

SVEN BUERKI

Assistant Professor, Department of Biological Sciences at Boise State University. My research interests are in the fields of genomics, evolutionary plant biology and bioinformatics.

My lab applies a genome-to-phenome approach to investigate mechanisms of drought adaptations in plants and focuses on forecasting the effect of climate change on natural ecosystems. We are currently focusing our efforts on the sagebrush steppe of western North America by using *Artemisia tridentata* (or sagebrush) as model organism. This research is integrated into the EPSCoR NSF GEM3 project.

Since the Fall of 2020, I am acting as co-lead for the [GEM3 Sagebrush Mechanism](#) component of the project. I am leading a team aiming at sequencing, phasing and annotating the 9.5 Gbp diploid genome of sagebrush. More details on the Sagebrush Genome Project can be found [here](#).



EDUCATION

2009
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2005

- **PhD thesis**

Department of Evolutionary Botany
 University of Neuchâtel, Switzerland

- Worldwide biogeography and systematics of Sapindaceae: a molecular and taxonomic survey combining large data sets and novel methodological approaches

2005
|
2000

- **Master of Science in Behaviour, Ecology and Evolution (with high distinction)**

Department of Evolutionary Botany
 University of Neuchâtel, Switzerland

- Biogeography and systematics of the genus *Gouania* (Rhamnaceae) in the western Indian Ocean

RESEARCH EXPERIENCE

present
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2017

- **Assistant Professor**

Department of Biological Sciences
 Boise State University, ID

2020
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2019

- **Research associate**

Missouri Botanical Garden
 Saint-Louis, MO

2017
|
2016

- **Senior Curator in Charge, Ferns and General herbarium I & II**

Department of Life Sciences
 Natural History Museum, London, UK

2016
|
2015

- **Researcher**

Department of Life Sciences
 Natural History Museum, London, UK

CONTACT

svenbuerki@boisestate.edu
[svenbuerki](#)
[ORCID 0000-0002-8299-6539](#)
 +1 208-426-1146

SKILLS

Programming: R, RMarkdown, LaTeX, bash, HTML, Git, GitHub
R package: [G2PMineR](#)
Laboratory: Next-generation sequencing (WGS, RNAseq), Sanger, PCR, tissue culture
Other: GxE experiments, Reproducible Science, Taxonomy

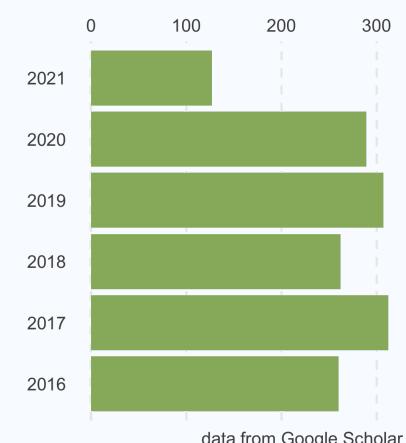
- 2014 | 2012
● **Plant Evolutionary Biologist**
Jodrell Laboratory 📍 Royal Botanic Gardens, Kew, UK
- 2012 | 2010
● **Marie-Curie postdoctoral fellow**
Jodrell Laboratory 📍 Royal Botanic Gardens, Kew, UK
• Funded by the Marie-Curie Intra-European program
- 2010 | 2009
● **SNSF postdoctoral fellow**
Real Jardin Botanico 📍 Madrid, Spain
• Funded by the Swiss National Science Foundation
- 2005 | 2003
● **Research Assistant**
Department of Evolutionary Botany 📍 University of Neuchâtel, Switzerland

≡ PUBLICATIONS IN PEER-REVIEWED JOURNALS

- 2021
● **#105 An updated infra-familial classification of Sapindaceae based on targeted enrichment data**
American Journal of Botany. In press.
• Buerki S, Callmander MW, Acevedo-Rodriguez P, Lowry II PP, Munzinger J, Bailey P, Maurin O, Brewer GE, Epitawalage N, Baker WJ, Forest F.
• (IF2019: 3.038)
- **#104 Growth and fecundity of big sagebrush: does genome duplication afford dual strategies for niche differentiation?**
American Journal of Botany. In press.
• Richardson B, Germino M, Warwell M, Buerki S.
• (IF2019: 3.038)
- **#103 Harnessing large-scale biodiversity data to infer the current range of *Vanilla planifolia* (Orchidaceae)**
Botanical Journal of the Linnean Society. In press.
• Ellestad P, Forest F, Novak S, Serpe M, Buerki S.
• <https://doi.org/10.1093/botlinnean/boab005> (IF2019: 2.076)
- **#102 Otto Warburg and his contributions to the screw pine family (Pandanaceae)**
Willdenowia. In press.
• Callmander MW, Vogt R, Donatelli A, Buerki S, Neppi C.
• <https://doi.org/10.3372/wi.51.51101> (IF2019: 0.887)
- **#101 G2PMineR: A genome to phenome literature review approach**
Genes, 12(2): 293
• Wojahn JMA, Galla SJ, Melton AE, Buerki S.
• <https://doi.org/10.3390/genes12020293> (IF2019: 3.759)
• https://buerkilabteam.github.io/G2PMineR_Web/

PUBLICATION METRICS

- N. publications = 105 (29 as first and 33 as senior author)
- N. publications @ BSU = 25 (6 with graduate students: #103, 101, 99, 95, 92, 89)
- Citation = 2388
- H-index = 28
- I10-index = 62



- #100 Neotypification of *Pandanus odorifer*, the correct name for *P. odoratissimus* (Pandanaceae)
Taxon. 70: 182-184
• Callmander MW, Gallaher T, McNeill J, Beentje H, Nadaf AB, Middleton D, Buerki S.
• <https://doi.org/10.1002/tax.12406> (IF2019: 2.817)
- 2020 ● #99 Development of an in vitro method of propagation for *Artemisia tridentata* subsp. *tridentata* to support genome sequencing and genotype-by-environment research
Plants, 9 (12): 1717.
• Barron R, Martinez P, Serpe M, Buerki S.
• <https://doi.org/10.3390/plants9121717> (IF2019: 2.762)
• https://svenbuerki.github.io/Sagebrush_rooting_in_vitro_prop/
- #98 Two new genera of Sapindaceae (Cupanieae) from the southern Pacific: *Lepidocupania* and *Neoarytera*
Candollea, 75: 269-284
• Buerki S, Munzinger J, PP Lowry II, Callmander MW.
• <https://doi.org/10.15553/c2020v752a9> (IF2018: 0.561)
- #97 New combinations for two species in the genus *Synima* (Sapindaceae, Cupanieae) from Queensland (Australia)
Candollea, 75: 241-244
• Callmander MW, Ford AJ, Buerki S.
• <https://doi.org/10.15553/c2020v752a7> (IF2018: 0.561)
- #96 (2772) Proposal to conserve the name *Pandanus ornatus* Kurz (*Benstonea ornata*) against *P. ornatus* W. Bull with a conserved type (Pandanaceae)
Taxon. 69: 115-116.
• Callmander MW, Buerki S, Gereau RE.
• <https://doi.org/10.1002/tax.12337> (IF2019: 2.817)
- #95 Evolutionary origins of three rare Alpine-endemic species of Lomatium (Apiaceae) in the Wallowa and Elkhorn mountains of Northeastern Oregon
International Journal of Plant Sciences, 181: 748-765.
• Ottenlips MS, Feist MAE, Mansfield DH, Plunkett GM, Buerki S, Smith JF.
• <https://doi.org/10.1086/709373> (IF2018: 1.425)
- #94 New Guinea has the world's richest island flora
Nature, 584: 579-583.
• Camara-Leret R, ..., Buerki S, ..., van Welzen PC.
• <https://doi.org/10.1038/s41586-020-2549-5> (IF2018: 43.070)

- #93 Novelties from the Northern Mountains Complex of Madagascar V: A new threatened *Pandanus* (Pandanaceae) from the Kalobinono massif
Candollea, 75: 99-105.
 • Callmander MW, Razakamalala R, Luino I, Lala Andriamarisoa R, Buerki S.
<https://doi.org/10.15553/c2020v751a10> (IF2018: 0.561)
 - #92 Intraspecific variation in surface water uptake in a perennial desert shrub
Functional Ecology, 34: 1170-1179.
 • Zaiats A, Brynne L, Germino M, Serpe M, Richardson B, Buerki S, Caughlin T.
<https://doi.org/10.1111/1365-2435.13546> (IF2018: 5.03)
 - #91 A new micro-endemic species of *Alectryon* (Sapindaceae) from Koghis forest, New Caledonia
Systematic Botany, 45: 156-162.
 • Munzinger J, Lowry II PP, Callmander MW, Buerki S.
<https://doi.org/10.1600/036364420X15801369352414> (IF2018: 1.259)
 - #90 The ghost fruits of Madagascar: Identifying dysfunctional seed dispersal in Madagascar's endemic flora
Biological Conservation, 242: 108438.
 • Albert-Daviaud A, Buerki S, Onjalalaina GE, Perillo S, Rabarijaona R, Razafindratsima OH, Sato H, Valenta K, Wright PC, Stuppy W.
<https://doi.org/10.1016/j.biocon.2020.108438> (IF2018: 4.451)
 - #89 Influences of a prolific gut fungus (*Zancudomyces culisetae*) on larval and adult mosquito (*Aedes aegypti*) – Associated Microbiota
Applied and Environmental Microbiology, 80: e02334-19.
 • Frankel-Bricker J, Buerki S, Feris K, White MM.
<https://doi.org/10.1128/AEM.02334-19> (IF2018: 4.077)
 • Published with graduate student.
- 2019
- #88 Biogeography and ecological diversification of a mayfly clade in New Guinea
Frontiers in Ecology and Evolution, 7: 233.
 • Cozzarolo C-S, Balke M, Buerki S, Arrigo N, Pitteloud C, Gueuning M, Salamin N, Sartori M, Alvarez N.
<https://doi.org/10.3389/fevo.2019.00233> (IF2018: 2.686)
 - #87 The role of Antarctica in biogeographical reconstruction: A point of view
International Journal of Plant Sciences, 180: 63-71.
 • de la Estrella M, Buerki S, Vasconcelos T, Lucas EJ, Forest F.
<https://doi.org/10.1086/700581> (IF2016: 1.748)

