

**ANDREW B. DAVIES****EDUCATION**

- 2014        **PhD** in Zoology, University of Pretoria, South Africa  
2010        **MSc** in Entomology, University of Pretoria, South Africa  
2007        **BSc Honours** (*cum laude*) in Zoology, University of Pretoria, South Africa.  
2006        **BSc** (*cum laude*) in Environmental Science, University of Pretoria, South Africa.

**ACADEMIC APPOINTMENTS**

- 2019 – present **Assistant Professor.** Department of Organismic and Evolutionary Biology, Harvard University  
2019        **Postdoctoral Researcher.** Center for Global Discovery and Conservation Science, Arizona State University, USA. Mentor: Gregory P. Asner  
2014 – 2018 **Postdoctoral Researcher.** Department of Global Ecology, Carnegie Institution for Science, Stanford University, USA. Mentor: Gregory P. Asner  
2014        **Postdoctoral Researcher.** Department of Zoology and Entomology, University of Pretoria, South Africa. Mentor: Mark P. Robertson

**PEER-REVIEWED PUBLICATIONS**

1. Brodrick, PG, **Davies, AB** & Asner, GP (2019) Uncovering ecological patterns with convolutional neural networks. *Trends in Ecology and Evolution* in press.
2. **Davies, AB** & Asner, GP (2019) Elephants limit aboveground carbon gains in African savannas. *Global Change Biology* 25, 1368-1382.
3. Lind, BM & **Davies, AB** (2019) A checklist of the termites of Kruger National Park, South Africa. *Koedoe* 61, a1531.
4. **Davies, AB**, Oram, F, Ancrenaz, M & Asner, GP (2019) Combining behavioural and LiDAR data to reveal relationships between canopy structure and orangutan nest site selection in disturbed forests. *Biological Conservation* 232, 97-107.
5. Jackson, CR, Masenga, EH, Mjingo, EE, **Davies, AB**, Fossøy, F, Fyumagwa, RD, Røskaft, E, May, RF (2019) No evidence of handling-induced mortality in Serengeti's African wild dog population. *Ecology and Evolution* 9, 1110-1118.
6. Muvengwi, J, Parrini, F, Witkowski, ETF & **Davies, AB** (2019) Are termite mounds always grazing hotspots? Grazing variability with mound size, season and geology in an African savanna. *Ecosystems* 22, 125-136.
7. Schmitz, OJ, Wilmers, CC, Leroux, SJ, Doughty, CE, Atwood, TB, Galetti, M, **Davies, AB**, Goetz, SJ (2018) Animals and the zoogeochemistry of the carbon cycle. *Science* 362, eaar3213.

8. Leitner, M, **Davies, AB**, Parr, CL, Eggleton, P & Robertson, MP (2018) Woody encroachment slows decomposition and termite activity in an African savanna. *Global Change Biology* 24, 2597-2606.
9. **Davies, AB**, Gaylard, A & Asner, GP (2018) Megafaunal effects on vegetation structure throughout a densely wooded African landscape. *Ecological Applications* 28, 398-408.
10. Muvengwi, J, **Davies, AB**, Parrini, F & Witkowski, ETF (2018) Geology drives the spatial patterning and structure of termite mounds in an African savanna. *Ecosphere* 9, e02148.
11. Muvengwi, J, **Davies, AB**, Parrini, F & Witkowski, ETF (2018) Termite diversity is higher in landscapes with lower productivity. *Insectes Sociaux* 65, 25-35.
12. **Davies, AB**, Ancrenaz, M, Oram, F & Asner, GP (2017) Canopy structure drives orangutan habitat use in disturbed Bornean forests. *Proceedings of the National Academy of Sciences, USA* 114, 8307-8312.
13. Evans, LJ, **Davies, AB**, Goossens, B & Asner, GP (2017) Riparian vegetation structure and the hunting behavior of adult estuarine crocodiles. *PLoS One* 12, e0184804.
14. Muvengwi, J, Witkowski, ETF, **Davies, AB** & Parrini, F (2017) Termite mounds vary in their importance as sources of vegetation heterogeneity across savanna landscapes. *Journal of Vegetation Science* 28, 1008-1017.
15. Asefa, A, **Davies, AB**, McKechnie, AE, Kinahan, AA & van Rensburg, BJ (2017) Effects of anthropogenic disturbance on bird diversity in Ethiopian montane forests. *The Condor* 119, 416-430.
16. **Davies, AB**, Baldeck, CA & Asner, GP (2017) Termites and trees. Response to comment on ‘Termite mounds alter the spatial distribution of African savanna tree species’. *Journal of Biogeography* 44, 952-955.
17. Del Giudice, D. & **Davies, AB** (2017) Communication: A few words can make a big impact. *Nature* 541, 30.
18. **Davies, AB**, Marneweck, DG, Druce, DJ & Asner, GP (2016) Den site selection, pack composition, and reproductive success in endangered African wild dogs. *Behavioral Ecology* 27, 1869-1879.
19. Lagendijk, DDG, **Davies, AB**, Eggleton, P & Slotow, R (2016) No evidence for an elephant-termite feedback loop in Sand Forest, South Africa. *Biological Conservation* 203, 125-133.
20. **Davies, AB**, Tambling, CJ, Kerley, GIH & Asner, GP (2016) Limited spatial response to predation risk by African herbivores following predator reintroduction. *Ecology and Evolution* 6, 5728-5748.

