

# RYAN D. HUIISH

## *Curriculum Vitae*

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Department of Natural Sciences  
The University of Virginia's College at Wise  
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## EDUCATION

**Ph.D. Biology (Plant Sciences), and M.Phil. (en route), September 2009.** City University of New York and New York Botanical Garden. Dissertation: The conservation and sustainable management of *Santalum yasi* (sandalwood) in Fiji and Tonga: a combined ecological and genetic approach. Advisor: Dr. Michael Balick

**B.S. Botany (minor Anthropology) with Honors, August 2004.** Brigham Young University. Honors Thesis: Antimicrobial activity of ethnobotanically-selected Tongan plants. Advisor: Dr. Rex Cates

**A.S. Biological Sciences, August 1999.** Utah Valley University

## TEACHING EXPERIENCE

**Assistant Professor of Biology,** The University of Virginia's College at Wise, 2015–present

- NAS 1010, Science and Society: Ethnobotany
- SEM 1010, Freshman Success Seminar
- BIO 1010, Principles of Biology
- BIO 1011, Principles of Biology Lab
- BIO 1021, Introduction to Biological Diversity Lab
- BIO 2040, Ecology
- BIO 3240, Evolutionary Morphology of Plants
- BIO 3250, Local Flora
- BIO 3290, General Botany
- BIO 4500, Medicinal Plants
- BIO 4910, Biology Research
- BIO 4950, Special Topics: Field Botany Research

**Assistant Professor of Biology,** Hollins University, 2009–2015

- BIOL/INTL 121, Plants and People: An Introduction to Ethnobotany
- BIOL 150, Plants of Virginia
- BIOL 241, Plant Biology Lecture
- BIOL 241L, Plant Biology Laboratory
- BIOL/ES 357, Conservation Biology

- BIOL/ES 357L, Conservation Biology Laboratory
- BIOL 472, Senior Seminar
- SEM 1126, Plants in Poetry and Art
- SEM 1154, Appalachia: People, Place, and Plants

**Lecturer**, New York Botanical Garden Continuing Education Program, 2005–2008

- BOT 125, Zoobotany: Wild animals' uses of medicinal plants
- BOT 228, A Shaman's Journey through the Forest
- BOT 348, Ethnobotany: Cultural Uses of Plants
- BOT 573, Economic Botany
- BOT 912, Workshop: Natural Dyes

**Adjunct Lecturer**, Lehman College, City University of New York, 2004–2008

- BIOL 166, Introductory Biology 1 (Cellular Biology) Lecture and Laboratory
- BIOL 167, Introductory Biology 2 (Organismal Biology) Lecture and Laboratory
- BIOL 181, Anatomy and Physiology Lecture

**Lecturer, Mentor, and Other Teaching Assignments**, Brigham Young University, 2002–2004

- Lecturer (responsibility as research assistant to design and teach the course): INBIOL 497: Special Topics—Field Techniques in Ethnobotany
- Research Laboratory Mentor: mentored ten undergraduate students through laboratory protocol including various laboratory bioassays, maintaining microbial cultures and cancer cell lines, phytochemical extraction techniques, spectrophotometry, and laboratory safety
- Teaching Assistant: IAS 360, International Field Studies Preparation Course
- Field Facilitator: supervised and mentored eight students through their respective field research projects (Tonga, May–August 2004)

## RESEARCH AND SCHOLARLY WORK

### Research Experience

**Ongoing Collaborative Research**, Department of Natural Sciences, The University of Virginia's College at Wise, August 2015–present. Appalachian ethnobotany, industrial hemp, conservation of rare Appalachian medicinal plants, Tongan medicinal plants, diversification of maple species in maple syrup production, and the effect of climate change on sugar maple production and the resulting phytochemical and socioeconomic responses.

**Collaborative Research**, Department of Biology, Hollins University, August 2009–2015. Appalachian ethnobotany, conservation of rare Appalachian medicinal plants, community-mediated conservation of the Sandalwood tree in Fiji and Tonga, medicinal plants of Tonga, the effect of climate change on sugar maple production and the resulting phytochemical and socioeconomic responses, and pedagogical research in ethnobiology education.

**Genetic Laboratory Research**, Pfizer Laboratory, New York Botanical Garden, 2007–2009. Employed molecular genetics techniques including DNA extraction, PCR, and electrophoresis;

analyzed population genetics and biogeography of Sandalwood (*Santalum yasi*) using microsatellites and computer software.

**Ecological and Ethnobotanical Field Research**, Fiji and Tonga, June, September–December 2006. Collected data from ecological transects to determine population structure of *Santalum yasi*; collected genetic tissue to research population genetics of *Santalum yasi*; collaborated with various Government ministries and the University of the South Pacific; trained local research assistants in relevant techniques.

**Research Assistant and Editor**, Institute of Economic Botany, New York Botanical Garden, 2004–2007. Compiled and edited manuscripts (over 300 published pages) on the ethnobotany of Pohnpei, Micronesia; gained familiarity with standard editing styles for ethnobotanical data; increased fluency with taxonomy and ethnobotany.

**Research Contributor**, Columbia University, 2005. Performed exhaustive literature search and compiled a review on the societal effects of protected areas in Oceania for a database project “Advancing Conservation in a Social Context”.

