

Maskell Scale

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Maskell scale, *Lepidosaphes pallida*, is an armored scale species that causes damage to a wide range of conifer hosts including juniper, arborvitae, cryptomeria, cypress, deodar cedar, and red cedar trees. Small populations may initially go unnoticed due to the small size and cryptic nature of this pest, but populations can grow rapidly if unmanaged. Infested hosts generally exhibit a loss of vigor, chlorosis, and/or dieback, but tree death is uncommon.

Description

Maskell scale covers are white to light brown with an oystershell shape. Adult females can reach 1.5 mm long and are inconspicuous when populations are small. Immature scales tend to settle in sheltered areas around the base and undersides of foliage, which protects them and makes detection difficult (Figure 1). Damage is often observed before the scales are noticed.

Newly hatched scales (crawlers) emerge from the adult female and disperse to new growth to settle and begin feeding. This can result in dense accumulations of scales at the foliage tips and makes detection much easier as populations increase (Figure 2).

Life Cycle

The biology of Maskell scale has not been well studied, but one to two generations are reported to occur per year depending on geographic location. Adult females lay eggs within their covers around late spring and emerging crawlers are active into the summer. Once settled, the crawlers never move again and begin molting through several immature forms before reaching adulthood.

Figure 1: Adult females



Figure 2: Maskell scales on foliage tips



Scales that develop into males produce covers that are slightly smaller than the female. Adult males are winged and leave their covers to fly to females for mating. Mated adult females overwinter at the end of the season and produce eggs the following year.

Damage

Localized chlorosis or yellowing develops around scale feeding sites. As populations increase, scale feeding can result in death of affected areas (Figure 3). Dieback is generally only observed under heavy scale pressure or when other stressors are also present. Plants weakened by unfavorable conditions may be more likely to exhibit decline associated with scale infestation.

Figure 3: Healthy foliage (top), and scale-damaged foliage (bottom)



Scale covers often remain on the foliage long after the scales are dead, which can result in unsightly discoloration on some plant species. This can also result in overestimation of the active scale population if much of the observed infestation is from previous seasons.

Management

Effective management of armored scales requires accurate identification to inform treatment timing. Effective therapeutic products are available but must target susceptible pest life stages. Once scale covers develop, topical treatments are largely ineffective; therefore, treatment windows must coincide with crawler activity.

Many of the observed Maskell scales will be dead when inspecting well established infestations. Naturally occurring parasitoids are commonly found attacking this pest but rarely provide sufficient control to prevent outbreaks. No commercially available biological control species are reported to be effective against this pest.

Implementing proper cultural care can reduce co-occurring stressors and improve resiliency of the host plant. Avoid nitrogen fertilization until the pest is under control. Please contact your Bartlett Arborist Representative to learn about management strategies.



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