

## CURRICULUM VITAE

### Nishanta Rajakaruna

Biological Sciences Department  
California Polytechnic State University  
San Luis Obispo, CA 93407

E-mail: [nrajakaruna@gmail.com](mailto:nrajakaruna@gmail.com)

#### Professional Preparation:

Natural Sciences and Engineering Research Council of Canada Post-Doctoral Fellow  
(2003-2004) – Evolutionary ecology  
Department of Biological Sciences, Stanford University, USA  
Major Advisor: Dr. David Ackerly

Ph.D. in Botany (2003) – Evolutionary ecology  
'Evolution in the *Lasthenia californica* complex (Asteraceae)'  
The University of British Columbia, Vancouver, BC, Canada  
Major Advisors: Dr. Jeannette Whitton, Dr. Bruce A. Bohm,  
Dr. Tony Glass

M.Sc. in Botany (1998) – Plant ecology  
The University of British Columbia, Vancouver, BC, Canada  
Major Advisor: Dr. Bruce A. Bohm

Post-Undergraduate Practical Training – Plant Ecophysiology (1994-1995)  
Department of Organismic and Evolutionary Biology, Harvard University, USA  
Major Advisor: Dr. Fakhri A. Bazzaz

B.A. in Human Ecology (1994)  
College of the Atlantic, Bar Harbor, ME, USA  
Major Advisor: Dr. Craig W. Greene

#### Awards and Recognitions:

- Outstanding Faculty Advisor Award (2019-2020), California Polytechnic State University, San Luis Obispo
- Terrance Harris Excellence in Mentorship Award (2020), California Polytechnic State University, San Luis Obispo
- Academic Partner of the Year (2018-2019), University Housing, California Polytechnic State University, San Luis Obispo
- Faculty Partner of the Year (2018-2019), University Housing, California Polytechnic State University, San Luis Obispo
- South and Central Asia Regional Travel Grant, The United States-India Educational Foundation (02/19-03/04, 2017)

- Fulbright US Scholar Program Grant (09/2016-06/2017)
- Honorable Mention, Merritt Lyndon Fernald Award, New England Botanical Club, Best Paper Published in *Rhodora* 2009 (111: 417-448)
- Best Overall Botany-Related Oral Presentation, Northeast Natural History Conference X, Albany, NY; 2008
- NSERC Doctoral Prize 2004 Nominee, Dept. of Botany, University of British Columbia
- New Phytologist Trust Travel Grant, Plant Speciation Conference; 2003
- NSERC Post-Doctoral Fellowship, Natural Sciences and Engineering Research Council Canada; 2003-2005
- Faculty of Science Graduate Teaching Award Nominee, Dept. Botany, University of British Columbia; 2001-2002
- University Graduate Fellowships, University of British Columbia; 2001-2002, 1998-2000, 1995-1997
- Garden Club of Mount Desert Memorial and Tribute Fund Scholarship; 1993
- International Student Scholarship, College of the Atlantic; 1990-1994

### **Professional Experience:**

- Extraordinary Professor, School of Environmental Sciences and Development, North-West University, Potchesftroom Campus, South Africa (2020-2023)
- Research Associate, College of the Atlantic, Maine, USA (Summer 2020-current)
- Senior Editor, *Rhodora*, New England Botanical Club, MA, USA (Oct '19-Dec. '19)
- Faculty-in-Residence, University Housing, California Polytechnic State University, San Luis Obispo, CA, USA (September 2018-)
- Associate Professor of Plant Biology, Biological Sciences Department, California Polytechnic State University, San Luis Obispo, CA, USA (September 2017-)
- Fulbright Research Scholar, Institute of Fundamental Studies, Kandy, Sri Lanka (September 2016-May 2017)
- Editor-in-Chief, *Rhodora*, New England Botanical Club, MA, USA (Sep. '14-Sep. '19)
- Professor of Botany, College of the Atlantic, Bar Harbor, ME, USA (September 2010-June 2016)
- Director, College of the Atlantic Herbarium, Bar Harbor, ME, USA (January 2011-June 2016)
- Adjunct Associate Professor in Plant Biology, Department of Biological Sciences, San José State University, San Jose, CA, USA (August 2010-Fall 2017)

- Assistant Professor in Plant Biology, Department of Biological Sciences, San José State University, San Jose, CA, USA (August 2008-August 2010)
- Director of the Carl W. Sharsmith Herbarium, Department of Biological Sciences, San José State University, San José, CA, USA (Fall 2008-September 2015)
- Professor of Botany, College of the Atlantic, Bar Harbor, ME, USA (September 2004-June 2008)

### **Visiting Research/Teaching Appointments:**

Visiting Scientist, School of Environmental Sciences and Development, North-West University, Potchesftroom Campus, South Africa (April 22-May 10 2020; Visit postponed due to pandemic)

Visiting Researcher, Charles Darwin Foundation, Puerto Ayora, Galápagos, Ecuador (April 1-14 2020; Visit postponed due to pandemic)

Guest Lecturer and Visiting Scientist, Department of Botany, Institute of Natural Sciences, Ural Federal University, Lenin av. 51, 620000, Yekaterinburg, Russia (June 17-27 2019)

Visiting Scientist, Department of Botany, Aligarh Muslim University, India (02/19/16-03/04/16)

Visiting Scientist, Laboratories of Dr. M. C. M. Iqbal & Dr. M. Vithanage, National Institute of Fundamental Studies, Kandy, Sri Lanka (09/16-06/17)

Guest Lecturer and Visiting Scientist, Department of Botany, Institute of Natural Sciences, Ural Federal University, Lenin av. 51, 620000, Yekaterinburg, Russia (October 16-25 2014)

Extraordinary Associate Professor, School of Environmental Sciences and Development, North-West University, Potchesftroom Campus, South Africa (2014-2020)

Visiting Scientist, Laboratory of Dr. M. C. M. Iqbal, Institute of Fundamental Studies, Kandy, Sri Lanka (01/14-03/14)

Visiting Scientist, Materials Research Department, iThemba Laboratory for Accelerator Based Sciences, National Research Foundation, South Africa (Feb 15-23 2012)

Visiting Scientist, School of Environmental Sciences and Development, North-West University, Potchesftroom Campus, South Africa (January 21-February 15 2012)

Adjunct Faculty member in Botany, College of the Atlantic, Bar Harbor, ME, USA (September 2008-August 2010)

Visiting Scientist, Laboratory of Dr. M. C. M. Iqbal, Institute of Fundamental Studies, Kandy, Sri Lanka (09/05-08/08)

### **Research-Teaching Grants:**

- Bureau of Land Management, United States Department of the Interior (2017)  
“San Joaquin Woolly Threads, Seed Longevity and Climate Tolerance Study.” Principal Investigator: N. Rajakaruna. **\$30,000**

- National Geographic Society, Research and Exploration Grant (2017)  
“Plant-manganese nutritional dynamics along a climatic gradient of disjunct serpentine ecosystems.” Principal Investigator: Denise R. Fernando; Project Investigator: N. Rajakaruna. **\$5500**

- National Geographic Society, Research and Exploration Grant (2015)  
“Examining the role of substrate chemistry and climate on the diversity of lichen species in South Africa.” Principal Investigator: N. Rajakaruna; Project Investigators: A. M. Fryday, S. J. Siebert, I. D. Medeiros, R. B. Boneschans, and N. Pope. **\$17,850**

- Maine Sea Grant Program Development Fund (2014)  
“Investigating Metal Accumulation by Seaweeds at the Callahan Mine Superfund Site, Brooksville, Hancock Co., Maine, USA.” Principal Investigators: I. D. Medeiros and N. Rajakaruna. **\$2050**

- The Department of the Interior, National Park Service (2014)  
“Train Students in Herbarium Management and Catalog Herbarium Specimens for Public Education and Research” Principal Investigator: N. Rajakaruna. **\$24,400**

- Davis Educational Foundation (2013)  
“Transforming Ecology Education through Interdisciplinary Landscape Level Research” Principal Investigators J. Anderson, D. Cass, N. Rajakaruna, and S. Hall. **\$ 146,032**

- National Science Foundation (2012)  
“Macrofungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs” Principal Investigator for College of the Atlantic: N. Rajakaruna.  
**\$ 12, 477**

- The Department of the Interior, National Park Service (2010)  
“Catalog Herbarium Specimens at College of the Atlantic to Provide Access for Research and Education” Principal Investigator: N. Rajakaruna. **\$16,100**

- National Science Foundation (2010)

“Collaborative Research: Harnessing the power of herbaria to understand the changing flora of California: A biodiversity hotspot in peril”

Principal Investigator for San José State University: N. Rajakaruna. **\$55,490**

- California Environmental Protection Agency (2009)

“Race, ethnicity, and exposure to heavy metals by urban gardeners.”

Principal Investigator: O’Malley, R.; Research Assistant: J. Gorospe; Technical Advisors: N. Rajakaruna and M. McGowan. **\$19,343**

- Stanley Smith Horticultural Trust, California Academy of Sciences (2009)

“California endemics in an urban garden: developing an internship program in using California native plants in horticulture.” Principal Investigators: Lambrecht, S., Rajakaruna, N. and J. Cross. **\$19,900**

- Maine Space Grant Consortium Seed Research Grant (2009)

“Effect of a catastrophic storm surge on the guano-tolerant plant community of Mt. Desert Rock” Principal Investigators: Anderson, J. and N. Rajakaruna. **\$5000**

- National Science Foundation (2009)

“Is postfire recruitment of chaparral shrubs constrained by local adaptation to soils (serpentine vs sandstone) or microclimates (north vs south slopes)?” Principal Investigator: Rajakaruna, N. **\$30,000**

- US Forest Service, Region 5 (2009)

“Conservation Biology and Fire Ecology of Rare Serpentine Plants of Plumas National Forest, California.” **\$404, 800.**

Principle Investigators: Rajakaruna, N. and S. P. Harrison (University of California, Davis).

- Junior Faculty Career Development Grant, San José State University (2009)

“Evolutionary ecology of *Lasthenia californica* (Asteraceae).” **\$1500**

- California State University Research Fund Grant (2008)

“Impacts of multiple nutrient element enrichment on native and alien plant species in California’s serpentine grasslands: Implications for better management of a threatened habitat.” **\$7500**

- Maine Space Grant Consortium Research Fellowship (2006)

“Geobotany of Maine: exploring plant-soil relations on extreme geodaphic habitats.” **\$5000**

- Maine Space Grant Consortium Research Fellowship (2006)

Grant to conduct a 2-day workshop on plants that grow on heavy metal-rich soils. **\$2500**

- Maine Space Grant Consortium Research Fellowship (2006)

“Screening for Metal Tolerance in Lichens and Higher Plants from Mine Spoil.” **\$5000**

- National Park Service: LL Bean Acadia Research Fellowship (2006)  
"Conservation Biology of Rare Plants of Acadia National Park: A proposal to conduct ecological and physiological studies to better inform rare plant monitoring and management protocols." **\$5000**
- National Park Service (2006)  
"Assessment of natural resources and watershed conditions in and adjacent to Acadia National Park." Principal Investigators: P. Vaux (U of Maine), S. Nelson (U of Maine), N. Rajakaruna (College of the Atlantic), J. Peckenhem (U of Maine), K. Bell (U of Maine), G. Mittlehauser (Humboldt Field Research Institute), B. Kopp (USGS). **\$49,987**
- Maine Space Grant Consortium EPSCoR Collaborate Seed Grant Program (2005)  
"Extremophile Botany: Evolutionary and applied ecology of plants on heavy metal-rich, extreme soils of Hancock County, Maine." **\$17,000**
- Maine Sea Grant Program Development Fund (2005)  
"Metalliferous Plants of the Callahan Mine: Plant Diversity, Heavy Metal Tolerance, and Potential for Phytoremediation." **\$5600**
- Maine Space Grant Consortium Research Fellowship (2005)  
"Physiology, Evolution and Applied Ecology of Plants on Metal-Rich Soils." **\$2500**
- Maine Space Grant Consortium Research Fellowship (2005)  
"Geobotanical Explorations on Metal-Rich Extreme Soils." **\$2500**
- National Science and Engineering Research Council (NSERC) Canada Post-Doctoral Research Fellowship (2003-2004)  
"Community assembly on serpentine chaparral in California." **\$70,000**

### **Additional Teaching Experience:**

*Instructor:* Summer Course, College of the Atlantic, Bar Harbor, Maine. Course: Field Botany: Plants of New England (Aug 2-15, 2020; course postponed to 2021 due to pandemic)

*Instructor:* Summer Course, College of the Atlantic, Bar Harbor, Maine. Course: Field Botany: Plants of New England (July 27-Aug 10, 2019)

*Instructor:* Summer Courses for K-12 Teachers, College of the Atlantic, Bar Harbor, Maine. Course: Field Botany (July 01-05, 2013)

*Instructor:* Summer Courses for K-12 Teachers, College of the Atlantic, Bar Harbor, Maine. Course: Field Botany (July 13-26, 2008)

*Instructor:* Summer Courses for K-12 Teachers, College of the Atlantic, Bar Harbor, Maine. Course: Woody Plants of Mount Desert Island (July 9-22, 2006)

*Instructor:* From Cell to System, a Collaborative Science Learning Initiative for 6-12 Teachers, College of the Atlantic, Bar Harbor, Maine. Workshop title: Plants on metal-rich soils (August 23-25, 2005)

*Instructor:* Downeast Senior College, University College at Ellsworth. Course: Botanical Hikes, Trees in the Four Seasons. A field botany course aimed at teaching trees and shrubs of Maine to senior citizens (2004-2005, twice a month)

