

People & Places

Understanding the Pandora moth

By BRAD CARLSON
Capital Press

MOSCOW, Idaho — Chris Hamilton is investigating why the Pandora pine moth is moving north into Idaho and Washington state.

The moth doesn't kill a conifer, but it can strip a tree's needles, weaken its immune system and make it more vulnerable to diseases or other pests such as pine beetles.

"The issue is that the Pandora moth from time to time has massive population explosions," said the University of Idaho's Hamilton.

He, his lab manager and a graduate student in March will start a two-year project funded by an approximately \$250,000 USDA grant. They will explore whether climate change is a factor in the northward expansion of the Pandora moth's range.

Hamilton, an evolutionary biologist, is interested in why populations spike. A current big increase appears to have started in the summer of 2019 in Central Oregon just east of the Cascade Range.

He arrived at UI in 2018. He had been studying organisms that had a Northwest presence — a factor in the pivot to Pandora moths.

As a traditional biologist and taxonomist, "I had different questions," Hamilton said.

"One of our jobs is investigating the genomes of these organisms to see if we can find links in the genome that tell us why or how they are producing these huge explosions," he said.

Pandora moths are native and have natural predators. The big moths are found from the Rocky Mountains west. Preliminary data indi-



Marek Borowicz/UI

Chris Hamilton in his University of Idaho laboratory on the Moscow campus. He is studying the Pandora pine moth that is found in many Western forests.

cate moths recently found in Idaho and Washington state come from outbreak-prone populations.

"It appears it is only the northern populations that have this outbreaking ability," Hamilton said.

One of the study's goals is to produce genomic data so that "in the future, someone can use that data to target genomic regions and help mitigate these outbreaks," he said.

For example, "once we have this understanding of the genome, then we can take action to apply modern pest management strategies to stop or slow down these outbreaks," Hamilton said.

Data gathered in the next two years may prompt a larger follow-up project exploring strategies to better understand Pandora moth outbreaks and how to mitigate damage.

"Now, we are trying to build the foundational aspect of it," Hamilton said.

Hamilton specializes in spiders and moths. His lab establishes data-driven hypotheses about generating and maintaining biodiversity. It is part of UI's Arthropod Molecular Systematics Lab.

Hamilton is a researcher and extension specialist. His extension appointment focuses on K-12 science, technology, engineering and math education and outreach. Part of this work is with Native American students.

Native Americans are underrepresented in the sciences, and "my goal is to stimulate that and get more kids interested in the sciences, and biology," he said. He is a member of the Chickasaw Nation of Oklahoma.

Understanding DNA and the genome can provide a



Pandora pine moth

strong base on which students can build their knowledge of the world around them, Hamilton said. It can add to their understanding and perspective on everything from organisms, forests, fisheries and farms to human health and medicine.

Genomics, the study of



Western Innovator

CHRIS HAMILTON

Title: Assistant professor and extension specialist, University of Idaho College of Agricultural and Life Sciences, Department of Entomology, Plant Pathology and Nematology.

Education: B.A., photojournalism, Western Kentucky University; M.S., biology, University of Texas at Arlington; Ph.D., evolutionary biology, Auburn University.

Other organizations: Systematics, Evolution & Biodiversity Section president, Entomological Society of America.

Age: 45

Hometown: Kansas City, Kan. Lives in Moscow, Idaho.

Family: Married to Amy Skibiell, UI animal, veterinary and food sciences assistant professor.

Hobbies: Playing hockey, upland bird hunting, fishing, Soccer fan.

genes in an organism's complete DNA set, "is a way to grab students' attention and get them interested in the sciences," he said. "They can bring this knowledge back to the tribe so the tribe benefits from it and can apply it to their natural resources work."

Researchers study how to water blackberries more efficiently

By SIERRA DAWN MCCLAIN
Capital Press

CORVALLIS, Ore. — Researchers are studying how Oregon farmers growing trailing blackberries can improve their water use efficiency and irrigate more strategically to boost fruit quality and increase cold-hardiness.



