Curriculum Vitae Matthew R. Palmtag, M.S.

Instructor II
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Department of Biological Sciences Florida Gulf Coast University 10501 FGCU Boulevard South Fort Myers, FL 33965

Education

The University of Texas, at Austin Marine Science Institute, Port Aransas, TX *M.S. Marine Science* 2000 - 2004

Texas A&M University - Corpus Christi Corpus Christi, TX B.S. Biology 1995 - 2000

Supervisor: Dr. Bette Jackson

Honors

- 2012 2013, FGCU Junior Instructor Teaching Excellence Award
- 2003 2004, National Science Foundation Fellowship
- 2000 2004, Dean's List, The University of Texas, at Austin
- 2000, Dean's List, Texas A&M University Corpus Christi
- 1995 1999, Academic Achievement Scholarship, Texas A&M University Corpus Christi

Teaching Experience

Fall 2009 – present Florida Gulf Coast University Fort Myers, FL

• Title: Biology Instructor II

College of Arts and Sciences

• Courses taught: General Biology 1010C

• Responsibilities and Accomplishments:

General Biology I (BSC 1010C)

- o I employed a variety of teaching innovations in my classes and assessed their ability to improve student performance.
- o Authored an original laboratory exercise on Diffusion and Osmosis
- o Coauthored an original laboratory exercise on Photosynthesis
- o Coauthored an original laboratory exercise on Sex Linked Inheritance
- Developed approximately 75 hands on activities that require critical thinking and in-class participation
- Developed original exam review games to help students prepare for lecture exams in General Biology I
- I developed a "Problem Set" for each of four units that I teach in General Biology I. Each problem set consists of several short answer questions that focus on key concepts and critical thinking skills.

- I authored exam study guides for each of five exams in General Biology I. The study guides were designed to provide the students with an organized comprehensive guide for studying without compromising the inquiry based study habits that I attempt to foster and promote.
- Altered hundreds of course specific diagrams and images to improve clarity and visual information
- Authored hundreds of exam and quiz questions that incorporate critical thinking and a diverse array of questions representing both higher and lower levels of Bloom's Taxonomy
- o I found, evaluated, and incorporated approximately 75 short thought provoking videos into my lecture presentations
- I use the learning management system "Angel" and "Canvas" to provide students with power point lecture files, study guides, online quizzes, announcements, scheduling assistance, and course specific supplemental materials
- Authored a laboratory activity to illustrate the Dideoxy Chain Termination Method for DNA Sequencing
- Coauthored a laboratory activity that serves as a simulation of the key concepts of evolution; descent with modification and natural selection.
- Organized an activity appendix that was added to the General Biology I Custom laboratory manual. The appendix consists of seven in-depth "hands on learning enrichment activities" authored by my colleagues and I. The appendix was published in the manual in fall 2012.
- o Developed, implemented, and assessed active learning activities designed to enhance student engagement, comprehension, and quantitative skills

Animal Nutrition (ANS 3440)

- o Developed the course: Animal Nutrition
- o Designed the learning outcomes for the course
- I produced a syllabus
- o I authored fifteen lecture/ lessons the are presented as power point presentation files
- o I authored four unit exams and a cumulative final
- o I developed a discussion component for the course with corresponding guidelines
- I developed a student presentation project for the course with corresponding guidelines
- Developed, implemented, and assessed active learning activities designed to enhance student engagement, comprehension, and quantitative skills

General Biology II (BSC 1011)

- o I produced a syllabus
- o I authored fifteen lecture/ lessons the are presented as power point presentation files
- o I authored four unit exams and a cumulative final
- o I produced five exam study guides
- o I developed four online quizzes

- Title: Adjunct Faculty
- Math and Science Department Supervisor: Tanya McGhee
- Courses taught: General Biology I, II, and Human Anatomy and Physiology I
- Duties and Accomplishments:
 - o Constructed syllabi
 - o Designed and taught lecture component of course
 - Designed and taught laboratory component of course
 - o Created and evaluated tests, projects, and quizzes
 - o Designed and supervised semester long student projects
 - Used the computer based teaching tool BlackBoard to enhance students learning experience
 - Amassed four credit hours instructing General Biology I lectures and four credit hours instructing laboratories
 - o Amassed six credit hours instructing General Biology II lectures and six credit hours instructing laboratories
 - Amassed eighteen credit hours instructing Human Anatomy and Physiology I lectures and twenty credit hours instructing laboratories

