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Radiata pine

Common name: Radiata pine, *Pinus radiata* (Monterey pine)

Botanical name: *Pinus radiata*

Family: Pinaceae is made up of 250 species in 10 genera.

Origin: Pines are widely distributed in the temperate areas of the Northern hemisphere. *Pinus radiata* originates from the west coast of North America, but is now the main species of pine grown in forestry plantations in the southern hemisphere, including New Zealand.

Description: The *Pinus radiata* is an evergreen conifer, reaching a height of 15–35 metres. The outer bark is very thick, dark brown; deeply fissured and the inner bark is resinous. The needles occur in clusters of 2 (occasionally 3–5) held together at the base by tiny scales and shed as a group, needle-like, are 10–15 cm long and persist on the tree for approximately 3 years. Cones are 7.5–14 cm long. The male and female flowers are separate but on the same tree. The males form cylindrical catkins and the females form cones. Pollination occurs from August to September in the Southern Hemisphere, but may be extended due to high temperatures. Flower in early summers. Cones are produced annually. They may remain closed for several years, depending upon temperature and humidity.

Uses: Extensively cut for wood and resin.

Allergens: [Allergic contact dermatitis](#). Five allergenic proteins have been detected in pine pollen: 82 kD, 67 kD, 54 kD, 44 kD, and 38 kD. The pollen grain is large, and therefore allergy is thought to be uncommon. However, a recent study from Spain suggests that *Pinus radiata* pollen may be a significant aeroallergen.

[Colophony](#) (abietic acid), derived from Pine trees, is a complex mixture of over 100 compounds. Colophony is one of the top 10 causes of contact dermatitis and one of the most common causes of occupational asthma.

Other allergens associated with pine trees include Woodcutter's eczema caused by lichens and/or [liverworts](#) (*Frullania*) living on the bark.

Allergic reactions to the caterpillar (*Thaumetopoea pityocampa*) has also been documented among visitors to Pine forests. Dermatitis and ocular lesions may occur by an IgE, mechanic or toxic mechanism.

Allergy: Asthma, allergic rhinitis and allergic conjunctivitis. Allergic contact dermatitis (colophony). Several studies suggest that 1–5% of pollen allergic subjects are pine pollen positive. Forestry and wood workers show a much higher frequency of IgE sensitisation to the extract of Pine wood dust. Airborne allergic contact dermatitis from Pine dust has been documented.

Cross reactions: A high cross-reactivity between *Pinus nigra*, *P. sylvestris*, *P. radiata* and *P. strobes*. The possibility of cross-reactivity between *Pinus* and Rye grass (*Lolium perenne*) has also been suggested. Experiments have demonstrated the presence of IgE antibodies in serum against several components in Pine nuts and pollen, with the presence of some cross-reacting components.

Other information:

Patch test: Sawdust, colophony, turpentine

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Author: Dr Marius Rademaker

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