

Lovanomenjanahary MARLINE, PhD

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Education

UNIVERSITY OF CAPE TOWN. Cape Town, South Africa 2012-2018

PhD, Department of Biological Sciences

Thesis: Diversity and biogeography of Madagascan bryophytes with an analysis of taxic and functional diversity along an elevational gradient in Marojejy National Park Madagascar <http://hdl.handle.net/11427/29263>

UNIVERSITY OF ANTANANARIVO. Antananarivo. Madagascar 2008-2009

MSc, Department of Plant biology and Ecology

Thesis: Inventaire biologique et typologie de la forêt communautaire de Marovato, Midongy du Sud, Madagascar

http://biblio.univ-antananarivo.mg/pdfs/marlineLovanomenjanahary_SN_M2_09.pdf

UNIVERSITY OF ANTANANARIVO. Antananarivo, Madagascar 2004-2007

BSc (Maîtrise de Recherche), Department of Plant biology and Ecology

Research experience

Associate research fellow – Biogeography and taxonomy of African Bryophyte, Royal Botanical Garden, Kew UK | Kew Madagascar Conservation Centre | [Association Vahatra](#), Antananarivo Madagascar Jan 2023-present

Postdoctoral research fellow - Bryophyte, tropical mountain ecology and climate change Aug 2020-Jan 2023
Royal Botanical Garden, Kew UK ([Antonelli Lab](#)) | Kew Madagascar Conservation Centre [Association Vahatra](#), Antananarivo Madagascar
[Advisors: Prof. Alexandre Antonelli, Prof. Steve Goodman]

Lecturer - Life history theory in Principles of Ecology and Evolution 2020
Department of Biological Sciences, University of Cape Town, South Africa

Postdoctoral Research fellow - Bryophyte edaphic specialization and dispersal ability in the dry and arid region of Madagascar Dec 2018-Jan 2020
Department of Biological Sciences, University of Cape Town, South Africa
[Advisor: Prof. Terry Hedderson]

Research Assistant - Identification of bryophytes collected in Uganda Jul-Sept 2018
Nees Institute for Biodiversity of Plants, University of Bonn, Germany
[Principal investigator: Prof. Dietmar Quandt]

Research Assistant - Allometric model for tree stem volume and biomass Feb 2018
Forestwood project, University of Pretoria. Pretoria, South Africa
[Principal investigator: Dr. Coert Geldenhuys]

Intern - Phylogeny and taxonomic revision of moss genus *Breutelia* Sept-Oct 2017
Nees institute for Biodiversity of Plants, University of Bonn, Germany
[Advisors: Prof. Dietmar Quandt, Prof. Terry Hedderson]

Research Assistant - Creation of the taxonomic index and data bases for the Bryophytes of Madagascar Feb-Jul 2011
UMR-PVBMT, University of Réunion Island, France
[Principal investigators: Dr. Claudine Ah-Peng, Prof. Dominique Strasberg]

Publications

Peer-Reviewed Journal Articles

Randrianarimanana R, Reeb C, Rakotondrainibe F, Boucheron-Dubuisson E, **Marline L**, Rakotoarinivo M. 2024. Diversity and distribution of ferns (Filicophytes) and horsetails (Lycophytes) in the East canyons of Isalo National Park, Madagascar. *Plant Ecology and Evolution* 157(1): 3-9. <https://doi.org/10.5091/plecevo.101827>

Marline L, Randrianarimanana R, Patel E. 2023. Elevational variation of temperature and relative humidity on Marojejy National Park, Madagascar. *Malagasy Nature* 17: 32-40. http://www.vahatra.mg/volume17/mn17_chapter02.pdf

Randrianarimanana R, Wilding N, Pócs T, Ah-Peng C, Andriamiarisoa RL, Hedderson TAJ, **Marline L**. 2023. A checklist of the mosses and liverworts of the Parc National de Marojejy, northeastern Madagascar. *Malagasy Nature* 17: 88-101. http://www.vahatra.mg/volume17/mn17_chapter05.pdf

Antonelli A, Farooq H, Colli-Silva M, Araújo JPM, Freitas AVL, Gardner EM, Grace O, Gu S, **Marline L**, Nesbitt M, Niskanen T., Onana J.M., Pérez-Escobar OA, Taylor C, Knapp S. 2023. People-inspired names remain valuable. *Nature Ecology and Evolution* 2397-334X. <https://doi.org/10.1038/s41559-023-02108-7>