*Teaching Assistant:* Departments of Botany & Soil Science, University of British Columbia, Canada. Courses: Seed Plant Taxonomy, Introduction to Vascular Plants, Plants and People, Introduction to Soil Science. Supervisors: Shona Ellis (Botany), Maja Krzic (Soil Science) 1996-2002; 15 hrs. per week

*Teaching Assistant in Geobotany:* Siskiyou Field Institute, Cave Junction, Oregon, USA. Supervisors: A. R. Kruckeberg (Univ. of Washington), R. G. Coleman (Stanford University). 06/99; 1 week, full-time

### **Relevant Work Experience:**

*Botanical Consultant:* Pottinger & Gaherty Environmental Consultants Ltd., Vancouver, Canada. Risk assessment study of copper mine tailings. 02/00-04/00; part-time

*Biodiversity Consultant:* Sinharaja Village Trust, Sinharaja Rainforest, Sri Lanka. Conservation and ecodevelopment. Supervisor: Dr. Larry Simon, Brandeis University and Ms. Neela de Zoysa, University of Massachusetts, Amherst. 12/98-04/99; full-time

*Research Assistant in Plant Eco-Physiology:* Department of Organismic and Evolutionary Biology, Harvard University, MA, USA. Supervisor: Dr. Fakhri A. Bazzaz, Harvard University. 94-95; full-time

*Botanist:* Acadia National Park, Bar Harbor, ME, USA. Updated field information on rare and endangered plants of Mount Desert Island. Supervisors: Dr. Craig Greene, College of the Atlantic and Ms. Linda Gregory, Acadia National Park. 06-08/93; full-time

*Assistant Field Coordinator:* Sinharaja Rainforest, Sri Lanka. Established a 25-hectare forest dynamics plot for the Center for Tropical Forest Science, Smithsonian Tropical Research Institute (STRI). Supervisors: Dr. Peter Ashton, Harvard University and Drs. Nimal and Savitri Gunatilleke, University of Peradeniya, Sri Lanka. 08/93-01/94; full-time

*Coordinator:* *A Field Guide to the Common Trees and Shrubs of Sri Lanka.* Coordinated research and illustrations for the field guide published by Wild Life

Heritage Trust, Sri Lanka. Supervisors: Ms. Neela de Zoysa, Harvard University/University of Massachusetts, Amherst and Dr. Mark Ashton, Yale University. 1991-1992; part-time

### Peer-Reviewed Publications:

Fryday, A. M., Medeiros, I., Pope, N., Siebert, S. and N. Rajakaruna. 2020. *Burrowsia*, a new genus of lichenized fungi (Caliciaceae), plus the new species *B. cataractarum* and *Scoliciosporum fabisporum*, from Mpumalanga, South Africa. *South African Journal of Botany* 121: 471-481.

Gunarathne, V., A. U. Rajapaksha, M. Vithanage, N. Adassooriya, A. Cooray, S. Liyanage, B. Athapattu, N. Rajakaruna, A. D. Igalavithana, D. Hou, D. S. Alessi, and Y. S. Ok. 2019. Heavy Metal Dissolution Mechanisms from Electrical Industrial Sludge. *Science of the Total Environment* 696; <https://doi.org/10.1016/j.scitotenv.2019.133922>

Paukov, A., A. Teptina, M. Morozova, E. Kruglova, S. Favero-Longo, C. Bishop and N. Rajakaruna. 2019. The effects of edaphic and climatic factors on secondary lichen chemistry—a case study using saxicolous lichens. *Diversity* 11, 94; doi:10.3390/d11060094

Naikoo, M. I., M. I. Dar, F. A. Khan, F. Raghieb, and N. Rajakaruna. 2019. Trophic transfer and bioaccumulation of lead along soil - plant – aphid - ladybird food chain. *Environmental Science and Pollution Research*; <https://doi.org/10.1007/s11356-019-05624-x>

Gunarathne, V., N. Rajakaruna, U. Gunarathne, J. K. Biswas, Z. A. Raposo, and M. Vithanage. 2019. Influence of soil water content and soil amendments on trace metal release and seedling growth in serpentine soil. *Journal of Soils and Sediments*; <https://doi.org/10.1007/s11368-019-02349-9>

Ul Kalam, S., F. Naushin, F. A. Khan, and N. Rajakaruna. 2019. Long term phytoremediating abilities of *Dalbergia sissoo* Roxb. (Fabaceae). *SN Applied Sciences* 1: 501; <https://doi.org/10.1007/s42452-019-0510-8>

Echevarria, G., A. J. M. Baker, R. S. Boyd, A. van der Ent, T. Mizuno, N. Rajakaruna, S. Sakaguchi, and A. Bani. 2018. A global forum on ultramafic ecosystems: from ultramafic ecology to rehabilitation of degraded environments. *Ecological Research* 33: 517-522.

Kay, K.M., Woodhouse, S., Smith, B.A., Pope, N., and Rajakaruna, N. 2018. Sympatric serpentine endemic *Monardella* (Lamiaceae) species maintain habitat differences despite hybridization. *Molecular Ecology* 27: 2302-2316.

Teptina, A., A. Paukov, and N. Rajakaruna. 2018. Ultramafic vegetation and soils in the circumboreal region of the Northern Hemisphere. *Ecological Research* 33: 609-628.

Favero Longo, S. E., E. Matteucci, P. Giordani, A. Paukov, and N. Rajakaruna. 2018. Diversity and functional traits of lichens in ultramafic areas: a literature-based worldwide analysis integrated by field data at the regional scale. *Ecological Research* 33: 593-608.

Ghasemi, R., H. Share, R. Sharifi, R. S. Boyd, N. Rajakaruna. 2018. Inducing Ni sensitivity in the Ni hyperaccumulator plant *Alyssum inflatum* Nyárády (Brassicaceae) by transforming with CAX1, a vacuolar membrane calcium transporter. *Ecological Research* 33: 737-747.

Venter, A., S. J. Siebert, N. Rajakaruna, S. Barnard, A. Levanets, A. Ismail, M. Allam, B. Peterson, T. Sanko. 2017. Biological crusts of serpentinite and non-serpentinite soils from the Barberton Greenstone Belt of South Africa. *Ecological Research* 33: 629-640.

Siebert, S. J., Schutte, N. C., Bester, S. P., Komape, D. M., and N. Rajakaruna. 2017. *Senecio conrathii* N.E.Br. (Asteraceae), a new hyperaccumulator of nickel from serpentinite outcrops of the Barberton Greenstone Belt, South Africa. *Ecological Research* 33: 651-658.

Rajakaruna, N. 2018. Lessons on evolution from the study of edaphic specialization. *The Botanical Review* 84: 39-78; DOI 10.1007/s12229-017-9193-2

Seneviratne, M. N. Rajakaruna, M. Rizwan, S. Madawala, Y. S. Ok, and M. Vithanage. 2017. The effects of heavy metal-induced oxidative stress on seed germination and seedling development: A critical review. *Environmental Geochemistry and Health*; DOI 10.1007/s10653-017-0005-8

Galey, M. L., A. van der Ent, M. C.M. Iqbal, and N. Rajakaruna. 2017. Serpentine geoecology of South and Southeast Asia. *Botanical Studies* 58: 18; DOI 10.1186/s40529-017-0167-9

Medeiros, I. D., Mathieson, A. C., and N. Rajakaruna. 2017. Heavy Metals in Seaweeds from a Polluted Estuary in Coastal Maine. *Rhodora* 979: 201-211.

Urban, A. J., Mittelhauser, G. H., Dickinson, M., and N. Rajakaruna. 2017. The Alpine Vascular Plants of Baxter State Park, Maine, USA. *Rhodora* 978: 110-131.

Seneviratne, M., S. Gunaratne, T. Bandara, L. Weerasundara, N. Rajakaruna, H.M.S.P. Madawala, G. Seneviratne, and M. Vithanage. 2016. Plant growth promotion by *Bradyrhizobium japonicum* under heavy metal stress. *South African Journal of Botany* 105: 19-24.

Stern, M., Medeiros, I. D., Negoita, L., and N. Rajakaruna. 2016. Limestone flora of

- the Simonton Corner Quarry Preserve, Rockport, Maine, USA. *Rhodora* 118: 206-226.
- Negoita, L., Dickinson, M., Mittelhauser, G. H. and Rajakaruna, N. 2016. A Comparative Study of the Flora and Soils of Great Duck and Little Duck Islands, Maine, USA. *Rhodora* 118: 46-85.
- Bandara, T., I. Herath, P. Kumarathilaka, M. Seneviratne, G. Seneviratne, N. Rajakaruna, and M. Vithanage. 2015. Role of woody biochar and fungal-bacterial co-inoculation on soil enzyme activity and heavy metal immobilization in serpentine soil. *Journal of Soils and Sediments*; DOI 10.1007/s11368-015-1243-y
- Van der Ent, A., N. Rajakaruna, R. S. Boyd, G. Echevarria, R. Repin, and D. Williams. 2015. Global research on ultramafic (serpentine) ecosystems (8th International Conference on Serpentine Ecology in Sabah, Malaysia). *Australian Journal of Botany* 63: iii-iv
- Burgess, J.L., Szlavecz, K., Rajakaruna, N., and Swan, C.M. 2015. Ecotypic Differentiation of mid-Atlantic *Quercus* species in response to Ultramafic Soils. *Australian Journal of Botany* 63: 308-323
- Gall, J. E., Boyd R. S., and N. Rajakaruna. 2015. Transfer of heavy metals through terrestrial food webs: A review. *Environmental Monitoring and Assessment* 187: 201; DOI 10.1007/s10661-015-4436-3
- Van der Ent, A., N. Rajakaruna, R. S. Boyd, G. Echevarria, R. Repin, and D. Williams. 2015. Global Research on the Ecology of Ultramafic (Serpentine) Ecosystems (8th International Conference in Serpentine Ecology, Sabah, Malaysia): a summary and synthesis. *Australian Journal of Botany* 63: 1-16
- Seneviratne, M., Seneviratne, G., Madawala, H.M.S.P. Iqbal, M.C.M., Rajakaruna, N. and Vithanage, M. 2015. Role of bacterial-fungal interactions on heavy metal phytotoxicity in serpentine soil. *Australian Journal of Botany* 63: 261-268
- Medeiros, I. D., Rajakaruna, N. and Alexander, E. B. 2015. Gabbro Soil-Plant Relations in the California Floristic Province. *Madrono* 62: 75-87
- Venter, A., A. Levanets, S. Siebert, and N. Rajakaruna. 2015. A preliminary survey of the diversity of soil algae and cyanoprokaryotes on mafic and ultramafic substrates in South Africa. *Australian Journal of Botany* 63: 341-352
- Chathuranga, P. K. D., S. K. A. T. Dharmasena, N. Rajakaruna, and M. C. M. Iqbal. 2015. Growth and nickel uptake by serpentine and non-serpentine populations of *Fimbristylis ovata* (Cyperaceae) from Sri Lanka. *Australian Journal of Botany* 63: 128-133

Ghasemi, R., Z. Zare Chavoshi, R. S. Boyd, and N. Rajakaruna. 2015. Calcium:magnesium ratio affects environmental stress sensitivity in the serpentine endemic *Alyssum inflatum* Nyár. (Brassicaceae). *Australian Journal of Botany* 63: 39-46

Burgess, J.L., Szlavecz, K., Rajakaruna, N., Lev, S. and Swan, C.M. 2015. Vegetation Dynamics and Mesophication in Response to Conifer Encroachment within an Ultramafic System. *Australian Journal of Botany* 63: 292-307

Herath, I., P. Kumarathilaka, A. Navaratne, N. Rajakaruna, and M. Vithanage. 2015. Immobilization and phytotoxicity reduction of heavy metals in serpentine soil using biochar. *Journal of Soils and Sediments* 15: 126-138, DOI 10.1007/s11368-014-0967-4

Medeiros, I. D., Fryday, A. M., and N. Rajakaruna. 2014. Additional lichen records and mineralogical data from metal-contaminated sites in Maine. *Rhodora* 116: 323-347.

Mansfield, M., Pope, N., Mittlehauser, G., and N. Rajakaruna. 2014. Diversity and Soil-Tissue Elemental Relations of Vascular Plants of Callahan Mine, Brooksville, Maine, USA. *Rhodora* 116: 283-322.

Ghasemi, R., Chavoshi, Z. Z., Boyd, R. S., and N. Rajakaruna. 2014. A preliminary study of the role of nickel in enhancing flowering of the nickel hyperaccumulating plant *Alyssum inflatum* Nyár. (Brassicaceae). *South African Journal of Botany* 92: 47-52.

Vithanage, M., Rajapaksha, A. U, Oze, C., Rajakaruna, N. and C.B. Dissanayake. 2014. Metal release from serpentine soils in Sri Lanka. *Environmental Monitoring and Assessment*, DOI: 10.1007/s10661-014-3626-8

Barton, J., Ciccotelli, B., Gall, J. E., Olday, F. C., Connery, B., T. B. Harris, A. M. Fryday, and N. Rajakaruna. 2014. Lichens of six vernal pools in Acadia National Park, ME, USA. *Evansia* 31: 31-39

Pope, N., Fong, M., Boyd, R., and N. Rajakaruna. 2013. The role of elevation and soil chemistry in the distribution and ion accumulation of floral morphs of *Streptanthus polygaloides* Gray (Brassicaceae), a Californian nickel hyperaccumulator. *Plant Ecology and Diversity* 7: 421-432, DOI:10.1080/17550874.2013.783141

Harris, T. B., N. Rajakaruna, S. J. Nelson, and P. D. Vaux. 2012. Stressors and Threats to the Flora of Acadia National Park, Maine: Current Knowledge, Information Gaps, and Future Directions. *Journal of the Torrey Botanical Society* 139: 323-344.

