

Charlotte L. R. Payne – Curriculum Vitae

Address: Conservation Science Group, Department of Zoology, U. Cambridge CB2 3EJ

DOB: 09.01.1987

Email: clrp2@cam.ac.uk

Website: libertyruth.com

Twitter: @libertyruth

CURRENT STATUS

NERC-funded Doctoral Candidate Department of Zoology, University of Cambridge, Cambridge, UK, 2015~; supervised by Professor Andrew Balmford (Zoology, U. Cambridge) and Dr Pete Scarborough (Nuffield Department of Population Health, U. Oxford)

Sustainability Developer, EntoTrust

Member, Insects and People of the Indian Ocean (IPSIO) Insect Farming Working Group

EDUCATION

Postgraduate non-degree research student (Government scholarship), Rikkyo University, Ikebukuro, Tokyo 2013-2015

Archaeology and Anthropology MA Cantab. Part I: Class I; Part IIA: Class I; Part IIB: Class I. King's College, University of Cambridge, Cambridge, UK, 2007 - 2009

PEER-REVIEWED PUBLICATIONS

In review

Payne, C. L. R. Badolo A., Sagnon B., Cox S., Pearson S., Sanon A., Bationo F., Balmford A. (*In review*) Effects of defoliation by the edible caterpillar “chitoumou” (*Cirina butyrospermi*) on yields of maize (*Zea mays*) and shea (*Vitellaria paradoxa*)

Payne, C. L. R. Badolo A., Cox S., Sagnon B., Dobermann D., Milbank C., Scarborough P., Sanon A., Bationo F., Balmford A. (*In review*) The contribution of ‘chitoumou’, the edible caterpillar *Cirina butyrospermi*, to the food security of smallholder farmers in southwestern Burkina Faso

2018

Cox, S., **Payne, C. L. R.**, Badolo, A., Attenborough, R., & Milbank, C. (2018). The nutritional role of insects as food: a case study of ‘chitoumou’ (*Cirina butyrospermi*), an edible caterpillar in rural Burkina Faso. *Journal of Insects as Food and Feed*, 1-12.

Jucker, T., Wintle, B., Shackelford, G., Bocquillon, P., Geffert, J. L., Kasoar, T., Jovacs, E., Mumby, H. S., Orland, C., Schleicher, J., Tew, E., Zabala, A., Amano, T., Bell, A., Bongalov, B., Chambers, J. M., Corrigan, C., Durán, A. P., Duvic-Paoli, L.-A., Emilson, C., da Silva, J. F., Garnett, E. E., Green, E. J., Guth, M. K., Hackett-Pain, A., Hinsley, A., Igea, J., Kunz, M., Luke, S. H., Lynam, W., Martin, P. A., Nunes, M. H., Ockendon, N., Pavitt, A., **Payne, C. L. R.**, Plutshack, V., Rademacher, T., Robertson, R. J., Rose, D. C., Serban, A., Simmons, B. I., Szkokan-Emilson, E. J., Tayleur, C., Wordley, C. and Mukherjee, N. (2018) Ten-year assessment of the 100 priority questions for global biodiversity conservation. *Conservation Biology*. 14th June 2018.

Payne C L R (2018) Can edible insects really reduce our ecological footprint and save wild species? *Ecological Citizen* 2(1)

2017

Payne C L R and Itterbeeck J V I (2017) Ecosystem services from edible insects in agricultural systems: A review. *Insects*, 8(1):24

Payne C L R and Evans J (2017) Nested Houses: Domestication dynamics of human-wasp relations in contemporary rural Japan. *Journal of Ethnobiology and Ethnomedicine*, 13:13

2016

Payne, C. L. R., Dobermann, D., Forkes, A., House, J., Josephs, J., McBride, A., ... & Soares, S. (2016). Insects as food and feed: European perspectives on recent research and future priorities. *Journal of Insects as Food and Feed*.

Müller, A., Evans, J., **Payne, C. L. R.**, & Roberts, R. (2016). Entomophagy and Power. *Journal of Insects as Food and Feed*, 2(2), 121-136.

Dunkel F., and **Payne C. L. R.** (2016) Chapter 1. Introduction to edible insects, in: Dossey A T, Morales-Ramos J and RojasG (Ed.) *Insects as a Sustainable Food Ingredient*, Elsevier

Payne C L R, Scarborough P, Cobiac L (2016) Do low-carbon emissions diets lead to higher nutritional quality and positive health outcomes? A systematic review of the literature. *Public Health Nutrition* doi:10.1017/S1368980016000495

Payne C L R, Fruth B, Mato B, (2016) Entomophagy in the area surrounding LuiKotale, Salonga National Park, Democratic Republic of Congo, *African Study Monographs* 37(1):1-12

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Payne, C.L.R., Scarborough, P., Rayner, M., Nonaka, K. (2016) A systematic review of nutrient composition data available for twelve commercially available edible insects, and comparison with reference values, *Trends in Food Science & Technology* 47:69-77, doi: 10.1016/j.tifs.2015.10.012.

