AADAP Aquaculture Drug Relevant Literature Master List Jan 2009-Dec 2013

(Compiled from issues of the AADAP Newsletter)

U.S. Fish and Wildlife Service
Aquatic Animal Drug Approval Partnership Program
Bozeman, Montana 59715

December 31, 2013

Table of Contents

Antibiotics and Bacteria

Afizi, MSK, et al. 2013. Herbal and antibiotic resistance of *Aeromonas* bacteria isolated from cultured fish in Egypt and Malaysia. *Journal of Fisheries and Aquatic Science* **8(2):425-429**.

Alves, E, et al. 2011. Bioluminescence and its application in the monitoring of antimicrobial photodynamic therapy. *Applied Microbiology and Biotechnology* **92(6):1115-28**.

Alves, E, et al. 2011. Photodynamic antimicrobial chemotherapy in aquaculture: photoinactivation studies of *Vibrio fischeri*. *PloS One* **6(6):e20970**.

Alves, RJ, et al. 2012. Multidrug-resistance and toxic metal tolerance of medically important bacteria isolated from an aquaculture system. *Microbes and Environments* **27(4):449-455**.

Ambili, TR, et al. 2013. Toxicological effects of the antibiotic oxytetracycline to an Indian major carp *Labeo rohita*. *Archives of Environmental Contamination and Toxicology* **64(3):494-503**.

Antony, JJ, et al. 2013. Antimicrobial activity of *Leucas aspera* engineered silver nanoparticles against *Aeromonas hydrophila* in infected *Catla catla*. *Colloids and Surfaces B: Biointerfaces* **109:20-24**.

Arrojado, C, et al. 2011. Applicability of photodynamic antimicrobial chemotherapy as an alternative to inactivate fish pathogenic bacteria in aquaculture systems. *Photochemical & Photobiological* **10(10):1691-1700**.

Avendano-Herrera, R, et al. 2008. Evolution of drug resistance and minimum inhibitory concentration to enrofloxacin in *Tenacibaculum maritimum* strains isolated in fish farms. *Aquaculture International* **16(1):1-11.**

Avendano-Herrera, R, et al. 2011. Estimation of epidemiological cut-off values for disk diffusion susceptibility test data for *Streptococcus phocae*. *Aquaculture* **314(1-4):44-48**.

Balasubramanian, G, et al. 2008. Studies on the immunomodulatory effect of extract of *Cyanodon dactylon* in shrimp *Penaeus monodon* and its efficacy to protect the shrimp from white spot syndrome virus (WSSV). *Fish & Shellfish Immunology* **25(6):820-828.**

Balasundaram, A, et al. 2013. A study on genetic variability of pathogenic *Aeromonas hydrophila* strains and the varied responses of the strains towards phyto-extracts. *Pakistan Journal of Biological Sciences* **16(21):1303-1310**.

Barakat, KM, and Gohar, YM, 2012. Antimicrobial agents produced by marine *Aspergillus terreus* var. *africanus* against some virulent fish pathogens. *Indian Journal of Microbiology* **52(3):366-372**.

Barros-Becker, F, et al. 2012. Persistent oxytetracycline exposure induces an inflammatory process that improves regenerative capacity in zebrafish larvae. *PloS One* **7(5):e36827**.

Barnes, ME, et al. 2009. Effect of *Flavobacterium columnare* inoculation, antibiotic treatments and resident bacteria on rainbow trout *Oncorhynchus mykiss* eyed egg survival and external membrane structure. *Journal of Fish Biology* **74(3):576-590.**

Bartie, KL, et al. 2012. Intraspecific diversity of *Edwardsiella ictaluri* isolates from diseased freshwater catfish, *Pangasianodon hypophthalmus* (Sauvage), cultured in the Mekong Delta, Vietnam. *Journal of Fish Diseases* **35(9):671-682**.

Bebak, J, et al. 2012. Effect of copper sulfate on *Aeromonas hydrophila* infection in channel catfish fingerlings. *North American Journal of Aquaculture* **74(4):494-498**.

Boran, H, et al. 2013. Bacterial diseases of cultured Mediterranean horse mackerel (*Trachurus mediterraneus*) in sea cages. *Aquaculture* **396-399:8-13**.

Bowker, JD, et al. 2011. Chloramine-T margin-of-safety estimates for fry, fingerling, and juvenile rainbow trout. *North American Journal of Aquaculture* **73(3):259-269.**

Bowker, JD, et al. 2013. Controlling mortality caused by external columnaris in largemouth bass and bluegill with chloramine-T or hydrogen peroxide. *North American Journal of Aquaculture* **75(3):342-351**.

Bowker, JD, et al. 2013. The safety of Aquaflor (50% florfenicol) administered in feed to fingerling yellow perch. *North American Journal of Aquaculture* **75(4):517-523**.

Bowser, PR, et al. 2009. Florfenicol residues in Nile tilapia after 10-d oral dosing in feed: effect of fish size. *Journal of Aquatic Animal Health* **21(1):14-17**.

Budiati, T, et al. 2013. Prevalence, antibiotic resistance and plasmid profiling of Salmonella in catfish (*Clarias gariepinus*) and tilapia (*Tilapia mossambica*) obtained from wet markets and ponds in Malaysia. *Aquaculture* **372-375:127-132**.

Cabello, FC, et al. 2013. Antimicrobial use in aquaculture re-examined: its relevance to antimicrobial resistance and to animal and human health. *Environmental Microbiology* **15(7):1917-1942**.

Caipang, C, et al. 2009. In vivo modulation of immune response and antioxidant defense in Atlantic cod, *Gadus morhua*, following oral administration of oxolinic acid and florfenicol. *Comparative Biochemistry and Physiology, Part C: Toxicology & Pharmacology* **150(4):459-464**.

Can, E, et al. 2012. Ozone disinfection of eggs of gilthead seabream *Sparus aurata*, sea bass *Dicentrarchus labrax*, red porgy, and common dentex *Dentex dentex*. *Journal of Aquatic Animal Health* **24(2):129-133**.

Cárcamo, JG, et al. 2011. Effect of emamectin benzoate on transcriptional expression of cytochromes P450 and the multidrug transporters (pgp and MRP1) in rainbow trout (*Oncorhynchus mykiss*) and the sea lice *Caligus rogercresseyi*. *Aquaculture* **321(3):207-215**.

Carraschi, SP, et al. 2012. Histopathological biomarkers in pacu (*Piaractus mesopotamicus*) infected with *Aeromonas hydrophila* and treated with antibiotics. *Ecotoxicology and Environmental Safety* **83:115-120**.

Casadei, E, et al. 2013. The effect of peptidoglycan enriched diets on antimicrobial peptide gene expression in rainbow trout (*Oncorhynchus mykiss*). *Fish & Shellfish Immunology* **34(2):529-537**.

Castillo, D, et al. 2012. Diversity of *Flavobacterium psychrophilum* and the potential use of its phages for protection against bacterial cold water disease in salmonids. *Journal of Fish Diseases* **35(3):193-201**.

Cavallo, RA, et al. 2013. Antibacterial activity of marine macroalgae against fish pathogenic *Vibrio* species. *Central European Journal of Biology* **8(7):646-653**.

Cazedey, ECL, and Salgado, HRN. 2013. Orbifloxacin: a review of properties, its antibacterial activities, pharmacokinetic/pharmacodynamic characteristics, therapeutic use, and analytical methods. *Critical Reviews in Analytical Chemistry* **43(2):79-99**.

Cesare, AD, et al. 2013. Aquaculture can promote the presence and spread of antibiotic-resistant enterococci in marine sediments. *PLoS ONE* **8(4):e62838**.

Chafer-Pericas, C, et al. 2010. Immunochemical determination of oxytetracycline in fish: comparison between enzymatic and time-resolved fluorometric assays. *Analytica Chimica Acta* **662(2):177-185**.

Chafer-Pericas, C, et al. 2010. Multiresidue determination of antibiotics in aquaculture fish samples by HPLC-MS-MS. *Aquaculture Research* **41(9):e217-e225.**

Chakrabarti, R, and Srivastava, PK. 2012. Effect of dietary supplementation with *Achyranthes aspera* seed on larval rohu *Labeo rohita* challenged with *Aeromonas hydrophila*. *Journal of Aquatic Animal Health* **24(4):213-218**.

Chalupnicki, MA, et al. 2011. Efficacy and toxicity of iodine disinfection on Atlantic salmon. *North American Journal of Aquaculture* **73:124-128**.

Chang, Z-Q, et al. 2012. The effect of temperataure and salinity on the elimination of enrofloxacin in the Manila clam *Ruditapes philippinarum*. *Journal of Aquatic Animal Health 24(1):17-21*.

Chen, M-H, et al. 2012. *Lactococcus lactis* subsp. *lactis* infection in Bester sturgeon, a cultured hybrid of *Huso huso* × *Acipenser ruthenus*, in Taiwan. *Research in Veterinary Science* **93(2):581-588**.

Chen, YF, et al. 2012. Isolation and characterization of *Aeromonas schubertii* from diseased snakehead, *Channa maculata* (Lacepède). *Journal of Fish Diseases* **35(6):421-430**.

Chiu, T-H, et al. 2013. Antibiotic resistance and molecular typing of *Photobacterium damselae* subsp. *Damselae* isolated from seafood. *Journal of Applied Microbiology* **114(4):1184-1192**.

Cizek, A, et al. 2010. Antimicrobial resistance and its genetic determinants in aeromonads isolated in ornamental (koi) carp (*Cyprinus carpio koi*) and common carp (*Cyprinus carpio*). *Veterinary Microbiology* **142(3-4):435-439**.

Coppellotti, OO, et al. 2012. Porphyrin photosensitised processes in the prevention and treatment of water- and vector-borne diseases. *Current Medicinal Chemistry* **19(6):808-819**.

Damir, K, et al. 2013. Occurrence, characterization and antimicrobial susceptibility of *Vibrio alginolyticus* in the Eastern Adriatic Sea. *Marine Pollution Bulletin* **75(1-2):46-52**.

Dang, H, et al. 2009. Molecular characterizations of chloramphenicol- and oxytetracycline- resistant bacteria and resistance genes in mariculture waters of China. *Marine Pollution Bulletin* **58(7):987-994**.

Dang, PK, et al. 2010. Validation of a two-plate microbiological method for screening antibiotic residues in shrimp tissue. *Analytica Chimica Acta* **672(1-2):30-39.**

Darwish, AM, et al. 2008. *In Vitro* and *in vivo* evaluation of potassium permanganate treatment efficacy for the control of acute experimental infection by *Flavobacterium columnare* in channel catfish. *North American Journal of Aquaculture* **70(3):314-322.**

Darwish, AM, et al. 2009. Evaluation of potassium permanganate against an experimental subacute infection of *Flavobacterium columnare* in channel catfish, *Ictalurus punctatus* (Rafinesque). *Journal of Fish Diseases* **32(2):193-199**.

Darwish, AM, and Mitchell, AJ. 2009. Evaluation of diquat against an acute experimental infection of *Flavobacterium columnare* in channel catfish, *Ictalurus punctatus* (Rafinesque). *Journal of Fish Diseases* **32(5):401-408**.

Darwish, AM, et al. 2010. Evaluation of the therapeutic effect of potassium permanganate at early stages of an experimental acute infection of *Flavobacterium columnare* in channel catfish, *Ictalurus punctatus* (Rafinesque). *Aquaculture Research* **41(10):1479-1485**.

Darwish, AM. 2010. Effectiveness of early intervention with florfenicol on a *Streptococcus iniae* infection in blue tilapia. *North American Journal of Aquaculture* **72(4):354-360.**

Darwish, AM, et al. 2012. Assessment of Aquaflor®, copper sulphate and potassium permanganate for control of *Aeromonas hydrophila* and *Flavobacterium columnare* infection in sunshine bass, *Morone chrysops* female × *Morone saxatilis* male. *Journal of Fish Diseases* **35(9):637-647**.

Das, A, et al. 2009. Antimicrobial resistance and in vitro gene transfer in bacteria isolated from the ulcers of EUS-affected fish in India. *Letters in Applied Microbiology* **49(4):497-502**.

Dasenaki, ME and Thomaidis, NS. 2010. Multi-residue determination of seventeen sulfonamides and five tetracyclines in fish tissue using a multi-stage LC-ESI-MS/MS approach based on advanced mass spectrometric techniques. *Analytica Chimica Acta* **672(1-2):93-102.**

de Orte, MR, et al. 2013. Assessing the toxicity of chemical compounds associated with marine land-based fish farms: the use of mini-scale microalgal toxicity tests. *Chemistry and Ecology* **29(6):554-563**.

Declercq, AM, et al. 2013. Antimicrobial susceptibility pattern of *Flavobacterium columnare* isolates collected worldwide from 17 fish species. *Journal of Fish Diseases* **36(1):45-55**.

Del Castillo, CS, e al. 2013. Comparative sequence analysis of a multidrug-resistant plasmid from *Aeromonas hydrophila*. *Antimicrobial Agents and Chemotherapy* **57(1):120-129**.

Del Cerro, A, et al. 2010. Genetic diversity and antimicrobial resistance of *Flavobacterium psychrophilum* isolated from cultured rainbow trout, *Onchorynchus mykiss* (Walbaum), in Spain. *Journal of Fish Diseases* **33(4):285-291**.

Deng, B, et al. 2012. Pharmacokinetics and residues of tetracycline in crucian carp muscle using capillary electrophoresis on-line coupled with electrochemiluminescence detection. *Food Chemistry* **134(4):2350-2354.**

Dhayanithi, NB, et al. 2012. Effect of *Excoecaria agallocha* leaves against *Aeromonas hydrophila* in marine ornamental fish, *Amphiprion sebae*. *Indian Journal of Geo-Marine Sciences* **41(6):76-82**.

Di Salvo, A, et al. 2013. Florfenicol depletion in edible tissue of rainbow trout, *Oncorhynchus mykiss* (Walbaum), and sea bream, *Sparus aurata* L. *Journal of Fish Diseases* **36(8):685-693**.

Dobšíková, R, et al. 2013. The effect of oyster mushroom β-1.3/1.6-D-glucan and oxytetracycline antibiotic on biometrical, haematological, biochemical, and immunological indices, and histopathological changes in common carp (*Cyprinus carpio* L.). *Fish & Shellfish Immunology* **35(6):1813-1823**.

Dung, TT, et al. 2009. IncK plasmid-mediated tetracycline resistance in *Edwardsiella ictaluri* isolates from diseased freshwater catfish in Vietnam. *Aquaculture* **295(3-4):157-159**.

Evaggelopoulou, EN, et al. 2013. Development and validation of an HPLC method for the determination of six penicillin and three amphenicol antibiotics in gilthead seabream (*Sparus aurata*) tissue according to the European Union Decision 2002/657/EC. *Food Chemistry* **136(3-4):1322-1329**.

Fagutao, FF, et al. 2009. Differential gene expression in black tiger shrimp, *Penaeus monodon*, following administration of oxytetracycline and oxolinic acid. *Developmental & Comparative Immunology* **33(10):1088-1092**.

Fang, M-J, et al. 2009. Isolation, determination and bacteriostasis test of the bacterial septicemia from *Aemibarbus maculates*. *Fisheries Science* **28(12):717-720**.

Fang, W, et al. 2013. Pharmacokinetics and tissue distribution of thiamphenicol and florfenicol in Pacific white shrimp *Litopenaeus vannamei* in freshwater following oral administration. *Journal of Aquatic Animal Health* **25(2):83-89**.

Farmer, BD, et al. 2012. Effectiveness of copper sulfate and potassium permanganate on channel catfish infected with *Flavobacterium columnare*. *North American Journal of Aquaculture* **74(3):320-329**.

Farmer, BD, et al. 2013. Pretreating channel catfish with copper sulfate affects susceptibility to columnaris disease. *North American Journal of Aquaculture* **75(2):205-211**.

Faroongsarng, D, et al. 2009. Hepatopancreatic and muscular distribution of oxytetracycline antibiotics in farmed pacific white shrimp (*Penaeus vannamei*): a physiological-based pharmacokinetic model approach. *Aquaculture Research* **41(1):143-152**.

Faroongsarng, D, et al. 2011. A toxicokinetic study of oxytetracycline antibiotics in farmed white shrimp, *Penaeus vannamei*. *Journal of the World Aquaculture Society* **42(4):484-493**.

Feng, JB and Jia, XP. 2009. Single dose pharmacokinetic study of florfenicol in tilapia (*Oreochromis niloticus* × *O. aureus*) held in freshwater at 22ºC. *Aquaculture* **289(1-2):129-133**.

Feng, JB, et al. 2008. Tissue distribution and elimination of florfenicol in tilapia (*Oreochromis niloticus* × *O. caureus*) after a single oral administration in freshwater and seawater at 28ºC. *Aquaculture* **276(1-4):29-35**.

Feng, Q, et al. 2010. Kinetic analysis of oxytetracycline residues in Chinese mitten crab, *Eriocheir sinensis*, muscle following intramuscular administration. *Journal of Fish Diseases* **33(8):639-647**.