2018

- #86 Sheding new light on the origin and spread of the brinjal eggplant (*Solanum melongena* L.; Solanaceae) and its wild relatives
American Journal of Botany, 105: 1175-1187.
 • Aubriot X, Knapp S, Syfert M, Poczai P, Buerki S.
<https://doi.org/10.1002/ajb2.1133> (IF2017: 2.788)
- #85 A new species and a new synonym in *Pandanus* subg. Rykia (Pandanaceae) in Thailand
Candollea, 73: 115-120.
 • Callmander MW, Buerki S.
<https://doi.org/10.15553/c2018v731a12> (IF2016: 0.462)
- #84 Gymnosperms on the EDGE
Scientific Reports, 8: 6053.
 • Forest F, Baloch E, Brummitt NA, Bachman S, Moat J, Ickert-Bond S, Hollingsworth PM, Liston A, Little DP, Mathews S, Rai H, Rydin C, Stevenson DW, Thomas P, Buerki S.
<https://doi.org/10.1038/s41598-018-24365-4> (IF2016: 4.259)

2017

- #83 Museum collections are the key to studying lemurs' diet: gastrointestinal morphology of *Cheirogaleus major*
Systematics and Biodiversity, 16: 483-487.
 • Buerki S, Portela Miguez R.
<https://doi.org/10.1080/14772000.2018.1430708> (IF2016: 2.127)
- #82 Elevation in tropical sky islands as the common driver in structuring genes and communities of freshwater organisms
Scientific Reports, 7: 16089.
 • Gueuning M, Suchan T, Rutschmann S, Gattoliat J-L, Jamsari A, Kamil Al, Pitteloud C, Buerki S, Balke M, Sartori M, Alvarez N.
<https://doi.org/10.1038/s41598-017-16069-y> (IF2016: 4.259)
- #81 *Alectryon vitiensis*: A new species of Sapindaceae endemic to Fiji
Novon, 25: 4210-429.
 • Buerki S, Lowry II PP, Munzinger J, Tuiwawa M, Naikatini A, Callmander MW.
<https://doi.org/10.3417/D-16-00006> (IF2016: 0.512)
- #80 Untangling the reticulate history of species complexes and horticultural breeds in *Abelia* (Caprifoliaceae)
Annals of Botany, 120: 257-269.
 • Landrein S, Buerki S, Wang H-F, Clarkson J.
<https://doi.org/10.1093/aob/mcw279> (IF2016: 4.041)

- #79 Navigating the ‘broad freeway’: ocean currents and inland isolation drive diversification in the *Pandanus tectorius* complex (Pandanaceae)
Journal of Biogeography, 44: 1598-1611.
 • Gallaher T, Callmander MW, Buerki S, Setsuko S, Keeley SC.
 • <https://doi.org/10.1111/jbi.12933> (IF2015: 3.997)
- #78 How old are island endemics?
Biological Journal of the Linnean Society, 121: 469-474.
 • Pillon Y, Buerki S.
 • <https://doi.org/10.1093/biolinnean/blx005> (IF2015: 2.288)
- #77 Large-scale phylogeny of *Amorphophallus* (Araceae) derived from nuclear and plastid sequences reveals new subgeneric delineation
Botanical Journal of the Linnean Society, 184: 32-45.
 • Claudel C, Buerki S, Chatrou LW, Antonelli A, Alvarez N, Hetterscheid W.
 • <https://doi.org/10.1093/botlinnean/box013> (IF2015: 2.523)
- #76 Climatic niche evolution is faster in sympatric than allopatric lineages of the butterfly genus *Pyrgus*
Proceedings of the Royal Society, B, 284: 20170208.
 • Pitteloud C, Arrigo N, Suchan T, Mastretta-Yanes A, Vila R, Dinca V, Hernández-Roldán J, Brockmann E, Chittaro Y, Kleckova I, Fumagalli L, Buerki S¶, Pellicer L¶, Alvarez N¶.
 • <https://doi.org/10.1098/rspb.2017.0208> (IF2015: 4.82)
 • ¶These authors supervised this work together and are considered as joint last authors.
- #75 How many genera of vascular plants are endemic to New Caledonia? A critical review based on phylogenetic evidence
Botanical Journal of the Linnean Society, 183: 177-198.
 • Pillon Y, Barrabé L, Buerki S.
 • <https://doi.org/10.1093/botlinnean/bow001> (IF2015: 2.523)
 • REVIEW
- #74 Biogeographical patterns of *Myrcia* s.l. (Myrtaceae) and their correlation with geological and climatic history in the Neotropics
Molecular Phylogenetics and Evolution, 108: 34-48.
 • Santos M, Lucas E, Sano PT, Buerki S, Staggemeier VG, Forest F.
 • <https://doi.org/10.1016/jympev.2017.01.012> (IF2015: 3.792)
- #73 Two new threatened species of *Benstonea* Callm. & Buerki (Pandanaceae) from Sabah (Borneo, Malaysia)
Candollea, 71: 257-263.
 • Callmander MW, Buerki S.
 • <https://doi.org/10.15553/c2016v712a10> (IF2015: 0.386)

2016

- #72 Biogeography and evolution of the screw-pine genus *Benstonea* Callm. & Buerki (Pandanaceae)
Candollea, 71: 217-229.
 - Buerki S, Gallaher T, Booth T, Brewer G, Forest F, Callmander MW.
 - <https://doi.org/10.15553/c2016v712a8> (IF2015: 0.386)
- #71 *Pleurostylia serrulata* and two allied new species from Africa are actually members of the New World *Crossopetalum* (Celastraceae)
Systematic Botany, 41: 851-864.
 - Darbyshire I, Simmons MP, Cappa JJ, Breteler FJ, Buerki S.
 - <https://doi.org/10.1600/036364416X693955> (IF2015: 1.098)
- #70 Molecular phylogenetics and molecular clock dating of Sapindales based on plastid *rbcL*, *atpB* and *trnL-trnF* DNA sequences
Taxon, 65: 1019-1036.
 - Muellner-Riehl AN, Weeks A, Clayton JW, Buerki S, Nauheimer L, Chiang Y-C, Cody S, Pell SK.
 - <https://doi.org/10.12705/655.5> (IF2015: 2.9)
- #69 Lifting the curtain on our knowledge of New Guinean *Benstonea* (Pandanaceae)
Phytotaxa, 275: 168-174.
 - Callmander MW, Keim AP, Heatbun CD, Homot P, Buerki S.
 - <https://doi.org/10.11646/phytotaxa.275.2.8> (IF2015: 1.318)
- #68 A taxonomic revision of the endemic New Caledonian genus *Storthocalyx* Baill. (Sapindaceae)
Systematic Botany, 41: 387-400.
 - Munzinger J, Lowry II PP, Buerki S, Callmander MW.
 - <https://doi.org/10.1600/036364416X691902> (IF2014: 1.229)
- #67 Generic delimitations, biogeography and evolution in the tribe Coleeae (Bignoniaceae), endemic to Madagascar and the smaller islands of the western Indian Ocean
Molecular Phylogenetics and Evolution, 96: 178-186.
 - Callmander MW, Phillipson PB, Plunkett GM, Edwards MB, Buerki S.
 - <https://doi.org/10.1016/j.yjmpev.2015.11.016> (IF2014: 3.916)
- #66 Collections-based research in the genomic era
Biological Journal of the Linnean Society, 117: 5-10.
 - Buerki S, Baker WJ.
 - <https://doi.org/10.1111/bij.12721> (IF2014: 2.264)

2015

- #65 Uncovering cryptic parasitoid diversity in *Horismenus* (Chalcidoidea, Eulophidae)
PLoS ONE, 10(9): e0136063.
 • Kenyon SG¹, Buerki S¹, Hansson C, Alvarez N, Benrey B.
 • <https://doi.org/10.1371/journal.pone.0136063> (IF2014: 3.234)
 • These authors have contributed equally and are considered joint first authors.
- #64 A macro-ecological perspective on CAM photosynthesis evolution in Afro-Madagascan drylands: Eulophiinae orchids as a case study
New Phytologist, 208(2): 469-481
 • Bone RE, Smith JAC, Arrigo N, Buerki S.
 • <https://doi.org/10.1111/nph.13572> (IF2014: 7.672)
- #63 The genus *Pandanus* Parkinson (Pandanaceae) on Halmahera Island (Moluccas, Indonesia) with descriptions of three new species and a key to the species on the island
Candollea, 70: 179-195.
 • Callmander MW, Keim AP, Buerki S, Phillipson PB.
 • <https://doi.org/10.15553/c2015v702a2> (IF2014: 0.468)
- #62 Phylogenetics of Eulophiinae (Orchidaceae: Epidendroideae): evolutionary patterns and implications for generic delimitation
Botanical Journal of the Linnean Society, 179: 43-56.
 • Bone RE, Cribb PJ, Buerki S.
 • <https://doi.org/10.1111/boj.12299> (IF2014: 2.53)
- #61 Novitates neocaledonicae II. *Acropogon moratianus* Callm., Munzinger & Lowry, sp. nov. (Malvaceae, Sterculieae): a rare and threatened new species from New Caledonia
Adansonia, sér. 3, 37(1): 131-137.
 • Callmander MW, Munzinger J, Buerki S, Lowry II PP.
 • <https://doi.org/10.5252/a2015n1a8> (IF2014: 0.500)
- #60 Evolutionary history and leaf succulence as explanations for medicinal use in aloes and the global popularity of *Aloe vera*
BMC Evolutionary Biology, 15: 29.
 • Grace OM, Buerki S, Symonds MRE, Forest F, van Wyk AE, Smith GF, Klopper RR, Bjorå CS, Neale S, Demissew S, Simmonds MSJ, Rønsted N.
 • <https://doi.org/10.1186/s12862-015-0291-7> (IF2013: 3.41)
- #59 Incorporating evolutionary history into conservation planning in biodiversity hotspots
Philosophical Transactions of the Royal Society, serie B, 370: 20140014.
 • Buerki S, Callmander MW, Bachman S, Moat J, Labat J.-N, Forest F.
 • <https://doi.org/10.1098/rstb.2014.0014> (IF2014: 7.055)