2015

Payne, C L R, Scarborough, P, Rayner, M, Nonaka, K (2015) Are edible insects more or less ‘healthy’ than commonly consumed meats? A comparison using two nutrient profiling models developed to combat over- and undernutrition, *European Journal of Clinical Nutrition*, advance online publication 16 September 2015; doi: 10.1038/ejcn.2015.149

Payne, C. L. R., Umemura, M., Dube, S., Azuma, A., Takenaka C., & Nonaka, K. (2015). The mineral composition of five insects as sold for human consumption in Southern Africa. *African Journal of Biotechnology* , 14(31), 2443-2448.

Payne, C. L. R. (2015) Perception and Practice of Entomophagy in Central Rural Japan, *The Transactions of the Asiatic Society of Japan*, fifth series, volume 7, 139-149

Payne, C. L. R. (2015) The ‘domestication’ of edible insects, *Seibutsukagaku (Journal of Biological Sciences)* 66(3):166-176 (In Japanese)

Payne, C. L. R. (2015) A report from the first international conference on entomophagy, *Seibutsukagaku (Journal of Biological Sciences)* 66(3):166-176 (In Japanese)

2014

- Payne, C. L. R. (2014) Wild harvesting declines as pesticides and imports rise: The collection and consumption of insects in contemporary rural Japan, *Journal of Insects as Food and Feed*
- Webster, T H, McGrew, W C, Marchant, L F, Payne, C. L. R., and Hunt, K D (2014) Selective insectivory at Toro-Semliki, Uganda: Comparative analyses suggest no ‘savanna’ chimpanzee pattern *Journal of Human Evolution* 71:20-27

Before 2014

- Scarborough, P, Payne, C. L. R., Agu, C G, Kaur, A, Mizdrak, A, Rayner, M, Halford, J C G, and Boyland, E (2013) How important is the choice of the nutrient profile model used to regulate broadcast advertising of foods to children? A comparison using a targeted data set, *European Journal of Clinical Nutrition* (2013) 67, 815–820
- McGrew, W C, Marchant, L F, Payne, C. L. R., Webster, T H, and Hunt, K D (2010). Chimpanzees at Semliki Ignore Oil Palms. *Pan Africa News* 17(2): 19-21.
- Payne, C. L. R., Webster, T H and Hunt, K D (2008) Coprophagy by the Semi-Habituated Chimpanzees of Semliki, Uganda, *Pan Africa News* 15(2)

TEACHING

- Evolution within our species, Department of Archaeology, U. Cambridge 2018-19 (Lecturer)
- Human Evolutionary Genetics, Department of Zoology, U. Cambridge 2018-2019 (Supervisor)
- Humans in biological perspective, Department of Archaeology, U. Cambridge 2018-19 (Supervisor)
- From Data to Interpretation, Department of Archaeology, U. Cambridge 2018-19 (TA, Supervisor)
- Theory and Practice in Biological Anthropology, Department of Archaeology, U. Cambridge 2017-18 (TA, Supervisor)
- Human Behavioural Ecology and Social Networks, Department of Archaeology, U. Cambridge 2017 (Supervisor)
- Statistics in Biological Anthropology, Department of Archaeology, U. Cambridge UK 2016 (Supervisor)
- Research methods (to MA students) Hubli, India 2012 (Lecturer)
- Statistics in Biochemistry, University of Oxford, UK 2012 (Lecturer)

GRANTS & AWARDS FOR RESEARCH ACTIVITIES

- Cambridge Global Food Security Seed funding, £3000 (December 2018)
- Vice-Chancellor’s Award for Public Engagement with Research, University of Cambridge £1000 (July 2018)
- Prize for best poster, Department of Zoology Departmental Seminar Day, University of Cambridge (April 2018)
- Public Engagement Starter fund £1079 (December 2017)
- Bedford Fund + Fieldwork fund £3350 (May 2017)
- Experiment.com crowdfunding \$3100 (March 2017)
- Barilla Center for Food and Nutrition €8000 (December 2016)
- NERC DTP Scholarship £10000+ (Oct 2015 – March 2019)
- Vice Chancellor’s Award (Oct 2015 – March 2019)
- GB Sasakawa Foundation Small Grant £1800 (November 2014)
- Daiwa Foundation Small Grant £3000 (June 2014)
- MEXT government scholarship £19000 (April 2012)
- Daiwa scholarship £23000 (August 2008)
- King’s Scholar £150 (August 2008)
- Rylands Prize £150 (August 2008)
- Durham Fund £500 (June 2008)
- Bedford Fund £600 (June 2008)
- Anthony Wilkin Fund £100 (June 2008)
- Bartle Frere Award £240 (June 2008)
- Rylands Prize £150 (August 2007)
- Harmer Prize £75 (August 2007)
- Durham Fund £500 (June 2007); Bedford Fund + Worts Scholar £850 (March 2007)