David Bryla

The research started with a simple question: How much water do trailing blackberry plants require?

Irrigation of blackberries up to this point has been guided largely by trial and error and theoretical guess-

work. Researchers say that's because the water management data Oregon blackberry producers consult to make irrigation decisions was developed for berry crops broadly, but not for blackberries specifically.

"It's pretty one-size-fits all," said David Bryla, USDA research horticulturist, speaking at the Northwest Small Fruits Research Conference in Corvallis this month. "But obviously the way a raspberry grows isn't like the way a blackberry grows, and the way a blackberry grows is nowhere like how a blueberry would grow."

Because there currently is no centralized, accurate source of water management data specific to blackberries, scientists say grow-

ers may be over-irrigating or watering at the wrong times — a problem with economic and environmental consequences.

"For this research, we wanted to develop a real crop coefficient curve for blackberries so growers have better estimates of what amount of water to give blackberries," said Bryla. "Clearly, there's going to be an economic benefit to that."

Crop coefficients are properties of plants used to estimate crop water use and accurately schedule irrigation. Growers currently rely on a combination of crop coefficients and data from free weather stations — such as the U.S. Bureau of Reclamation's AgriMet service — to determine how much water they need for

specific crops.

The new research project aims to make the data more precise.

For the experiments, Bryla has been working alongside Jesse Carroll, an Oregon State University graduate student; Scott Orr, a biological research technician at USDA; Amanda Davis, an OSU berry crops researcher; and soon-to-retire Bernadine Strik, a longtime OSU professor and berry researcher.

The experiments are expected to last two to three years.

The team will use a variety of tools to conduct the research, including drones to collect remote images and precision weighing lysimeters developed specifically for the trials. A precision

weighing lysimeter measures evapotranspiration.

Bryla said he's confident that the research findings will be useful to growers. Knowing when and how much to water is important, he said.

Several years ago, a study by OSU researchers found that blackberries do not need to be irrigated post-harvest. When growers omit post-harvest irrigation, the study found, it saves about 67,000 gallons of irrigation water per acre — about 2.5 acre-inches — and can sometimes even improve plants' winter hardiness. Many blackberry growers have since stopped irrigating post-harvest, saving on expenses and helping the environment by conserving water.

Eric Gordon Stritzke, 55, was known for his touch in repairing ag equipment

Eric Gordon Stritzke, 55, of McMinnville, Ore., died Nov. 18, 2021, of sudden heart failure.

Eric was born Aug. 16, 1966, in Roseburg, Ore. He graduated from Canby High School and received a bachelor of science degree in Diesel Power Technology from Oregon Institute of Technology in Klamath Falls.

He married Patti Boehlke in 1994 and together they were raising two sons, Cole and Spencer.



Eric Gordon Stritzke

Eric's passion was servicing the farmers and growers of the Willamette Valley agricultural industry. He started his career in agriculture with Fir Point Farms in Aurora, Ore., a produce stand that he founded and operated while in high school.

After college, Eric held

positions with Freeman Baler, Fisher Implement Co., Krone, Linn-Benton Tractor and finally, he owned and operated his own business, Santiam Tractor Supply.

Eric actively supported Oregon Women for Agriculture and local FFA chapters. His favorite time of the year was "harvest," when it was not unusual to find him in the South Valley during the night and up North during the day helping to ensure growers' equipment was working prop-

erly to perform the day's, or night's, work.

Eric was preceded in death by his mother, Judy (Pon) Stritzke, and is survived by his wife and children; his father, Ed Stritzke; his sisters, Kris Heighes and Debi Stritzke; his brothers, Nick Stritzke and Mike Stritzke; his nephew, Justin Stritzke; and an extended family of aunts, uncles and cousins.

An informal open house celebrating Eric's life will be held Jan. 29, 2022, from 2 to

4 p.m. at Smith Bros. Farms, 29610 Peoria Road, Shedd, Ore. 97377.

Remember Eric whenever you see a grass seed field, a windrower, a Krone baler or a John Deere tractor. And when you do remember, take a moment to perform a small service or do a good deed for another. If your heart is telling you to do something more, consider a donation to Oregon Women for Agriculture or your local FFA chapter in Eric's name.