21. Marvin, DC, Koh, LP, Lynam, AJ, Wich, S, **Davies, AB**, Krishnamurthy, R, Stokes, E, Starkey, R & Asner, GP (2016) Integrating technologies for scalable ecology and conservation. *Global Ecology and Conservation* 7, 262-275.
22. **Davies, AB**, van Rensburg, BJ, Robertson, MP, Levick, SR, Asner, GP & Parr, CL (2016) Seasonal variation in the dominant herbivore consumer in an African savanna. *Ecology* 97, 1618-1624.
23. Parr, CL, Eggleton, P, **Davies, AB**, Evans, TA & Holdsworth, S (2016) Suppression of savanna ants alters invertebrate composition and influences key ecosystem processes. *Ecology* 97, 1611-1617.
24. Janion-Scheepers, C, Measey, J, Braschler, B, Chown, SL, Coetzee, L, Colville, JF, Dames, J, **Davies, AB**, *et al.* (2016) Soil biota in a megadiverse country: current knowledge and future research directions in South Africa. *Pedobiologia* 59, 129-174.
25. **Davies, AB**, Tambling, CJ, Kerley, GIH & Asner, GP (2016) Effects of vegetation structure on the location of lion kill sites in African thicket. *PLoS ONE* 11, e0149098.
26. **Davies, AB**, Baldeck, CA & Asner, GP (2016) Termite mounds alter the spatial distribution of African savanna trees. *Journal of Biogeography* 43, 301-313.
27. **Davies, AB**, Levick, SR, Robertson, MP, van Rensburg, BJ, Asner, GP & Parr, CL (2016) Termite mounds differ in their importance for herbivores across savanna types, seasons and spatial scales. *Oikos* 125, 726-734.
28. Asner, GP, Owen-Smith, N, Loarie, SR, **Davies, AB**, Le Roux, E & Levick, SR (2015) Habitat differences do not explain population declines of sable antelope in an African savanna. *Journal of Zoology* 297, 225-234.
29. Bokhout, B, Verburgt, L & **Davies, AB** (2015) *Afrotyphlops schlegelii*: Termite mound access behaviour. *African Herp News* 62, 16-22.
30. **Davies, AB**, Eggleton, P, van Rensburg, BJ & Parr, CL (2015) Seasonal activity patterns of African savanna termites vary across a rainfall gradient. *Insectes Sociaux* 62, 157-165.
31. **Davies, AB** & Asner, GP (2014) Advances in animal ecology from 3D-LiDAR ecosystem mapping. *Trends in Ecology and Evolution* 29, 681-691.
32. **Davies, AB**, Robertson, MP, Levick, SR, Asner, GP, van Rensburg, BJ & Parr, CL (2014) Variable effects of termite mounds on African savanna grass communities across a rainfall gradient. *Journal of Vegetation Science* 25, 1405-1416.
33. **Davies, AB**, Levick, SR, Asner, GP, Robertson, MP, van Rensburg, BJ & Parr, CL (2014) Spatial variability and abiotic determinants of termite mounds throughout a savanna catchment. *Ecography* 37, 852-862.