**Ethnobiology Field Research**, Tonga, May–August 2002, May–August 2004, September–December 2006, June 2011. Conducted interviews on traditional medicinal plants; collaborated with government and health officials on public health, gathered sociological and ecological data on local harvesting of tidal flat organisms; trained local collectors in technique and protocol for gathering and recording ecological data; assisted in preparations for a local tidal flat ecology workshop/conference.

**Research Assistant**, Natural Products Research Center, Brigham Young University, 2001–2004. Performed anti- microbial, viral, and cancer bioassays with ethnobotanically selected medicinal plants; gained laboratory skills including phytochemical extraction techniques, experimental protocols, cell and tissue culture maintenance, and spectrophotometry.

**Research Assistant**, Institute for the Study and Preservation of Ancient Religious Texts, Brigham Young University, 2003. Researched intercontinental, pre-Columbian migration of economic plants; studied correlations between ancient plant nomenclature and plant geography.

**Ecology Employee and Volunteer**, Division of Wildlife Resources, U.S. Forest Service, and Utah Native Plant Society; summers of 1997–1999. Utilized ecological field instruments (e.g. GPS, compasses, clinometers, transects, software), learned plant taxonomy and ecological principles; propagated and maintained native plant seedlings in greenhouses; participated in ecological restoration.

### **Peer-Reviewed Journal Articles and Book Chapters** (\*denotes student co-author)

Huish, R., R. Klopff. 2018. Environmental correlates to population structure and health of the rare piratebush (*Buckleya distichophylla*) within Poor Mountain Natural Area Preserve, Virginia. *Natural Areas Journal* 38(2), pp. 148–153.

Huish, R., T. Faka’osi, H. Likiafu, J. Mateboto, K. Huish. 2015. Distribution, population structure, and management of a rare sandalwood (*Santalum yasi*, Santalaceae) in Fiji

and Tonga. *Pacific Conservation Biology* 21(1): pp. 27–37.

Huish, R., M. Manow\*, C. McMullen. 2015. Floral phenology and sex ratio of piratebush (*Buckleya distichophylla*, Santalaceae), a rare dioecious shrub endemic to the Southern Appalachian Mountains. *Castanea: Journal of the Southern Appalachian Botanical Society* 80(1), pp. 1–7.

Huish, R., K. Huish, T. Walker\*, G. Shresthra. 2014. Traditional Tongan treatments for infections: bioassays and ethnobotanical leads for activity. *Journal of Medicinal Plants Research* 8(41), pp. 1215–1222.

Vougioukalou, S., K. Barfield, R. Huish, L. Shiels, S. Brosi, P. Harrison. 2014. The contribution of ethnobiology to teaching plant sciences: student and faculty perspectives. in ed. book by C. Quave, *Innovative Strategies for Teaching in the Plant Sciences*. Springer Publishing, pp. 33–45.

Brosi, S., R. Huish. 2014. Aligning plant identification curricula to disciplinary standards through the framework of student-centered learning. in ed. book by C. Quave, *Innovative Strategies for Teaching in the Plant Sciences*. Springer Publishing, pp. 83–100.

### **Peer-Review Manuscripts in Progress** (\*denotes student co-author)

Huish, R., M. Manow\*, A. Faivre, C. McMullen. Investigations into the reproductive biology of the Southern Appalachian endemic piratebush (*Buckleya distichophylla*): Pollination biology, fruit development, and seed germination. *Castanea: Journal of the Southern Appalachian Botanical Society* (Accepted with minor revisions).

Huish, R., J. Peters\*, D. Taylor\*, B. Munson\*. Comparative analysis of four maple species for syrup production in South-Central Appalachia. *Journal of Agriculture, Food Systems, and Community Development* (Accepted with minor revisions).

Rapp, J.; D. Lutz; R. Huish, D. Dufour; S. Ahmed; T. L. Morelli, K. Stinson. Finding the sweet spot: Shifting climate optima for maple syrup production in North America. *Forest Ecology and Management* (Submitted and in review).

Kruger, S., J. Munsell, J. Davis, J. Chamberlain, R. Huish, S. Prisley. Medicinal non-timber forest products in the eastern United States: an overview of the trade and summary of emergent trends. *Herbal Gram: The Journal of the American Botanical Council* (Expected submission Spring 2019).

Collins, R., R. Huish. An evaluation of the demographics and stability of the federally endangered smooth coneflower (*Echinacea laevigata*). *Journal of Plant Ecology* (Expected submission Summer 2019).

Kruger, S., J. Davis, R. Huish, J. Munsell, J. Chamberlain. Using place-based models to

estimate non-timber forest product output: A case study from eastern North American deciduous forests. *Economic Botany* (Expected submission Fall 2019).

Kruger, S., R. Huish, J. Munsell, J. Chamberlain, J. Davis. Understanding and addressing barriers to nontimber forest product research: Lessons learned from the Appalachian medicinal plant trade. *Society and Natural Resources or Rural Sociology* (Expected submission Fall 2019).

Ahmed, S., R. Huish, J. Rapp, D. Lutz. A socio-ecological model to examine climate effects on sugar maple. *Nature Climate Change* (Expected submission 2020).

Huish, R., S. Jerrell, M. Timko, R. Turner\*, R.A. Allen\*, K. Morse\*. A comparative analysis of no-till and conventional-till on industrial hemp cultivars in Southwest Virginia. *Journal of Industrial Hemp* (Expected submission 2020).