Davoodian, N., J. Bosworth, and N. Rajakaruna. 2012. Mycorrhizal colonization of common St. John's wort (*Hypericum perforatum*) on adjacent serpentine and granite outcrops on the Deer Isles, Maine, USA. *Northeastern Naturalist* 19: 517-526.

Yost, J. M., Berry, T., Kay, K.M. and N. Rajakaruna. 2012. Edaphic adaptation maintains the coexistence of two cryptic species on serpentine soil. *American Journal of Botany* 99 (5): 890-897.

Bieger, A., S. P. Harrison, and N. Rajakaruna. 2012. Little evidence for local adaptation to soils or microclimate in the postfire recruitment of three Californian shrubs. *Plant Ecology and Diversity* 7: 411-420, DOI:10.1080/17550874.2012.701670

Rajakaruna, N., Knudsen, K., Fryday, A., O'Dell, R. E., Pope, N. Olday, F. C., and S. Woolhouse. 2012. Investigation of the importance of rock chemistry for saxicolous lichen communities of the New Idria serpentinite mass, San Benito County, California, USA. *The Lichenologist* 44: 695-714, DOI: <http://dx.doi.org/10.1017/S0024282912000205>

Anacker, B. L., N. Rajakaruna, D. D. Ackerly, S. P. Harrison, J. E. Keeley, and M. C. Vasey. 2011. Ecological strategies in California chaparral: Interacting effects of soils, climate, and fire on specific leaf area. *Plant Ecology and Diversity* 4: 179-188, DOI: 10.1080/17550874.2011.633573.

Ciccotelli, B., T. B. Harris, B. Connery, and N. Rajakaruna. 2011. A preliminary study of the vegetation of vernal pools of Acadia National Park, Mount Desert Island, Maine, USA. *Rhodora* 113: 260-279.

Rajakaruna, N., T. B. Harris, S. Clayden, A. Dibble, and F. S. Olday. 2010. Lichens of Callahan Mine, a Copper and Zinc enriched superfund site in Brooksville, Maine, U.S.A. *Rhodora* 113: 1-31.

Pope, N., T. B. Harris, and N. Rajakaruna. 2010. Vascular plants of adjacent serpentine and granite outcrops on the Deer Isles, Maine, USA. *Rhodora* 112: 105-141.

Rajakaruna, N., N. Pope, J. Perez-Orozco, and T. B. Harris. 2009. Ornithocoprophilous Plants of Mount Desert Rock, a Remote Bird-Nesting Island in the Gulf of Maine, USA. *Rhodora* 111: 417-448.

R. S. Boyd, Kruckeberg, A. R. and N. Rajakaruna. 2009. Biology of ultramafic rocks and soils: research goals for the future. *Northeastern Naturalist* 16: 422-440.

N. Rajakaruna and R. S. Boyd. 2009. Advances in serpentine geocology: A retrospective. *Northeastern Naturalist* 16: 1-7.

- Harris, T. B. and N. Rajakaruna. 2009. *Adiantum viridimontanum*, *Aspidotis densa*, *Minuartia marcescens*, and *Symphyotrichum rhiannon*: Additional Serpentine Endemics from Eastern North America. *Northeastern Naturalist* 16: 111-120.
- Rajakaruna, N., T. B. Harris, and E. B. Alexander. 2009. Serpentine geocology of eastern North America: a review. *Rhodora* 111: 21-108.
- Briscoe, L. R. E., Harris, T. B., Dannenberg, E., Broussard, W., Olday, F. C., and N. Rajakaruna. 2009. Bryophytes of adjacent serpentine and granite outcrops on the Deer Isles, Maine, USA. *Rhodora* 111: 1-20.
- Harris, T. B., Olday, F. C., and N. Rajakaruna. 2007. Lichens of Pine Hill, a peridotite outcrop in eastern North America. *Rhodora* 109: 430-447.
- Bohm, B. A. and N. Rajakaruna. 2006. The *Lasthenia californica* story: It started with flavonoids. *Natural Product Communications* 11: 1013-1022.
- Rajakaruna, N., Tompkins, K. M., and P. G. Pavicevic. 2006. Phytoremediation: An affordable green technology for the clean-up of metal contaminated sites in Sri Lanka. *Ceylon Journal of Science* 35: 25-39.
- Rajakaruna, N. and A. J. M. Baker. 2004. Serpentine: A model habitat for botanical research in Sri Lanka. *Ceylon Journal of Science* 32: 1-19.
- Rajakaruna, N. 2004. The edaphic factor in the origin of species. *International Geology Review* 46: 471-478.
- Rajakaruna, N. 2003. Edaphic differentiation in *Lasthenia*: A model for studies in evolutionary ecology. *Madroño* 50: 34-40.
- Rajakaruna, N., Baldwin, B. G., Chan, R., Desrochers, A. M., Bohm, B. A., and J. Whitton. 2003. Edaphic races and phylogenetic taxa in the *Lasthenia californica* complex (Asteraceae: Heliantheae): An hypothesis of parallel evolution. *Molecular Ecology* 12: 1675-1679.
- Rajakaruna, N., Bradfield, G. E., Bohm, B. A., and J. Whitton. 2003. Adaptive differentiation in response to water stress by edaphic races of *Lasthenia californica* (Asteraceae). *International Journal of Plant Sciences* 164: 371-76.
- Rajakaruna, N., Siddiqi, M. Y., Whitton, J., Bohm, B. A., and A. D. M. Glass. 2003. Differential responses to  $\text{Na}^+/\text{K}^+$  and  $\text{Ca}^{2+}/\text{Mg}^{2+}$  in two edaphic races of the *Lasthenia californica* complex (Asteraceae): A case for parallel evolution of physiological traits. *New Phytologist* 157: 93-103.
- Rajakaruna, N. and B. A. Bohm. 2002. Serpentine and its vegetation: A preliminary study from Sri Lanka. *Journal of Applied Botany* 76: 20-28.

Rajakaruna, N., Harris, C. S., and G.H.N. Towers. 2002. Antimicrobial activity of plants collected from serpentine outcrops in Sri Lanka. *Pharmaceutical Biology* 40: 235-244.

Rajakaruna, N. and B.A. Bohm. 1999. The edaphic factor and patterns of variation in *Lasthenia californica* (Asteraceae). *American Journal of Botany* 86:1576-1596.

Bernston, G.M, Rajakaruna, N., and F.A. Bazzaz. 1998. Growth and nitrogen uptake of an experimental community of annuals exposed to elevated atmospheric CO<sub>2</sub>. *Global Change Biology* 4: 607-627.

### **Books and Book Chapters:**

Ferrero, A., Walsh, P., and Rajakaruna, N. 2020. The physiology, genetics, adaptive significance and biotechnology of Ni-hyperaccumulating plants. In: *Physiological and Biotechnological Aspects of Extremophiles*, pp. 327-347. Richa Salwan, Vivek Sharma (Eds.), Elsevier Publishers (invited book chapter)

Boyd, R. S., Krell, N. T., and Rajakaruna, N. 2016. Extreme Environments. In: *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press; DOI: 10.1093/obo/9780199830060-0152

Trau, M., Owings, R., and N. Rajakaruna. 2016. Implementing Traditional Ecological Knowledge in Conservation Efforts. In *Plant Biodiversity: Monitoring, Assessment and Conservation*, pp. 525-535, Eds. A. A. Ansari and S. S. Gill. CAB International

Van der Ent, A., N. Rajakaruna, R. S. Boyd, G. Echevarria, and R. Repin. Eds. 2015. *Ultramafic Ecosystems*. Proceedings of the Eighth International Conference on Serpentine Ecology. *Australian Journal of Botany* 63 (Special Issues 1-4; Parts 1, 2)

Rajakaruna, N., R. S. Boyd, and T. B. Harris. 2014. Synthesis and Future Directions: What have harsh environments taught us about ecology, evolution, conservation and restoration. In *Plant Ecology and Evolution in Harsh Environments*. Pp. 393-409. Nova Science Publishers, Inc., NY, USA

Rajakaruna, N., R. S. Boyd, and T. B. Harris, eds., 2014. *Plant Ecology and Evolution in Harsh Environments*. Nova Science Publishers, Inc., NY, USA. 426p.

N. Rajakaruna and R. S. Boyd. 2014. Geocology. In *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press. DOI 10.1093/OBO/9780199830060-0125

N. Rajakaruna and R. S. Boyd. 2014. Serpentine Soil. In *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press.

DOI: 10.1093/OBO/9780199830060-0055

Neilson, S. and N. Rajakaruna. 2014. Phytoremediation of Agricultural Soils: Using plants to clean metal-contaminated arable lands. In: *Phytoremediation: Management of Environmental Contaminants*, pp. 159-168. Eds. A. A. Ansari, S. S. Gill, G. R. Lanza, and L. Newman. Springer. DOI 10.1007/978-3-319-10395-2\_11

Boyd, R. S. and N. Rajakaruna. 2013. Heavy Metal Tolerance. In *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press. DOI: 10.1093/OBO/9780199830060-0137

Rajakaruna, N. and R. S. Boyd. 2013. Edaphic Factor. In Reference Module in Earth Systems and Environmental Sciences. Ed. Scott A. Elias. Elsevier, Oxford, United Kingdom (article reproduced from Encyclopedia of Ecology, 2008, Pages 1201–1207)

Gall, J. E. and N. Rajakaruna. 2013. The physiology, functional genomics, and applied ecology of heavy metal-tolerant Brassicaceae In: *Brassica: Characterization, Functional Genomics and Health Benefits*, Minglin Lang, ed., pp. 121-148. Nova Science Publishers, Inc., NY, USA.

Neilson, S. and N. Rajakaruna. 2012. Roles of rhizospheric processes and plant physiology in phytoremediation of contaminated sites using oilseed Brassicas. In: Anjum N. A., Ahmad I., Pereira M. E., Duarte A. C., Umar S., Khan N. A. (Eds.) *The Plant Family Brassicaceae: Contribution Towards Phytoremediation*, pp. 313-330. Environmental Pollution Book Series, Vol. 21, Springer (Science + Business Media), Dordrecht, The Netherlands.

S. P. Harrison and N. Rajakaruna. 2011. What have we learned from serpentine about evolution, ecology, and other sciences? In: Harrison, S. P. and N. Rajakaruna (Eds.). 2010. *Serpentine: Evolution and Ecology in a Model System*, pp. 417-427. University of California Press, Berkeley, CA, USA.

R. E. O'Dell and N. Rajakaruna. 2011. Intraspecific variation, adaptation, and evolution. In: Harrison, S. P. and N. Rajakaruna (Eds.). 2010. *Serpentine: Evolution and Ecology in a Model System*, pp. 97-137. University of California Press, Berkeley, CA, USA.

Harrison, S. P. and N. Rajakaruna (Eds.). 2011. *Serpentine: Evolution and Ecology in a Model System*. University of California Press, Berkeley, CA, USA. 440p.

Rajakaruna, N., and R. S. Boyd (Eds.). 2009. *Soil and Biota of Serpentine: A World View. Proceedings of the Sixth International Conference on Serpentine Ecology*. *Northeastern Naturalist* 16 (Special Issue 5).

Rajakaruna, N. and R.S. Boyd. 2008. The edaphic factor. Pp. 1201–1207, In S.E. Jorgensen and B. Fath (Eds.). *The Encyclopedia of Ecology*. Volume 2. Elsevier, Oxford, United Kingdom.

Vaux, P. D., Nelson, S. J., Rajakaruna, N., Mittelhauser, G., Bell, K., Kopp, B., Peckenham, J. and G. Longworth. 2008. *Assessment of natural resources and watershed conditions in and adjacent to Acadia National Park*. Natural Resource Technical Report NPS/HTLN/NRTR—2006/001. National Park Service, Fort Collins, Colorado, USA.

Rajakaruna, N. and J. Whitton. 2004. Trends in the evolution of edaphic specialists with an example of parallel evolution in the *Lasthenia californica* complex. In: *Plant Adaptation: Molecular Biology and Ecology*, Q.C.B. Cronk, J. Whitton, R. Ree and I.E.P. Taylor, (Eds), pp. 103-110, NRC Research Press, Ottawa, Ontario, Canada.

Whitton, J. and N. Rajakaruna. 2000. Plant biodiversity - an overview. In: S.L. Levin (Ed.). *Encyclopedia of Biodiversity*, pp. 621-630. Academic Press, San Diego, CA

### **Popular Journal Articles:**

Rajakaruna, N. 2016. *In Memoriam*. Arthur Rice Kruckeberg: Geobotanist Extraordinaire (1920-2016). *Madroño* 63: 367-370.

Rajakaruna, N. 2010. An encounter with the First People of Sri Lanka. *COA Magazine* 6 (2): 51.

Rajakaruna, N. 2009. Serpentinophiles from California and across the world gather in Maine to highlight recent research on soil-biota relations of serpentine outcrops. *Fremontia* 37 (1): 21-24.

Woolhouse, S. and N. Rajakaruna. 2009. The SJSU Botany Garden Makeover: Volunteers gather from around campus and San José to clean-up and restore SJSU's home for native plants. *The Scientist*, The College of Science Newsletter 13 (1): 2-3.

Woolhouse, S. and N. Rajakaruna. 2009. The SJSU Botany Garden Makeover: Volunteers gather to help restore a native plant garden. *The Blazing Star*, California Native Plant Society, Santa Clara Valley Chapter Newsletter, March-April 2009.