Ralimanana H, Perrigo AL, Smith RJ, Borrell JS, Faurby S, Rajaonah MJ, Randriamboavonjy T, Vorontsova MS, Robert SC, Cooke RCS, Phelps LN, Sayol F, [...] **Marline L**, [...], Antonelli A. 2022. Madagascar's extraordinary biodiversity: Threats and opportunities. *Science* 378 (6623). <https://doi.org/10.1126/science.adf1466>

Antonelli A, Smith RJ, Perrigo AL, Crottini A, Hackel J, Testo W, Farooq H, Torres Jiménez M, [...] **Marline L**, [...], Ralimanana H. 2022. Madagascar's extraordinary biodiversity: Evolution, distribution, and use. *Science* 378 (6623). <https://doi.org/10.1126/science.abf0869>

Reeb C, Sass-Gyarmati A, Kervran L, Price M, **Marline L**, Brinda JC. 2021. An update on the MadBryo project, a collaborative project on Malagasy bryophytes. *Acta Biologica Plantarum Agriensis* 9 (1): 48. <https://doi.org/10.21406/abpa.2021.9.1.48>

Marline L, Hedderson TAJ, Ah-Peng C. 2020. Diversity partitioning and community structure of epiphytic bryophytes along an elevational gradient in Marojejy National Park, Madagascar. *Bryophyte Diversity and Evolution* 42 (1): 32-48. <https://doi.org/10.11646/bde.42.1.3>

Marline L, Ah-Peng C, Hedderson TAJ. 2020. Bryophyte diversity and range distributions along an elevational gradient in Marojejy, Madagascar. *Biotropica* 00: 1-12. <http://doi.org/10.1111/btp.12781>

Reeb C, **Marline L**, Rabeau L, Andriamanantena A, Andriamiarisoa R, Ranarijaona HT, Pócs T. 2018. A survey of Marchantiales from Madagascar. *Acta Biologica Plantarum Agriensis* 6: 3-72. <http://doi.org/10.21406/abpa.2018.6.3>

Ah-Peng C, Flores O, Wilding N, Bardat J, **Marline L**, Hedderson TAJ, Strasberg D. 2014. Functional diversity of subalpine bryophyte communities in an oceanic island (La Réunion). *Arctic, Antarctic, and Alpine Research* 46(4):841-851. <http://doi.org/10.1657/1938-4246-46.4.841>

Marline L, Rajeriarison C, Razafy FL, Roger E. 2014. Transfert de gestion de la forêt de Marovato, Midongy du Sud: Zonage et inventaire floristique. *Tohiravina* 3: 316-325

Marline L, Andriamiarison LR, Bardat J, Chuah-Petiot M, Hedderson TAJ, Strasberg D, Wilding N, Ah-Peng C. 2012. Check list of the bryophytes of Madagascar. *Cryptogamie Bryologie* 33 (3): 199-255. <http://doi.org/10.7872/cryb.v33.iss3.2012.199>

Book chapters

Marline L, Ah-Peng C, Hedderson TAJ. 2022. Bryophytes: diversity, endemism, and phytogeography. In *The New Natural History of Madagascar*, S.M. Goodman, Ed. Princeton University Press, Princeton. pp. 510-520. <https://doi.org/10.2307/j.ctv2ks6tbb.62>

Marline L, Ah-Peng C, Hedderson TAJ. 2022. Checklist of the bryophytes of Madagascar. In *The New Natural History of Madagascar*, S.M. Goodman, Ed. Princeton University Press, Princeton. pp. 521-537. <https://doi.org/10.2307/j.ctv2ks6tbb.63>

Late-stage manuscripts

Marline L, Andriamamonjy, MH, Gupta P, Rakotomavo Z, Randrianarimanana R, Zjhra M, Geizer L. Investigating air pollution pattern in Antananarivo, Madagascar: A Comprehensive analysis Integrating ground and satellite-based Measurements. (In prep)

Presentations

Marline L, Akita LG, Anyanwu IN, Dimobe K, Gonçalves FM, Guuroh RT. 2020. Addressing climate change in Africa: challenges and the way forward focus on biodiversity and ecosystem functioning. Virtual DAAD climapAfrica conference. <https://doi.org/10.13140/RG.2.2.13033.72809> [Poster]

Marline L, Ah-Peng C, Flores O, Hedderson T. 2019. A trait-based approach to assess functional responses of epiphytic liverworts to environmental gradients. 3rd Island Biology, University of La Réunion, Saint Denis, La Reunion. [Oral presentation]

Marline L, Hedderson T, Ah-Peng C. 2019. Bryophyte diversity and range distributions along an elevational gradient in Marojejy, Madagascar. 56th Annual meeting for Tropical Biology and Conservation, Antananarivo, Madagascar. [Poster]

