**CURRICULUM VITAE**

Patrick Aria Omeja

June 2020

Place of Birth - Lira, Uganda

Citizenship - Ugandan

Dr. Patrick Omeja received his training at Makerere University with stints abroad at McGill University. He is a conservation scientist interested in forest restoration, and given the importance of elephant in African ecosystems has a keen interest in elephant ecology. He has worked in Kibale National Park, Uganda for almost 20 years and now plays a central role in the operation and promotion of Makerere University Biological Field Station. He is acutely aware that for conservation projects to work, they need to involve the local communities, and thus has initated and is a key playing in a number of conservation programs in Uganda.

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**Academic and Professional positions**

Senior Research Fellow April 2019 to date

Makerere University Biological Field Station

College of Agricultural and Environmental Sciences.

Program Co-Director May 2017 to date

International Development Research Centre of Canada - Climate change and increasing

human-wildlife conflict: How to conserve wildlife in the face of increasing conflicts

with landowners.

Project Director, May 2002 to date

Makerere University Biological Field Station

Consultant, October 2007 – March 2008

D'Appolonia /International Finance Cooperation

Consultant, May 2001 – March 2002

Center for International Forestry Research (CIFOR)

Data Analyst / Research Officer, March 2000 – May 2001

International Development Research Centre (IDRC),

Medicinal Plants and Biodiversity (U) Project – NCRL Ministry of Health

Research Fellow / Regional Co-ordinator, 1998 – March 2000

WWF-UK / People and Plants Initiative (Central Uganda)

Research Monitoring and Evaluation Officer, 1997 - 1998

International Development Research Centre (IDRC),

Medicinal Plants and Biodiversity (U) Project, NCRL Ministry of Health

**Area of specialization and research interest**

Restoration Ecology & Environmental Forestry, Elephants, Plant and Animal Responses to

Climate Change, Crop Raiding

**Education History**:

Ph.D. (Forest Biology and Ecosystems Management), Makerere University (2010)

Thesis Title: Restoration potential of trees in the degraded forest areas of

Kibale National Park, Uganda.

MSc. Botany, Makerere University (2001).

Thesis Title: Impact of drum making on the tree population structure and supplies of favored tree species in Central Uganda.

B.Sc. (Honors) in Forestry, Makerere University (1998)

**Research experience**

From May 2002 to present, I have served as Project Director for the then University of Florida (now McGill University) Research Program based at Makerere University Biological Field Station (MUBFS), Kibale National Park, Uganda. Under this program, I (together with a Director) guide a team of field staff in conducting work on both terrestrial and aquatic ecosystem in and around Kibale National Park. In addition, I also work closely with the Uganda Wildlife Authority (UWA), Uganda National Council for Science and Technology (UNCST), and Makerere University Biological Field Station (MUBFS) staff.

**Publications**

Rong Hou, Rafael Reyna-Hurtado, Patrick Omeja, Charles Tumwesigye, Dipto Sarkar, Jan F. Gogarten, and Colin A. Chapman. Long-term trends in a forest ungulate community: Park establishment increases numbers, but poaching is a constant threat. Conservation Biology

Valenta, Kim, David J. Daegling, Omer Nevo, Justin Ledogar, Dipto Sarkar, Urs Kalbitzer, Sarah Bortolamiol, Patrick Omeja, Colin A. Chapman, Manfred Ayasse, Richard Kay, Blythe Williams. 2020. Fruit selectivity in anthropoid primates: Size matters. International Journal of Primatology https://doi.org/10.1007/s10764-020-00158-3.

Chapman, Colin A., Júlio César Bicca-Marques, Amy E. Dunhan, Pengfei Fan, Peter J. Fashing, Jan Gogarten, Songtao Guo, Michael A. Huffman, Urs Kalbitzer, Changyong Ma, Ikki Matsuda, Patrick A. Omeja, Raja Sengupta, Juan Carlos Serio-Silva, Yamato Tsuji, and Nils Chr. Stenseth. 2020. Primates can be a rallying species to promote tropical forest restoration. Folia Primatologica. DOI: 10.1159/000505951

Atickem, Anagaw, Nils Chr. Stenseth, Peter J. Fashing, Nga Nguyen, Colin A. Chapman, Afework Bekele, Addisu Mekonnen, Patrick A. Omeja, and Urs Kalbitzer. 2019. Build Science in Africa. Nature 570:297-300

Kalbitzer, Urs, Victoria McInnis, Patrick A. Omeja, Sarah Bortolamiol, and Colin A. Chapman. 2019. Does the presence of elephant dung create hotspots of seedling growth for existing seedlings? Journal of Tropical Ecology 35:132-139.