2007 - 2009

Sylvan Learning Center

Morehead City/New Bern, NC

Supervisor: Debbie Boudreaux

- Title: Educational Tutor
- Duties and Accomplishments:
 - Tutored students in the subjects of mathematics, reading, SAT preparation, and science
 - O Tutored students ranging in age from five to eighteen years old
 - Tutored special needs students that suffered from learning disabilities and abusive backgrounds

2005 - 2006

Roger Williams University

Bristol, RI

- Title: Adjunct Faculty
- Biology Department
- Courses taught: General Biology I
- Duties and Accomplishments:
 - Duties and Accompnishmen
 - Constructed syllabi
 - Designed and taught lecture component of course
 - o Created and evaluated tests, projects, and quizzes
 - o Designed and supervised semester long student projects
 - Used the computer based teaching tool BlackBoard to enhance students learning experience
 - o Amassed four credit hours instructing General Biology I lectures

2003 - 2004

University of Texas Marine Science Institute

Port Aransas, TX

Supervisor: Dr. Paul Webb

- Title: National Science Foundation GK 12 Fellow
- Marine Science Department Supervisor: Dr. Ken Dunton
- Duties and Accomplishments:

Designed and taught scientific laboratories to fourth grade students twice weekly at Flour Bluff Intermediate School, Flour Bluff, TX

2000 University of Texas Marine Science Institute

Port Aransas, TX

Supervisor: Dr. Jay Brandes

- Title: Graduate Teaching Assistant
- Marine Science Department
- Duties and Accomplishments:
 - Assisted in developing laboratory assignments, test writing, and grading for the undergraduate course Marine Ecology

Research Experience

2005 - 2006

Roger Williams University

Bristol, RI

- Title: Research Associate and Assistant Laboratory Manager of the Marine Aquaculture Laboratory
- Biology Department Supervisors: Dr. Tim Scott and Brad Bourque
- Duties and Accomplishments:
 - Managed, supervised, and scheduled ~ 30 undergraduate research assistants
 - o Managed daily operations of The Marine Aquaculture Laboratory
 - Developed and supervised long term student research projects
 - Taught undergraduate research assistants skills required for scientific research and aquaculture
 - Maintained aquaculture livestock and equipment

2004 - 2005

University of Texas Marine Science Institute

Port Aransas, TX

Supervisor: Dr. G. Joan Holt

- Title: Research Scientist
- Marine Science Department
- Duties and Accomplishments:
 - Supervised and maintained marine ornamental aquaculture laboratory
 - Managed, supervised, and scheduled laboratory technicians and volunteers
 - Maintained approximately twenty separate groups of reproducing fish and shrimp that provided eggs and larvae for experimental research
 - Maintained cultures of phytoplankton and zooplankton for use as larval fish and shrimp food
 - o Designed and performed scientific experiments with larval fish and shrimp
 - o Operated a gas chromatograph to analyze experimental results
 - Performed statistical analysis of data with computer programs SPSS and SYSTAT
 - o Prepared manuscripts for submission to peer-reviewed journals

2000 - 2004

University of Texas, at Austin

Austin, TX

- Title: Graduate Research Assistant
- Marine Science Department
 Supervisor: Dr. G. Joan Holt
- Duties and Accomplishments:
 - o Identical to those listed for previous entry, 2004 2005

- Title: Undergraduate Research Assistant
- Marine Science Department Supervisor: Dr. G. Joan Holt
- Duties and Accomplishments:
 - o Maintained marine ornamental aquaculture laboratory equipment
 - Maintained approximately twenty separate groups of reproducing fish and shrimp that provided eggs and larvae for experimental research
 - O Designed and performed experiments with larval fish and shrimp
 - Prepared scientific literature for publication