Rajakaruna, N. 2003. The common goldfields (*Lasthenia californica* s.lat.) of California: A species complex for the study of adaptive differentiation and parallel speciation. *Botanical Electronic News* 313.

Rajakaruna, N. 2000. Goldfields in the world of serpentine. *Botanical Electronic News* 245.

Rajakaruna, N. 1994. Dream come true. Sri Lankan returns to Sinharaja to coordinate plot work. *Inside CTFS*, Fall.

## Invited Talks:

### 2020

Life on the Rocks: What plants on harsh substrate 'islands' can teach us about diversity, ecology, evolution, and conservation and restoration practices. Keynote Presentation at the session on Plant life on atypical substrates in Mediterranean-Type Ecosystems, MEDECOS 2020 (International Society of Mediterranean Ecology), Langebaan, Western Cape, South Africa. September 7-12 (rescheduled for September 6-10, 2021 due to COVID-19 travel disruptions)

Agromining: a green technology to clean the environment and make money. A zoom presentation to the Zero Waste Club, California Polytechnic State University, San Luis Obispo, CA (May 7)

### 2019

Evolutionary Ecology of Serpentine Plants. A seminar for the Department of Botany, Institute of Natural Sciences, Ural Federal University, Yekaterinburg, Russia (June 20)

Life on the Rocks: Plants on Serpentine and Other 'Harsh' Rock Outcrop Plant Communities. A presentation to the California Native Plant Society, Santa Clara Valley Chapter, San Jose, CA (May 17)

Serpentine: A model habitat for ecological, evolutionary and applied research. Central Coast Biological Society, Spring Meeting. 7 Sisters Brewing Company, San Luis Obispo (May 14)

The Soil-Plant Relationship: How do soils influence the ecology of plants and their communities. A guest lecture for the *Plant Ecology* course (BOT 326) at California Polytechnic State University, San Luis Obispo, CA (Jan 22)

### 2018

Travels of a Naturalist: Close encounters with plants and animals from Sri Lanka to North America and beyond. A seminar to students and staff of Cerro Vista Dormitory, California Polytechnic State University Housing, San Luis Obispo, CA (May 14)

Travels of a Botanist: Following a passion for plants from Sri Lanka to North America and beyond. A seminar to the Horticultural Club, Department of Horticulture and Crop Science, California Polytechnic State University, San Luis Obispo, CA (May 9)

Plants on Harsh Soils: Models for Evolutionary Studies. Guest lecture for Bio 414 (*Evolution*), Biological Sciences Department, California Polytechnic State University, San Luis Obispo, CA (Apr 2)

Soil and Biota of Serpentine: A World View. A Presentation to California Native Plant

Society, Channel Islands Chapter Meeting at Sedgewick Preserve, University of California, Santa Barbara (May 12)

The Ecology of Rock Outcrop Plant Communities. A guest lecture for the *Ecology* course (NR 306) at California Polytechnic State University, San Luis Obispo, CA (Feb 14)

Travels of a Botanist: Following my passion for plants from Sri Lanka to North America and beyond. A guest lecture for the *Environmental Science Club* at California Polytechnic State University, San Luis Obispo, CA (Feb 8)

The Ecology of Plants of Serpentine and Other Harsh Soils. A guest lecture for the *Plant Ecology* course (BOT 326) at California Polytechnic State University, San Luis Obispo, CA (Jan 23)

## **2017**

Travels with a geobotanist: Plant life on serpentine and other harsh soils. California Native Plant Society, San Luis Obispo Chapter Meeting (December 07)

Flowers. A guest lecture for the *Biology of Sex* course at California Polytechnic State University, CA, USA (August 17)

Rock Outcrop Plant Communities: Models Habitats for Ecological, Evolutionary, and Applied Research. Seminar to Department of Botany, University of Peradeniya, Sri Lanka (May 19)

Serpentine: A model habitat for ecological, evolutionary, and applied research. A seminar to the Department of Plant Sciences, University of Colombo. Seminar organized by Plant Sciences Special students as part of a Mini Symposium on Serpentine Ecology (May 16)

Travels of a Botanist: Following my passion for plants from Sri Lanka to North America and Beyond. Asian and Pacific American Heritage Month Speaker Program, American Corner, Kandy, Sri Lanka (May 12)

Geobotany: Interdisciplinary Studies on the Geology-Plant Relationship. Public lecture for the Geological Society of Sri Lanka. Department of Geology, University of Peradeniya, Sri Lanka (May 4)

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Guest lecture for the Department of Chemistry, Faculty of Science, University of Ruhuna, Sri Lanka (April 25)

Close Encounters with the Floral Kind: Following my passion for plants from Sri Lanka to North America. Seminar for first year botany students, Department of Botany, Faculty of Science, University of Ruhuna, Sri Lanka (April 24)

Opportunities for Undergraduate, Graduate, and Post-Doctoral Education in the United States. Seminar for students and staff, Faculty of Science, University of Ruhuna, Sri Lanka (April 24)

Plants of 'harsh' soils: Models systems for ecological, evolutionary & applied research. Seminar for students and faculty, Faculty of Applied Sciences, Rajarata University, Sri Lanka (March 30)

Opportunities for Undergraduate, Graduate, and Post-Doctoral Education in the United States. Seminar for students at the Faculty of Applied Sciences, Rajarata University, Sri Lanka (March 30)

Plants of 'extreme' soils: Models for ecological, evolutionary & applied research. Special seminar at the National Institute of Fundamental Studies, Kandy, Sri Lanka (March 28)

My life as a biologist: Following my passion for nature from Sri Lanka to North America and Beyond. A presentation for students (Life Sciences) Aligarh Muslim University, Aligarh, India (March 2)

Geocology: Interdisciplinary studies on the substrate-plant relationship. Guest lecture for the Department of Geography, Aligarh Muslim University, Aligarh, India (March 2)

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Guest lecture for the Department of Civil Engineering, Aligarh Muslim University, Aligarh, India (March 1)

Opportunities for Undergraduate, Graduate, and Post-Doctoral Education in the United States. Presentation for students, Aligarh Muslim University, Aligarh, India (February 27)

Serpentine: Evolutionary ecology of a model system. Guest lecture for the Department of Plant Protection, Aligarh Muslim University, Aligarh, India (February 25)

My life as a biologist: Following my passion for nature from Sri Lanka to North America. A presentation for students (ages 13-16) at the Blossoms School, Aligarh, India (February 25)

Plants of rock outcrop communities: Models for ecological, evolutionary, and applied research. Guest lecture for the Department of Wildlife Sciences, Aligarh Muslim University, Aligarh, India (February 23)

The importance of botanical collections for education and research. Seminar for the Department of Museology, Aligarh Muslim University, Aligarh, India (February 22)

Plants of 'harsh' soils: Models for ecological, evolutionary & applied research.

University extension lecture at the Department of Botany, Aligarh Muslim University, Aligarh, India (February 21)

Life as a botanist in the United States. Presentation to the students and staff at the Department of Botany, Aligarh Muslim University, Aligarh, India (February 20)

Geocology: Ecological, Evolutionary, and Applied Studies on Plants of 'Harsh' Soils. Guest lecture for the Department of Geography, Faculty of Arts, University of Peradeniya, Sri Lanka (February 02)

Plants of 'extreme' soils: Model systems for ecological, evolutionary, and applied research. Guest lecture at the 4<sup>th</sup> Ruhuna International Science and Technology Conference, University of Ruhuna, Matara, Sri Lanka (January 26)

Close encounters with the non-human kinds: Life as a biologist during and after Trinity. A seminar for science students and faculty, Trinity College, Kandy, Sri Lanka (January 23)

## **2016**

Opportunities for undergraduate and graduate education in the United States. Seminar for undergraduate students, faculty, and staff, Open University of Sri Lanka, Nawala, Colombo, Sri Lanka (November 25)

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Seminar for the Botanical Society, Open University of Sri Lanka, Nawala, Colombo (November 9)

Life as a botany student and professor in the United States. Presentation to Faculty of Natural Sciences, Open University of Sri Lanka, Nawala, Colombo (November 9)

Plant speciation: Edaphic specialists as model systems for studies in evolution. Two guest lectures for the course on Evolution, College of the Atlantic, Bar Harbor, ME, USA (April 19, 20)

Plant adaptations to a Mediterranean climate. Seminar for the Biological Sciences Department, California Polytechnic State University, San Luis Obispo, CA, USA (January 22)

The edaphic factor in California's Plant Diversity: Species to Communities. Seminar for the Biological Sciences Department, California Polytechnic State University, San Luis Obispo, CA, USA (January 21)

## **2015**

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Seminar for the AP Chemistry

Class, Mount Desert Island High School, Bar Harbor, ME, USA (June 18)

Serpentine: Evolutionary ecology of a model system. Seminar for the School of Biology and Ecology, University of Maine, Orono, ME, USA (February 13)

## **2014**

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Seminar for the Institute of Natural Sciences, Ural Federal University, Yekaterinburg, Russia (October 24)

Ecological Speciation: Case studies of edaphic differentiation from the California flora. Seminar for the Institute of Natural Sciences, Ural Federal University, Yekaterinburg, Russia (October 23)

Edible Botany: Exploring plant biology through plants we eat. Guest lecture for biology students at the Institute of Natural Sciences, Ural Federal University, Yekaterinburg, Russia (October 21)

Serpentine: A model for evolutionary studies. Invited keynote presentation at the 8th International Conference on Serpentine Ecology, Sabah, Malaysia (June 10)

Phytoremediation and Phytomining: Green technologies for cleaning contaminated soils and mining precious metals. Seminar for the Department of Agriculture, University of Peradeniya, Sri Lanka (March 04)

Phytoremediation: Using plants to clean metal-contaminated sites. Seminar for the Rotary Club of Kandy Metropolitan, Sri Lanka. The Queen's Hotel, Kandy, Sri Lanka (January 29)

## **2012**

Parallel Speciation in the *Lasthenia californica* complex (Asteraceae). Seminar for Andrew Hendry's Laboratory, Department of Biology, McGill University, Montreal, Canada (June 26)

The 22<sup>nd</sup> V. M. Goldschmidt Conference 'Earth in Evolution.' Session on Critical Zone Processes: Their Role in Ecology and Evolution. Keynote Address titled 'The Influence of 'Extreme' Geologies and Substrates on Plant Life in North America,' 24-29 June in Montreal, Canada (June 25)

Ecological Speciation: Case Studies of Edaphic Differentiation from the California Flora. Seminar for the Materials Research Department, iThemba Laboratory for Accelerator Based Sciences, National Research Foundation, South Africa (February 20)

The edaphic factor in the origin of plant species: case studies of ecological speciation from the California flora. Seminar for the School of Environmental Sciences and

Development, North-West University, Potchesfroom Campus, South Africa (February 07)

Edaphic Islands: Model Settings for Biodiversity Studies. Seminar for honors/graduate students of the School of Environmental Sciences and Development, North-West University, Potchesfroom Campus, South Africa (February 08)

## **2009**

Plant reproduction and development. Two guest lectures in Biology 96A (Foundations of Biodiversity), San José State University, San José, CA, USA

Plant adaptations to land. Guest Lecture in Biology 96A (Foundations of Biodiversity), San José State University, San José, CA, USA

Plants with mettle: Lives of metallophytes. Lecture for San José State University Alumni Association's Classes without Quizzes Seminar Sessions. San José State University, San José, CA, USA

Edaphic differentiation in the *Lasthenia californica* (Asteraceae) complex: a model for the study of parallel speciation. Guest Lecture in Biology 218 (Evolution), San José State University, San José, CA, USA

Edaphic differentiation in California's flora: Case Studies. Seminar Series, Jasper Ridge Biological Preserve, Stanford University, Stanford, CA, USA

Adaptation below-ground: Key to plant diversity in California. Department of Biological Sciences, Graduate Seminar Series, San José State University, San José, CA, USA

Edaphic differentiation: species to communities. Department of Ecology and Evolutionary Biology. University of California, Santa Cruz, CA, USA

## **2008**

The Plant-Soil Relationship: Ecology, Evolution, and Applied Ecology. Plant Biology (Bio 1) Guest Lecture. San José State University, San José, CA, USA

Edaphic Islands of California: Model settings for the study of plant ecology and evolution. California Native Plant Society, Shoup Garden House, Los Altos, CA, USA

The edaphic factor in plant diversity: species to communities. Department of Biological Sciences, San José State University, San José, CA, USA

Plant ecology of serpentine soils of North America. Humboldt Field Research Institute, Steuben, ME, USA

**2007**

Botanizing on kooky soils: encounters with plants with mettle. Human Ecology Forum, College of the Atlantic, Bar Harbor, ME, USA

**2006**

Plants on extreme soils: models for studies in evolutionary and applied ecology. Department of Biology Seminar Series, Colby College, ME, USA

**2005**

Plant-soil relations in the *Lasthenia californica* complex (Asteraceae): a model for studies in evolutionary ecology. Department of Biological Sciences Seminar Series, Auburn University, Auburn, AL, USA

Plants on extreme soils: evolution to remediation. Humboldt Field Research Institute, Steuben, ME, USA

Ecology of metal hyperaccumulation and the emerging field of phytoremediation. Postgraduate Institute of Science, Department of Botany, The University of Peradeniya, Sri Lanka

Plants on Extreme Soils: A Model for Studies in Plant Evolution. Department of Botany, The University of Peradeniya, Sri Lanka

