

PEST REPORT

Pacific and Yukon Region • Pacific Forestry Centre • 506 West Burnside Road • Victoria, B.C. • V8Z 1M5

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SCORCHING OF GARRY OAK BY JUMPING GALL WASPS INCREASES IN THE CAPITAL REGIONAL DISTRICT

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SUMMARY

Reports of premature browning or scorching of Garry oak in the Capital Regional District increased for the seventh consecutive year. This year noticeable scorching is occurring throughout much of Victoria and Oak Bay for the first time. This damage is caused primarily by the jumping gall wasp, Neuroterus saltatorius; a second insect the oak leaf phylloxeran (an aphid-like sucking insect), Phylloxera sp. nr. glabra, causes similar damage on about 10% of area Garry oaks. Increased parasitism is expected to provide relief in the long term.

The jumping gall wasp is native to western North America (Texas, California, Oregon, Washington), but has only recently (since 1986) been observed in the Greater Victoria area. Early damage reports in 1986-87 were centered mainly in the View Royal - Mill Hill - Thetis Lake areas. Since then the infestation has spread to include a broad area from William Head (1991) in the west through Colwood (1987), Langford (1987), View Royal (1986), Esquimalt (1988), south and west Saanich (1989), Brentwood Bay (1989), east Saanich (1990), then south through the city of Victoria and Oak Bay (1992). The jumping gall wasp occurs at non-damaging levels north of Mount Newton on the Saanich Peninsula but has not yet been found outside the Capital Regional District.

DAMAGE

The only known host in British Columbia is the Garry oak, however, adults will lay eggs on numerous species of ornamental oaks causing chlorotic spotting of foliage, but larvae fail to complete development. Individual trees affected by jumping gall wasps generally are not scorched or defoliated as severely as is the case with the oak leaf phylloxeran. On most trees, 20 - 60% of the foliar

area is scorched. Damage may range from light speckling to almost complete scorching of foliage and partial to complete defoliation. Virtually every tree within an infested area sustains some damage. Severely scorched trees usually produce a second flush. Continued severe scorching over many consecutive years is likely to weaken the trees, but should not cause mortality.

The local outbreak pattern in which almost every tree is attacked over a steadily expanding area is more severe than damage reported in the United States where, typically, only an occasional widely scattered oak is attacked in some years. Rearing of galls at the Pacific Forestry Centre in 1990-91 indicated a relatively low, but increasing (3-30%) level of parasitism. Early observations this year indicate a continued increase in the level of parasitism. Continued damage, with possible expansion of the area under attack, is expected in 1993.

Foliage affected by the jumping gall wasp have large numbers of small, (1.0 to 1.5 mm) round galls attached to the lower surface of the leaf. These galls mature in June-July and drop to the ground where they "jump" for several weeks before burying themselves in the soil. The wasp larva in each gall pupates in fall and an adult emerges in March-April to lay eggs in expanding oak buds. Blister galls of the first generation develop on newly expanded leaves and within one month adults emerge to lay eggs on the lower surface of oak leaves. The larvae hatching from these eggs induce the formation of the jumping galls. The galls provide shelter and food for the developing larvae. Movement of larvae within the galls causes them to "jump" and produces a sound similar to a light rain shower.

CONTROLS

A four year study, funded jointly by Forestry Canada and the core municipalities/Capital Regional District, has been initiated to examine the predator/parasite complexes and basic biology of the jumping gall wasp. A parallel study has also been initiated in California where high levels of parasitism effectively control the jumping gall wasp.

Direct chemical control of the jumping gall wasp is not practical due to the size of the host trees and attempting to destroy galls already on the ground would be futile. Natural biological controls (parasites/predators) are expected to reduce damage in the long term.

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