DISEASE AND HEALTH POSTERS

Board #

101  **M. Victoria Agnew**, Chris Materna, Kathryn Markey Lundgren, Roxanna Smolowitz
DEVELOPMENT OF A PCR ASSAY FOR DETECTION OF *Proctoeceus maculatus* IN THE WATER COLUMN

102  **Diana Aguilera-Rivera**, Gabriela Rodríguez-Fuentes, Rossana Rodríguez-Canul, Jorge Hernández-López, Alejandra Prieto-Davó, Cristina Chávez-Sánchez, Gabriela Gaxiola
EFFECT OF *Vibrio harveyi* ON IMMUNE SYSTEM OF SHRIMP *Litopenaeus vannamei* CULTURED IN BIOFLOC

103  **Lydia Bienlien**, Corinne Audemard, Kimberly S. Reece, Ryan B. Carnegie
INFLUENCE OF *Perkinsus marinus* INFECTION ON LEVELS OF HUMAN-PATHOGENIC VIBRIOS IN THE OYSTER *Crassostrea virginica*

104  **Jorge Cáceres-Martínez**, Rebeca Vásquez-Yeomans Vásquez-Yeomans, Yosef Amin Chávez-Romero, Mauricio García-Ortega
VARIANTS OF OYSTER HERPESVIRUS (OsHV-1) ASSOCIATED WITH MORTALITIES OF PACIFIC OYSTER *Crassostrea gigas* IN NORTHWEST OF MEXICO FROM 2002 TO 2015

105  **Meghan Capps**, Heather Hamlin
THE EFFECTS OF REGIONAL TEMPERATURE CYCLES ON THE DEVELOPMENT AND DISEASE SUSCEPTIBILITY OF THE AMERICAN LOBSTER *Homarus americanus*

106  **Don Anushka Sandaruwan Elvitigala**, Jehee Lee
MOLECULAR INSIGHTS INTO A CYSTATIN-B HOMOLOG IN BLACK ROCKFISH *Sebastes schlegelii* DECIPHERING ITS TRANSCRIPTIONAL RESPONSES TO A EXPERIMENTAL PATHOGEN INFECTION

107  **Héctor M. Esparza-Leal**, Francisco J. Magallón-Barajas, Ricardo Pérez-Enriquez, Ramón Casillas-Hernández, Julio A. Cabanillas-Ramos, Guillermo Portillo-Clark
WHITE SPOT DISEASE OUTBREAKS ON SHRIMP FARMS OF NORTHWESTERN MEXICO DURING THE SHRIMP PRODUCTION CYCLES OF SPRING-SUMMER OF 2007 AND 2008

EFFECTS OF LONG-TERM LOW SALINITY EXPOSURE ON IMMUNOLOGICAL AND PHYSIOLOGICAL PARAMETERS OF JUVENILE SHRIMP *Litopenaeus vannamei*

109  **Elizabeth Gamez**, Rafael Cuevas-Urube, Steven D. Mims, Andrew J. Ray
TISSUE CONCENTRATIONS OF HEAVY METALS AND ENDOCRINE DISRUPTING COMPOUNDS IN HYBRID STRIPED BASS GROWN IN A MUNICIPAL RECLAIMED WATER AQUACULTURE FACILITY
110 G. I. Godahewa, N.C.N. Perera, Jehee Lee
EVIDENCES FOR THE COMPLEMENT GENES INVOLVE IN INNATE IMMUNITY OF ROCK BREAM *Oplegnathus fasciatus* WITH MOLECULAR, TRANSCRIPTIONAL AND FUNCTIONAL ASPECTS OF FOUR COMPLEMENT GENES

BIG-BELLY SEAHORSE *Hippocampus abdominalis* 1-Cys PEROXIREDOXIN AS A SENSOR OF H2O2 MEDIATED OXIDATIVE STRESS WITH POTENTIAL IMMUNE RESPONSES

112 G. I. Godahewa, N.C.N. Perera, Jehee Lee
MOLECULAR INSIGHTS INTO B CELL ACTIVATING FACTOR FROM BLACK ROCKFISH *Sebastes schlegeli* WITH ITS IMMUNE RESPONSES

113 Stephanie Grodeska, Cova Arias, Jessica Jones, William Walton
EFFECTS OF DESICCATION PRACTICS ON Vibrio ABUNDANCES OF CULTURED OYSTERS *Crassostrea virginica*

114 Jillian R. Hamlin, Carl Huntsberger, Ronald Smolowitz, Roxanna Smolowitz
HISTOLOGICAL EVALUATION OF PARASITE PREVALENCE IN YELLOWTAIL FLOUNDER *Limanda ferruginea* ON GEORGES BANK

115 Ayofe Hammed, Albert Amosu, Adekunle Awe, Folashade Gbadamosi
EFFECTS OF LEAF *Moringa oleifera* EXTRACTS ON BACTERIA *Aeromonas hydrophila* INFECTED ADULTS AFRICAN MUD CAT FISH *Clarias gariepinus* (BURCHELL, 1822)

116 Whitney A. Jaillet, Clara H. Hard, Laura W. Johnson, Jessica L. Jones
LEVELS OF *Vibrio parahaemolyticus* IN RAPIDLY COOLED OR REFRIGERATED PACIFIC OYSTERS *Crassostrea gigas* COLLECTED IN WASHINGTON STATE IMMEDIATELY AFTER HARVEST, AND FOLLOWING AMBIENT AIR EXPOSURE

117 J.D.H.E. Jayasinghe, Eunyoung Jo, Jiyeon Ko, Jehee Lee
MOLECULAR INSIGHTS INTO INTERFERON REGULATORY FACTOR 9 (IRF9) IN BLACK ROCKFISH *Sebastes schlegeli* AND ITS TRANSCRIPTIONAL MODULATION UPON PATHOGENIC STIMULI

118 Sindhu Kaimal, Anita M. Kelly
FLOW CYTOMETRIC ENUMERATION OF *Flavobacterium columnare* FROM GOLDEN SHINERS SUBJECTED TO SPAWNING STRESS

119 John Kelso, Robert Durborow
ECONOMIC IMPACT OF DIAGNOSTIC SERVICES PROVIDED BY KENTUCKY STATE UNIVERSITY FISH DISEASE DIAGNOSTIC LABORATORY

120 Peter Kingsley-Smith, Nancy Hadley, Benjamin Stone, Andrew Neisess, Mike Pearson, Aaron Wozniak, Jessica L. Jones
*Vibrio* spp. LEVELS IN WILD AQUACULTURE-REARED EASTERN OYSTERS *Crassostrea virginica* AND WILD RIBBED MUSSELS *Geukensia demissa* AT COMMERCIAL SHELLFISH AQUACULTURE SITES IN SOUTH CAROLINA, USA

121 Savannah Klein, Charles R. Lovell
HIGH FREQUENCIES OF VIRULENT *Vibrio parahaemolyticus* IN SOUTH CAROLINA *Crassostrea virginica* OYSTERS
Roopasingam Kugapreethan, Navaneethaiyer Umasuthan, William Shanthakumar Thulasitha, Jehee Lee, Seongdo Lee
IMMUNE RESPONSES OF TWO THIOREDOXIN-LIKE GENES IN BLACK ROCKFISH
Sebastes schlegelii

Joseph Leopoldo Laranja, Gladys Ludevese-Pascual, Edgar Amar, Peter Bossier, Peter De Schryver
ISOLATION, SCREENING AND APPLICATION OF POLY-BETA-HYDROXYBUTYRATE ACCUMULATING Bacillus spp. FOR CRUSTACEAN CULTURE

Kurt Loney-Walsh, Loren Dubose, Edward J. Catapane, Margaret A. Carroll
THE NEUROTOXIC EFFECTS OF MANGANESE ON DOPAMINE POST-SYNAPTIC RECEPTORS ARE REVERSED BY P-AMINOSALICYLIC ACID (PAS)

