

# Curriculum Vitae

## Stephen Locheil CAMERON

### Personal:

Australian citizen, born 29/9/1975 single.

### Academic Qualifications

- **Doctor of Philosophy – PhD: 1997-2000** The University of Queensland  
“Taxonomy and phylogeny of Endosymbiotic Ciliates (Ciliophora: Litostomatea) associated with Australian Herbivorous Marsupials.”  
Supervisors: Drs P. J. O’Donoghue and R. D. Adlard (Queensland Museum)  
Awarded February 2001
- **Bachelor of Science (Honours) – BSc (Hons): 1996** The University of Queensland  
“Taxonomy of endosymbiotic ciliates occurring in herbivorous marsupials.”  
Supervisor: Drs P. J. O’Donoghue  
**Results:** Honours Class I
- **Bachelor of Science – BSc: 1993-1995** The University of Queensland  
Majors: Parasitology, Entomology  
Other subjects: Zoology, Biochemistry, Microbiology

### Membership of Scientific Societies:

- The Australian Society for Parasitology (Member 1996)
- The Systematics Association (Member 1998)
- The Society of Protozoologists (Member 2001)
- Queensland Entomological Society (Member 2001)
- Society for Systematic Biology (Member 2003)
- Entomological Society of America (Member 2004)

### Prizes & Awards:

- JFA Sprent Prize of the Australian Society for Parasitology, for best PhD thesis submitted in the previous 3 years (2002)
- Invited contributor to University of Queensland’s Nanoworld WWW electron microscopy imagebank (2000, 2001)
- The Systematics Association Bursary (1999)
- The Systematics Association Research Grant (1999)
- The Australian Society for Parasitology Conference Poster Prize (1999)
- The University of Queensland University Medal (1997)
- Australian Biological Resources Study Inaugural Post-Graduate Award (1997)
- Department of Parasitology (UQ) Speakers Prize (1997)
- The University of Queensland Science Faculty Commendation for High Achievement (1996)
- The Australian Society for Parasitology Prize (1995)
- The R. & A. E. Veitch Prize in Entomology (1995)
- Department of Parasitology (The University of Queensland) Vacation Scholarship (1994)

### Student supervision:

- Timothy Hawthorne, honours student 2001 “Taxonomy of rumen ciliates found in cattle from Australia” Dept. of Microbiology and Parasitology, University of Queensland. Result: Honours 2A.
- Coralyn Turner, honours student 2002 “Taxonomy and ultrastructural characterisation of endosymbiotic flagellates from Australian termites” Dept. of Microbiology and Parasitology, University of Queensland. Result: Honours 1.
- Catherine Covacin, honours student 2002 “The mitochondrial genome of the pigeon body louse *Campanulotes compar*” Dept. of Microbiology and Parasitology, University of Queensland. Result: Honours 2A.
- Jaron Sullivan, undergraduate research student 2003-2004 “Mitochondrial genome evolution in beetles (Coleoptera)” Dept. of Integrative Biology, Brigham Young University, Utah.
- Nicole McWorter, NSF Research Experience for Undergraduates summer program, 2004 “Mitochondrial phylogenomics of aquatic beetles (Coleoptera: Hydraphaga) Animal Science Program, Cornell University, New York.
- Daniel Fenn, undergraduate research student 2004-2005 “Mitochondrial genome evolution in grasshoppers and crickets (Orthoptera)” Dept. of Integrative Biology, Brigham Young University, Utah.
- Johnathan Osbourne, undergraduate research student 2005 “Population genetics of mitochondrial genome evolution in bees and wasps (Hymenoptera)” Dept. of Integrative Biology, Brigham Young University, Utah.