Simons, Noah, D. Geeta N. Eick, Maria J. Ruiz-Lopez, David Hyeroba, Patrick A. Omeja, Geoffrey Weny, Colin A. Chapman, Tony L. Goldberg, William M. Switzer, Kirstin N. Sterner, Nelson Ting. 2019. Genome-wide patterns of gene expression in a wild primate indicate species-specific mechanisms associated with tolerance to natural simian immunodeficiency virus infection. Genetics 11(6):1630-1643. doi: <http://dx.doi.org/10.1101/395152>.

Chapman, Colin. A., Patrick A. Omeja, and Claire A. Hemingway. Africa needs better science capacity to meet environmental challenges. The Conversation https://theconversation.com/africa-needs-better-science-capacity-to-meet-environmental-challenges-119677.

Valenta, Kim, Urs Kalbitzer, Diary Razafimadimby, Patrick Omeja, Manfred Ayasse, Colin A. Chapman, Omer Nevo. 2018. The evolution of fruit colour: phylogeny, abiotic factors and the role of mutualists. Scientific Reports. 8:14302 DOI:10.1038/s41598-018-32604-x. Top 100 articles in Scientific Reports out of 17000,

Ting, N., C.A. Chapman, T.R.B. Davenport, K.M. Detwiler, P.A. Omeja, A.K. Piel, and T.T. Struhsaker. Ashy Red Colobus *Piliocolobus tephrosceles*. In: The Red Colobus Conservation Action Plan 2019-2021. Drew T. Cronin, Joshua M. Linder, Nelson Ting, Ekwoge Abwe, W. Scott McGraw, John A. Hart, Kate Detwiler, Stanislaus Kivai, Sery Gonedelé Bi, John F. Oates, Thomas T. Struhsaker eds. IUCN, Gland Switzerland.

Chapman, Colin A., Patrick A. Omeja, Urs Kalbitzer, Penglai Fan, and Michael J. Lawes. 2018. Restoration provides hope for faunal recovery: changes in primate abundance over 45 years in Kibale National Park, Uganda. Tropical Conservation Science. 11:1-5.

Chapman, C. A., Bortolamiol, S., Matsuda, I., Omeja, P. A., Paim, F. P., Reyna-Hurtado, R., Sengupta, R. & Valenta, K. 2018. Primate population dynamics: variation in abundance over space and time. Biodiversity and Conservation, 27:1221-1238.

Valenta, Kim, Urs Kalbitzer, Diary Razafimadimby, Patrick Omeja, Manfred Ayasse, Colin A. Chapman, Omer Nevo. 2018. The evolution of fruit colour: phylogeny, abiotic factors and the role of mutualists. Scientific Reports. 8:14302 DOI:10.1038/s41598-018-32604-x.

Nevo, O., K. Valenta, A.G. Tevlin, P.A. Omeja, S.A. Styler, D.J. Jackson, C.A. Chapman, and M. Ayasse. 2018. Fruit defence syndromes: The independent evolution of mechanical and chemical defences. Evolutionary Ecology DOI 10.1007/s10682-017-9919-y.

Salerno, J., C.A. Chapman, J.E. Diem, N. Dowhaniuk, A. Goldman, C.A. MacKenzie, P.A. Omeja, M.W. Palace, R. Reyna-Hurtado, S.J. Ryan, J. Hartter. 2018. Park isolation in anthropogenic landscapes: Land change and livelihoods at park boundaries in the African Albertine Rift. Regional Environmental Change DOI 10.1007/s10113-017-1250-1.

Simons, N.D., G.N. Eick, M.J. Ruiz-Lopez, P.A. Omeja, C.A. Chapman, T.L. Goldberg, N. Ting, and K.N. Sterner. 2017. Cis-regulatory evolution in a wild primate: Infectionassociated genetic variation drives differential expression of MHC-DQA1 in vitro. Molecular Ecology 2017:1–13.