From Cell to System, a Collaborative Science Learning Initiative for K-6 Teachers. Topic: Plants on Extreme Soils: A model for research from cell to ecosystem. College of the Atlantic, Bar Harbor, ME, USA

Parallel Speciation in *Lasthenia californica* (Asteraceae). The Department of Biological Sciences Seminar Series. University of Maine, Orono, ME, USA

**2004**

Edaphic races in the *Lasthenia californica* complex (Asteraceae): A case for parallel speciation. California Botanical Society Lecture Series. University of California, Berkeley, CA, USA

Plant Diversity: Speciation to Conservation. Keene State College, Keene, NH, USA

Edaphic differentiation in the *Lasthenia californica* complex (Asteraceae): A model for the study of adaptive evolution and parallel speciation. Ecology and Evolution Lunch Bunch Seminar Series. University of California, Riverside, CA, USA

Plant Diversity: Speciation to Conservation. College of the Atlantic, Bar Harbor, ME, USA

### **2003**

Edaphic differentiation in the *Lasthenia californica* complex (Asteraceae):  
A model for the study of adaptive evolution and parallel speciation. The Department of Biological Sciences Seminar Series, University of Southern Mississippi, MS, USA

The edaphic factor in the origin of species. The Coleman Symposium “Serpentine and serpentinites: mineralogy, petrology, geochemistry, ecology, geophysics, and tectonics.” Stanford University, CA, USA

Edaphic differentiation in the *Lasthenia californica* complex (Asteraceae):  
Building a case for parallel speciation. Ecology and Evolutionary Biology Seminar Series. University of California, Santa Cruz, CA, USA

Edaphic differentiation in the *Lasthenia californica* complex (Asteraceae):  
Building a case for parallel speciation. EcoEvo Seminar Series. Department of Biological Sciences, Stanford University, CA, USA

### **1997**

A study on the possible edaphic influence on population differentiation of *Lasthenia californica*. Department of Soil Science, The University of British Columbia, Vancouver, BC, Canada

### **Conference Presentations (presenter/s in bold):**

#### **2020**

**Pena, A.**, R. O’Dell, N. Rajakaruna. Investigating the evolutionary mechanisms driving speciation in the *Layia glandulosa* - *Layia discoidea* (Asteraceae) complex. Paper presented at the 2020 CSU Student Research Competition, California Polytechnic State University, San Luis Obispo, CA (Feb 22)

*Following abstracts were accepted for presentation at the 10<sup>th</sup> International Conference on Serpentine Ecology, however, the conference was postponed until 2021 due to pandemic*

**Devlin, M. C.**, Stephens, D., Negoita, L., and N. Rajakaruna. 2020. Impacts of Multiple Nutrient Element Enrichment on Native and Alien Plant Species in California’s Serpentine Grasslands. Oral presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

Fryday, A. M., Medeiros, I. D., **Siebert, S. J.**, Pope, N., and **N. Rajakaruna**. 2020. Lichen species discovery from ultramafic rocks in Mpumalanga, South Africa —

problems and consequences. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Mulroy, M.**, Dart, J., Fryday, A.M., and N. Rajakaruna. 2020. An investigation of lichen biotas of ultramafic and sandstone outcrops along a maritime gradient in Central California. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Mulroy, M.**, Dart, J., Fryday, A.M., and N. Rajakaruna. 2020. A review of the state of knowledge of lichens of ultramafic substrates in North America. Oral presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Stephens, D.**, K. Nelson, L. Negoita, and N. Rajakaruna. Evolutionary Ecology of Two Rare *Chorizanthe* (Polygonaceae) Species from central California, U.S.A. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Walsh, P.**, A. Ferrero, T. Cataldo, C. Knight, and N. Rajakaruna. Work in Progress: Competitive inhibition of Ni uptake by other divalent cations in California hyperaccumulator *Streptanthus polygaloides* (Brassicaceae). Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Rajakaruna, N.** Life on the Rocks: What plants on harsh substrate 'islands' can teach us about diversity, ecology, evolution, and conservation and restoration practices. Oral presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

Fernando, D. R., H. A. S. Weerasinghe, D. S. A. Wijesundera, G. W. A. R. Fernando, A. E. Fernando, M. C.M. Iqbal, C. H. Miranda, J. M. Gosse, Y. A. S. Samithri, and **N. Rajakaruna**. Plant-Soil Relations of Ultramafic Outcrops in Sri Lanka: A Reassessment. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Pena, A. J.**, O'Dell, R., Rajakaruna, N. 2020. Investigating the evolutionary mechanisms driving speciation in the *Layia glandulosa* - *L. discoidea* [Asteraceae] complex. Oral Presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21 - 30.

**Ferrero, A.** and N. Rajakaruna. Work in Progress: Isolation and characterization of Nickel-tolerant bacteria from disturbed and undisturbed serpentine outcrops at Irish Hills Open Space Preserve in San Luis Obispo, CA, U.S.A. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Raposo, A.**, L. Negoita, C. Howington, A. Pena, A. Ferrero, P. Walsh, D. Stephens and N. Rajakaruna. The influence of fire and fire retardant (Phos-chek®) on plant diversity and non-native species abundance in California's serpentine chaparral. Oral Presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21 - 30.

**Dawley, R.**, D. Stephens, and N. Rajakaruna. Work in Progress: The Use of California Native Plants in Chromite Mine Restoration. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

**Siebert, S. J.** and N. Rajakaruna. An overview of ultramafic geocology in sub-Saharan Africa and the way forward. Oral Presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21 - 30.

**Siebert, S. J.**, F. Siebert, S. Adhikari, R. Boneschans, N. Rajakaruna. Foliar elemental profiles of forbs on metal-rich pyroxenite-derived soils of Sekhukhuneland, South Africa. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

Venter, A., **S. J. Siebert**, A. Levanets, **N. Rajakaruna**, S. Barnard. Microbial diversity of biological soil crusts on serpentine soils in Mpumalanga, South Africa. Poster presentation at the 10th International Conference on Serpentine Ecology, Ekaterinburg, Russia. June 21-30.

## **2019**

**Pena, A.**, R. O'Dell, N. Rajakaruna. Investigating the evolutionary mechanisms driving speciation in the *Layia glandulosa* - *Layia discoidea* (Asteraceae) complex. Paper presented at the Biological Sciences Frost Summer Research Symposium, California Polytechnic State University, San Luis Obispo, CA (August 23)

**Stephens, D.**, K. Nelson, N. Rajakaruna. Ecological Genetics of Two Rare *Chorizanthe* (Polygonaceae) species. Paper presented at the Biological Sciences Frost Summer Research Symposium, California Polytechnic State University, San Luis Obispo, CA (August 23)

**Tran, K.**, P. Excoffier, N. Rajakaruna. Ecological adaptations of three California endemics to harsh environments. Paper presented at the Biological Sciences Frost Summer Research Symposium, California Polytechnic State University, San Luis Obispo, CA (August 23)

**Reinhart, M., R. Hunter**, C. Appel, N. Rajakaruna, D. Keil, J. Acosta, C. Stubler, E. Appel, E. Yao. Do Fire Retardants Have an Effect on Soil Chemistry and Plant Diversity? Poster to be presented at The College of Agriculture, Food and Environmental Sciences (CAFES) Student Research Symposium, Chumash Auditorium, California Polytechnic State University, San Luis Obispo, CA 93407 (May 12)

**Tran, K.**, Argueta, P. N., and N. Rajakaruna. Plants and People: Creating an Ethnobotany Garden in the yak?itʻutʻu Housing Complex Landscape. Poster to be presented at the College of Science and Mathematics 2019 Research Conference, California Polytechnic State University, San Luis Obispo, CA 93407 (May 16-17)

**Devlin, M.**, D. Stephens, A. Williams, M. Morris, S. Parr, L. Negoita, and N. Rajakaruna. Impacts of Multiple Nutrient Element Enrichment on Native and Non-Native Plant Species in Serpentine Soils. Poster to be presented at the College of Science and Mathematics 2019 Research Conference, California Polytechnic State University, San Luis Obispo, CA 93407 (May 16-17)

**Ferrero, A. P.** Walsh, T. Cataldo, and N. Rajakaruna. Work in Progress: Can drought conditions induce enhanced Nickel hyperaccumulation in *Streptanthus polygaloides* (Brassicaceae)? Poster to be presented at the College of Science and Mathematics 2019 Research Conference, California Polytechnic State University, San Luis Obispo, CA 93407 (May 16-17)

**Pena, A. J.**, S. Farrow, and N. Rajakaruna. Greenhouse Studies to Explore the Factors and Mechanisms Driving Speciation in the *Layia gladiosa-L. discoidea* Complex. Poster to be presented at the College of Science and Mathematics 2019 Research Conference, California Polytechnic State University, San Luis Obispo, CA 93407 (May 16-17)

**Raposo, Z.**, C. Howington, P. Walsh, A. Ferrero, L. Negoita, and N. Rajakaruna. Post-fire Plant Diversity across Serpentinite and Metavolcanic Substrates under the Influence of Fire Retardant. Poster to be presented at the College of Science and Mathematics 2019 Research Conference, California Polytechnic State University, San Luis Obispo, CA 93407 (May 16-17)

**Excoffier, P.**, R. E. O'Dell, and N. Rajakaruna. 2019. Seed longevity and climatic tolerance of San Joaquin Woollythreads (*Monolopia congdonii*; Asteraceae). Paper presented at the California Botanical Society's 27th Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Hunter, R.**, M. Reinhart, C. Appel, N. Rajakaruna, J. Acosta, and C. Stubler. 2019. Do fire retardants have an effect on soil chemistry and plant diversity? Poster presented at the California Botanical Society's 27th Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Devlin, M.**, D. Stephens, A. Williams, M. Morris, S. Parr, L. Negoita, and N. Rajakaruna. 2019. Impacts of Multiple Nutrient Element Enrichment on Native and Non-Native Plant Species in Serpentine Soils. Poster presented at the California Botanical Society's 27th Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Ferrero, A. P.** Walsh, T. Cataldo, and N. Rajakaruna. 2019. Work in Progress: Can drought conditions induce enhanced Nickel hyperaccumulation in *Streptanthus polygaloides* (Brassicaceae)? Poster presented at the California Botanical Society's 27th

Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Pena, A. J., S. Farrow, and N. Rajakaruna.** 2019. Greenhouse Studies to Explore the Factors and Mechanisms Driving Speciation in the *Layia gladiosa-L. discoidea* Complex. Poster presented at the California Botanical Society's 27th Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Raposo, Z., C. Howington, P. Walsh, A. Ferrero, L. Negoita, and N. Rajakaruna.** 2019. Post-fire Plant Diversity across Serpentinite and Metavolcanic Substrates under the Influence of Fire Retardant. Poster presented at the California Botanical Society's 27th Graduate Student Symposium, California Polytechnic State University, San Luis Obispo, CA 93407 (April 6)

**Williams, A., Devlin, M., and N. Rajakaruna.** Impacts of Nutrient Enrichment on Native and Non-Native Plants in Serpentine Soil. Poster presented at the STAR (STEM Teacher and Researcher) Program Conference, San Diego, CA. January 18.

## **2018**

**Ferrero, A., Walsh, P., and N. Rajakaruna.** Does Nickel Influence Drought Tolerance in *Streptanthus polygaloides* (Brassicaceae)? Paper presented at the Biological Sciences Frost Summer Research Symposium, California Polytechnic State University, San Luis Obispo, CA. August 20.

**Raposo, Z., Howington, C., and N. Rajakaruna.** A study of post-fire plant diversity across serpentinite and metavolcanic substrates on Poly Ridge, Cal Poly San Luis Obispo. Paper presented at the Biological Sciences Frost Summer Research Symposium, California Polytechnic State University, San Luis Obispo, CA. August 20.

**Farrow, S. and N. Rajakaruna.** Work in Progress: How do harsh soils contribute to speciation in two California endemic soil specialist plant species? Poster presented at College of Science and Mathematics Student Research Symposium, California Polytechnic State University, San Luis Obispo, CA. May 17-18.

**Ferrero, A., P. Walsh, and N. Rajakaruna.** Work in progress: Does Nickel Influence Drought Tolerance in *Streptanthus polygaloides* (Brassicaceae)? Poster presented at College of Science and Mathematics Student Research Symposium, California Polytechnic State University, San Luis Obispo, CA. May 17-18.

**Devlin, M., A. Williams, and N. Rajakaruna.** Work in progress: Impacts of Multiple Nutrient Element Enrichment on Native and Alien Plant Species in California's Serpentine Grasslands. Poster presented at College of Science and Mathematics Student Research Symposium, California Polytechnic State University, San Luis Obispo, CA. May 17-18.

**Bridgeman, M.**, S. Farrow, and N. Rajakaruna. Work in progress: the effects of herbivory on the capsaicin content in chili peppers. Poster presented at College of Science and Mathematics Student Research Symposium, California Polytechnic State University, San Luis Obispo, CA. May 17-18.

**Raposo, Z.**, C. Howington, P. Walsh, A. Ferrero, S. Whitlock, C. Bishop, M. Morris, C. Miranda, G. Orta, M. Mayer, and Dr. N. Rajakaruna. Fire and *Phos-Chek* (fire retardant) influence on plant and microbial diversity on distinct soils and slope aspects on Poly Canyon—San Luis Obispo, California. Poster presented at College of Science and Mathematics Student Research Symposium, California Polytechnic State University, San Luis Obispo, CA. May 17-18.

**Rajakaruna, N.** Serpentine geocology of eastern North America: Information gaps and future directions. Paper presented at the Northeast Natural History Conference, Burlington, VT. April 13-15.