34. **Davies, AB**, van Rensburg, BJ, Eggleton, P & Parr, CL (2013) Interactive effects of fire, rainfall and litter quality on decomposition in savannas: frequent fire leads to contrasting effects. *Ecosystems* 16, 866-880.
35. **Davies, AB**, Eggleton, P, van Rensburg, BJ & Parr, CL (2013) Assessing the relative efficiency of termite sampling methods along a rainfall gradient in African savannas. *Biotropica* 45, 474-479.
36. **Davies, AB**, Eggleton, P, van Rensburg, BJ & Parr, CL (2012) The pyrodiversity-biodiversity hypothesis: a test with savanna termite assemblages. *Journal of Applied Ecology* 49, 422-430.
37. de Bruyn, PJN, **Davies, AB** (2012) Australia: no price on cutting fire risk. *Nature* 482, 471-471.
38. **Davies, AB**, Parr, CL & van Rensburg, BJ (2010) Termites and fire in Africa: current understanding and future research directions for improved savanna conservation. *Austral Ecology* 35, 482-486.

#### SUBMITTED PUBLICATIONS

1. **Davies, AB**, Parr, CL & Eggleton, P. A global review of termite sampling methods. Submitted to *Insectes Sociaux*.
2. **Davies, AB**, Brodrick, PG, Parr, CL & Asner, GP. Termite mounds create heterogeneity in invertebrate communities across a savanna rainfall gradient. Submitted to *Journal of Applied Ecology*.
3. **Davies, AB**, Cromsigt, JPGM, Tambling, CJ, le Roux, E, Vaughn, VR, Druce, DJ, Marneweck, DG & Asner, GP. Environmental controls on African herbivore responses to landscapes of fear. Submitted to *Oikos*.
4. Leitner, M, **Davies, AB**, Robertson, MP, Parr, CL & van Rensburg, BJ. Termite mounds create heterogeneity in invertebrate communities across a savanna rainfall gradient. Submitted to *Biodiversity and Conservation*.
5. Barnard, T, Tambling, CJ, **Davies, AB**, Klein Snakenborg, S, Asner, GP, Le Roux, E, Cromsigt, JPGM, Druce, DJ & Kerley, GIH. High abundance of preferred prey does not lead to the predicted narrowing of lion diet breadth. Submitted to *Mammal Research*.
6. Evans, LJ, Goossens, B, **Davies, AB**, Reynolds, G, Asner, GP. Natural and anthropogenic drivers of Bornean elephant movement strategies. Submitted to *Remote Sensing in Ecology and Conservation*.
7. Tambling, CJ, **Davies, AB**, Asner, GP & Kerley, GIH. Ungulate group segregation in time and space: implications of predation risk in a large African ungulate. Submitted to *Animal Behaviour*.

**TEACHING EXPERIENCE**

- 2019           **2<sup>nd</sup> International Termite Course.** Forestry Research Institute of Ghana, Ghana  
(I was an instructor on the course, which was aimed at building capacity among west African students and scientists in termite ecology and taxonomy)
- 2017           **1<sup>st</sup> International Termite Course.** Wits Rural Facility, South Africa  
(I was an instructor on the course, which was aimed at building capacity among African students and scientists in termite ecology and taxonomy)
- 2013           **BSc Honours Lecturer.** Department of Zoology and Entomology, University of Pretoria, South Africa  
(I coordinated and taught an entire course: Climate Change and Biodiversity)
- 2008 – 2013   **Lecturer and Coordinator.** African Foreign Studies Program, Dartmouth College, USA  
(one month appointment each year involving teaching, fieldwork supervision and logistical coordination for senior undergraduate students)
- 2010 – 2011   **Lecturer.** Damelin College, Centurion, South Africa  
(I taught and coordinated three courses in Wildlife Management and one in Mathematical Literacy)
- 2010 – 2012   **Lecturer.** Contracted by Enviro-Insight, Pretoria, South Africa  
(I provided lectures to field technicians from Eskom, a public electricity utility, on how to approach situations involving dangerous animals)
- 2009-2010    **Teaching Assistant.** University of Pretoria, South Africa  
(I tutored and was a lab assistant for two first year courses: Molecular & Cellular Biology, and Zoology)
- 2005-2006    **Private tutor**  
(I was a private tutor for high school students in Mathematics, Physics, Chemistry and Biology)