### **Professional Presentations (based on peer-reviewed abstracts)**

(presenting author(s) listed in bold, \* denotes student co-author, † denotes poster presentation)

**Peters, J.\***, **B. Munson\***, K. Hill, K. Kessinger, R. Huish. March 2018. Multi-year comparative analysis of maple species for syrup production. Association of Southeastern Biologists, Myrtle Beach, SC.†

**Huish R.**, J. Peters\*, D. Taylor\*, B. Munson\*. December 2017. Assessing a strategy of climate change adaptation for maple syrup producers in the Southern Appalachians: Diversification of maple species as sap sources. Forest Ecosystem Monitoring Cooperative Conference, University of Vermont, Burlington, VT.†

**Rapp, J.**, S. Ahmed, B. Dufour, R. Huish, D. Lutz, T. Morelli, and K. Stinson, December 2017. Finding the sweet spot: climate optimum for maple syrup production. Forest Ecosystem and Monitoring Cooperative Conference, University of Vermont, Burlington, Vermont.

**Rapp, J.**, S. Ahmed, A. Brunelle, B. Dufour, R. Huish, D. Lutz, T. Morelli, and K. Stinson, 2017. Maple syrup in a changing climate. Northeast Climate Science Center's Regional Science Meeting, Amherst, Massachusetts.†

**Kruger, S.**, J. Munsell, J. Chamberlain, J. Davis, R. Huish, S. Prisley. October 2017. RootReport: Tracking non-timber forest products and their markets. Society of American Foresters, Albuquerque, NM.

**Huish, R.**, **J. Peters\***, D. Taylor\*. June 2017. Assessing a strategy of climate change adaptation for maple syrup producers. Association for Temperate Agroforestry, Virginia Tech, Blacksburg, VA.

- Kruger, S.**, J. Munsell, J. Chamberlain, J. Davis, R. Huish, S. Prisley. June 2017. RootReport: Tracking nontimber forest products and their markets” Association for Temperate Agroforestry, Blacksburg, VA.
- Peters, J.\***, D. Taylor\*, B. Munson\*, E. White\*, M. Hinkle\*, R. Huish. April 2017. Multi-year comparative analysis of maple species for syrup production. National Conference on Undergraduate Research, Memphis, TN.
- England, N\*, R. Huish, F. Beckford, R. Woodard, **T. Mullins\***. April 2017. Analysis of active antimicrobial compounds found in the Tongan medicinal plant *Syzygium corynocarpum*. National Conference on Undergraduate Research, Memphis, TN.†
- McMullins, C.**, **Huish, R.** March 2017. Viability and germination of *Buckleya distichophylla* (Santalaceae) seeds from Virginia. Association of Southeastern Biologists, Montgomery, AL.†
- Peters, J.\***, Huish, R., Taylor, D.\* March 2017. Multi-year comparative analysis of maple species for syrup production, Association of Southeastern Biologists, Montgomery, AL.†
- Kruger, S.**, J. Munsell, J. Chamberlain, J. Davis, R. Huish, S. Prisley. October 2016. Barriers to participation in non-timber forest product monitoring programs: The value of ethnography. Joint conference of the American Folklore Society and the International Society of Folk Narrative Research, Miami, FL.
- Huish, R.** June 2016. Workshop: Implementing problem-based learning in the classroom through interactive case studies. Society for Economic Botany, Harlan County, KY.
- Taylor, D.\***, **J. Peters\***, R. Huish, S. Allen\*, B. Munson\*, K. Dellis\*, C. Stanley\*. June 2016. Assessing a strategy of climate change adaptation for maple syrup producers in the Southern Appalachians: Diversification of maple species as sap sources. Society for Economic Botany. Harlan County, KY.†
- Kruger, S.\***, J. Munsell, J. Chamberlain, J. Davis, R. Huish, S. Prisley. June 2016. Interdisciplinary approaches to interpreting non-timber forest product harvest distributions in Appalachia. Society for Economic Botany, Harlan County, KY.
- Peters, J.\***, D. Taylor\*, B. Munson\*, S. Allen\*, B. Colley\*, K. Dellis\*, C. Stanley\*, R. Huish. April 2016. Assessing a strategy of climate change adaptation for maple syrup producers in the Southern Appalachians: Diversification of maple species as sap sources. National Conference on Undergraduate Research, Asheville, NC.†
- Collins, R.**, H. Johnson, R. Huish, R. Klopff, S. Truslow. August 2015. Demography of *Echinacea laevigata* populations in southwest Virginia: endangered flagship of rare forest glade habitats. Ecological Society of America, Baltimore, MD.