Goldberg, T.L., S. Angedakin, G.M. Isabirye Basuta, M. Brown, T.M. Butynski, C.A. Chapman, L.J. Chapman, S. Gunter, I. Kato, J.-M. Krief, S. Krief, J.E. Lambert, K.E. Langergraber, J.C. Mitani, M.N. Muller, S.V. Nelson, P. Omeja, E. Otali, K.B. Potts, E.A. Ross, J.M. Rothman, C. Rowney, E. Sande, T.T. Struhsaker, D. Twinomugisha, D.P. Watts, G. Weny, and R.W. Wrangham. 2016. Remembering Jerry Lwanga: a perspective from his colleagues. International Journal of Primatology37:131-135.

Wheeler, C.E., P.A. Omeja, C.A. Chapman, S.L. Lewis. 2016. Carbon sequestration and biodiversity following active tropical forest restoration: 18 years of change in Kibale National Park, Uganda. Forest Ecology and Management 373:44-55.

Omeja, P., M.J. Lawes, A. Corriveau, K. Valenta, D. Sarkar, F.P. Paim, and C.A. Chapman. 2016. Recovery of the animal and plant communities across large scales in Kibale National Park, Uganda. Biotropica 48:770-729. (Featured by National Geographic).

Genomic resources development consortium, S. Blanchet, O. Bouchez, C.A. Chapman, P.D. Etter, T.L. Goldberg, E.R. Johnson, J.H. Jones, E. Loot, P.A. Omeja, O. Rey, M.J. Ruiz-Lopez, W.M. Switzer, and N. Ting. 2015. Genomic resources notes. Molecular Ecology Resources 15:684.

Chapman, C.A., B. van Bavel, C. Boodman, R.R. Ghai, J.F. Gogarten, J. Hartter, L.E. Mechak, P.A. Omeja, S. Poonawala, D. Tuli, and T.L. Goldberg. 2014. Providing healthcare to improve community perceptions of protected areas. Oryx doi:10.1017/S0030605313001592.

Omeja, P.A., A.L. Jacob, M.J. Lawes, J.S. Lwanga, J.M. Rothman, C. Tumwesigye, and C.A. Chapman. 2014. Changes in elephant abundance affect forest composition or regeneration? Biotropica 46:704-711.

Ghai, R.R., N.D. Simons, C.A. Chapman, P.A. Omeja, T.J. Davies, N. Ting, and T.L. Goldberg. 2014. Hidden population structure and cross-species transmission of whipworms (*Trichuris* sp.) in humans and non-human primates in Uganda. PLoS Neglected Tropical Diseases 8(10): e3256.

Ghai, R.R., C.A. Chapman, P.A. Omeja, T.J. Davies, and T.L. Goldberg. 2014. Nodule worm infection in humans and wild primates in Uganda: cryptic species in a newly identified region of human transmission. PLoS Neglected Tropical Diseases 8:e2641.

Ghai, R.R., S.D. Sibley, M. Lauck, J.M. Dinis, A.L. Bailey, C.A. Chapman, P. Omeja, T.C. Freidrich, D.H. O’Connor, and T.L. Goldberg. 2013. Deep sequencing identifies two genotypes and high viral genetic diversity of human pegivirus (GB Virus C) in rural Ugandan patients. Journal of General Virology 94:2670-2678.

Gogarten, J.F., M. Guzman, C.A. Chapman, A.L. Jacob, P.A. Omeja, and J.M. Rothman. 2012. What is the predictive power of the colobine protein-to-fiber model and its conservation value? Tropical Conservation Science 5:381-393.

Omeja, P.A., J. Obua, A. Rwetsiba, and C.A. Chapman. 2012. Biomass accumulation in tropical lands with different disturbance histories: contrasts within one landscape and across regions. Forest Ecology and Management 269:293-300.

