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Cypress Canker (caused by *Seiridium* spp.)

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Cypress canker may be caused by a number of pathogens, including *Seiridium* spp. *Seiridium* canker is a serious disease of exotic conifers that has been known in the United States since about 1928 and in France for well over 50 years. It has been present in Australia for a number of years and appears to be spreading. Around metropolitan Perth, it is common in many of the above species and given the poor prognosis for affected plants, one might wonder if avoidance is the best policy.



Fig 1. A shelterbelt of *Chaemaecyparis lawsoniana* infected with cypress canker.

Susceptible species:

- *Cupressus macrocarpa* (Monterey Cypress) (more susceptible when less than 10 years old)
- *Chaemaecyparis lawsoniana* – various cultivars
- *x Cupressocyparis leylandii* ‘Castlewellan Gold’
- *x Cupressocyparis leylandii* ‘Leighton Green’
- *x Cupressocyparis leylandii* ‘Naylors Blue’
- *Cupressus lusitanica*
- *Cupressus sempervirens* ‘Swanes Golden’ and other cultivars
- *Cupressus torulosa*

Less susceptible:

- *Cupressus arizonica* (Arizona cypress)
- *Calocedrus decurrens*

- *Thuja plicata* (Western Red Cedar)
- *T. occidentalis*
- *Juniperus virginiana*

Many of these species are widely planted, for hedging, shelter or as specimen trees due to their adaptability to a range of soil conditions and the range of shapes and sizes available.

Symptoms

Seiridium canker may be caused by one of three *Seiridium* species (*Seiridium cardinale*, *S. unicolor* or *S. cupressi*). *Seiridium* is essentially a weak pathogen requiring some defect by which to enter. Thus spores may enter the tree through fine bark cracks which develop naturally in branch and twig crotches or through other wounds in the bark such as those made by borers or sap sucking insects. Pruning wounds and other injuries also provide a point of entry.

The fungus interferes with the sap-conducting system, eventually causing death of the branch or main trunk above the wound. Older trees are usually more prone to this disease but any tree is susceptible if stressed, for example, by drought or poor nutrient status.

When branches become infected the fungus effectively ringbarks the limb so the foliage yellows and dies from the tips back. Gold varieties gradually lose colour and become brown. Typically, branches scattered throughout the tree may be affected. Commonly the disease starts at the top of the tree.

Branches die rapidly, yellowing almost overnight as the foliage is starved of sap. If untreated, the disease will eventually lead to death of the whole plant within a few months to a couple of years.

In the early stages, dark brown or purple patches appear on the bark. Tiny black, circular fruiting bodies may be visible on the bark surface, which is often cracked (Fig. 2). Sunken cankers, with a reddish tinge, form at the entry point of the fungus, and resin often exudes from the edges of the cankers or through cracks in the bark.

Wood underneath the bark develops a reddish-brown discolouration.

Individual cankers are long and thin and may be numerous along a branch (Figs. 3, 4). Stems with large cankers are prone to breakage in high winds.

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Fig 2. Fruiting bodies appear as tiny black circular areas on the bark.

Once the plant is infected and weakened with *Seiridium*, it may be more susceptible to other pests and diseases, especially borers.

Phytophthora root rot may occasionally present a similar pattern of branch death but cankers are not produced.

Disease spread

Spores are carried on the wind, in water droplets or by insects and birds. New infections develop when spores are washed down the tree or splashed from tree to tree by rain or overhead irrigation. They can also be transferred from plant to plant on pruning tools, or through the transport of infected cuttings or plants.

Control

Healthy plants will be better able to resist infection so it is important to feed plants regularly and irrigate if



Fig 3. Stem canker showing profuse resin bleeding.

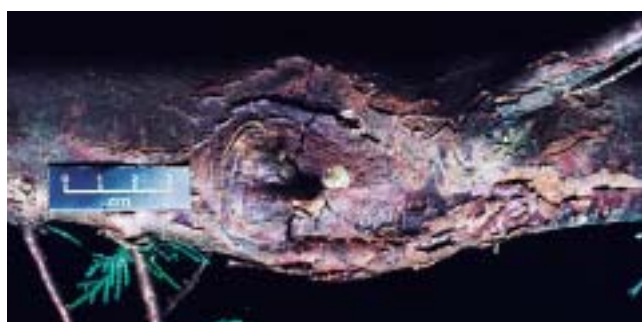


Fig 4. Branch canker showing sunken purple area, purple discoloration and cracking of bark.

necessary. The application of sprays to prevent insect attack may also reduce the chance of infection through those wounds. Infected branches should be pruned 10 cm below the canker to prevent infection spreading to the main stems. Tools should be sterilised before and after use with alcohol or dilute bleach. Severely diseased plants should be removed and destroyed. No fungicides are currently registered for the control of *Seiridium* on conifers.

Acknowledgments

Sydney Royal Botanic Gardens Trust Fact Sheet on Cypress Canker

Forest Research NZ Forest Pathology in New Zealand No. 8 – Cypress canker

Seiridium notes – Charles Aldous-Ball

Images are courtesy of Forest Research, New Zealand.