- Johnson, H.\***, R. Collins, R. Huish, R. Klopff, S. Truslow. April 2015. Demographic study of smooth coneflower (*Echinacea laevigata*) populations in Roanoke Valley, Virginia: Evaluating the stability of a federally endangered species. Midatlantic Chapter of the Ecological Society of America, Elizabethtown, PA.†
- Huish, R.**, S. Brosi. May 2014. Student-centered learning and ethnobotanical connections in plant identification curriculum: engaging students in broader scientific competencies. Joint conference for the Society of Ethnobiology and the Society for Economic Botany, Cherokee, NC.
- Brosi, S.**, R. Huish. May 2014. Cherokee collaborative field school: teaching core concepts and competencies in ethnobiology through the lens of Cherokee artisan resources. Joint conference for the Society of Ethnobiology and the Society for Economic Botany, Cherokee, NC.
- Vougioukalou, S., R. Huish, L. Shiels.** June 2012. An evaluation of educational trends in ethnobiology: teacher and student perspectives on pedagogy and accreditation. Society for Economic Botany, Frostburg, MD.
- Wagner, G.**, C. Fowler, K. Hall, **R. Huish, C. Quave**, F. Wyndham. June 2012. The biocultural diversity project. Society for Economic Botany, Frostburg, MD.
- Huish, R.**, H. McKinney\*, C. Wyatt\*, T. Faka'osi, H. Likiafu, J. Mateboto. October 2012. Community-mediated management strategies for sandalwood conservation: a discussion forum towards a collaborative knowledge base. International Sandalwood Symposium, Honolulu, HI.
- Huish, R.** July 2011. Developing curriculum for improving ethnobiology education and field research through collaborative resource pooling. In workshop "Teaching strategies to promote active learning in ethnobotany." Joint conference of the Society for Economic Botany, American Society of Plant Taxonomists, and the Botanical Society of America, St. Louis, MO.
- Huish, R.**, E. Schooley\*. July 2011. Antimicrobial properties of the Tongan medicinal plant *Syzygium corynocarpum*: bioassays in support of ethnobotanically-guided research. Joint conference of the Society for Economic Botany, American Society of Plant Taxonomists and the Botanical Society of America, St. Louis, MO.
- McKinney, H.\***, R. Huish. July 2011. Broadening implications of ethnoecology and conservation: how human influence over the past millennia may have saved a rare tree species in the South Pacific. Joint conference of the Society for Economic Botany, American Society of Plant Taxonomists and the Botanical Society of America, St. Louis, MO.

- McKinney, H.\***, Huish, R. May 2011. Community-mediated conservation in the South Pacific: How human influence over the past millennia has saved a rare tree species from possible extinction. Virginia Academy of Science, Richmond VA.
- Schooley, E.\***, R. Huish. May 2011. Antimicrobial properties of the Tongan medicinal plant *Syzygium corynocarpum*: Bioassays and analyses of the bioactive compounds. Virginia Academy of Science, Richmond, VA.
- Huish, R.**, L. Thomson, T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, D. Little. May 2011. Current population dynamics of a rare sandalwood tree (*Santalum yasi*) in Fiji and Tonga. Virginia Academy of Science, Richmond, VA.
- Huish, R.**, L. Thomson, T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, D. Little. July 2010. The sustainable management and conservation of *Santalum yasi* (Sandalwood) in Fiji and Tonga. Society for Economic Botany, Xalapa, Mexico.
- Huish, R.**, T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, L. Thomson, D. Little. April 2010. The sustainable management and conservation of *Santalum yasi* (Sandalwood) in Fiji and Tonga: A combined ecological and genetic approach. Association of Southeastern Biologists, Asheville, NC.†
- Huish, R.** January 2004. Anti-microbial and anti-tumor activity of poison ivy (*Toxicodendron rhydbergi*) and other rangeland plants. Society for Range Management, Salt Lake City, UT.
- Huish, R.**, K. Huish, R. Cates. March 2003. Ethnopharmacology of the Tongan ethnopharmacopoeia. Society of Ethnobiology Conference, Seattle, WA.
- Huish, K.**, R. Huish. March 2003. Ethnobotanical research in Tonga: in-depth study of the traditional treatments for infection. Society of Ethnobiology Conference, Seattle, WA.

### **Other Presentations**

(presenting author(s) listed in bold, \* denotes student co-author, † denotes poster presentation)

- Huish, R., R.B. Dishner\*, D. Goodman\*, K. Hill\*, T. Hughes\*, K. Morse\*, K. Snow\*, S. Stockard\*, D. Williams\*, S. Woodson\*, E. Burlett.** November 2018. Preventing the next “chestnut blight”: A call to arms and community collaboration to protect the forests from “sudden oak death” and other threatening tree diseases in eastern North America. Community presentation and forum discussion, University of Virginia’s College at Wise, Wise, VA.
- Huish, R.**, J. Peters\*, D. Taylor\*. November 2018. Comparative analysis of four maple species for syrup production in the Central/Southern Appalachians. Virginia Maple School (Sponsored by Virginia Tech), St. Paul, VA.



- Huish, R.** November 2018. Maple tapping in a changing climate. Virginia Maple School (Sponsored by Virginia Tech), St. Paul, VA.
- Huish, R., O. Baker\*, A. Gomez\*, L. Harper\*, M. Hill\*, E. Livingston\*, K. Nunley\*, G. Proulex\*, D. Thomas\*, R. Turner\*, K. Woodburn\*.** October 2018 “Select edible wild plants common to southwest virginia with a cooking demonstration”, High Knob Chapter of the Virginia Master Naturalists, Wise, VA.
- Huish, R., J. Peters\*, D. Taylor\*.** September 2018. Comparative analysis of four maple species for syrup production in the Central/Southern Appalachians, and other collaborative maple research. Southern Syrup Research Symposium, Summersville, WV.
- Huish, R., J. Peters\*, D. Taylor\*.** September 2018. Multi-year comparative analysis of maple species for syrup production. Southern Syrup Research Symposium, Summersville, WV.†
- Huish, R.** September 2018. Reviving historical uses of plants in Southwest Virginia for cultural preservation and economic potential. The Historical Society of The Pound, Pound, VA.
- Huish, R., A. Huish.** March 2018. Cultural and economically valuable alternative plants for Southwest Virginia. Clinch River Youth Summit, Coeburn, VA.
- Huish, A., R. Huish.** March 2018. Cultural and economically valuable alternative plants for Southwest Virginia. Vegetable Conference (Sponsored by Virginia Tech), Duffield, VA.
- Huish, R.** March 2018. Maple syrup production in the southern Appalachians. Town and Country Garden Club, Wise, VA.
- Huish, R., J. Peters, D. Taylor.** March 2018. Assessing a strategy of climate change adaptation for maple syrup producers in the southern Appalachians: Diversification of maple species as sap sources. Celebrate Appalachia Research Seminar, University of Virginia’s College at Wise, Wise, VA.
- England, N.\* **S. Hall\***, T. Mullins\*, R. Huish, F. Beckford, R. Woodard. April 2017. Analysis of active antimicrobial compounds in the Tongan medicinal plant *Syzygium corynocarpum*. Student Research Seminar Presentation, University of Virginia’s College at Wise, Wise, VA.
- Jones, A.\***, R. Huish, R. VanGundy. April 2017. Exploration of industrial hemp cultivars suited for southwest Virginia. Student Research Seminar Presentation, University of Virginia’s College at Wise, Wise, VA.

