11-2021

Tremblings, November 2021

Western Aspen Alliance

WESTERN ASPEN ALLIANCE

TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 12(4), November 2021

Partnering to preserve and restore healthy aspen ecosystems

MEMBER PARTICIPATION: The WAA is a virtual science-based community. Send us aspen-related publications, management plans, and media mentions and we'll help spread the word. Contact Paul Rogers, Director: p.rogers@usu.edu.

Share *Tremblings* with your friends and colleagues.

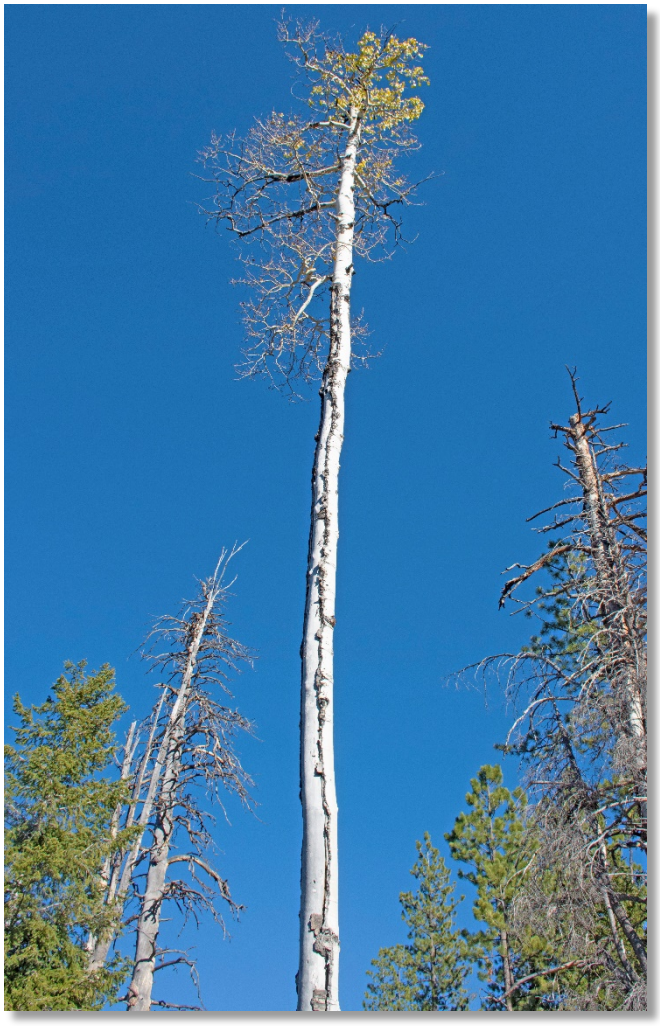
New members welcome! Sign-up here

WAA HAPPENINGS

Help document invasive spread—Oystershell scale (OSS) is an invasive insect that has recently migrated into natural aspen stands in the Southwest U.S. where outbreaks are causing aspen dieback and mortality. Researchers from Northern Arizona University and the USDA, Forest Service, Forest Health Protection are collecting observations of OSS to document the species' extent throughout North America. If you have seen OSS in your area please contact Connor Crouch (connor.crouch@nau.edu) and include a GPS location, photo, and host species (there are 100+ trees and shrubs that host OSS). You can learn more about OSS and the threat it poses to aspen here.

Exploring Global Aspen Connections—This fall the WAA Director (Rogers) has been working with scientists in Czechia to further understand common roles of Eurasian (*P. tremula*) and North American (*P. tremuloides*) aspen. Specifically, researchers are trying to understand how mechanical suppression of aspen in Central Europe has affected its broader role today, as well as under future climate change scenarios. Next up, Rogers will visit montane locations in Uzbekistan, central Asia, to examine at *P. tremula* forests there and understand their status, past management, and future prospects. These activities fall under the budding Aspen Conservation Consortium initiated with the 2020 publication of "A Global View of Aspen: Conservation Science for Widespread Keystone Systems."

Aspen in the News—Aspen forests and research seem to be increasingly of interest to popular outlets. Check out recent and past media on aspen-related topics at the WAA website. If you missed the William Shatner interview with WAA Director Rogers, you can find it here. And please send local, national, or international items to the WAA Director so we can post them on our website and Facebook page!



A rare fire-scarred aspen in Bryce Canyon National Park, Utah. This unusually tall scar (est. 20 m) likely resulted from extreme heat of adjacent conifers burning (not actual flames burning up the tree), which commonly kill aspen stems. Most trees in the direction facing the scar were dead, while those facing the live portion thrived (Photo: Paul Rogers).

