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Greenhouse Thrips in Oregon: A Threat to Native Plants *Jim LaBonte*

Greenhouse Thrips, *Heliethrips haemorrhoidalis* (Figure 1), is a South American species first found in the United States in 1870. It now occurs worldwide in the tropics and sub-tropics and can be found elsewhere as a greenhouse pest. It is established outside of greenhouses and other protected settings in southern California and Florida and is probably also present outside in other southern tier states. In more northerly states, populations can establish outside during warm months but these are then killed by freezing temperatures. Until 2015, it had not been documented as being established outside of greenhouses in Oregon. That year, it was found causing severe damage to salal in several locales along the southern Oregon coast. Early in 2016, it was found damaging salal and Pacific wax myrtle near Florence. Subsequent anecdotal information suggests it may have been present and causing damage to salal in the region for up to several decades.

Thrips use their mouthparts to pierce plant cell walls and then remove the cell contents. This damage initially causes a very distinctive greyish or silver cast, “silvering”, along leaf margins. Unlike most thrips, Greenhouse Thrips feed throughout the underside of a leaf and, as more damage occurs, the entire leaf surface becomes “silvered.” Severe infestations may cause most or all of a host plant canopy to become “silver” (Figure 2), which can be easily spotted from a considerable distance. A diagnostic characteristic of Greenhouse Thrips is the extensive “fecal spotting” on the underside of the leaf (Figure 3). While feeding, Greenhouse Thrips exude a droplet of feces from the end of the abdomen, which is used as a predator deterrent. This droplet is often deposited on the underside of the leaf, where it dries into a tarry black spot. These spots can cover most of the underside of the leaf. This fecal spotting is surprisingly similar to that of the Azalea Lace Bug (LaBonte 2014) and sometimes the same hosts (salal, azalea, etc.) can be attacked. Severe feeding damage by the lace bug leads to coalescence of brown stippling rather than the “silvering” of the thrips. Lace bugs, or cast skins thereof, are also almost

always present when they infest a plant. Severe and persistent feeding by Greenhouse Thrips can lead to leaf drop and possibly plant death.

Although known from ferns and many ornamental herbaceous hosts, such as coleus and fuschia, and some deciduous woody plants like grapes and maple, Greenhouse Thrips appear to predominantly attack evergreen shrubs and trees. These include azalea, boxwood, citrus, fig, magnolia, and rhododendron. Based



Figure 1. Adult Greenhouse Thrips (mature adult on left, fresh adult on right). Photo by Thomas Shahan.

on a 2004 outbreak on the University of Washington campus, salal and viburnum appear to be favored hosts in our region.

Greenhouse Thrips adults are very small, about 1 millimeter in length. Fresh adults have bright orange abdomens which darken with age, while mature adults are dark brown or black with pale antennae, legs, and wings (Figure 1). Immatures are translucent pale yellowish green (Figure 4). Greenhouse Thrips are almost completely parthenogenetic, with males being very rare. Eggs are inserted singly into leaf tissue and there are two immature feeding stages and two non-feeding stages. Depending upon temperature and other variables, the entire life cycle from egg to adult may take about one to two months. In southern California, there can be five to seven generations per year. Although tropical in origin, Greenhouse Thrips prefer moderate temperatures (about 75°F) and shaded situations. According to one source, temperatures below freezing and above 100°F cause “substantial mortality.”

There is substantial concern that Greenhouse Thrips may become a new and significant pest of native plants in Oregon landscapes. If suspect Greenhouse Thrips are found in a landscape setting, please collect specimens and leaf samples with locality and host data and contact James LaBonte at the Oregon Department of Agriculture (503-986-4749 or by email at <jlabonte@oda.state.or.us>) or Wyatt Williams at the Oregon Department of Forestry (503-945-7472 or by email at <wyatt.williams@oregon.gov>).



Figure 3. Underside of salal leaf showing “fecal spotting.” Photo by Thomas Shahan.



Figure 2. Salal showing pale colored “silvered” leaves. Photo by Neil Bell.



Figure 4. Immature Greenhouse Thrips. Photo by Thomas Shahan.

Reference

LaBonte, J. 2014. Azalea Lace Bug in Oregon: a threat to native plants. Bulletin of the Oregon Entomological Society 2014 (2, Summer): 1-2.

