

## Jacob. K. Moutouama

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## EDUCATION

2022- present: **Postdoctorate research associate**, Department of Bioscience at Rice University  
2022: **Ph.D. in Ecology and Evolutionary Biology**, Department of Ecology and Evolutionary Biology, University of Tennessee at Knoxville (Advisor: Orou Gaoue)  
2016: **MS in Forestry**, Graduated with Highest Honors, University of Parakou, Benin  
2012: **BS in Forestry and Wildlife**, Graduated with Highest Honors, University of Parakou, Benin

## ADDITIONAL TRAINING

October 2021: **Plant-People Interactions: Ethnobotany in the 21st Century**. Organization of Tropical Studies. *Online Course*

December 2020: **Bayesian Modeling for Socio-Environmental Data Short Course**. National Socio- Environmental Synthesis Center (SESYNC), Maryland

November 2020 : **Adaptive Management**. National Institute for Mathematical and Biology Synthesis at the University of Tennessee, Knoxville.

December 2018: **Applications of Spatial Data: Ecological Niche Modeling**. National Institute for Mathematical and Biology Synthesis at the University of Tennessee, Knoxville.

January 2018: **Modeling for Epidemiology, Ecology and Conservation**; African Mathematical School, Laboratory of Biomathematics and Forest Estimations, University of Abomey Calavi, Benin

Nov-Dec 2016: **Tropical Ecology Fields course**. Tropical Biology Association, Madagascar

May 2016: **Population modelling**. School of Forestry and wood engineering (Benin), Department of Biometry and Environment analysis (Germany)

## PUBLICATIONS

### *Published Journal Articles*

**Moutouama JK** and Gaoue OG. Altitude mediated soil properties, not geography or climatic distance, explains the abundance of a tropical endemic herb. *Ecology and Evolution*. 10.1002/ece3.8572

**Moutouama JK** and Gaoue OG. Soil nitrogen mediates the effect of climatic distance on herbivory rates in a tropical herb. *Biotropica*. 10.1111/btp.13082

Gaoue O G., **Moutouama JK**, Coe M., Bond M. O. Bond, Green E., Sero N. B., Bezeng B. S., and Yessoufou K. Methodological advances for hypothesis-driven ethnobotany. *Biological Review*. 2021.00-00. 10.1111/brv.12752

**Moutouama J. K.**, Fandohan A. B., Biaou S. S. H., Amahowe O. I., Moutouama F. T. & Natta A. K. (2016). Potential climate change favored expansion of a range limited species, *Haematostaphis barteri* Hook f. *Journal for Agriculture and Environment for International Development*. 110 (2): 397- 411. DOI: 10.12895 5/jaeid.20162.516

Fandohan A. B., **Moutouama J. K.**, Biaou S. S. H., Gouwakinnou G. N., Adomou C. A., (2015). Le réseau d'aires protégées Bénin-Togo assure-t-il la conservation de *Thunbergia atacorensis* (Acanthaceae)? *Revue CAMES Science de la Vie, de la terre et Agronomie* 3(02) : 2424-7235.

Biaou S. S. H., **Moutouama J. K.**, B. S. C. Dan, Amahowe O. I., Moutouama F. T. & Natta A. K. (2016). Uses of *Haematostaphis barteri* Hook f among Waaba and Betamaribè in North Benin and impact of the vulnerability of the species. *International Journal of Biodiversity and Conservation*. Vol. 9(5), pp. 146-157, DOI: 10.5897/IJBC2016.1063

#### ***Manuscripts in Review***

Yarou AB, **Moutouama JK** and Gaoue OG. Non-monodominant understory in monodominant stands of a tropical tree in West Africa. *Environmental Conservation*.

**Moutouama JK** and Gaoue OG. Soil heterogeneity, rather than climate or geography, drives the population dynamics of a tropical range-limited plant. *Ecology*. *Accepted with revisions*

**Moutouama JK** and Gaoue OG. Non-random selection of medicinal plant used around the biosphere reserve of Pendjari in West-Africa. *People and nature*. *Accepted with revisions*

#### ***Manuscripts in Preparation***

**Moutouama JK** and Gaoue OG. The center-periphery hypothesis revisited: a meta-analysis. *Nature Ecology and Evolution*

Gaoue O G., **Moutouama JK**, and Sero N. B. Failure to buffer: demography lability in a long-lived plant in response to high harvest and dry climate. *The American Naturalist*.