Other Work Experience

2006 – 2009 Marine Ornamental Aquaculture

Newport, NC

- Title: Founder/ Owner/ Operator of Sole Proprietorship "Marine Ornamental Aquaculture"
- Duties and Accomplishments:
 - o Produced aquacultured marine fish and invertebrates for the aquarium trade
 - Produced seven species of fish and two species of shrimp on a commercial scale
 - Purchased and assembled broodstock
 - Supplied a nationwide clientele with livestock monthly, ten retail stores and three wholesale outlets
 - Planned and budgeted for start-up and operational costs
 - o Marketed livestock products throughout Unites States
 - o Provided clientele with customer service
 - o Designed, built, and maintained hatchery and grow-out facility
 - Designed and fabricated filtration systems, larval rearing devices, egg collecting equipment, fiberglass tanks, and tank stands
 - o Packaged and shipped livestock to clients throughout the United States
 - Used computer software Quick Books and Microsoft Office to maintain records and produce business documents
 - Produced broodstock and larval diets
 - o Monitored and analyzed water quality
 - o Diagnosed and treated diseases of livestock

2005- 2006

Jackie Sea Sport-fishing Charters

Port of Galilee, RI

Supervisor: Captain Ken Court

- Title: First MateDuties and Accomplishments:
 - o Supervised customers to ensure their safety
 - o Assisted customers in catching and landing game-fish
 - o Maintained boat and fishing equipment
 - Designed and maintained company website

Publications

- Palmtag, M.P. (2017) Marine ornamental species trade, In R. Calado, I. Olivotto, M.P., & G.J. Holt (Eds.), *Marine Ornamental Species Aquaculture* (Vol. 1, pp. 3 14). Hoboken, NJ: Willey-Blackwell.
- Palmtag, M.R. and Croshaw, D.A. 2013. Unlocking the Secrets of Sex Biased Inheritance Patterns, In: Laboratory Activities for General Biology I. Editors: Cross, R. and Jackson, B. Florida Gulf Coast University. Blue Door Publishing.
- Palmtag, M.R. 2012. DDCT Gene Sequencing, In: Laboratory Activities for General Biology I. Editors: Cross, R. and Jackson, B. Florida Gulf Coast University. Blue Door Publishing.
- Palmtag, M.R., Goulet –Miller, F. and Gunnels C.W., 2012. Descent with Modification and Natural Selection Simulation, In: Laboratory Activities for General Biology I. Editors: Cross, R. and Jackson, B. Florida Gulf Coast University. Blue Door Publishing.
- Palmtag, M.R. 2011. Laboratory Activity 6: Brownian motion, Diffusion, Osmosis, and Plasmolysis of Plant Cells, In: Laboratory Activities for General Biology I. Editors: Cross, R. and Jackson, B., Florida Gulf Coast University. Blue Door Publishing.
- Jackson, B. and Palmtag, M.R. 2011. Laboratory Activity 9: Photosynthesis, In: Laboratory Activities for General Biology I. Editors: Cross, R. and Jackson, B. Florida Gulf Coast University. Blue Door Publishing.
- Palmtag, M.R. and G.J. Holt. 2007. Experimental studies to improve the larval survival of the fire shrimp (*Lysmata debelius*) to the juvenile stage. Journal of the World Aquaculture Society 38: 102 113.
- Palmtag, M.R., C.K. Faulk, and G.J. Holt. 2006. Highly unsaturated fatty acid composition of rotifers (*Brachionus plicatilus*) and *Artemia* fed various enrichments. Journal of the World Aquaculture Society 37: 126-131.
- Palmtag, M.R. 2004. Captive rearing and larval nutrition of the fire shrimp (*Lysmata debelius*). Thesis. The University of Texas at Austin.
- Palmtag, M.R. and G.J. Holt. 2001. Captive rearing of fire shrimp (*Lysmata debelius*). Texas A&M College Program Research Report. Texas Sea Grant.

Invited Presentations

- November 2014, Provost's annual "Preparing for Promotion" address to the FGCU faculty, I presented advice on how to measure and document the effects of employing innovative teaching strategies in the classroom, Fort Myers, FL
- September 2014, Conversations in the Living Room: Teaching Award Winners: "Successful Administration of Active Learning Activities", Lucas Center for Faculty Development, Florida Gulf Coast University, Fort Myers, FL
- April 2014, Strategies to Effectively Administer Active Learning Activities in the Classroom, *Science Math Master Workshop*, University of Tampa, Tampa, FL
- March 2014, Strategies to Effectively Administer Active Learning Activities in the Classroom, *Science Math Master Workshop*, Hodges University, Naples, FL
- Feb. 2014, Sustainable Marine Ornamental Aquaculture Techniques with a Focus on Fish, Southwest Florida Marine Aquarium Society, Estero Community Park Recreation Center, Estero FL
- Feb. 2014, Sustainable Marine Ornamental Aquaculture Techniques, with a Focus on Fish. Dr. Greg Tolley's Ichthyology Class, Florida Gulf Coast University, Fort Myers, FL