Christopher Lyvers, John Kelso, Robert Durborow
FISH DISEASE CASES DIAGNOSED AND RECOMMENDED TREATMENTS AT THE KENTUCKY STATE UNIVERSITY FISH DISEASE DIAGNOSTIC LABORATORY IN 2015

Kelly Markowitz, Jason Williams, Maureen Krause
THE TREMATODE PARASITE Proctoeces maculatus IN Mytilus edulis: DETECTION AND VERIFICATION OF RANGE EXPANSION THROUGH qPCR

Nicole Martin, Yasuhiro Kobayashi, Brian Maricle
EFFECT OF SULFIDE TOXICITY ON CYTOCHROME C OXIDASE IN LIVER AND MUSCLE TISSUE IN FISH SPECIES

Sipra Mohapatra, Tapas Chakraborty, Sonoko Shimizu, Takahiro Matsubara, Yoshitaka Nagahama, Kohei Ohta
BENEFITS OF STARVATION IN DISEASE MANAGEMENT IN RED SEA BREAM Pagrus major AQUACULTURE

Sipra Mohapatra, Tapas Chakraborty, Sonoko Shimizu, Sonoko Shimizu, Takahiro Matsubara, Yoshitaka Nagahama, Kohei Ohta
AUTOPHAGY AND STARVATION: A MANAGERIAL MINE FOR SUSTAINABLE AQUACULTURE

Andress Edowaye Odiko
HEAVY METALS IN CANNED FISHES STORED IN VEGETABLE OIL MARKETED IN BENIN CITY, EDO STATE, NIGERIA

MOLECULAR CHARACTERIZATION AND EXPRESSION ANALYSIS OF CC CHEMOKINE FROM Hippocampus abdominalis

Rasaq Olowu, Abayomi Jimoh, Ayofe Hammed, Albert Amosu
POTENTIAL TOXIC METALS CONCENTRATIONS IN DIFFERENT AQUATIC LIVES HARVESTED FROM TWO DIFFERENT LAGOONS IN LAGOS, NIGERIA

Kyungil Park, Ki-Woong Nam, Hee-Do Jeung, Jae-Hee Song
HEALTH EVALUATION OF IMPORTED AND DOMESTIC MANILA CLAMS Ruditapes philippinarum
134 Kyungil Park, Ki-Woong Nam, Yun-Kyung Shin
LIFE CYCLE OF Azumiobodo hoyamushi AND THE SEASONAL VARIATION OF SOFT TUNIC SYNDROME (STS) IN THE ASCIDIAN Holocynthia roretzi

135 Kyungil Park, Ki-Woong Nam, Seung-Hyun Kim
PRELIMINARY RESEARCH ON IDENTIFICATION OF Tetraselmis PARASITE UNKNOWN (TPX) IN Tetraselmis sp.

136 N.C.N. Perera, G.I. Godahewa, Jehee Lee
MOLECULAR CHARACTERIZATION AND TRANSCRIPTIONAL ANALYSIS OF INTERFERON-INDUCED 35 kDa PROTEIN HOMOLOG IDENTIFIED IN ROCK FISH Sebastes schlegelii

137 N.C.N. Perera, G.I. Godahewa, R.G.P.T. Jayasooriya, Jehee Lee
MOLECULAR CHARACTERIZATION AND PEROXIDATION FUNCTIONAL ASSAY OF NATURAL KILLER CELL ENHANCING FACTOR IN SEAHORSE Hippocampus abdominalis

138 N.C.N. Perera, G.I. Godahewa, Jehee Lee
MOLECULAR CHARACTERIZATION AND TRANSCRIPTIONAL ASPECTS WITH IMMUNE RESPONSIVE mRNA EXPRESSION PROFILES OF TWO GENES, MAPK1 AND INTERFERON INDUCED 44 LIKE (IFI44) COUNTERPART IDENTIFIED FROM DISK ABALONE Haliotis discus discus

139 Cecilia Rodríguez Haro, María Inés Gamboa, Jesús López, Martín Montes, Paula Marcotegui, Sergio Martorelli
ECTOPARASITES OF Hypostomus oculeus, (PISCES: LORICARIDAE) FROM AMAZON REGION OF ECUADOR

140 Ricardo Sanchez Diaz, Marco A. Salguero González, Martha E. Quiroz Macías, José C. Ibarra Gámez, Bruno Gómez Gil, Lucia E. Crúz Suárez, Zinnia J. Molina Garza, Lucio Galavíz Silva
IDENTIFICATION AND EVALUATION OF ANTAGONISTIC ACTIVITY FROM MARINE BACTERIA AGAINST PATHOGENIC Vibrio parahaemolyticus, CAUSATIVE AGENT OF ACUTE HEPATOPANCREATIC NECROSIS DISEASE (AHPND) IN SHRIMP FARMING

141 Kevin Schrader, Mark Hamann, James McChesney, Douglas Rodenburg, Mohamed Ibrahim
ANTIBACTERIAL ACTIVITIES OF METABOLITES FROM Platanus occidentalis (AMERICAN SYCAMORE) AGAINST FISH PATHOGENIC BACTERIA

142 Abigail K. Scro, Chris Materna, M. Victoria Agnew, Jillian Hamlin, Kathryn Markey, Roxanna Smolowitz
THE OCCURRENCE AND SEVERITY OF DISEASE IN POPULATIONS OF BLUE MUSSLES Mytilus edulis IN RHODE ISLAND COASTAL WATERS

143 Raquel Silveira Coffigny, Manuel Rubio L., Raico Laria L., Maylée Pozo E., Adriana Artiles V., Yaraima Aguilara S., Fernando Prats L., Anna Pérez B., Damir Hernández M., Manuel Medel G.
SURVEILLANCE FOR THE PREVENTION AND CONTROL OF DISEASES IN CUBAN AQUACULTURE

144 Elizabeth Silvy, Francis I. Gelwick, George J. Guillen
DETERMINING FACTORS AFFECTING DERMO DISEASE OF OYSTERS IN GALVESTON BAY, TEXAS
145 David Straus, Duane Huggett
A SURVEY OF CATFISH POND WATER CHEMISTRY PARAMETERS FOR COPPER TOXICITY MODELLING

146 William Shanthakumar Thulasitha, Navaneethaiyer Umasuthan, Qiang Wan, N.C.N. Perera, Jehee Lee
ANTIVIRAL ACTIVITY OF GALECTIN-1 FROM ROCK BREAM Oplegnathus fasciatus AGAINST TWO POTENTIAL PISCINE VIRUSES

147 Dung Tu, Trang Huynh, Thi Quach
MOLECULAR CHARACTERIZATION OF MULTIPLE ANTIBIOTIC RESISTANCE IN Edwardsiella ictaluri AND Aeromonas hydrophila ISOLATES FROM DISEASED STRIPED CATFISH Pangasianodon hypophthalmus CULTURED IN THE MEKONG DELTA, VIETNAM

148 Navaneethaiyer Umasuthan, M. S. Mothishri, William Shanthakumar Thulasitha, G. I. Godahewa, Jehee Lee
FUNCTIONAL EVIDENCE IN RELAVANCE TO THE ANTIMICROBIAL ACTION OF A TELEOST ANTIMICROBIAL PEPTIDE FROM Oplegnathus fasciatus

149 Dunhua Zhang, Dehai Xu, Craig Shoemaker
INFECTION AND DISEASE PROGRESS OF MOTILE AEROMONAS SEPTICEMIA CAUSED BY VIRULENT Aeromonas hydrophila IN CHANNEL CATFISH

FINFISH POSTERS

Board #
160 Nevine M. Abou Shabana, Mohamed A. Essa, Ashraf M. Goda, Nadia A. Ahmed
IMPROVED TECHNOLOGIES FOR ENHANCED NILE TILAPIA FRY AND FINGERLINGS PRODUCTION IN AFRICAN HATCHERIES (EGYPT CASE STUDY)

161 Patricia Anyanwu, Kola Kusemiju
CULTURE TRIALS OF THE ATLANTIC TARPON Tarpon atlanticus IN EARTHEN PONDS AND PENS

162 Olusola A Babalola, Alexender Okochi
GROWTH RESPONSE USING FERMENTED Parkia biglobosa AS AN ATTRACTANT IN THE FEED OF Oreochromis niloticus CULTURED IN THE GLASS TANKS

