

CURRICULUM VITAE

Dr. Line Kolind Bay

Post Doctoral Research Fellow

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PERSONAL DETAILS

Date and Place of Birth: 4 September 1971, Copenhagen Denmark.

Nationality and Residency: Danish citizen; Australian Permanent Resident (1997).

ACADEMIC QUALIFICATIONS

I have academic qualifications in population ecology and genetics.

- 2006** PhD in Population Genetics, James Cook University (JCU), Townsville.
Title: The population genetic structure of coral reef fishes on the Great Barrier Reef.
- 2000** BSc (Hons 1A) in Marine Biology, JCU, Townsville.
Title: Interactions amongst the territorial behaviour, spatial distribution and habitat use in four congeneric damselfishes.
- 1997** Bachelor of Science in Marine Biology and Zoology, JCU, Townsville.

EMPLOYMENT HISTORY

I have been in continuous employment since finishing my PhD and have recently obtained independent funding to extend my current position for a further three years.

- Current** Post-doctoral Research Fellow with ARC Centre of Excellence for Coral Reef Studies, JCU, Townsville.
Research area: Adaptation to climate change in corals.
- 2006** Associate Lecturer in Population and Conservation Genetics, School of Marine and Tropical Biology, JCU, Townsville.
- 2006** Post-doctoral Research Fellow with Prof. R Crozier, JCU, Townsville.

- Research area: Population genetic structure of an estuarine ant.
- 2002 - 2005** PhD Student under the supervision of Prof R Crozier (School of Tropical Biology, JCU) and Dr MJ Caley (Australian Institute of Marine Science).
- Research area: Population Genetic Structure of Coral Reef Fishes
- 2005** Research Associate with Dr. M Waycott, School of Tropical Biology, JCU.
- 2000** Snr. Research Assistant for Prof. JH Choat, School of Marine Biology and Aquaculture, JCU.
- 1999** Demonstrator, School of Marine Biology and Aquaculture, JCU.
- 1997 - 1998** Research Assistant for Staff in the School of Marine and Tropical Biology and Australian Centre for Tropical Freshwater Research, JCU.

RESEARCH FELLOWSHIPS, GRANTS AND PRIZES

Since finishing my PhD I have independently secured two fellowships totalling \$400,000 over four years and am a co-investigator on a \$650,000 research grant.

During my PhD I obtained \$27,500 from JCU and external granting bodies.

- 2008** Isobel Bennet Postdoctoral Fellowship for research at Lizard Island. \$8000
- 2008 – 2010** Queensland Smart State Fellowship based at ARC Centre of Excellence for Coral Reef Studies, JCU, Townsville. \$100,000 per year.
- 2006 – 2010** MTSRF grant: Potential for adaption to climate change of coral reefs. \$650,000 total.
- 2006 – 2007** Post Doctoral Fellow with ARC Centre of Excellence for Coral Reef Studies, JCU, Townsville. \$100,000 per year.
- 2002 - 2005** JCU Prestige Postgraduate Research Scholarship. \$22,000 per year.
- 2005** Runner-up best PhD Student presentation Molecular Biology and Evolution Conference, Auckland, New Zealand.
- 2005** Best PhD Student presentation BZoNQ Conference, Townsville.
- 2003 - 2004** Lizard Island Postgraduate Fellowship. \$6,000 per year.
- 2003** Australian Coral Reef Society Fellowship. \$3,000.
- 2003** GBRMPA Science for Management Research Award. \$1,000.
- 2002 – 2005** Doctoral Research Grants, JCU. \$10,000.

- 2002 – 2005** CRC Reef Research Grants. \$5,000.
- 2002** Padi Aware Foundation Grant. \$1,500.
- 2002** JCU Equal Opportunity Bursary. \$1,000.
- 2000** Science Distinguished Student Prize for exceptional merit.
- 2000** CRC Reef Prize awarded to the best overall honours student.
- 1996** Joe and Val Baker Prize for excellence in level 3 Marine Biology.
- 1996** Ron Kenny Prize for best performance in level 3 Zoology.
- 1994 - 1999** Research Stipend from Danish Government for university study in Australia.