Fierro, J and Oliva, D. 2009. Effect of antibiotic treatment on the growth and survival of juvenile northern Chilean scallop, *Argopecten purpuratus* Lamarck (1819), and associated microflora in experimental cultures. *Aquaculture Research* **40(12):1358-1362**.

Figueiredo, HCP, et al. 2012. *Weissella* sp. outbreaks in commercial rainbow trout (*Oncorhynchus mykiss*) farms in Brazil. *Veterinary Microbiology* **156(3-4):359-366**.

Fodey, TL, et al. 2013. Approaches for the simultaneous detection of thiamphenicol, florfenicol and florfenicol amine using immunochemical techniques. *Journal of Immunological Methods* **393(1-2):30-37**.

Gaikowski, MP, et al. 2009. Histopathology of repeated, intermittent exposure of chloramine-T to walleye *Sander vitreum* and channel catfish *Ictalurus punctatus*. *Aquaculture* **287(1-2):28-34**.

Gaikowski, MP, et al. 2013. Safety of florfenicol administered in feed to tilapia (*Oreochromis* sp.). *Toxicologic Pathology* **41(4):639-652**.

Gao, Y, et al. 2012. Adsorption and removal of tetracycline antibiotics from aqueous solution by graphene oxide. *Journal of Colloid & Interface Science* **368(1):540-546**.

Garcia E, et al. 2011. Oxytetracycline water bath treatment of juvenile blue abalone *Haliotis fulgens* (Philippi 1845) affected by the withering syndrome. *Ciencias Marinas* **37(2):191-200**.

Gaunt, PS, et al. 2010. Efficacy of florfenicol for control of mortality caused by *Flavobacterium columnare* infection of channel catfish. *Journal of Aquatic Animal Health* **22(2):115-122**.

Gaunt, PS, et al. 2010. Determination of florfenicol dose rate in feed for control of mortality in Nile tilapia infected with *Streptococcus iniae*. *Journal of Aquatic Animal Health* **22(3):158-166**.

Gaunt, PS, et al. 2011. Preparation of ormetoprim-sulfadimethoxine-medicated discs for disc diffusion assay. *North American Journal of Aquaculture* **73:17-20**.

Gaunt, PS, et al. 2012. Single intravenous and oral dose pharmacokinetics of florfenicol in the channel catfish (*Ictalurus punctatus*). *Journal of Veterinary Pharmacology and Therapeutics* **35(5):503-507**.

Gaunt, PS, et al. 2013. Multidose pharmacokinetics of orally administered florfenicol in the channel catfish (*Ictalurus punctatus*). *Journal of Veterinary Pharmacology and Therapeutics* **36(5):502-506**.

Geng, Y, et al. 2013. Isolation and characterization of *Edwardsiella ictaluri* from southern catfish, *Silurus soldatovi meridionalis*, (Chen) cultured in China. *Journal of the World Aquaculture Society* **44(2):273-281**.

Geng, Y, et al. 2010. *Stenotrophomonas maltophilia*, an emerging opportunist pathogen for cultured channel catfish, *Ictalurus punctatus*, in China. *Aquaculture* **308(3-4):132-135**.

Geng, Y, et al. 2012. *Streptococcus agalactiae*, an emerging pathogen for cultured ya-fish, *Schizothorax prenanti*, in China. *Transboundary and Emerging Diseases* **59(4):369-375**.

Ghosh, A, et al. 2011. Antibiotic resistance and herbal treatment of bacterial fish pathogens causing epizootic ulcerative syndrome. *Journal of Herbs, Spices & Medicinal Plants* **17(1):47-51**.

Gieseker CM, et al. 2012. Quality control ranges for testing broth microdilution susceptibility of *Flavobacterium columnare* and *F. psychrophilum* to nine antimicrobials. *Diseases of Aquatic Organisms* **101(3):207-215**.

Glover, KA, et al. 2010. Pharmacokinetics of emamectin benzoate administered to Atlantic salmon, *Salmo salar* L., by intra-peritoneal injection. *Journal of Fish Diseases* **33(2):183-186**.

Godoy, DT, et al. 2008. Patterns of resistance to florfenicol and bicyclomycin in Brazilian strains of motile aeromonads. *Aquaculture* **285(1-4):255-259**.

Gomez-Jimenez, S, et al. 2008. Oxytetracycline (OTC) accumulation and elimination in hemolymph, muscle, and hepatopancreas of white shrimp *Litopenaeus vannamei* following an OTC-feed therapeutic treatment. *Aquaculture* **274(1):24-29**.

Gonzalez, RR, et al. 2010. Depletion of veterinary drugs used in aquaculture after administration in feed to gilthead seabream (*Sparus aurata*). *Journal of Food Protection* **73(9):1664-1670**.

Gou, X-I, and Wang, L. 2013. Pathogenicity and detection of virulence genes of bacterium *Yersinia enterocolitica* isolated from yellow catfish (*Pelteobagrus fulvidraco*). *Fisheries Science* **32(5):293-296**. (in Chinese with English abstract).

Granados-Chinchilla, F, et al. 2013. Tetracycline and 4-epitetracycline modified the *in vitro* catabolic activity and structure of a sediment microbial community from a tropical tilapia farm idiosyncratically. *Journal of Environmental Science and Health Part B* **48(4):291-301**.

Granja, RHMM. 2012. Monitoring of florfenicol residues in fish muscle by HPLC-UV with confirmation of suspect results by LC-MS/MS. *Drug Testing and Analysis* **4(S1):125-129**.

Granja, RHMM, et al. 2013. Development and validation of a liquid chromatography-UV detection method for the determination of sulfonamides in fish muscle and shrimp according to European Union Decision 2002/657/EC. *Journal of AOAC International* **96(1):212-215**.

Groocock, GH, et al. 2013. Iodophor disinfection of eggs exposed to viral hemorrhagic septicemia virus type IVb. *North American Journal of Aquaculture* **75(1):25-33**.

Guardiola, FA, et al. 2012. Modulation of the immune parameters and expression of genes of gilthead seabream (*Sparus aurata* L.) by dietary administration of oxytetracycline. *Aquaculture* **334–337:51-57**.

Guo, JJ, et al. 2012. The effects of garlic-supplemented diets on antibacterial activity against *Streptococcus iniae* and on growth in orange-spotted grouper, Epinephelus coioides. *Aquaculture* 364-365:33-38.

Haggard, BE, and Bartsch, LD. 2009. Net changes in antibiotic concentrations downstream from an effluent discharge. *Journal of Environmental Quality* **38(1):343-352**.

Haines, AN, et al. 2013. First report of *Streptococcus parauberis* in wild finfish from North America. **Veterinary Microbiology 166(1-2):270-275**.

Han, SM, et al. 2013. Activity of honey bee venom against select infectious fish pathogens. *North American Journal of Aquaculture* **75(3):445-448**.

Hargrave, BT, et al. 2008. A micro-dilution method for detecting oxytetracycline-resistant bacteria in marine sediments from salmon and mussel aquaculture sites and an urbanized harbour in Atlantic Canada. *Marine Pollution Bulletin* **56(8):1439-1445.**

Harikrishnan, R, and Balasundaram, C. 2009. *In vitro* and *in vivo* studies of the use of some medicinal herbals against the pathogen *Aeromonas hydrophila* in goldfish. *Journal of Aquatic Animal Health* **20(3):165-176**.

Harikrishnan, R, et al. 2010. Scuticociliatosis and its recent prophylactic measures in aquaculture with special reference to South Korea. *Fish & Shellfish Immunology* **29(1):15-31**.

Harikrishnan, R, et al. 2011. Impact of plant products on innate and adaptive immune system of cultured finfish and shellfish. *Aquaculture* **317(1-4):1-15**.

Hashimoto, JC, et al. 2011. Considerations on the use of malachite green in aquaculture and analytical aspects of determining the residues in fish: a review. *Journal of Aquatic Food Product Technology* **20(3):273-294**.

Hayes, J. 2013. Determination of florfenicol in fish feeds at high inclusion rates by HPLC-UV. *Journal of AOAC International* **96(1):7-11**.

He, S, et al. 2012. Do dietary betaine and the antibiotic florfenicol influence the intestinal autochthonous bacterial community in hybrid tilapia (*Oreochromis niloticus* female × *O. aureus* male)? *World Journal of Microbiology & Biotechnology* **28(3):785-791**.

He, X, et al. 2012. Multi-biomarker responses in fishes from two typical marine aquaculture regions of South China. *Marine Pollution Bulletin* **64(11):2317-2324**.

Henriksen, M, et al. 2013. Effect of hydrogen peroxide on immersion challenge of rainbow trout fry with *Flavobacterium psychrophilum*. *PLoS ONE* **8(4):e62590**.

Henríquez-Núñez, H, et al. 2012. Antimicrobial susceptibility and plasmid profiles of *Flavobacterium psychrophilum* strains isolated in Chile. *Aquaculture* **354-355:38-44**.

Hesami, S, et al. 2010. Antimicrobial susceptibility of *Flavobacterium psychrophilum* from Ontario. *Journal of Aquatic Animal Health* **22(1):39-49**.

Hoegfors, E, et al. 2008. Immunization of rainbow trout, *Oncorhynchus mykiss* (Walbaum),with a low molecular mass fraction isolated from *Flavobacterium psychrophilum*. *Journal of Fish Diseases* **31(12):899-911**.

Hoj, L, et al. 2009. Localization, abundance and community structure of bacteria associated with *Artemia*: effects of nauplii enrichment and antimicrobial treatment. *Aquaculture* **293(3-4):278-285**.

Holen, E, et al. 2012. Pathogen recognition and mechanisms in Atlantic cod (*Gadus morhua*) head kidney cells: bacteria (LPS) and virus (poly I:C) signals through different pathways and affect distinct genes. *Fish & Shellfish Immunology* **33(2):267-276**.

Huang, W, et al. 2011. Screening compounds of Chinese herbal medicine and antimicrobial agents for controlling bacterial diseases of eels. *Journal of Fishery Sciences of China* **18(1):230-236**.

Huang, W-M, et al. 2013. Identification and drug sensitivity of bacteria *Aeromonas veronii* and *A. media* isolated from Chinese sucker *Myxocyprinus asiaticus*. *Fisheries Science* **32(4):210-214**.

Hurtado de Mendoza, J, et al. 2012. Validation of antibiotics in catfish by on-line solid phase extraction coupled to liquid chromatography tandem mass spectrometry. *Food Chemistry* **134(2):1149-1155**.

Imanpoor, MR, et al. 2011. Effects of sublethal concentration of chloramine-T on growth, survival, haematocrit and some blood biochemical parameters in common carp fry (*Cyprinus carpio*). A*quaculture, Aquarium, Conservation & Legislation* **4(3):280-291**.

Immanuel, G, et al. 2011. Antibacterial effect of medium-chain fatty acid: caprylic acid gnotobiotic *Artemia franciscana* nauplii against shrimp pathogens *Vibrio harveyi* and *V. parahaemolyticus*. *Aquaculture International* **19(1):91-101.**

Jerbi, MA, et al. 2012. Single and combined effects associated with two xenobiotics widely used in intensive aquaculture on European sea bass (*Dicentrarchus labrax*). *Mutation Research* **724:22-27**.

Jester, ELE, et al. 2014. Performance evaluation of commercial ELISA kits for screening of furazolidone and furaltadone residues in fish. *Food Chemistry* **145:593-598**.

Ji, K, et al. 2012. Risk assessment of chlortetracycline, oxytetracycline, sulfamethazine, sulfathiazole, and erythromycin in aquatic environment: are the current environmental concentrations safe? *Ecotoxicology* **21(7): 2031-2050**.

Jia, A, et al. 2009. Simultaneous determination of tetracyclines and their degradation products in environmental waters by liquid chromatography-electrospray tandem mass spectrometry. *Journal of Chromatography A* 1**216(22):4655-4662**.

John, G, et al. 2011. Health promoting biochemical effects of three medicinal plants on normal and *Aeromonas hydrophila* infected *Labeo rohita*. *Journal of Fisheries and Aquatic Science* **6(6):633-641**.

John, N, and Abdulla, MH. 2013. Distribution, extracellular virulence factors and drug resistance of motile aeromonads in fresh water ornamental fishes and associated carriage water. *International Journal of Aquaculture* **3(17):92-100.**

Jori, GG, et al. 2011. Photodynamic inactivation of microbial pathogens: Disinfection of water and prevention of water-borne diseases. *Journal of Environmental Pathology, Toxicology and Oncology* **30(3):261-271**.

Jun, JW, et al. 2013. Protective effects of the *Aeromonas* phages pAh1-C and pAh6-C against mass mortality of the cyprinid loach (*Misgurnus anguillicaudatus*) caused by *Aeromonas hydrophila*. *Aquaculture* **416-417:289-295**.

Kang, Y-J, et al. 2013. Bioassay-guided isolation and identification of active compounds from *Macleaya microcarpa* (Maxim) Fedde against fish pathogenic bacteria. *Aquaculture Research* **44(8):1221-1228**.

Kayis, S, et al. 2009. Bacteria in rainbow trout (*Oncorhynchus mykiss*) in the southern Black Sea region of Turkey - a survey. *Israeli Journal of Aquaculture/Bamidgeh* **61(4):339-344**.

Kim, D-H, et al. 2013. Low-value fish used as feed in aquaculture were a source of furunculosis caused by atypical *Aeromonas salmonicida*. *Aquaculture* **408-409:113-117**.

Kitiyodom, S, et al. 2010. Characterization of antibiotic resistance in *Vibrio* spp. isolated from farmed marine shrimps (*Penaeus monodon*). *FEMS Microbiology Ecology* **72(2):219-227**. Kokou, F, et al. 2012. Antibacterial activity in microalgae cultures. *Aquaculture Research* **43(10):1520-1527**.

Kołodziejska, M, et al. 2013. Aquatic toxicity of four veterinary drugs commonly applied in fish farming and animal husbandry. *Chemosphere* **92(9):1253-1259**.

Kosoff, RE, et al. 2009. Florfenicol residues in three species of fish after 10-d oral dosing in feed. *Journal of Aquatic Animal Health* **21(1):8-13**.

Kum, C, et al. 2008. Comparison of *in vitro* antimicrobial susceptibility in *Flavobacterium psychrophilum* isolated from rainbow trout fry. *Journal of Aquatic Animal Health* **20(4):245-251**.

Kunttu, HMT, et al. 2009. The efficacy of two immunostimulants against *Flavobacterium columnare* infection in juvenile rainbow trout (*Oncorhynchus mykiss*). *Fish & Shellfish Immunology* **26(6):850-857**.

Labella, A, et al. 2013. High incidence of antibiotic multi-resistant bacteria in coastal areas dedicated to fish farming. *Marine Pollution Bulletin* **70(1-2):197-203**.

Lai, H, et al. 2009. Effects of chloramphenicol, florfenicol, and thiamphenicol on growth of algae C*hlorella pyrenoidosa*, *Isochrysis galbana*, and *Tetraselmis chui*. *Ecotoxicology and Environmental Safety* **72(2):329-334**.

Lajnef, R, et al. 2012. Comparative study on the antibiotic susceptibility and plasmid profiles of *Vibrio alginolyticus* strains isolated from four Tunisian marine biotopes. *World Journal of Microbiology & Biotechnology* **28(12):3345-3363**.

Lee, D-K, et al. 2012. Antibiograms and the estimation of epidemiological cut off values for *Vibrio ichthyoente*r isolated from larval flounder, *Paralichthys olivaceus*. *Aquaculture* **342-343:31-35**.

Lee, S, et al. 2010. Chemical composition and antimicrobial activity of the essential oil of *Syzygium aromaticum* flower bud (Clove) against fish systemic bacteria isolated from aquaculture sites. *Frontiers of Agriculture in China* **3(3):332-336**.

Li, H, et al. 2010. *In vitro* antibacterial activities and postantibiotic effects of marbofloxacin against main marine pathogenic Vibrios. *Journal of Fishery Sciences of China* **17(1):97-102**.

Li, SS, and Tsai, H. 2009. Transgenic microalgae as a non-antibiotic bactericide producer to defend against bacterial pathogen infection in the fish digestive tract. *Fish & Shellfish Immunology* **26(2):316-325**.

Li, SW, et al. 2013. Effects of norfloxacin on the drug metabolism enzymes of two sturgeon species (*Acipenser schrencki* and *Acipenser ruthenus*). *Journal of Applied Ichthyology* **29(6):1204-1207**.

Li, Y, and Cai, S-H. 2011. Identification and pathogenicity of *Aeromonas sobria* on tail-rot disease in juvenile tilapia *Oreochromis niloticus*. *Current Microbiology* **62(2):623-627**.

Lim, JH, et al. 2010. Plasma and tissue depletion of florfenicol in olive flounder (*Paralichthys olivaceus*) after oral administration. *Aquaculture* **307(1-2):71-74**.

Lin, C-Y, et al. 2010. Transgenic zebrafish eggs containing bactericidal peptide is a novel food supplement enhancing resistance to pathogenic infection of fish. *Fish & Shellfish Immunology* **28(3):419-427**.

Liu, W-L, et al. 2010. Supercritical fluid extraction *in situ* derivatization for simultaneous determination of chloramphenicol, florfenicol and thiamphenicol in shrimp. *Food Chemistry* **121(3):797-802**.

