

Michael L. Berumen, Postdoctoral Scholar

Woods Hole Oceanographic Institution
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Education

James Cook University, Townsville, Queensland, Australia

– Ph.D. Aug 2006, Department of Marine Biology and Aquaculture

Dissertation: *Influence of resource availability on life history traits of chaetodontids*

Supervisors: Prof. J. Howard Choat, Dr. Morgan S. Pratchett, Dr. Geoffrey P. Jones

University of Arkansas, Fayetteville, Arkansas

–B.S., May 2001, *Summa Cum Laude* (highest honours)

Major: Zoology GPA: 3.86 / 4.0

Honours thesis: *Effects of coral composition and diet on the condition of butterflyfish*

Supervisor: Dr. Raj Kilambi

James Cook University, Townsville, Australia

–Jul 1999 – Dec 1999: Butler University Study Abroad Program

–Jan 2000 – Jul 2000: Master's Qualifying Program (High Distinction)

Westark College, Fort Smith, Arkansas

–May 1997 – May 1998: Concurrent high school enrolment

Math and Biology classes, GPA: 4.0 / 4.0

Academic Awards and Honors

National Science Foundation Graduate Research Fellowship (2004)

UA Honors College Outstanding Mentor Award (2002, 2003)

Samuel Dellinger Outstanding Univ. of Arkansas Zoology Student Award (2001)

USA Today All-USA Academic Team (2001)

Inducted to Phi Beta Kappa Honor Society (2001)

Arkansas Student Undergraduate Research Fellowship (2001)

Fulbright Scholarship National Finalist (2001)

Rhodes Scholarship Finalist (2000 & 2001)

Barry M. Goldwater Scholarship (1999 – 2001)

University of Arkansas Sturgis Fellowship (1998 – 2001)

Arkansas Governor's Scholarship (1998 – 2001)

Most Outstanding Biology Student Award, Westark College (1998)

Presidential Scholar Semi-Finalist (1998)

National Merit Finalist and Scholar (1998)

Publications

Pratchett, M, S Wilson, **M Berumen**, & M McCormick (2004) Sub-lethal effects of coral bleaching on an obligate coral feeding butterflyfish. *Coral Reefs* 23: 352-256

Berumen, M (2005) The importance of juveniles in modelling growth: butterflyfish at Lizard Island. *Environmental Biology of Fishes* 72: 409-413

Berumen, M, M Pratchett, & M McCormick (2005) Within-reef differences in diet and body condition of coral-feeding butterflyfishes (Chaetodontidae). *Marine Ecology Progress Series* 287: 217-227

Publications (cont'd)

- Berumen, M** & M Pratchett (2006) Effects of resource availability on the competitive behaviour of butterflyfishes (Chaetodontidae). Proceedings of the 10th International Coral Reef Symposium. 644-650
- Berumen, M** & M Pratchett (2006) Recovery without resilience: Persistent disturbance and long-term shifts in the structure of fish and coral communities at Tiahura Reef, Moorea. Coral Reefs 25: 647-653
- Almany, G, **M Berumen**, S Thorrold, S Planes, & G Jones (2007) Local replenishment of coral reef fish populations in a marine reserve. Science 316: 742-744
- Pratchett, M. & **M Berumen** (in review) Within-reef variation in abundance of *Chaetodon* fishes (Chaetodontidae) at Lizard Island, northern Great Barrier Reef. Submitted Jan 2007 to Journal of Fish Biology
- Pratchett, M, M Marnane, **M Berumen**, J Eagle, & D Pratchett (in review) Utilisation of distinct nursery habitats by *Chaetodon* butterflyfishes (Chaetodontidae) relates to dietary specificity. Submitted Jan 2007 to Marine Ecology Progress Series.
- Gregson, M, M Pratchett, & **M Berumen** (in review) Inter-specific variation in the feeding behaviour of Great Barrier Reef butterflyfishes (Chaetodontidae). Submitted March 2007 to Coral Reefs.
- Berumen, M**, M Pratchett (in review) Trade-offs associated with dietary specialisation for corallivorous butterflyfishes. Submitted Aug 2007 to Behavioral Ecology and Sociobiology.

