



## Barnabas Daru

Assistant Professor of Biology and Center Fellow, by courtesy, at the Woods Institute for the Environment

 Curriculum Vitae available Online

### Bio

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#### BIO

Barnabas Daru is an Assistant Professor of Biology. He is interested in the ecology and biogeography of plants across ecological scales. He studied botany in Johannesburg, and was a postdoctoral researcher at Harvard, where he worked on new uses of herbarium specimens for understanding plant ecology and evolution in the Anthropocene, the epoch of profound human impact on Earth. Current research in the Daru lab addresses the role of phylogeny in: 1) understanding how species are distributed, 2) conserving unique communities, and 3) understanding changing distributions in the Anthropocene.

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Biology
- Center Fellow (By courtesy), Stanford Woods Institute for the Environment

#### HONORS AND AWARDS

- MacArthur & Wilson Awardee, International Biogeography Society (2026)
- Sloan Research Fellow, Alfred P. Sloan Foundation (2025)
- Elected Fellow, Linnean Society of London (2025)
- TBA Field Course Kibale Uganda, Tropical Biology Association (2008)
- New Phytologist Poster Prize, New Phytologist Trust (2015)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Ecological Society of America (2024 - present)
- Member, Botanical Society of America (2024 - present)
- Member, American Association for the Advancement of Science (2025 - present)

#### PROFESSIONAL EDUCATION

- Postdoctoral, Harvard University , Organismic and Evolutionary Biology (2018)
- PhD, University of Johannesburg , Botany (2015)

#### LINKS

- Daru lab website: <https://darulab.org/>

## Teaching

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### COURSES

#### 2025-26

- Introduction to Ecology: BIO 81 (Aut)
- Plant EcoEvo in the Field: BIO 137, EARTHSYS 127 (Spr)

#### 2024-25

- Introduction to Ecology: BIO 81 (Aut)
- Plant EcoEvo in the Field: BIO 137, EARTHSYS 127 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Joel Erberich, Desire Nalukwago, Andrea Nebhut, Tenzin Norzin

#### Postdoctoral Faculty Sponsor

Rong Liu, Jacqueline Pena

#### Doctoral Dissertation Advisor (AC)

Joe Kesler, Paul Markley, Lauren Puleo

## Publications

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### PUBLICATIONS

- **Biogeographic processes underlying global patterns of plant diversity.** *Science (New York, N.Y.)*  
Daru, B. H., Nichodemus, C. O., Henao-Díaz, L. F.  
2026; 392 (6800): 845-849
- **Late Quaternary Climate-Driven Shifts in Arctic Plant Distributions** *JOURNAL OF BIOGEOGRAPHY*  
Markley, P. T., Daru, B. H.  
2026; 53 (3)
- **Nine changes needed to deliver a radical transformation in biodiversity measurement.** *Proceedings of the National Academy of Sciences of the United States of America*  
Sutherland, W. J., Burgess, N. D., Edwards, S. V., Jones, J. P., Soltis, P. S., Tilman, D., Allen, J. M., Andrianandrasana, H. T., Armour, C. J., August, T., Bawa, K. S., Bailey, S., Birch, et al  
2026; 123 (10): e2519345123
- **From data to decisions: Toward a Biodiversity Monitoring Standards Framework.** *Proceedings of the National Academy of Sciences of the United States of America*  
Gonzalez, A., August, T., Bailey, S., Bobiwash, K., Boersch-Supan, P. H., Burgess, N. D., Daru, B. H., Elphick, C. S., Freckleton, R. P., Frick, W. F., Hughes, A. C., Isaac, N. J., Jones, et al  
2026; 123 (10): e2519347123
- **Understanding the biogeographic processes behind the accumulation of modern-day marine biodiversity.** *bioRxiv : the preprint server for biology*  
Kesler, J. I., Gross, C. P., Daru, B. H.  
2026
- **The macroecology of spines on woody plants.** *Biological reviews of the Cambridge Philosophical Society*  
Tomlinson, K. W., Yu, F., Wang, X., Yao, X., Yu, C. C., Charles-Dominique, T., Anest, A., Zhao, Y., Prasetyo Agung, A., Adi Putra, A., Lapuz, R. S., Lefebvre, T., Davies, et al  
2025

