Ash Forest*

Greater Gliders and Sugar Gliders utilise the crowns of the tall trees for food and shelter. Small trees provide nesting places for Ringtail and Brushtail possums. On the ground wallabies, wombats and bush rats browse the forest floor for food and use



rotting tree trunks as homes.

The multi-layered structure of these forests are also important for a number of bird species. Honeyeaters feed upon the Mountain Ash crown, tree creepers poke about the bark for food whilst in the Central Highlands and Gippsland the Superb Lyrebird forages the ground cover for food.

### Fire

Mountain Ash trees are killed by even mild crown fires. Normally, the area will regenerate to Mountain Ash again since the burnt ground forms an ideal seedbed for the seed. They germinate after falling from the scorched crowns. A new, even-aged forest of Mountain Ash results. When there are no seeds on the trees, perhaps due to the trees being too young to bear seed (less than 15 - 20 years old) or to climatic conditions causing a poor seed set, the area may regenerate to understorey plants. These may include plants such as Silver Wattle (*Acacia dealbata*) and Hazel Pomaderris (*Pomaderris aspera*), whose hard seeds are stored in the ground and germinate following fire. Frequent severe crown fires could thus turn Mountain Ash forests to a different kind of forest.

Lack of fire can also cause Mountain Ash forests to die out. In the dark wet conditions that prevail on the floor of a mature Mountain Ash forest, the Mountain Ash seedlings are generally not able to survive. Mountain Ash can only regenerate from seed, and usually in the ash bed with the full sunlight conditions produced after a fire. The conditions

which exist on the forest floor of a mature Mountain Ash forest, however, do suit the shade loving Myrtle Beech (*Nothofagus cunninghamii*), Southern Sassafras (*Atherosperma moschatum*) and Blackwood (*Acacia melanoxylon*), which are able to persist as an understorey. When the mature Ash trees eventually grow old and die they are replaced by these persistent species which then form a self-perpetuating climax plant community. This type of succession is only likely to occur in very wet areas of the mountain forests and it requires the absence of fires for at least 200 - 300 years. In less wet areas, fires would occur naturally at more frequent intervals.

Mild ground fires in Mountain Ash forests do not always kill the trees but the understorey is altered. Plants which regenerate from seed (Silver Wattle and Hazel) tend to be eliminated, and Musk Daisy-bush (*Olearia argophylla*) and Blanketleaf (*Bedfordia arborescens*) which regenerate from coppice, or Dogwood (*Cassinia aculeata*) whose wind borne seed can be blown from adjacent unburnt areas tend to predominate. In natural conditions, a wildfire would kill all or most of the trees of a Mountain Ash forest, and the seed released during the fire would germinate in the ashes, in full sunlight. As a result of these particular conditions, Mountain Ash are generally in stands of the same age. Mountain Ash are also generally found in pure stands, meaning that they are the only species in the upper storey, and are



generally not intermixed with other Eucalypts.

### Timber Production

When the Mountain Ash forest is harvested for timber, there is a need to duplicate to some extent the natural cycle of destruction and regeneration. To this end, a small area (called a coupe) of forest selected for timber, is clearfelled. Clearfelling is a method of harvesting a coupe in which all merchantable trees, apart from those to be retained for seed or wildlife habitat, are removed. The seed trees are left to help with regeneration and the habitat trees are left for

arboreal animals dependent on tree hollows for nesting and shelter.

Vegetation along gullies and creeks is left as 'streamside reserves' to maintain water quality, and to act as a refuge for animals. Care is taken with road construction and use of heavy machinery to minimise the impact of the harvesting operations. The Victorian Code of Forest Practices for Timber Production has been implemented so as to ensure that maximum protection and care is taken.

After the logs are cut and removed from the forest, the litter and unwanted branches which are left on the forest floor are usually burnt to form an ash bed. This creates optimum conditions for the regeneration of Mountain Ash. The coupe is then regenerated by spreading seed or, in some cases, planting seedlings by hand. The Mountain Ash trees then regenerate to a new forest.

The Victorian Code of Forest Practices for Timber Production limits the size of clearfelled coupes to a maximum of 40 hectares, although in many State forests the average size of coupes is less than this (eg. in the Toolangi State Forest it is approximately 18 ha).

### For more information

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