### Research Interests:

- Genetic and genomic evolution
- Phylogenetic methodology
- Determination and inference of functional morphology

### Publications:

#### Published:

1. **Cameron, S.L.**, O’Donoghue, P.J. & Adlard, R.D. 2000. The first record of *Cycloposthium edentatum* Strelkow, 1928 from the black-striped wallaby, *Macropus dorsalis*. *Parasitology Research* **86**: 158-162.
2. **Cameron, S.L.**, O’Donoghue, P.J. & Adlard, R.D. 2000. Novel endosymbiotic ciliates (Vestibulifera: Isotrichidae) from Australian macropodid marsupials (Marsupialia: Macropodidae). *Systematic Parasitology* **46**: 45-57.
3. **Cameron, S.L.**, Adlard, R.D. & O’Donoghue, P.J. 2001. Evidence for an independent radiation of endosymbiotic litostome ciliates in Australian marsupial herbivores. *Molecular Phylogenetics and Evolution* **20**: 302-310.
4. **Cameron, S.L.** & O’Donoghue, P.J. 2001. Stomatogenesis in the ciliate genus *Macropodinium*, Dehority 1996 (Litostomatea: Macropodiniidae). *European Journal of Protistology* **37**: 199-206.
5. **Cameron, S.L.**, O’Donoghue, P.J. & Adlard, R.D. 2001. Four new species of *Macropodinium* (Ciliophora: Litostomatea) from wallabies and pademelons. *Journal of Eukaryotic Microbiology* **48**: 542-555.
6. **Cameron, S.L.** & O’Donoghue, P.J. 2002. The ultrastructure of *Amylovorax dehorityi* comb. nov. and erection of the Amylovoracidae fam. nov. (Ciliophora: Trichostomatia). *European Journal of Protistology* **38**: 29-44

7. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 2002. Species diversity within *Macropodinium* (Litostomatea: Trichostomatia): Endosymbiotic ciliates from Australian macropodid marsupials. *The Memoirs of the Queensland Museum* **48**: 27-47.
8. **Cameron, S.L.** & O'Donoghue, P.J. 2002. The ultrastructure of *Macropodinium moiri* and revised diagnosis of the Macropodiniidae (Litostomatea: Trichostomatia). *European Journal of Protistology*. **38**: 179-194.
9. **Cameron, S.L.** & O'Donoghue, P.J. 2002. Trichostome ciliates from Australian marsupials. I. *Bandia* gen. nov. (Litostomatea: Amylovoracidae). *European Journal of Protistology* **38**: 405-429.
10. **Cameron, S.L.**, Wright, A.D.G. & O'Donoghue, P.J. 2003. An expanded phylogeny of the Entodiniomorphida (Ciliophora: Litostomatea). *Acta Protozoologica* **42**: 1-6.
11. **Cameron, S.L.** 2003 The J.F.A. Sprent Oration 2002: "Taxonomy and phylogeny of endosymbiotic ciliates (Ciliophora: Litostomatea) associated with Australian herbivorous marsupials. *International Journal for Parasitology* **33**: 347-355.
12. **Cameron, S.L.** & O'Donoghue, P.J. 2003. Trichostome ciliates from Australian marsupials. II. *Polycosta* gen. nov. (Litostomatea: Polycostidae fam. nov.). *European Journal of Protistology* **39**: 83-100.
13. **Cameron, S.L.** & O'Donoghue, P.J. 2003. Trichostome ciliates from Australian marsupials. III. *Megavestibulum* gen. nov. (Litostomatea: Macropodiniidae). *European Journal of Protistology* **39**: 123-138.
14. **Cameron, S.L.** & O'Donoghue, P.J. 2003. Trichostome ciliates from Australian marsupials. IV. Distribution of the ciliate fauna. *European Journal of Protistology* **39**: 139-148.
15. **Cameron, S.L.** & O'Donoghue, P.J. 2003. *Pseudotrypanosoma elphinstonae* sp. nov., a trichomonad symbiotic in *Schedorhinotermes* (Isoptera: Rhinotermitidae). *Acta Protozoologica* **42**: 223-230.
16. Jakes, K., O'Donoghue, P.J. & **Cameron, S.L.** 2003. Phylogenetic relationships of *Hepatooon* (*Haemogregarina*) *boiga*, *Hepatooon* sp., *Haemogregarina clelandi* and *Haemoproteus chelodina* from Australian reptiles to other Apicomplexa based on cladistic analyses of ultrastructural and life cycle characters. *Parasitology* **126**: 555-559.
17. **Cameron, S.L.** & O'Donoghue, P.J. 2004. Cladistic and morphometric analysis of the phylogeny of *Macropodinium* (Litostomatea: Macropodiniidae). *Acta Protozoologica* **43**: 43-53.
18. **Cameron, S.L.** & O'Donoghue, P.J. 2004. The phylogeny and biogeography of the "Australian trichostomes" (Litostomatea: Macropodiniidae, Amylovoracidae and Polycostidae). *Protist* **155**: 215-235.
19. **Cameron, S.L.**, D'Hearse, C.A., Miller, K.B., Whiting, M. F. & Barker, S.C. 2004. Mitochondrial genome data alone are not enough to unambiguously resolve the relationships of Entognatha, Insecta and Crustacea *sensu lato* (Arthropoda). *Cladistics* **20**: 534-557.