- Huish, R., J. Peters\***, D. Taylor\*. December 2016. Diversification of maple species for syrup production. Community Maple School. Whitesburg, KY.
- Huish, R.** September 2016. Maple Tapping in the Southern Appalachians. High Knob Naturalist Rally. Wise County, VA.
- Huish, R.** June 2016. Examples of collaborative research and conservation of several Southern Appalachian plants, and suggested avenues for future collaborations. The Southern Appalachian Biodiversity Consortium. Wise, VA.
- Huish, R.** December 2015. Maple sugaring: Assessing the community's needs through interactive dialogue. Research and Community Workshop. Northeast Climate Science Center, The University of Massachusetts Amherst. Amherst, MA.
- Huish, R.** December 2015. Climate effects on the culture and ecology of sugar maple. The Clinch Coalition. Tacoma, VA.
- Huish, R.** April 2015. The paradoxical effect of darkness and wounds: Metaphorical explorations with plant physiology and poetry. Interfaith Sanctuary, Hollins University, Roanoke, VA.
- Huish, R.** January 2015. Adventures with Piratebush (*Buckleya distichophylla*, Santalaceae): Investigations into the mysterious life and relationships of an elusive Appalachian shrub. Research Seminar, UVa-Wise, Wise, VA.
- Huish, R.** October 2014. Adventures with Piratebush (*Buckleya distichophylla*, Santalaceae): Investigations into the mysterious life and relationships of an elusive Appalachian shrub. Blue Ridge Foothills and Lakes Chapter of the Virginia Master Naturalists, Moneta, VA.
- Huish, R.** January 2014. The role of medical ethnobotany in drug discovery: a case study from the South Pacific. Roanoke College Biology Department seminar, Salem, VA.
- Gettings, M., R. Huish,** and **S. Wahl-Fouts.** April 2014. Using mobile devices and apps in the classroom. Teaching and technology workshop series. Hollins University, Roanoke, VA.
- Huish, R.** September 2012. Appalachian ethnobotany. Blue Ridge Wildflower Society Meeting (a chapter of the Virginia Native Plant Society), Roanoke, VA.
- Vougioukalou, S. and R. Huish.** November 2011. Assessing trends in ethnobiology education. Open Science Network Meeting, Baltimore, MD.
- Huish, R.** November 2011. Appalachian ethnobotany. Blacksburg chapter of the Virginia Native Plant Society, Blacksburg, VA.

- Huish, R.** September 2011. Cultivating our curriculum: growing together in the liberal arts. Faculty Lunch Series, Hollins University, Roanoke, VA.
- Huish, R.,** L. Thomson, T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, D. Little. June 2011. The sustainable management and conservation of sandalwood, *Santalum yasi*, in Fiji and Tonga. Tongan Forestry Department, Tongatapu, Tonga.
- Huish, R.** June 2011. Potential inter-institutional collaborations in ethnobotany and community development. University of the South Pacific, Tongatapu Campus, Tonga.
- Huish, R.** June 2011. Collaborations to conserve medicinal plant heritage in Tonga. Tongan Indigenous Pharmaceutical Society, Tongatapu, Tonga.
- Huish, R., K. Huish.** March 2011. Zoobotany: animals' herbal antidotes, from birds that line their nests with pest resistant plants and elephants that use labor-inducing herbs to the ingenious way chimpanzees treat intestinal parasites. Glebe Retirement Community, Daleville, VA.
- Huish, R.** March 2011. Zoobotany: Potential Division III research collaborations. Division III Seminar Series. Hollins University, Roanoke, VA.
- Huish, R., **Thomson, L.,** T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, D. Little. November 2010. The sustainable management and conservation of *Santalum yasi* (Sandalwood) in Fiji and Tonga. Secretariat of the Pacific Community Sandalwood Workshop, Port Vila, Vanuatu.
- Huish, R.** October 2010. Tongan ethnobotany. Blue Ridge Wildflower Society, Roanoke, VA.
- Huish, R.** September 2010. Ethnobotanical research in the South Pacific Kingdom of Tonga: A study of the medicinal plants used to treat infections in an effort to find novel drugs to combat antibiotic resistance. Student/Faculty Lunch and Lecture Series, Hollins University, Roanoke, VA.
- Huish, R.** April 2010. Losing liquid gold in Fiji and Tonga: in pursuit of the sustainable harvest and trade of sandalwood oil. Faculty Lunch Series, Hollins University, Roanoke, VA.
- Huish, R.,** L. Thomson, T. Faka'osi, H. Likiafu, M. Tuiwawa, J. Mateboto, D. Little. August 2009. The conservation and sustainable management of *Santalum yasi* (sandalwood) in Fiji and Tonga: a combined ecological, genetic, and GIS approach. New York Botanical Garden, New York, NY.
- Huish, R.,** K. Huish. 2008. Antimicrobial activity of ethnobotanically-selected Tongan plants. Science, Technology, Engineering and Math (STEM) Conference, City University of New York, New York, NY.†

**Huish, R.** September 2005. Toward the sustainable management of Tongan medicinal plants. Explorers Club, New York, NY.