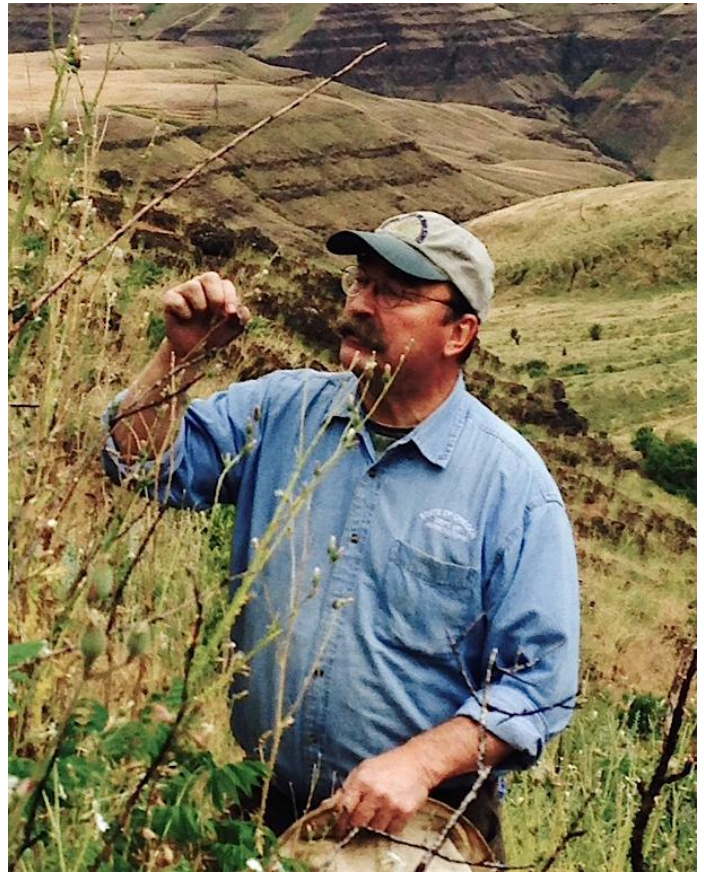
Retirement Thoughts *Eric Coombs*

After working for the Oregon Department of Agriculture (ODA) in the Noxious Weed Control Program for 29 years, I am retiring as the State's Weed Biocontrol Entomologist on June 30. It has been my privilege to practice my craft with some of the most amazing scientists, cooperators, and coworkers I could ever ask for. Together, we have accomplished great things, and there are few places in Oregon that you cannot see evidence of our cooperative work. We have had great successes and occasionally some failures, but we have always had good intentions to successfully implement weed biocontrol to the best of our ability – and it shows!

To help manage biocontrol projects in Oregon, I worked with Wyatt William (ODF) and Colin Park (USDA APHIS) to develop a brochure to help cooperators, Biological Control of Noxious Weeds—A guide to common biological control agents found in Oregon. It can be found at <https://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/BiocontrolBrochure.pdf>.

I will be moving to Logan, Utah and hope to continue to provide guidance from afar until my position is refilled, probably sometime next year. My personal email if you have questions for me will be: Eric.Coombs@comcast.net. My ODA account will remain active for a year and I will do my best to maintain communication.

I wish all of you the best and thank you for the personal enrichment of my life by knowing and working with you.



Eric checking thistles in the Imnaha Canyon June 2014. Photo by Mark Porter.

OES Funds transferred to Friends of the Oregon State Arthropod Collection

Christopher Marshall

After many years, the Oregon Entomological Society (OES) recently transferred its remaining funds to the Oregon State Arthropod Collection (OSAC). The funds (\$1,352) were largely generated through registration fees for two insect identification workshops held at Oregon State University in Corvallis. The first of these on Odonata was held in 2008 and the second on Carabidae was held in 2009.

It was never the intention of the OES to save (or even amass) these funds and while future insect identification workshops may be held, none are currently being organized. The officers at the time of the original workshops felt it would be preferable to use the funds to benefit the OES community. Transferring the funds

to the OSAC seemed a great way to achieve this goal given its long history serving OES members and the fact that OES members have contributed substantially in the past to the collection.

Specifically, the funds will be used to hire undergraduate students this summer to assist with ongoing projects improving several taxonomic groups in the collection. Christopher Marshall, OSAC Curator/Collection Manager, will report back to OES members in an upcoming newsletter with the improvements these funds made possible. This financial support from the OES will continue its close ties with the OSAC and enable it to better serve the entomological community both here in Oregon and at large.

Funds Awarded for Wallowa County Moth Project *Christopher Marshall*

The 2016 grant from the Pacific Northwest Lepidopterists' Fund in honor of Harold E. Rice has been awarded to Mr. Dana Ross and Mr. Gary Pearson who applied to conduct a moth survey in Wallowa County, including Mt. Howard. The survey will take

place later this year. For more information about the Harold E. Rice Fund and how you can apply next year (deadline is the end of January 2017), visit <http://osac.oregonstate.edu/PNWLEpidopteristsFund>.

Upcoming Regional Invertebrate Classes

Siskiyou Field Institute Offerings

July 8–10, Friday–Sunday.

Flora and Butterflies of the Mt. Eddy Region, Siskiyou County, California. Home base will be a retreat center on Parks Creek visited by many invertebrates, especially dragonflies. A botanical trip to the Mt. Eddy summit is planned for Saturday and a butterfly identification and observation day in Dead Fall Meadow for Sunday.