Marline L, Ah-Peng C, Hedderson T. 2014. Determining the factors affecting the diversity and distribution of bryophytes in Madagascar under a changing environment. Botanists of the Twenty-first Century: Roles, Challenges and Opportunities, UNESCO Headquarters, Paris, France [Poster]

Marline L, Ah-Peng C, Hedderson T. 2014. Pattern of diversity and distribution of liverwort along an elevational gradient. XXth AETFAT Congress, Music Conservatoire, Stellenbosch, South Africa. [Oral presentation]

Marline L, Ah-Peng C, Bardat J, Hedderson T, Reeb C, Strasberg D. 2011. Diversité, distribution et conservation des bryophytes de Madagascar. Colloque FRB-AIRD-CNRS: La Biodiversité des Iles de l'Océan Indien. Paris, France. [Poster]

Marline L, Bardat J, Chuah-Petiot M, Descamps-Julien B, Goodman S, Hedderson T, Strasberg D, Ah-Peng C. 2010. Bryophytes of Madagascar. 19th AETFAT Congress. Antananarivo Madagascar. [Poster]

Teaching

Instructor - MSc Field Course to Madagascar. Royal Botanic Gardens, Kew; Queen Mary University of London and Kew Madagascar Conservation Centre	2023
Lecturer - 2 nd year courses (BIO2014F): Life history theory in Principles of Ecology and Evolution. Department of Biological Sciences, University of Cape Town, South Africa	2020
Instructor: Workshop in tropical bryology. University of La Réunion, France	Jan-Mar 2020
Demonstrator - 3 rd year courses: Applied biology. Department of Biological Sciences, University of Cape Town, South Africa	2016
Guest lecturer: Use of bryophytes to understand ecosystem functioning. Biological Sciences Department, University of Cape Town, South Africa	2015
Demonstrator - 2 nd year courses: Plant biology and systematic. Botany department, University of Antananarivo, Madagascar	2008

Research funding and grants

As principal investigator

Jennifer Ward Oppenheimer Research Grant (JWO): Bioindicators of biodiversity, air quality and climate change: leveraging non-charismatic groups, bryophytes, and lichens, in the tropical Afro-Malagasy Region. (\$ 150,000)

Association Vahatra, Antananarivo, Madagascar (2023-2025)

Regional Environment Officers (REO) small grants program - US Department of State: Community Scientist Mapping of Airborne Fine Particulate and Metals in Antananarivo, Madagascar using Mosses and Low-Cost Sensors. (\$ 15,450)

Association Vahatra, Antananarivo, Madagascar (2022-2023)

National Geographic Society - Biodiversity Exploration and Discovery: Discovering bryophytes in the high mountains of Madagascar: diversity, distribution pattern and responses to climate change. (\$ 47,255)
Association Vahatra, Kew Madagascar Conservation Centre, Antananarivo, Madagascar (2021-2022)

Royal Botanic Gardens, Kew & Antonelli lab. Postdoctoral fellowship. (\$ 21,456)
Kew Madagascar Conservation Centre, Antananarivo, Madagascar (2020-2023)

NGO Lemur Love: Impacts of covid-19 on Malagasy in STEM. (\$ 1,800)
Association Vahatra, Antananarivo, Madagascar (2020-2021)

DAAD ClimapAfrica Program - Climate change research program for future leaders in the field of climate research and protection. Postdoctoral fellowship. (\$ 31,300)
Association Vahatra, Antananarivo, Madagascar (2020-2022)

Schlumberger Foundation, Faculty for the Future Program (FTFF). Postdoctoral Fellowship for women in STEM. (\$ 28,500)
University of Cape Town, Cape Town South Africa (2019)

International Foundation for Science (IFS) - Individual Research Grant: Diversity and biogeography of bryophytes with an analysis of species and functional diversity along vegetation gradient in Madagascar. (\$ 9,700)
University of Cape Town (2018-2020)

Organization for Women in Science for the Developing World (OWSD). Postgraduate Training Fellowships for Women in science. (\$ 83,800)
University of Cape Town, Cape Town South Africa (2012-2016)

International Foundation for Science (IFS) - Individual Research Grant: Factors affecting diversity and distribution of bryophytes in Madagascar under a changing environment. (\$ 9,881)
University of Cape Town, Cape Town, South Africa (2012-2013)

Bourse du Gouvernement Français (BGF): University of La Réunion, France. Research stay. (\$ 4,500) (2011)

Bourse du Gouvernement Français (BGF): University of La Réunion, France. Research stay. (\$ 4,500) (2010)

As co-applicant

JRS Biodiversity Foundation: Mobilizing and making data available for identification, taxonomy, socioeconomic importance, and conservation assessment of Bryophytes in Benin (\$ 249,966)
University of Abomey-Calavi, Benin (2023-2025)

Royal Botanic Gardens, Kew Pilot Study Fund: B-SPORE, Blooming of the Science and Preservation of Spore bearing plants (£ 5,000)
Royal Botanic Gardens, Kew, UK (2022)

Awards

Green talent Award 2014: International Forum for High Potentials in Sustainable Development, award from the German Federal Ministry of Education and Research.