163 Hyun Sik Chu, David Kuhn, Sean O’Keefe
FATTY ACID COMPOSITIONS OF TILAPIA FILLETS Oreochromis spp. AVAILABLE IN LOCAL U.S. SUPERMARKETS AND THEIR IMPACT ON CURRENT TILAPIA MARKET TRENDS

164 Charlie Culpepper III, Peter Allen, Amy Guitreau, Terrence Tiersch
DEVELOPMENT OF WHITE CRAPPIE Pomoxis annularis REPRODUCTION METHODS IN TANK AQUACULTURE SYSTEMS

165 Matthew DiMaggio, Kevin Barden, Eric Cassiano, Marion Hauville, Shane Ramee
FIRST RECORD OF CAPTIVE SPAWNING AND LARVAL REARING OF THE MELANURUS WRASSE Halichoeres melanurus

166 Matthew A. DiMaggio, Marion R. Hauville, Eric J. Cassiano, Kevin P. Barden, Matthew L. Wittenrich, Shane W. Ramee
AQUACULTURE OF THE FRENCH GRUNT Haemulon flavolineatum: LARVAL GROWTH AND DEVELOPMENT, FIRST FEEDING, AND IMPACT OF PHOTOPERIOD
167 Eduardo Raúl Flores, Bjorn-Tore Lunestad, Juan Carlos Carmona, Morten Frost Hoyum, Roberto Castelo, Orjan Karlsen, Pascual Rodríguez, Finn Christian Skjennum, Noris Millares, Rolf Engelsen, Barbarito Jaime, Lourdes Pérez, Adrián Fagundo, Raudel Cobo, Maylee Pozo, Manuel Medell, Raquel Silveira, Abel Betanzos, Mercedes Isla, Alexander Lópeztegui, Rafael Tizol, Gloria Rodríguez and Alexis Bravo
CULTURE OF COBIA Rachycentron canadum FROM A CUBAN PERSPECTIVE

168 Duane A. Friedman, Megan Cox, Joseph R. Tomasso
SURVIVAL AND HEMATOCRIT IN NET-CONFINED SUMMER FLOUNDER Paralichthys lethostigma: EFFECT OF SALINITY

169 Oscar Galagarza, David Kuhn, Stephen Smith, Daniel Taylor, Joseph Eifert, Robert Williams
BASELINE HEMATOLOGY AND BLOOD CHEMISTRY OF STRIPED CATFISH Pangasius hypophthalmus

170 Baba Usman Ibrahim, Hussaini Zubairu
FISH COMPOSITION OF SHIRORO RESERVOIR, MINNA, NIGER STATE, NIGERIA

171 Toshiaki Itami, Mari Inada, Toshifumi Yui, Masahiro Sakai
MACROPHAGE MIGRATION INHIBITORY FACTOR FAMILY, CYTOKINE HOMOLOGUE GENES, IN KURUMA SHRIMP Marsupenaeus japonicus

172 J.D.H.E. Jayasinghe, S.D.N.K. Bathige, Jehee Lee
COMPREHENSIVE ANALYSIS OF THREE GLUTATHIONE S-TRANSFERASE PARALOGS FROM A TELEOSTEAN ORIGIN

173 Ronald B. Johnson, Steve C. Corbett, Mary L. Moser, Erika L. Parker
DEVELOPING A NON-INVASIVE METHOD TO ASSESS GREEN STURGEON Acipenser medirostris CONDITION

174 Karim Khalil, Ahmed Elaswad, Patrick Page-McCaw, Roger Cone, Rex Dunham
ALTERING MELANOCORTIN-4 RECEPTOR ACTIVITY IN CHANNEL CATFISH Ictalurus punctatus USING CRISPR/Cas9 SYSTEM

175 Travis G Knorr, Phillip Iovino, Michelle L. Walsh
ON DRUGS: THE SEDATIVE EFFECTS OF CLOVE OIL ON POST-METAMORPHOSE JUVENILE CLOWNFISH Amphiprion ocellaris

176 Jehee Lee, Sukkyoung Lee, Gabin Kim, Eunyoung Jo, Jiyeon Ko, Minyoung Oh, Yucheol Kim, Seongdo Lee, Hyowon Kim, Qaing Wan
CYTOSOLIC SENSOR GENES AGAINST VIRAL INFECTION OF ROCK BREAM Oplegnathus fasciatus

177 Seongdo Lee, Minyoung Oh, Sukkyoung Lee, Jiyeon Ko, Eunyoung Jo, Jehee Lee
MOLECULAR CHARACTERIZATION AND EXPRESSION PROFILE OF CATHEPSIN B FROM JAPANESE EEL Anguilla japonica

178 Eduardo Martínez-Matus, Wayne Knibb, Mauricio Moreno-Alva, Roberto Flores-Aguilar, Clara Galindo-Sánchez, Claudia Farfán, Miguel A. Del Rio-Portilla, Fabiola Lafarga-De la Cruz
GENETIC DIVERSITY AND REPRODUCTIVE SUCCESS OF YELLOWTAIL KINGFISH Seriola lalandi (VALENCIENNES, 1833) IN CAPTIVITY
179 Kayla McCoy, C. Bauer Duke
CATFISH-ONLY *Ictalurus punctatus* STOCKING RATES FOR FERTILIZED FARM PONDS: WHAT DO SNAKES, SNAPPERS, AND OTHER PREDATORS LEAVE BEHIND?

180 Christopher Mealey, Tanya Darden, Michael R. Denson
ASSESSING THE GENETIC IMPACTS OF STOCK ENHANCEMENT OF RED DRUM *Sciaenops ocellatus* ON THE WILD POPULATION IN SOUTH CAROLINA USING ESTIMATES OF GENETIC DIVERSITY

181 Claire Nash, Ruth Welti, Brian Peterson, Yass Kobayashi
PLASMA POLAR LIPID PROFILES OF CHANNEL CATFISH WITH DIFFERENT GROWTH RATES

182 Anthony Nlewadim, Okechukwu U. Alum
OBSERVATION OF FRESHWATER STINGRAY *Dasyatis garouaensis* (STAUCH AND BLANC, 1962) IN FRESHWATER AQUARIA

183 Michelle Orane Schemberger, Amanda Piveta Schneppe, Viviane Nogaroto, Roberto Ferreira Artoni, Mara Cristina Almeida, Marcelo Ricardo Vicari
SOX9 AND DMRT1 EXPRESSION IN MALE AND FEMALE GONADS OF *Apareiodon* sp. (CHARACIFORMES, PARODONTIDAE)

184 Qing Pan, Yuanyan Xiong
TRANSCRIPTOME ANALYSIS OF PROTEIN METABOLISM IN RESPONSE TO DIETARY LINOLENIC ACID IN NILE TILAPIA *Oreochromis niloticus*

185 Renato Peña, Silvie Dumas, Mauricio Contreras-Olguín, Laura Flores-Montijo, Saúl León-Valencia, Iván Hernández-Alarcón
DEVELOPMENT OF THE DIGESTIVE TRACT OF PACIFIC RED SNAPPER *Lutjanus peru* LARVAE UNDER CULTURE CONDITIONS

186 Erin Pereira-Davison, Chatham K. Callan
EFFECTS OF PHOTOPERIOD, LIGHT INTENSITY, TURBIDITY, AND PREY DENSITY ON FEED INCIDENCE, GROWTH, AND SURVIVAL IN CULTURED LARVAL YELLOW TANG *Zebrasoma flavescens*

187 Thanthrige Thiunuwan Priyathilaka, Seongdo Lee, H.M.V. Udayantha, Yucheol Kim, Jeong In Ma, Hyung-Bok Jeong, Bong-Soo Lim, Jehee Lee
IDENTIFICATION AND CHARACTERIZATION OF A CRUCIAL ANTIOXIDANT GENE FROM JAPANESE EEL *Anguilla japonica*: REVEALING ITS POST INNATE-IMMUNE RESPONSES