CONFERENCE PRESENTATIONS

I have presented my research at conferences and universities in four countries and have received prizes for several of these.

- 2007** Rapid (re)volutions: Can corals adapt to climate change? Reef Futures Forum, Canberra, Australia.
- 2007** Species range and population genetic structure in coral reef fishes. ARC Centre of Excellence for Coral Reef Studies, Townsville.
- 2007** Species range and population genetic structure in coral reef fishes. Evolution 2007, Christchurch, New Zealand.
- 2006** Extinction in a marine metapopulation. Okazaki Biology Conference, Okazaki, Japan.
- 2005** Metapopulation dynamics in a coral reef fish on the Great Barrier Reef. Botany and Zoology in North Queensland, Townsville, Queensland.
- 2005** The evolution of species borders patterns of gene flow and genetic diversities on the species margin. Australian Evolution Society Conference Fremantle, WA.
- 2005** A coral reef fish metapopulation shows a complex pattern of genetic structure and demographic bottlenecks. Molecular Biology and Evolution, Auckland, New Zealand.
- 2001** The population genetic structure of *Chlorurus sordidus*, a widely distributed scarid. Australian Marine Science Association, Townsville.

- 2001** Habitat selection and aggression as determinants of the spatial segregation among damselfishes on a coral reef. Australian Coral Reef Society, Magnetic Island.
- 2001** The behavioural ecology of four congeneric damselfishes on the Great Barrier Reef, Australia. Aarhus University, Denmark.
- 2000** The genetic structure of three populations of *Chlorurus sordidus* separated by more than 3000 km. 9th International Coral Reef Symposium Bali, Indonesia.

UNDERGRADUATE TEACHING

I give regular lectures to undergraduate and masters level students in ecological, population and conservation genetics.

- 2007** MB5350 - Current Issues in Coral Reef Ecology (Masters level – 2 lectures).
- 2006 - 2007** BZ3450 - Ecological and Conservation Genetics (3rd year – 10 lectures).
MB3210 - Biology of reef corals (3rd year – 2 lectures).
- 2006** MB5450 - Molecular approaches for marine ecology and evolution (Masters level – 2 lectures).
- 2006** BZ2420 - Genetics and Biodiversity Conservation (2nd year – 8 lectures).
- 2002** MB5430 - Marine Animal Behaviour (Masters level – 1 lecture).

STUDENT SUPERVISION

I have supervised students for the past nine years and am currently co-supervising one Masters and one Honours student

- 2008 -** Ms E Howells. Genetic resilience of *Symbiodinium* populations: the role of coral endosymbionts in reef adaptation to climate change. (PhD – co-supervised with Prof Willis, JCU and Dr van Oppen, AIMS)
- 2008 -** Ms R Lawton. Ecological specialization versus susceptibility to disturbance among coral-feeding butterflyfishes. (PhD – co-supervised with Dr Pratchett, JCU)

- 2007 – 2008** Mr D Jones. Effective population sizes in a coral reef fish, *Pomacentrus amboinensis*. (Honours – co-supervised with Ass Prof McCormick, JCU).
- 2007 -** Ms A Paley. Genetic diversity, bleaching sensitivity and colour polymorphism of a common reef-building coral, *Acropora millepora*, from the Great Barrier Reef. (M Sc – co-supervised with Prof Willis, JCU and Dr van Oppen, AIMS).
- 2007** Mr M Ellison. Development of microsatellite markers for a coral reef fish (BZ3000 Independent research project).
- 2006** Ms N Destacamp. Population genetic structure of mangrove swimming ants in Queensland. (BZ3000 – Independent research project).
- 2006** Ms J Newton. Geographic structure of mangroves along the Queensland coast. (BZ3000 – Independent research project).
- 2004** Ms H Mason. MHC polymorphism in coral reef fishes (BZ3000 – Independent research project).
- 2002 – 1998** Research supervisor for students of the School of International Training (Ecology of coral reef fishes at Magnetic Island, Queensland).