- Nov. 2013, Sustainable Marine Ornamental Aquaculture Techniques with a Focus on The Fire Shrimp Lysmata debelius, Southwest Florida Marine Aquarium Society, Estero Community Park Recreation Center, Estero FL
- Nov. 2011, The Biological, Ecological, and Economical Aspects of Marine Ornamental Aquaculture. Dr. Greg Tolley's Ichthyology Class, Florida Gulf Coast University, Fort Myers, FL
- Sept. 2004, Captive rearing of the jackknife fish and fire shrimp in captivity. Marine Aquarium Conference of North America, New England Aquarium, Boston, MA
- Feb. 2004, Fire shrimp: Marine Ornamental Invertebrates, Can We Raise Them In Captivity Instead of Taking Them From the Wild? The University of Texas Marine Science Institute Public Lecture Series, Port Aransas, TX
- June 2002, Fundamentals of marine ornamental aquaculture, from a researcher's perspective. Science Workshop for Corpus Christi Independent School District Science Teachers. Texas A&M University- Corpus Christi, Corpus Christi, TX
- March 2001, Captive rearing of fire shrimp (*Lysmata debelius*). The University of Texas Marine Institute Marine Advisory Council Meeting. The University of Texas Marine Science Institute, Port Aransas, TX

Conference Presentations

- Sept. 2016, Design, Implementation, and Assessment of Short Engaging Quantitative Learning Activities. Lucas Symposium: Showcasing Creative Strategies for Teaching and Learning, Fort Myers, FL
- March 2004, Comparison of nutrient characteristics of rotifers (*Brachionus plicatilus*) and *Artemia* enriched with commercial enrichment, live and commercially produced algae. World Aquaculture Society, Honolulu, HI
- March 2004, Effects of enriching live prey, with different enrichments, on survival and progression to metamorphosis of larval fire shrimp (*Lysmata debelius*). International Conference on Marine Ornamentals, Honolulu, HI
- Nov. 2001, Spawning and larval rearing of jackknife fish (*Equetus lanceolatus*), a marine ornamental fish. International Conference on Marine Ornamentals, Lake Buena Vista, FL
- Jan. 2001, The spawning and rearing of the fire shrimp (*Lysmata debelius*) in captivity. World Aquaculture Society, Lake Buena Vista, FL

Select Professional Development Activity

- 2018, participant; Lucas Symposium: Creative Strategies for Teaching Critical Thinking, FGCU, Fort Myers, FL
- 2017, participant; Lucas Center for Faculty Development, titled: Showcasing Creative Strategies for Teaching and Learning, FGCU, Fort Myers, FL
- 2016, participant; semester long (fall) mentoring workshop sponsored by the Lucas Center for Faculty Development. Our group participated in a book club focused on faculty mentoring, FGCU, Fort Myers, FL
- 2016, participant; workshop hosted by the Lucas Center for Faculty Development and presented by Dr. Linda Shadiow, titled: The Microscope, the Telescope: Finding and Using the Narrative our Teaching Tells, FGCU, Fort Myers, FL
- 2015, participant; semester long (fall) mentoring workshop sponsored by the Lucas Center for Faculty Development. Our group participated in a book club focused on faculty mentoring, FGCU, Fort Myers, FL

- 2014, participant; *Science Math Masters* Spring 2014 Professional Development Workshop held in Tampa, FL
- 2014, participant; *Science Math Mastesr* Spring 2014 Professional Development Workshop held in Naples, FL
- 2013, discussion facilitator; *Science Math Masters* Spring 2013 Professional Development Workshop held in Bradenton, FL
- 2013, I prepared and submitted a teaching portfolio for the FGCU Junior Instructor Teaching Excellence Award, FGCU, Fort Myers, FL
- 2012, reviewer; "Introduction: Themes in the Study of Life" and chapter five "The Structure and Function of Large Biological Macromolecules" in Reece, B. R., *et al.* 2011. Campbell Biology Ninth Edition. Benjamin Cummings.
- 2012, participant; Academic Portfolio Workshop. I attended the meetings, presentations, and prepared and submitted a draft of my Academic Portfolio, FGCU, Fort Myers, FL
- 2012, participant; The Biology Majors Symposium hosted by McGraw Hill, two-day symposium centered on pedagogy specifically on sharing and developing strategies to improve student critical thinking skills and active learning into teaching methodologies, Dubuque, IA