- #58 A long distance dispersal hypothesis for the Pandanaceae and the origins of the *Pandanus tectorius* complex
Molecular Phylogenetics and Evolution, 83: 20-32.
 • Gallaher T, Callmander MW, Buerki S, Keeley SC.
 • <https://doi.org/10.1016/j.ympev.2014.11.002> (IF2013: 4.018)
- 2014 ● #57 The transfer of *Eulophia beravensis* Rchb.f. to *Oeceoclades* Lindl., a genus with its centre of diversity in Madagascar (Eulophiinae, Orchidaceae)
Candollea, 69: 201-205.
 • Bone RE, Sanz E, Buerki S.
 • (IF2013: 0.440)
- #56 Rediscovery of the genus *Tsingya* Capuron (Sapindaceae) and its phylogenetic position
Candollea, 69: 195-200.
 • Buerki S, Doherty R, Gautier L, Callmander MW.
 • (IF2013: 0.440)
- #55 Notes on *Benstonea* (Pandanaceae) from the islands of Halmahera, New Guinea and Sulawesi
Phytotaxa, 175: 161-165.
 • Callmander MW, Buerki S, AP Keim, Phillipson PB.
 • <https://doi.org/10.11646/phytotaxa.175.3.6> (IF2012: 1.295)
- #54 Taxonomic novelties in Neotropical Chrysobalanaceae: towards a monophyletic *Couepia*
Phytotaxa, 172 : 176-200.
 • Sothers CA, Prance GT, Buerki S, De Kok R, Chase MW.
 • <https://doi.org/10.11646/phytotaxa.172.3.2> (IF2012: 1.295)
- #53 Timing and tempo of evolutionary diversification in a biodiversity hotspot: Primulaceae on Indian Ocean islands
Journal of Biogeography, 41: 810-822.
 • Strijk JS, Bone R, Thébaud C, Buerki S, Fritsch PW, Hodkinson TR, Strasberg D.
 • <https://doi.org/10.1111/jbi.12259> (IF2012: 4.863)
- #52 Proto-South-East Asia as a trigger of early angiosperms diversification
Botanical Journal of the Linnean Society, Special Issue: Ecology and evolution on oceanic islands: broadening the botanical perspective, 174: 326-333.
 • Buerki S, Forest F, Alvarez N.
 • <https://doi.org/10.1111/boj.12129> (IF2012: 2.589)

- #51 Mediterranean origin and Miocene–Holocene Old World diversification of meadow fescues and ryegrasses (*Festuca* subgenus *Schedonorus* and *Lolium*)
Journal of Biogeography, 41: 600-614.
 • Inda LA, Sanmartin I, Buerki S, Catalan P.
 • <https://doi.org/10.1111/jbi.12211> (IF2012: 4.863)
- #50 Pollinator shifts as trigger of speciation in painted petal irises (*Lapeirousia*: Iridaceae)
Annals of Botany, Special issue on Pollinator-driven speciation, 113: 357-371.
 • Forest F, Goldblatt P, Manning JC, Baker D, Colville J, Devey DS, Jose S, Kaye M, Buerki S.
 • <https://doi.org/10.1093/aob/mct248>
- #49 New Caledonian lineages of *Psychotria* (Rubiaceae) reveal different evolutionary histories and the largest documented plant radiation for the archipelago
Molecular Phylogenetics and Evolution, 71: 15-35.
 • Barrabé L, Maggia L, Pillon Y, Rigault F, Mouly A, Davis AP, Buerki S.
 • <https://doi.org/10.1016/j.ymp.2013.10.020> (5-Year IF: 4.107)
- 2013 ● #48 A taxonomic revision of the endemic New Caledonian genus *Podonephelium* Baillon (Sapindaceae)
Systematic Botany, 38: 1105-1124.
 • Munzinger J, Lowry II PP, Callmander MW, Buerki S.
 • <https://doi.org/10.1600/036364413X674814> (5-Year IF: 1.743)
- #47 Evolutionary history of the Afro-Madagascan *Ixora* species (Rubiaceae): species diversification and distribution of key morphological traits inferred from dated molecular phylogenetic trees
Annals of Botany, 112: 1723-1742.
 • Tosh J, Dessein S, Buerki S, Groeninckx I, Mouly A, Bremer B, Smets EF, De Block P.
 • <https://doi.org/10.1093/aob/mct222> (5-Year IF: 4.051)
- #46 A snapshot of extinction in action: The decline and imminent demise of the endemic *Eligmocarpus* Capuron (Caesalpinoideae, Leguminosae) serves as an example of the fragility of Madagascan ecosystem
South African Journal of Botany, Special Issue: Towards a New Classification System for Legumes, 89: 273-280.
 • Devey DS, Forest F, Rakotonasolo F, Ma P, Dentinger BTM, Buerki S.
 • <https://doi.org/10.1016/j.sajb.2013.06.013> (5-Year IF: 1.495)

- #45 Corrections to *Phytotaxa* 112: Update on the systematics of *Benstonea* (Pandanaceae)
Phytotaxa, 125: 59-60.
 - Callmander MW, Buerki S.
 - <https://doi.org/10.11646/phytotaxa.125.1.9> (IF2012: 1.295)
- #44 A new species of Pandanaceae from New Caledonia: *Pandanus letocartiorum* Callm. & Buerki with notes on the taxonomic identities of *P. decumbens* (Brongn.) Solms and *P. reticulatus* Vieill.
Candollea, 68: 51-60.
 - Callmander MW, Buerki S.
 - (IF2012: 0.370)
- #43 The abrupt climate change at the Eocene–Oligocene boundary and the emergence of Southeast Asia triggered the spread of sapindaceous lineages
Annals of Botany, 112: 151-160.
 - Buerki S, Forest F, Stadler T, Alvarez N.
 - <https://doi.org/10.1093/aob/mct106> (5-Year IF: 4.051)
- #42 Tiptoe through the tulips – cultural history, molecular phylogenetics and classification of *Tulipa* (Liliaceae)
Botanical Journal of the Linnean Society, 172: 280-328.
 - Christenhusz MJM, Govaerts R, David JC, Hall T, Borland K, Roberts PS, Tuomisto A, Buerki S, Chase MW, Fay MF.
 - <https://doi.org/10.1111/boj.12061> (IF2012: 2.589)
- #41 Update on the systematics of *Benstonea* (Pandanaceae): When a visionary taxonomist foresees phylogenetic relationships
Phytotaxa, 112: 57-60.
 - Callmander MW, Booth T, Beentje H, Buerki S.
 - <https://doi.org/10.11646/phytotaxa.112.2.4> (IF2012: 1.295)
- #40 Why are thistles everywhere: Reconstructing the evolution and biogeographic history of tribe Cardueae (Compositae)
American Journal of Botany, 100: 867-882.
 - Barres L, Sanmartín I, Anderson C-L, Susanna A, Buerki S, Galbany-Casals M, Vilatersana R.
 - <https://doi.org/10.3732/ajb.1200058> (5-Year IF: 3.106)
- #39 Global legume diversity assessments: concepts, key indicators, and strategies
Taxon, 62: 249-266.
 - Yahara T, Javadi F, Onoda Y, de Queiroz LP, Faith DP, Prado DP, Akasaka M, Kadoya T, Ishihama F, Davies S, Slik JWF, Yi T, Ma K, Bin C, Darnaedi D, Pennington RT, Tuda M, Shimada M, Ito M, Egan AN, Buerki S, Raes N, Kajita T, Mimura M, Tachida H, Iwasa Y, Smith GF, Victor JE, Nkonki T.
 - <https://doi.org/10.12705/622.12> (IF2012: 2.782)