July 9–10, Saturday–Sunday

Dragonflies Workshop Weekend with Jim Johnson at SFI in Selma. Field class for Beginners on Saturday, Intermediate on Sunday. This class usually chalks up some record sightings for Josephine County.

July 23–24, Saturday–Sunday

Aquatic Invertebrates with Celeste Searles Mazzacano at SFI in Selma. Invaluable training in sampling techniques, family-level identification and invertebrate-based biological assessments. Plenty of opportunities to cool off while exploring invertebrates in SFI's two creeks.

September 13–14, Tuesday–Wednesday

Forest Beetles of the Bioregion with Jim LaBonte at SFI in Selma.

An exploration of species diversity, behaviors, ecological roles, and natural histories of beetles found at and near SFI in Josephine County. Traps were set in April. We'll see what they yielded and learn to identify species.

For further information on these classes and registration information, please visit the Institute's website <<http://www.thesfi.org>> where you can download their catalog of classes and activities, or contact SFI at 541–597–8530.

Xerces Society Happenings

Visit <<http://www.xerces.org/event/>> to see the current schedule. (You can also access this page from <<http://www.xerces.org/>>, their home page. Click on the event category on the drop-down menu titled “Get Involved.”) Check back regularly to find newly scheduled events.

US Department of Agriculture Identification Tools

The US Department of Agriculture Identification Technology Program has constructed a number of identification tools for the expert and non-expert. Some of these are oriented towards species that might be intercepted at ports-of-call, but others are of a more general nature.

One key will help you identify longhorned beetles (Cerambycidae) to family, subfamily or tribe. Another will help you identify many of the most common western grasshoppers. There is a key to help identify some plant-eating aphids and another to identify tortricid moths of agricultural importance.

A number of the keys are available as apps for Android and Apple operating systems.

Links to the various tools can be found at <<http://idtools.org>> (use the “Find ID Support” link to go to the full list of available tools).

A Ghost in the Making (online video)

The Xerces Society is pleased to announce the release of “A Ghost in the Making: Searching for the Rusty Patched Bumble Bee,” an enchanting short film about the disappearance of the Rusty Patched Bumble Bee and one man's journey to find out what's happened to it. The film, received with acclaim at film festivals this spring, is now available at <<http://www.rustypatched.com/>>.

There has been a great deal of attention given to bee declines, but much is focused on domesticated honey bees, and less on the 3,600 species of native bees in the United States. Natural history photographer Clay Bolt has been on a multi-year quest to tell the stories of our native bees, and one elusive species—the Rusty Patched Bumble Bee.

This film tells the tale of Clay's journey from state to state in search of this bumble bee. On his travels, Clay meets the scientists and conservationists working tirelessly to preserve it, until he finally comes face to face with his quarry in Wisconsin and discovers an answer to the question that has been nagging him: why save a species?

A Ghost in the Making was produced by Day's Edge Productions in partnership with the Xerces Society, with funding from Endangered Species Chocolate.

– taken from an email from the Xerces Society

Upcoming Lepidoptera Events

North American Butterfly Association Eugene-Springfield Chapter Events

Note: Preregistration is requested for field trips. Preregister with David and Lois Hagen (NABA-ES) by email at <NABA-ES.trips@gmail.com>. Please include your name and phone number.

Field trips may be strenuous or hazardous. The weather and trail conditions can be unpredictable. Participation is at your own risk. Remember to bring water, lunch (for most trips), and snacks.

Check their website, <<http://www.naba.org/chapters/nabaes>>, for changes and/or additions to the event schedule.

July 2, Saturday Eugene 4th-of-July Butterfly Count

This field trip, the first of two “Fourth of July” butterfly counts, will be led by our experienced local NABA-ES officers. Four different count groups will explore for butterflies in the West Eugene Wetlands, Mt. Pisgah Arboretum, East Buford Park, and Spencer Butte. Beginners are encouraged to participate in this outing as a learning experience in butterfly identification. Meet at 10:00 am in the Campbell Community Center parking lot (155 High St., Eugene) to split into groups and to carpool to the sites. There is a \$3.00 fee for this event.

July 8, Friday Metolius Butterfly Count

NABA-ES members and experienced volunteers have an opportunity to assist Sue Anderson (Sisters, OR) in her annual butterfly count in the Metolius River area close to Sisters. The seeps and prairies near the Metolius are hot spots for butterfly activity, and we can expect to see many species not found here in the Willamette Valley. Departure times, carpooling, and other details will be arranged upon preregistration.

Contact Sue Anderson at <celistrinasue@gmail.com> or preregister with David and Lois Hagen.