Chapman, C.A., L.J. Chapman, R.R. Ghai, J. Hartter, A.L. Jacob, J.S. Lwanga, P.A. Omeja, J.M. Rothman, and D. Twinomugisha. 2011. Complex responses to climate and anthropogenic changes: an evaluation based on long-term data from Kibale National Park, Uganda. In: A. Plumptre (ed). The ecological impact of long-term changes in Africa's Rift Valley. Nova Science Publishers, Hauppauge, New York. Pp. 70-87.

Omeja, P.A., J.S. Lwanga, J. Obua, and C.A. Chapman. 2011. Fire control as a simple means of promoting tropical forest restoration. Tropical Conservation Science 4:287-299.

Omeja, P.A., C.A. Chapman, J. Obua, J.S. Lwanga, A.L. Jacob, F. Wanyama, and R. Mugenyi. 2011. Intensive treeplanting facilitates tropical forest biodiversity and biomass accumulation in Kibale National Park, Uganda. Forest Ecology and Management 261:703-709.

Chapman, C.A., L.J. Chapman, A.L. Jacob, J.M. Rothman, P. Omeja, R. Reyna-Hurtado, J. Hartter, and M.J. Lawes. 2010. Tropical tree community shifts: implications for wildlife conservation. Biological Conservation 143:366-374.

Southworth, J., J. Hartter, M. Binford, A. Goldman, C.A. Chapman, L.J. Chapman, J. Hartter, A.P. Omeja, and E. Binford. 2010. Parks, people and pixels: Evaluating landscape effects of an East African national park on its surroundings. Tropical Conservation Science 3:122-142.

Omeja, P.A., C.A. Chapman, and J. Obua. 2009. Enrichment planting does not improve tree restoration when compared with natural regeneration in a former pine plantation in Kibale National Park, Uganda. African Journal of Ecology 47:650-657.

Chapman, C.A., L.J. Chapman, P. Omeja, and D. Twinomugisha. 2008. Long-term studies reveal the conservation potential for integrating habitat restoration and animal nutrition. In: R.W. Wrangham and E. Ross (eds). Science and conservation in African forests: The benefits of long- term research. Cambridge University Press, Cambridge. Pp. 51-62.

Omeja, P., A.B. Cunningham and J. Obua. 2005. Drums and Hornbills. In. Cunningham, A., B. Belcher, and B. Campbell, (eds) Carving out a future; Forests, Livelihoods and the international woodcarving trade. pp. 43 – 52. Earthscan publishers, London.

Omeja, P., J. Obua and A.B. Cunningham. 2005. Demand and supply of wood for drum making in Central Uganda. International Forestry Review 7:21 –26.

Omeja, P., J. Obua and A.B. Cunningham 2005. Carved wooden drums and trade in Mpigi district, Uganda. In. Sunderland, T. and Ondoye, O. (eds) Forest Products, Livelihoods and conservation. Case studies of Non-timber forest products systems. pp. 169 – 182. Jakarta, Indonesia.

Omeja, P., J. Obua and A.B. Cunningham 2004. Regeneration, density and size class distribution of tree species used for drum making in Central Uganda. African Journal of Ecology 42:129 – 136.

Omeja, P., B. Belcher, O. Braedt, B. Campbell, A. Cunningham, S. Choge, W. de Jong, R. Höft, O. Ndoye, P. Permadi, S. Purata, D. Rohadi, S. Schmitt, S. Shackleton, P. Shanley and W. Stand Gunda. 2002. Planning for woodcarving in the 21st century. CIFOR infobrief. Jakarta, Indonesia.

**Grants**

2017-2022 International Development Research Centre. Colin A. Chapman (PI), Patrick A. Omeja, and Colleen Downs. Climate change and increasing human-wildlife conflict: How to conserve wildlife in the face of increasing conflicts with landowners. $900,000.

2016 National Geographic - Shoji Kawamura, Kim Valenta, Amanda Melin, Patrick Omeja, and Colin Chapman. Do animals drive the evolution of fruit traits?: Matching fruit color, odor, taste, and physical traits with primate selection to evaluate the fruit syndrome hypothesis. $33,000.

2016 National Geographic – Patrick Omeja, Samuel Wasser, and Colin A. Chapman. How does the dramatic increase in elephant numbers and the number of forest-savanna elephant hybrids affect forest structure in Kibale National Park, Uganda? $33,000.