- #38 A new species of *Trigonachras* (Sapindaceae) endemic from Sabah, Malaysia (Borneo)
Phytotaxa, 88: 19-24.
· Buerki S, Davidson C, Pereira JT, Callmander MW.
· <https://doi.org/10.11646/phytotaxa.88.2.1> (IF2012: 1.295)
- #37 Spatio-temporal history of the disjunct Tecophilaeaceae family: a tale involving the colonization of three Mediterranean-type climates
Annals of Botany, 111: 361-373.
· Buerki S, Manning JC, Forest F.
· <https://doi.org/10.1093/aob/mcs286> (5-Year IF: 4.051)
- #36 Spatio-temporal history of the endemic genera of Madagascar
Botanical Journal of the Linnean Society, 171: 304-329 (INVITED REVIEW).
· Buerki S, Devey DS, Callmander MW, Phillipson PB, Forest F.
· <https://doi.org/10.1111/boj.12008> (IF2012: 2.589)
- #35 *Benstonea* Callm. & Buerki (Pandanaceae): characterization, circumscription, and distribution of a new genus of screw-pines, with a synopsis of accepted species
Candollea, 67: 323-345.
· Callmander MW, Lowry II PP, Forest F, Devey DS, Beentje H, Buerki S.
· (IF2012: 0.370)
- 2012 ● #34 Delimitation of the genus *Margaritopsis* (Rubiaceae) in the Asian, Australasian and Pacific region, based on molecular phylogenetic inference and morphology
Taxon, 61: 1251-1258.
· Barrabé L, Buerki S, Mouly A, Davis AP, Munzinger J, Maggia L.
· (IF2012: 2.782)
- #33 Straightening out the screw-pines: a first step in understanding phylogenetic relationships within Pandanaceae
Taxon, 61: 1010-1020.
· Buerki S, Callmander MW, Devey DS, Chappell L, Gallaher T, Munzinger J, Haevermans T, Forest F.
· (IF2012: 2.782)
- #32 Molecular relationships in the sub-family Psychodinae (Diptera: Psychodidae)
Zoologica Scripta, 41: 489-498.
· Espindola A, Buerki S, Jacquier A, Jezek J, Alvarez N.
· <https://doi.org/10.1111/j.1463-6409.2012.00544.x> (5-Year IF: 3.013)

- #31 Climate oscillations and species interactions: large scale congruence but regional differences in the phylogeographic structures of an alpine plant and monophagous insect
Journal of Biogeography, 39: 1487-1498.
 • Borer M¹, Arrigo N¹, Buerki S¹, Naisbit R, Alvarez N.
 • <https://doi.org/10.1111/j.1365-2699.2012.02703.x> (IF2012: 4.863)
 • ¹These authors have contributed equally and are considered joint first authors.
- #30 Contrasting biogeographical patterns in two Mediterranean-type ecosystem
PLoS ONE, 7(6): e39377.
 • Buerki S, Jose S, Yadav SR, Goldblatt P, Manning JC, Forest F.
 • <https://doi.org/10.1371/journal.pone.0039377> (5-Year IF: 4.244)
- #29 Phylogenetic inference of *Badula* Juss. (Primulaceae) - a rare and threatened genus endemic to the Mascarene archipelago
Botanical Journal of the Linnean Society, 169: 284-296.
 • Bone R, Strijk JS, Fritsch PW, Buerki S, Strasberg D, Thébaud C, Hodkinson TR.
 • <https://doi.org/10.1111/j.1095-8339.2012.01221.x> (IF2012: 2.589)
- #28 Ecological and historical drivers of diversification in the fly genus *Chiastocheta* Pokorný
Molecular Phylogenetics and Evolution, 63: 466-474.
 • Espindola A, Buerki S, Alvarez N.
 • <https://doi.org/10.1016/jympev.2012.01.018> (5-Year IF: 4.107)
- #27 Phylogenetic inference of New Caledonian lineages of Sapindaceae: molecular evidence requires a reassessment of generic circumscriptions
Taxon, 61: 109-119.
 • Buerki S, Forest F, Callmander MW, Lowry II PP, Devey DS, Munzinger J.
 • (IF2012: 2.782)
- #26 Speciation and evolution in the *Gagea reticulata* species complex (Tulipeae; Liliaceae)
Molecular Phylogenetics and Evolution, 62: 624-639.
 • Zarrei M, Wilkin P, Ingrouille MJ, Leitch IJ, Buerki S, Fay MF, Chase MW.
 • <https://doi.org/10.1016/jympev.2011.11.003> (5-Year IF: 4.107)
- #25 *Gouania tiliifolia*: the correct name for *Gouania scandens* (Rhamnaceae)
Novon, 21: 481-482.
 • Phillipson PB, Callmander MW, Buerki S.
 • (IF2012: 0.295)

2011

- #24 Does a shift in host plants trigger the speciation in the Alpine leaf beetle *Oreina speciosissima* (Coleoptera, Chrysomelidae)?
BMC Evolutionary Biology, 11: 310.
 - Borer M, van Noort T, Arrigo N, Buerki S, Alvarez N.
 - <https://doi.org/10.1186/1471-2148-11-310> (5-Year IF: 4.432)
- #23 Nomenclatural changes in the endemic genus *Tina* (Sapindaceae) in Madagascar
Candollea, 66: 124-126.
 - Callmander MW, Buerki S, Phillipson PB.
 - (IF2012: 0.370)
- #22 Discordances between phylogenetic and morphological patterns of alpine leaf beetles attest to intricate history of lineages in postglacial Europe
Molecular Ecology, 20: 2442-2463.
 - Triponez Y¶, Buerki S¶, Borer M, Naisbit R, Rahier M, Alvarez N.
 - <https://doi.org/10.1111/j.1365-294X.2011.05096.x> (5-Year IF: 6.792)
 - ¶These authors have contributed equally and are considered joint first authors.
- #21 A taxonomic revision of *Gouania* (Rhamnaceae) in Madagascar and the other islands of the western Indian Ocean (the Comoros and Mascarene islands, and the Seychelles)
Annals of the Missouri Botanical Garden, 98: 157-195.
 - Buerki S, Phillipson PB, Callmander, MW.
 - <https://doi.org/10.3417/2007075> (IF2012: 2.000)
- #20 How to kill two genera with one tree: clarifying generic circumscriptions within an endemic Malagasy clade of Sapindaceae
Botanical Journal of the Linnean Society, 165: 223-234.
 - Buerki S, Lowry II PP, Andriambololona S, Phillipson PB, Vary L, Callmander, MW.
 - <https://doi.org/10.1111/j.1095-8339.2010.01106.x> (IF2012: 2.589)
- #19 An evaluation of new parsimony-based versus parametric inference methods in biogeography: a case study using the globally distributed plant family Sapindaceae
Journal of Biogeography, 38: 531-550.
 - Buerki S, Forest F, Alvarez N, Nylander JAA, Arrigo N, Sanmartín I.
 - <https://doi.org/10.1111/j.1365-2699.2010.02432.x> (IF2012: 4.863)
- #18 Phylogenetic relationships in *Baldellia* (Alismataceae) inferred from AFLP markers, nuclear and chloroplast DNA sequences
Molecular Phylogenetics and Evolution, 58: 33-42.
 - Arrigo N, Buerki S, Béguin A, Guadagnuolo R., Kozlowski G.
 - <https://doi.org/10.1016/j.ympev.2010.11.009> (5-Year IF: 4.107)

- #17 Comparative performance of supertree algorithms in large data sets using the soapberry family (Sapindaceae) as a case study
Systematic Biology, 60: 32-44.
 • Buerki S, Forest F, Salamin N, Alvarez N.
<https://doi.org/10.1093/sysbio/syq057> (5-Year IF: 13.316)
- 2010 ● #16 The phylogeography of an alpine leaf beetle: divergence within *Oreina elongata* spans several ice ages
Molecular Phylogenetics and Evolution, 57: 703-709.
 • Borer M, Alvarez N, Buerki S, Margraf N, Rahier M, Naisbit R.
<https://doi.org/10.1016/j.ympev.2010.08.017> (5-Year IF: 4.107)
- #15 The genus *Brackenridgea* A. Gray (Ochnaceae)
Candollea, 62 (2): 374-375.
 • Callmander MW, Buerki S, Phillipson PB.
 • (IF2012: 0.370)
- #14 Phylogeny and circumscription of Sapindaceae revisited: molecular sequence data, morphology and biogeography support recognition of a new family, Xanthoceraceae
Plant Ecology and Evolution, 143: 148-161.
 • Buerki S, Lowry II PP, Alvarez N, Razafimandimbison SG, Küpfer P, Callmander MW.
<https://doi.org/10.5091/plecevo.2010.437> (IF2012: 1.192)
- #13 Origin and expansion of the allotetraploid *Aegilops geniculata* Roth, a wild relative of wheat
New Phytologist, 187: 1170-1180.
 • Arrigo N, Felber F, Parisod C, Buerki S, Alvarez N, David J, Guadagnuolo R.
 • (5-Year IF: 6.888)
- #12 New insights into the phylogenetics and biogeography of *Arum* (Araceae): unravelling its evolutionary history
Botanical Journal of the Linnean Society, 163: 14-32.
 • Espindola A, Buerki S, Bedalov M, Küpfer P, Alvarez N.
<https://doi.org/10.1111/j.1095-8339.2010.01049.x> (IF2012: 2.589)
- #11 Molecular phylogenetics and morphological evidence support recognition of *Gereaua*, a new endemic genus of Sapindaceae from Madagascar
Systematic Botany, 35: 172-180.
 • Buerki S, Phillipson PB, Lowry II PP, Callmander MW.
<https://doi.org/10.1600/036364410790862669> (5-Year IF: 1.743)