**Huish, R.** March 2003. Antimicrobial activity of ethnobotanically-selected Tongan plants. International Area Studies Inquiry Conference, Brigham Young University, Provo, UT.

## **Public Media Coverage**

### Appalachian Medicinal Plants and Forest Farming

*National Public Radio (NPR)*. "Economic Diversity: 8 Ideas with Momentum Inside Appalachia", by Inside Appalachia, from West Virginia Public Broadcasting March 2018. (<https://www.npr.org/podcasts/381443598/inside-appalachia>)

*The Coalfield Progress*. "Southwest Virginia explores herb, medicinal, forest produce economics", by Jenay Tate, July 27, 2018.

*Bristol Herald Courier*. "Maintaining ecosystems: UVa-Wise professor works to sustainably farm forests", by Joe Tennis, March 2018.

*National Public Radio (NPR)*. "Mountain News: Healing Ourselves", by WMMT, Mountain News and World Report, November, 2017. <https://www.wmmt.org/mn-wr-healing/>

*Kingsport Times News*. "How do your profits grow? Appalachian Harvest's new herb hub aims to put more green in farmers' pockets", by Holly Viers, October 4, 2017.

### Industrial Hemp

*WJHL (CBS/ABC television affiliate) Johnson City, TN*. Spotlight on Hemp in Southwest Virginia, April 24, 2018.

*National Public Radio (NPR)*. "Future Farming of America" by "With Good Reason" March 30, 2018. <https://www.withgoodreasonradio.org/episode/future-farming-of-america/>

*The Times and Democrat*. "Local Farmers Join Hemp Research Effort", by Gene Zaleski, January 15, 2018. [https://thetandd.com/news/local/local-farmers-join-hemp-research-effort/article\\_e606199a-6e5f-59a8-a98d-453d084b8907.html?mc\\_cid=24ae56ec95&mc\\_eid=98c83482a1](https://thetandd.com/news/local/local-farmers-join-hemp-research-effort/article_e606199a-6e5f-59a8-a98d-453d084b8907.html?mc_cid=24ae56ec95&mc_eid=98c83482a1)

*The Coalfield Progress*. "Panel: Hemp has big potential", by Jeff Lester, February 23, 2018. [http://www.thecoalfieldprogress.com/coalfield\\_progress/panel-hemp-has-big-potential/article\\_0718a1b2-1817-11e8-a005-bf78863df82e.html](http://www.thecoalfieldprogress.com/coalfield_progress/panel-hemp-has-big-potential/article_0718a1b2-1817-11e8-a005-bf78863df82e.html)

*The Coalfield Progress*. “UVa-Wise gets role in hemp research”, by Jeff Lester, April 25, 2017. [http://www.thecoalfieldprogress.com/view/full\\_story/27403955/article--college-gets-role-in-hemp-research/?instance=home\\_news#ixzz4fGNAZLA5](http://www.thecoalfieldprogress.com/view/full_story/27403955/article--college-gets-role-in-hemp-research/?instance=home_news#ixzz4fGNAZLA5)

*WCYB (NBC television affiliate), Bristol, VA*. Spotlight on the UVa-Wise Hemp Research, August 8, 2017.

*The Appalachian Voice*. “Industrial Hemp Offers Hope to Appalachia’s Farmers and Environment”, by Molly Moore, April 2016. <http://appvoices.org/2016/04/19/industrial-hemp-appalachia/>

## Maple

*CivilEats*. “What does Climate Change Mean for Vermont’s Maple Sugarers?”, May 2018. <https://civileats.com/2018/05/02/what-does-climate-change-mean-for-vermonts-maple-sugarers/>

*The Christian Science Monitor*. “Maple syrup inc.: Vermont’s maple syrup tradition goes high tech, high finance”, April 2018. <https://www.csmonitor.com/USA/Society/2018/0418/Maple-syrup-inc.-Vermont-s-maple-syrup-tradition-goes-high-tech-high-finance>

*PRI*. “Climate change might leave a bad taste in your mouth. Literally”, April 2017. <https://www.pri.org/stories/2017-04-03/climate-change-might-leave-bad-taste-your-mouth-literally>

*Science Daily: Your source for the latest research news*. “Effects of weather variability on maple syrup production studied”, March 2017. <https://www.sciencedaily.com/releases/2017/03/170310183337.htm>

*The Official U.S. Maple Syrup Almanac*. “Getting Schooled: Colleges tap into education through maple” by Mike Rechlin, 2017. <https://view.joomag.com/the-official-us-maple-syrup-almanac-2017-alamanc-2017/0031237001501055656>