**Burgess, J. L.**, W. B. Hilgartner, N. Rajakaruna. Forest expansion on serpentine grassland communities: the impact of atmospheric N and land use. Paper to be presented at the European Congress of Conservation Biology, Jyväskylä, Finland. June 12-15.

**von Wettberg, E. J. B.**, J. Wang, N. Rajakaruna, M. Kang. Plant Life on Harsh Soils: Contrasts in edaphic endemism and adaptation to Serpentine, Karst, Gypsum, Dolomite and other high pH soils, with examples from mid-Atlantic serpentines, *Primulina* species in China, and agro-ecosystems. Paper presented at the Northeast Natural History Conference, Burlington, VT. April 13-15.

## **2017**

**Gunarathne, V.**, N. Rajakaruna and M. Vithanage. Influence of water content, ligands and protons on metal release in heavy metal rich soils. Poster presented at the 10th Annual International Research Conference of General Sir John Kothalawala Defense University, Ratmalana, Sri Lanka. August 3-4.

Krell, N. T., Negoita, L., and **N. Rajakaruna**. Little evidence for local adaptation to soil type by *Achillea millefolium* and *Hypericum perforatum* from Deer Isles, Maine, USA. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Ntloko, B., S. J. Siebert, **N. Rajakaruna**, and P. Ayres. Establishing *Merxmuellera disticha* (Poaceae) on kimberlite tailings in the afro-alpine zone of Lesotho. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Jayalal, U., **N. Rajakaruna**, M.C.M. Iqbal, and S. Wijesundara. A preliminary survey of lichens associated with serpentinite rocks in Ussangoda, Sri Lanka. Poster presented at

the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Gunarathne, V., **N. Rajakaruna** and M. Vithanage. Influence of soil water content on metal release in serpentine soil. Paper presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

**Medeiros, I. D.** and N. Rajakaruna. Exceptions to the serpentine syndrome in eastern North America. Paper presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

**Rajakaruna, N.** Evolutionary Ecology of Serpentine Plants. Paper presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Venter, A., Siebert, S. J., **Rajakaruna, N.**, Barnard, S., Levanets, A., Ismail, A., and Allam, M. Biological crusts of ultramafic and non-ultramafic soils from the Barberton Greenstone Belt of South Africa. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

**Medeiros, I. D.**, A. M. Fryday, N. Pope, M. Coetzee, A. Frisby, S. J. Siebert, and N. Rajakaruna. Work in progress: Lichen substrate ecology of the Barberton Greenstone Belt, South Africa. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Siebert, S. J., P. Beukes, P. van Zyl, **N. Rajakaruna**, and F. Siebert. Chromium uptake by forbs: evidence from chromite outcrops in the Rustenburg Layered Suite, South Africa. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

Siebert S. J., **N. Rajakaruna**, N. Schutte, D. Komape, and Pieter Bester. A new nickel hyperaccumulator in the Asteraceae on serpentinite in the Barberton Greenstone Belt, South Africa. Poster presented at the 9th International Conference on Serpentine Ecology, Tirana + Pogradec, Albania. June 4-9.

**Rajakaruna, N.** Evolutionary Ecology of Serpentine Plants. Paper presented at the 64<sup>th</sup> Annual Meeting of the Ecological Society of Japan, Tokyo, Japan. March 14-18.

**Rajakaruna, N.** Serpentine Flora of Sri Lanka. Paper presented at the South and Central Asia Fulbright Conference, Kolkata, West Bengal, India (March 7)

**Erasmus, A.**, Venter, A. Levanets A., Siebert, S., Rajakaruna, N. Common terrestrial algae and cyanobacteria of Southern Africa. Poster presented 30th Congress of the Phycological Society of Southern Africa (PSSA2017), De Hoop Nature Reserve, Overburg, South Africa. Jan 12-17.

## **2016**

**Medeiros, I. D.** and N. Rajakaruna. 2016. Serpentinite Outcrops Do Not Support a (Particularly) Distinctive Biota in Western Massachusetts. Paper presented at the Botanical Society of America Meeting. Savannah, GA, USA. July 30-August 3.

**Medeiros, I. D.** and N. Rajakaruna. 2016. Serpentinite Outcrops in Massachusetts: A Botanical and Ecological Overview. Paper presented at the 2016 Northeast Natural History Conference. Springfield, Massachusetts, USA. April 22-24.

**Medeiros, I. D.** and N. Rajakaruna. 2016. Documenting the Rocks, Soils, and Biota of Serpentinite Outcrops in Western Massachusetts. Poster presented at the Geological Society of Maine 2016 Spring Meeting. University of Maine, Orono, ME, USA. April 1. *Honorable Mention.*

**Medeiros, I. D.** and N. Rajakaruna. 2016. Documenting the rocks, soils, and biota of serpentinite outcrops in western Massachusetts. Poster presented at the Northeastern Section - 51st Annual Meeting of the Geological Society of America. Albany, NY, USA. March 21-23.

## **2015**

**Samuel, E. M.**, Porter, D., Munson, T., and N. Rajakaruna. 2015. Mycoremediation in the face of anthropogenic environmental damage. Poster presented at the 2015 New England Botanical Club Conference. Northampton, Massachusetts, USA. June 5-7.

**Samuel, E. M.**, Porter, D. and N. Rajakaruna. 2015. Mycoremediation in the face of anthropogenic environmental damage. Poster presented at the 2015 Mycological Society of America Meeting. Edmonton, Alberta, Canada. July 25-29.

**Medeiros, I.D.** and N. Rajakaruna. 2015. Research in Progress: Documenting the Serpentine Biota of Massachusetts. Poster presented at the NEBC 120th Anniversary Research Conference. Smith College, Northampton, Massachusetts, USA. June 5-7

**Krell, N. T.**, Dawson, H. R., and N. Rajakaruna. 2015. Are yarrow and St. John's wort locally adapted to serpentine and granite outcrops on Deer Isles, ME? Poster presented at the NEBC 120th Anniversary Research Conference. Smith College, Northampton, Massachusetts, USA. June 5-7

**Excoffier, P.**, Olday, F. C., and N. Rajakaruna. 2015. Vernal Pool Bryophytes of Acadia National Park, Maine. Poster presented at the 2015 Northeast Natural History Conference. Springfield, Massachusetts, USA. April 18-20

**Medeiros, I.D.** and N. Rajakaruna. 2015. Research in Progress: Documenting the Serpentine Biota of Massachusetts. Poster presented at the 2015 Northeast Natural History Conference. Springfield, Massachusetts, USA. April 18-20

**Rajakaruna, N.** 2015. Serpentine geocology of eastern North America: Current knowledge and information gaps. Paper presented at the 2015 Northeast Natural History

Conference. Springfield, Massachusetts, USA. April 18-20

**Krell, N. T.**, Dawson, H. R., and N. Rajakaruna. 2015. Are yarrow and St. John's wort locally adapted to serpentine and granite outcrops on Deer Isles, Maine? Poster presented at the 2015 Northeast Natural History Conference. Springfield, Massachusetts, USA. April 18-20

Knudsen, K., A. Fryday, N. Rajakaruna, F. Olday, **R. E. O'Dell**, N. Pope, and S. Woolhouse. 2015. Lichens of the New Idria serpentine mass, San Benito County, California: a preliminary study of the lichen-substrate relationship. Poster presented at California Native Plant Society's 2015 Conservation Conference: Celebrating 50 years of Progress and Promise, San José, CA, USA. January 13-17.

## **2014**

**Hall, S.**, Anderson, J., Rajakaruna, N. and Cass, D. 2014. Watershed Landscape Ecology: Interdisciplinary and field-based learning in the Northeast Creek Watershed, Mount Desert Island, Maine. Poster presented at the AGU Fall Meeting, San Francisco, CA, USA. December 16.

**Medeiros, I. D.** and N. Rajakaruna. 2014. A Biodiverse Polluted Site in Coastal Maine: Opportunity and Dilemma. Poster presented at XX International Conference of the Society for Human Ecology (Ecological Responsibility and Human Imagination: Saving the Past~Shaping the Future), College of the Atlantic, Bar Harbor, ME, USA. October 22-25.

**Barton, J.**, N. Rajakaruna, and B. Connery. 2014. Lichens of selected vernal pools in Acadia National Park, Maine. Poster presented at the Acadia National Park Science Symposium, Schoodic Education Research Center, Winter Harbor, Maine, USA. April 16.

**Iqbal, M.C.M** and N. Rajakaruna. 2014. Serpentine Ecology in Sri Lanka: current knowledge, information gaps, and future directions. Paper presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

**Siebert, S. J.**, N. Rajakaruna, and P Beukes. 2014. Chromium uptake by plants: evidence from naturally occurring chromitite outcrops of the Rustenburg Layered Suite, South Africa. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

**Medeiros, I. D.** Fryday, A. M. and N. Rajakaruna. 2014. Diversity and Conservation of Lichens at Two Metal-Enriched Sites in Coastal Maine, USA. Paper presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

Wijethunga, W.M.K.T., K.B. Wijesekara, R. Weerasooriya, and **N. Rajakaruna**. 2014. Chromium phytoextraction potential of *Brassica juncea* (L.) Czern. (Indian Mustard)

genotypes from Sri Lanka. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

Burgess, J. L., Szlavecz, K., **Rajakaruna, N.**, Lev, S. and C. M. Swan. 2014. Serpentine Forest Succession and Mesophication in Response to Conifer Encroachment. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

Venter, A., Levanets, A., **Siebert, S.**, and N. Rajakaruna. 2014. Soil algae and cyanoprockaryotes of mafic and ultramafic substrates in Mpumalanga, South Africa. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

Herath, I., Wickremasinghe, S., **Rajakaruna, N.**, Nawaratne, A. and M. Vithanage. 2014. The addition of biochar to serpentine soils reduces metal ion release and phytotoxicity in tomato plants. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

Chaturanga, P. K. D., **M. C.M. Iqbal**, S. K. A. T. Dharmasena, and N. Rajakaruna 2014. Nickel tolerance of and uptake by serpentine and non-serpentine ecotypes of *Fimbristylis ovata* (Cyperaceae) from Sri Lanka. Poster presented at the 8<sup>th</sup> International Conference on Serpentine Ecology, Sabah, Malaysia. June 9-13.

**Herath, I.**, Wickremasinghe, S., Rajakaruna, N., Nawaratne, A. and M. Vithanage. 2014. Beneficial effects of biochar application on metal ion release and phytotoxicity reduction in serpentine soil. Paper presented at Peradeniya University International Research Sessions, University of Peradeniya, Sri Lanka. July 4-5.

### **2013**

**Georgaklis, E.**, Rajakaruna, N. 2013. Environmental Influences on Chemical Variation and Growth of Four Asian Botanicals. Poster presented at Northeast Undergraduate Research and Development Symposium, University of New England, Biddeford, ME, March 2.

### **2012**

Hurter B, Van Dyk R, Siebert SJ, Coetsee M, **Rajakaruna N.** 2012. Nickel accumulation by *Berkheya* and *Senecio* species (Afrikaans Title: Akkumulering van nikkels deur *Berkheya*- en *Senecio*-spesies). Poster presented at the Annual Conference of the Biology Section, South African Academy for Science and Arts, North-West University, Potchefstroom, South Africa, October 5.

**Jumper, K.** Porter, D. and Rajakaruna, N. 2012. Diversity and Heavy Metal Uptake of Macrofungi found on Serpentine and Granite Outcrops on the Deer Isles, Maine, USA. Poster presented at the Conference of the Mycological Society of America, Yale University, New Haven, Connecticut, USA, July 15-19.

**Jumper, K.**, Porter, D., Rajakaruna, N., and Stern, M. 2012. Biodiversity and Heavy Metal Uptake of Macrofungi found on Serpentine and Granite Outcrops on the Deer Isles, Maine, USA. Poster presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Barton, J.**, Olday, F., and N. Rajakaruna. 2012. A Study of Lichens of Vernal Pools of Acadia National Park, Maine, U.S.A. Poster presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Negoita, L.**, Dickinson, M., Rajakaruna, N., Mittelhauser, G., and Pope, N. 2012. Herbivory and Soil Features: A Case Study of Coastal Maine Island Plant Communities. Paper presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Stern, M.** and N. Rajakaruna. 2012. Plant Soil Relations of the Rockland/Thomaston Limestone Quarry. Poster presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Rajakaruna, N.** Harris, T. B., S. J. Nelson, and P. D. Vaux. 2012. Stressors and Threats to the Flora of Acadia National Park, Maine: Current Knowledge, Information Gaps, and Future Directions. Poster presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Rajakaruna, N.** 2012. The Influence of Geology and Substrate on Plant Life in Northeastern North America. Paper presented at the Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19.

**Yost, J. M.**, Barry, T., Kay, K. M., and N. Rajakaruna. 2012. Edaphic Adaptations and Speciation in California Goldfields. Paper presented at the California Native Plant Society Conservation Conference, San Diego, CA, USA, January 10-14.

**Woolhouse, S.** and Rajakaruna, N. 2012. Ecology and Reproductive Biology of two serpentine endemic *Monardella* species from the Northern Sierra Nevada. Paper presented at the California Native Plant Society Conservation Conference, San Diego, CA, USA, January 10-14.

## **2011**

**Yost, J.**, Barry, T., K. Kay, and N. Rajakaruna. 2011. Local adaptation and speciation in cryptic species of *Lasthenia* (Asteraceae). Poster presented at the Botany 2011, St. Louis, MO, USA, July 9-13.