188 Luke A. Roy, Matthew A. Smith, Micheal Kearby, Anita M. Kelly, Michael Hoy
PREDATION BY LESSER SCAUP *Aythya affinis* ON COMMERCIAL SPORTFISH FARMS IN ARKANSAS

189 Matthew Smith, Luke Roy, Anita Kelly, Herbert Quintero, Jeonghwan Park
FEEDING REGIMES FOR LARGEMOUTH BASS AT HIGH SUMMER TEMPERATURES

190 Winnie N.A. Sowah, Shingo Seki, George A. Darpaah
MITOCHONDRIAL DNA ANALYSIS OF TILAPIA FROM SELECTED WATER BODIES IN GHANA
191 Tyler R. Stoneham, David D. Kuhn, Daniel P. Taylor, Sean F. O’Keefe, Stephen A. Smith, Delbert M. Gatlin
PRODUCTION OF OMEGA-3 ENRICHED TILAPIA THROUGH THE USE OF A COMMERCIALLY AVAILABLE SEAWEED BLEND

192 Sefik Surhan Tabakoglu
MORPHOMETRIC CHARACTERISTICS OF PRELARVAE AND POSTLARVAE OF LONGFIN YELLOWTAIL Seriola rivoliana (VALENCIENNES, 1833)

193 LeeAnne Thayer, Heather Hamlin
INVESTIGATING FACTORS CONTRIBUTING TO REDUCED EMBRYO SURVIVAL IN FARM-RAISED ATLANTIC SALMON Salmo salar L.

195 Michelle L. Walsh, Philip Iovino, Travis G. Knorr
ESTABLISHING A LENGTH-WEIGHT RELATIONSHIP FOR POST-METAMORPHOSIS JUVENILE OSCELLARIS CLOWNFISH Amphiprion ocellaris

196 Chelsea Watts, Leigh Anne Bright, Shawn Coyle, James Tidwell
EVALUATION OF STOCKING DENSITY DURING SECOND YEAR GROWTH OF LARGEMOUTH BASS Micropterus salmoides RAISED INDOORS IN A RECIRCULATING AQUACULTURE SYSTEM

197 Lin Xie, Rebecca Lochmann
DISCRIMINANT ANALYSIS OF GUT MICROFLORA OF FATHEAD MINNOW Pimephales promelas

SHELLFISH POSTERS

Board #
210 Hiroya Abe, Michio J. Kishi
ASSESSMENT OF THE POTENTIAL IMPACTS OF NUTRIENT SUPPLY BY RIVER AND OCEAN ON BIVALVES PRODUCTIVITY IN A SHALLOW ESTUARY

211 David Bailey, Morgan Bennett-Smith, David Bailey, Daniel McCorkle, Scott Lindell
ALKALINITY ENRICHMENT ENHANCES GROWTH OF THE LARVAL BLUE MUSSEL Mytilus edulis

212 S.D.N.K. Bathige, Navaneethaiyer Umasuthan, G. I. Godahewa, N.C.N. Perera, J.D.H.E. Jayasinghe, Jehee Lee
A GASTROPOD STAT MEMBER FROM DISK ABALONE Haliotis discus discus: MOLECULAR CHARACTERISTICS AND TRANSCRIPTIONAL MODULATION

213 Gorka Bidegain, Tal Ben Horin, Kevin Lafferty, Hunter Lenihan
FISHING DISEASED ABALONE TO PROMOTE YIELD AND CONSERVATION

214 Thomas Bliss, Justin Manley, Robert Hein
EVALUATION OF SUMMER OYSTER Crassostrea virginica GROWTH AND SURVIVAL USING CAGE AQUACULTURE IN GEORGIA

215 Reniece Buchanan, Nicole Dobey, Dane Frank, Margaret A. Carroll, Edward J. Catapano
BEATING OF GILL LATERAL CELL CILIA OF Crassostrea virginica INVOLVES NEURONAL INNERVATION AND THE PRESENCE OF GAP JUNCTIONS
216 Jorge Cáceres-Martínez, Yessica Hernández Mercado, Rebeca Vásquez-Yeomans, Roberto Cruz-Flores
IDENTIFICATION OF BORROWING WORMS AND BACTERIA ASSOCIATED WITH SHELL INJURIES ON RED ABALONE Haliotis rufescens CULTURED IN BAJA CALIFORNIA

217 Jorge Cáceres-Martínez, Montserrat Muñoz-Flores Muñoz-Flores
HISTOLOGICAL CONDITIONS OF THE DIGESTIVE GLAND OF THE BLUE ABALONE Haliotis fulgens AND YELLOW ABALONE Haliotis corrugata UNINFECTED AND INFECTED BY THE RICKETTSIALES-LIKE ORGANISM Candidatus Xenohaliotis californiensis

218 Fred Conte, Abbas Ahmadi
COMPUTER APPLICATIONS FOR SHELLFISH BAY SANITATION ANALYSIS, ADJUSTING SHELLFISH HARVEST CLOSURE RULES AND BAY MANAGEMENT

219 Julie Davis, Amy E. Fowler, Michael J. Childress, Kelsey McClellan
ASSESSING THE STATUS OF SOUTH CAROLINA'S BLUE CRAB Callinectes sapidus FISHERY IN THE FACE OF CLIMATE VARIABILITY AND CHANGE

220 Manuel Diaz, Gonzalo Olivares, Diego Narvaez, Carlos Molinet, Patricio Diaz
HYDRODYNAMIC MODEL VALIDATION IN A CHILEAN EMBAYMENT: TOOLS FOR MODELLING FOOD DEPLETION IN MUSSLE FARMS

221 Estephany Ferrufino, Maureen Krause
HYPOXIA-INDUCIBLE FACTOR AND TRANSCRIPTIONAL CONTROL OF OCTOPINE DEHYDROGENASE IN BAY SCALLOPS Argopecten irradians

222 H.M.L.P.B. Herath, S.D.N.K. Bathige, P.D.S.U. Wickramsinghe, Jehee Lee
MOLECULAR INSIGHTS INTO TWO NOVEL TETRASPANIN HOMOLOGS IDENTIFIED FROM DISK ABALONE Haliotis discus discus

223 Udayantha Herath Mudiyanselage Viraj, Thanthrige Thiunuwan Priyathilaka, Yucheol Kim, Sun-Hye Kang, Jeong-In Ma, Hyung-Bok Jeong, Jehee Lee, Bong-Soo Lim
MOLECULAR CHARACTERIZATION OF CALRETICULIN HOMOLOGUE FROM Haliotis discus discus AND TRANSCRIPTIONAL EVIDENCES FOR ITS PUTATIVE INVOLVEMENT IN HOST IMMUNE MOLECULES

224 Lauren Huey, Roger Mann, Ryan Carnegie
IS IMPROVED REPRODUCTIVE CAPACITY A TOLERANCE ADAPTATION TO Perkinsus marinus IN THE OYSTER Crassostrea virginica?

