

Green Alder Sawfly, *Monsoma pulveratum* – Pacific Northwest Surveys in 2011

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Green alder sawfly larva; photo by Kathy Sheehan (Hood River County, OR; 2011)

Introduction

Green alder sawfly (GAS) is native to Europe, northern Africa, and the Near East. The larvae feed on the foliage of many species of alders (*Alnus* spp.). Males are extremely rare, and only females have been found in some parts of its range. Unlike most sawflies, mature GAS larvae may burrow into rotten wood to pupate.

GAS was first collected in North America in the 1990s in eastern Canada. It was detected in Alaska in 2004, and has since caused visible defoliation of thin-leaf alder (*Alnus incana* ssp. *tenuifolia*) in Anchorage, Kenai, Seward, and other locations (Kruse and others, 2010).

While the most visible damage caused by GAS is defoliation, larvae have strong mandibles and may chew into rotten wood – or sometimes live trees! – and pupate there (Jim Kruse, personal communication). Forest health specialists are concerned that GAS may be moved long distances within firewood.



Green alder sawfly: larva (right), pre-pupae in alder stem (center), and alder with boring damage (left); photos by Ken Zogas (USDA Forest Service, R10; 2010)

Discovery in WA - 2010

In April, 2010, Andrew McKorney took several photographs in Vancouver, WA, and posted them on bugguide.net. The renowned sawfly expert, David R. Smith, identified the photos as *Monsoma pulveratum*. GAS presence in Washington was soon confirmed when Eric LaGasa (WSDA) caught several adults in sticky traps placed in the south Puget Sound area.

Even though the adult flight period was already underway, an informal network of entomologists placed sticky traps in selected areas, finding GAS in 10 WA counties. One adult was caught by hand on a red alder (*Alnus rubra*) in a Portland, OR, park. During the summer, larvae were found in 4 of the counties where adults had previously been found. GAS larvae generally caused light to moderate defoliation on red alder.



Green alder sawfly females; photos by Andrew McKorney (Vancouver, WA; 2010)

Methods

In 2011 seven different agencies cooperated to conduct surveys throughout Oregon and Washington, as well as parts of northern Idaho and western Montana. These agencies often “piggybacked” the sawfly trapping with sampling efforts aimed at other insects.

Traps consisted of thin yellow panels (18 x 14 cm) coated with a pressure-sensitive adhesive (AlphaScents, West Linn, OR), which were hung from branches within arm’s reach using twist-ties. Most traps were hung on red alder (*Alnus rubra*) or thin-leaf alder. Two traps were placed ~30 m apart at each trapping site.



Yellow sticky panel traps; photos by Kathy Sheehan (Vancouver, WA; 2010)

Depending on local road conditions, trapping for adult sawflies in 2011 began in late March – late April and continued through September or October. Traps were generally replaced at 3-4 week intervals. Retrieved traps were shipped to the WSDA Entomology Lab in Olympia, WA, where sawflies were removed with citrus solvent and stored in alcohol until they were identified.

Insect collections at Evergreen State College (Olympia, WA), University of Idaho (Moscow, ID), Washington State University (Pullman, WA), and Western Washington University (Bellingham, WA) were examined for *M. pulveratum*.



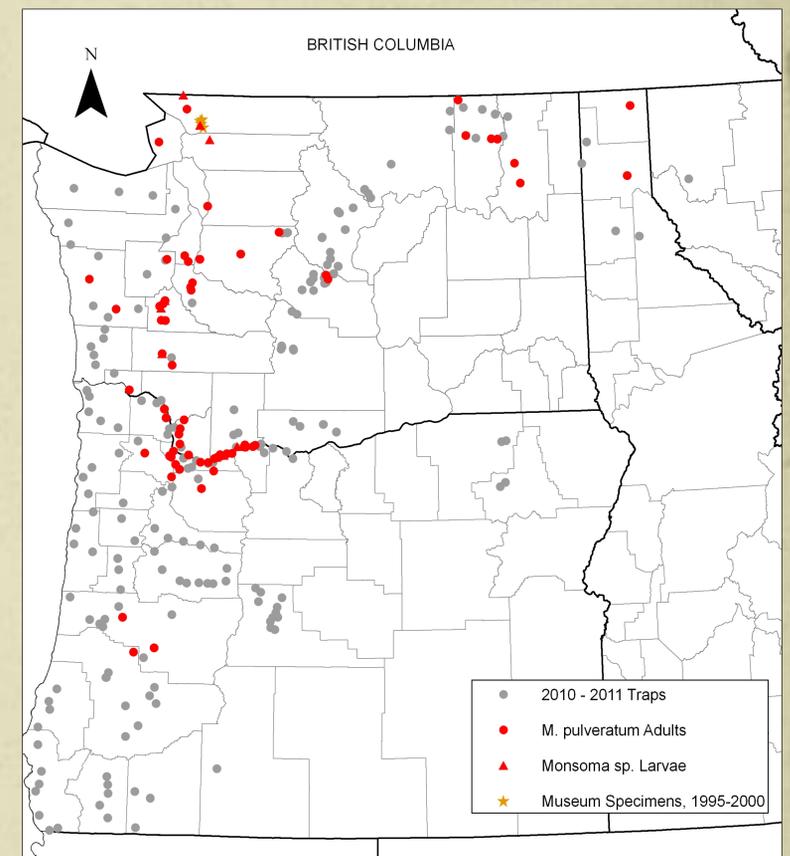
Left, above, & right: defoliation of red alder by green alder sawfly (Skamania County, WA, 2010). Top right: two larvae collected on the same leaf on red alder (Hood River County, OR, 2011). Photos by Kathy Sheehan



Green alder sawfly larva; photo by WSU Extension

Results and Discussion

Forty-five GAS adults were trapped or hand collected in 2010, and 142 GAS adults were trapped in 2011. In all, GAS was detected in 18 counties in Washington, 7 counties in Oregon, and 2 counties in Idaho. Most adults were trapped in western Washington and Oregon, although detections seemed to be haphazardly located across sites with abundant alder hosts. We do not know if negative traps are due to GAS absence, low abundance, or chance. The earliest adult trapped in 2011 was found in a trap placed on March 14 in Douglas County, OR, while the latest adult was found in a trap placed on July 7 in Hood River, OR. All adults found were females.



Map showing trapping locations and positive GAS locations in 2010 and 2011 (map created by Chris Looney, 2011)

Eight GAS adults collected between 1995 and 2005 were found in insect collections made by students at Western Washington University, suggesting that this insect was abundant enough by the mid-1990s to be collected by individuals with minimal experience. No GAS were found in collections at the other 3 universities.

While defoliation was not formally measured, casual observations of GAS feeding on red alder in the Pacific Northwest in 2010 and 2011 generally found low to moderate defoliation.

References

Kruse, James J. and others (2010) New Pest in Alaska and Washington, the Green Alder Sawfly – *Monsoma pulveratum* (Retzius). USDA Forest Service, Alaska Region, Pest Alert R10-PR-022. 2 pages.

Green Alder Sawfly website: <http://www.fs.usda.gov/detail/r6/forest-grasslandhealth/invasivespecies/?cid=stelprdb5303925>

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