Undergraduate Research Mentorship

- 2017, mentor; Erika Puglisi, Carline Reinert, Elliot White, and Christianna Ziccardi on their senior research project: Examining the Biodiversity of Florida Gulf Coast University's Mammal Community and Projected Impact of New Road Construction
- 2014, mentor; Marina Hurt and Melanie Perez on their senior research project: *Procambrus alleni* Predator/Prey Escape Response to Stimulus
- 2012, mentor; Frank DeSantis on his senior research project: Measuring Variance of Dissolved Oxygen Given Off by *Ceratophyllum demersum* Using Different Wavelength of Light to Benefit Aquaculture

Select Service Activities, (2009 – present)

- 2018, faculty mentor coach; I mentored Dr. Rob Sillevis (Assistant Professor), Lucas Center for Faculty Development, FGCU
- 2018, co-administrator; Biology Intensive Orientation for Students Program at FGCU
- 2018, Senior Research Day Judge, College of Arts and Science, FGCU
- 2017, faculty mentor coach; I mentored Dr. Molly Nation (Assistant Professor), Lucas Center for Faculty Development, FGCU
- 2017, participant; Department of Biological Sciences Instructor I Search Committee, we were successful in hiring Dr. Joyce Fassbender for the position.
- 2017, co-administrator; Biology Intensive Orientation for Students Program at FGCU
- 2016, mentor; I served as a formal mentor for Jake Downing (student), National Science Foundation Learning Assistant Program, FGCU
- 2016, chair; Department of Biological Sciences Instructor Search Committee, we were successful in hiring Dr. Rod Rolle, FGCU
- 2016, faculty mentor coach; I mentored Dr. Erica Baer (Instructor I), Lucas Center for Faculty Development, FGCU
- 2016, volunteer; private tutor for at-risk students, in collaboration with Adaptive Services, FGCU
- 2016, co-administrator; Biology Intensive Orientation for Students Program at FGCU

- 2016, Senior Research Day Judge; College of Arts and Science, FGCU
- 2015, faculty mentor coach; I mentored Mrs. Jessica Mendez (Visiting Instructor), Lucas Center for Faculty Development, FGCU
- 2015, co-administrator; Biology Intensive Orientation for Students Program at FGCU.
- 2015, participant; Department of Biological Sciences Wildlife Biology Faculty Search Committee; we were successful in hiring Dr. John Herman, FGCU
- 2015, volunteer, I donated twenty-four hours to the Mote Marine Shark Tagging Research Program, Sarasota, FL
- 2014, cofounder and co-administrator; Biology Intensive Orientation for Students, FGCU
- 2014, faculty mentor coach; I mentored Dr. Rebekah Brosky (Instructor I), Lucas Center for Faculty Development, FGCU
- 2014, volunteer; provided promotion portfolio as an example for the College of Arts and Sciences Peer Review and Support Committee Promotion Workshop, FGCU
- 2014, volunteer; evaluated Ave Maria University's potential as a member of the Tri Beta National Honor Society, Ave Maria, FL
- 2013, participant; Department of Biological Sciences Cell Biology Faculty Search Committee; we were successful in hiring Dr. Lyndsay Rhodes for the position, FGCU
- 2013, donation; southern pine seedlings (*Pinus elliottii*) to three preschool and kindergarten classes (McNeal Elementary Lakewood Ranch, FL, Primrose Academy Lakewood Ranch, FL, and Living Lord Lutheran Church Sunday School Lakewood Ranch, FL) and taught them about sustainability and how to plant and care for their trees.
- 2013, volunteer; assessed effective written communication and information/technology literacy of students for the BA in biology, FGCU
- 2013, volunteer; organized and coordinated a student field trip to Mote Marine Park, Sarasota, FL
- 2012, volunteer; assisted College of Education with their B.A. in Biology Education, Specifically I looked at General Biology I and evaluated which of the State Competencies in Biology were covered in one of their courses, FGCU
- 2012, volunteer; redesigned and installed the freshwater filtration system used to supply water for producing synthetic sea water in the Whitaker Hall Wet Lab, FGCU
- 2012, volunteer; I designed and built an aquarium stand that holds twelve 10-gallon aquarium to increase student research space in Whitaker Hall Wet Lab, FGCU
- 2012 present, faculty co-advisor; Tri Beta Biological Honor Society, FGCU
- 2012 2016 volunteer; eighty hours of private tutoring to at-risk students, in collaboration with Adaptive Services, FGCU
- 2012, volunteer; organized and coordinated field trip to The Florida Wildlife Commission; Stock Enhancement Research Facility, Port Manatee, FL
- 2012, chair; Department of Biological Sciences Instructor Search Committee, we were successful in hiring Dr. John Herman, FGCU
- 2010 2012, faculty advisor; The Aquarium Science and Aquaculture Club, FGCU
- 2011, volunteer; assessed effective written communication and information/technology literacy of students for the biennial review of the BA in biology, FGCU
- 2011, faculty mentor; Dr. John Herman and Felicia Goulet-Miller, FGCU
- 2011, judge; middle school science fair, Three Oaks Middle School, Fort Myers, FL
- 2011, volunteer; organized and coordinated a field trip to Mote Aquaculture Park, Sarasota, FL
- 2010, volunteer; organized and coordinated a field trip to The University of Florida Tropical Aquaculture Laboratory, Ruskin, FL