2009

- #10 A synoptic revision of the genus *Lepisanthes* Blume (Sapindaceae) in Madagascar
Adansonia, 31: 301-309.
 · Buerki S, Callmander MW, Lowry II PP, Phillipson PB.
 · <https://doi.org/10.5252/a2009n2a6> (IF2012: 0.639)
- #9 New species from two unknown and highly threatened mountainous areas in north-western Madagascar: the Galoka and Kalabenono massifs
Candollea, 64: 179-202.
 · Callmander MW, Rakotovao C, Razafitsalama J, Phillipson PB, Buerki S, Hong-Wa C, Rakotoarivelo N, Andriambololona S, Koopman MM, Deroin T, Johnson DM, Andriamandranto R, Solo S, Labat J-N, Lowry II PP.
 · (IF2012: 0.370)
- #8 Genetic structure and evolution of Alpine polyploid complexes:
Ranunculus kuepferi (Ranunculaceae) as a case study
Molecular Ecology, 18: 3730-3744.
 · Burnier J[¶], Buerki S[¶], Arrigo N, Küpfer P, Alvarez N.
 · <https://doi.org/10.1111/j.1365-294X.2009.04281.x> (5-Year IF: 6.792)
 · ¶These authors have contributed equally and are considered joint first authors.
- #7 *Klackenbergia* (Gentianaceae - Exaceae): a new endemic genus to Madagascar
Taxon, 58: 907-912.
 · Kissling J, Buerki S, Mansion G.
 · (IF2012: 2.782)
- #6 Malagasy *Dracaena* Vand. ex L. (Ruscaceae): an investigation of discrepancies between morphological features and spatial genetic structure at a small evolutionary scale
Plant Systematics and Evolution, 280: 15-28.
 · Buerki S, Callmander MW, Schüpfer F, Ravokatra M, Küpfer P, Alvarez N.
 · <https://doi.org/10.1007/s00606-009-0162-z> (5-Year IF: 1.586)
- #5 Plastid and nuclear DNA markers reveal intricate relationships at subfamilial and tribal levels in the soapberry family (Sapindaceae)
Molecular Phylogenetics and Evolution, 51: 238-258.
 · Buerki S, Forest F, Acevedo-Rodríguez P, Callmander MW, Nylander JAA, Harrington M, Sanmartin I, Küpfer P, Alvarez N.
 · <https://doi.org/10.1016/j.ymp.2009.01.012> (5-Year IF: 4.107)
- #4 A new threatened species of Pandanaceae from northwestern Madagascar: *Pandanus sermolliana*
Novon, 18: 421-424.
 · Callmander MW, Buerki S, Wohlhauser S.
 · <https://doi.org/10.3417/2007101> (IF2012: 0.295)

2008

- #3 Révision du genre *Bathiorhamnus* Capuron (Rhamnaceae) endémique de Madagascar
Adansonia sér. 3, 30: 151-170.
 • Callmander MW, Phillipson PB, Buerki S.
 • (IF2012: 0.639)
- 2007 #2 Révision de *Pandanus* sect. *Foullioya* à Madagascar
Adansonia sér. 3, 29: 39-57.
 • Laivao MO, Callmander MW, Buerki S.
 • (IF2012: 0.639)
- 2006 #1 Sur les *Pandanus* (Pandanaceae) à stigmates saillants de la Côte Est de Madagascar
Adansonia, sér. 3, 28: 267-285.
 • Laivao MO, Callmander MW, Buerki S.
 • (IF2012: 0.639)

PUBLICATIONS IN REVIEW

In review
|
2021

- *Pandanus grayorum* (Pandanaceae), a new species endemic to north-eastern Queensland (Australia)
Australian Systematic Botany
 • Callmander MW, Buerki S, Zich F, Field AR, Gallaher T.
- Phylogenomics and comparative genomics of two of the largest genera of angiosperms, *Piper* and *Peperomia* (Piperaceae)
Molecular Phylogenetics and Evolution
 • Simmonds SE, Smith J, Davidson C, Buerki S.
- Resolving species boundaries with the Angiosperms353 probe set in a recent radiation: The *Lomatium packardiae*/ *L. anomalam* clade of the *L. triternatum* (Apiaceae) complex
American Journal of Botany
 • Ottenlips M, Mansfield DH, Buerki S, Feist MAE, Downie SR, Dodsworth S, Forest F, Plunkett GM, Smith J.

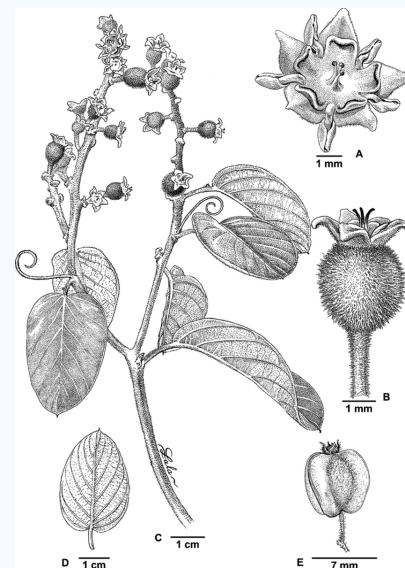
BOOK CHAPTERS

In press
|
2020

- Update on the phylogenetic framework of Malagasy angiosperms: A tool to unravel the evolution and biogeography of this unparalleled flora and to support its conservation
Natural History of Madagascar, 2nd Edition
 • Wojahn JMA, Callmander MW, Lowry II PP, Phillipson PB, Buerki S.
 • In: S. Goodman & L. Gautier (eds)

PLANT TAXONOMIC NOVELTIES

- 1 family
- 4 genera
- 3 sections
- 33 species
- 1 new name
- 114 comb. nov.



- **Sapindaceae**
Natural History of Madagascar, 2nd Edition
 - Buerki S, Phillipson PB, Lowry II PP, Wojahn JMA, Andriambololonera S, Callmander MW.
 - In: S. Goodman & L. Gautier (eds)

- **Bignoniaceae**
Natural History of Madagascar, 2nd Edition
 - Callmander MW, Phillipson PB, Buerki S.
 - In: S. Goodman & L. Gautier (eds)

- **Pandanaceae**
Natural History of Madagascar, 2nd Edition
 - Callmander MW, Laivao MO, Buerki S.
 - In: S. Goodman & L. Gautier (eds)

- 2015 ● **La diversité des Pandanus des Tsingy**
Namoroka: Mission à Madagascar
 - Callmander MW, Buerki S, Luino I, Laivao MO.
 - In: L. Allorge & T. Haevermans (eds)
 - Pp. 104-107.

OTHER PUBLICATIONS

- 2021 ● **Towards Producing a Reference Genome for Sagebrush: A Tool to Foster Genome to Phenome Research**
The Researcher Idaho NSF EPSCoR, February: 4-5.
 - Melton AE, Martinez P, Buerki S.

- 2020 ● **Molecular phylogeography of the polyploid complex *Bupleurum ranunculoides* s.l. L. (Apiaceae)**
Bulletin de la Société Vaudoise des Sciences Naturelles, 99: 83-106.
 - Labhardt A, Schmid S, Buerki S, Espindola A, Ronikier M, Kupfer P, Arrigo N, Alvarez N.

- 2014 ● **Biogeography, conservation and diversity of Pandanaceae in the granitic Seychelles Islands**
Kapisen, 17: 8-9.
 - Callmander MW, Buerki S.

- 2013 ● ***Eligmocarpus cynometroides***
IUCN 2013. IUCN Red List of Threatened Species, Version 2013.2.
 - Buerki S, Devey D.
 - Uploaded on 09 January 2014.

- 2005
- **Résultats d'une mission de prospection botanique dans la péninsule de Masoala (Nord-Est de Madagascar)**
Bulletin de la Société Neuchateloise des Sciences Naturelles, 128: 23-42.
 · Burki S, Wohlhauser S, Arrigo N, Laivao MO, Kupfer P, Callmander MW.

↗ GRANTS

- Present | 2021
- **Challenges to sagebrush establishment: Ploidy level and resource co-limitation, competition, and multi-scale heterogeneity**
 NSF EPScOR GEM3 Large Research Seed Funding
 · Co-PI; US\$150,000
- Present | 2020
- **Tree of Life Award - *Artemisia tridentata***
 Dovetail Genomics
 · PI; US\$15,000
- Present | 2019
- **Towards a genomic model to predict drought tolerance in sagebrush: Preventing embolism as a key adaptation**
 NSF EPScOR GEM3 Small Research Seed Funding
 · PI; US\$70,250
- 2020 | 2017
- **On the hunt for a drought-tolerant vanilla**
 LUSH, the Sustainable Lush Fund
 · PI; US\$44,000
- 2019 | 2017
- **A community lead project to restore Madagascan ecosystems' functioning by focusing on plant-animal interactions**
 LUSH, the Sustainable Lush Fund
 · PI; £22,720
- 2018 | 2016
- **Developing Community-based Conservation in the Ambato-Boeny-Maevatanana Forests and Wetlands**
 Critical Ecosystem Partnership Fund
 · Project partner (leading the forest flora aspects of project with The Aspinall Foundation); US\$188,590
 - **The mystery of the 2,000 year-old medicinal plant**
 WALACEA (crowdfunding platform to support science)
 · Co-PI (with O. Grace & N. Ronstead); £10,696
 - **Species delimitation, phylogenomic diversity and niche modelling: implications for the conservation of Madagascar endemic group of valuable trees in the family Sapotaceae**
 Swiss National Science Foundation
 · International partner (with Y. Naciri & L. Gautier); CHF192,900

EPONYMY

Turraea buerkii Callm., Phillipson & Lowry, *Adansonia*, sér. 3, 34(1): 100. 2012.



