

# Kevin A. Weitemier

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## Education

*Oregon State University*, Ph.D., Botany & Plant Pathology 2016  
*Portland State University*, M.S., Biology 2010  
*Colorado College*, B.A., Biology 2005

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## Additional Training

Software & Data Carpentry Certified Instructor 2018  
*Oregon State University*, Graduate Certificate in College and University Teaching 2015

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## Employment

*Oregon State University*  
Environmental DNA monitoring, Research Associate (Postdoc), *Dept. of Fisheries & Wildlife* 2017-  
Bioinformatics e-Trainer, Faculty Research Asst., *Center for Genome Research & Biocomputing* 2016-  
2017  
Graduate Research & Herbarium Assistant, *Dept. of Botany & Plant Pathology* 2010-2016  
Graduate Teaching Assistant, *Dept. of Botany & Plant Pathology* 2015-2016

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## Publications

### Refereed Journal Articles

**Weitemier K**, BE Penaluna, L Hauck, LJ Longway, T Garcia, R Cronn. 2021. Estimating the genetic diversity of Pacific salmon and trout using multi-gene eDNA metabarcoding. *Molecular Ecology*. <https://doi.org/10.1111/mec.15811>

**Weitemier K**, SCK Straub, M Fishbein, CD Bailey, RC Cronn, A Liston. 2019. A draft genome and transcriptome of common milkweed (*Asclepias syriaca*) as resources for evolutionary, ecological, and molecular studies in milkweeds and Apocynaceae. *PeerJ*. 7:e7649. <https://doi.org/10.7717/peerj.7649>

- Hauck L\*, **K Weitemier\***, BE Penaluna, T Garcia, RC Cronn. 2019. Casting a broader net: Using microfluidic metagenomics to capture aquatic biodiversity data from diverse taxonomic targets. *Environmental DNA*. 1:251-267. <https://doi.org/10.1002/edn3.26> [\*Authors contributed equally.]
- Muñoz-Rodríguez P\*, T Carruthers\*, JRI Wood, BRM Williams, **K Weitemier**, B Kronmiller, Z Goodwin, A Sumadijaya, NL Anglin, D Filer, D Harris, MD Rausher, S Kelly, A Liston, RW Scotland. 2019. A taxonomic monograph of *Ipomoea* integrated across phylogenetic scales. *Nature Plants* 5:1136-1144. <https://doi.org/10.1038/s41477-019-0535-4> [\*Authors contributed equally.]
- Coble AA, CA Flinders, JA Homyack, B Penaluna, RC Cronn, **K Weitemier**. 2019. eDNA as a tool for identifying freshwater species in sustainable forestry: a critical review and potential future applications. *Science of the Total Environment*. 649:1157-1170. <https://doi.org/10.1016/j.scitotenv.2018.08.370>
- Muñoz-Rodríguez P, T Carruthers, JRI Wood, BRM Williams, **K Weitemier**, B Kronmiller, D Ellis, NL Anglin, L Longway, SA Harris, MD Rausher, S Kelly, A Liston, RW Scotland. 2018. Reconciling conflicting phylogenies in the origin of sweet potato and dispersal to Polynesia. *Current Biology*. 28(8):1246-1256. <https://doi.org/10.1016/j.cub.2018.03.020>
- Livshultz T, E Kaltenecker, SCK Straub, **K Weitemier**, E Hirsch, K Koval, L Mema, A Liston. 2018. Evolution of pyrrolizidine alkaloid biosynthesis in Apocynaceae: revisiting the defence de-escalation hypothesis. *New Phytologist* 218(2):762-773. <https://doi.org/10.1111/nph.15061>
- Schmickl R, A Liston, V Zeisek, K Oberlander, **K Weitemier**, SCK Straub, RC Cronn, LL Dreyer, J Suda. 2016. Phylogenetic marker development for target enrichment from transcriptome and genome skim data: the pipeline and its application in southern African *Oxalis* (Oxalidaceae). *Molecular Ecology Resources* 16(5):1124-1135. <https://doi.org/10.1111/1755-0998.12487>
- Weitemier K**, SCK Straub, M Fishbein, A Liston. 2015. Intragenomic polymorphisms among high-copy loci: A genus-wide study of nuclear ribosomal DNA in *Asclepias* (Apocynaceae). *PeerJ* 3:e718. <https://doi.org/10.7717/peerj.718>
- Weitemier\* K**, SCK Straub\*, RC Cronn, M Fishbein, R Schmickl, A McDonnell, A Liston. 2014. Hyb-Seq: Combining target enrichment and genome skimming for plant phylogenomics. *Applications in Plant Science* 2(9):1400042. <https://doi.org/10.3732/apps.1400042> [\*Authors contributed equally.]
- Straub SCK, M Parks, **K Weitemier**, M Fishbein, RC Cronn, A Liston. 2012. Navigating the tip of the genomic iceberg: Next-generation sequencing for plant systematics. *American Journal of Botany* 99(2):349-364. <https://doi.org/10.3732/ajb.1100335>
- Straub SCK, M Fishbein, T Livshultz, Z Foster, M Parks, **K Weitemier**, RC Cronn, A Liston. 2011. Building a model: Developing genomic resources for common milkweed (*Asclepias syriaca*) with low coverage genome sequencing. *BMC Genomics* 12:211. <https://doi.org/10.1186/1471-2164-12-211>
- Kelso S, P Beardsley, **K Weitemier**. 2009. Phylogeny and biogeography of *Primula* sect. *Parryi* (Primulaceae). *International Journal of Plant Sciences* 170(1):93-106. <https://doi.org/10.1086/593041>