#### **Abstracts presented at Scientific Meetings:**

1. **Cameron, S.L.** & O'Donoghue. 1997. Endosymbiotic ciliates inhabiting herbivorous Australian marsupials. *Conference of the Australian Society for Parasitology*, Canberra, ACT, Australia, July, 1997.
2. **Cameron, S.L.** & O'Donoghue, P.J. 1997. Novel trichostome ciliates from macropodid marsupials. *Tenth International Congress of Protozoology*, Sydney, NSW, Australia, July, 1997.
3. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 1997. A comparison of the ciliate faunas inhabiting the forestomachs of eastern-grey kangaroos and swamp wallabies. *Conference of the Wildlife Diseases Association*, Flinder's Island, TAS, Australia, October, 1997.

4. **Cameron, S.L.**, Adlard, R.D. & O'Donoghue, P.J. 1998. Unique endosymbiotic ciliates from macropodid marsupials in Australia. *Conference of the American Society of Parasitologists*, Kona Beach, HA, USA, August, 1998.
5. Wright, A.D.G., **Cameron, S.L.**, Clark, C. & Lynn, D.H. 1998. Diversity and evolution of the endosymbiotic ciliates of vertebrate animals inferred from SSU-rRNA gene sequences. *Conference of the International Society of Protistology*, Flagstaff, AR, USA, August, 1998.
6. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 1998. Morphology and cell division of the Macropodiniidae. *Conference of the Australian Society for Parasitology*, Melbourne, VIC, Australia, September, 1998.
7. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 1999. Has *Macropodinium* (Protoctista: Ciliophora) coevolved with its kangaroo hosts? *Conference of the Systematics Association*, Glasgow, UK, August, 1999.
8. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 1999. Phylogenetic studies on *Macropodinium* (Ciliophora: Litostomatea). *Conference of the Australian Society for Parasitology*, Yeppoon, QLD, Australia, September, 1999.
9. **Cameron, S.L.**, Adlard, R.D. & O'Donoghue, P.J. 1999. The phylogeny of ciliates (Ciliophora: Litostomatea) associated with macropodid marsupials. *Conference of the Australian Society for Parasitology*, Yeppoon, QLD, Australia, September, 1999.
10. **Cameron, S.L.**, O'Donoghue, P.J. & Adlard, R.D. 2000. The origin and diversification of the Australian trichostomes (Ciliophora: Litostomatea). *Combined conference of the Australian and New Zealand Societies for Parasitology*, Wellington, New Zealand, September, 2000.
11. **Cameron, S.L.** & O'Donoghue, P.J. 2001. Symbiotic flagellates from Australian Termites. *Conference of the Australian Society for Parasitology*, Cairns, QLD, Australia, July, 2001.
12. Barker, S.C., **Cameron, S.L.** & Murrell, A. 2002. Phylogeny of the Psocodea inferred from small subunit rDNA. *Second International Congress of Phthiraptera*, Brisbane, QLD, Australia, July, 2002.
13. **Cameron, S.L.**, Cheng, C. & Barker, S.C. 2002. An estimate of the size of the genome of *Pediculus humanus* and other ectoparasites. *Second International Congress of Phthiraptera*, Brisbane, QLD, Australia, July, 2002.
14. **Cameron, S.L.**, Whiting, M.F. & Barker, S.C. Mitochondrial genome evolution in insects. *Evolution 2003*, Chico, CA, USA, June, 2003.
15. Hawthorne, T.R., O'Donoghue, P.J. & **Cameron, S.L.** Rumen ciliate community structures in Australian cattle. *Conference of the Australian Society for Parasitology*, Darwin, NT, Australia, July, 2003.
16. Turner, C.D., O'Donoghue, P.J. & **Cameron, S.L.** Characterization of endosymbiotic flagellates from Australian termites. *Conference of the Australian Society for Parasitology*, Darwin, NT, Australia, July, 2003.
17. **Cameron, S.L.**, Whiting, M.F. & Barker, S.C. Diversity and evolution of the insect mitochondrial genome. *Meeting of the Willi Hennig Society*, New York, NY, USA, July, 2003.
18. Sullivan, J., **Cameron, S.L.** & Whiting, M.F. Coleoptera – the beetle mitochondrial genome and evolution. *Meeting of the Entomological Society of America*, Cincinnati, OH, USA, October, 2003.
19. **Cameron, S.L.** & O'Donoghue, P.J. On *Micromastigotes* and the evolution of the hypermastigont condition in the Parabasalida. *Meeting of the Society of Protozoologists*, Smithfield, RI, USA, June, 2004.
20. **Cameron, S.L.** & Whiting, M.F. Insect ordinal relationships inferred by mitochondrial genomics. *Evolution 2004*, Fort Collins, CO, USA, June, 2004.