- 2017 | 2016
 - **A botanical framework to assess lemurs' diets and seed dispersal capacities**
 National Geographic Research Grant
 - PI; €19,194
- 2016 | 2014
 - **Research on Eulophiinae orchid evolution**
 Swiss Orchid Foundation research grant
 - Co-PI (with Dr Ruth Bone); £75,000
- 2015
 - **Photosynthesis in an extreme environment**
 Guangxi Institute of Botany, Guangxi Zhuang Autonomous Region and Chinese Academy of sciences (China)
 - Co-PI (with A. Monro); RMB90,000 (ca. £9,420)
- 2014 | 2013
 - **Phylogenomics of Pandanaceae**
 Idaho Botanical Research Foundation
 - PI; US\$20,000
- 2012 | 2011
 - **Development of best practices for rehabilitation after mining – plants and their associated mycorrhizas and implications for soil regeneration**
 Rio Tinto-Kew Partnership Fund
 - PI; £7,140
 - **The cradle of flowering plants: seeking new insights from the early-diverging screw-pine family (Pandanaceae)**
 National Geographic Society
 - Co-PI (with MW Callmander); \$20,000
- 2012 | 2010
 - **CRADLE; no 253866**
 Marie-Curie Intra-European Fellowship
 - PI; based at the Jodrell Laboratory, Royal Botanic Gardens, Kew, UK
- 2011 | 2010
 - **Collaborative revision of African screwpines**
 European Distributed Institute of Taxonomy (EDIT), Integration Research Grant
 - Co-PI (with T. Haevermans & MW Callmander); €18,000
- 2010 | 2009
 - **Phylogeny and biogeography of Pandanaceae**
 Young researcher fellowship, Swiss National Science Foundation
 - PI; Real Jardin Botanico, Madrid (Spain); CHF73,000
- 2009
 - **Phylogeny of Pandanaceae**
 Bentham-Moxon Trust grant, Royal Botanic Gardens, Kew (UK)
 - PI; £3,000

- 2008 ● **Biogeography of Sapindaceae**
SYNTHESYS grant
• PI; €2,500
- 2005 ● **Récompense la moyenne la plus élevée parmi les étudiantes et étudiants des Masters of Science en Biologie et en Biogéosciences.**
Louis Paris Award
• CHF1,000
- **Récompense un étudiant ou une étudiante de l'Université de Neuchâtel ayant obtenu son titre de Bachelor of Science avec la mention « très bien » ou « excellent »**
Jean Landry Award
• CHF500
- 2004 ● **Fieldwork grant to go to Madagascar**
Matthey-Dupraz/Wüthrich fellowship
• CHF1,500

TEACHING EXPERIENCE

- present | 2020
 - **VIP: Genome 2 phenome**
Department of Biological Sciences  Boise State University, ID
 - <https://svenbuerki.github.io/VIPGenome2Phenome/>
 - Undergraduate and graduate level class
- present | 2017
 - **BIOL497 & BIOL597 – Special Topics, Genomics & Bioinformatics**
Department of Biological Sciences  Boise State University, ID
 - <https://svenbuerki.github.io/Genomics-Bioinformatics/>
 - Undergraduate and graduate level class
 - **EEB 603 – Reproducible Science**
Department of Biological Sciences  Boise State University, ID
 - Graduate level class

GRADUATE STUDENTS

- present | 2021
 - **TBD**
MS Biology, started Spring 2021  Boise State University, USA
 - Carlos Dave Dumaguit
- present | 2020
 - **TBD**
Ecology, Evolution & Behavior Ph.D.  Boise State University, USA
 - John Michael Adrian Wojahn
- present | 2018
 - **On the hunt for a new drought tolerant vanilla**
Ecology, Evolution & Behavior Ph.D.  Boise State University, USA
 - Paige Ellestad
 - Committee: Stephen Novak, Marcelo Serpe, Felix Forest
- 2020 | 2018
 - **Phenotypic Responses of Sagebrush to southwestern North America Megadrought: A GxE Approach**
MS Biology, Defence: 22nd October 2020  Boise State University, USA
 - Kara Navock
 - Co-chair with Stephen Novak. Committee: Bryce Richardson
- 2020 | 2017
 - **A meta-analysis of sequences of vascular plants in the world's biodiversity hotspots with a special section on Madagascar**
MS Biology, Defence: 3rd June 2020  Boise State University, USA
 - John Michael Adrian Wojahn
 - Committee: James Smith, Stephen Novak

TEACHING/LAB. ETHOS

Everyone here is smart; distinguish yourself by being kind.

– Kindness in Science is an inclusive approach that fosters diversity, respect, wellbeing & openness leading to better science outcomes.



#KindnessInScience
by @jennypennell

2017

- **The Diet, Range and Behaviour of *Varecia variegata* (Lemuridae)**
MS Biology, April to September 2017
📍 University College London & Natural History Museum, London, UK
· Stephanie Shields
- **Seed dispersal by *Varecia variegata* (Lemuridae) in a Lowland Humid Forest**
MS Biology, April to September 2017
📍 University College London & Natural History Museum, London, UK
· Katharine Davies
- **The Effect of Quaternary Climatic Oscillations on the Biogeography and Niche of Malagasy Spiny Solanums**
MS Biology, April to September 2017
📍 Imperial College & Natural History Museum, London, UK
· Christopher Dudley
· Co-supervised with Sandra Knapp

2016
|
2015

- **A species tree phylogeny for the Madagascar endemic genus *Capurodendron* (Sapotaceae): application to species and environmental conservation**
MS Biology
📍 Conservatoire et Jardins botanique de la ville de Genève, Geneva, Switzerland
· Rhea Garratt
· Co-supervised with Laurent Gautier, Yamama Naciri and Martin W. Callmander

2011

- **Evolution of the New Caledonian Flora: New insights from the Pandanaceae family**
MS Biology, Summer 2011 📍 Imperial College, London, UK
· Lauren Chappell
· Co-supervised with Félix Forest and Martin W. Callmander
- **Evolution of the New Caledonian Flora: New insights into the soapberry family (Sapindaceae)**
MS Biology, Summer 2011 📍 Imperial College, London, UK
· Tejal Raval
· Co-supervised with Félix Forest and Martin W. Callmander

RESEARCH STAFF

present
|
2020

- **Project funded by GEM3**
Postdoc fellow, start June 2020 📍 Boise State University, USA
· Dr Anthony Melton

- present | 2018
- **Employed on the GEM3 project to develop and implement *in vitro* tissue culture of sagebrush**
Research assistant, start September 2018  Boise State University, USA
 - Peggy Martinez
- 2020
- **Project funded by GEM3**
Postdoc fellow, start April 2020  Boise State University, USA
 - Dr Stephanie Galla
- 2020 | 2018
- **Employed on the GEM3 project to work on sagebrush genome size evolution**
Research assistant, start September 2018  Boise State University, USA
 - Jonas Frankel-Bricker
- 2016 | 2014
- **Development of a taxonomic synopsis of the genus *Eulophia* (Eulophiinae: Orchidaceae)**
Postdoc fellow, start December 2014  Royal Botanic Gardens, Kew, UK
 - Dr Ruth Bone
 - Project funded by the Swiss Orchid Foundation
- 2015 | 2014
- **Phylogenomics on herbarium specimens**
In-industry student  Royal Botanic Gardens, Kew, UK
 - Grace Brewer
 - 1 year internship from University of Durham, UK
- 2014 | 2012
- **Evolution and systematics of Eulophiinae orchids**
Postdoc fellow, start August 2012  Royal Botanic Gardens, Kew, UK
 - Dr Ruth Bone
 - Project funded by the Swiss Orchid Foundation
- 2014 | 2013
- **Biogeography and systematics of a pantropical lineage of Sapindaceae**
In-industry student  Royal Botanic Gardens, Kew, UK
 - Rebecca Doherty
 - 1 year internship from University of Cardiff, UK
- 2013 | 2012
- **Spatio-temporal history of the SE Asian genus *Benstonea* (Pandanaceae)**
In-industry student  Royal Botanic Gardens, Kew, UK
 - Thomas Booth
 - 1 year internship from University of Manchester, UK
- 2012
- **Phylogeography of the Malagasy littoral forest endemic *Asteropeia micraster* (Asteropeiaceae)**
Summer intern  Royal Botanic Gardens, Kew, UK
 - Persephone Ma
 - Co-supervised with Félix Forest and Dion S. Devey

- **Phylogenetic relationships of Pandanaceae from the Fiji islands**
Summer intern 📍 Royal Botanic Gardens, Kew, UK
- Alexandra M. Weill
- Co-supervised with Félix Forest

GRADUATE COMMITTEES

present
|
2020

- **TBD**
MS Biology, start Fall 2020 📍 Boise State University, USA
• Daniel Botello
• Chair: James Smith; rest of committee: Don Mansfield
- **Resolving taxonomic uncertainty and clarifying species boundaries in the *Cymopterus terebinthinus* species complex**
MS Biology, start Fall 2020 📍 Boise State University, USA
• Annie Taylor
• Chair: James Smith; rest of committee: Don Mansfield
- **TBD**
MS Biology 📍 Boise State University, USA
• Bryanna Bright
• Chair: Jennifer Forbey; rest of the committee: Amy Ulappa
- **Diversification in the Perennial Endemic North American Clade of Apiaceae (PENA): Defining Genera and Species**
EEB Ph.D., start Spring 2020 📍 Boise State University, USA
• Phebian Odufuwa
• Chair: James Smith; rest of committee: Don Mansfield, Jodi Brandt
- **TBD**
EEB Ph.D., start Fall 2018 📍 Boise State University, USA
• Cara Hastings
• Chair: James Smith; rest of committee: Stephen Novak, Allan Bronstein
- **TBD**
Ph.D. 📍 University of Idaho
• Lukas Grossfurtherner
• Chair: Lisette Waits & Paul Hohenlohe; rest of committee: Bryce Richardson, Jack Sullivan, David Tank
- **The endosymbiotic gut fungus *Zancudomyces culisetae* influences transstadial transmission of host-associated microbiota in the yellow fever mosquito (*Aedes aegypti*)**
MS Biology, Defence: 3rd April 2019 📍 Boise State University, USA
• Jonas Frankel-Bricker
• Chair: Merlin White; rest of committee: Kevin Feris

FIELDWORK

Botanical expeditions: Croatia, Fiji, Italy, Madagascar, Malaysia (Borneo and Peninsular Malaysia), Mauritius, New Caledonia, Singapore, Switzerland and USA.