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OUTREACH

Non-academic publications

- Payne C (2018) Entomophagy: How giving up meat and eating bugs can help save the planet, Independent, 21st March 2018
Payne C (2018) Edible insects: Do insects actually taste any good? BBC World News, 18th January 2018
Payne, C L R and Nonaka, K (2014) Erntefest Auf Japanisch: Wespen als leckerbissen in fernost [Black wasps and giant hornets: A harvest feast in central Japan] Bugs magazin (In German)
Payne C L R (2016) Insects as Food and Feed – an interdisciplinary workshop held in Oxford, December 2015, Antenna (Royal Entomological Society).

Television/Radio

- March 2019, news feature, BBC Look East
February 2019, “Grub’s Up: Eating insects for one week” documentary, BBC Radio 1
April 2017, “Are edible caterpillars the future of sustainable protein?”, CrowdScience, BBC World Service
June 2015, That’s Oxford, regional TV channel; BBC Oxford, regional radio
November 2013 NHK Asaichi, national television, morning programme
November 2013 Chukyo TV, regional television, evening programme

Symposiums

- Insects as Food and Feed Workshop, Oxford Martin School, December 2015 (symposium, 55 participants)
Food and sustainability in Japan and the UK, Ena, Japan, May 2015 (symposium, 30+ participants)

Journal reviews

- Agronomy for Sustainable Development; Basic and Applied Ecology; Journal of Food Science; International Journal of Food Science and Technology; Journal of Insects as Food and Feed; Journal of Applied Life Sciences International; Journal of Food Composition and Analysis; African Journal of Food Science; African Journal of Plant Science

Newspaper features/interviews

- April 2017, “Caterpillar farms: Growing the food of the future?” BBC News, international
June 2015 Oxford Mail, regional newspaper
May – September 2014 Kamome Books, online magazine, 4 instalments
July 2014 Chunichi shinbun, national newspaper
March 2014 Asahi shinbun Globe supplement, national newspaper

Events

- Insects & Wine events, held at the Cambridge Science Festival, Cambridge colleges and Cambridge Wine Merchants, 2018-2019
Panel discussion on sustainable food, Cambridge Science Festival 2018
St Matthews’ School, Cambridge, edible insects workshop, 2016
‘Bug Banquet’ educational workshop on edible insects, Green Man Festival, 2015
‘Look down’ educational workshop on edible insects, Tandem festival, 2015

Volunteer

- Conversations with the elderly, Ena City volunteering network, Ena, Japan, 2013-2015
Gatehouse Centre for the homeless, Volunteer, Oxford, UK, 2012
Hands on Tokyo, Volunteer (old peoples’ home; orphanage), Tokyo, Japan, 2010
Jimmy’s Nightshelter Voluntary Assistant, Footcare for the Homeless, Cambridge, UK, 2006-2009

SELECTED TALKS

- Payne, C L R (2018) Six-legged snacks: changing food systems in a changing climate, Postcolonial Ecologies, Cambridge, UK
- Payne, C L R (2018) The nutritional role of insects as food, Insects to Feed the World conference, Wuhan, China (Plenary)
- Payne, C L R, Evans, J., Müller, A., & Roberts, R (2016) The state of research on insects as food: A systematic review of the literature, International Congress of Entomology, Orlando, Florida, USA
- Payne C L R (2015) Are insects ‘healthy’? A systematic review of the evidence. Annual Meeting of the Japanese Society of Environmental Entomology and Zoology (Invited seminar)
- Payne C L R (2015) Edible insects on supermarket shelves: The public health implications of one alternative protein source, Departmental seminar, Nuffield Department of Population Health, University of Oxford (Invited seminar)
- Payne C L R (2015) Profitable pests: The role of edible insects in traditional farming systems Oxford Food Security Forum annual conference
- Payne C L R (2014) Entomophagy in contemporary Japan: Imported insects compensate for a decline in wild foraging, Insects to Feed the World conference, Wageningen University and FAO (organisers)
- Payne C L R (2014) Wild harvesting and food security: A case study on edible wasp and hornet collection in rural Japan, Ox Food Security Forum annual conference
- Payne C L R (2014) Is there a future for wasp husbandry? Celebrating the wasp harvest in central rural Japan, Sustainable use of edible insects for human consumption, CIAS Joint Research Seminar (Invited seminar)
- Payne C L R and Nonaka K (2014) Cooperative hunting for wasps, opportunistic collection of grasshoppers: The behavioural ecology of insect consumption in rural Japan, AAPA Annual meeting, Calgary

