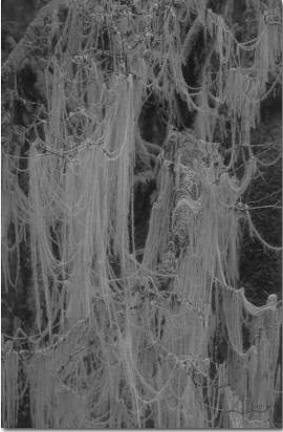


Temperate Rainforests

- N California - S Alaska: mosses and ferns dominate inside forest



Old-man's beard lichen



Lobaria - N₂ fixing, only in 100yr forests

Temperate Rainforests

- N California - S Alaska: mosses and ferns dominate inside forest



Sinslaw Natl Forest, Oregon



Deer fern - *Blechnum spicant*

Temperate Rainforests

- N California - S Alaska: 20 species of gymnosperms dominate forest

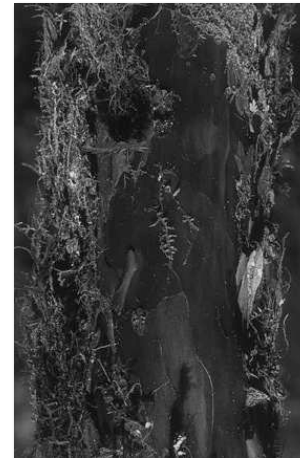


Thuja plicata (western redcedar)

Thuja plicata (western redcedar), *Abies amabilis* (silver fir), *Tsuga heterophylla* (western hemlock) west Cascades, WA

Temperate Rainforests

- N California - S Alaska: 20 species of gymnosperms dominate forest



Taxus brevifolia - Pacific yew

Temperate Rainforests

- N California - S Alaska: 20 species of gymnosperms dominate forest



Douglas fir, 500-1000 yrs; 300 ft, 5-8 ft dbh; Cathedral Grove, Vancouver Island



National Park boundary; w WA

Temperate Rainforests

- N California - S Alaska: angiosperm trees less diverse



big-leaf maple (*Acer macrophyllum*)
Olympic Natl. Park, WA



Temperate Rainforests

- N California - S Alaska: angiosperm trees less diverse



Alnus rubra (western or red alder) -
N₂ fixer



Temperate Rainforests

- N California - S Alaska: angiosperm trees less diverse



Pacific dogwood (*Cornus nuttallii*)

Temperate Rainforests

- N California - S Alaska: angiosperm trees less diverse



Rhododendron under canopy of Redwood (*Sequoia*)

Temperate Rainforests

- N California - S Alaska: endangered plant and animal species



Calypso bulbosa (circumboreal)



Spotted owl feeds on mice, tree voles, flying squirrels

Temperate Rainforests

- S Chile: gymnosperm dominated forest with lichens, lianas, epiphytes

Valdivian rain forest: 41 - 43° S

Magellanic rain forest: 43 - 56° S



Temperate Rainforests

- S Chile: *Araucaria* confined to temperate S. America and Austral-Pacific



Araucaria araucana - monkey puzzle



Araucaria cones

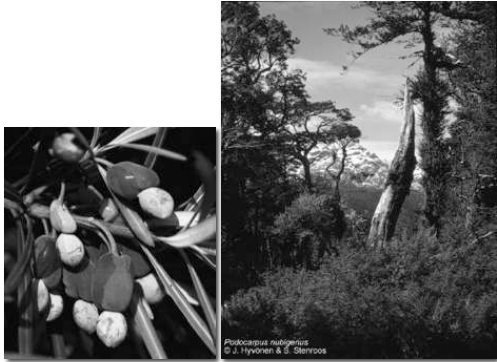
Temperate Rainforests

- S Chile: other southern hemisphere gymnosperms

Fitzroya -
Patagonian cypress



Podocarpus - podocarp & fleshy cone



Temperate Rainforests

- S Chile: *Nothofagus* (southern beeches) dominant angiosperm



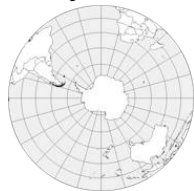
Nothofagus is another southern hemisphere distributed group



Temperate Rainforests

- S Chile: two other genera with temperate southern hemisphere distributions

Laurelia philippina - Austral-Pacific

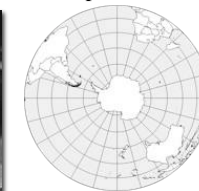


Laurelia sempervirens
Monimiaceae, Chile



Temperate Rainforests

- S Chile: two other genera with temperate southern hemisphere distributions



Eucryphia cordifolia
Eucryphiaceae, Chile



Eucryphia glutinosa
Eucryphiaceae, Chile



Eucryphia lucida
Eucryphiaceae, Tasmania

Temperate Rainforests

- S Chile: fungi and parasites common, especially on *Nothofagus*



Cyttaria fungus



Misodendrum parasite

Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand



Nothofagus menziesii at higher elevations in New Zealand; covered with moss and *Usnea* lichens



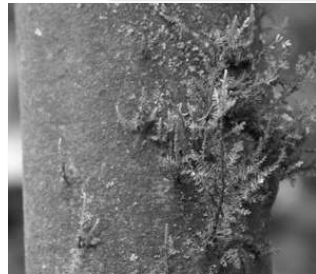
Nothofagus on the slopes of Mt. Ruapehu (Mt. Doom) in New Zealand

Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand

Gymnosperms co-dominate with *Nothofagus*

Podocarpus dacrydioides - kahikatea



Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand

Gymnosperms co-dominate with *Nothofagus*

Dacrydium (Podocarpaceae) 'red pine'



Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand : Myrtaceae



Podocarpus forest with broadleaf
Metrosideros umbellata (northern rata)



Metrosideros - South Island, NZ

Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand : Myrtaceae



Eucalyptus regnans - mountain ash, Tasmania

Temperate Rainforests

- SW Australia, Tasmania, S Island - New Zealand : Tree ferns



Cyathea medullaris - 1 of 20 species
of tree ferns in New Zealand



Tasmania