- 2019
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2017
- Lewis's lost lomatium found: Investigating species boundaries in the rare plant species subcomplex, *Lomatium packardiae/anomalum*
MS Biology, Defence: 15th February 2019 📍 Boise State University, USA
 - Michael Ottenlips
 - Chair: James Smith; rest of committee: Stephen Novak, Don Mansfield
- 2015
- Radiations adaptatives et diversification des plantes à Madagascar:
Exemple des Sarcolaenaceae
Ph.D, Defence: 30th September 2015 📍 Museum National d'histoire naturelle, Paris, France
 - Anaëlle Soulebeau
 - Chair & external examiner
 - Phylogénomique et histoire évolutive de deux familles de plantes à fleurs tropicales
Ph.D, Defence: 7th May 2015 📍 University of Toulouse, France
 - Léa Bardon
 - Rapporteur
 - Filogeografia, genètica de poblacions i citogenètica molecular del gènere *Cheirolophus* (Asteraceae, Cardueae)
Ph.D, Defence: 9th March 2015 📍 University of Barcelona, Spain
 - Daniel Vitales Serrano
 - External examiner
- 2014
- Evolución y sistemática en la subfamilia Fumarioideae
Ph.D 📍 University of Granada, Spain
 - Miguel Ángel
 - International expert
 - Estudis filogenètics i filogeogràfics de la tribu Cardueae i el gènere *Euphorbia*
Ph.D, Defence: 4th May 2014 📍 University of Barcelona, Spain
 - Laia Barres
 - International expert
- present
|
2016
- EXTERNAL REFEREE
 - Editorial board
Candollea

- **Journals**
Reviewed >200 manuscripts for the following journals: *Annals of Botany*; *Biodiversity and Conservation*; *Biological Journal of the Linnean Society*; *Botanical Journal of the Linnean Society*; *Candollea*; *Central European Journal of Biology*; *Evolution*; *International Journal of Plant Sciences*; *Journal of Biogeography*; *Journal of Ecology*; *Journal of Systematics and Evolution*; *Kew Bulletin*; *Molecular Ecology*; *Molecular Ecology Resources*; *Molecular Phylogenetics and Evolution*; *Oryx*; *Plant Systematics and Evolution*; *PLoS ONE*; *South African Journal of Botany*; *Systematic Biology*; *Systematic Botany*; *Taxon*.

- **Research proposals**
Reviewed research proposals submitted to the National Geographic Society (USA) and the Systematic Association (UK).

2020
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2015

- **Associate editor**
Systematics and Biodiversity

2019
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2014

- **Associate editor**
Systematic Botany

2018
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2014

- **Associate editor**
PLoS ONE

2016
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2015

- **Guest editor**
Biological Journal of the Linnean Society

• for the special issue vol. 117 published in January 2016

2015

- **Grant review panel**
Agence Nationale de la Recherche, CES No 32, Sciences de la Vie, DEFSAV, France



CONFERENCES, SEMINARS AND INVITED SPEAKER

2020

- **Untangling big genera using big data: Phylogenomics of *Piper* and *Peperomia* (Piperaceae)**
Botany, new frontiers in botany, July 2020 📍 Virtual botany conference
• Simmonds SE, Smith J, Davidson C, Buerki S.
- **A meta-analysis of genes underlying adaptive capacity of plants towards drought**
GEM3 Annual Meeting, December 2020 📍 Virtual conference
• Galla SJ, Dumaguit C, Wojahn JMA, Melton A, Forbey J, Martinez P, Novak S, Buerki S.
- **G2PMineR: A genome to phenotype literature review approach**
GEM3 Annual Meeting, December 2020 📍 Virtual conference
• Wojahn JMA, Galla SJ, Buerki S.

SERVICES

- BSU, dept. Biological Sciences: Graduate program steering committee (MS Biology, MS Raptor)
- Idaho EPSCoR, GEM3: Co-lead Sagebrush Mechanism team
- Idaho EPSCoR, GEM3: Data management working group

- 2019
- Challenges and opportunities associated with assembling the 9 Gbp sagebrush genome to study drought adaptations

Seminar, Oct. 2019  Idaho State University, USA

 - Buerki S.
 - Lewis's lost Lomatium found: Investigating species boundaries in the rare plant species subcomplex, *Lomatium packardiae/anomalum*

Botany, new frontiers in botany, July 2019  Tucson, USA

 - Ottenlips M, Buerki S, Mansfield DH, Dodsworth S, Forest F, Smith J.
 - Challenges and strategy to produce a reference genome for sagebrush

NSF EPSCoR GEM3 Seminar, April 2019

 - Buerki S
- 2018
- Do we need a new species concept for conservation? Madagascar as case study

Forum on Biodiversity of Global Hotspots, October 2018  Boise State University, USA

 - Buerki S
 - Resolving species boundaries in the *Lomatium packardiae/L. anomalum* clade of the *L. triternatum* (Apiaceae) complex

Botany, new frontiers in botany, July 2018  Rochester, USA

 - Ottenlips M, Mansfield DH, Buerki S, Forest F, Dodsworth S, Smith J.
- 2017
- Role played by herbaria in describing, understanding and protecting plant biodiversity

Seminar, March 2017  Univeristy of basel, Switzerland

 - Buerki S
- 2016
- Combining modelling and genetic approaches in conservation: application to the genus *Capurodendron* Aubrév. (Sapotaceae) in Madagascar

Biologie'16, the annual Swiss conference on Ecology, Evolution, Systematics, Biogeography and Conservation, February 2016  University of Lausanne, Switzerland

 - Garratt R, Naciri Y, Lehmann A, Buerki S, Callmander MW, Gautier L.
 - Combining modelling and genetic approaches in conservation: application to the genus *Capurodendron* Aubrév. (Sapotaceae) in Madagascar

SwissPlant 2016 meeting, January 2016  Les Diablerets, Switzerland

 - Naciri Y, Garratt R, Lehmann A, Buerki S, Callmander MW, Gautier L.

2015

- **Orchids of arid lands (and a morsel of orchid cake)**
School of Thought public lecture series for the Orchid Festival, April 2015
📍 Royal Botanic Gardens, Kew, UK
 - Bone RE, Buerki S.
 - **Desert flowers and lizard leaves: orchid survival in Afro-Madagascan drylands**
17th European Orchid Show and Conference, April 2015 📍 London, UK
 - Bone RE, Buerki S.
 - **Incorporating evolutionary history into conservation planning in biodiversity hotspots**
Seminar, March 2015
📍 Conservatoire et Jardins botanique de la ville de Genève, Geneva, Switzerland
 - Buerki S, Callmander MW
- 2014
- **A macro-ecological perspective on CAM photosynthesis evolution: Eulophiinae orchids as a case study**
Seminar, November 2014 📍 University of Toulouse, France
 - Buerki S, Bone RE
 - **Incorporating evolutionary processes into conservation programmes: Madagascar as a case study**
Seminar, October 2014 📍 Singapore Botanic Gardens, Singapore
 - Buerki S
 - **Towards a taxonomic revision of the Pandanaceae for Thailand**
16th Flora of Thailand conference, Thai botany and the European connection: Building on 100 years of collaboration, September 2014
📍 Royal Botanic Gardens, Kew, UK
 - Buerki S, Callmander MW, Chamchumroon V.
 - **Spatio-temporal history of the screw-pine genus *Benstonea* (Pandanaceae)**
Botany, new frontiers in botany, July 2014 📍 Boise, USA
 - Buerki S, Callmander MW.
 - **Collections-based research in the genomic era**
Collections-based research in the genomic era, April 2014
📍 Linnean Society, London, UK
 - Buerki S, Baker W.
 - Meeting co-organized with W. Baker

- **NGS analysis of insect collection specimens: a gold mine for evolutionary biologists**
 Collections-based research in the genomic era, April 2014
 Linnean Society, London, UK
 · Pitteloud C, Arrigo N, Mastretta-Yanes A, Suchan T, Buerki S, Alvarez N.
 - **Incorporating evolutionary processes into conservation programmes: Madagascar as a case study**
 Phylogeny, extinction risks and conservation, March 2014
 Royal Society, London, UK
 · Buerki S.
 - **Spatio-temporal history of the endemic genera of Madagascar**
 20th AETFAT Congress, January 2014
 Stellenbosch, South Africa
 · Callmander MW, Phillipson PB, Buerki S.
 - **A treasure hunt for Malagasy Bignoniaceae is under-way: so many gems still to be discovered**
 20th AETFAT Congress, January 2014
 Stellenbosch, South Africa
 · Callmander MW, Phillipson PB, Edwards M, Buerki S, Plunkett G.
- 2013
- **Spatio-temporal history of the screw-pine genus *Benstonea* (Pandanaceae): with an emphasis on Malesian species**
 IX International Floral Malesiana Symposium, August 2013
 Bogor, Indonesia
 · Booth T, Callmander MW, Forest F, Buerki S.
 - **Revisiting the systematics and biogeography of the Pandanaceae based on new phylogenetic and morphological evidence**
 IX International Floral Malesiana Symposium, August 2013
 Bogor, Indonesia
 · Callmander MW, Booth T, Forest F, Buerki S.
 - **Systematics and biogeography of *Aloe* L. (subfamily Asphodeloideae, Xanthorrhoeaceae)**
 Botany, new frontiers in botany, July 2013
 New Orleans, USA
 · Grace OM, Forest F, Buerki S, Rønsted N.
 - **Progress in the systematics of *Aloe* L. (subfamily Asphodeloideae, Xanthorrhoeaceae)**
 Monocots V, July 2013
 New York, USA
 · Grace OM, Forest F, Buerki S, Rønsted N.