225 Donald J. Kleppel, Wesley D. Tidball, Douglas C. Hansen, Karolyn M. Hansen
DISTRIBUTION OF L-DOPA-CONTAINING PROTEINS INVOLVED IN OYSTER SHELL FORMATION

226 Julia Lanoue, Porter Hoagland
MODELING OYSTER Crassostrea virginica PRODUCTIVITY IN RESPONSE TO CHANNEL DEEPENING IN THE HUDSON RIVER ESTUARY

227 Kimone Marrett, Danielle Semple, Edward J. Catapane, Margaret A. Carroll
HISTAMINE MEDIATES THE RESPONSE TO LIGHT IN THE SENSORY MOTOR INTEGRATION OF GILL LATERAL CELL CILIA IN THE BIVALVE MOLLUSC Crassostrea virginica
228 Ko Morita, Emi Terasaki, Kimihiko Maekawa, Kouichi Sakaguchi, Shigeru Montani
WHAT SCALLOPS EAT? STABLE ISOTOPE EXPERIMENT TO ASSESS FOOD RESOURCES FOR THE SCALLOPS WITH SUSPENDED AQUACULTURE IN LAKE SAROMA, JAPAN

229 Gerardo Rodríguez Quiroz, Andres M. Góngoa-Gomez, Eusebio Nava-Pérez, Ana L. Domínguez-Orozco
AFFECTATION OF GROWTH, WEIGHT AND SURVIVAL OF Crassostrea gigas IN ESTERO LA PIEDRA, GUASAVE, SINALOA IN SUBTROPICAL WATERS

230 Maria Rosa, Evan Ward, Sandra Shumway, Ashley Frink
PARTICLE SURFACE PROPERTIES AND THEIR EFFECT ON PARTICLE CAPTURE IN SUSPENSION-FEEDING BIVALVE MOLLUSCS

231 Zaki Sharawy, Eman Abbas, Hamdy Ahmed, Rania Khedr, Khaled Geba, Mikio Kato
DNA BARCODING DETECTS THE PRESENCE OF Metapenaeus monoceros IN THE EGYPTIAN COASTS OF THE MEDITERRANEAN AND RED SEAS

232 Leslie N. Sturmer, Shirley Baker, Kelly Grogan, Sherry Larkin
“GREEN” CLAMS: ESTIMATING THE VALUE OF ECOSYSTEM SERVICES GENERATED BY THE HARD CLAM CULTURE INDUSTRY IN FLORIDA, USA

233 Melody Thomas, Steven Hall, John Supan
EFFECTS OF RAPID COOLING OF EASTERN OYSTERS Crassostrea virginica USING AN ONBOARD CHILLING UNIT

IDENTIFICATION AND EXPRESSION PROFILE ANALYSIS OF CATHEPSIN F FROM DISK ABALONE Haliotis discus discus EVIDENCING THE POTENT IMMUNOLOGICAL IMPORTANCE

235 Zhiming Xiang, Yuehuan Zhang, Shu Xiao, Jun Li, Yang Zhang, Ziniu Yu
AN ANATOMY STUDY ON BYSSAL STRUCTURE OF A GIANT CLAM Tridacna crocea

236 Yuehuan Zhang, Jun Li, Yang Zhang, Zhiming Xiang, Haitao Ma, Shu Xiao, Ziniu Yu
GAMETOGENESIS AND EARLY SEX MATURITY AND THE BREEDING POTENTIAL FOR THE KUMAMOTO OYSTER Crassostrea sikamea

SHRIMP AND CRUSTACEANS POSTERS

Board #
250 Marcelo Assunção, Tadeu Siqueira, Caio Rodrigues, Danilo Proença, Wagner Valenti
GREENHOUSE GASES EMISSIONS IN A PRAWN HATCHERY SYSTEM

251 Frank David, Pierre Taillardat, Cyril Marchand, Nathalie Molnar, Tarik Meziane
HOW IS SHRIMP FARMING IMPACTING MANGROVE ECOSYSTEMS IN THE INDO-PACIFIC?

252 Spencer Davis, Mireille Steck, Zhi Yong Ju
EVALUATION OF LOCALLY SOURCED FEED INGREDIENTS FOR PACIFIC WHITE SHRIMP Litopenaeus vannamei

253 Flora Ehigiator, Akolisa Obi
MERISTICS AND MORPHOMETRIC FEATURES OF Macrobrachium vollenhovenii (AFRICAN RIVER PRAWN) FROM OVIA RIVER, NIGER DELTA, NIGERIA
254 Duane A. Friedman, Joseph R. Tomasso
IONIC REQUIREMENTS OF BLUE CRAB *Callinectes sapidus* IN ENVIRONMENTS CONTAINING LOW CONCENTRATIONS OF TOTAL DISSOLVED SOLIDS

255 Bong Jung Kang, Sun-Hye Bae, Tomoyuki Okutsu, Marcy N. Wilder
EXPRESSION LEVELS OF VITELLOGENESIS-INHIBITING HORMONE IN THE WHITELEG SHRIMP *Litopenaeus vannamei* IN RELATION TO MOLTING

256 Iain McGaw, Guoqiang Wang
USE OF MUSSEL FARMS FOR ON-GROWTH OF AMERICAN LOBSTER *Homarus americanus*

257 Mohamed E. Megahed
APPLICATION OF THE MICROSATELLITE MARKERS IN THE SHRIMP BREEDING PROGRAMS

258 Mohamed E. Megahed
FARMING OF THE INDIAN WHITE SHRIMP *Fenneropenaeus indicus* USING BIOFLOC TECHNOLOGY: MOLECULAR, PATHOLOGICAL AND PRODUCTION INVESTIGATIONS

259 Gerardo Rodríguez Quiroz, Wencesla Valenzuela-Quiñónez, Ana E. Ulloa-Pérez, Héctor M. Esparza Leal
SOLID EARTHWORM COMPOST USED AS PHYTOPLANKTON PROMOTER IN A WHITE SHRIMP *Litopenaeus vannamei* EXPERIMENTAL CULTURE

260 Wenceslao Valenzuela-Quiñónez, Ismael E. Valenzuela-Madrigal, Gerardo Rodríguez-Quiroz, Ely S. López-Alvarez
GROWTH PERFORMANCE OF WHITE SHRIMP *Litopenaeus vannamei* AND PLANKTON COMPOSITION IN RECIRCULATION AND HETEROTROPHIC-DOMINATED SYSTEMS

261 Xiao-Fan Zhao, Hui-Ting Yang, Xiao-Fan Zhao, Jin-Xing Wang
GUT MICROBIOTIC HEMEOSTASIS REGULATION IN SHRIMP *Marsupenaeus japonicus*

**DIET, NUTRITION AND FEEDS POSTERS**

Board #

270 Jason Abernathy, Andreas Brezas, Ronald Hardy, Ken Overturf
DIFFERENTIAL GENE EXPRESSION IN MUSCLE BETWEEN TROUT MANIFESTING CHRONIC ENTERITIS OR SYMPTOM-FREE WHILE REARING ON PLANT-BASED DIETS

271 Kathleen Allen, Sean Bridgeman, Bruce Tufts
EVALUATING SPIRULINA AS AN ALTERNATIVE PROTEIN SOURCE IN NILE TILAPIA *Oreochromis niloticus* GROW-OUT DIETS

272 Mathew O. Ayoola, Lourens De Wet, Salie Khalid
THE EFFECT OF BENTONITE CLAY COMBINATION AS FEED ADDITIVE ON GROWTH PERFORMANCE AND HEMATOLOGICAL PARAMETERS OF AFRICAN CATFISH *Clarias gariepinus*

273 Troy Bader, S. Adam Fuller, Carl Webster, Steven Rawles
THE INTERACTION OF DIETARY OIL SOURCE AND REARING TEMPERATURE ON GROWTH OF JUVENILE WHITE BASS *Morone chrysops*
274 Sergio Castillo, Christian Minjarez, Mayra Gonzales, Martin Perez, Delbert M. Gatlin III
REDUCING DEPENDENCE ON FISHMEAL WITH ALTERNATIVE PLANT PROTEIN SOURCES IN THE DIETS OF SCIAENID SPECIES FOR ENHANCED AQUACULTURAL PRODUCTION

275 Dong Gyu Choi, Hee Sung Kim, Ki Wook Lee, Sung Hyo Myung, Sung Hwoan Cho
DIETARY SUBSTITUTION EFFECTS OF FISH MEAL WITH THE COMBINED MICROALGAE Nannochloropsis oceanica (NO) BIOMASS RESIDUE AND CASEIN ON GROWTH AND BODY COMPOSITION OF JUVENILE ABALONE Haliotis discus

276 Vaun Cummins, Alex Tsappis, Keith Filer
EVALUATION OF STARTER DIETS IN RAINBOW TROUT Oncorhynchus mykiss THAT DO NOT CONTAIN FISHMEAL OR FISH OIL