Liu, W, et al. 2012. Impacts of florfenicol on marine diatom *Skeletonema costatum* through photosynthesis inhibition and oxidative damages. *Plant Physiology and Biochemistry* **60:165-170**.

Liu, Y, et al. 2013. High-performance liquid chromatography using pressurized liquid extraction for the determination of seven tetracyclines in egg, fish and shrimp. *Journal of Chromatography B* **917-918:11-17**.

Lu, C, et al. 2011. Antibacterial properties of anthraquinones extracted from rhubarb against *Aeromonas hydrophila*. *Fisheries Science* **77(3):375-384**.

Lu, C, et al. 2013. Assessment of antibacterial properties and the active ingredient of plant extracts and its effect on the performance of crucian carp (*Carassius auratus gibelio* var. E'erqisi, Bloch). *Journal of the Science of Food and Agriculture* **93(4):902-909**.

Lu, W-H, et al. 2010. Identification and drug sensitive test of the pathogen in acinetobacter disease from hybrid Crucian carp (*Carassius auratus gibelio* female × *Cyprinus carpio* male). *Fisheries Science* **29(3):156-161**.

Ma, CW, et al. 2009. Removal of pathogenic bacteria and nitrogens by *Lactobacillus* spp. JK-8 and JK-11. *Aquaculture* **287(3-4):266-270**.

Madhuri, S, et al. 2012. Antimicrobial activity of some medicinal plants against fish pathogens. *International Research Journal of Pharmacy* **3(4):28-30**. (**bacteria and fungi**).

Mahanty, A, et al. 2013. Phytoextracts-synthesized silver nanoparticles inhibit bacterial fish pathogen *Aeromonas hydrophila*. *Indian Journal of Microbiology* **53(4):438-446**.

Mainous, ME, et al. 2010. Effect of common aquaculture chemicals against *Edwardsiella ictaluri* and *E. tarda*. *Journal of Aquatic Animal Health* **22(4):224-228**.

Mainous, ME, et al. 2012. Efficacy of common aquaculture compounds for disinfection of *Flavobacterium columnare* and *F. psychrophilum*. *Journal of Applied Aquaculture* **24(3):262-270**.

Marchand, P-A, et al. 2012. Reduction of *in vitro* growth in *Flavobacterium columnare* and *Saprolegnia parasitica* by products containing peracetic acid. *Aquaculture Research* **43(12):1861-1866**. (note: bacteria *and* fungus)

Martins, A, et al. 2013. Chronic toxicity of the veterinary antibiotic florfenicol to *Daphnia magna* assessed at two temperatures. *Environmental Toxicology and Pharmacology* **36(3):1022-1032**.

Matthews, MD, et al. 2013. Efficacy of Aquaflor (50% florfenicol) to control mortality associated with *Flavobacterium columnare* infection in largemouth bass and bluegill. *North American Journal of Aquaculture* **75(3):385-392**.

Meinertz, JR, et al. 2011. Chronic toxicity of erythromycin thiocyanate to *Daphnia magna* in a flow-through, continuous exposure test system. *Bulletin of Environmental Contamination and Toxicology* **87(6):621-625**.

Melingen, GO, and Samuelsen, OB. 2011. Feed intake and tissue distribution of florfenicol in cod (*Gadus morhua*) administered in feed with different fat contents. *Journal of Applied Ichthyology* **27(1):57-60**.

Meng, W-N, et al. 2010. Antioxidant responses in liver of *Carassius auratus* under oxytetracycline exposure. *Journal of Agro-Environment Science* **29(5):833-838**.

Miller, RA, et al. 2012. Oxytetracyline pharmacokinetics in rainbow trout during and after an orally administered medicated feed regimen. *Journal of Aquatic Animal Health* **24(2):121-128**.

Mine, S, and Boopathy, R. 2011. Effect of organic acids on shrimp pathogen, *Vibrio harveyi*. *Current Microbiology* **63(1):1-7**.

Minh, NP, et al. 2013. Accumulation and clearance of orally administered erythromycin in adult Nile tilapia (*Oreochromis niloticus*) and giant freshwater prawn (*Macrobrachium rosenbergii*). *Journal of Applied Aquaculture* **25(1):1-8**.

Miranda, CD, et al. 2013. Role of shellfish hatchery as a reservoir of antimicrobial resistant bacteria. *Marine Pollution Bulletin* **74(1):334-343**.

Mistiri, F, et al. 2012. Study of forced degradation behavior of florfenicol by LC and LC-MS and development of a validated stability-indicating assay method. *Annales Pharmaceutiques Françaises* **70(6):333-347**.

Monte, MM, et al. 2013. Cloning and characterization of rainbow trout interleukin-17A/F2 (IL-17A/F2) and IL-17 receptor A: expression during infection and bioactivity of recombinant IL-17A/F2. *Infection and Immunity* **81(1):340-353**.

Morrison, DB, and Saksida, S. 2013. Trends in antimicrobial use in Marine Harvest Canada farmed salmon production in British Columbia (2003-2011). *The Canadian Veterinary Journal* **54(12):1160-1163**.

Mousavi, SM, et al. 2011. Antibacterial activities of a new combination of essential oils against marine bacteria. *Aquaculture International* **19(1):205-214**.

Muftah AM, et al. 2013. Oxasetin from *Lophiostoma* sp. of the Baltic Sea: identification, *in silico* binding mode prediction and antibacterial evaluation against fish pathogenic bacteria. *Natural Product Communications* **8(9):1223-1226**.

Mulcahy, DM. 2011. Antibiotic use during the intracoelomic implantation of electronic tags into fish. *Reviews in Fish Biology and Fisheries* **21(1):83-96**.

Munasinghe, N, et al. 2012. Farm level and geographic predictors of antibiotic use is Sri Lankan shrimp farms. *Journal of Aquatic Animal Health* **24(1):22-29**.

Nair, AV, et al. 2012. Diversity and characterization of antagonistic bacteria from tropical estuarine habitats of Cochin, India for fish health management. *World Journal of Microbiology & Biotechnology* **28(7):2581-2592**.

Natrah, FM, et al. 2011. Disruption of bacterial cell-to-cell communication by marine organisms and its relevance to aquaculture. *Marine Biotechnology* **13(2):109-26**.

Navarrete, P, et al. 2009. Oxytetracycline treatment reduces bacterial diversity of intestinal microbiota of Atlantic salmon. *Journal of Aquatic Animal Health* **20(3):177-183**.

Naviner, M, et al. 2011. Antimicrobial resistance of *Aeromonas* spp. isolated from the growth pond to the commercial product in a rainbow trout farm following flumequine treatment. *Aquaculture* **315(3-4):236-241**.

Nayak, SK, et al. 2013. Direct antibacterial activity of CD8+/CD4+ T-cells in ginbuna crucian carp, *Carassius auratus langsdorfii*. *Fish & Shellfish Immunology* **34(1):136-141**.

Ndi, OL and Barton, MD. 2011. Incidence of class 1 integron and other antibiotic resistance determinants in *Aeromonas* spp. from rainbow trout farms in Australia. *Journal of Fish Diseases* **34(8):589-599**.

Noga, EJ, et al. 2011. Identification of histones as endogenous antibiotics in fish and quantification in rainbow trout (*Oncorhynchus mykiss*) skin and gill. *Fish Physiology and Biochemistry* **37(1):135-52**.

Noor Uddin, GM, et al. 2013. Bacterial flora and antimicrobial resistance in raw frozen cultured seafood imported to Denmark. *Journal of Food Protection* **76(3):490-499**.

Norambuena, L, et al. 2013. Development and validation of a method for the simultaneous extraction and separate measurement of oxytetracycline, florfenicol, oxolinic acid and flumequine from marine sediments. *Marine Pollution Bulletin* **73(1):154-160**.

Nwani, CD, et al. 2014. Changes in behavior and hematological parameters of freshwater African catfish *Clarias gariepinus* (Burchell 1822) following sublethal exposure to chloramphenicol. *Drug and Chemical Toxicology* **37(1):107-113**.

Nya, EJ, et al. 2010. The garlic component, allicin, prevents disease caused by *Aeromonas hydrophila* in rainbow trout, *Oncorhynchus mykiss* (Walbaum). *Journal of Fish Diseases* **33(4):293-300**.

Oh, E-G, et al. 2011. Antimicrobial resistance of *Vibrio parahaemolyticus* and *Vibrio alginolyticus* stains isolated from farmed fish in Korea from 2005 through 2007. *Journal of Food Protection* **74(3):380-387**.

Ohkawa, K, et al. 2012. Study on the prevention and spread of bacterial coldwater disease in ayu (*Plecoglossus altivelis*). *Aquabiology* **34(1):88-92**. (English abstract)

Ohno, Y, et al. 2009. The effect of oral antibiotic treatment and freshwater bath treatment on susceptibility to *Neobenedenia girellae* (Monogenea) infection of amberjack (*Seriola dumerili*) and yellowtail (*S. quinqueradiata*) hosts. *Aquaculture* **292(3-4):248-251**.

Okmen, G. 2012. *In vivo* and *in vitro* antibacterial activities of aome essential oils of Lamiaceae species on *Aeromonas salmonicida* isolates from cultured rainbow trout, *Oncorhynchus mykiss*. *Journal of Animal and Veterinary Advances* **11(15):2762-2768**.

Okolie, C, and Chenia, HY. 2013. Assessment of aquatic *Aeromonas* spp. isolates' susceptibility to cinnamaldehyde, vanillin, and crude *Kigelia africana* fruit extracts. *Journal of the World Aquaculture Society* **44(4):486-498**.

Oliveira, R, et al. 2013. Effects of oxytetracycline and amoxicillin on development and biomarkers activities of zebrafish (*Danio rerio*). *Environmental Toxicology and Pharmacology* **36(3):903-912**.

Oplinger, RW, and Wagner, EJ. 2012. Effects of media ingredient substitution and comparison of growth of *Flavobacterium psychrophilum* among four media. *Journal of Aquatic Animal Health* **24(1):49-57**.

Oplinger, RW, and Wagner, EJ. 2013. Control of *Flavobacterium psychrophilum*: tests of erythromycin, streptomycin, osmotic and thermal shocks, and rapid pH change. *Journal of Aquatic Animal Health* **25(1):1-8**.

Ostrand, SL, et al. 2012. Inhibitory effects of rosemary oil on the *in vitro* growth of six common finfish pathogens. *North American Journal of Aquaculture* **74(2):230-234**.

Paschoal, JAR, et al. 2012. Depletion study and estimation of the withdrawal period for oxytetracycline in tilapia cultured in Brazil. *Journal of Veterinary Pharmacology & Therapeutics* **35(1):90-96**.

Paschoal, JAR, et al. 2013. Depletion study and estimation of the withdrawal period for enrofloxacin in pacu (*Piaractus mesopotamicus*). *Journal of Veterinary Pharmacology and Therapeutics* **36(6):594-602**.

Pasharawipas, T, et al. 2011. Phage treatment of *Vibrio harveyi*: A general concept of protection against bacterial infection. *Research Journal of Microbiology* **6(6), 560-567**.

Peatman, E, et al. 2013. Basal polarization of the mucosal compartment in *Flavobacterium columnare* susceptible and resistant channel catfish (*Ictalurus punctatus*). *Molecular Immunology* **56(4):317-327**.

Penesyan, A, et al. 2009. Antimicrobial activity observed among cultured marine epiphytic bacteria reflects their potential as a source of new drugs. *FEMS Microbiology Ecology* **69(1):113-124**.

Picchietti, S, et al. 2013. Immune modulatory effects of *Aloe arborescens* extract on the piscine SAF-1 cell line. *Fish & Shellfish Immunology* **34(5):1335-1344**.

Poapolathep, A, et al. 2008. Distribution and residue depletion of oxytetracycline in giant freshwater prawn (*Macrobrachium rosenbergii*). *Journal of Food Protection* **71(4):870-873**.

Poblete-Morales, M, et al. 2013. *Vibrio ordalii* antimicrobial susceptibility testing—modified culture conditions required and laboratory-specific epidemiological cut-off values. *Veterinary Microbiology* **165(3-4):434-442**.

Porsby, CH, et al. 2011. Resistance and tolerance to tropodithietic acid, an antimicrobial in aquaculture, is hard to select. *Antimicrobial Agents & Chemotherapy* **55(4):1332-1332**.

Pouliquen, H, et al. 2009. Comparison of water, sediment, and plants for the monitoring of antibiotics: a case study on a river dedicated to fish farming. *Environmental Toxicology and Chemistry* **28(3):496-502**.

Pridgeon, JW, et al. 2011. An *in vitro* screening method to evaluate chemicals as potential chemotherapeutants to control *Aeromonas hydrophila* infection in channel catfish. Journal of Applied Microbiology **111(1):114-124**.

Pruden, A, et al. 2012. Correlation between upstream human activities and riverine antibiotic resistance genes. *Environmental Science & Technology* **46(21):11541-11549**.

Rambla-Alegre, M, et al. 2010. Analysis of selected veterinary antibiotics in fish by micellar liquid chromatography with fluorescence detection and validation in accordance with regulation. *Food Chemistry* **123(4):1294-1302**.

Randrianarivelo, R, et al. 2010. Novel alternative to antibiotics in shrimp hatchery: effects of the essential oil of *Cinnamosma fragrans* on survival and bacterial concentration of *Penaeus monodon* larvae. *Journal of Applied Microbiology* **109(2):642-650**.

Ransangan, J and Mustafa, S. 2009. Identification of *Vibrio harveyi* isolated from diseased Asian sea bass *Lates calcarifer* by use of 16S ribosomal DNA sequencing. *Journal of Aquatic Animal Health* **21(3):150-155**.

Rattanachaikunsopon, P and Phumkhachorn, P. 2010. Use of Asiatic pennywort *Centella asiatica* aqueous extract as a bath treatment to control columnaris in Nile tilapia. *Journal of Aquatic Animal Health* **22(1):14-20**.

Rattanachuay, P, et al. 2011. Antivibrio compounds produced by *Pseudomonas* sp. W3: Characterisation and assessment of their safety to shrimps. *World Journal of Microbiology and Biotechnology* **27(4):869-880**.

Rebouças, RH, et al. 2011. Antimicrobial resistance profile of Vibrio species isolated from marine shrimp farming environments (*Litopenaeus vannamei*) at Ceará, Brazil. *Environmental Research* **111(1):21-24**.

Rhodes, LD, et al. 2008. Characterization of *Renibacterium salmoninarum* with reduced susceptibility to macrolide antibiotics by a standardized antibiotic susceptibility test. *Diseases of Aquatic Organisms* **80(3):173-180**.

Rigos, G, et al. 2011. The effect of diet composition (plant vs. fish oil-based diets) on the availability of oxytetracycline in gilthead sea bream (*Sparus aurata*) at two water temperatures. *Aquaculture* **311(1-4):31-35**.

Roiha, IS, et al. 2010. Uptake and elimination of florfenicol in Atlantic cod (*Gadus morhua*) larvae delivered orally through bioencapsulation in the brine shrimp *Artemia franciscana*. *Aquaculture* **310(1-2):27-31**.

Roiha, IS, et al. 2011. Efficacy of florfenicol in the treatment of bacterial infections in halibut, *Hippoglossus hippoglossus* (L.), larvae. *Journal of Fish Diseases* **34(12):927-930**.

Rose, S, et al. 2013. Imported ornamental fish are colonized with antibiotic-resistant bacteria. *Journal of Fish Diseases* **36(6):533-542**.

Rosenblum, ES, et al. 2008. Efficacy, tissue distribution, and residue depletion of oxytetracycline in WS-RLP infected California red abalone *Haliotis rufescens*. *Aquaculture* **277(3-4):138-148**.

Rotman, FJ, et al. 2011. Efficacy of a commercial probiotic relative to oxytetracycline as Gram-negative bacterial control agents in a rotifer (*Brachionus plicatilis*) batch culture. *North American Journal of Aquaculture* **73(3):343-349**.

Ruangpan, L, and Chaweepark, T. 2009. Monitoring antimicrobial usage in marine shrimp farms. *Israeli Journal of Aquaculture/Bamidgeh* **61(3):287 (abstract of oral presentation)**.

Russo, R, and Yanong, RPE. 2009. Efficacy of vaccination against *Streptococcus iniae* during artificial spawning of the red-tail black shark (*Epalzeorhynchos bicolor*, family Cyprinidae). *Journal of Applied Aquaculture* **21(1):10-20**.

Sadeghi, S, and Jahani, M. 2013. Selective solid-phase extraction using molecular imprinted polymer sorbent for the analysis of florfenicol in food samples. *Food Chemistry* **141(2):1242-1251**.

Salvo, A. 2013. Pharmacokinetics and residue depletion of erythromycin in rainbow trout *Oncorhynchus mykiss* (Walbaum). *Journal of Fish Diseases* **36(12):1021-1029**.

Samsonova, JV, et al. 2012. A critical review of screening methods for the detection of chloramphenicol, thiamphenicol, and florfenicol residues in foodstuffs. *Critical Reviews in Analytical Chemistry* **42(1):50-78**.