- **Tracking hidden dimensions of plant biogeography from herbaria.** *The New phytologist*  
Daru, B. H.  
2025
- **The changing biodiversity of the Arctic flora in the Anthropocene.** *American journal of botany*  
Markley, P. T., Gross, C. P., Daru, B. H.  
2025: e16466
- **A global biogeographic regionalization for butterflies.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*  
Gross, C. P., Wright, A. M., Daru, B. H.  
2025; 380 (1917): 20230211
- **A global database of butterfly species native distributions.** *Ecology*  
Daru, B. H.  
2024: e4462
- **Climate change alters the future of natural floristic regions of deep evolutionary origins.** *Nature communications*  
Minev-Benzecry, S., Daru, B. H.  
2024; 15 (1): 9474
- **Predicting undetected native vascular plant diversity at a global scale.** *Proceedings of the National Academy of Sciences of the United States of America*  
Daru, B. H.  
2024; 121 (34): e2319989121
- **Indicators to monitor the status of the tree of life.** *Conservation biology : the journal of the Society for Conservation Biology*  
Gumbs, R., Chaudhary, A., Daru, B. H., Faith, D. P., Forest, F., Gray, C. L., Kowalska, A., Lee, W. S., Pellens, R., Pipins, S., Pollock, L. J., Rosindell, J., Scherson, et al  
2023: e14138
- **Reorganization of seagrass communities in a changing climate.** *Nature plants*  
Daru, B. H., Rock, B. M.  
2023
- **Mass production of unvouchered records fails to represent global biodiversity patterns.** *Nature ecology & evolution*  
Daru, B. H., Rodriguez, J.  
2023
- **Specimens trump field observations in capturing biodiversity trends** *NATURE ECOLOGY & EVOLUTION*  
Daru, B. H., Rodriguez, J.  
2023
- **Mass production of unvouchered records fails to represent global biodiversity patterns** *Nature Ecology & Evolution*  
Daru, B. H., Rodriguez, J.  
2023
- **Woody plant phylogenetic diversity supports nature's contributions to people but is at risk from human population growth** *Conservation Letters*  
Davies, T. J., Maurin, O., Yessoufou, K., Daru, B. H., Bezeng, B. S., Mankga, L. T., Schaefer, H., Thuiller, W., van der Bank, M.  
2022; 15: e12914
- **Widespread homogenization of plant communities in the Anthropocene** *Nature Communications*  
Daru, B. H., Davies, T. J., Willis, C. G., Meineke, E. K., Ronk, A., Zobel, M., Pärtel, M., Antonelli, A., Davis, C. C.  
2021; 12: 6983
- **Migratory birds distribute seeds to new climates** *Nature*  
Daru, B. H.  
2021; 595: 34-36
- **Bias assessments to expand research harnessing biological collections** *Trends in Ecology and Evolution*

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- Meineke, E. K., Daru, B. H.  
2021; 36: 1071-1082
- **Impediments to understanding seagrasses' response to global change** *Frontiers in Marine Science*  
Rock, B. M., Daru, B. H.  
2021; 8: 608867
  - **Exploring a new way to think about climate regions** *eLife*  
Daru, B. H.  
2021; 10: e67422
  - **Endemism patterns are scale dependent.** *Nature Communications*  
Daru, B. H., Farooq, H., Antonelli, A., Faurby, S.  
2020; 11: 2115
  - **Savanna tree evolutionary ages inform the reconstruction of the paleoenvironment of our hominin ancestors** *Scientific Reports*  
Davies, T. J., Daru, B. H., Bezeng, B. S., Charles-Dominique, T., Hempson, G. P., Kabongo, R. M., Maurin, O., Muasya, A. M., van der Bank, M., Bond, W. J.  
2020; 10: 12430
  - **phyloregion: R package for biogeographic regionalization and macroecology** *Methods in Ecology and Evolution*  
Daru, B. H., Karunarathne, P., Schliep, K.  
2020; 11: 1483-1491
  - **Spatial overlaps between the global protected areas network and terrestrial hotspots of evolutionary diversity** *Global Ecology and Biogeography*  
Daru, B. H., le Roux, P. C., Gopalraj, J., Park, D. S., Holt, B. G., Greve, M.  
2019; 28: 757-766
  - **Invasive species differ in key functional traits from native and non-invasive alien plant species** *Journal of Vegetation Science*  
Mathakutha, R., Steyn, C., le Roux, P. C., Blom, I. J., Chown, S. L., Daru, B. H., Ripley, B. S., Louw, A., Greve, M.  
2019; 30: 994-1006
  - **Temperature controls phenology in continuously flowering Protea species of subtropical Africa** *Applications in Plant Sciences*  
Daru, B. H., Kling, M. M., Meineke, E. K., van Wyk, A. E.  
2019; 7: e01232
  - **Widespread sampling biases in herbaria revealed from large-scale digitization** *New Phytologist*  
Daru, B. H., Park, D. S., Primack, R. B., Willis, C. G., Barrington, D. S., Whitfeld, T. J., Seidler, T. G., Sweeney, P. W., Foster, D. R., Ellison, A. M., Davis, C. C.  
2018; 217: 939-955
  - **A novel proof of concept for capturing the diversity of endophytic fungi preserved in herbarium specimens** *Philosophical Transactions of the Royal Society B*  
Daru, B. H., Bowman, E. A., Pfister, D. H., Arnold, A. E.  
2018; 374: 20170395
  - **Biological collections for understanding biodiversity in the Anthropocene** *Philosophical Transactions of the Royal Society*  
Meineke, E. K., Davies, T. J., Daru, B. H., Davis, C. C.  
2018; 374: 20170386
  - **Unravelling the evolutionary origins of biogeographic assemblages** *Diversity and Distributions*  
Daru, B. H., van der Bank, M., Davies, T. J.  
2018; 24
  - **Understanding the processes underpinning patterns of phylogenetic regionalization** *Trends in Ecology and Evolution*  
Daru, B. H., Elliott, T. L., Park, D. S., Davies, T. J.  
2017; 32: 845-860
  - **Phylogenetic regionalization of marine plants reveals close evolutionary affinities among disjunct temperate assemblages** *Biological Conservation*