**Stark, H. Z.** and N. Rajakaruna. 2011. Plants and people of New England: our contemporary reliance on traditional knowledge. Paper presented at the Northeast

Natural History Conference, Albany, NY, April 6-9, 2011.

**M. Mansfield** and N. Rajakaruna. 2011. Plant diversity and soil-tissue relations of Callahan Mine, Brooksville, Maine. Poster presented at the Northeast Natural History Conference, Albany, NY, April 6-9, 2011.

**J. E. Gall, Kirven-Dows, L. A., C. Graham** and N. Rajakaruna. 2011. Diversity and metal content of insects on adjacent serpentine and granite outcrops on the Deer Isles, ME, USA. Poster presented at the Northeast Natural History Conference, Albany, NY, April 6-9, 2011.

Yost, J., Barry, T., K. Kay, and **N. Rajakaruna**. 2011. Fine Scale local adaptation maintained by selection across subtle edaphic gradients. Poster presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

Pope, N., Fong, M., Boyd, R., and **N. Rajakaruna**. 2011. Variation in metal accumulation among wild morphotypes of *Streptanthus polygaloides*, a Californian Ni hyperaccumulator. Poster presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

**J. E. Gall, Kirven-Dows, L. A., C. Graham** and N. Rajakaruna. 2011. Diversity and metal content of insects on adjacent serpentine and granite outcrops on the Deer Isles, ME, USA. Poster presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

Knudsen, K., Fryday, A., **Rajakaruna, N.**, Olday, F. C., O'Dell, R. E., and S. Woolhouse. 2011. Lichens of the New Idria Serpentine Mass, San Benito County, California, USA: A Preliminary Study of the Lichen-Substrate Relationship. Poster presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

**Woolhouse, S.** and N. Rajakaruna. 2011. Variation in the rare bodenvag *Lewisia cantelovii* J. T. Howell (Montiaceae): Local adaptation or phenotypic plasticity? Paper presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

**Bieger, A.,** Rajakaruna, N. and S. Harrison. 2011. Ecotypic adaptation to soil-type and micro-climate of three common chaparral shrubs of California. Paper presented at the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 12-16.

**Woolhouse, S.** and N. Rajakaruna. 2011. Ecology and Reproductive Biology of two serpentine endemic *Monardella* species from Plumas National Forest. Poster presented at the Northern California Botanist Symposium, California State University, Chico, CA, January 10-11.

## **2010**

**Celis, J.**, N. Rajakaruna, and M. C. Vasey. 2010. Ecological speciation in the *Lasthenia minor*-*L. maritima* complex (Asteraceae). Poster presented at the California Botanical Society Graduate Student Symposium, San José State University in San José, CA February 13.

**Woolhouse, S.** and N. Rajakaruna. 2010. Biology and ecology of three rare serpentine plants from Plumas National Forest in the Northern Sierra Nevada, California. Paper presented at the California Botanical Society Graduate Student Symposium, San José State University in San José, CA, February 13.

**Fong, M. G.**, R. S. Boyd, and N. Rajakaruna. 2010. Are morphotypes of *Streptanthus polygaloides* (Brassicaceae) distinct genotypes worthy of taxonomic subdivision and conservation? Poster presented at the California Botanical Society Graduate Student Symposium, San José State University in San José, CA February 13.

**Barry, T.**, Rajakaruna, N., and K. M. Kay. 2010. Local adaptation and seasonal distribution of edaphic races of *Lasthenia californica*-*L. gracilis* complex in two distinct regions of a serpentine outcrop. Poster presented at the California Botanical Society Graduate Student Symposium, San José State University in San José, CA February 13.

## **2009**

**Davoodian, N.** and N. Rajakaruna. Arbuscular mycorrhizal colonization of St. John's Wort (*Hypericum perforatum*) on adjacent serpentine and granite outcrops. Poster presented at Botany and Mycology 2009, Snowbird, Utah, July 25-29.

**Rajakaruna, N.** and N. Jenson. Endemism and rarity in California's flora: are most endemic and rare species edaphic specialists? Poster presented at California Native Plant Society 2009 Conservation Conference: Strategies and Solutions. Sacramento Convention Center and Sheraton Grand Hotel, Sacramento, CA, January 17-19.

**Fong, M. G.**, R. S. Boyd, and N. Rajakaruna. Are morphotypes of *Streptanthus polygaloides* (Brassicaceae) distinct genotypes worthy of taxonomic subdivision and conservation? Poster presented at California Native Plant Society 2009 Conservation Conference: Strategies and Solutions. Sacramento Convention Center and Sheraton Grand Hotel, Sacramento, CA, January 17-19.

## **2008**

**Rajakaruna, N.**, T. B. Harris, and E. B. Alexander. 2008. Serpentine Outcrops of Eastern North America: Model Habitats for Geocological Studies. Paper presented at Northeast Natural History Conference X, Empire State Plaza in Albany, NY, April 17 – 18

**Ciccotelli, B.** and N. Rajakaruna. 2008. A Study to Characterize the Flora of Vernal Pools, Acadia National Park. Poster presented at the Northeast Natural History Conference X, Empire State Plaza in Albany, NY, April 17 - 18

Rajakaruna, N., **T. B. Harris**, and E. B. Alexander. 2008. Geocology of serpentine in eastern North America: Critical information gaps and future directions. Paper presented at the Sixth International Conference on Serpentine Ecology, College of the Atlantic, Bar Harbor, ME, June 16 - 23

Davoodian, N., **N. Rajakaruna**, and D. D. Ackerly. 2008. Evolution of serpentine endemism in fire-prone habitats: a preliminary model from California's chaparral. Poster presented at the Sixth International Conference on Serpentine Ecology, College of the Atlantic, Bar Harbor, ME, June 16 - 23

**Briscoe, L. R.**, F. C. Olday, and N. Rajakaruna. 2008. A floristic survey of bryophytes on a peridotite and a granitic outcrop in Deer Isle, Maine, USA. Poster presented at the Sixth International Conference on Serpentine Ecology, College of the Atlantic, Bar Harbor, ME, June 16 - 23

**Harris, T. B.** and N. Rajakaruna. 2008. *Adiantum viridimontanum*, *Aspidotis densa*, and *Minuartia marcescens*, additional serpentine endemics from eastern North America? Poster presented at the Sixth International Conference on Serpentine Ecology, College of the Atlantic, Bar Harbor, ME, June 16 - 23

Pope, N. and **N. Rajakaruna**. 2008. Vascular plants of serpentine and granite in the Deer Isle complex, Maine, USA. Poster presented at the Sixth International Conference on Serpentine Ecology, College of the Atlantic, Bar Harbor, ME, June 16 – 23

## **2007**

**Harris, T. B.**, Dannenberg, E., Pope, N., Briscoe, L. Thrall, A., Olday, F. C., and N. Rajakaruna. 2007. Plant life on metal-enriched soils in Maine: involving undergraduate students in ecological research. Poster presented at Maine Space Grant Consortium Annual Meeting, The University of Southern Maine, Portland, ME, April 20

**Thrall, A.**, Pope, N., Dannenberg, E., Tompkins, K., Pavicevic, P., Harris, T. B. and N. Rajakaruna. 2007. Plant-Soil Relations on Serpentine Outcrops of Deer Isle, Maine in Northeastern United States. Poster presented at Maine Space Grant Consortium Annual Meeting, The University of Southern Maine, Portland, ME, April 20

## **2006**

**Rajakaruna, N.** and D. D. Ackerly. Understanding Community Assembly on Serpentine: A Study of Functional Traits Relating to Serpentine Tolerance. Paper presented at the V International Conference on Serpentine Ecology, Siena, Italy May 09-13

Harris, T. B., Olday, F. C., and **N. Rajakaruna**. Saxicolous and Terricolous Lichens of a peridotite outcrop in the Northeastern United States: A baseline study exploring the

lichen-substrate relationship. Poster presented at the V International Conference on Serpentine Ecology, Siena, Italy May 09-13

Thrall, A., Pope, N., Dannenberg, E., Tompkins, K., Pavicevic, P., Harris, T. B. and **N. Rajakaruna**. Plant-Soil Relations on Serpentine Outcrops of Deer Isle, Maine in Northeastern United States. Poster presented at the V International Conference on Serpentine Ecology, Siena, Italy May 09-13

**Iqbal, M. C. M.**, Kulasekara, L., Rajakaruna, N. and S. S. Iqbal. Plant-Soil Relations of a Serpentine Site in the Southern Coast of Sri Lanka. Paper presented at the V International Conference on Serpentine Ecology, Siena, Italy May 09-13

**Harris, T. B.**, Olday, F. C., and N. Rajakaruna. Lichens of a Peridotite Outcrop in Eastern North America: An Investigation into the Lichen-Serpentine Relation. Paper presented at the Botany 2006 Meeting, Chico, California, USA July 28 - August 03

### **2003**

**Whitton, J.** and N. Rajakaruna. The ecology of plant speciation. Paper presented at the Plant Speciation Conference, Plant Canada Meeting, St. Xavier University, Antigonish, Nova Scotia, Canada June 26-28

**Rajakaruna, N.** and J. Whitton. Parallel Evolution in the *Lasthenia californica* complex (Asteraceae). Poster presented at the Plant Speciation Conference, Plant Canada Meeting, St. Xavier University, Antigonish, Nova Scotia, Canada. June 26-28

Rajakaruna, N. Edaphic differentiation in *Lasthenia* (Asteraceae): A model for the study of parallel speciation. Paper presented at the Fourth International Conference on Serpentine Ecology, Jardin Botanico Nacional, Havana, Cuba. April 21-26

Rajakaruna, N. Serpentine plants of Sri Lanka: A preliminary study. Poster presented at the Fourth International Conference on Serpentine Ecology, Jardin Botanico Nacional, Havana, Cuba. April 21-26

Rajakaruna, N. Edaphic differentiation in the *Lasthenia californica* complex (Asteraceae: Heliantheae): a case for parallel speciation. Paper presented at the California Botanical Society Graduate Student Meeting, University of California, San Diego, CA. February 15

### **2002**

**Rajakaruna, N.** and J. Whitton. Building a case for the parallel evolution of edaphic races in the *Lasthenia californica* complex (Asteraceae: Heliantheae). Paper presented at the symposium on Molecular Genetics and Ecology of Plant Adaptation, Botanical Garden and Centre for Plant Research, University of British Columbia, Canada. December 11-13

**Whitton, J.** and N. Rajakaruna. Adaptation Underground: Incorporating edaphic influences in plant evolutionary studies. Paper presented at the symposium on Molecular Genetics and Ecology of Plant Adaptation, Botanical Garden and Centre for Plant Research, University of British Columbia, Canada. December 11-13

Rajakaruna, N. Edaphic differentiation in *Lasthenia*: Building a case for the parallel evolution of edaphic races in the *L. californica* complex. Talk presented in the Department of Botany Seminar Series, University of British Columbia. November 05

**Whitton, J.** and N. Rajakaruna. Adaptive divergence in response to water stress in *Lasthenia californica* (Asteraceae). Poster presented at the Annual Meeting of The Society for the Study of Evolution. Urbana-Champaign, IL, USA. June 28-July 02

### **1999**

**Rajakaruna, N.** and B. A. Bohm. The edaphic factor and patterns of variation in *Lasthenia californica* (Asteraceae). Paper presented at the Third International Conference on Serpentine Ecology. Kruger National Park, South Africa. March 22-28

### **1998**

Rajakaruna, N. Are edaphic factors influencing incipient speciation in *Lasthenia californica* (Asteraceae)? Paper presented at the Annual Meeting of The Society for the Study of Evolution. Vancouver, B.C., Canada. June 20-24

### **1997**

Rajakaruna, N. Getting the dirt on *Lasthenia*. Presentation at the Department of Botany Seminar Series, University of British Columbia

## **Relevant Professional Services:**

### **a. Manuscripts Reviewed (2004-Current):**

Areas: plant-soil relations, evolutionary ecology, serpentine ecology, geocology, heavy metals and ecosystem health

*American Journal of Botany* (8 papers); *Annals of Botany* (12 papers); *International Journal of Plant Sciences* (5 papers); *Madrono: A West American Journal of Botany* (6 papers); *New Phytologist* (7 papers); *Journal of Ecology* (3 papers); *Ecology* (1 paper); *Annual Review of Ecology, Evolution, Systematics* (1 paper); *Oecologia* (3 papers); *Molecular Ecology* (8 papers); *Functional Ecology* (1 paper); *Belgian Journal of Botany* (1 paper); *Environmental Pollution* (4 papers); *Evolutionary Ecology* (1 paper); *Fresenius Environmental Bulletin* (1 paper); *Plant Ecology* (4 papers); *Northeastern Naturalist* (3 papers); *Estuaries and Coasts* (1 paper); *Biological Journal of the Linnean Society* (3 papers); *The Journal of the Torrey Botanical Society* (3 papers);