WESTERN ASPEN ALLIANCE

TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 12(4), November 2021

UPCOMING EVENTS

13th North American Forest Ecology Workshop—With the NAFEW virtual conference behind us (recordings available here), we are looking toward an in-person meeting June 19-23, 2022. The NAFEW purposefully positions itself at the crossroads of science and practice, conservation and utilization, old-timer and newcomer. The event will be held at Sault Ste. Marie, Ontario, Canada. The theme for NAFEW 2022 will be, "Turning Ecological Answers into Forest Management Actions." An announcement regarding the oral and poster abstract submission process will be made in the coming weeks. Check their website for details and updates.

NACCB is on for 2022—The North American Congress for Conservation Biology is holding their biennial meeting July 17-21 in Reno, Nevada, USA. The goal of NACCB is to provide a forum for presenting and discussing new research, developments, and strategies that will inform policy changes and conservation practices to address today's conservation challenges. "Restoring Connections and Building Resilience in a Changed World" aims to address conservation science, climate disruptions, and social equity within our respective professions, as well as society at-large. NACCB welcomes all conservation practitioners and enthusiasts who envision a better world through sound natural sciences!

Summer 2022 Aspen Workshops—Aspen Days 2021 was canceled at the last moment due to a Covid infection at the venue the week prior to our event. We have tentatively rescheduled the same venue for the 10th Annual Aspen Days near Hoback Junction, Wyoming July 12-14, 2022.

Early talks are underway for aspen workshops in Colorado and California for next year. If you have interest in helping organize these trainings or suggestions for hosting locations, please contact the WAA Director.

Finally, if you wish to schedule a 2022 aspen workshop in your area, please contact WAA Director Paul Rogers.

COMMENTARY

Lindroth + Aspen: A Legacy of Good Chemistry

Ken Keefover-Ring, Assistant Professor, Departments of Botany and Geography, University of Wisconsin-Madison

The license plates on Professor Rick Lindroth's vehicle read "Q ASPEN," referring to quaking aspen. This gives you a hint of the extent of his obsession; one he will surely carry into his upcoming retirement. Rick has co-authored almost 220 peer-reviewed articles and 15 book chapters over his academic career and more than 70% of them involve aspen (*Populus tremuloides*) in some way. In fact, many issues of *Tremblings* have listed one or more of his papers. This research has largely been focused on aspen chemical ecology and has covered work both above- and below- ground, including aspen anti-herbivore chemical variation, the relationship between aspen and its herbivores and pathogens, how climate change will affect aspen biology, and how different aspen individuals may prioritize growth versus producing more anti-herbivore chemicals. Not only was this research done with a pioneer species, but much of the work was pioneering, certainly with aspen in particular and with ecology, plant-animal interactions, and climate change biology in general.

Rick will be the first to tell you that he did not do all of this research alone, but with the help of many other people, including eight high school students, 41 undergraduate independent study students with funded fellowships, 26 graduate students, 23 postdocs and scientists, and numerous other collaborators from around the world. While Rick obviously loves aspen itself, he realized early in his career that it was a ideal system to address larger issues in ecology. He quickly recognized that aspen would be a great tool to answer these questions, due to its immense genotypic and phenotypic variation, and that genotypes could be easily propagated for replicated studies.

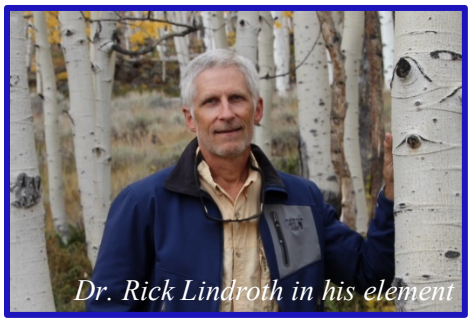
WESTERN ASPEN ALLIANCE

TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 12(4), November 2021

After receiving his PhD from University of Illinois, Urbana-Champaign, and spending a year as a temporary assistant professor at Illinois State University, Rick started his career at University of Wisconsin-Madison in 1985 as a National Science Foundation (NSF) Postdoctoral Fellow in the Department of Entomology. By 1988 Rick was an assistant professor in the department and quickly rose to the level of full professor. At the same time he also began his research with aspen. He and others characterized aspen anti-herbivore chemical variation which informed experiments conducted with several genotypes collected in Wisconsin to determine how this variation shapes the ecology of aspen and its community. For example, swallowtail butterfly caterpillars can detoxify aspen chemical defenses and North American elk prefer to eat aspen individuals with lower amounts of these compounds.



Dr. Rick Lindroth in his element

While at Wisconsin, Rick also taught hundreds of students in biology, ecology, and entomology courses, received numerous awards, and amassed millions of dollars in grants from NSF, USDA, NASA, US Forest Service, and UW-Madison to fund his research. Rick was also the Associate Dean for Research for the College of Agricultural and Life Sciences and the Associate Director of the Wisconsin Agricultural Experiment Station for six years and still managed to run his research program with seemingly little change in productivity. Rick will retire from UW-Madison at the end of the 2021-22 academic year. I image he will stay connected with the aspen research community and hopefully will find more time to admire aspen groves on the banks of his favorite fly-fishing streams.