277 Sajith Dananjaya, Manjula Prabuddha, Sajani Rathnapala, Mahanama De Zoysa
ANALYSIS OF COLOR ENHANCEMENT OF GOLDFISH Carassius auratus FED DIETS SUPPLIMENTED WITH NATURAL ANNATTO DYE FROM Bixa orellana

278 Julie Davis, Katelyn Roberts, Brian Cabral, Frank Roberts
INFLUENCE OF MICROALGAE CONCENTRATE DIET MIXTURE ON GROWTH AND SURVIVAL OF LARVAL EASTERN OYSTERS Crassostrea virginica

279 Miguel Delos Santos, Chatham Callan, Tom Bowling, Leilani Rechelluul
A COMPARATIVE STUDY ON THE EFFECT OF USING COPEPOD Parvocalanus crassirostris NAUPLII AND ROTIFERS Brachionus rotundiformis AS INITIAL LIVE FEED ORGANISM ON THE SURVIVAL RATE OF GROUPER Epinephelus polyplekadion LARVAE

280 Eman El-Wazzan, Ahmed Abbas, Fatma A. Abdel Razek, Amal Ragaii, Abdel-fattah M. El-Sayed, Altaf A. Ezzat
INFLUENCE OF DIFFERENT MONO, BI, AND TRISPECIFIC MICROALGAL DIETS ON THE GONADAL MATURATION OF THE CARPET SHELL CLAM Tapes decussatus AS A CANDIDATE FOR BIVALVE AQUACULTURE IN EGYPT

281 Elizabeth Fairchild, Cem Giray
WHITE WORMS Enchytraeus albidus: A PATHOGEN-FREE LIVE FEED?

283 Wilson Massamitu Furuya, Sidnei Klein, Wilson Rogério Boscolo, Aldi Feiden, Altevir Signor, Mariana Michelato, Valéria Rossetto Barriviera Furuya
DIETARY METHIONINE REQUIREMENTS BASED ON GROWTH PERFORMANCE, BODY COMPOSITION, MUSCLE DEVELOPMENT AND HAEMATOLOGICAL RESPONSES OF PACU Piaractus mesopotamicus FINGERLINGS

284 Ashraf Goda, Osama El-Husseiny, Rania Ahmed, Abdallah Ghonimy
THE EFFECT OF EARLY WEANING DIET AND FEEDING METHOD ON SURVIVAL AND LONGEST WEANING PERIOD FOR ELVERS STAGE OF EUROPEAN EEL Anguilla anguilla

285 Kat Goetting, Morgan Chow, Hillary Egna
DEVELOPMENT OF INNOVATIVE FEED TECHNOLOGIES AND STRATEGIES FOR SMALL-HOLDER AQUACULTURE OPERATIONS IN AFRICA AND ASIA

286 Joan M. Hedge, David Kores, Deborah Hunter, Stephanie Padilla
GROWTH AND BEHAVIOR OF LARVAL ZEBRAFISH Danio rerio FED A PROCESSED DIET, LIVE FOOD, OR THE COMBINATION
287  Eri Inomata, Ayaka Horikoshi, Hikaru Endo, Masakazu N. Aoki, Yukio Agatsuma
ALLOCATION OF DIGESTED MATERIALS TO MAIN BODY COMPARTMENTS OF THE
SEA URCHINS *Mesocentrotus nudus* AND *Hemicentrotus pulcherrimus*

288  Zhi Yong Ju, Mireille Steck, Spencer Davis
NUTRIENT COMPOSITION OF LOCAL INGREDIENTS AND THEIR DIET ON GROWTH
OF TILAPIA IN FRESHWATER AND SALTMWATER

289  Bailee Kensmoe, Rylie Tuma, Katie Corcoran, Dustin Benzing, Jeffery Arthur,
Melissa Delaney, Kyle Backstrand, Mark Gaikowski
DETERMINATION OF LEACHING RATE OF FLORFENICOL FROM INCORPORATED
AND TOP-COATED MEDICATED FISH FEEDS VIA HPLC

290  Hee Sung Kim, Ki Wook Lee, Dong Kyu Choi, Sung Hwoan Cho
EFFECT OF DIETARY INCLUSION OF THE VARIOUS SOURCES OF ADDITIVES
ON PERFORMANCE AND CHALLENGE TEST OF JUVENILE ROCKFISH *Sebastes
schlegeli*

291  Ki Wook Lee, Hee Sung Kim, Dong Gyu Choi, Sung Hwoan Cho
EFFECT OF DIFFERENT CARBOHYDRATE SOURCES IN THE DIETS ON
PERFORMANCE OF JUVENILE ABALONE *Haliotis discus*

292  Kyeong-Jun Lee, Gardi Hewage Tharindu Malintha, Joo Min Kim,
G.L.B.E. Gunathilaka, Jeong-Dae Kim
TAURINE SUPPLEMENTATION IN DIET FOR OLIVE FLOUNDER AT LOW WATER
TEMPERATURE

293  Sang Min Lee, Tae-Ho Jang, Jin Choi
EFFECTS OF PARTIAL SUBSTITUTION OF DIETARY FISH MEAL BY MEALWORM
*Tenebrio molitor* ON THE GROWTH PERFORMANCE AND FEED UTILIZATION OF
JUVENILE ROCKFISH *Sebastes schlegeli*

294  Sang Min Lee, Yi-Oh Kim
EFFECTS OF DIETARY PROTEIN AND LIPID LEVELS ON GROWTH PERFORMANCE,
FEED UTILIZATION AND BODY COMPOSITION OF JUVENILE MANDARIN FISH
*Siniperca scherzeri*

295  Chieh-lun (Jerren) Liu, Yu-Hsuan Kai, Erica Dasi, Aaron Watson, Shau-Chi Chi,
Allen Place, Rosemary Jagus
MONITORING FISH eIF2α PHOSPHORYLATION STATE IN RESPONSE TO NUTRIENT
LIMITATION

296  Jorge Madrid, Juan P. Lazo
APPARENT DIGESTIBILITY OF SELECTED FEED INGREDIENTS IN FORMULATED
DIETS FOR JUVENILE TOTOABA *Totoaba macdonaldi*

297  Mohamed E. Megahed
EFFECT OF FEEDING LOW PROTEIN DIET AND BIOFLOC ON GROWTH
PERFORMANCE AND SURVIVAL OF WHITE INDIAN SHRIMP *Fenneropenaeus
indicus*
298 **Mariana Michelato**, Tadeu Orlandi Xavier, Luiz Vitor Oliveira Vidal, Lorena Batista de Moura, Valéria Rossetto Barriera Furuya, Wilson Massamitu Furuya
PROTEIN AND ENERGY DIGESTIBILITY AND AMINO ACIDS AVAILABILITY OF FEATHER MEAL SUBMITTED TO DIFFERENT PROCESSING TIME IN EXTRUDED DIETS FOR NILE TILAPIA

299 **Naoki Nagano**, Mizuki Ozuka, Hajime Kitano, Keishi Sakaguchi, Michiya Matsuyama
COMPARISON OF LIPID CONTENT AND FATTY ACID COMPOSITION IN WILD AND CULTURED CHUB MACKEREL *Scomber japonicus*

300 **Ligia Maria Neira**, Lidiiane Cristina Gonçalves de Sandre, Hellen Buzollo, Juliano José de Oliveira Coutinho, Thiago Matias Torres do Nascimento, Dalton José Carneiro
PROCESSING OF TILAPIA WASTE PROTEIN HYDROLYSATES AND DIGESTIBILITY OF NUTRIENTS AND ENERGY AT DIFFERENT TIMES OF HYDROLYSIS

301 **Ike Olivotto**, Chiara C. Piccinetti, Giulia Chemello, Francesca Maradonna, Oliana Carnevali
COPEPODS AS FOOD FOR MARINE ORNAMENTALS LARVAE

302 **Qing Pan**, Wenzhou Xiang, Xiaoting Lei, Xiaoxia Li, Shuanglong Wu, Biao Cheng
THE STUDY ON MICROALGAE APPLICATION IN FEEDING OF JUVENILE KOI AND *Litopenaeus vannamei* LARVAE