### *Other Publications*

- Penaluna BE, LL Hauck, **K Weitemier**, T Garcia, R Cronn. 2018. Aquatic Biodiversity from a Bottle of Water: Using eDNA to Understand Species Richness. *StreamNotes: The Technical Newsletter of the National Stream and Aquatic Ecology Center*. August:1-3.
- Weitemier, K.** 2011. First Steps of Diversification? Relationships Among the Many Varieties of Pacific Lupine. *Douglasia* 35(3):1-3.
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### **Presentations**

#### *Invited Presentations*

- Weitemier K.** Uncovering the Hidden World of Stream Biodiversity through Environmental DNA. USGS Oregon Water Science Center, Portland, OR. 2019.
- Weitemier K.** Targeting genomic regions of interest in non-model organisms. Mycroarray - Planning a successful target enrichment project [Teaching workshop]. Plant & Animal Genome XXIV. San Diego, CA. 2016.

#### *Public Presentation*

- Keynote Address: Sleuthing species splits and spreads. Native Plant Society of Oregon Annual Meeting. Roseburg, OR. 2017.

#### *Workshops*

- “Data Carpentry: Genomics”, Co-instructor, California State Univesrity - Monterey Bay, March 21-22, 2019.
- Co-organized and instructed “An Introduction to Next Generation Sequencing” at the annual Botany meeting. 2012-2016.

#### *Papers<sup>†</sup> and Posters<sup>+</sup> (\*Presenting authors)*

- <sup>†</sup>**Weitemier K\***, L Hauck, L Longway, B Penaluna, T Garcia, R Cronn. Estimating Salmonid Genetic Diversity from Pacific Northwest Streams using Multi-gene eDNA Metabarcoding. American Fisheries Society Virtual Spring Conference. 2020.
- Weitemier K\***, L Hauck, T Garcia, B Penaluna, R Cronn. Casting a broader net: Using microfluidic metagenomics to capture aquatic biodiversity data from diverse taxonomic targets.  
<sup>†</sup>American Fisheries Society & The Wildlife Society Joint Conference. Reno, NV. 2019.  
<sup>†</sup>Oregon Chapter American Fisheries Society. Bend, OR. 2019.  
<sup>†</sup>Society for Northwestern Vertebrate Biology. Grand Mound, WA. 2019.
- <sup>†</sup>**Weitemier K\***, L Hauck, T Garcia, B Penaluna, R Cronn. Stream samples to species lists: Multi-species detection with environmental DNA and high-throughput sequencing. Oregon Chapter American Fisheries Society. Eugene, OR. 2018.

