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KARATINA UNIVERSITY

STAFF PROFILE TEMPLATE

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1. **Name:** Duncan Kimuyu
2. **Designation:** Senior Lecturer
3. **Employment details**

School: SNRES

Department: NRS

4. **Contact Information**

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5. **Describe your professional self** [your biography – Two Paragraph summary max.]

Dr. Duncan Kimuyu is a Senior Lecturer in the Department of Natural Resources at Karatina University, Kenya. Duncan's has a solid background in field Ecology and his research focuses on responses of wildlife biodiversity to anthropogenic drivers of change such as prescribed fires, extirpation of large mammals, and intensification in livestock grazing. His research has opened up new ways of thinking about livestock, wildlife, and fire management in rangelands.

5. **Area/ Field of specialization:** Wildlife Ecology and Management

6. **Research interests:** Ecology

7. List some of your key published works.

Peer-reviewed Publications

1. Pringle R.M, Abraham J.O, Anderson T.M, Coverdale T.C, Davies A.B, Dutton C.L, Gaylard A, Goheen J.R, Holdo R.M, Hutchinson M.C, **Kimuyu D.M**, ...Veldhuis M.P (2023) Impacts of large herbivores on terrestrial ecosystems. *Current Biology* 33, 584-610. <https://doi.org/10.1016/j.cub.2023.04.024>
2. Ang'ila R.O, **Kimuyu D.M**, Wambugu G.M, Kenfack D, Musili P.M, Kartzinel T.R (2023) Fine-scale variation in soil and topography influences herbaceous vegetation and the distribution of large mammalian herbivores, *African Journal of Ecology*, 00, 1– 11. <https://doi.org/10.1111/aje.13166>
3. Ngugi, M. W., **Kimuyu, D. M.**, Sensenig, R. L., Odadi, W. O., Kiboi, S. K., Omari, J. K., & Young, T. P. (2022). Fire and Herbivory Interactively Suppress the Survival and Growth of Trees in an African Semiarid Savanna. *Fire*, 5(5), Article 5. <https://doi.org/10.3390/fire5050169>
4. Wells, H.B.M., Crego R.D, Alston J.M, Ndung'u S.K, Khasoha L.M, Reed C.G, Hassan A.A, Kurukura S, JEkadeli J, Namoni M, Stewart P.S, **Kimuyu D.M**, Wolf A.A, Young T.P, Kartzinel T.R, Palmer T.M, Goheen J.R, Pringle R.M (2022) Wild herbivores enhance resistance to invasion by exotic cacti in an African savanna. **Journal of Ecology**. <https://doi.org/10.1111/1365-2745.14010>
5. Govender, N., Staver, C., Archibald, S., Wigley-Coetsee, C., Strydom, T., Humphrey, G., & **Kimuyu, D.M.** (2022). Lessons from a century of evidence-based fire management in grassy ecosystems. **African Journal of Range & Forage Science**, 39(1), v–vii. <https://doi.org/10.2989/10220119.2022.2035489>
6. Ebel CR, Case MF, Werner CM, Porensky LM, Veblen KE, Wells HBM, **Kimuyu D.M**, Langendorf RE, Young TP and Hallett LM (2022) Herbivory and Drought Reduce the Temporal Stability of Herbaceous Cover by Increasing Synchrony in a Semi-arid Savanna. **Front. Ecol. Evol.** 10:867051. doi: <https://doi.org/10.3389/fevo.2022.867051>
7. Freeman, P.T.; Ang'ila, R.O.; **Kimuyu, D.M**; Musili, P.M.; Kenfack, D.; Lokeny Etelej, P.; Magid, M.; Gill, B.A.; Kartzinel, T.R. (2022) Gradients in the Diversity of Plants and Large Herbivores Revealed with DNA Barcoding in a Semi-Arid African Savanna. **Diversity** 2022, 14, 219. <https://doi.org/10.3390/d14030219>
8. Wells H.B.M, Crego R, Ekadeli J., Namoni M, **Kimuyu D.M**, Odadi W., Porensky L, Dougill A.J., Stringer L., Young T (2022) Less is more: Lowering cattle stocking rates

enhances wild herbivore habitat use and cattle foraging efficiency. **Frontiers in Ecology and Evolution**, 10:825689. <https://doi.org/10.3389/fevo.2022.825689>