CALENDAR

Submit upcoming ag-related events on www.capitalpress.com or by email to newsroom@capitalpress.com.

FRIDAY-WEDNESDAY JAN. 7-12

American Farm Bureau Convention: Georgia World Congress Center, 285 Andrew Young International Blvd., Atlanta, Ga. This is an opportunity to help set the agenda for the leading voice of agriculture in Washington, D.C., and much more. Participate in educational workshops to advance your leadership skills, expand your business acumen and gain insight into the trends and realities impacting food production. Website: <https://www.fb.org/events/afbf-convention/>

WEDNESDAY-FRIDAY JAN. 12-14

Northwest Agricultural Show:

Oregon State Fair and Exposition Center, 2330 17th St. NE, Salem. Join us at the fairgrounds for an ol' fashioned farm show. We'll also have a full slate of exhibitors, presentations, seminars and events. Website: <https://northwestagshow.com/>

SUNDAY-TUESDAY JAN. 16-18

NFU Women's Conference: Holiday Inn and Suites Nashville Downtown Convention Center. Topics will include business management, leadership, community building and more. Website: <https://nfu.org/womensconference/>

TUESDAY-WEDNESDAY JAN. 18-19

The VISION Conference 2022: Renaissance Phoenix Glendale Hotel and Spa, Glendale, Ariz.

The conference engages leaders throughout agricultural technology to address the dynamic recent advances in technology, systems and platforms enabling interconnected solutions from farm to retail. Website: <http://www.thevisionconference.com>

WEDNESDAY-THURSDAY JAN. 19-20

2022 Northwest Hay Expo: Three Rivers Convention Center, Kennewick, Wash. Sponsored by the Washington State Hay Growers Association, this is a one-stop information center for all things hay. Website: www.wa-hay.org

2022 Idaho Potato Conference: Idaho State University, student union building, Pocatello. The conference includes educational presentations and a trade show.

Website: www.uidaho.edu

SUNDAY-WEDNESDAY JAN. 23-26

Dairy Forum 2022: J.W. Marriott Desert Springs Resort & Spa, Palm Desert, Calif. Presented by International Dairy Foods Association, the forum will feature what's new, now and next for dairy foods. Website: www.idfa.org

THURSDAY JAN. 27

USBI Biochar in the Woods Seminar (online): 9 a.m.-4 p.m. At the day-long, online seminar and the following field day events in Butte County, Calif. (free), you will learn how to make and use biochar onsite to increase the water holding capacity and resilience of forest soils. Website: <https://bit.ly/3q1Ejji>

Uses and Benefits of Collaborative Robots in Manufacturing (online):

10-11 a.m. Is your manufacturing facility undergoing a workforce shortage? Attracting, hiring, and keeping workers is one of today's key workforce challenges. In this free webinar, we will discuss how collaborative robotics may be able to help. We will include demonstrations and examples of cobots. Website: <https://techhelp.regfox.com/20221robotics>

TUESDAY-THURSDAY FEB. 1-3

Cattle Industry Convention & NCBA Trade Show: George R. Brown Convention Center, Houston, Texas. The convention will include industry speakers and educational events. Website: <http://www.ncba.org>



Capital Press
EMPOWERING PRODUCERS OF FOOD & FIBER
Established 1928

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EO Media Group
dba Capital Press

An independent newspaper
published every Friday.

Capital Press (ISSN 0740-3704) is
published weekly by EO Media Group,
2870 Broadway NE, Salem OR 97303.

Periodicals postage paid at Portland, OR,
and at additional mailing offices.

POSTMASTER: send address changes to
Capital Press, P.O. Box 2048 Salem, OR
97308-2048.

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1 year other countries call for quote

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Visa and Mastercard accepted

To get information published

Mailing address:

Capital Press
P.O. Box 2048
Salem, OR 97308-2048

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send the information to
newsroom@capitalpress.com

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Index

Markets 10

Opinion 6

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