- <sup>†</sup>**Weitemier K\***, A Liston. Genome-enabled phylogeography in the Great Basin milkweed, *Asclepias cryptoceras* (Apocynaceae). Botany 2016. Savannah, GA. 2016.
- Weitemier K\***, SCK Straub, M Fishbein, A Liston. Intragenomic polymorphisms among high-copy loci: a genus-wide study of nuclear ribosomal DNA in *Asclepias* (Apocynaceae).  
<sup>†</sup>Botany 2015. Edmonton, AB. 2015.  
<sup>†</sup>Botany 2014, Boise, ID. 2014.
- Weitemier K\***, S Straub, M Fishbein, R Cronn, A Liston. Genome-enabled phylogeography in *Asclepias cryptoceras*.  
<sup>†</sup>Botany 2013, New Orleans, LA. 2013.  
<sup>†</sup>American Genetic Association Symposium 2013, Ithaca, NY. 2013.
- <sup>†</sup>**Weitemier K\***, S Straub, M Parks, R Cronn, M Fishbein, A Liston. Challenges and utility of heterozygous genome assembly: *Asclepias syriaca*. Botany 2012, Columbus, OH. 2012.
- Weitemier K\***, S Straub, M Parks, R Cronn, M Fishbein, A Liston. Intra-genomic rDNA sequence diversity across the milkweed genus, *Asclepias* (Apocynaceae).  
<sup>†</sup>Evolution 2011, Norman, OK. 2011.  
<sup>†</sup>Plant & Animal Genome XIX. San Diego, CA. 2011.
- <sup>†</sup>**Weitemier K\***. Phylogenetic and phylogeographic analysis of *Lupinus lepidus*. Evolution 2010. Portland, OR. 2010.
- <sup>†</sup>**Weitemier K\***. Phylogenetic patterns and intervarietal relationships within *Lupinus lepidus*. EVO-WIBO. Port Townsend, WA. 2010.
- <sup>†</sup>**Weitemier K\***. Phylogenetic relationships among varieties of *Lupinus lepidus* (Fabaceae). Botany 2009. Snowbird, UT. 2009.
- <sup>†</sup>**Weitemier K\***. Focusing on blurry lines: A coalescent approach to a perennial lupine species complex. Evolution 2009. University of Idaho, Moscow, ID. 2009.
- <sup>†</sup>**Weitemier K\***. Phylogenetic analysis of the *Lupinus lepidus* species complex from noncoding cpDNA sequence data. Botany 2008. University of British Columbia, Vancouver, BC. 2008.
- <sup>†</sup>Kelso S, P Beardsley, **K Weitemier\***. Phylogenetic perspectives on speciation and biogeography of *Primula* Section *Parryi*, endemic to western North America. Botany 2008. Vancouver, BC. 2008.
- <sup>†</sup>Kelso S\*, **K Weitemier\***, M Bilodeau, P Beardsley. Phylogeny of *Primula* sect. *Parryi* in the Intermountain and Rocky Mountain West: Perspectives from ITS, ETS, cpDNA, and AFLP sequences. Botany 2006. Chico, CA. 2006.
- <sup>†</sup>**Weitemier K\***. Phylogenetic Relationships Within *Primula* section *Parryi*: an AFLP Analysis. Colorado Springs Undergraduate Research Forum. United States Air Force Academy, Colorado Springs, CO. 2005.

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## Awarded Grants

Hybrid Course Development, OSU center for Teaching & Learning

2017

Portland Garden Club	2015, 2014
Gottlieb Award for Plant Evolutionary Biology, Oregon State University	2014
Botanical Society of America, Genetics Section	2014
Botanical Society of America	2014
Templeton Award for Plant Systematics, Oregon State University	2013
Moldenke Fund for Plant Systematics, Oregon State University	2012, 2011
American Society for Plant Taxonomists	2009
Society of Systematic Biologists	2008
Washington Native Plant Society	2008
Forbes-Lea Award, Portland State University	2008
Native Plant Society of Oregon	2008

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### **Awards & Honors**

Oregon Lottery Graduate Scholarship	2013
Honorable Mention: NSF Graduate Research Fellowship Program	2009, 2008

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### **Professional & University Service**

Reviewing Editor, <i>Applications in Plant Sciences</i>	2018-2020
Reviewer, American Society of Plant Taxonomists - Graduate Student Research Award	2018
Student Promotion & Tenure Committee, Oregon State University, Dept. Botany & Plant Pathology 2013-2014	
Graduate Studies Committee, Oregon State University, Dept. Botany & Plant Pathology	2013
Faculty Liaison, Portland State University Biology Association of Graduate Students	2009

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### **Community Outreach & Leadership**

Board Member-at-Large: Native Plant Society of Oregon	2014-2016
Online Science Mentor: PlantingScience.org	2009-2016
Science fair judge: Intel Northwest Science Expo	2010-2016
OSU Ag Days: Botany activity for "at risk" high school students	2015

Invited guest: Inspiration Dissemination: Radio program discussing graduate student research and paths to graduate school	2014
President: Native Plant Society of Oregon, Corvallis Chapter	2012-2014
Youth outreach: Winter Wonderings, teaching elementary students evolution	2012
Youth outreach: Discovery Days, Oregon State University	2010-2011

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### **Professional Affiliations**

American Fisheries Society

Botanical Society of America