(https://www.greentalents.de/awardees_awardees2014_lova-marline.php)

Career development courses

Media training. Lefevre Media Ltd (www.lefevremedia.co.uk). Royal Botanic Gardens, Kew, UK Oct 2022

Ecophysiology of plant growth (photosynthetic activities and responses to temperature and increasing atmospheric CO₂). CIRAD, University of La Réunion, France Jan 2020

Tropical Biology association (TBA), Training course: using R for analysis of conservation science data. University of Cambridge, UK Mar 2018

Tropical Biology association (TBA), Training course: communication and publishing skills for African conservation scientists. University of Cambridge, UK Mar 2017

Molecular and evolutionary biology: DNA extraction/PCR, phylogenetic construction and phylogeographic analyses. Nees Institute, University of Bonn, Germany Nov 2015-Jan 2016

R course on Phylogenetics and Spatial Ecology. University of Cape Town, SA	Jun 2011
Initiation and training on tropical bryophytes identification. University of La Réunion, France	Aug-Oct 2010
Tropical Biology Association (TBA), Field course in Kirindy forest, Madagascar	2010

Services

Scientific collaborations

BRYOBEN: Mobilizing and making data available for identification, taxonomy, socioeconomic importance, and conservation assessment of Bryophytes in Benin. Main collaborator (2022-2025)

BSPORE: Evolution and mechanisms of desiccation tolerance and longevity in plant propagules (Royal Botanic Gardens, Kew). Main collaborator (2021-2022)

MADBRYO: A collaborative project on the bryophytes of Madagascar. <https://www.madbryo.org>. Steering committee member (2018-Present)

MOVECLIM: MONTane VEgetation as listening posts for CLIMATE change (La Réunion, Guadeloupe, Azores, La Palma and Tahiti). <http://moveclim.blogspot.com>. Team member, PhD student (2012-2016)

BRYOLAT: Altitudinal and latitudinal gradients of bryophyte communities in the Western Indian Ocean (Mascarenes, Madagascar, Comoros, and Kenya). Team member, in charge of bryophytes collected in Madagascar (2007-2010)

Completed peer reviews: Acta Innovations Journal (1); Ecology and evolution (3); New Phytologist-Tansley review (1); Cryptogamie bryologie (2); Bryophyte diversity and evolution (1)

Event organization Webinar International Humboldt day - Highlighting research on Madagascar. (International Society of Biogeography) (Sept 2020)

Other appointments

- Association for Tropical Biology and Conservation: Grants and Awards Committee (2023-2025)
- IUCN Species Survival Commission: Bryophyte Specialist Group (2021-Present)
- IUCN Species Survival Commission: Madagascar Plant Specialist Group (2020-Present)
- Working group Climate Africa, biodiversity, ecosystem, and forests: Chairperson (2020-2022)
- Association for Tropical Biology and Conservation, Africa chapter: Southern-African countries representative. (2019-2022)
- Membership committee: Association IkalaStem, Madagascar. (2018-2020)

Membership of professional bodies

- Gothenburg Global Biodiversity Centre (GGBC)
- Association for Tropical Biology and Conservation (ATBC) / ATBC-Africa chapter
- Organization of Women in Science for the Developing World (OWSD)
- Society for Island Biology
- Association IkalaStem - Malagasy women in STEM promoting Science and Education. (2018-2020)

Personal details

Malagasy citizenship

Languages: Malagasy, English, French (fluent); Botanical Latin (basic level)

Referees

- Prof. Alexandre Antonelli, Royal Botanic Gardens, Kew, UK. a.antonelli@kew.org
- Prof. Steve Goodman, Field Museum of Natural History, Association Vahatra, Madagascar. sgoodman@fieldmuseum.org
- Prof. Terry Hedderson, Bolus Herbarium, University of Cape Town, South Africa. thedderson@gmail.com
- Dr. Claudine Ah-Peng, UMR-PVBMT, University of La Réunion, France. claudine.ahpeng@univ-reunion.fr