July 16, Saturday Browder Ridge/Iron Mountain 4th-of-July Butterfly Count

This field trip is the second of our two “Fourth of July” butterfly counts to be led by our experienced local NABA-ES officers. Join us for a trip to these flower and butterfly rich environments. Two different count groups will explore for butterflies. One group travels by car along Browder Ridge with frequent stops. The other group will hike to the summit of Iron Mountain or Cone Peak in the Cascades. Beginners are encouraged to participate in this outing as a learning experience in butterfly identification. Meet at 8:00 am in the Campbell Community Center parking lot (155 High St., Eugene) to split into groups and to carpool to the sites. There is a \$3.00 fee for this event.

August 5–7, Friday–Sunday Wallowa Butterflies

This is an opportunity to get out to the beautiful Wallowa Mountains and meet some of our Washington Butterfly Association friends. They are having their annual meeting in Joseph and are inviting Oregon butterfly enthusiasts to join them.

Butterfly Count Dates for Northern California

For information or to register please email the organizer at the address provided.

July 17, Sunday South Lake Tahoe
Email <will@tinsweb.org>

July 23, Saturday Lassen Volcanic National Park
Email Joe Smith at <foxglove1985@yahoo.com>

July 25, Monday Yosemite
Email <sarah_stock@nps.gov>

Washington Butterfly Association Activities

Field trips and other activities offered by the Washington Butterfly Association are listed on their website, <<http://wabutterflyassoc.org/>>. Click on the relevant items in the drop-down menu.

The annual conference will be held in and around the Wallowa Mountains in NE Oregon on the weekend of August 5–7. Oregon lepidopterist Dana Ross, the keynote speaker, will present “Five Summer Stories: Seeking Out the Butterflies & Moths of Wallowa County.” A key field trip destination will be a tram ride up to the top of 8,200 ft high Mt. Howard, where fairly level trails thread their way amongst meadow and scree for close up exploration of a rugged habitat. Details and registration information can be found at <<http://wabutterflyassoc.org/>>. Click on the relevant items in the drop-down menu.

38th Northwest Lepidopterists’ Workshop

The 2016 Northwest Lepidopterists’ Workshop will be held at Oregon State University in Corvallis on the weekend of October 22–23, 2016.

The groups of emphasis this year will be:

Butterflies: Satyriinae (Satyrs, Ringlets and Wood Nymphs)
Moths: mimicry, day-flying moths and mimicry, and *Hemileuca*

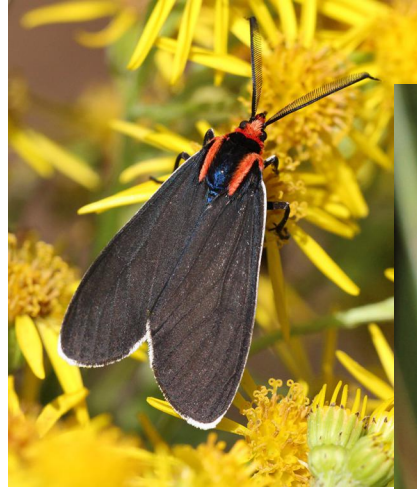
The full program will be published in the Fall issue of the Bulletin.

National Moth Week 23–31 July 2016

If you have an interest in moths, consider participating in this worldwide event. For information on National Moth Week, please visit <http://nationalmothweek.org/>.

For events in your area, click on the “Events Map” link at the top of the home page. This will bring up a map that you will need to expand to bring up your area of interest. Three public events are currently shown for Oregon.

Jim Johnson will hold 2 events in Tillamook County—a moth viewing at Alder Creek Farm in Nehalem on July 23 beginning at 8 pm and a presentation at the Pine Grove Community House in Manzanita on July 26 from 7–9 pm. Oregon State University (Louisa Hooven) plans to hold an event in Corvallis but the details have not yet been announced.



Diurnal moth *Ctenucha rubroscapus*.
Photos by Ron Lyons.

Seen in Passing

Ron Lyons

I was enjoying the hot (maybe a bit too hot) weather in the Bandon area on April 7 (it hit 92°F on April 6, and at least 88°F on April 7 in the sun at my place), when I noticed a large beetle fly into the Himalayan blackberry patch nearby. The beetle, *Nicrophorus defodiens*, belonging to the Family Silphidae, stayed long enough for me to catch a couple of photographs. You can see at least 10 pinkish mites on this individual. Not as many as shown on the beetle, *Scaphinotus velutinus*, I showed earlier (Lyons 2011), but then that one can't fly.

Beetles (<https://bspm.agsci.colostate.edu/files/2013/03/Burying-Beetles.pdf>), notes that “burying beetles are almost always found with associated mites, which the beetles carry with them” and the association is generally considered mutualistic.

Reference

Lyons, R. 2011. A Heavy Load . . . Or A Free Ride. Bulletin of the Oregon Entomological Society 2011(2, Summer): 2–2.

The internet document, Colorado Insect of Interest: Burying