9. Young, T. P., **Kimuyu, D.M.**, Veblen, K. E., Riginos, C., Sitters, J., Porensky, L., & Odadi, W. O. (2022). Elephants Mitigate the Effects of Cattle on Wildlife and Other Ecosystem Traits: Experimental Evidence. **Proceedings of the XXIV International Grassland Congress**. <https://uknowledge.uky.edu/igc/24/4-2/2>
10. Young, T., **Kimuyu, D.M.**, LaMalfa, E., Werner, C., Jones, C., Masudi, P., Ang'ila, R., Sensenig, R., (2022) The effects of large mammalian herbivory, previous fire, and year of burn on fire behavior in an African savanna. **Ecosphere**, 13 (3): e3980. <https://doi.org/10.1002/ecs2.3980>
11. Sperandii, M.G., F. de Bello, E. Valencia, L. Götzenberger, M. Bazzichetto, T. Galland, A. E-Vojtkó, L. Conti, P.B. Adler, J. Danihelka, J. Dengler, D.J. Eldridge, M. Estiarte, R. García-González, E. Garnier, D. Gómez, S. Harrison, T. Herben, R. Ibáñez, A. Jentsch, Norbert Juergens, M. Kertész, **D.M. Kimuyu**, K. Klumpp, F. Louault, R.H. Marrs, G. Ónodi, R.J. Pakeman, M. Pärtel, B. Peco, J. Peñuelas, M. Rueda, W. Schmidt, U. Schmiedel, M. Schuetz, H. Skalova, P. Šmilauer, M. Šmilauerová, C. Smit, M.-H. Song, M. Stock, J. Val, V. Vandvik, K. Wesche, S.K. Wiser, B.A. Woodcock, T.P. Young, F.-H. Yu, M. Zobel, and J. Lepš. (2022) LOTVS: a global collection of permanent vegetation plots. **Journal of Vegetation Science**, 33:e13115: <https://doi.org/10.1111/jvs.13115>
12. Rabideau-Childers, R., Angier, K. I. W., Dean, B. Z. M., Blumstein, M., Darling, W. S., Kennedy-Yoon, A., Ziemke, C. H., Perez-Martinez, C. A., Wu, D., Ye, W., Yekwayo, I., **Kimuyu, D. M.**, Martins, D. J., & Pierce, N. E. (2021). Evidence of nutrient translocation in response to smoke exposure by the East African ant acacia, *Vachellia drepanolobium*. **Ecology and Evolution**, 12, e8244. <https://doi.org/10.1002/ece3.8244>
13. Wells, H.B.M., R.D. Crego, Ø.H. Opedal, L.M. Khasoha, J.M. Alston, C.G. Reed, S. Weiner, S. Kurukura, A.A. Hassan, M. Namoni, J. Ekadeli, **D.M. Kimuyu**, T.P. Young, T.R. Kartzinel, T.M. Palmer, R.M. Pringle, J.R. Goheen. 2021. Experimental evidence that effects of megaherbivores on mesoherbivore space use are influenced by species' traits. **Journal of Animal Ecology**, 90(11):2510-2522 <https://doi.org/10.1111/1365-2656.13565>
14. Kenfack, D., Arellano, G., Kibet, S., **Kimuyu, D.**, & Musili, P. (2021). Understanding the monodominance of *Acacia drepanolobium* in East African savannas: Insights from demographic data. **Trees** 35:1439–1450. <https://doi.org/10.1007/s00468-021-02127-6>
15. Young, T.P., **Kimuyu, D.M.** Odadi, W.O., Wells H.B.M. & Wolf A.A. (2021). Naïve plant communities and individuals may initially suffer in the face of reintroduced megafauna: an experimental exploration of rewilding from an African savanna rangeland. **PLOSOne**, 16(4) <https://doi.org/10.1371/journal.pone.0248855>

