

## OVERWINTERING SURVIVAL OF *PISSODES STROBI* (PECK) (COLEOPTERA: CURCULIONIDAE) IN SITKA SPRUCE LEADERS<sup>1</sup>

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Across most of its range, *Pissodes strobi* Peck<sup>3</sup> overwinters as an adult in the duff at the base of brood hosts from which it emerged in autumn (Belyea and Sullivan 1956; Stevenson 1967). On the west coast of British Columbia, mild winters apparently permit adult *P. strobi* to overwinter on the bole and laterals of Sitka spruce (Gara, Carlson, and Hrutfiord 1971; McMullen and Condrashoff 1973). Silver (1968) suggested that although some *P. strobi* in coastal B.C. overwinter as larvae in host leaders, they may be unable to complete their development the following spring.

On June 8, 1976, I collected 26 Sitka spruce leaders attacked in 1975 from two plantations near Port Renfrew, Vancouver Island. These terminals were maintained in the laboratory at

approximately 20°C. Sixteen adult *P. strobi* (9 ♂♂ and 7 ♀♀) emerged during a 2-week period in late June. Five additional male weevils emerged in late July, from Sitka spruce leaders collected at the same sites on July 7, 1976.

After a count of weevil emergence holes chewed through the intact outer bark, the leaders from the June 8, 1976 collection were dissected. A total of 737 chip cocoons in the xylem and pith contained 36 dead adults (4.9%) that had failed to emerge. An additional 75.3% had apparently died in chip cocoons prior to completing pupation. The count of weathered emergence holes indicated that 130 adults (17.6%) had emerged in late summer to fall, 1975. The 16 *P. strobi* that emerged in early summer, 1976 constituted 2.2% of the total chip cocoon population or 11.0% of the total emergent population.

These results indicate that *P. strobi* can successfully overwinter in the larval stage in Sitka spruce leaders in coastal B.C.

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<sup>3</sup>Smith and Sugden (1969) designated the former Sitka spruce weevil, *Pissodes sitchensis* Hopkins and the Engelmann spruce weevil, *P. engelmanni* Hopkins, as ecotypes of *P. strobi* Peck on the basis of morphological and cytogenetic similarities (Manna and Smith 1959; Smith 1962).