Samuelsen, OB. 2010. A single-dose pharmacokinetic study of emamectin benzoate in cod, *Gadus morhua* L., held in sea water at 9 C. *Journal of Fish Diseases* **33(2):137-142**.

Sanabria, C, et al. 2009. Effects of commonly used disinfectants and temperature on swim bladder non-inflation in freshwater angelfish, *Pterophyllum scalare* (Lichtenstein). *Aquaculture* **292(3-4):158-165**.

Schrader, K, et al. 2010. *In vitro* evaluation of the antimicrobial agent AquaFrin™ as a bactericide and selective algicide for use in channel catfish culture. *North American Journal of Aquaculture* **72(4):304-308**.

Schrader, K, et al. 2013. *In vitro* comparisons of the inhibitory activity of florfenicol, copper sulphate and potassium permanganate towards *Aeromonas hydrophila* and *Flavobacterium columnare*. *Aquaculture Research* **44(2):212-219**.

Seifrtova, M. et al. 2009. An overview of analytical methodologies for the determination of antibiotics in environmental waters. *Analytica Chimica Acta* **649(2):158-179**.

Shaowu, L, et al. 2013. Isolation of *Yersinia ruckeri* strain H01 from farm-raised Amur Sturgeon *Acipenser schrencki* in China. *Journal of Aquatic Animal Health* **25(1):9-14**.

Sharafati-Chaleshtori, R, et al. 2013. Residues of oxytetracycline in cultured rainbow trout. *Pakistan Journal of Biological Sciences* **16(21):1419-1422**.

Sharma, SR, et al. 2010. Evaluation of immune response and resistance to diseases in tiger shrimp, *Penaeus monodon*, fed with biofilm of *Vibrio alginolyticus*. *Fish & Shellfish Immunology* **29(5):724-732**.

Shehata, SA, et al. 2013. Antibacterial activity of essential oils and their effects on Nile tilapia fingerlings performance. *Journal of Medical Sciences* **13(5):367-372**.

Shoemaker, CA, et al. 2010. Protection against heterologous *Streptococcus iniae* isolates using a modified bacterin vaccine in Nile tilapia, *Oreochromis niloticus* (L.). *Journal of Fish Diseases* **33(7):537-544**.

Smith, EM, et al. 2012. *In vitro* inhibition of cytochrome P450-mediated reactions by gemfibrozil, erythromycin, ciprofloxacin and fluoxetine in fish liver microsomes. *Aquatic Toxicology* **109:259-266**.

Smith, P, et al. 2008. Reducing inter-operator variation in disc diffusion assays by the inclusion of internal controls in a standard susceptibility test protocol. *Aquaculture* **285(1-4):273-276**.

Smith, P, et al. 2009. A rapid method of improving the criteria being used to interpret disc diffusion antimicrobial susceptibility test data for bacteria associated with fish diseases. *Aquaculture* **290(1-2):172-178**.

Smith, P, et al. 2012. Use of normalised resistance analyses to set interpretive criteria for antibiotic disc diffusion data produce by *Aeromonas* spp. *Aquaculture* **326-329:27-35**.

Soto, E, et al. 2013. Efficacy of florfenicol for control of mortality associated with *Francisella noatunensis* subsp. *orientalis* in Nile tilapia, *Oreochromis niloticus* (L.). *Journal of Fish Disease***s 36(4):411-418**.

Straus, D, et al. 2012. Safety of Aquaflor-medicated feed to sunshine bass. *North American Journal of Aquaculture* **74(1):1-7**.

Ström-Bestor, M and Wiklund, T. 2011. Inhibitory activity of *Pseudomonas* sp. on *Flavobacterium psychrophilum*, *in vitro. Journal of Fish Diseases* **34(4):255-264.**

Stuart, KR, et al. 2010. Efficacy of formalin and povidone-iodine disinfection techniques on the eggs of three marine finfish species. *Aquaculture Research* **41(11):e838-e843**.

Sun, K, et al. 2009. Genetic mechanisms of multi-antimicrobial resistance in a pathogenic *Edwardsiella tarda* strain. *Aquaculture* **289(1-2):134-139**.

Sun, Y-X, et al. 2010. Tissue distribution and elimination of florfenicol in crucian carp (*Carassius auratus cuvieri*) after a single dose intramuscular or oral administration. *Aquaculture* **309(1-4):82-85**.

Sundell, K, et al. 2013. Structure of *Flavobacterium psychrophilum* populations infecting farmed rainbow trout *Oncorhynchus mykiss*. *Diseases of Aquatic Organisms* **103(2):111-119**.

Takano, T, et al. 2010. The efficacy of five avirulent *Edwardsiella tarda* strains in a live vaccine against Edwardsiellosis in Japanese flounder, *Paralichthys olivaceus*. *Fish & Shellfish Immunology* **29(4):687-693**.

Tanaka, T, et al. 2013. Electrochemical disinfection of fish pathogens in seawater without the production of a lethal concentration of chlorine using a flow reactor. *Journal of Bioscience and Bioengineering* **116(4):480-484**.

Tao, W, et al. 2012. Inactivation of chloramphenicol and florfenicol by a novel chloramphenicol hydrolase. *Applied and Environmental Microbiology* **78(17):6295-6301**.

Tao, X, et al. 2013. Chemiluminescence competitive indirect enzyme immunoassay for 20 fluoroquinolone residues in fish and shrimp based on a single-chain variable fragment. *Analytical and Bioanalytical Chemistry* **405(23):7477-7484**.

Tassanakajon, A., et al. 2011. Cationic antimicrobial peptides in penaeid shrimp. *Marine Biotechnology* **13(4):639-57**.

Temple, E, and Langdon, C. 2009. Delivering oxytetracycline to first-feeding zebrafish *Danio rerio* (Hamilton) and goby *Asterropteryx semipunctata* (Rueppell) larvae using lipid spray beads. *Journal of Fish Diseases* **32(3):279-292**.

Tkachenko, H, et al. 2013. Effects of chloramine-T exposure on oxidative stress biomarkers and liver biochemistry of rainbow trout, *Oncorhynchus mykiss* (Walbaum), brown trout, *Salmo trutta* (L.), and grayling, *Thymallus thymallus* (L.). *Archives of Polish Fisheries* **21(1):41-51**.

Topic Popovic, N, et al. 2012. Cross-sectional study of hepatic CYP1A and CYP3A enzymes in hybrid striped bass, channel catfish and Nile tilapia following oxytetracycline treatment. *Research in Veterinary Science* **92(2):283-291**.

Touraki, M, et al. 2012. Treatment of vibriosis in European sea bass larvae, *Dicentrarchus labrax* L., with oxolinic acid administered by bath or through medicated nauplii of *Artemia franciscana* (Kellogg): efficacy and residual kinetics. *Journal of Fish Diseases* **35(7):513-522**.

Tuševljak, N, et al. 2013. Antimicrobial use and resistance in aquaculture: findings of a globally administered survey of aquaculture-allied professionals. *Zoonoses and Public Health* **60(6):426-436**.

van der Grinten, E, et al. 2010. Comparing the sensitivity of algal, cyanobacterial and bacterialbioassays to different groups of antibiotics. *Chemosphere* **80(1):1-6**.

Vaseeharan, B, et al. 2011. Antibacterial activity of *Allium sativum* against multidrug-resistant *Vibrio harveyi* isolated from black gill-diseased *Fenneropenaeus indicus*. *Aquaculture International* **19(3):531-539**.

Vaseeharan, B, et al. 2013. Inhibitory activity of essential oils from medicinal plants against *Pseudomonas* sp. isolated from aquatic environments. *Aquaculture Research* **45(1):97-105**.

Vendrell, D, et al. 2008. Minimum inhibitory concentrations of erythromycin in *Lactococcus garvieae* strains isolated from cultured rainbow trout (*Oncorhynchus mykiss*) in Spain. *Bulletin of the European Association of Fish Pathologists* **28(3):125-128**.

Vendrell, D, et al. 2012. Accumulation and depletion kinetics of erythromycin in rainbow trout (*Oncorhynchus mykiss*). *Preventive Veterinary Medicine* **105(1-2):160-163**.

Verner-Jeffreys, DW, et al. 2009. Development of bactericidal and virucidal testing standards for aquaculture disinfectants. *Aquaculture* **286(3-4):190-197**.

Wagner, EJ, et al. 2012. Evaluation of tannic acid for disinfection of rainbow trout eggs. *North American Journal of Aquaculture* **74(1):80-83**.

Wagner, EJ, et al. 2012. Effect of single or double exposures to hydrogen peroxide or iodine on salmonid egg survival and bacterial growth. *North American Journal of Aquaculture* **74(1):84-91**.

Wagner, EJ, et al. 2012. Laboratory and production scale disinfection of salmonid eggs with hydrogen peroxide. *North American Journal of Aquaculture* **74(1):92-99**.

Wagner, EJ, et al. 2012. Penicillin-G: efficacy against *Flavobacterium psychrophilum* and evaluation of lethal dose limits for rainbow trout. *Open Journal of Animal Sciences* **2(3):150-158**.

Wan, Y-W, et al. 2013. Simultaneous determination of chloramphenicol, thiamphenicol and florfenicol residues in aquatic products by high performance liquid chromatography-tandem mass spectrometry. *Chinese Journal of Analysis Laboratory* **32(5):84-87**.

Wang, H, et al. 2012. Maternal transfer and protective role of antibodies in zebrafish *Danio rerio*. *Molecular Immunology* **51(3-4):332-336**.

Wang, N, et al. 2009. Adverse effects of enrofloxacin when associated with environmental stress in Tra catfish (*Pangasianodon hypophthalmus*). *Chemosphere* **77(11):1577-1584**.

Wang, R, et al. 2013. Studies on the isolation of *Photobacterium damselae* subsp. *piscicida* from diseased golden pompano (*Trachinotus ovatus* Linnaeus) and antibacterial agents sensitivity. *Veterinary Microbiology* **162(2-4):957-963**.

Wang, X, et al. 2013. Identification and drug sensitivity of a *Plesiomonas shigelloides* isolated from diseased sturgeons. *Acta Microbiologica Sinica* **53(7):723-729**.

Wang, Y, et al. 2013. Isolation and characterization of bacteria associated with a syndrome disease of sea urchin *Strongylocentrotus intermedius* in North China. *Aquaculture Research* **44(5):691-700**.

Wang, Y-D, et al. 2013. Oral administration of bovine lactoferrin inhibits bacterial infection in tilapia and elevates survival after bacterial infection: an examination of its immune-modulating properties. *Aquaculture International* **21(1):75-96**.

Weir, M, et al. 2012. Zoonotic bacteria, antimicrobial use and antimicrobial resistance in ornamental fish: a systematic review of the existing research and survey of aquaculture-allied professionals. *Epidemiology and Infection* **140(2):192-206**.

Wu, T, et al. 2008. Medication of the tremor disease in Chinese mitten crab *Eriocheir sinensis*. *Fisheries Science* **27(7):325-329**.

Xie, L-L, et al. 2013. Pharmacokinetics of florfenicol and its metabolite, florfenicol amine, in rice field eel (*Monopterus albus*) after a single-dose intramuscular or oral administration. *Journal of Veterinary Pharmacology and Therapeutics* **36(3):229-235**.

Xu, L, et al. 2013. Integrated pharmacokinetics/pharmacodynamics parameters-based dosing guidelines of enrofloxacin in grass carp *Ctenopharyngodon idella* to minimize selection of drug resistance. *BMC Veterinary Research* **9:126 (10 pages)**.

Yang, F, et al. 2013. A physiologically based pharmacokinetics model for florfenicol in crucian carp and oral-to-intramuscular extrapolation. *Journal of Veterinary Pharmacology and Therapeutics* **36(2):192-200**.

Yang, Q, et al. 2013. Pharmacokinetics of florfenicol after oral administration in yellow catfish, *Pelteobagrus fulvidraco*. *Journal of the World Aquaculture Society* **44(4):586-592**.

Yeh, RY, et al. 2009. Evaluation of the antibacterial activity of leaf and twig extracts of stout camphor tree, *Cinnamomum kanehirae*, and the effects on immunity and disease resistance of white shrimp, *Litopenaeus vannamei*. *Fish & Shellfish Immunology* **27(1):26-32**.

Yonar, ME, et al. 2011. Protective effect of propolis against oxidative stress and immunosuppression induced by oxytetracycline in rainbow trout (*Oncorhynchus mykiss*, W.). *Fish & Shellfish Immunology* **31(2):318-325**.

Yonar, ME. 2012. The effect of lycopene on oxytetracycline-induced oxidative stress and immunosuppression in rainbow trout (*Oncorhynchus mykiss*, W.). *Fish & Shellfish Immunology* **32(6):994-100**.

Yu, D, et al. 2009. Effects of administration mode of antibiotics on antibiotic resistance of *Enterococcus faecalis* in aquatic ecosystems. *Chemosphere* **76(7):915-920**.

Yu, H-J, et al. 2009. Determination of erythromycin residue in fishery products by high performance liquid chromatography-tan-dem mass spectrometry. *Chinese Journal of Analysis Laboratory* **28(3):51-54**.

Zahran, E, et al. 2012. The effect of adjuvant and microbial challenge on the expression of antimicrobial polypeptides in channel catfish (*Ictalurus punctatus*). *Fish & Shellfish Immunology* **33(2):168-173**.

Zhang, D, et al. 2010. In vitro antibacterial effect of berberine hydrochloride and enrofloxacin to fish pathogenic bacteria. *Aquaculture Research* **41(7):1095-1100**.

Zilberg, D, et al. 2010. Dried leaves of *Rosmarinus officinalis* as a treatment for streptococcosis in tilapia. *Journal of Fish Diseases* **33(4):361-369**.

Zong, H, et al. 2010. Research on florfenicol residue in coastal area of Dalian (Northern China) and analysis of functional diversity of the microbial community in marine sediment. *Bulletin of Environmental Contamination and Toxicology* **84(2):245-249**.

Zounkova, R. 2011. Complex evaluation of ecotoxicity and genotoxicity of antimicrobials oxytetracycline and flumequine used in aquaculture. *Environmental Toxicology and Chemistry* **30(5):1184-1189**.

Parasite and Fungus Control

Adams, MB. 2012. Preliminary success using hydrogen peroxide to treat Atlantic salmon, *Salmo salar* L., affected with experimentally induced amoebic gill disease (AGD). *Journal of Fish Diseases* **35(11):839-848**.

Adeyemo, OK, et al. 2012. Effect of formalin on spawning success and organ histology in *Clarias gariepinus*. *Research Journal of Environmental Toxicology* **6(2):42-50**.

Akoll, P, et al. Risk assessment of parasitic helminthes on cultured Nile tilapia (*Oreochromis niloticus*, L.). *Aquaculture* **356-357:123-127**.

Aksakal, E. 2011. Alterations in growth related genes (GH-I, IGF-I and IGF-II) expression with acute copper exposure in rainbow trout. *Journal of Animal and Veterinary Advances* **10(2):3334-3339**.

Al-Bairuty, GA, et al. 2013. Histopathological effects of waterborne copper nanoparticles and copper sulphate on the organs of rainbow trout (*Oncorhynchus mykiss*). *Aquatic Toxicology* **126:104-115**.

Alarape, SA, et al. 2013. Effect of copper sulphate on spawning success in African catfish (*Clarias gariepinus*, Burchell 1822). *Journal of Fisheries and Aquatic Science* **8(6):714-720**.

Banavreh, A, et al. 2008. Effects of hydrogen peroxide on fungal disinfection, hatch rate and larval deformities of rainbow trout (*Oncorhynchus mykiss*). *Iranian Scientific Fisheries Journal* **16(4):163-168**.

Banerjee, A, and Saha, SK, 2013. Biphasic control of *Argulus bengalensis* Ramakrishna (1951) (Crustacea: Branchiura) with plant derivatives. *Aquaculture* **414-415:202-209**.

Banfield, MJ, and Kamoun, S. 2013. Hooked and cooked: a fish killer genome exposed. *PLoS Genetics* **9(6):e1003590**. (*Saprolegnia parasitica*)

Barnes, JM, et al. 2012. Initial investigations of hops as a salmonid egg fungicide. *North American Journal of Aquaculture* **74(3):310-333**.

Berg, AGT, and Horsberg, TE. 2009. Plasma concentrations of emamectin benzoate after Slice™ treatments of Atlantic salmon (*Salmo salar*): differences between fish, cages, sites and seasons. *Aquaculture* **288(1-2):22-26**.

Bowker, JD, et al. 2012. Efficacy of 35% PEROX-AID (hydrogen peroxide) to reduce an infestation of *Gyrodactylus salmonis* in rainbow trout. *North American Journal of Aquaculture* **74(2):154-159**.

Bowker, JD, et al. 2012. Efficacy of SLICE premix (0.2% emamectin benzoate) for reducing infestations of *Salmincola* spp. in freshwater-reared rainbow trout. *North American Journal of Aquaculture* **74(3):428-437**.

Bowker, JD, et al. 2013. The safety of SLICE (0.2% emamectin benzoate) administered in feed to fingerling rainbow trout. *North American Journal of Aquaculture* **75(4):455-462**.

Bozwell, JL, et al. 2009. Use of hydrogen peroxide to improve golden shiner egg hatchability. *North American Journal of Aquaculture* **71(3):238-241**.