303 **Qing Pan**, Cuiying Chen
N-3 ESSENTIAL FATTY ACIDS IN NILE TILAPIA *Oreochromis niloticus*: EFFICES OF LINOLENIC ACID ON NON-SPECIFIC IMMUNITY AND ANTI-INFLAMMATORY RESPONSES IN JUVENILE FISH

304 **Qing Pan**, Cuiying Chen
N-3 ESSENTIAL FATTY ACIDS IN NILE TILAPIA *Oreochromis niloticus*: THE EFFECTS OF DIETARY LINOLENIC ACID AND PROTEIN LEVELS ON GROWTH PERFORMANCE AND BODY COMPOSITION

305 **Emily Pewitt**, Sergio Castillo, Delbert M. Gatlin III
QUANTIFYING THE DIETARY TRYPTOPHAN REQUIREMENT OF JUVENILE RED DRUM *Sciaenops ocellatus*

306 **Robert Reigh**, Millie Williams
PLANT PRODUCTS IN COMPOUNDED DIETS ARE EFFECTIVELY UTILIZED BY AMERICAN ALLIGATOR *Alligator mississippiensis*

307 **Luke A. Roy**, Anita M. Kelly, Carl D. Webster, Steven D. Rawles, Nathan Stone, Jeonghwan Park
THE EFFECT OF DIFFERENT WINTER FEEDING REGIMES ON GROWTH AND FATTY ACID COMPOSITION OF GOLDEN SHINERS AND FATHEAD MINNOWS

308 **Tony Budi Satriyo**, Lus M. López, Mario A. Galaviz, Guillaume Salze
EFFECTS OF DIFFERENT TAURINE LEVELS ON GROWTH PERFORMANCE AND FEED UTILIZATION OF JUVENILE *Totoaba macdonaldi*

309 **Frank Sommers**, Ronald Johnson
EFFECT OF TAURINE DEFICIENT DIET ON OLFACTORY FUNCTION AND POSSIBLE CONSERVATION OF TAURINE IN SABLEFISH *Anoplopoma fimbria*
310 Mireille Steck, Spencer Davis, Zhi Yong Ju
EFFECTS OF LOCAL-MADE DIETS ON THE GROWTH AND MEAT COMPOSITION OF TILAPIA Oreochromis mossambicus

311 Satomi Takagi, Yuko Murata, Eri Inomata, Ayaka Horikoshi, Hikaru Endo, Masakazu Aoki, Yukio Agatsuma
GONAD QUALITY OF THE SEA URCHIN Mesocentrotus nudus FED Saccharina KELP BY OFFSHORE CAGE CULTURE

312 Oguz Tasbozan, Mahmut A. Gokce, Celal Erbas, Filiz Ozcan, Aysun Adakli, Sefik S. Tabakoglu
EFFECTS OF DIFFERENT STARVATION CYCLES ON COMPENSATORY GROWTH AND BODY COMPOSITION OF RAINBOW TROUT REARED IN CAGES

313 Kenneth Thompson, Steven Rawles, Joao Koch, Ann Gannam, Ronald Twibell, Carl Webster
USE OF DISTILLER’S DRIED GRAINS WITH SOLUBLES, WHICH HAD BEEN USED AS A SUBSTRATE FOR BLACK SOLDIER FLY LARVAE, IN DIETS FOR NILE TILAPIA Oreochromis niloticus

314 Samuel B. Umma, Oyin Olukunle
EVALUATION OF AFRICAN CATFISH Clarias gariepinus RESPONSES TO GRADED LEVELS OF ZINC PRACTICAL DIET

315 Chong Kim Wong
EFFECTS OF TEMPERATURE AND DISSOLVED OXYGEN CONCENTRATION ON LIFE HISTORY OF THE FRESHWATER CLADOCERAN Moina macrocopa

316 Janielle Wallace, Francis Murray, Dave Little
SYNERGISTIC EFFECTS OF PROTEASE WITH XYLANASE AND PHYTASE ON DIGESTIBILITY AND GROWTH IN TILAPIA Orechromis niloticus × O. mossambicus

317 M. del Pilar Sánchez-Saavedra, Diana María Cuesta-Gómez, Duahmet Abdul Ruíz-Güereca
EVALUATION OF DIFFERENT PROTEIN CONTENT IN FORMULATED DIET ON GROWTH AND SURVIVAL OF JUVENILE RED ABALONE Haliotis rufescens

318 M. del Pilar Sánchez-Saavedra, Duahmet Abdul Ruíz-Güereca, Diana María Cuesta-Gómez
GROWTH OF JUVENILE RED ABALONE Haliotis rufescens FED WITH GIANT KELP Macrocystis pyrifera ENRICHED WITH NUTRIENTS

CULTURE SYSTEMS AND AQUAPONICS POSTERS

Board #
330 Bennett Barr, James Chambers, Cristiane Surbeck, Rachel Beecham, Bradley Goodwiller, Tiffany Gray
EVALUATION OF THE USE OF HIGH FREQUENCY ACOUSTIC CAVITATION TO IMPROVE WATER QUALITY IN COMMERCIAL CATFISH OPERATIONS

331 Grant S. Blank, Brittany Chesser, Chelsea Morton, Michael Cinelli, Dennis McIntosh
CULTURE OF RAINBOW TROUT Oncorhynchus mykiss IN A SMALL-SCALE, DEEPWATER, AIRLIFT DRIVEN AQUAPONICS SYSTEM
332 Mehmet Celik, Mustafa Cikrikci, Celal Erbas, Mahmut Ali Gokce
MEAT YIELD OF MALE AND FEMALE RAINBOW TROUT *Oncorhynchus mykiss*
UNDER TWO REARING SYSTEMS IN TWO DIFFERENT REGIONS

333 Zachariah Chambers, Matthew Pollom, Brandon Hall, Dan DeBard
A SURVEY OF THE AQUAPONICS INDUSTRY IN THE UNITED STATES MIDWEST

334 Brunno da Silva Cerozi, Kevin Fitzsimmons
PHOSPHORUS DYNAMICS MODELING AND MASS BALANCE IN AQUAPONICS

335 Gary Delanoy, Kevin Savage
ENGAGING SECONDARY SCIENCE STUDENTS IN APPLYING THE SCIENTIFIC
METHOD THROUGH AQUAPONICS ENGINEERING AND DESIGN RESEARCH

336 Mahmut Ali Gokce, Mustafa Cikrikci, Celal Erbas, Mehmet Celik
PROXIMATE COMPOSITION OF MALE AND FEMALE RAINBOW TROUT
*Oncorhynchus mykiss* REARED IN CAGE AND POND AQUACULTURE SYSTEMS IN
TURKEY

337 Baba Usman Ibrahim, Fatima U. Gambo Shehu
ASSESSMENT OF THE WATER QUALITY PARAMETERS OF TAGWAI RESERVOIR,
MINNA, NIGER STATE, NIGERIA

338 Gebremeskel Kebede, Chun Woo Lee, Subong Park
DEFORMATIONAL EFFECT OF INCLINED LATERAL PANEL ALIGNMENT BETWEEN
THE CIRCUMFERENCES OF FLOATING AND SINKING COLLARS OF MODEL FISH
CAGES

339 Trevor P. Luna, Jeonghwan Park
PERFORMANCE EVALUATION OF A PADDLEWHEEL WATER CIRCULATOR WITH
DIFFERENT BLADE SHAPES IN A SPLIT-POND TEST SYSTEM

340 Jeonghwan Park, Pyong-Kih Kim, Seongdeok Park
NITRIFICATION KINETICS OF A TRICKLING BIO-FILTER WITH STYROFOAM BEAD
MEDIA IN SEAWATER AT DIFFERENT WATER TEMPERATURES

341 Marco Alejandro Salguero Gonzalez, Ricardo Sánchez Díaz, José C. Ibarra Gámez,
Martha E. Quiroz Maclías, Cecilia Luna Badillo, Reyes González Galaviz
EFFECT OF ADDITION OF RED TILAPIA *Oreochromis* spp. ON GROWTH
PERFORMANCE AND SURVIVAL OF WHITE SHRIMP *Litopenaeus vannamei*
CHALLENGED WITH *Vibrio parahaemolyticus* STRAIN AHPND+ BY BIOASSAY