- 2010, volunteer; redesigned and renovated a laboratory space for aquatic animal husbandry, Florida Gulf Coast University, Fort Myers, FL
- 2010, judge; middle school science fair, Three Oaks Middle School, Fort Myers, FL
- 2010, judge; "FGCU Research Day", Florida Gulf Coast University, Fort Myers, FL
- 2009, judge; middle school science fair, Cypress Palm Middle School, Naples, FL

Field Experience

- Over 700 documented days of sea time
- Logged over 100 S.C.U.B.A. dives
- Owner/operator of sea-going vessel, She & I
- Organized and led expeditions in the Gulf of Mexico to capture and transport live adult Cobia (*Rachycentron canadum*) and marine ornamental fish for use as aquaculture broodstock
- Conducted scientific reef fish surveys, Sian Kaan Biosphere Reserve, Quintana Roo, Mexico

Aquaculture Accomplishments

- Species list of fish and invertebrate aquaculture experience:
 - Species spawned/hatched and produced on a commercial scale
 - Amphiprion occelaris, False Percula Clownfish
 - Hippocampus erectus, Lined Seahorse
 - Pseudochromis aldabraensis, Neon Dottyback
 - Pseudochromis fridmani, Orchid Dottyback
 - *Elacatinus figaro*, Brazilian Yellow Line Goby
 - Premnas biculeatus, Gold Stripe Maroon Clownfish
 - Elacatinus oceanops, Neon Goby
 - Lysmata debelius, Blood Red Fire Shrimp
 - Lysmata wurdemanni, Peppermint Shrimp
 - o Species spawned/hatched and raised for scientific research
 - Calloplesiops altivelis, Comet or Marine Betta
 - Equetus lanceolatus, Jackknife Fish
 - Ocyurus chrysurus, Yellowtail Snapper
 - Sciaenops occellatus, Red Drum
 - Rachycentron canadum, Cobia
 - Orthopristis crysoptera, Pigfish
 - Fundulus grandis, Gulf Killifish
 - Lysmata debelius, Blood Red Fire Shrimp
 - Procambrus alleni, Blue Crayfish
 - Species spawned/hatched for scientific research
 - Bodianus pulchellus, Spotfin Hogfish
 - Centropyge argi, Pygmy Angelfish
 - Centropyge flavissimus, Pygmy Angelfish
 - Centropyge loriculus, Flame Angelfish
 - Lipropoma rubre, Swissguard Basslet
 - *Nemateleotris magnifica*, Fire Fish Goby
 - Oxycirritus typus, Long Nose Hawkfish
 - Pseudocheilinus hexataenia, Six Line Wrasse
 - Gobiosoma multifasciatum, Green Banded Goby

- Thor amboinensis, Sexy Anemone Shrimp
- Lysmata amboinensis, Skunk Cleaner Shrimp
- o Phytoplankton cultured
 - Isochrysis galbana
 - Nannochloris occulata
- o Copepods cultured
 - Acartia tonsa
 - Acartia hudsonica
 - Parvocalanus crassirostris
- o Rotifers cultured
 - Brachionus plicatilus, Rotifer, S and L Strain