21. **Cameron, S.L.** & Whiting, M.F. Mitochondrial genomics and insect phylogeny: The good, the bad and the ugly. *Meeting of the Entomological Society of America*, Salt Lake City, UT, USA, November, 2004.
22. **Cameron, S.L.** & Whiting, M.F. Mitochondrial genomics and the higher level phylogeny of beetles (Coleoptera). *Evolution 2005*, Fairbanks, AL, USA, June 2005.

### Invited lectures

1. **Cameron, S.L.** 2002. J.F.A. Sprent Prize oration. *Conference of the Australian Society for Parasitology*, Hobart, October, 2002.
2. Whiting, M.F., Crandall, K.A, Snell, Q.O., Clement, M.J. Whiting, D.G., **Cameron, S.L.** & Miller, K.B. Deep 6: Resolving Insect Ordinal Relationships. *National Science Foundation Biocomplexity in the Environment Awardees Meeting*, Arlington, September, 2003.
3. Whiting, M.F., **Cameron, S.L.** & Miller, K.B. Supercomputing, mitochondrial genomics, and dense taxon sampling in insects: Deep Six 2003. *Phylogenomics symposia of the Entomological Society of America*, Cincinnati, October, 2003.
4. **Cameron, S.L.**, Barker, S.C. & Whiting, M.F. Phylogenetic utility of mitochondrial genomes in resolving insect interordinal relationships. *The Phylogeny of the Insects – What can entire Mitochondrial Genome Sequence Tell Us? Symposia of the XXII International Congress of Entomology*, Brisbane, August 2004.
5. Whiting, M.F., Terry, M., Ogden, T.H., Svenson, G.J. Jarvis, K., & **Cameron, S.L.** Molecular evidence on phylogenetic relationships among major lineages of Pterygota. *The Phylogenetic Relationships Among and Within “Basal Pterygote” Orders. Symposia of the XXII International Congress of Entomology*, Brisbane, August 2004.
6. **Cameron, S.L.** Insect mitochondrial genomics: Technical Limitations and Evolutionary Implications. Guest Lecture, National Centre for Cell Science, University of Pune, (Maharashtra, India), September, 2004.
7. **Cameron, S.L.** How insects are changing assumptions about mitochondrial genetics and genomics. Guest Lecture, University of Melbourne, (Victoria, Australia), November, 2004.
8. **Cameron, S.L.** Insect Mitochondrial Genomics: Insights into Insects, Insights into Genomes. Guest Lecture, Utah Valley State College, (Utah, United States of America), January, 2005.
9. **Cameron, S.L.** Ciliate symbioses of marsupials. *Protists in Extreme Environments. Symposia of the XII International Congress of Protozoology*, Guangzhou, China, July, 2005.
10. **Cameron, S.L.**, & Whiting, M.F. Mitochondrial genomics and insect interrelationships. *Second Congress on Insect Phylogeny*, Dresden, Germany, September, 2005.