#### **CONTRIBUTED TALKS**

**Moutouama J. K.** Nitrogen in soil mediates the effect of distance from climatic center on herbivory rate. July 2021. Association for Tropical and Biological Conservation.

**Moutouama J. K.** Demographic response of a range-limited tropical plant to climatic and geographic gradients shapes its population dynamics from center to periphery. August 2021. Ecological Society of America.

**Moutouama J. K.,** Fandohan A. B. et Biaou S. S. H. 2015. Climate change and *Thunbergia atacorensis* a rare and endemic species of West-Africa, Implications for better conservation. 27th International Congress on conservation of biology. 02-06 August Montpellier France.

**Moutouama J. K.,** Biaou S. S. H. et Amahowé I. Impacts de l'exploitation de *Haematostaphis barteri* (Hook f.) Sur la vulnérabilité de l'espèce au Bénin. Premier atelier sur les espèces Négligés et sous utilisées du Bénin. 2014 Abomey-Calavi, au Benin.

## **AWARD & GRANTS (\$ 51718.59)**

**Travel Grant for Ecological Society of America 2022.** Plant Population Ecology Section. \$600

**Small Research Grants British Ecological Society 2022.** Genetic diversity as a driver of population dynamics. 2021-2022. \$6302

**Hochman Award 2022.** Linking genetic diversity and population dynamics to understand range limitation in *Thunbergia atacorensis* populations. 2021-2022. \$750

**SARIF Open Publishing Support Fund (OPSF).** Altitude-mediated soil properties, not geography or climatic distance, explain the distribution of a tropical endemic herb. \$1760

**Organization of Tropical studies scholarship.** Plant-People Interactions: Ethnobotany in the 21st Century. October 2021. \$300

**One time Fellowship, Graduate School University of Tennessee at Knoxville.** \$1500

**Lewis Clark Grant.** Linking genetic diversity and population dynamics to understand range limitation in *Thunbergia atacorensis* populations. 2021-2022. \$4900

**Breedlove, Dennis Fund Awards for Student Botanical Field Experiences.** Understanding the effect of insect herbivory on the dynamic *Thunbergia atacorensis*, an endemic perennial herb in West-Africa. 2021. \$1,000

**The Graduate Student Senate Travel Awards 2021:** EMNTools: a hands-on workshop. Spain 2020. \$306.59

**Rufford Small Grant:** Conserving gallery forests threatened by human pressure in Northern Benin (2020-2021). \$7500

**Association for Tropical Biology and Conservation (ATBC) Seed Research Grant:** Herbivory as driver of center-periphery dynamics in an endemic plant species (2021): \$1000

**National Institute for Mathematical and Biological Synthesis (NIMBioS) Graduate Award,** (2019- 2020). \$2500

**Best progress toward Dissertation 2019**, Department of Ecology and Evolutionary Biology, University of Tennessee at Knoxville

**British Ecological Society (Ecologists in Africa)**. Plant-soil feedback as a driver of center-periphery dynamics for the endemic herb, *Thunbergia atacorensis* (2019-2021). \$14,500

**Breedlove, Dennis Fund Awards for Student Botanical Field Experiences**. Understanding how the variation between the visitations by pollinators is related to flower traits and how the strength of this link varies between the center and the periphery. 2019. \$1,000

**McClure Scholarship, University of Tennessee at Knoxville**. Spatially explicit cost of reproduction and implication for evolutionary demography (2019-2020). \$ 5000

**Society for conservation Biology Graduate student Awards**. Understanding pattern of medicinal plants selection along a threatened hotspot of biodiversity in Northwestern Benin, West Africa. 2019. \$1000

**Graduate student Competition**, Ecology and evolutionary Biology (UTK) Herbivory as driver of center-periphery dynamics in an endemic plant species. 2019. \$2500.

**Tropical Biology Association Course**: Full funded, 2016.

## **RESEARCH INTERESTS**

Structured models, Biotic interactions, Conservation Biology and Ethnobiology.

## **MENTORING STUDENTS**

Mentor of 5 undergraduate students (on statistical analysis with R and GIS) for an International research Experience in Africa with National Science Foundation.

## **CLASSES TAUGHT AS TEACHING ASSISTANT AT UTK**

EEB 587 Population modelling with R, EEB 304 Economic Botany, BIO260: General Ecology, BIO150 (Skills of Biological Literacy), EEB 403 (Field Botany), MAT405: Models in Biology, EEB560: Biometry