Bravo, S, et al. 2008. Sensitivity assessment of *Caligus rogercresseyi* to emamectin benzoate in Chile. *Aquaculture* **282(1-4):7-12**.

Bravo, S. et al. 2010. Effectiveness of hydrogen peroxide in the control of *Caligus rogercresseyi* in Chile and implications for sea louse management. *Aquaculture* **303(1-4):22-27**.

Bravo, S, et al. 2010. Sensitivity assessment in the progeny of of *Caligus rogercresseyi* to emamectin bebzoate. *Bulletin of the European Association of Fish Pathologists* **30(3):99-105**.

Bravo, S, et al. 2012. Efficacy of emamectin benzoate in the control of *Caligus rogercresseyi* on farmed Atlantic salmon (*Salmo salar* L.) in Chile from 2006 to 2007. *Aquaculture* **364–365:61-66**.

Bravo, S, et al. 2013. Efficacy of the treatments used for the control of *Caligus rogercresseyi* infecting Atlantic salmon, *Salmo salar* L., in a new fish-farming location in Region XI, Chile. *Journal of Fish Diseases* **36(3):221-228**.

Budiño, B, et al. 2012. Differences in the *in vitro* susceptibility to resveratrol and other chemical compounds among several *Philasterides dicentrarchi* isolates from turbot. *Parasitology Research* **110(4):1573-1578**.

Buen-Ursua, SMA, et al. 2011. Effects of UV-Treated Sea Water, Chlorinated Sea Water, and Formalin-Treated Copepods on Survival and Growth of Newborn Seahorses, *Hippocampus comes*. *Israeli Journal of Aquaculture Bamidgeh* **63:1-7**.

Cao, H, et al. 2012. Identification of an isolate of *Saprolegnia ferax* as the causal agent of saprolegniosis of Yellow catfish (*Pelteobagrus fulvidraco*) eggs. *Veterinary Research Communications* **36(4):239-244**.

Carmichael, SN. 2013. Salmon lice (*Lepeophtheirus salmonis*) showing varying emamectin benzoate susceptibilities differ in neuronal acetylcholine receptor and GABA-gated chloride channel mRNA expression. *BMC Genomics* **14(1):408 (16 pages)**.

Caruana, S, et al. 2012. The efficacy of selected plant extracts and bioflavonoids in controlling infections of *Saprolegnia australis* (Saprolegniales; Oomycetes). *Aquaculture* **358-359:146-154**.

Chen, MF, et al. 2011. Isometamidium chloride reduces mortality of adult Chinook salmon due to *Cryptobia salmositica*. *North American Journal of Aquaculture* **73(3):304-310**.

Cone, DK, et al. 2013. A new gyrodactylid (Monogenea) parasitizing bay pipefish (*Syngnathus leptorhynchus*) from the Pacific Coast of North America. *The Journal of Parasitology* **99(2):183-188**.

Covello, JM, et al. 2012. Effects of orally administered immunostimulants on inflammatory gene expression and sea lice (*Lepeophtheirus salmonis*) burdens on Atlantic salmon (*Salmo salar*). *Aquaculture* **366-367:9-16**.

de Andrade Waldemarin, KC, et al. 2012. Copper sulfate affects Nile tilapia (*Oreochromis niloticus*) cardiomyocytes structure and contractile function. *Ecotoxicology* **21(3):783-794**.

Espedal, PG, et al. 2013. Emamectin benzoate resistance and fitness in laboratory reared salmon lice (*Lepeophtheirus salmonis*). *Aquaculture* **416-417:111-118**.

Farmer, BD, et al. 2013. Efficacy of bath treatments of formalin and copper sulfate on cultured white bass, *Morone chrysops*, concurrently infected by *Onchocleidus mimus* and *Ichthyophthirius multifiliis*. *Journal of the World Aquaculture Society* **44(2):305-310**.

Farmer, BD, et al. 2013. Effectiveness of copper sulphate, potassium permanganate and peracetic acid to reduce mortality and infestation of *Ichthyobodo necato*r in channel catfish *Ictalurus punctatus* (Rafinesque 1818). *Aquaculture Research* **44(7):1103-1109**.

Forwood, JM, et al. 2013. Efficacy of current and alternative bath treatments for *Lepidotrema bidyana* infecting silver perch, *Bidyanus bidyanus*. *Aquaculture* **416-417:65-71**.

Forwood, JM, et al. 2013. Efficacy of bath and orally administered praziquantel and fenbendazole against *Lepidotrema bidyana* Murray, a monogenean parasite of silver perch, *Bidyanus bidyanus* (Mitchell). *Journal of Fish Diseases* **36(11):939-947**.

Forwood, JM, et al. 2013. Validation of a rapid counting method for assessing treatment efficacy against *Lepidotrema bidyana* infecting silver perch *Bidyanus bidyanus*. *Diseases of Aquatic Organisms* **105(3):253-257**.

Foster, B, et al. 2011. Copper exposure affects hemocyte apoptosis and *Perkinsus marinus* infection in eastern oysters *Crassostrea virginica* (Gmelin). *Fish & Shellfish Immunology* **31(2):341-349**.

França, JG, et al. 2011. Toxicity of the therapeutic potassium permanganate to tilapia *Oreochromis niloticus* and to non-target organisms *Ceriodaphnia dubia* (microcrustacean cladocera) and *Pseudokirchneriella subcapitata* (green microalgae). *Aquaculture* **322-323:249-254**.

Gargan, PG, et al. 2012. Evidence for sea lice-induced marine mortality of Atlantic salmon (*Salmo salar*) in western Ireland from experimental releases of ranched smolts treated with emamectin benzoate. *Canadian Journal of Fisheries and Aquatic Sciences* **69(2):343-353**.

Ghazvini, A, et al. 2012. Disinfection efficiency of three anti-fungal agents (nanosil, chloramine-T and hydrogen peroxide) on Persian sturgeon (*Acipenser persicus*, Borodin 1897) larvae. *International Journal of Biology* **4(1):138-145**.

González, Á, et al. 2013. Effects of different bronopol treatments on final survival rates in the artificial incubation of crayfish eggs (*Pacifastacus leniusculus*, Astacidae). *Aquaculture Research* **44(3):354-358**.

Goodwiller, BT, and Chambers, JP. 2012. The potential use of ultrasound to control the trematode *Bolbophorus confusus* by eliminating the ram's horn snail *Planorbella trivolvis* in commercial aquaculture settings. *North American Journal of Aquaculture* **74(4):485-488**.

Gunn, C, et al. 2012. Pilot field trial to evaluate SLICE (0.2% emamectin benzoate)-medicated feed to reduce a natural infestation of *Salmincola californiensis* in rainbow trout. *North American Journal of Aquaculture* **74(3):424-427**.

Hamre, LA, et al. 2011. An evalulation of the duration of efficacy of emamectin benzoate in the control of *Caligus curtus* Muller infestations in Atlantic cod, *Gadus morhua* L. *Journal of Fish Diseases* **34(6):453-457**.

Hanson, SK, et al. 2011. Evaluation of emamectin benzoate for the control of experimentally induced infestations of *Argulus* sp. in goldfish and koi carp. *Journal of Aquatic Animal Health* **23(1):30-34**.

Hardy-Smith, P, et al. 2012. In vitro and in vivo efficacy of anthelmintic compounds against blood fluke (*Cardicola forsteri*). *Aquaculture* **334-337:39-44**.

Hastie, LC, et al. 2013. Prevalence and infection intensity of sea lice (*Lepeophtheirus salmonis*) on Atlantic salmon (*Salmo salar*) host is reduced by the non-host compound 2-aminoacetophenone. *Aquaculture* **410-411:179-183**.

Harikrishnan, R, et al. 2010. Effectiveness and immunomodulation of chemotherapeutants against scuticociliate *Philasterides dicentrarchi* in olive flounder. *Experimental Parasitology* **124(3):306-314**.

Heikkinen, J, et al. 2013. Prevention of fungal infestation of rainbow trout (*Oncorhynchus mykiss*) eggs using UV irradiation of the hatching water. *Aquacultural Engineering* **55:9-15**.

Heinecke, RD, and Buchmann, K. 2009. Control of *Ichthyophthirius multifiliis* using a combination of water filtration and sodium percarbonate: dose-response studies. *Aquaculture* **288(1-2):32-35**.

Helgesen, KO, et al. 2013. Single-dose field bioassay for sensitivity testing in sea lice, *Lepeophtheirus salmonis*: development of a rapid diagnostic tool. *Journal of Fish Diseases* **36(3):261-272**.

Hemaprasanth, KP, et al. 2008. Efficacy of doramectin against natural and experimental infections of *Lernaea cyprinacea* in carps. *Veterinary Parasitology* **156(3-4):261-269**.

Hemaprasanth, KP, et al. 2012. Efficacy of two avermectins, doramectin and ivermectin against *Argulus siamensis* infestation in Indian major carp, *Labeo rohita*. *Veterinary Parasitology* **190(1-2):297-304**.

Heuch, PA, et al. 2009. Temporal and spatial variations in lice numbers on salmon farms in the Hardanger fjord 2004-06. *Journal of Fish Diseases* **32(1):89-100**.

Heuch, PA, et al. 2011. Counting sea lice on Atlantic salmon farms – empirical and theoretical observations. *Aquaculture* **320(3–4):149–153**.

Heumann, J, et al. 2012. Molecular cloning and characterisation of a novel P-glycoprotein in the salmon louse *Lepeophtheirus salmonis*. *Comparative Biochemistry and Physiology – Part C: Toxicology & Pharmacology* **155(2):198-205**.

Hirazawa, N, et al. 2013. Differences in sensitivity to the anthelmintic praziquantel by the skin-parasitic monogeneans *Benedenia seriolae* and *Neobenedenia girellae*. *Aquaculture* **404-405:59-64**.

Hontoria, F, et al. 2013. Ketoconazole modulates the infectivity of *Ichthyophonus* sp. (Mesomycetozoa) *in vivo* in experimentally injected European sea bass. *Diseases of Aquatic Organisms* **105(3):225-235**.

Horsberg, TE. 2012. Avermectin use in aquaculture. *Current Pharmaceutical Biotechnology* **13(6):1095-1102 (review article)**.

Hoseini, SM, et al. 2011. Acute toxicity of potassium permanganate to Caspian roach *Rutilus rutilus caspicus* in two size classes and under different aeration conditions. *Toxicological & Environmental Chemistry* **93(5):996-1001**.

Hoseini, SM, and Tarkhani, R. 2013. Effect of short-term treatment with potassium permanganate on stress markers and blood biochemistry in goldfish *Carassius auratus*. *Aquaculture Research* **44(6):869-875**.

Hoyer, SA, and Myrick, CA. 2012. Can copper-based substrates be used to protect hatcheries from invasion by the new Zealand mudsnail? *North American Journal of Aquaculture* **74(4):575-583**.

Hu, X-G, et al. 2013. *In vitro s*creening of fungicidal chemicals for antifungal activity against *Saprolegnia*. *Journal of the World Aquaculture Society* **44(4):528-535**.

Huang, A-G, et al. 2013. Screening of plant extracts for anthelmintic activity against *Dactylogyrus intermedius* (Monogenea) in goldfish (*Carassius auratus*). *Parasitology Research* **112(12):4065-4072**.

Igboeli, OO, et al. 2012. Role of P-glycoprotein in emamectin benzoate (SLICE®) resistance in sea lice, *Lepeophtheirus salmonis*. *Aquaculture* **344-349:40-47**.

Igboeli, OO, et al. 2013. Immunostimulation of *Salmo salar* L., and its effect on *Lepeophtheirus salmonis* (Kroeyer) P-glycoprotein mRNA expression following subsequent emamectin benzoate exposure. *Journal of Fish Diseases* **36(3):339-351**.

Ikonomou, MG, et al. 2013. Ultra-trace determination of aquaculture chemotherapeutants and degradation products in environmental matrices by LC-MS/MS. *International Journal of Environmental and Analytical Chemistry* **93(2):183-198**.

Iles, AC, et al. 2012. Novel praziquantel treatment regime for controlling Asian *tapeworm infections in pond-reared fish. North* American Journal of Aquaculture **74(1):113-117**.

Ishimaru, K, et al. 2013. Praziquantel treatment against *Cardicola* blood flukes: determination of the minimal effective dose and pharmacokinetics in juvenile Pacific bluefin tuna. *Aquaculture* **402-403:24-27**.

Jaafar, RM, et al. 2013. Comparative efficacies of sodium percarbonate, peracetic acid, and formaldehyde for control of *Ichthyobodo necator*—an ectoparasite flagellate from rainbow trout. *Acta Ichthyologica et Piscatoria* **43(2):139-143**.

Jimenez, DF, et al. 2012. Confidence in assessing the effectiveness of bath treatments for the control of sea lice on Norwegian salmon farms. *Aquaculture* **344-349:58-65**.

Jones, PG, et al. 2012. Effectiveness of emamectin benzoate for treatment of *Lepeophtheirus salmonis* on farmed Atlantic salmon *Salmo salar* in the Bay of Fundy, Canada. *Diseases of Aquatic Organisms* **102(1):53-64**.

Jones, PG, et al. 2013. Detection of emamectin benzoate tolerance emergence in different life stages of sea lice, *Lepeophtheirus salmonis*, on farmed Atlantic salmon, *Salmo salar* L. *Journal of Fish Diseases* **36(3):209-220**.

Jorgensen, TR, et al. 2009. Parasite infections in recirculated rainbow trout (*Oncorhynchus mykiss*) farms. *Aquaculture* **289(1-2):91-94**.

Jussila, J, et al. 2011. Peracetic acid (PAA) treatment is an effective disinfectant against crayfish plague (*Aphanomyces astaci*) spores in aquaculture. *Aquaculture* **320(1-2):37-42**.

Kang, YJ, et al. 2013. Evaluation of treatment efficacy of doxycycline and albendazole against scuticociliatosis in olive flounder (*Paralichthys olivaceus*). *Aquaculture* **416-417:192-195**.

Kawano, F, and Hirazawa, N. 2012. Antiparasitic effect of in-feed inhibitors of folic acid synthesis and dihydrofolate reductase against ciliate *Cryptocaryon irritans* infection in the red sea bream *Pagrus major* and against ciliate *Ichthyophthirius multifiliis* infection in black pop-eyed goldfish *Carassius auratus*. *Aquaculture* **330-333:1-7**.

Kawano, F, et al. 2012. Antiparasitic effects of dietary Romet 30 (SDMX-OMP) against ciliate *Cryptocaryon irritans* infection in the red sea bream *Pagrus major* and tiger puffer *Takifugu rubripes*. *Aquaculture* **344-349:35-39**.

Kong, X, et al. 2013. Effects of copper exposure on the hatching status and antioxidant defense at different developmental stages of embryos and larvae of goldfish *Carassius auratus*. *Chemosphere* **92(11):1458-1464**.

Kouba, A, et al. 2010. Artificial incubation of noble crayfish (*Astacus astacus*) eggs in a partially recirculating system using formaldehyde as an antifungal treatment. *Aquaculture Research* **41(10):e618-e623**.

Kouba, A, et al. 2012. Ultraviolet light and semi-recirculating systems in artificial incubation of noble crayfish (*Astacus astacus*) eggs: opportunities and limitations. *Aquaculture Research* **44(1):67-74**.

Krogh, KA, et al. 2008. Development of an analytical method to determine avermectins in water, sediments, and soils using liquid chromatography-tandem mass spectrometry. *Journal of Chromatography A* **1212(1-2):60-69**.

Kumar, A, et al. 2012. Antiparasitic efficacy of piperine against *Argulus* spp. on *Carassius auratus* (Linn. 1758): *in vitro* and *in vivo* study. *Parasitology Research* **111(5):2071-2076**.

Kusdarwati, R, et al. 2013. Antifungal activities test of betel leaf extract (*Piper betle* L.) on *Saprolegnia* sp. by *in vitro*. *Jurnal Ilmiah Perikanan dan Kelautan* **5(1):15-21**.

Lahnsteiner, F, et al. 2009. The risk of parasite transfer to juvenile fishes by live copepod food with the example *Triaenophorus crassus* and *Triaenophorus nodulosus*. *Aquaculture* **295(1-2):120-125**.

Lalonde, BA, et al. 2012. Measurement of oxytetracycline and emamectin benzoate in freshwater sediments downstream of land based aquaculture facilities in the Atlantic Region of Canada. *Bulletin of Environmental Contamination & Toxicology* **89(3):547-550**.

Larrat, S, et al. 2012. Safety and efficacy of emamectin benzoate to treat *Anguillicoloides crassus* (Kuwahara, Niimi & Itagaki) infections in American eels, *Anguilla rostrata* (Lesueur). *Journal of Fish Diseases* **35(6):467-470**.

Lees, F, et al. 2008. Factors associated with changing efficacy of emamectin benzoate against infestations of *Lepeophtheirus salmonis* on Scottish salmon farms. *Journal of Fish Diseases* **31(12):947-951**.

Leibowitz, MP, et al. 2010. Treatment development for systemic *Tetrahymena sp*. infection in guppies, *Poecilia reticulata* Peters. *Journal of Fish Diseases* **33(6):473-480**.