**GRADUATE STUDENTS (CO-ADVISOR)**

- 2013 – 2016   Justice Muvengwi. PhD, University of the Witwatersrand, South Africa
- 2013 – 2015   Monica Leitner. MSc, University of Pretoria, South Africa (with distinction)
- 2012 – 2013   Addisu Mitiku. MSc, University of Pretoria, South Africa
- 2014           Liezl Wichmann. BSc Hons, University of Pretoria, South Africa
- 2012           Monica Leitner. BSc Hons, University of Pretoria, South Africa (with distinction)
- 2012 – 2013   Graduate student mentor for senior level undergraduate ecology students

**GRANTS AND SCHOLARSHIPS**

- 2012           University of Pretoria Study Abroad Program (expenses for a research visit to the Natural History Museum, London, UK)

- 2012 Travel Grant to attend the Student Conference in Conservation Science, University of Cambridge, UK (grant awarded by the conference)
- 2012 South African National Parks research grant (expenses for one year of field research)
- 2012 University of Pretoria Doctoral Bursary (full tuition expenses for one year)
- 2011 South African National Parks research grant (expenses for one year of field research)
- 2011 Travel Grant to attend the annual conference of the Association for Tropical Biology and Conservation, Arusha, Tanzania (grant awarded by the conference)
- 2011 University of Pretoria Doctoral Bursary (full tuition expenses for one year)
- 2010 DST/NRF Centre of Excellence for Invasion Biology PhD Bursary (three years living and research expenses)
- 2009 University of Pretoria Study Abroad Program (expenses for a research visit to the Natural History Museum, London, UK)
- 2009 University of Pretoria Masters Bursary (full tuition expenses for one year)
- 2008 University of Pretoria Masters Bursary (full tuition expenses for one year)
- 2007 University of Pretoria Honors Bursary (full tuition expenses for one year)
- 2004 South African Institute of Race Relations Undergraduate Bursary (3 years tuition expenses)

#### **HONORS AND AWARDS**

- 2012 Best PhD presentation, Zoology and Entomology Dept, Univ of Pretoria
- 2011 Runner-up, PhD presentation prize, Zoology and Entomology Dept, Univ Pretoria
- 2009 Best MSc presentation, Zoology and Entomology Dept, Univ Pretoria
- 2007 Best Honours presentation, Zoology and Entomology Dept, Univ Pretoria
- 2007 Zoological Society of Southern Africa Award for Best Zoology Honors Student
- 2006, '07, '13 Honorary Academic Colours from the University of Pretoria
- 2004 Certificate of Merit for achievement in undergraduate results

#### **INVITED RESEARCH TALKS**

- 2019 University of Fort Hare, South Africa
- 2018 Southern Illinois University, USA
- 2018 Harvard University, USA
- 2017 Princeton University, USA
- 2017 Ecological Society of America, Portland, USA (invited symposium speaker)
- 2017 University of Pretoria, South Africa
- 2016 Danau Girang Field Centre, Sabah, Malaysia
- 2015 Nelson Mandela University, South Africa
- 2013 Statistics with R Workshop, University of Pretoria, South Africa
- 2011 Carnegie Institution for Science, Stanford University, USA

2009 Burning for Biodiversity Workshop, Skukuza, South Africa

#### SELECTED CONFERENCE PRESENTATIONS

**Davies, AB**, Asner, GP. Elephants limit aboveground carbon gains in African savannas. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 3 – 7 March 2019

**Davies, AB**, Asner, GP. Applying advanced remote sensing tools for animal conservation in an increasingly human-dominated world. Ecological Society of America, New Orleans, USA, 5 – 10 August 2018

**Davies, AB**, Asner, GP. Integrating field and remote sensing data for landscape-scale perspectives of animal impacts on carbon cycling. Ecological Society of America, Portland, USA, 6 – 11 August 2017

**Davies, AB**, Gaylard, A, Asner, GP. Elephant effects on vegetation structure throughout the densely wooded Addo landscape. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 12 – 16 March 2017