- The abrupt climate change at the Eocene-Oligocene boundary and the emergence of Southeast Asia triggered the spread of sapindaceous lineages
Seminar, May 2013  Queen Mary University, London, UK
 - Buerki S.
- Identification of key areas for conservation using phylogenetic and extinction risk data: The Legumes of Madagascar as a case study
VI International Legume Conference, January 2013  Johannesburg, South Africa
 - Forest F, Moat J, Bachman S, Buerki S.
- Biogeography and phylogenetic diversity of Malagasy Legumes: implications for the conservation of the flora
VI International Legume Conference, January 2013  Johannesburg, South Africa
 - Buerki S, Moat J, Bachman S, Forest F.
- 2011 ● Evolutionary history of the hyacinth family (Hyacinthaceae) and its implications for conservation
MEDECOS XII, the International Mediterranean Ecosystems Conference, September 2011  Los Angeles, USA
 - Buerki S, Jose S, Manning JC, Goldblatt P, Yadav SR, Forest F.
- Abiotic factors as driving force to promote diversification in the worldwide soapberry family (Sapindaceae)
Petit Pois Déridé, August 2011  Toulouse, France
 - Buerki S, Alvarez N, Sanmartin I, Forest F.
- Phylogenetic diversity measures in biodiversity assessments: a case study from the Malagasy Legumes
International workshop on global Legume diversity assessment, August 2011  Kyushu University, Japan
 - Buerki S, Forest F.
- Evolution of the New Caledonian flora: insights from the pantropical family Sapindaceae
XVIII International botanical congress (IBC), July 2011  Melbourne, Australia
 - Callmander MW, Munzinger J, Lowry II PP, Forest F, Devey D, Buerki S.
- Evolutionary history and biogeography of Tecophilaeaceae
XVIII International botanical congress (IBC), July 2011  Melbourne, Australia
 - Forest F, Buerki S.

- **An evaluation of new parsimony-based versus parametric inference methods in biogeography: a case study using the globally distributed plant family Sapindaceae**
 XVIII International botanical congress (IBC), July 2011
• Buerki S, Sanmartin I, Forest F. Melbourne, Australia
- 2009 ● **Out of Asia and into the tropics: phylogeny and biogeography of the Sapindaceae**
 SYNTHESIS final report, April 2009 Real Jardin Botanico, Madrid, Spain
• Buerki S, Forest F, Alvarez N, Nylander JAA, Arrigo N, Sanmartin I.
- 2008 ● **Breeding system evolution in the Malagasy Sapindaceae**
 Botany without borders, July 2008
University of British Columbia, Canada
• Vary L., Buerki S.
- **Towards a new classification for the soapberry family (Sapindaceae)**
 Seminar, June 2008
Conservatoire et Jardins botanique de la ville de Genève, Geneva, Switzerland
• Buerki S, Forest F, Acevedo-Rodriguez P, Callmander MW, Nylander JAA, Küpfer P., Alvarez N.
- **Untangling the systematics of the soapberry family (Sapindaceae): supertrees, biogeography and character evolution**
 Seminar, January 2008 Royal Botanic Gardens, Kew, London, UK
• Buerki S, Sanmartin I, Alvarez N.
- 2007 ● **Comparative performance of the Supertree algorithms in large data sets: the case of the soapberry family (Sapindaceae)**
 Seminar, November 2007 Real Jardin Botanico, Madrid, Spain
• Buerki S, Sanmartin I, Alvarez N.
- **Phylogenetic analyses of the Malagasy Cupanieae reveal a high degree of polyphyly at the generic level**
 18th AETFAT congress, February 2007 Yaoundé, Cameroon
• Buerki S, Callmander MW, Küpfer P.

ORGANIZATION OF SYMPOSIA

- **Biodiversity of global hotspots**
 2-day forum, October 2018 Boise State University, USA
• Co-organizer with James Smith and Christopher Davidson

- 2014 ● **Collections-based research in the genomic era**
2-day discussion meeting, April 2014  Linnean Society, London, UK
· Co-organizer with William Baker
- 2013 ● **Community ecology and evolutionary theory**
Tropical biodiversity in the 21st century symposium, June 2013  Natural History Museum, London, UK
· Chair of session.
- 2011 ● **Recent advances and new developments in biogeographical reconstruction methods**
XVIII International botanical congress (IBC), July 2011  Melbourne, Australia
· Co-organised session with Felix Forest and Isabel Sanmartin

POSTERS

- 2021 ● **Overlooked genetic diversity of cultivars in Mexico offers hope for vanilla sustainability in a changing climate**
Boise State University, Graduate Student Showcase, April 2021
· Ellestad P, Perez Farrera MA, Forest F, Buerki S.
· <https://symposium.foragerone.com/2021-gss/presentations/14598>
- 2020 ● **Has neofunctionalization through promoter element differentiation driven drought-adaptation in *Artemisia tridentata*?**
Boise State University, VIP Symposium, December 2020  Virtual conference
· Morales W, Beck J, Melton A, Buerki S.
- **Mining gems in literature and genomes: a proof of concept in *Artemisia tridentata***
Boise State University, VIP Symposium, December 2020  Virtual conference
· Dumaguit CD, Galla SJ, Melton A, Wojahn JMA, Martinez P, Buerki S.
- **Development of an *in vitro* method of propagation for *Artemisia tridentata* subsp. *tridentata* to support genome sequencing and genotype-by-environment research**
Boise State University, VIP Symposium, December 2020  Virtual conference
· Clark H., Martinez P, Barron R, Serpe M, Buerki S.
- **G2PMineR: A genome to phenome literature review approach**
Boise State University, VIP Symposium, December 2020  Virtual conference
· Wojahn JMA, Galla SJ, Buerki S.

- **Phenotypic responses of sagebrush to the southwestern North America megadrought: A GxE approach**
GEM3 Annual Meeting, December 2020  Virtual conference
• Navock KA, Martinez P, Richardson B, Novak S, Frankel-Bricker J, Serpe M, Forbey J, Galla SJ, Buerki S.
- **Aquaporins as key genes underpinning climate-induced stress in sagebrush (*Artemisia tridentata*; Asteraceae): a foundational shrub of western North America**
GEM3 Annual Meeting, December 2020  Virtual conference
• Melton AE, Serpe M, Schmutz J, Galla SJ, Novak S, Buerki S.
- **Development of an *in vitro* method of propagation for *Artemisia tridentata* subsp *tridentata* to support genome sequencing and genotype-by-environment research**
GEM3 Annual Meeting, December 2020  Virtual conference
• Martinez P, Barron R, Serpe M, Buerki S.
- **Seen, but not heard? Evaluating the visibility of plants in the conservation translocation literature**
Virtual Idaho Conference on Undergraduate research, July 2020  Virtual conference
• Shuey A, Dumaguit CD, Galla S, Wojahn M, Martinez P, Rosato J, Buerki S.
- **Hot takes: A comprehensive review of genes that help plants survive drought**
Virtual Idaho Conference on Undergraduate research, July 2020  Virtual conference
• Dumaguit CD, Shuey A, Galla S, Wojahn M, Martinez P, Rosato J, Buerki S.
- **Gymnosperms on the EDGE**
State of the World's Plants Symposium, May 2017  Royal Botanic Gardens, Kew, UK
• Forest F, Baloch E, Brummitt NA, Bachman S, Moat J, Ickert-Bond S, Hollingsworth PM, Liston A, Little DP, Mathews S, Rai H, Rydin C, Stevenson DW, Thomas P, Buerki S.
- **Evolution of terrestrial CAM orchid lineages in Afro-Madagascan drylands**
Temperate Orchid Conference, April 2015  Samos, Greece
• Bone RE, Buerki S.
- **Evolution of CAM orchid clades in Madagascar**
New Phytologist, Next Generation Scientists, July 2014  John Innes Conference Centre, Norwich, UK
• Bone RE, Smith JAC, Sanz E, Buerki S.

2017

2015

2014

- 2011 ● Does a shift in host plants trigger speciation in the Alpine leaf beetle *Oreina speciosissima*?
 Swiss Plant Science Web Summer school on “Terrestrial ecosystem dynamics in a changing world”, June 2011
 Mürren, Switzerland
 · van Noort T, Borer M, Arrigo N, **Buerki S**, Alvarez N.
- 2010 ● Species relationships in the *Gagea reticulata* species complex utilizing nucleotide sequences of the low-copy nuclear gene malate synthase and flow cytometry data
 Biodiversity 2010 and beyond Science and Collections, SPNHC-CBA-ABC Joint Conference, May 2010
 Ottawa, Ontario, Canada
 · Zarrei M, Wilkin P, Ingrouille MJ, Leitch IJ, **Buerki S**, Fay MF, Chase MW.
- 2008 ● Systematics and biogeography of the soapberry family (Sapindaceae)
 NCCR International Conference on Plant Species Concepts and Evolution (in honour of the retirement of Philippe Küpfer), January 2008
 University of Neuchâtel, Neuchâtel, Switzerland
 · Buerki S, Sanmartin I, Callmander MW, Alvarez N.
- Solving the inconsistency between morphology and phylogeny in the Malagasy *Dracaena* Vand. ex. L. (Ruscaceae)
 NCCR International Conference on Plant Species Concepts and Evolution (in honour of the retirement of Philippe Küpfer), January 2008
 University of Neuchâtel, Neuchâtel, Switzerland
 · Buerki S, Callmander MW, Schüpfer F, Ravokatra M, Küpfer P, Alvarez N.