Liu, J, and Yang, G. 2009. Changes in copper content of allogynogenetic silver crucian carp after application of copper sulfate to fishponds. *Israeli Journal of Aquaculture/Bamidgeh* **61(4):351-355**.

Liu, T-H. 2011. The acute toxicity of copper sulfate to scallop *Chlamys farreri*. *Fisheries Science* **30(6):317-320**.

Liu, Y, et al. 2011. Analysis of behavioral changes of zebrafish (*Danio rerio*) in response to formaldehyde using self-organizing map and a hidden Markov model. *Ecological Modelling* **222(14):2191–2201**.

Manetta, GI, et al. 2011. Effect of alcohol and formaldehyde on the delta C-13 and delta N-15 isotopic composition of *Plagioscion squamosissimus* and *Hypophthalmus edentatus* (Pisces, Osteichthyes). *Acta Scientiarum Biological Sciences* **33(4):393-397**.

Marchand, P-A, et al. 2012. Reduction of *in vitro* growth in *Flavobacterium columnare* and *Saprolegnia parasitica* by products containing peracetic acid. *Aquaculture Research* **43(12):1861-1866**.

Marchand, P-A, et al. 2013. Effect of water hardness on peracetic acid toxicity to zebrafish, *Danio rerio*, embryos. *Aquaculture International* **21(3):679-686**.

Marchiori, N, et al. 2013. New technique for collecting eggs from monogenean parasites. *Experimental Parasitology* **134(2):138-140**.

Marcussen, H, et al. 2014. Copper use and accumulation in catfish culture in the Mekong Delta, Vietnam. *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering* **49(2):187-192**.

Matsche, MA, et al. 2010. Observations and treatment of *Nitzschia sturionis* on Atlantic Sturgeon from Chesapeake Bay. *Journal of Aquatic Animal Health* **22(3):174-181**.

Matthews, MD, et al. 2012. Evaluation of hydrogen peroxide and temperature to control mortality caused by saprolegniasis and to increase hatching success of largemouth bass. *North American Journal of Aquaculture* **74(4):463-467**.

Mayor, D, et al. 2009. Effects of copper and the sea lice treatment Slice on nutrient release from marine sediments. *Marine Pollution Bulletin* **5(4):552-558**.

Meinertz, JR, et al. 2008. Chronic toxicity of hydrogen peroxide to *Daphnia magna* in a continuous exposure, flow-through test system. *Science of the Total Environment* **392(2-3):225-232**.

Melian, JAH, et al. 2008. Degradation and detoxification of formalin wastewater with aerated biological filters and wetland reactors. *Process Biochemistry* **43(12):1432-1435**.

Miao L, et al. 2011. Effects on water quality and fishes of copper sulfate complex applied as algaecide for emergency control of algae bloom. *Journal of Ecology and Rural Environment* **27(5):63-66**.

Mischke, CC, et al. 2009. Impact of copper sulfate on plankton in channel catfish nursery ponds. *Journal of the World Aquaculture Society* **40(1):122-128**.

Mitchell, AJ, et al. 2008. Comparison of tank treatments with copper sulfate and potassium permanganate for sunshine bass with ichthyobodosis. *Journal of Aquatic Animal Health* **20(4):202-206**.

Mitchell, AJ, et al. 2009. The effect of hydrogen peroxide on the hatch rate and *Saprolegnia* spp. infestation of channel catfish eggs. *North American Journal of Aquaculture* **71(3):276-280**.

Mitchell, AJ, et al. 2010. Comparison of percent hatch and fungal infestation in channel catfish eggs after copper sulfate, diquat bromide, formalin, and hydrogen peroxide treatment. *North American Journal of Aquaculture* **72(3):201-206**.

Molloy, SD, et al. 2011. Ingestion of *Lepeophtheirus salmonis* by the blue mussel *Mytilus edulis*. *Aquaculture* **311(1-4):61-64**.

Pahor-Filho, E, et al. 2012. Parasitology of juvenile mullet (*Mugil liza*) and effect of formaldehyde on parasites and host. *Aquaculture* **354-355:111-116**.

Paixao, LF, et al. 2013. Evaluation of formalin and copper sulfate on monogenetic parasite (*Urodeidoides* sp.) of *Hemigrammus* sp. (Osteichthyes: Characidae) juveniles. *Acta Amazonica* **43(2):211-216**. (in Portuguese with English abstract)

Pedersen, L-F, et al. 2009. Peracetic acid degradation and effects on nitrification in recirculating aquaculture systems. *Aquaculture* **296(3-4):246-254**.

Pedersen, L-F, et al. 2010. Low-dose hydrogen peroxide application in closed recirculating aquaculture systems. *North American Journal of Aquaculture* **42(1):1-7**.

Pedersen, L-F, et al. 2013. Peracetic acid degradation in freshwater aquaculture systems and possible practical implications. *Aquacultural Engineering* **March 2013: 65-71**.

Penston, MJ, et al. 2008. Reduced *Lepeophtheirus salmonis* larval abundance in a sea loch on the west coast of Scotland between 2002 and 2006. *Diseases of Aquatic Organisms* **81(2):109-117**.

Picón-Camacho, SM, et al. 2012. An assessment of the use of drug and non-drug interventions in the treatment *of Ichthyophthirius multifiliis* Fouquet, 1876, a protozoan parasite of freshwater fish. *Parasitology* **139(2):149-190**.

Picón-Camacho, SM, et al. 2012. Effects of long duration, low dose bronopol exposure on the control of *Ichthyophthirius multifiliis* (Ciliophora), parasitising rainbow trout (*Oncorhynchus mykiss* Walbaum). *Veterinary Parasitology* **186(3-4):237-244**.

Picón-Camacho, SM, et al. 2012. *In vitro* assessment of the chemotherapeutic action of a specific hydrogen peroxide, peracetic, acetic, and peroctanoic acid-based formulation against the free-living stages of *Ichthyophthirius multifiliis* (Ciliophora). *Parasitology Research* **110(2):1029-1032**.

Poley, J, et al. 2013. Combinatorial effects of administration of immunostimulatory compounds in feed and follow-up administration of triple-dose SLICE (emamectin benzoate) on Atlantic salmon, *Salmo salar* L., infection with *Lepeophtheirus salmonis*. **Journal of Fish Diseases 36(3):299-309**.

Polinski, MP, et al. 2010. Assessment of formalin and hydrogen peroxide use during egg incubation of North American burbot. *North American Journal of Aquaculture* **72(2):111-117**.

Polinski, MP, et al. 2012. Hydrogen peroxide treatments administered to hatchery-reared burbot: assessing treatment regimes from embryonic development through juvenile rearing. *North American Journal of Aquaculture* **75(1):50-56**.

Porter, J., et al. 2012. Development of an evidence biochip array kit for the multiplex screening of more than 20 anthelmintic drugs. *Analytical & Bioanalytical Chemistry* **403(10):3051-3056**.

Raghavendra, A, et al. 2012. Ammonium chloride bath treatment as a quarantine measure to prevent the spread of *Lernaea cyprinacea* infection during transfer of fish from affected ponds. *Journal of Fish Diseases* **35(3):243-247**.

Razzaq, MA, et al. 2011. Copper sulphate stress induced histopathogoical changes in fresh water fish *Clarias batrachus* (Linn.) and *Heteropneustes fossilis* (Bloch.). *Journal of Experimental Zoology India* **14(1):371-376**.

Reimschuessel, R, et al. 2011. *In vitro* effect of seven antiparasitics on *Acolpenteron ureteroecetes* (Dactylogyridae) from largemouth bass *Micropterus salmoides*. *Diseases of Aquatic Organisms* **94(1):59-72**.

Rigos, G, et al. 2013. Tissue distribution and field evaluation of caprylic acid against natural infections of *Sparicotyle chrysophrii* in cage-reared gilthead sea bream *Sparus aurata*. *Aquaculture* **408-409:15-19**.

Robbins, C, et al. 2010. Assessing treatment interventions on Scottish salmon farms using a sea lice (*Lepeophtherius salmonis*) population model. *Aquaculture* **306(1-4):191-197**.

Robertson, PK, et al. 2009. A new generation of biocides for control of crustacea in fish farms. *Journal of Photochemistry and Photobiology B: Biology* **95(1):58-63**.

Robinson, CB, et al. 2013. Tissue-specific copper concentrations in red drum after long-term exposure to sublethal levels of waterborne copper and a 21-d withdrawal. *North American Journal of Aquaculture* **75(1):1-6**.

Rodriguez, L, et al. 2011. Uptake of metronidazole in Artemia at different developmental life stages. *Journal of Aquatic Animal Health* **23(2):100-102**.

Rodrigues, N, et al. 2013. Notes on the husbandry and long-term transportation of bull ray (*Pteromylaeus bovinus*) and dolphinfish (*Coryphaena hippurus* and *Coryphaena equiselis*). *Zoo Biology* **32(2):222-229**.

Rodriguez-Ibarra, LE, et al. 2011. Effect of formalin, acriflavine and glutaraldehyde on disinfecting and hatching of the bullseye puffer fish *Sphoeroides annulatus*. *Revista de Biologia Marina y Oceanografia* **46(1):59-65**.

Rogers, LA, et al. 2013. Modeling parasite dynamics on farmed salmon for precautionary conservation management of wild salmon. *PLoS One* **8(4):e60096**.

Roque, A, et al. 2010. Physiological stress response of sea bass (*Dicentrarchus labrax*) to hydrogen peroxide (H_2O_2) exposure. *Aquaculture* **304(1-4):104-107**.

Rowland, SJ, et al. 2008. Use of formalin and copper to control ichthyophthiriosis in the Australian freshwater fish silver perch (*Bidyanus bidyanus* Mitchell). *Aquaculture Research* **40:44-54**.

Sáez, MI, et al. 2013. Effect of sublethal concentrations of waterborne copper on lipid peroxidation and enzymatic antioxidant response in *Gambusia holbrooki*. *Environmental Toxicology and Pharmacology* **36(1):125-134**.

Sahoo, PK, et al. 2013. *De novo* whole transcriptome analysis of the fish louse, *Argulus siamensis*: first molecular insights into characterization of Toll downstream signalling molecules of crustaceans. *Experimental Parasitology* **135(3):629-641**.

Saksida, SM, et al. 2010. The efficacy of emamectin benzoate against infestations of sea lice, *Lepeophtheirus salmonis*, on farmed Atlantic salmon, *Salmo salar* L., in British Columbia. *Journal of Fish Diseases* **33(11):913-917**.

Saksida, SM, et al. 2013. Use of Atlantic salmon, *Salmo salar* L., farm treatment data and bioassays to assess for resistance of sea lice, *Lepeophtheirus salmonis*, to emamectin benzoate (SLICE) in British Columbia, Canada. *Journal of Fish Diseases* **36(5):515-520**.

Sampaio, FG, et al. 2010. The combined effect of copper and low pH on antioxidant defenses and biochemical parameters in neotropical fish pacu, *Piaractus mesopotamicus*. *Ecotoxicology* **19(5):963-976**.

Santos, RFB, et al. 2012. Acute toxicity and histopathology in ornamental fish amazon bluespotted corydora (*Corydoras melanistius*) exposed to formalin. *Anais da Academia Brasileira de Ciências* **84(4):1001-1007**.

Schelkle, B, et al. 2009. Treatment of gyrodactylid infections in fish. *Diseases of Aquactic Organisms* **86(1):65-75**.

Schelkle, B, et al. 2013. *In vitro* and *in vivo* efficacy of garlic compounds against *Gyrodactylus turnbulli* infecting the guppy (*Poecilia reticulata*). *Veterinary Parasitology* **198(1-2):96-101**.

Schelkle, B, et al. 2011. The salt myth reveled: treatment of gyrodactylid infections on ornamental guppies, *Poecilia reticulata*. *Aquaculture* **311(1-4):74-79**.

Schumacher, IV, et al. 2011. Efficacy of quinine against ichthyophthiriasis in common carp *Cyprinus carpio. Diseases of Aquatic Organisms* **95(3):217-224**.

Shaikh, B, et al. 2012. Residue depletion of tritium-labeled ivermectin in the muscle tissues of aquacultured Atlantic salmon, tilapia, and catfish following oral treatment. *North American Journal of Aquaculture* **74(1):27-33**.

Shinn, AP, et al. 2009. Mechanical control of *Ichthyophthirius multifiliis* Fouquet, 1876 (Ciliophora) in a rainbow trout hatchery. *Aquacultural Engineering* **41(3)152-157**.

Shinn, AP, et al. 2012. The anti-protozoal activity of bronopol on the key life-stages of *Ichthyophthirius multifiliis* Fouquet, 1876 (Ciliophora). *Veterinary Parasitology* **186(3-4):229-236**.

Shirakashi, S, et al. 2012. Oral treatment of praziquantel as an effective control measure against blood fluke infection in Pacific bluefin tuna (*Thunnus orientalis*). *Aquaculture* **326-329:15-19**.

Shirakashi, S, et al. 2013. Diurnal pattern of skin fluke infection in cultured amberjack, *Seriola dumerili*, at different water depths. *Aquaculture* **402-403:19-23**.

Simon, CA, et al. 2010. 2,4-decadienal: exploring a novel approach for the control of polychaete pests on cultured abalone. *Aquaculture* **310(1-2):52-60**.

Skilbrei, OT, et al. 2008. A laboratory study to evaluate the use of emamectin benzoate in the control of sea lice in sea-ranched Atlantic salmon (*Salmo salar* L.). *Aquaculture* **285(1-4):2-7**.

Skilbrei, OT, et al. 2013. Impact of early salmon louse, *Lepeophtheirus salmonis*, infestation and differences in survival and marine growth of sea-ranched Atlantic salmon, *Salmo salar* L., smolts 1997-2009. *Journal of Fish Diseases* **36(3):249-260**.

Straus, DL. 2008. Copper sulfate toxicity to channel catfish fry: yolk-sac versus swim-up fry. *North American Journal of Aquaculture* **70(3):323-327**.

Straus, DL, et al. 2009. Copper sulfate toxicity to two isolates of *Ichthyophthirius multifiliis* relative to alkalinity. *Diseases of Aquatic Organisms* **84(1):31-36**.

Straus, DL, et al. 2009. Laboratory dose confirmation of copper sulfate for treating fungus on channel catfish eggs. *North American Journal of Aquaculture* **71(4):333-338**.

Straus, DL, et al. 2009. Optimizing copper sulfate treatments for fungus control on channel catfish eggs. *Journal of Aquatic Animal Health* **21(2):91-97**.

Straus, DL, et al. 2011. Dose-confirmation of copper sulfate for treating fungus on channel catfish, *Ictalurus punctatus*, eggs at a commercial hatchery. *Journal of Applied Aquaculture* **23(3):199-206**.

Straus, DL, et al. 2012. Hatch rates of channel catfish *Ictalurus punctatus* (Rafinesque 1818) eggs treated with 100 mg/L copper sulfate pentahydrate. *Aquaculture Research* **43(1):14-18**.

Straus, DL, et al. 2012. Safety of copper sulfate to channel catfish eggs. *North American Journal of Aquaculture* **74(1):60-64**.

Straus, DL, et al. 2012. Peracetic acid is effective for controlling fungus on channel catfish eggs. *Journal of Fish Diseases* **35(7):505-511**.

Straus, DL, et al. 2012. Acute toxicity and histopathology of channel catfish fry exposed to peracetic acid. *Aquaculture* **342-343:134-138**.

Sutili, FJ, et al. 2013. The use of nitazoxanide against the pathogens *Ichthyophthirius multifiliis* and *Aeromonas hydrophila* in silver catfish (*Rhamdia quelen*). *Veterinary Parasitology* **197(3-4):522-526**.

Sykes, CL, et al. 2011. Physiological effects of potassium chloride, formalin, and handling stress on bonytail. *North American Journal of Fisheries Management* **31(2):291-298**.

Tan, Z, et al. 2011. Persistence of malachite green and leucomalachite green in perch (*Lateolabrax japonicus*). *Chinese Journal of Oceanology and Limnology* **29(3):647-655**.

Tavares-Dias, M, et al. 2011. Toxicity and effects of copper sulfate on parasitic control and hematological response of tambaqui (*Colossoma macropomum*). *Boletim do Instituto de Pesca São Paulo* **37(4):355-365**.

Taylor, NGH, et al. 2009. Using length-frequency data to elucidate the population dynamics of *Argulus foliaceus* (Crustacea: Branchiura). *Parasitology* **136(9):1023-1032**.

Torrissen, O, et al. 2013. Salmon lice--impact on wild salmonids and salmon aquaculture. *Journal of Fish Diseases* **36(3):171-194**.

Tu, X, et al. 2013. Anthelmintic efficacy of *Santalum album* (Santalaceae) against monogenean infections in goldfish. *Parasitology Research* **112(8):2839-2845**.

Veldhoen, N, et al. 2012. Biological effects of the anti-parasitic chemotherapeutant emamectin benzoate on a non-target crustacean, the spot prawn (*Pandalus platyceros* Brandt, 1851) under laboratory conditions. *Aquatic Toxicology* **108:94-105**.