PROFESSIONAL ACTIVITIES

Academic development

I am actively involved in professional activities including hosting international collaborators, reviewing papers and co-ordinating seminar series.

- 2007** Host for international collaborators (Dr. Nielsen and Dr. Jarmer, Denmark).
- 2007** DNA Microarray Analysis, Advanced Intensive Course, Danish Technical University, Denmark.
- 2007** Co-ordinator of ARC Centre of Excellence seminar series.
- 2005 – Current**
Invited reviewer for several international journals.
- 2004 – 2005** Post-graduate representative in the School of Marine Biology and Aquaculture.

Public Science Communication

I am the "adopted scientist" at a local primary school where I facilitate communication between tertiary and primary science education and give regular workshops to students, teachers and parents.

2007 Food webs on coral reefs – Class presentation. Mundingburra State School (MSS).

2007 The structure of DNA - Workshop for students and parents. Workshop organiser and presenter. MSS.

2007 The evolution of life on Earth – Class presentation. MSS.

2006 Solar energy – Workshop for students and parents. Workshop organiser and presenter. MSS.

2004 The biology and physiology of coral reefs – Class presentation. MSS.

2003 A marine biologist at work on the GBR – Class presentation. MSS.

Memberships and Licences

I am a member of international and National Societies and have all required licences to undertake research on coral reefs

Society for the Study of Evolution.

International Society for Reef Studies.

Genetics Society of Australasia.

Australian Coral Reef Society.

Australasian Evolution Society.

Science Mates Science Communication, Mundingburra State School, Townsville.

Current Queensland and Danish Drivers Licences.

Current Recreational Shipmasters Licence.

Rescue Diver, PADI Certification (>600 hours of logged underwater time).

Queensland Ambulance First Aid.

Oxygen Resuscitation and Defibrillation Qualification.

REFEREED PUBLICATIONS

I have published throughout my research career to date and am senior author on five papers in international peer-reviewed journals.

- Jones DB, Jerry DR, McCormick MI, and **Bay LK** (*Accepted*) Development of nine microsatellite markers for *Pomacentrus amboinensis*. *Molecular Ecology Resources*.
- Bay LK**, Crozier YC Crozier RH (2007) Isolation and characterisation of eight microsatellite loci in the mangrove mud-nesting ant *Polyrhachis sokolova*. *Molecular Ecology Notes* 7: 1239 – 1241.
- Munkres KP, **Bay LK**, Jerry DR, McCormick MI, van Herwerden L (2007). Development and characterisation of microsatellite markers for parentage analysis of the coral reef fish *Pomacentrus amboinensis* (Pomacentridae). *Conservation Genetics* 8: 987 – 990.
- Bay LK**, Crozier RH and Caley MJ (2006). The relationship between genetic structure and pelagic larval duration in coral reef fishes on the Great Barrier Reef. *Marine Biology* 149: 1247-1256.
- Bay LK**, Buechler K, Gagliano M and Caley MJ (2006). Intraspecific variation in the pelagic larval duration of tropical reef fishes. *J Fish Biol* 68: 1206-1214.
- Bay LK**, Choat JH, van Herwerden L and Robertson DR (2004). High genetic diversities and complex genetic structure in an Indo-Pacific tropical reef fish (*Chlorurus sordidus*) evidence of an unstable evolutionary past? *Marine Biology* 14: 4757-768.
- Bay LK**, Jones GP and McCormick MI (2001). Habitat selection and aggression as determinants of spatial segregation among damselfishes on coral reefs. *Coral Reefs* 20: 289 – 298.
- Bay LK**, Caley MJ and Crozier RH (*In Review*) Metapopulation structure in a coral reef fish demonstrated by genetic data on patterns of migration, extinction and re-colonisation. *BMC Evolutionary Biology* Submitted March 2008