### Reviewing Services

I have reviewed manuscripts for *Molecular Biology and Evolution*, the *Journal of Eukaryotic Microbiology*, *Comparative Parasitology*, *Journal of Parasitology* and *Systematic Parasitology*.

I have reviewed grant applications for the National Science Foundation (USA) Population Genetics (2003 – 05) and Mathematical Biology (2005) panels.

### Conference & Workshop Participation

2002 Organiser, Broken Head Symposia on Evolutionary Biology, Stradbroke Is., QLD, Australia, June 16-18.

2002 Local organising committee of the Second International Congress on Phthiraptera, Brisbane, QLD, Australia, July 8-12.

- 2002 Ran workshop on methods in genome sequencing and analysis in conjunction with NSF grant awarded to Clayton and Reed (University of Utah), Brisbane, QLD, Australia, July 15-19.
- 2002 Invited Participant, A Total Biotic Inventory of the Wood Rat workshop (Wood Rat ATBI), coordinated by Dr Scott Gardner (UNL), University of New Mexico, Albuquerque, NM, USA, October 1-3.
- 2004 Invited symposia speaker, XXII International Congress of Entomology, Brisbane, QLD, Australia, August 15-21.
- 2004 Session moderator, Higher-Level Systematics of Arthropods, Evolution 2004, Ft. Collins, CO, USA, June 26-30.
- 2004 Student competition judge, Entomological Society of America, Section A: Systematics, Salt Lake City, UT, USA, November, 14-17.
- 2005 Invited symposia speaker, XII International Congress of Protozoology, Ghangzhou, China, July, 2005.
- 2005 Invited symposia speaker, II Congress on Insect Phylogeny, Dresden, Germany, September 2005.

## Grants

- 1997 – 2000. Recipient, Australian Biological Resources Study Postgraduate Scholarship Grant. (Cameron, Aust \$64,500). The taxonomy and host relations of endosymbiotic ciliates occurring in herbivorous Australian marsupials.
- 1999. Recipient, Systematics Association Grants Scheme. (Cameron, UK £500). The endosymbiotic ciliates of Western Australian kangaroos and wallabies.
- 2002 – 2004. Chief Investigator, Australian Research Council, Discovery Project. (Cameron, Barker, Johnson & Whiting, Aust \$160,000). Origins of Parasitism in the Psocodea (Insecta).
- 2004. Recipient, National Science Foundation (NSF USA) Group Travel Grants for 2004 International Congress of Entomology. (Cameron, US\$2000).
- 2005 – 2007 Principle Investigator, National Science Foundation, Systematics Panel grant (Cameron, Johnson & Whiting, US \$300,000). Testing the utility of mitochondrial genome rearrangements as phylogenetic markers in Ischnocera (Insecta: Phthiraptera).
- Pending Principal Investigator, EU-Marie Curie Program (Cameron, Embley & Hirt, €163,500). Investigating the evolution of hydrogenosomes using molecular cell biology.
- Pending Senior Staff Scientist, National Science Foundation, Assembling the Tree of Life Program grant (Farrell, Maddisson, Whiting, & Slipinksi, US\$2.5 million). Assembling the Beetle Tree of Life (BTOL).

## Personal Interests:

Reading, history, gardening, cooking and photography. I hope one day to keep bees.