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ALL RESEARCH PROJECTS

2017-18

- *Discovering the incentives of health-oriented behaviour change to combat malnutrition*, with the Cambridge Global Food Security Forum and the Department of Engineering, U. Cambridge, UK.
- *Decolonising 'entomophagy'* U. Cambridge, UK; international collaboration.
- *Can the edible shea caterpillar be reared in an enclosed system?* U. Cambridge, UK; Rothamsted Research, UK; U. Ouagadougou, Burkina Faso
- *Insects and People of the South Indian Ocean (ISPIO)*, Madagascar Biodiversity Center, Antananarivo

2016

- *Environmental, social and economic impacts of edible caterpillars*, U. Cambridge, UK, U. Ouagadougou, Burkina Faso

2015

- *Is it possible to achieve a diet that is both healthy and sustainable? A systematic review*. U. Oxford, UK
- *Modeling the nutritional value of insects vs traditional livestock*. U. Oxford, UK
- *The nutrient content of selected species of edible insects: A systematic review*. U. Oxford, UK
- *The nutritional composition of edible insects consumed in Northeastern Zimbabwe*. Makoni, Zimbabwe

Before 2015

- *Insects as part of the traditional diet in rural central Japan*. Gifu, Japan. 2013
- *Entomophagy in Bandundu province, DRC*. DR Congo. 2013
- *Comparison of nutrient profiling models for regulating television advertising*. U. Oxford, UK 2012
- *Managing and visualizing high throughput phenotype data for disease modeling*. MRC Harwell, UK 2012
- *Impact of the DFP on Gender and Empowerment*. (Employed) researcher. Hubli, Karnataka, India 2011
- *Human-wildlife conflict in Yakushima, Japan*. (Funded) independent researcher. Yakushima, Japan 2011
- *Genetics and ecology of chimpanzees and elephants*. (Employed) research assistant. Kibale, Uganda 2009
- *Semliki chimpanzee research and habituation project*. (Funded) research assistant. Toro-Semliki, Uganda 2008
- *Triadic conflict in captive bonobos*. (Funded) research assistant. Planckendaal Zoo, Belgium 2007

EMPLOYMENT

- 2015 Department of Population Health, University of Oxford, Researcher Oxford, UK
- 2012-13 LuiKotale Bonobo Project, Habituation assistant Democratic Republic of Congo
- 2011-12 Medical Research Council Graduate Intern, Bioinformatics group Harwell, Oxon, UK
- 2011 Deshpande Centre for Social Entrepreneurship, Junior Fellow Hubli, Karnataka, India
- 2009-10 Kobokan Community Centre (Social welfare NGO) Tokyo, Japan

SELECTED PUBLIC INVITED PRESENTATIONS

- December 2018, Insects for Food event, Cambridge Sustainable Tech Meetup, Cambridge Makespace
- October 2017, What's stopping your diet from being more sustainable? Cambridge Festival of Ideas
- May 2015 NIAS group, Tsukuba University, research presentation
- February 2015 Chuken Service, Nagoya honten, research presentation (for new employees)
- February 2015 Edible insects and health, 2 presenters, 40+ attendees (Ena, Japan)
- February 2015 Edible insects workshop, 10 participants (Nagoya, Japan)
- December 2014 Asiatic Society of Japan Young Scholars Event, presentation, 50+ attendees
- November 2014 Central Japanese Forester's Union, presentation, 35 attendees
- November 2014 Enaka insect cuisine event and lecture, 16 participants
- September 2014 Family 'wasp experience' event, presentation on wasp ecology, 26 participants
- August 2014 Ena city library, presentation on global entomophagy, 50+ attendees
- July 2014 Kobokan community centre, research presentation
- April 2013 Institute of Advanced Media Arts and Sciences (IAMAS), invited lecture on entomophagy
- February 2013 Japan Vesputia Society national summit, lecture on edible wasp culture in global perspective
- February 2013 Iwamura community centre, workshop on edible insects, 15 participants
- January 2013 Kasugai secondary school, presentation on personal experiences during research
- January 2013 Akechi Lions club, lecture on research into entomophagy

ADDITIONAL TRAINING COURSES & AWARDS

- Effective Supervision, University of Cambridge
- Systematic Reviews and Meta-analysis, University of East Anglia/NERC
- Insect taxonomy, Oxford Natural History Museum/NERC
- Wilderness Medical Training
- Multivariate statistics using R
- Computer programming using Java
- Computer Programming using Perl
- Millenium Volunteer Award
- Manual Handling and First Aid
- Essential Care Skills
- Disability Awareness Training
- Guiding the Visually Impaired.