WAA *Creates*

"WAA Creates" showcases artistic aspen-related contributions. We encourage fiction, folklore, poetry, drawings, paintings, photography, and other artistic expressions. Send your stuff to share with WAA readers.

Blank Canvas
(No aspen on empty background)

Anonymous
Somewhere, Earth

The non-artist: *Many find inspiration in aspen ecosystems, but none came forward this period. Sadness. If you yourself are not an artist, contact a friend who is. Whether amateur or professional, let's see your stuff, be it written or visual. And let's keep the diversity rolling—in medium, location, theme, and culture—to enrich the WAA community at-large!*

WESTERN ASPEN ALLIANCE

TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 12(4), November 2021

RECENT ASPEN PUBLICATIONS

A word on Open Access: The Western Aspen Alliance strongly supports open access publishing (CC-BY). Articles with hyperlinks below are available for download and sharing following Creative Commons rules for attribution.

Cope, O. L., K. Keefover-Ring, E. L. Kruger, and R. L. Lindroth. 2021. Growth–defense trade-offs shape population genetic composition in an iconic forest tree species. Proceedings of the National Academy of Sciences 118:e2103162118.

Eisenring, M., S. B. Unsicker, and R. L. Lindroth. 2021. Spatial, genetic and biotic factors shape within-crown leaf trait variation and herbivore performance in a foundation tree species. Functional Ecology 35:54-66.

Errington, R. C., and B. D. Pinno. 2021. Relationships between Overstory and Understory Components of Young Natural and Reconstructed Boreal Aspen Stands. Ecological Restoration 39:182-193.

Frelich, L. E., C. G. Lorimer, and M. C. Stambaugh. 2021. History and Future of Fire in Hardwood and Conifer Forests of the Great Lakes-Northeastern Forest Region, USA. Pages 243-285. In: Greenberg C.H., Collins B. (eds). Fire Ecology and Management: Past, Present, and Future of US Forested Ecosystems. Springer, Chamm Denmark. Vol. 39.

Hammond, H. J., S. García-Tejero, G. R. Pohl, D. W. Langor, and J. R. Spence. 2021. Spatial and temporal variation of epigaeic beetle assemblages (Coleoptera, Carabidae, Staphylinidae) in aspen-dominated mixedwood forests across north-central Alberta. ZooKeys 1044:951-991.

Hood, S. M., B. J. Harvey, P. J. Fornwalt, C. E. Naficy, W. D. Hansen, K. T. Davis, M. A. Battaglia, C. S. Stevens-Rumann, and V. A. Saab. 2021. Fire Ecology of Rocky Mountain Forests. Pages 287-336. In: Greenberg C.H., Collins B. (eds). Fire Ecology and Management: Past, Present, and Future of US Forested Ecosystems. Springer, Cham, Denmark. Vol. 39.

Metsaranta, J., S. Mamet, J. Maillet, and A. Barr. 2021. Comparison of tree-ring and eddy-covariance derived annual ecosystem production estimates for jack pine and trembling aspen forests in Saskatchewan, Canada. Agricultural and Forest Meteorology 307:108469.

Prylutskyi, O., I. Yatsiuk, A. Savchenko, M. Kit, O. Solodiankin, and D. Schigel. 2021. Strict substrate requirements alongside rapid substrate turnover may indicate an early colonization: A case study of Pleurotus calyptratus (Agaricales, Basidiomycota). Fungal Ecology:101098.

Refsland, T. K., and J. Cushman. 2021. Continent-wide synthesis of the long-term population dynamics of quaking aspen in the face of accelerating human impacts. Oecologia 197:25-42.

Winton, L. M., G. C. Adams, and R. W. Ruess. 2021. Determining the novel pathogen *Neodothiora populina* as the causal agent of the aspen running canker disease in Alaska. Canadian Journal of Plant Pathology:1-12.

Wooten, J. T. 2021. The effects of post-fire logging on microclimate and surface fuels. Colorado State University. 56 p. [Thesis].

CONTACT WAA:

Paul C. Rogers, Director, Western Aspen Alliance, Utah State University, Logan, UT: Email

Emmon H. Rogers, *Tremblings* Reviewer/Editor, Kitsap Regional Library, WA

Lance Oditt, WAA Photographer At-Large, Studio 47.60° North, Seattle, WA: Email

Website: http://www.western-aspen-alliance.org/

Consider a tax deductable
DONATION
to nourish the WAA's roots!