Presentations

- Paper presentation: "Diet and condition of butterflyfish in habitats with varying coral cover and composition," 9th International Coral Reef Symposium, Bali, Indonesia: Oct 2000.
- Minor Project Seminar: James Cook University: May 2000.
- Informative research presentation (for Geelong College students and station visitors): Lizard Island Research Station, Great Barrier Reef, Australia: Apr 2000.
- Paper presentation: "Influence of competitive dominance on the social structure and population dynamics of butterflyfish," 6th Indo-Pacific Fish Conference, Durban, South Africa: May 2001.
- Paper presentation: "Recovery without resilience: disturbance and phase-shifts on Tiahura Reef, Moorea, French Polynesia," 10th International Coral Reef Symposium, Okinawa, Japan: Jul 2004.
- Paper presentation: "Variation in growth of butterflyfishes (Chaetodontidae) in response to resource availability," 7th Indo-Pacific Fish Conference, Taipei, Taiwan: May 2005.
- Paper presentation: "The influence of resources on life history traits in butterflyfishes," 81st Australian Coral Reef Society Conference, Heron Island, Australia: Aug 2005.
- Poster presentation: "Growth of specialist versus generalist coral-feeders on different coral resources," 6th European Meeting of the International Society for Reef Studies, Bremen, Germany: Sep 2006.
- Poster presentation: "Growth of specialist versus generalist coral-feeders on different coral resources," Coral Reef Ecosystem Biodiversity Forum, Noumea, New Caledonia: Oct/Nov 2006.

Keynote and Invited Lectures

- Westark College: Nov 2000
- University of Arkansas: Mar 2001, Oct 2003, Oct 2004, Feb & Nov 2005, Apr 2006, Jul 2007
- School of Biological Sciences, University of Auckland: Oct 2006
- School of Marine Biology and Aquaculture, James Cook University: Nov 2006
- Woods Hole Oceanographic Institute: Dec 2006
- University of Central Arkansas: Mar 2007
- University of Arkansas Fort Smith: Apr 2007

Keynote and Invited Lectures (cont'd)

Keynote Speaker, Trinity Junior High School National Honor Society Induction, Nov 2005
Keynote Speaker, UA Gifted and Talented Scholars Convocation, Apr 2006
Australian Coral Reef Society Fish Taxonomy Workshop, Aug 2005
UA Biology Club, November 2005, Mar 2006
UA Gifted and Talented Scholars and Upward Bound Summer Institutes, Jul 2005 & 2006
UA Highlights Weekends (Admissions) 2002-2005
UA Prestigious Undergraduate Fellowship Interview Weekends 2002-2006
68 other elementary and secondary schools from 2001-2007

External Funding

P.A.D.I. Project A.W.A.R.E., 2003: "Demography of butterflyfish." AU\$1000
P.A.D.I. Project A.W.A.R.E., 2003: "Settlement preferences of butterflyfish." AU\$700
P.A.D.I. Project A.W.A.R.E., 2004: "Marine education for young Arkansans." US\$900
JCU Doctoral Research Scheme, 2004: AU\$2500
JCU Program Grant, 2004: "Phylogenetics of chaetodontids" AU\$35,000 (Awarded to JH Choat et al.)
JCU Conference Travel Grant. 2004 – 2005: AU\$1500
JCU Graduate Research Fund, 2005: AU\$1500
JCU Doctoral Completion Scholarship, 2005: AU\$1000
National Science Foundation, Graduate Research Fellowship, 2004-2006 (US\$40,500 per year)