*Radio-Canada*, “L’impact des changements climatiques sur la production du sirop d’érable”, March 2017. [http://ici.radio-canada.ca/emissions/bonjour\\_la\\_cote/2015-2016/chronique.asp?idChronique=431860](http://ici.radio-canada.ca/emissions/bonjour_la_cote/2015-2016/chronique.asp?idChronique=431860)

*Le Devoir*, “Les changements climatiques ont un impact sur la production de sirop d’érable”, March 2017. <https://www.ledevoir.com/societe/environnement/494044/les-changements-climatiques-ont-un-impact-sur-la-production-de-sirop-d-erable>

*Science Friday*, “How Climate Change Threatens Your Breakfast”, March 2017. <https://www.sciencefriday.com/segments/how-climate-change-threatens-your-breakfast/>

*Appalachian Voices*, “A Sweet Maple Harvest – making maple syrup in the Southern Appalachians and how climate change could effect the enterprise”, February 2017.  
<http://appvoices.org/2017/02/10/a-sweet-maple-harvest/>

*The Analytical Scientist*, “Maple Mayday”, July 2016.  
<https://theanalyticalscientist.com/techniques-tools/maple-mayday>

*Valley News*, “Maple Runs Early, Steady”, April 2016.  
<https://www.vnews.com/News/Local-Regional/Maple-1264972>

*Climate Central*, “Climate Change Is Coming for Your Maple Syrup”, March 2016.  
<http://www.climatecentral.org/news/climate-change-maple-syrup-20178>

*Worcester Telegram*, “Sap to syrup: In Petersham, researcher tracks climate effects on sugar maples”, March 2016.  
<https://www.telegram.com/article/20160307/NEWS/160309376>

*Stories for Strangers*, “What Climate Change Means for Maple Syrup”, March 2016.  
<https://writtenforstrangers.com/2016/03/24/what-climate-change-means-for-maple-syrup/>

*Post-Tribune*, “Climate change may impact maple syrup production”, February 2016.  
<https://www.chicagotribune.com/suburbs/post-tribune/news/ct-ptb-climate-change-maple-st-0210-20160217-story.html>

*Chicago Tonight*, “Is Climate Change Killing the Maple Syrup Industry?”, February 2016.  
<https://news.wttw.com/2016/02/22/climate-change-killing-maple-syrup-industry>

## **Grants, Awards, and Honors**

- United States Geological Survey and the Northeast Climate Science Center Research Grant, Co-Principal Investigator (with Kristina Stinson, Toni Lyn Morelli, Selena Ahmed, Joshua Rapp, and David Lutz) Project Title: “Climate Effects on the Culture and Ecology of Sugar Maple”, 2015–2017, \$149,608
- Faculty Development Research Grants, Hollins University, 2009–2010, \$782; 2010–2011, \$723 and \$850; 2011–2012, \$731; 2012–2013, \$150; 2013–2014, \$765.
- Faculty Development Travel Grants, Hollins University, 2009–2010, \$1290; 2010–2011, \$850; 2011–2012, \$806; 2012–2013, \$800; 2013–2014, \$900
- Arthur Vining Davis Foundation funding for the course “Plants in Poetry and Art”, Hollins University, 2010, \$350
- Science Fellowship, City University of New York, 2005–2009, \$65,000
- Doctoral Research Grant, City University of New York, 2007, \$1,500
- Student Research and Travel Fund Award, City University of New York, 2006, \$300
- Abraham Raskin Award, “leading graduate student in interdisciplinary studies with special interest in science education”, City University of New York, 2005
- Research Grant, Explorers Club, 2004, \$1250

- Research Grants, Brigham Young University Office of Research and Creative Activities, 2003–2004, \$3000
- Research Grant, Brigham Young University Honors Department, 2002, \$1000
- Second place award at international plant identification competition, Society for Range Management, Brigham Young University plant identification team

## SERVICE

### Service to the College Community

- Guest lecturer in a global health class (taught by Margie Tomann): The Role of Medical Ethnobotany in Drug Discovery: A Case Study from the South Pacific. UVa-Wise, Fall 2018
- Member of the Academic Enhancement Committee, Fall 2018–present
- Intern supervisor for the Center for Appalachian Studies at UVa-Wise (Spring 2018)
- Guest lecturer in an economics class (taught by Elizabeth Hirschman): Culturally and Economically Valuable Alternative Plants for Southwest Virginia. UVa-Wise, Spring 2018
- Intern supervisor for Upward Bound at UVa-Wise, Summer 2017 and Summer 2018
- Member of faculty search committees for the Department of Business and Economics, Fall 2017, Spring 2018, and Fall 2018.
- Panelist for the “Science and Ethics Question” discussion lead by Anthony Cashio, Assistant Professor of Philosophy, UVa-Wise, August 2017
- Supervisor for Work-Study students, botanical research and community outreach (five students total), Fall 2017–present
- Member of the UVa-Wise Institutional Review Board Committee, Fall 2016–present
- Member of the UVa-Wise Animal Care Committee, Fall 2016–present
- Co-advisor to the UVa-Wise Environmental Club, Fall 2016–present
- Supervisor for the work-study position, “Assistant Ecological Steward”, Fall 2016–present
- Planner and lecturer for Summer Biodiversity Institute for middle and high school teachers, Summers of 2016, 2017, and 2018
- Member of the Southern Appalachian Biodiversity Consortium planning committee, Spring 2016–present
- Member of review committee for the undergraduate Fellowship in the Natural Sciences (FINS) at UVa-Wise (Spring 2016–present)
- Director and Curator for the UVa-Wise Herbarium, Fall 2015–present
- Member of the UVa-Wise Wetlands Committee, Fall 2015–present
- Faculty advisor to the Hollins Community Garden, Fall 2009–2015
- Director and Curator for the Hollins University Herbarium, Fall 2015–present
- Advisor to 14 work-study students in the Hollins Community Garden, 2011–2015
- Member of the Hollins University Environmental Advisory Board (Fall 2013–2015)
- Member of the Hollins University Batten Leadership Institute Advisory Board, Fall 2013–2015
- Participant in the Hollins faculty collaborative sustainability group, Fall 2010–2013