Vestheim, H, et al. 2012. Lack of response in a marine pelagic community to short-term oil and contaminant exposure. *Journal of Experimental Marine Biology & Ecology* **416-417:110-114**. (**information on emamectin**)

Wagner, EJ, et al. 2010. The safety and effectiveness of various hydrogen peroxide and iodine treatment regimens for rainbow trout egg disinfection. *North American Journal of Aquaculture* **72(2):34-42**.

Wagner, EJ, et al. 2012. Egg disinfection to improve conservation aquaculture of leatherside chub. *North American Journal of Aquaculture* **74(2):199-207**.

Walker, AB, et al. 2010. Surface disinfection and removal of adhesiveness from rainbow smelt eggs. *North American Journal of Aquaculture* **72(2):158-163**.

Webb, DH, et al. 2013. A simple reagent-free spectrophotometric assay for monitoring metronidazole therapy in aquarium water. *Journal of Aquatic Animal Health* **25(3):165-170**.

Wei, JZ, et al. 2013. Ichthyophthiriasis: emphases on the epizootiology. *Letters in Applied Microbiology* **57(2):91-101**.

Westcott, JD, et al. 2008. Optimization and field use of a bioassay to monitor sea lice *Lepeophtheirus salmonis* sensitivity to emamectin benzoate. *Diseases of Aquatic Organisms* **79(2):119-13**.

Whyte, SK, et al. 2011. Comparison of the depletion of emamectin benzoate (SLICE) residues from skeletal muscle and skin of Atlantic salmon (*Salmo salar*), for multiple dietary dose regimens at 10°C. *Aquaculture* **315(3-4):228-235**.

Whyte, SK, et al. 2013. A fixed-dose approach to conducting emamectin benzoate tolerance assessments on field-collected sea lice, *Lepeophtheirus salmonis*. *Journal of Fish Diseases* **36(3):283-292**.

Wunder, B, et al. 2011. Efficacy of oral praziquantel treatment against the skin fluke infection of cultured chub mackerel, *Scomber japonicus*. *Aquaculture* **319(1-2):53-57**.

Xu, H, et al. 2013. Monoclonal antibody-based enzyme-linked immunosorbent assay for detection of total malachite green and crystal violet residues in fishery products. *International Journal of Environmental Analytical Chemistry* **93(9):959-969**.

Yamamoto, S, et al. 2011. Efficacy of oral praziquantel treatment against the skin fluke infection of cultured chub mackerel, *Scomber japonicas. Aquaculture* **319(10-2):53-57**.

Yao, J-Y. 2011. Isolation of bioactive components from *Chelidonium majus* L. with activity against *Trichodina* sp. *Aquaculture* **318(1-2):235-238**.

Yu, H, et al. 2014. MH II-DAB gene expression in grass carp *Ctenopharyngodon idella* (Valenciennes) after infection with the ciliate parasite, *Ichthyophthirius multifiliis*. *Journal of Fish Diseases* **37(1):43-50**.

Zhang, Q, et al. 2013. Evaluation of an antiparasitic compound extracted from *Galla chinensis* against fish parasite *Ichthyophthirius multifiliis*. *Veterinary Parasitology* **198(1-2):45-53**.

Sedation or Anesthesia

Adebayo, OT, et al. 2010. Use of aqueous extracts of avocado pear, *Pyrus communis*, leaf as anaesthetic in gonadectomy of African catfish, *Clarias gariepinus*. *Journal of Applied Aquaculture* **22(2):117-122**.

Afkhami, M, et al. 2013. Comparative efficacy of two anesthetic agents in the Sobaity sea bream, *Sparidentex hasta* (Valenciennes 1840). *Comparative Clinical Pathology* (**Published online February 2013)**.

Akbulut, B, et al. 2011. Use of clove oil to anaesthetize larvae of Russian sturgeon (*Acipenser gueldenstaedtii*). *Journal of Applied Ichthyology* **27(2):618-621**.

Akbulut, B, et al. 2012. Influence of temperature on clove oil anaesthesia in flounder (*Platichthys flesus* Linnaeus, 1758). *Journal of Applied Ichthyology* **28(2):254-257**.

Akbulut, B, et al. 2012. Effect of anaesthesia with clove oil and benzocaine on feed intake in Siberian sturgeon (*Acipenser baerii* Brandt, 1869). *Turkish Journal of Fisheries and Aquatic Sciences* **12(3):667-673**.

Al-Hamdani, AH, et al. 2010. Experimental xylazine-ketamine anesthesia in the common carp (*Cyprinus carpio*). *Journal of Wildlife Diseases* **46(2):596-598**.

Anraku, K, et al. 2009. Optimum concentration of magnesium (Mg 2+) to anesthetize octopus *Octopus vulgaris*. *Memoirs of the Faculty of Fisheries, Kagoshima University* **58:15-19 (English abstract)**.

Azpeleta, C, et al. 2010. Melatonin reduces locomotor activity and circulating cortisol in goldfish. *Hormones and Behavior* **57(3):323-329**.

Bailey, KM, et al. 2013. Evaluation of the effects of tricaine methanesulfonate on retinal structure and function in koi carp (*Cyprinus carpio*). *Journal of the American Veterinary Medical Association* **242(11):1578-1582**.

Baker, TR, et al. 2013. Comparative analgesic efficacy of morphine sulfate and butorphanol tartrate in koi (*Cyprinus carpio*) undergoing unilateral gonadectomy. *Journal of the American Veterinary Medical Association* **243(6):882-890**.

Balazik, MT, et al. 2013. Comparison of MS-222 and electronarcosis as anesthetics on cortisol levels in juvenile Atlantic sturgeon. *Transactions of the American Fisheries Society* **142(6):1640-1643**.

Barrento, S, et al. 2011. *Cancer pagurus* (Linnaeus, 1758) physiological responses to simulated live transport: influence of temperature, air exposure and AQUI-S. *Journal of Thermal Biology* **36(2):128-137**.

Barry, MJ. 2012. Application of a novel open-source program for measuring the effects of toxicants on the swimming behavior of large groups of unmarked fish. *Chemosphere* **86(9):938-944**.

Bauquier, SH, et al. 2013. Evaluation of the sedative and anaesthetic effects of five different concentrations of alfaxalone in goldfish, *Carassius auratus*. *Aquaculture* **396-399:119-123**.

Becker, AG, et al. 2012. Transportation of silver catfish, *Rhamdia quelen*, in water with eugenol and the essential oil of *Lippia alba*. *Fish Physiology and Biochemistry* **38(3):789-796**.

Berg, AGT, et al. 2012. Anesthesia during vaccination of Atlantic salmon: compliance with recommended procedures. *Journal of the World Aquaculture Society* **43(1):120-127**.

Bi, S, et al. 2012. Spectroscopic study on the interaction of eugenol with salmon sperm DNA *in vitro*. *Journal of Luminescence* **132(9):2355-2360**.

Bilbao, A, et al. 2010. Efficiency of clove oil as anesthetic for abalone (*Haliotis tuberculata coccinea*, Revee). *Journal of Shellfish Research* **29(3):679-682**.

Bjørlykke, GA, et al. 2013. Slaughter of Atlantic salmon (*Salmo salar* L.) in the presence of carbon monoxide. *Fish Physiology and Biochemistry* **39(4):871-879**.

Blessing, JJ, et al. 2010. Humane killing of fishes for scientific research: a comparison of two methods. *Journal of Fish Biology* **76(10):2571-2577**.

Bowen, L, et al. 2011. Euthanization methods influence cytokine mRNA expression levels in age 0 year *Oncorhynchus mykiss*. *Journal of Fish Biology* **79(2):539-545**.

Bowker, J, and Trushenski, J. 2011. Guest director's line: AFS policy statement regarding the need for an immediate-release anesthetic/sedative for use in the fisheries disciplines. *Fisheries* **36(3):132-135**.

Bowzer, JC, et al. 2012. Efficacy and physiological responses of grass carp to different sedation techniques: II. Effect of pulsed DC electricity voltage and exposure time on sedation and blood chemistry. *North American Journal of Aquaculture* **74(4):567-574**.

Boyer, SE, et al. 2009. Effects of the fish anesthetic, clove oil (eugenol), on coral health and growth. *Journal of Experimental Marine Biology and Ecology* **369(1):53-57**.

Brock, WJ, and Bell, TA. 2012. The *in vitro* and i*n vivo* genotoxicity of benzocaine: a brief communication. *International Journal of Toxicology* **31(3):222-227**.

Brown, RS, et al. 2011. An introduction to the practical and ethical perspectives on the need to advance and standardize the intracoelomic surgical implantation of electronic tags in fish. *Reviews in Fish Biology and Fisheries* **21(1):1-9**.

Caamaño Tubío, RI, et al. 2010. Home tank anesthesia: a very efficient method of attenuating handling stress in rainbow trout (*Oncorhynchus mykiss*, Walbaum). *Journal of Applied Ichthyology* **26(1):116-117**.

Carter, KM, et al. 2011. A review of tricaine methanesulfonate for anesthesia of fish. *Reviews in Fish Biology and Fisheries* **21(1):51-59**.

Casselman, MT, et al. 2012. Using maximum heart rate as a rapid screening tool to determine optimum temperature for aerobic scope in Pacific salmon *Oncorhynchus* spp. *Journal of Fish Biology* **80(2):358-377**.

Chellapan, A, et al. 2013. Effect of clove oil and benzocaine on the respiratory metabolism of angel fish *Pterophyllum scalare*. *Indian Journal of Science and Technology* **6(7):4853-4861**.

Christiansen, HE, et al. 2013. Anesthesia of juvenile Pacific lampreys with MS-222, Benzoak, AQUI-S 20E, and Aquacalm. *North American Journal of Fisheries Management* **33(2):269-276**.

Cook, DG, et al. 2009. Effect of harvest treatment on biochemical properties of farmed Chinook salmon (*Oncorhynchus tshawytscha*) tissue during frozen and thawed storage. *Journal of Food Science* **74(7):C543-C548**.

Cooke, SJ, et al. 2011. Advancing the surgical implantation of electronic tags in fish: A gap analysis and research agenda based on a review of trends in intracoelomic tagging effects studies. *Reviews in Fish Biology and Fisheries* **21(1):127-151**.

Crosby, TC, et al. 2010. Plasma cortisol, blood glucose, and marketability of koi transported with metomidate hydrochloride. *North American Journal of Aquaculture* **72(2):141-149**.

Crosby, TC, et al. 2012. Effects of metomidate hydrochloride sedation on blood glucose and marketability of transported threespot gourami *Trichogaster trichopterus*. *Journal of Aquatic Animal Health* **24(2):73-80**.

Crossman, JA, et al. 2013. Experimental examination of surgical procedures for implanting sonic transmitters in juvenile shortnose sturgeon and Atlantic sturgeon. *North American Journal of Fisheries Management* **33(3):549-556**.

Cruz, S, et al. 2012. Anesthetizing solar-powered sea slugs for photobiological studies. *The Biological Bulletin* **223(3):328-336**.

da Cunha, MA, et al. 2010. Essential oil of *Lippia alba*: a new anesthetic for silver catfish, *Rhamdia quelen*. *Aquaculture* **306(1-4):403-406**.

da Rocha, MA, et al. 2012. Determination of the optimal dose of benzocaine hydrochloride in anesthesia of tilápia (*Oreochromis niloticus*). *Ciências Agrárias* **33(6):2403-2410**.

Danner, GR, et al. 2011. Spearmint (l-carvone) oil and wintergreen (methyl salicylate) oil emulsion is an effective immersion anesthetic of fishes. *Journal of Fish and Wildlife Management* **2(2):146-155**.

Davis, JL, et al. 2013. Effectiveness of three compounds to anesthetize rainbow trout during PIT tag implantation surgery. *North American Journal of Fisheries Management* **33(3):482-487**.

de Lima Silva, et al. 2012. Essential oil of *Ocimum gratissimum* L.: anesthetic effects, mechanism of action and tolerance in silver catfish, *Rhamdia quelen*. *Aquaculture* **350-353:91-97**.

de Souza, RAR, et al. 2012. Comparative effect of benzocaine, menthol, and eugenol as anesthetics for juvenile fat snook. *Boletim do Instituto de Pesca Sao Paulo* **38(3):247-255**. (English abstract)

Delbon, MC, et al. 2012. Eugenol in tilapia juvenile: concentrations and successive administrations. *Boletim do Instituto de Pesca Sao Paulo* **38(1):43-52**. (English abstract)

Di Marco, P. 2011. Efficacy of tricaine methanesulphonate, clove oil and medetomidine- ketamine and their side effects on the physiology of sturgeon hybrid *Acipenser naccarii* x *Acipenser baerii*. *Journal of Applied Ichthyology* **27(2):611-617**.

Digre, H, et al. 2010. Electrical stunning of farmed Atlantic cod *Gadus morhua* L.: a comparison of an industrial and experimental method. *Aquaculture Research* **41(8):1190-1202**.

Digre, H, et al. 2011. Biochemical, physical and sensory quality of ice-stored Atlantic cod (*Gadus morhua*) as affected by pre-slaughter stress, percussion stunning and AQUI-S anaesthesia. *European Food Research and Technology* **233(3):447-456**.

Erikson, U. 2011. Assessment of different stunning methods and recovery of farmed Atlantic salmon (*Salmo salar*): isoeugenol, nitrogen and three levels of carbon dioxide. *Animal Welfare* **20(3):365-375**.

Erikson, U, et al. 2012. Conditions for instant electrical stunning of farmed Atlantic cod after de-watering, maintenance of unconsciousness, effects of stress, and fillet quality—a comparison with AQUI-S. *Aquaculture* **324-325:135-144**.

Estefanell, et al. 2011. Evaluation of two anaesthetic agents and the passive integrated transponder tagging system in *Octopus vulgaris*. *Aquaculture Research* **42(3):399-406**.

Falahatkar, B, and Poursaeid, S. 2013. Stress responses of great sturgeon *Huso huso* subjected to husbandry stressors. *Aquaculture International* **21(4):947-959**.

Feng, G, et al. 2011. Effect of anaesthetics MS-222 and clove oil on blood biochemical parameters of juvenile Siberian sturgeon (*Acipenser baerii*). *Journal of Applied Ichthyology* **27(2):595-599**.

Fenn, CM, et al. 2013. Efficacy of AQUI-S 20E as a sedative for handling and cortisol suppression in pallid sturgeon. *North American Journal of Fisheries Management* **33(6):1172-1178**.

Forgan, LG, and Forster, ME. 2010. Oxygen consumption, ventilation frequency and cytochrome c oxidase activity in blue cod *(Parapercis colias*) exposed to hydrogen sulphide or isoeugenol. *Comparative Biochemistry and Physiology, Part C: Toxicology & Pharmacology* **151(1):57-65**.

Fredricks, KT, et al. 2012. Feeding response of sport fish after electrical immobilization, chemical sedation, or both. *North American Journal of Fisheries Management* **32(4):679-686**.

Gause, BR, et al. 2012. Efficacy and physiological responses of grass carp to different sedation techniques: I. Effects of various chemicals on sedation and blood chemistry. *North American Journal of Aquaculture* **74(4):560-566**.

Ghanawi, J, et al. 2013. Anaesthetic efficacy of clove oil, benzocaine, 2-phenoxyethanol and tricaine methanesulfonate in juvenile marbled spinefoot (*Siganus rivulatus*). *Aquaculture Research* **44(3):359-366**.

Gomes, DP, et al. 2011. Water parameters affect anaesthesia induced by eugenol in silver catfish, *Rhamdia quelen. Aquaculture Research* **42(6):878-886**.

Gonçalves, RA, et al. 2012. The use of different anaesthetics as welfare promoters during short-term human manipulation of European cuttlefish (*Sepia officinalis*) juveniles. *Aquaculture* **370–371:130-135**.

Gray, SM, et al. 2011. The effects of handling time, ambient light, and anaesthetic method on the standardized measurement of fish colouration. *Canadian Journal of Fisheries and Aquatic Sciences* **68(2):330-342**.

Gressler, LT, et al. 2012. Immersion anaesthesia with tricaine methanesulphonate or propofol on different sizes and strains of silver catfish *Rhamdia quelen*. *Journal of Fish Biology* **81(4):1436-1445**.

Gullian, M and Villanueva, J. 2009. Efficacy of tricaine methanesulphonate and clove oil as anaesthetics for juvenile cobia *Rachycentron canadum*. *Aquaculture Research* **40(7):852-860**.

Hajek, GJ. 2011. The anaesthetic-like effect of tea tree oil in common carp *Cyprinus carpio* L. *Aquaculture Research* **42(2):296-300**.

Hanley, CS, et al. 2010. Effects of anesthesia and surgery on serial blood gas values and lactate concentrations in yellow perch (*Perca flavescens*), walleye pike (*Sander vitreus*), and koi (*Cyprinus carpio*). *Journal of the American Veterinary Medical Association* **236(10):1104-1108**.

Harms, CA and Lewbart, GA. 2011. The veterinarian's role in surgical implantation of electronic tags in fish. *Reviews in Fish Biology and Fisheries* **21(1):25-33**.

Hayashida, K, et al. 2013. Effects of anesthesia and surgery on U_{crit} performance and MO_2 in chum salmon, *Oncorhynchus keta*. *Fish Physiology and Biochemistry* **39(4):907-915**.

