

Thresholds and Monitoring

THE STATUS OF CHERRY BARK TORTRIX IN WASHINGTON STATE

Koen G.H. Breedveld and Lynell K. Tanigoshi

Department of Entomology, Washington State University, Vancouver Research and Extension Unit, Vancouver, WA

Keywords: cherry bark tortrix, CBT, *Enarmonia formosana*, status, spread, monitor, *Trichogramma cacoeciae*, control

In 1991, the first U.S. record was made on the establishment of *Enarmonia formosana* (Scopoli) (Lepidoptera; Tortricidae), cherry bark tortrix (CBT), in Washington State. Originally from Eurasia, CBT larvae feed on the cambium of cherry (*Prunus* spp.) trees and other plants in the family Rosaceae. Their feeding activity causes girdling of the tree trunk, resulting in canopy dieback and tree death in several years under high infestation pressure. CBT has the potential to be a serious problem, which has been recognized by USDA APHIS PPQ, who placed it on their NBCI biological control target list for 2001.

Pheromone traps have been used to monitor the status of CBT in Washington for several years. In 2000, collaboration between Washington State University, the University of Washington, and Washington Park Arboretum provided valuable biological data about CBT's population dynamics in Seattle. In the summer of 2001, the Seattle Pesticide Reduction Commission and the Seattle City Parks and Recreation joined the collaboration to facilitate aspects of ongoing research management tactics. Another collaborator was the USDA APHIS PPQ laboratory in Niles, Michigan, which agreed to utilize their Biological Control Laboratory to mass produce the CBT egg parasitoid, *Trichogramma cacoeciae* Marchal.

The city of Seattle proves a great habitat for CBT and their population is well established in the plethora of ornamental cherry trees. To determine the status, spread and control of CBT in Washington, several areas in Seattle were observed for CBT damage, population size and CBT egg parasitism. In total, 26 CBT pheromone trap sites provided data on CBT seasonal flight patterns and population dynamics.

Laboratory experiments will provide data about CBT egg survival at low relative humidity. The potential exists for CBT to migrate over the Cascade Mountain Range and to infest the tree fruit regions of eastern Washington. *T. cacoeciae* releases provided valuable information on their population dynamics, dispersal dynamics, CBT egg parasitism and its potential as a biological control agent.