Employment History

Fulbright College Honors Intern, University of Arkansas. (Aug 2000 – May 2001)
Trip Director / Dive Instructor, Blue Heeler Dive, Townsville (Aug 1999 – Jul 2000)
Internship with U.S. Senator Tim Hutchinson, Washington DC (Jun 2001 – Jul 2001)
Asst. Dir. of the Chancellor's Scholarship, University of Arkansas (Aug 2001 – Mar 2002)
Dive Instructor, Diving Dreams, Townsville (Jun 2002 – Jan 2004)
Liaison to the Honors College, University of Arkansas Chancellor's Office (Apr 2002 – Jul 2007)
Co-founder, Reef Insights Co., Townsville, Australia (Nov 2004 – present)
Instructor, University of Arkansas Gifted and Talented Summer Institute (Jul 2005, 2006, 2007)
Instructor, University of Arkansas Biology Department (Aug 2005 – Jul 2006)
Adjunct Instructor, Hawaii Pacific University (Aug 2005 – Mar 2007)
Visiting Assistant Professor, University of Arkansas Biology Department (Aug 2006 – May 2007)
Visiting Scholar, University of Cambridge Department of Zoology (Jun 2007)
Postdoctoral Fellow, Woods Hole Oceanographic Institute Biology Department (Aug 2007 – present)

University of Arkansas Service

Co-Chair, Recruitment Task Force, Aug 2001 – Jun 2003
Faculty-in-Residence, Jul 2004 – Jul 2007
University Housing Steering Committee, Jul 2005 – Jul 2007
Holcombe Hall International Community Steering Committee, Aug 2005 – Jul 2007
Chair, Enhanced Learning Center Director Search Committee, Dec 2005 – May 2006
University Living/Learning Community Task Force, May 2006 – Jul 2007
Faculty Sponsor, Climate Change Awareness Group (Student Organization), Sep 2006 – May 2007
Residential Education Strategic Planning Committee, Oct 2006 – May 2007

Professional Organizations

American Association for the Advancement of Science
Ecological Society of America
Sigma Xi (*research organization*)
Phi Beta Kappa (*academic honor society*)
International Society for Reef Studies
Australian Coral Reef Society
Animal Behavior Society
Society for Integrative and Comparative Biology
American Society of Ichthyologists and Herpetologists
Professional Association of Diving Instructors
National Postdoctoral Association

Classes Taught

Principles of Biology (UA - BIOL 1543; HPU - BIOL 1000*)
Introduction to Oceanography (HPU - MARS 1000*)
Ecology (UA - BIOL 3863)
Marine Biology (UA – BIOL 480V)
Biology “Down Under”: Marine Biology and Zoology of Australia (UA Gifted & Talented Summer Institute)
Marine Biology (UA Gifted & Talented Summer Institute)
“Life” in Movies: Biology in Popular Media (UA Gifted & Talented Summer Institute)
* *online course*

Field Experience

As an assistant:

Lizard Island, Orpheus Island, and Magnetic Island, Australia
Moorea Island, Tahiti
Beaver Lake and Ozark National Forest, Arkansas
Palo Verde and La Selva research stations, Costa Rica
Kimbe Bay, Papua New Guinea

As primary researcher:

Lizard Island, Orpheus Island, and One Tree Island, Australia
Moorea Island, Tahiti
Kimbe Bay, Papua New Guinea
Coconut Island, Hawaii
Frank’s Caye, Belize

Reviewing

UA Gifted & Talented Summer Institute Scholarship Committee member (‘04 & ‘06)
Lindbergh Foundation Technical Review Panel Member (2007)
UA “Honors College – Environmental Dynamics Research Mentoring Experiences for Students”
proposal reviewer (2007)
UA Honors College Research Grant proposal reviewer (2007)

Other Skills & Certificates

Selected for *TheClimateProject.org* training (Al Gore’s global warming awareness program)
P.A.D.I. Instructor Development Course Staff Instructor (licensed to teach 11 specialties)
Oxygen and First Aid Provider
Queensland Transport (*Australia*) Marine Driver Licence