- Co-coordinator (2010) and Coordinator (2011–2013) for Science and Mathematics faculty presentation seminar series, Hollins University
- Member (Fall 2010–Spring 2011) and Chair (Fall 2011–Spring 2013) of Hollins University Student Life Council
- Member of the Hollins University ad hoc strategic planning work group “Strengthening the Community”, Spring 2012
- Judge on panel for the inaugural Wyndham Robertson Library Hollins University Undergraduate Research Award, Spring 2011

### **Service to the General Community**

- Public educational booth hosted by Local Flora class and me at Home Craft Days at Mountain Empire Community College, “Select Edible Wild Plants Common to Southwest Virginia”, October 2018
- Panelist for the public community discussion “Innovative Agriculture Briefing with Senator Mark Warner”, July 2018
- Panelist for a discussion at the Forest Farming Grower-Industry Expo and Training, Appalachian Beginning Forest Farmer Coalition. Kingsport, TN, May 2018
- Field trainer at the Forest Farming Grower-Industry Expo and Training, Appalachian Beginning Forest Farmer Coalition. Duffield, VA, May 2018
- Presenter and panelist for Industrial Hemp in Southwest Virginia, Natural Tunnel State Park, Duffield, VA, Spring 2018
- Panelist for the New Economy Network: Sustainable Agriculture and Forestry, Gate City, VA, March 2018
- Presenter at a GoVirginia meeting (economic diversification group) Abingdon, VA, June 2018
- Panelist for AppalCEED Economic Series: Industrial Hemp in the Appalachian Mountains, February 2018
- Member of the High Knob Assets Committee, Spring 2018–present
- Counselor for a Boy Scouts of America Troop in Big Stone Gap, VA, Spring 2018–present
- Teacher for a field botany class with the High Knob Master Naturalists, Wise, VA, October 2017
- Volunteer workshop instructor for edible and medicinal plants for grade school students during a “Heritage Days” event, Rye Cove Memorial School, Rye Cove, VA, Fall 2017 and 2018
- Volunteer workshop instructor for edible and medicinal plants during Girls Day in STEM-H for middle school girls at UVa-Wise, Fall 2016, 2017, and 2018
- Workshop leader for medicinal plant voucher herbarium specimen preparations Appalachian Beginning Forest Farmer Coalition. Abingdon, VA, August 2017
- Board member for The Clinch Coalition, Spring 2016–present
- Mentor and *pro bono* consultant for community members interested in industrial hemp production, Spring 2017–present
- Mentor and *pro bono* consultant for community members interested in maple sugaring, Spring 2016–present



- Mentor and *pro bono* consultant for community members interested in forest farming, Spring 2016–present.
- Volunteer field-botany guide for Cub Scout Day Camp, Blue Ridge Mountains Council of the Boy Scouts of America, Summer 2013 and 2014
- Member of the executive committee for the Blue Ridge Wildflower Society, a chapter of the Virginia Native Plant Society, January 2010–December 2013
- Advisor to the Tongan Indigenous Pharmaceutical Society, June 2011–present
- Director-at-large with an emphasis on ethnobotany education, Virginia Native Plant Society, 2011

### **Service to the Profession**

- Peer-reviewer for *Ethnobotany Research and Applications*, December 2018, August 2011, April 2011, December 2010, August 2010
- Peer-reviewer for the journal *Plant Biology*, January 2017
- Peer-reviewer for *Asian Journal of Medicine and Health*, January 2017
- Peer-reviewer for *Castanea: The Journal of the Southern Appalachian Botanical Society*, January 2016
- Pedagogical reviewer for textbook *Life, The Science of Biology, 11th ed.* by Sinauer Associates (imprint of Oxford University Press), Summer 2017
- Chair of the education session at the combined meetings of the Society of Ethnobiology and Society for Economic Botany, Cherokee, NC, May 2014
- Member of the Education and Outreach Committee for the Society for Economic Botany, 2011–2013
- Contributor to national ethnobiology curricular reform resulting in a publication, *Vision and Change for Undergraduate Ethnobiology Education in the U.S.A.: Recommended Curriculum Assessment Guidelines*, 2011–2013
- Core Team Member of the Open Science Network in Ethnobiology, NSF-funded working group of international educators focused on improving pedagogy in the field of Ethnobiology, 2011–2013
- Peer-reviewer for *Journal of Ecological Anthropology*, April 2012
- Contributing editor to the *Flora of Virginia* reference book, 2011 (Weakley, A.S., J.C. Ludwig, J.F. Townsend. 2012. *Flora of Virginia*. Bland Crowder, ed. Foundation of the Flora of Virginia Project Inc., Richmond. Fort Worth: Botanical Research Institute of Texas Press)