- Daru, B. H., Holt, B. G., Lessard, J. P., Yessoufou, K., Davies, T. J.  
2017; 213: 351-356
- **Testing the reliability of the standard and complementary DNA barcodes for the monocot subfamily Alooideae from South Africa** *Genome*  
Daru, B. H., van der Bank, M., Bello, A., Yessoufou, K.  
2017; 60: 337-347
  - **Ten years of barcoding at the African Centre for DNA barcoding** *Genome*  
Bezeng, B. S., Davies, T. J., Daru, B. H., Kabongo, R. M., Maurin, O., Yessoufou, K., van der Bank, H., van der Bank, M.  
2017; 60: 629-638
  - **Integrating biogeography, threat and evolutionary data to explore extinction crisis in the taxonomic group of cycads** *Ecology and Evolution*  
Yessoufou, K., Daru, B. H., Tafirei, R., Elansary, H. O., Rampedi, I.  
2017; 7: 2735-2746
  - **Climate change may reduce the spread of non-native species** *Ecosphere*  
Bezeng, B. S., Morales-Castilla, I., van der Bank, M., Yessoufou, K., Daru, B. H., Davies, T. J.  
2017; 8: e01694
  - **Spiny plants, mammal browsers and the origin of African savannas** *Proceedings of the National Academy of Sciences USA*  
Charles-Dominique, T., Davies, T. J., Hempson, G. P., Bezeng, B. S., Daru, B. H., Kabongo, R. M., Maurin, O., Muasya, A. M., van der Bank, M., Bond, W. J.  
2016; 113: E5572–E5579
  - **Marine protected areas are insufficient to conserve global marine plant diversity** *Global Ecology and Biogeography*  
Daru, B. H., le Roux, P. C.  
2016; 25: 324–334
  - **A search for a single DNA barcode for seagrasses of the world** *DNA Barcoding in Marine Perspectives: Assessment and Conservation of Biodiversity*  
Daru, B. H., Yessoufou, K., Ghosh, S. K., Rehman, H.  
edited by Trivedi, S., Ansari, A. A.  
Springer International Publishing Switzerland.2016: 313-330
  - **Opportunities for unlocking the potential of genomics for African trees** *New Phytologist*  
Daru, B. H., Berger, D. K., van Wyk, A. E.  
2016; 210: 772–778
  - **Multiple routes underground? Frost alone cannot explain the evolution of underground trees** *New Phytologist*  
Davies, T. J., Daru, B. H., van der Bank, M., Maurin, O., Bond, W. J.  
2016; 209: 910-912
  - **A novel phylogenetic regionalization of the phytogeographic zones of southern Africa reveals their hidden evolutionary affinities** *Journal of Biogeography*  
Daru, B. H., van der Bank, M., Maurin, O., Yessoufou, K., Schaefer, H., Slingsby, J. A., Davies, T. J.  
2016; 43: 155-166
  - **Spatial incongruence among hotspots and complementary areas of tree diversity in southern Africa** *Diversity and Distributions*  
Daru, B. H., van der Bank, M., Davies, T. J.  
2015; 21: 769-780
  - **DNA barcodes reveal microevolutionary signals in fire response trait in two legume genera** *AoB PLANTS*  
Bello, A., Daru, B. H., Stirton, C. H., Chimphango, S. B., van der Bank, M., Maurin, O., Muasya, A. M.  
2015; 7: plv124
  - **Phylogenetic exploration of commonly used medicinal plants in South Africa** *Molecular Ecology Resources*  
Yessoufou, K., Daru, B. H., Muasya, A. M.  
2015; 15: 405-413
  - **A Global Trend towards the Loss of Evolutionarily Unique Species in Mangrove Ecosystems** *PLOS ONE*  
Daru, B. H., Yessoufou, K., Mankga, L. T., Davies, T.

2013; 8 (6): e66686

- **Phylogenetic Patterns of Extinction Risk in the Eastern Arc Ecosystems, an African Biodiversity Hotspot** *PLOS ONE*  
Yessoufou, K., Daru, B. H., Davies, T.  
2012; 7 (10): e47082