16. Charles, G.K., Riginos C., Veblen K.E., **Kimuyu D.K.** & Young T.P. (2021). Termite mound cover and abundance respond to herbivore-mediated biotic changes in an African savanna. **Evolution & Ecology** 11(12), 7226-7238. <https://doi.org/10.1002/ece3.7445>
17. Wells, H.B.M., **Kimuyu, D.M.**, Odadi, W.O., Young, T.P., Dougill, A.J. and Stringer. L.C. (2021). Wild and domestic savanna herbivores increase smaller vertebrate diversity, but less than additively. **Journal of Applied Ecology** 58(5) 953-963. <https://doi.org/10.1111/1365-2664.13843>
18. Werner C.M., **Kimuyu, D.M.**, Veblen K.E, Sensenig R.L, LaMalfa E., and Young T.P. (2021) Synergistic effects of long-term herbivory and previous fire on fine-scale heterogeneity of prescribed grassland burns. **Ecology** 102(4) e03270: <https://doi.org/10.1002/ecy.3270>
19. Isbell L.A, Bidner L.R, Loftus J.C, **Kimuyu D.M.**, Young T.P (2021) Absentee owners and overlapping home ranges in a territorial species. **Behavioral Ecology and Sociobiology**, 75(1), 21. <https://doi.org/10.1007/s00265-020-02945-7>
20. **Kimuyu, D.M.**, Kenfack, D., Musili, P. M., & Ang'ila, R.O. (2021). Fine-scale habitat heterogeneity influences browsing damage by elephant and giraffe. **Biotropica**, 53(1), 86–96. <https://doi.org/10.1111/btp.12848>
21. Ferguson, A.W., Muloi, D., Ngatia, D.K., Kiongo, W., **Kimuyu, D.M.**, Webala, P.W., . . . Martins, D.J. (2020). Volunteer based approach to dog vaccination campaigns to eliminate human rabies: Lessons from Laikipia County, Kenya. **PLOS Neglected Tropical Diseases**, 14(7), e0008260. <https://doi.org/10.1371/journal.pntd.0008260>
22. Sitters, J., **Kimuyu, D.M.**, Young, T.P., Claeys, P., & Olde Venterink, H. (2020). Negative effects of cattle on soil carbon and nutrient pools reversed by megaherbivores. **Nature Sustainability**, 3(5), 360-366. <https://doi.org/10.1038/s41893-020-0490-0>
23. LaMalfa E., **Kimuyu D.M.**, Sensenig R.L., Young T.P, Riginos C., and Veblen K.E. (2019) Tree resprout dynamics following fire depend on herbivory by wild ungulate herbivores. **Journal of Ecology**, 2493-2502 <https://doi.org/10.1111/1365-2745.13186>
24. Goheen J.R., Augustine D.J., VeblenK.E., **Kimuyu D.M.**, Palmer T.M., Porensky L.M., . . . Young, T.P. (2018) Conservation lessons from large-mammal manipulations in East African savannas: the KLEE, UHURU, and GLADE experiments. **Annals of The New York Academy of Sciences**, 1429: 31-49. <https://doi.org/10.1111/nyas.13848>

25. Young T.P., Porensky L.M, Riginos C., Veblen K.E., Odadi W.O, **Kimuyu D.M.**, Charles G.K., Young H.S. (2018) Relationships Between Cattle and Biodiversity in Multiuse Landscape Revealed by Kenya Long-Term Exclosure Experiment. ***Rangeland Ecology and Management*** 71(3): 281-291 <https://doi.org/10.1016/j.rama.2018.01.005>
26. Tucker, M. A., Böhning-Gaese, K., Fagan, W. F., Fryxell, J. M., Moorter, B. V., Alberts, S. C., Ali, A. H., Allen, A. M., Attias, N., Avgar, T., Bartlam-Brooks, H., Bayarbaatar, B., Belant, J. L., Bertassoni, A., Beyer, D., Bidner, L., Beest, F. M. van, Blake, S., Blaum, N., ... Mueller, T. (2018). Moving in the Anthropocene: Global reductions in terrestrial mammalian movements. ***Science***, 359(6374), 466–469. <https://doi.org/10.1126/science.aam9712>