

BROWN STRINGY TRUNK ROT

Echinodontium tinctorium (Ellis & Everh.) Ellis & Everh.

INDIAN PAINT FUNGUS

DISTRIBUTION

Throughout host range in BC with the exception of Haida Gwaii.



Figure 240. *Echinodontium tinctorium* conk on the underside of a branch stub.

HOST SUSCEPTIBILITY:

True firs are highly susceptible throughout BC. Hemlock is moderately to severely attacked in specific habitats such as interior forests (usually related to snow damage), high elevation coastal forests and below average sites. Douglas-fir and spruce are occasionally attacked. It may occur on western redcedar. Mature trees with small, suppressed dead branches and stubs are most susceptible. The fungus is not associated with wounds though the initiation of infection may be precipitated by mechanical damage.

SIGNS AND SYMPTOMS:

The most obvious sign of this rot are the perennial conks, which develop on living trees, usually on the underside of branch stubs. The fruiting bodies are hard and hoof shaped, with spines or teeth on the underside and a roughly cracked upper surface. The conks can grow up to 30 cm in width. The upper surface is generally dull black, and the lower surface is grey to light brown when young, turning black with age. When the outer surface is chipped away, the interior shows brick red in colour.



Figure 241. Cross-section of advanced decay symptoms.

The heartwood in early stages of decay appears tan in colour and is water soaked. This stain develops in spots or elongate areas in the heartwood, particularly near branch stubs. As the decay advances, the wood darkens to red brown or yellow brown with occasional small rust coloured flecks and white channels that look like insect tunnels. Delamination may also occur along annual rings. At the most advanced stage, the heartwood decays to a brown, fibrous stringy mass that is often very wet. The affected heartwood may disintegrate entirely.

DAMAGE:

The conks are reliable indicators of significant decay. The entire cross section of the log is usually decayed 4 to 6 m above and 2 to 4 m below one of these fruiting bodies. Decay may also be present in trees that do not have conks. Heart rot and associated volume losses in mature hemlock and true firs are primarily caused by brown stringy trunk rot.

CAN BE CONFUSED WITH:

Advanced stages of decay are very similar to red heart rot (*S. sanguinolentum*), and early stages of decay somewhat resemble red ring rot (*P. pini*). Associated fruiting bodies are the most accurate way of distinguishing between these rots in the field. Both the brown stringy trunk rot and the red ring rot fruiting bodies are woody and often hoof shaped. However, the brown stringy trunk rot conks have a distinctively toothed lower surface and are a brick red colour inside. The red heart rot fruiting bodies are completely different, as they form thin, crust like layers with a grey to light brown lower surface that turns blood red when bruised.



Figure 242. Conk with characteristic toothed lower surface. Note the red interior where the outer surface is chipped away.