*Ceylon Journal of Science (Biological Sciences)* (2 papers); *Plant Biosystems* (1 paper); *Journal of Geology and Mining Research* (1 paper); *Botany* (formerly *Canadian Journal of Botany*; 2 papers); *International Journal of Phytoremediation* (2 papers); *Central European Journal of Biology* (3 papers); *African Journal of Biotechnology* (1 paper); *Journal of Medicinal Plant Research* (5 papers); *Plant and Soil* (19 papers); *Research in Pharmaceutical Biotechnology* (1 paper); *Biotropica* (2 papers); *Journal of Geography and Regional Planning* (1 paper); *Ecology Letters* (1 paper); *BMC Evolutionary Biology* (3 papers); *Journal of Hydrology* (1 paper); *African Journal of Agricultural Research* (2 papers); *Journal of Plant Nutrition and Soil Science* (3 papers); *Plant Ecology and Diversity* (12 papers); *South African Journal of Botany* (4 papers); *Rhodora* (1 paper); *Plant Biology* (1 paper); *Web Ecology* (2 papers); *PLOS One* (2 papers); *Plant Ecology and Evolution* (1 paper); *Revue d'Ecologie* (1 paper); *Frontiers in Plant Physiology* (2 papers); *Scientific World Journal: Botany* (2 papers); *Catena* (1 paper); *ISRN Botany* (4 papers); *American Journal of Ecology and Ecosystems* (1 paper); *Plant Science* (1 paper); *Journal of Biogeography* (2 papers); *Human Ecology Review* (1 paper); *Journal of Plant Ecology* (2 papers); *Forest Ecology and Management* (2 papers); *International Scholarly Research Notices* (2 papers); *The American Naturalist* (1 paper); *Ecological Engineering* (1 paper); *Australian Journal of Botany* (15 papers); *Proceedings of the Royal Society B: Biological Sciences* (1 paper); *Environmental Science and Technology* (1 paper); *Diversity* (1 paper); *Ecotoxicology and Environmental Safety* (6 papers); *International Journal of Molecular Sciences* (2 papers); *Geoderma* (2 papers); *Science of the Total Environment* (7 papers); *Journal of Food and Drug Analysis* (1 paper); *Environmental Entomology* (1 paper); *Arid Land Research and Management* (1 paper); *Environment, Development, and Sustainability* (2 papers); *Environmental Monitoring and Assessment* (2 papers); *Science Asia* (1 paper); *International Journal of Environmental Research and Public Health* (2 papers); *Ruhuna Journal of Science* (6 papers); *Environments* (2 papers); *Sustainability* (1 paper); *Current Analytical Chemistry* (1 paper); *Egyptian Journal of Aquatic Research* (2 papers); *Limnology* (4 papers); *Ecological Research* (2 papers); *Applied Soil Ecology* (3 papers); *Botanical Studies* (1 paper); *Haseltonia* (1 paper); *Journal of Geochemical Exploration* (1 paper); *Brazilian Journal of Microbiology* (1 paper); *Food Webs* (1 paper); *Trends in Ecology & Evolution* (1 paper); *Bothalia* (1 paper); *Castanea* (1 paper); *Euro-Mediterranean Journal for Environmental Integration* (1 paper); *Frontiers in Plant Science* (1 manuscript)

#### b. Books/Book Chapters/Proposed Publications Reviewed:

Cheplick, G. P. 2015. *Approaches to Plant Evolutionary Ecology*. Oxford University Press (reviewed chapter 6: Abiotic agents of selection)

Lang, M., ed. 2013. *Brassica: Characterization, Functional Genomics and Health Benefits*, Nova Science Publishers, Inc., NY, USA. (reviewed chapter on Health Benefits of *Brassica* Species).

Mittelhauser, G.H., L.L. Gregory, S.C. Rooney, J.E. Weber, M. Lovit, and D. Kausen. 2010. *Field Guide to the Plants of Acadia National Park*. University of Maine Press, Orono, ME (reviewed glossary for botanical accuracy).

Schlising, R. A. and D. G. Alexander. 2011. *Vernal Pool Landscapes*. Proceedings of the 2010 conference on “Vernal Pool Conservation: Research, Progress, and Problems. Is Recovery Possible?” Studies from the Herbarium, California State University, Chico, CA.

E. B. Alexander. *Soils in Natural Landscapes*. Proposed Publication via UC Press, Berkeley, CA. Subsequently published by CRC Press 2013.

c. Grants/Research/Researcher Reviewed (2004-Current):

External Examiner, M.Sc. Theses on the 'conservation ecology of an endangered sandstone outcrop plant species,' 'herbaceous plant diversity responses to various treatments of fire and herbivory in sodic patches of a semi-arid riparian ecosystem,' 'forb and soil microbe diversity of ultramafic tailings facilities,' 'conservation ecology of an endangered succulent of sandstone outcrops in Mpumalanga, South Africa,' and 'Redefining the Griqualand West Centre of Endemism': Faculty of Natural Sciences, *North-West University*, Potchefstroom Campus, South Africa; Ph.D. Dissertation on Phytoremediation: *University of the Punjab*, Lahore, Pakistan; M.Phil. Thesis on plant-soil relations on serpentine soils: *University of Peradeniya*, Sri Lanka; Ph.D. Dissertation on serpentine soil-plant relations: *The University of Queensland*, Australia; Ph.D. Thesis on biotransfer of heavy metals: Department of Botany, *Aligarh Muslim University*, India; undergraduate honor's thesis on manganese hyperaccumulation, Faculty of Natural Sciences, *North-West University*, Potchefstroom Campus, South Africa; Ph.D. Dissertation on Herbarium Science: *Aligarh Muslim University*, India; Ph.D. Dissertation on the geobotany of mountain ecosystems of Griqualand West, South Africa, Faculty of Natural Sciences, *North-West University*, Potchefstroom Campus, South Africa; Ph.D. Dissertation on plant-soil (heavy metal) relations: *Aligarh Muslim University*, India; 2 Ph.D. Dissertations on plant-mycorrhizae-soil (heavy metal) relations: *Aligarh Muslim University*, India

National Science Foundation of Sri Lanka, Competitive Research Grant Scheme (area: phytoremediation)

United States-Israel Binational Science Foundation, Jerusalem, Israel (area: heavy metals and ecosystem health)

Charles University Grants Agency, Prague: research proposal on ecological genomics of serpentine adaptation for a doctoral student dissertation at the Department of Botany, Faculty of Science, Charles University, Prague, Czech Republic (2019, 2020)

Living Earth Scientific Evaluation Committee, the French National Research Agency (ANR): research proposal review (plant speciation)

NASA EPSCoR Research Infrastructure Development (RID) proposal:

## Geochemistry

National Geographic Society: Areas: plant-soil relations (3 proposals); other (1 proposal)

Retention, Tenure and Promotion Evaluations: Stanford University; Humboldt State University; University of Sharjah, UAE; North-West University, South Africa; University of Maine, Orono; University of Tabuk, Saudi Arabia

United States Civilian Research and Development Foundation: Cooperative Grants Program. Area: plant-soil relations

United States Civilian Research and Development Foundation: Cooperative Grants Program. Area: phytoremediation

National Science Foundation. Area: Plant evolutionary ecology, geochemistry, plants & climate change (6 proposals)

National Research Foundation, International Science Cooperation Grants, South Africa. Area: plant-soil relations

National Research Foundation, South Africa. Area: Plant-soil-insect relations, geobotany (2 researcher reviews)

North-West University, Potchefstroom Campus, South Africa. Area: Plant Ecology, Ecology (2 researcher reviews)

USGS Maine Water Resources Institute Program Grants. Area: Geochemistry of serpentinites

### d. Editorial Boards:

- Associate Editor, *Plant Ecology and Diversity* – subject area: evolution and systematics (July 2020-current)
- Associate Editor, *AoB PLANTS* (April 2020-current)
- Editorial Board Member, *Ecological Research*, Ecological Society of Japan (May 2018-current)
- Advisory Board Member, *Open University of Sri Lanka (OUSL) Journal* (Feb 2017-current)
- Editorial Board Member (Biological Sciences), *Ruhuna Journal of Science* (Jan 2017-current)
- Guest Associate Editor, *AoB PLANTS* (1 manuscript on plant-soil relations; March 2020)
- Guest Editor, *Ecological Research* (Springer), Special Issue on the Proceedings of the 9th International Conference on Serpentine Ecology (2017-2018)
- Editorial Board Member, International Scholarly Research Network Journals [*ISRN Botany*; *International Scholarly Research Notices*] (2012-2017)

- Guest Editor, *Northeastern Naturalist* (2008-2009); *Plant Ecology and Diversity* (2011-2012); *Australian Journal of Botany* (2014-2015)

e. Other (2004-Current):

- Board Member, College of the Atlantic Alumni Association, Bar Harbor, ME (June-August 2020)
- ScholarX Mentor (mentoring support to a selected pool of high Potential undergraduate students based in Sri Lanka; <https://sefglobal.org/scholarx/2020/>; 2020)
- Member-at-Large, Council of the California Botanical Society (May 2020-)
- Member of the group reviewing plant status for the California Native Plant Society (CNPS) Inventory and the California Natural Diversity Database (CNDDDB) in the Central West Review Group (May 2019)
- Member, Ph.D. Thesis Committees: University of California, Santa Cruz; MSc Thesis Committees: San Jose State University, California, California Polytechnic State University, San Luis Obispo
- Member, Selection Committee, The Joan K. Hunt and Rachel M. Hunt Summer Scholarship in Field Botany, The Garden Club of America (2019)
- Member of the Scientific Advisory and Organizing Committees for the 10th International Conference on Serpentine Ecology, Yekaterinburg, Russia (June 2020)
- Committee Member, Fulbright U.S. Scholar Discipline Peer Review – Conservation Biology (2018, 2020)
- Member, Board of Directors, California Native Plant Society, San Luis Obispo Chapter, CA (2018-)
- Co-Chair, Geoecology: Life on Harsh Substrates, Northeast Natural History Conference, Burlington, VT (April 13-15 2018)
- Co-Chair, Session on Plant Science, CNPS Conservation Conference, Los Angeles, CA (Feb 1-3 2018)
- Co-Chair, Session on Ecology and Evolution, 9th International Conference on Serpentine Ecology, Tirana, Albania, June 5-7 2017
- Moderator, Session on Science and Technology, South and Central Asia Fulbright Conference, Kolkata, West Bengal, India (March 6-8)
- Member of the Scientific Advisory Committee for the 9th International Conference on Serpentine Ecology, Tirana, Albania, June 2017

- Senior Personnel/Advisor, National Science Foundation (2015) grant “Collaborative Proposal GEOPATH-EXTRA: Field based professional development for ESTEM undergraduates.” PIs: Dr. Calla Schmidt (University of San Francisco), Rebecca Walker (Mount San Antonio Community College), Dr. Sarah Hall (College of the Atlantic), and Dr. Carol Ormand (Science Education Research Center). **\$340,733**
- Council Member, New England Botanical Club (2015-)
- Organizer and Moderator, Session on ‘Landforms and Vegetation,’ Northeast Natural History Conference, Sheraton Springfield Hotel, Springfield, MA, USA, April 18-20 2015
- Working Group Member, Characterizing landscape genomics and reconstructing pathways to plant ecological specialization and speciation, project funded by the John Wesley Powell Center for Analysis and Synthesis, US Geological Survey, 2015-2016
- Co-Chair, Session on Physiology and Evolution, 8th International Conference on Serpentine Ecology, Sabah, Malaysia, June 2014
- Member of the Scientific Advisory Committee for the 8th International Conference on Serpentine Ecology, Sabah, Malaysia, June 2014
- Organizer and Moderator, Session on ‘Plant Ecology,’ Northeast Natural History Conference, OnCenter Convention Center, Syracuse, New York, USA, April 15-19 2012
- Member, Board of Directors, International Serpentine Ecology Society (<http://ultramafic-ecology.org/>), (2011-)
- Organizer and Moderator, Session on ‘Botany,’ Northeast Natural History Conference, New York State Museum, Albany, New York, USA, April 6-11 2011
- Member of the Scientific Advisory Committee for the 7th International Conference on Serpentine Ecology, Coimbra, Portugal, June 2011
- Faculty Advisor, California Botanical Society Graduate Student Meeting, San Jose State University, CA, USA (Feb 13 2010)
- Faculty Member, Sustainable Campus Environment and Food Systems Coalition (SCEFS), San José State University, CA, USA (2009-2010)
- Faculty Advisor, Beta Beta Beta National Biological Honor Society, San José State University, San José, CA, USA (Spring 2009-August 2010)
- Advisory Board, Veggielution Urban Farming Project, San José, CA, USA

- (www.veggielution.org) (2009-2010)
- Recording Secretary, California Botanical Society, Berkeley, CA (2009-2010)
  - Organizer and student intern supervisor, Department of Biological Science, Botany Garden Restoration Project, San José State University, San José, CA, USA (Dec 2008-August 2010)
  - Chief-Organizer, 6th International Conference on Serpentine Ecology, Bar Harbor, Maine, USA, June 16-23 2008
  - Member of the Scientific Advisory Committee for the 6th International Conference on Serpentine Ecology, Bar Harbor, Maine, USA June 16-23 2008
  - Organizer and Moderator, Plant Ecology/Geobotany Session, Northeast Natural History Conference X, New York State Museum, Albany, New York, USA, April 17-18 2008
  - Member of the Scientific Committee for the 5th International Conference on Serpentine Ecology, Siena, Italy, May 09-13 2006
  - Member of Technical Assistance Grant (TAG) Steering Committee to facilitate community participation in decision making regarding the Callahan Mine Superfund Site, Brooksville, Maine
  - Conduct workshops on rainforest ecology, bog ecology, and edible botany for high school students at Mount Desert Island High School, Bar Harbor, Maine; lead botanical field trips for summer field studies and other outdoor education programs and for prospective and admitted students of College of the Atlantic, Maine.

**Professional Memberships (1998-Current):**

New England Botanical Club (current); California Botanical Society (current); California Native Plant Society (current); American Society of Plant Taxonomists; Botanical Society of America (current); The Society for Herbarium Curators, Inc.(current); Sigma xi, The Scientific Research Society; Pacific Regional Society of Soil Science; Canadian Botanical Association; Canadian Society of Soil Science; Central Coast Biological Society (current)