342 Kevin Savage, Gary Delanoy, Jeremy Devin, Jessica Boemker, Madyson Shank,
Morgan Delanoy
IMPACT OF GROW MEDIA TYPE ON GROWTH OF BASIL *Ocimum basilicum*, NILE
TILAPIA *Oreochromis niloticus* AND WATER CHEMISTRY IN AN AQUAPONICS
SYSTEM

343 Lies Setijaningsih, Bambang Gunadi
REMOVAL EFFECTIVITY OF NITROGENOUS DAN PHOSPHOROUS WASTE BY
AQUAPONIC SUBSTRATE AND AQUATIC PLANT IN THE INTEGRATED MULTI-
TROPHIC AQUACULTURE (IMTA)-BASED FISH CULTURE

344 Daniel Taylor, David Kuhn, Stephen Smith
ADSORPTIVE PERFORMANCE EVALUATION OF GRANULAR ACTIVATED CARBON
IN AQUACULTURE AND AQUARIA: A SUCCINCT METHOD
ALGAE POSTERS

Board #
360 Lisa Bourassa, John Supan
MEASURING THE EFFECTS OF RECYCLED WATER ON THE GROWTH OF THREE ALGAL SPECIES: *Tisochrysis lutea, Chaetoceros calcitrons AND C. muelleri* IN A LARGE-SCALE OYSTER HATCHERY

361 R.G. Prasad Tharanga Jayasooriya, Gayani Dilshara Matharage, Chang-Hee Kang, Hee-Ju Kim, Yung Hyun Choi, Gi-Young Kim
BROWN ALGAE *Hizikia fusiforme* INDUCES CASPASE-DEPENDENT APOPTOSIS IN HUMAN LEUKEMIA

362 R.G. Prasad Tharanga Jayasooriya, Gayani Dilshara Matharage, Chang-Hee Kang, Hee-Ju Kim, Yung Hyun Choi, Gi-Young Kim
GREEN MACRO ALGAE *Codium fragile* EXTRACT INHIBITS INVASION IN BREAST CANCER CELLS

363 Flower E. Msuya
TUBULAR NETS – AN INNOVATIVE TECHNIQUE OF PRODUCING THE HIGHER VALUED SEAWEED *Kappaphycus* FOR COASTAL COMMUNITIES IN TANZANIA

364 Sarah Woolley, Lisa Bourassa, John Supan
PERFORMANCE OF *Tisochrysis lutea AND Chaetoceros muelleri*-MICROALGAE STRAINS UNDER LED CONDITIONS

365 Nianjun Xu, Xue Sun, Xili Cai, Jia Shen
SALINITY STRESS ON THE PHYTOHORMONE CONTENT AND PHYSIOLOGICAL RESPONSE OF MACROALGA *Gracilariopsis lemaneiformis*

366 Nianjun Xu, Xue Sun, Jia Shen
EFFECT OF CO2 CONCENTRATION ON THE TRANSCRIPTOME PROFILE IN MICROALGA *Chlorella pyrenoidosa*

GENERAL POSTERS

Board #
380 Cynthia K. Burzell
AEQUIOR DISCOVERED NOVEL CHEMICALS THAT REMOVE EXISTING FOULING AND INHIBIT FUTURE FOULING

381 Daniel Castranova, Matthew Butler, Brant Weinstein
USING OVA PRIM TO ENHANCE REPRODUCTIVE PERFORMANCE IN LABORATORY REARED ZEBRAFISH *Danio rerio*

382 Ashraf Goda, Mohamed Essa
PILOT MANAGEMENT PLANS TO IMPROVE THE SUSTAINABILITY OF TILAPIA FARMS IN EGYPT

383 Mostafa Hossain, Mohd. Khan, Mst. Fatema, Selina Sultana, Mohammad Chowdhury
AQUATIC FAUNA OF BANGLADESH: PRESENT STATUS AND HISTORY OF RECORDING AND DOCUMENTATION
<table>
<thead>
<tr>
<th>Page</th>
<th>Author(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>384</td>
<td>Stephanie Ichien, Caleb Price, Kat Goetting, Hillary Egna</td>
<td>Aquaculture Education for Development: Empowering a Diverse Community of Aquaculture Researchers and Professionals</td>
</tr>
<tr>
<td>387</td>
<td>Suko Ismi</td>
<td>Segmentation Business to Support the Availability of Seed grouper in Indonesia</td>
</tr>
<tr>
<td>388</td>
<td>Barbarito J. Jaime Ceballos, Noris Millares Dorado, Lourdes Pérez Jar, Rafael Tizol Correa, Nelson Fernández, Raúl Flores Gutiérrez, Raquel Silveira Coffigny, Mercedes Isla Molleda</td>
<td>Mariculture in Cuba: Recent Results</td>
</tr>
<tr>
<td>389</td>
<td>Youngwoon Kim, Qiong Zhang</td>
<td>Design a Decision Making Tool for a Sustainable Energy Supply System in Aquaculture</td>
</tr>
<tr>
<td>390</td>
<td>Youngwoon Kim, Meng Wang, Qiong Zhang, Sarina Ergas</td>
<td>A Sustainable Energy Supply System in Aquaculture</td>
</tr>
<tr>
<td>391</td>
<td>Mohamed E. Megahed</td>
<td>Biofloc Technology as Alternative Strategy for Feeding the World through Aquaculture: A Molecular Evidences</td>
</tr>
<tr>
<td>392</td>
<td>Mohamed E. Megahed</td>
<td>Sustainable Development of the Fisheries and Marine Aquaculture through Hatchery Production (Domestication) of Endangered Fish Species: Stage (I) Species Selection and Molecular Documentation</td>
</tr>
<tr>
<td>393</td>
<td>Flower Msuya, Hashim Muumin, Salum Hamed</td>
<td>Status of Aquaculture in Zanzibar Islands, Tanzania</td>
</tr>
<tr>
<td>394</td>
<td>Nhu Nguyen, William Yori, Krish Thiagarajan, William Yori, Krish Thiagarajan</td>
<td>Technology Assessment in Aquaculture of Dominant and Potential Species in Maine</td>
</tr>
<tr>
<td>395</td>
<td>Constanza del Mar Ochoa-Saloma, Jill A. Jenkins, Carmen G. Paniagua-Chávez</td>
<td>Genome Size of Aquatic Animals of Economic and Biological Importance from Baja California, Mexico</td>
</tr>
<tr>
<td>396</td>
<td>Ike Olivotto, Chiara Carla Piccinetti, Roberta Ricci, Chiara Pennesi, Giuseppe Radaelli, Cecilia Totti, Alessandra Norici, Mario Giordano</td>
<td>Herbivory in the Soft Coral Sinularia flexibilis</td>
</tr>
<tr>
<td>397</td>
<td>Refik Orhun, Joseph Serafy</td>
<td>Responsible Reporting in U.S. Marine Fisheries Stock Enhancement Research: Analysis Extended</td>
</tr>
</tbody>
</table>
398 Joshua Patterson, John Than, Rick Klobuchar, Katie Lohr, Chris Kilroy, Tim Lyons
ADVENTURES IN DEVELOPING EX SITU CULTURE OF THREATENED STAGHORN
CORAL Acropora cervicornis AS A CONSERVATION TOOL

399 Benedict Posadas
PROMOTE YOUR FISHPFARMING BUSINESS USING THE NATIONAL FOOD
MARKETMAKER PROGRAM

400 Benedict Posadas
DIRECT EMPLOYMENT AND INCOME IMPACTS OF AQUACULTURE PRODUCTION
IN THE UNITED STATES AND MAJOR PRODUCING STATES

401 Caleb Price, Kat Goetting, Stephanie Ichien, Hillary Egna
CELL PHONE FISH MARKETING NETWORKS IN KENYA, GHANA, AND UGANDA