**Davies, AB**, Marneweck, D, Druce, DJ, Asner, GP. Den site selection, pack composition, and reproductive success in endangered African wild dogs. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 13 – 17 March 2016

**Davies, AB**, Asner, GP. Advances in animal ecology from 3D ecosystem mapping with LiDAR. American Geophysical Union Fall Meeting, San Francisco, USA, 14 – 18 December 2015

**Davies, AB**, Tambling, CJ, Kerley, GIH, Asner, GP. Lion hunting success in relation to vegetation structural heterogeneity and climatic factors. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 9 – 13 March 2015

Parr, CL, **Davies, AB**, Evans, T, Eggleton, P. Do the little things run the world? Exploring the functional importance of ants in a South African savanna. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 9 – 13 March 2015

**Davies, AB**, Levick, SR, Robertson, MP, van Rensburg, BJ, Asner, GP, Parr, CL. Spatial and temporal variation in the use of termite mounds by African savanna herbivores. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 2 – 6 March 2014

**Davies, AB**, Robertson, MP, Levick, SR, Asner, GP, van Rensburg, BJ, Parr, CL. Termite mounds: functional importance for savanna heterogeneity across a rainfall gradient. International Congress of Ecology, London, United Kingdom, 18 – 23 August 2013

**Davies, AB**, Levick, SR, Asner, GP, Robertson, MP, van Rensburg, BJ, Parr, CL. The functional importance of termite mounds for savanna heterogeneity across a rainfall gradient. Zoological Society of Southern Africa, Tshipise, South Africa, 14 – 17 July 2013

**Davies, AB**, Levick, SR, Asner, GP, Robertson, MP, van Rensburg, BJ, Parr, CL. Termite mound influences on savanna grass communities. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 3 – 8 March 2013

**Davies, AB**, Levick, SR, Asner, GP, Robertson, MP, van Rensburg, BJ, Parr, CL. Spatial characteristics of termite mounds. DST/NRF Centre of Excellence for Invasion Biology Annual Research Meeting, Stellenbosch, South Africa, 15 – 16 November 2012

**Davies, AB**, Eggleton, P, van Rensburg, BJ, Parr, CL. Termite responses to long-term burning regimes. Student Conference on Conservation Science, University of Cambridge, United Kingdom, 20 – 22 March 2012

*Project and presentation received “highly commended” recognition*

**Davies, AB**, Levick, SR, Asner, GP, van Rensburg, BJ, Parr, CL. Spatial characteristics of termite mounds. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 4 – 9 March 2012

**Davies, AB**, van Rensburg, BJ, Bond, WJ, Parr, CL. Litter decomposition in savannas: variation along a rainfall gradient. Association for Tropical Biology and Conservation & Society for Conservation Biology, Africa Section Annual Meeting, Arusha, Tanzania, 12 – 16 June 2011

**Davies, AB**, Parr, CL, van Rensburg, BJ. The role of termites in litter decomposition: variation along a rainfall gradient. DST/NRF Centre of Excellence for Invasion Biology Annual Research Meeting, Stellenbosch, South Africa, 18 – 19 November 2010

**Davies, AB**, Parr, CL, van Rensburg, BJ. Fire ecology and termites in a southern African savanna. International Congress of Ecology, Brisbane, Australia, 16 – 21 August 2009

**Davies, AB**, Parr, CL, van Rensburg, BJ. Termites and fire in a southern African savanna. Savanna Science Network Meeting, Skukuza, Kruger National Park, South Africa, 19 – 24 April 2009

*Awarded prize for the best student presentation*

## PROFESSIONAL SERVICE

Ad-hoc reviewer for: Acta Oecologia; African Journal of Ecology; African Zoology; Animal Biotelemetry; Applied Soil Ecology; Austral Ecology; Australian Journal of Entomology; Biotropica; Conservation Biology; Ecology; Ecology and Evolution; Ecosystems; Graduate Women in Science Fellowship; Insect Conservation and Diversity; Insectes Sociaux; Journal of Applied Ecology; Journal of Insect Conservation; Journal of Mammalogy; Journal of Vegetation Science; Landscape Ecology; Methods in Ecology and Evolution; National Science Foundation, USA; Oecologia; PLoS One; Remote Sensing; Remote Sensing of Environment; Sociobiology