Hegyi, A, et al. 2010. Investigation of potential stress parameters in rainbow trout (*Oncorhynchus mykiss*). *Acta Biologica Hungarica* **61(1):24-32**.

Hekimoğlu, MA, and Ergun, M. 2012. Evaluation of clove oil as anaesthetic agent in fresh water angelfish, *Pterophyllum scalare*. *Pakistan Journal of Zoology* **44(5):1297-1300**.

Heldwein, CG, et al. 2012. Participation of the GABAergic system in the anesthetic effect of *Lippia alba* (Mill.) N.E. Brown essential oil. *Brazilian Journal of Medical and Biological Research* **45(5):436-443**.

Hooper, C, et al. 2011. Effect of movement stress on immune function in farmed Australian abalone (hybrid *Haliotis laevigata and Haliotis rubra*). *Aquaculture* **315(3-4):348-354**.

Hoseini, SM, et al. 2011. Serum biochemical characteristics of Beluga, *Huso huso* (L.), in response to blood sampling after clove powder solution exposure. *Fish Physiology and Biochemistry* **37(3):567-572**.

Hoseini, SM, and Ghelichpour, M. 2012. Efficacy of clove solution on blood sampling and hematological study in Beluga, *Huso huso* (L.). *Fish Physiology and Biochemistry* **38(2):493-498**.

Huang, WC, et al. 2010. Combined use of MS-222 (tricaine) and isoflurane extends anesthesia time and minimizes cardiac rhythm side effects in adult zebrafish. *Zebrafish* **7(3):297-304**.

Hudson, JM, et al. 2011. A portable electronarcosis system for anesthetizing salmonids and other fish. *North American Journal of Fisheries Management* **31(2):335-339.**

Ikeda, Y, et al. 2009. Method of ethanol anaesthesia and individual marking for oval squid (*Sepioteuthis lessoniana* Ferussac, 1831 in Lesson 1830-1831). *Aquaculture Research* **41(1):157-160**.

Iversen, M, and Eliassen, RA. 2009. The effect of AQUI-S sedation on primary, secondary, and tertiary stress responses during salmon smolt, *Salmo salar* L., transport and transfer to sea. *Journal of the World Aquaculture Society* **40(2):216-225**.

Iversen, M., et al. 2009. Potential benefit of clove oil sedation on animal welfare during salmon smolt, *Salmo salar* L., transport and transfer to sea. *Aquaculture Research* **40:233-241**.

Iversen, M, et al. 2013. The efficacy of Aqui-S vet. (iso-eugenol) and metomidate as anaesthetics in European eel (*Anguilla anguilla* L.), and their effects on animal welfare and primary and secondary stress responses. *Aquaculture Research* **44(8):307-1316**.

Jahanbakhshi, A, et al. 2013. Effects of different concentrations of 2-phenoxyethanol on primary and secondary stress responses in Persian sturgeon *Acipenser persicus*. *Journal of Applied Ichthyology* **29(3): 499-502**.

Javahery, S, et al. 2012. Effect of anaesthesia with clove oil in fish (review). *Fish Physiology and Biochemistry* **38(6):1545-1552**.

Javahery, S, et al. 2012. Efficacy of clove oil as an anaesthetic for two sizes of *Rutilus frisii kutum*. *Global Veterinaria* **9(3):319-322**.

Kanani, HG, et al. 2013. Effect of tricaine methanesulfonate (MS222), clove oil and electro-anaesthesia on respiratory burst activity in whole blood and serum alternative complement response in rainbow trout (*Oncorhynchus mykiss*), during the narcosis stage. *Fish & Shellfish Immunology* **34(2):692-696**.

Karlsson, A, et al. 2012. Pre-anaesthetic metomidate sedation delays the stress response after caudal artery cannulation in Atlantic cod (*Gadus morhua*). *Fish Physiology and Biochemistry* **38(2):401-411**.

Khalil, N, et al. 2012. Effect of stress during handling, seawater acclimation, confinement, and induced spawning on plasma ion levels and somatolactin-expressing cells in mature female *Liza ramada*. *Journal of Experimental Zoology: Part A, Ecological Genetics and Physiology* **317(7):410-424**.

Kiessling, A, et al. 2009. Pharmacokinetics, plasma cortisol, and effectiveness of benzocaine, MS-222, and isoeugenol measured in individual dorsal aorta-cannulated Atlantic salmon *Salmo salar* following bath administration. *Aquaculture* **286(3-4):301-308**.

Kilgore, KH, et al. 2009. Investigational use of metomidate hydrochloride as a shipping additive for two ornamental fishes. *Journal of Aquatic Animal Health* **21(3):133-139**.

Knapp, ISS, and Bell, JJ. 2011. Some contributions to knowledge of stress response in innovative species with particular focus on the use of the anaesthetics. *Open Marine Biology Journal* **5:24-33**.

Kramer, MJ. 2013. The trophic importance of algal turfs for coral reef fishes: the crustacean link. *Coral Reefs* **32(2):575-583**.

Kristan, J, et al. 2012. Comparison of the effects of four anaesthetics on haematological and blood biochemical profiles in pikeperch (*Sander lucioperca* L.). *Neuroendocrinology Letters* **33(3):66-71**.

Küçük, S. 2010. Efficacy of tricaine on *Poecilia latipinna* at different temperatures and concentrations. *African Journal of Biotechnology* **9(5):755-759**.

Lambooij, B, et al. 2009. Anaesthetic properties of Propiscin (etomidaat) and 2-phenoxyethanol in the common carp (*Cyprinus carpio* L.), neural and behavioral measures. *Aquaculture Research* **40(11):1328-1333**.

Larrat, S, et al. 2012. Low sensitivity of antemortem gill biopsies for the detection of subclinical *Pseudodactylogyrus bini* infestations in American eels (*Anguilla rostrata*). *Journal of Zoo and Wildlife Medicine* **43(1):190-192**.

Lin, M, et al. 2012. Effects of two anesthetics on survival of juvenile *Culter mongolicus* during a simulated transport experiment. *North American Journal of Aquaculture* **74(4):541-546**.

Mamangkey, NGF, et al. 2009. Use of anaesthetics with the silver-lip pearl oyster, *Pinctada maxima* (Jameson). *Aquaculture* **288(3-4):280-284**.

Marco, PD, et al. 2011. Efficacy of tricaine methanesulphonate, clove oil and medetomidine- ketamine and their side effects on the physiology of sturgeon hybrid *Acipenser naccarii* × *Acipenser baerii*. *Journal of Applied Ichthyology* **27(2):611-617**.

Martins, ML, et al. 2012. *Trichodina nobilis* Chen, 1963 and *Trichodina reticulata* Hirschmann et Partsch, 1955 from ornamental freshwater fishes in Brazil. *Brazilian Journal of Biology* **72(2):281-286**.

Matos, E, et al. 2010. Effect of harvesting stress and slaughter conditions on selected flesh quality criteria of gilthead seabream (*Sparus aurata*). *Aquaculture* **305(1-4):66-72**.

Matsche, MA. 2011. Evaluation of tricaine methanesulfonate (MS-222) as a surgical anesthetic for Atlantic sturgeon *Acipenser oxyrinchus oxyrinchus*. *Journal of Applied Ichthyology* **27(2):600-610**.

Matsche, MA. 2013. Relative physiological effects of laparoscopic surgery and anesthesia with tricaine methanesulfonate (MS-222) in Atlantic sturgeon *Acipenser oxyrinchus oxyrinchus*. *Journal of Applied Ichthyology* **29(3):510-519**.

Meinertz, JR, and Schreier, TM. 2009. Depletion of isoeugenol residues from the fillet tissue of AQUI-S exposed rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **296(3-4):200-206**.

Meinertz, JR, and Hess, KR. 2014. Evaluation of analytical techniques to determine AQUI-S 20E (eugenol) concentrations in water. *Aquaculture* **418-419:62-66**.

Mi, H, et al. 2012. Quality and biochemical properties of artificially hibernated crucian carp for waterless preservation. *Fish Physiology and Biochemistry* **38(6):1721-1728**.

Mi, H, et al. 2013. Quality and biochemical influence of eugenol to anesthetize Crucian carp (*Carassius auratus*). *Journal of Aquatic Food Product Technology* **22(6):564-572**.

Noble, WJ, et al. 2009. Application of anaesthetics for sex identification and bioactive compound recovery from wild *Dicathais orbita*. *Journal of Experimental Marine Biology and Ecology* **380(1-2):53-60**.

Öğretmen, F, and Gökçek, K. 2013. Comparative efficacy of three anesthetic agents on juvenile African catfish, *Clarias gariepinus* (Burchell, 1822). *Turkish Journal of Fisheries and Aquatic Sciences* **13(1):51-56**.

Öğretmen, F, et al. 2014. Use of clove oil and eugenol to anesthetize fingerling shabut *Barbus grypus*. *North American Journal of Aquaculture* **76(1):9-13**.

Oldenburg, EW, et al. 2011. Holding of juvenile salmonids for surgical implantation of electronic tags: A review and recommendations. *Reviews in Fish Biology and Fisheries* **21(1):35-42**.

Otero-Ferrer, F, et al. 2010. Live prey first feeding regimes for short-snouted seahorse *Hippocampus hippocampus* (Linnaeus, 1758) juveniles. *Aquaculture Research* **41(9):e8-e19**.

Park, IS, et al. 2009. Anesthetic effects of lidocaine-hydrochloride on water parameters in simulated transport experiment of juvenile winter flounder, *Pleuronectes americanus*. *Aquaculture* **294(1-2):76-79**.

Park, MO, et al. 2009. Efficacy and physiological responses of rock bream *Oplegnathus fasciatus* to anesthetization with clove oil. *Aquaculture* **287(3-4):427-430**.

Parodi, TV, et al. 2012. The anesthetic efficacy of eugenol and the essential oils of *Lippia alba* and *Aloysia triphylla* in post-larvae and sub-adults *of Litopenaeus vannamei* (Crustacea, Penaeidae). *Comparative Biochemistry & Physiology Part C: Toxicology & Pharmacology* **155(3):462-468**.

Pawar, HB, et al. 2011. Comparative efficacy of four anaesthetic agents in the yellow seahorse, *Hippocampus kuda* (Bleeker, 1852). *Aquaculture* **311(1-4):155-161**.

Posner, LP, et al. 2013. Repeated exposure of goldfish (*Carassius auratus*) to tricaine methanesulfonate (MS-222). *Journal of Zoo and Wildlife Medicine* **44(2):340-347**.

Pramod, P, et al. 2010. Comparative efficacy of MS-222 and benzocaine as anaesthetics under simulated transport conditions of a tropical ornamental fish *Puntius filamentosus* (Valenciennes). *Aquaculture Research* **41(2):309-314**.

Pramrod, P, et al. 2010. Effects of two anesthetics on water quality during a simulated transport of a tropical ornamental fish, the Indian tiger barb, *Puntius filamentosus*. *North American Journal of Aquaculture* **72(4):290-297**.

Rahmanifarah, K, et al. 2011. Effects of clove oil on behavior and flesh quality of common carp (*Cyprinus carpio* L.) in comparison with pre-slaughter CO_2 stunning chilling and asphyxia. *Turkish Journal of Fisheries and Aquatic Sciences* **11(1):141-150**.

Readman, GD, et al. 2013. Do fish perceive anaesthetics as aversive? *PLoS One* **8(9):e73773 (7 pages)**.

Renault SF, et al. 2011. The use of eugenol and electro-narcosis as anaesthetics: Transcriptional impacts on the European eel (*Anguilla anguilla* L.). *Ecotoxicology and Environmental Safety* **74(6):1573-1577**.

Robertson, DR, and Smith-Vaniz, WF. 2010. Use of clove oil in collecting coral reef fishes for research. *Marine Ecology Progress Series* **401:295-302**.

Ross, LG, and Ross, B. 2008. *Anaesthetic and Sedative Techniques for Aquatic Animals, 3rd edition*. Blackwell Publishing, Ames, Iowa.

Sadigh Eteghad, S, et al. 2008. Comparative survey on anesthetizing effects of medicinal herbs *Valerian officinalis*, *Melissa officinalis*, *Papaver somniferum*, and *Papaver bracteatum* on gold fish *Carassius auratus*. *Iranian Scientific Fisheries Journal* **17(1):91-98**.

Sajan, S. 2012. Use of an eco-friendly anaesthetic in the handling of *Puntius denisonii* (Day, 1865) - an endemic ornamental barb of the Western Ghats of India. *Indian Journal of Fisheries* **59(3):131-13**5.

Sánchez-Vázquez, FJ, et al. 2011. Daily rhythms of toxicity and effectiveness of anesthetics (MS222 and eugenol) in zebrafish (*Danio rerio*). *Chronobiology International: The Journal of Biological & Medical Rhythm Research* **28(2):109-117**.

Sattari, A, et al. 2009. Comparison of electroanesthesia with chemical anesthesia (MS222 and clove oil) in rainbow trout (*Oncorhynchus mykiss*) using plasma cortisol and glucose responses as physiological stress indicators. *Asian Journal of Animal and Veterinary Advances* **4(6):306-313**.

Saunders, JM. 2012. Validation of co-oximetry for methemoglobin measurement in rainbow trout and the investigation of benzocaine as a cause of methemoglobin in salmonids. M.S. Thesis, University of Prince Edward Island, Canada.

Saydmohammed, M and Pal, AK. 2009. Anesthetic effect of eugenol and menthol on handling stress in *Macrobrachium rosenbergii*. *Aquaculture* **298(1-2):162-167**.

Shaluei, F, et al. 2012. Physiological responses of great sturgeon (*Huso huso*) to different concentrations of 2-phenoxyethanol as an anesthetic. *Fish Physiology and Biochemistry* **38(6):1627-1634**.

Sharif Rohani, M, et al. 2008. A study of the anesthetic effect of *Zataria multiflora* Boiss (Labiatae) essence on *Oncorhynchus mykiss* and cultured *Salmo trutta caspius*. *Iranian Scientific Fisheries Journal* **16(4):99-106**.

Silva, LL, et al. 2013. Sedative and anesthetic activities of the essential oils of *Hyptis mutabilis* (Rich.) Briq. and their isolated components in silver catfish (*Rhamdia quelen*). *Brazilian Journal of Medical and Biological Research* **46(9):771-779**.

Simoes, LN. 2011. Efficacy of clove oil as anesthetic in handling and transportation of Nile tilapia, *Oreochromis niloticus* (Actinopterygii: Cichlidae) juveniles. *Zoologia* **28(3):285-290**.

Simose, LN, et al. 2012. The use of clove oil as an anesthetic for advanced juvenile tilapia (*Oreochromis niloticus*). *Acta Scientiarum* **34(2):175-181**.

Sink, TD, et al. 2009. Stress response and posttransport survival of hybrid striped bass transported with or without clove oil. *North American Journal of Aquaculture* **71(3):267-275**.

Stockman, J, et al. 2013. Physiologic and biochemical measurements and response to noxious stimulation at various concentrations of MS-222 in Koi (*Cyprinus carpio*). *Veterinary Anaesthesia and Analgesia* **40(1):35-47**.

Suquet, M, et al. 2009. Anesthesia in Pacific oyster, *Crassostrea gigas*. *Aquatic Living Resources* **22(1):29-34**.

Suquet, M, et al. 2010. Anaesthesia and gonad sampling in the European flat oyster (*Ostrea edulis*). *Aquaculture* **308(3-4):196-198**.

Topic Popovic, N, et al. 2012. Tricaine methane-sulfonate (MS-222) application in fish anaesthesia. *Journal of Applied Ichthyology* **28(4):553-564**. **(review article)**

Trushenski, JT, et al. 2012. Chemical and electrical approaches to sedation of hybrid striped bass: induction, recovery, and physiological responses to sedation. *Transactions of the American Fisheries Society* **141(2):455-467**.

Trushenski, JT, et al. 2012. Induction, recovery, and hematological responses of largemouth bass to chemo- and electrosedation. *North American Journal of Aquaculture* **74(2):214-223**.

Trushenski, JT, et al. 2012. Chemical and electrical approaches to sedation of cobia: induction, recovery, and physiological responses to sedation. *Marine and Coastal Fisheries* **4(1):639-650**.

Trushenski, JT, et al. 2013. Issues regarding the use of sedatives in fisheries and the need for immediate-release options. *Transactions of the American Fisheries Society* **142(1):156-170**.

Tuckey, NPL, et al. 2010. Effects of rested harvesting on muscle metabolite concentrations and K-values in Chinook salmon (*Oncorhynchus tshawytscha*) fillets during storage at 15°C. *Journal of Food Science* **75(5):C459-C464**.

Tuckey, NPL, and Forgan, LG. 2012. A rapid and simple fluorometric method for quantifying isoeugenol in seawater and in plasma and white muscle from Australasian snapper (*Pagrus auratus*). *Food Chemistry* **133(4):1664-1670**.

Uçar, A, et al. 2013. Effects of anesthetic substances on some antioxidant enzyme activities of trouts. *Journal of Fisheries Sciences* **7(2):152-160**.

Veeck, APL, et al. 2013. Lipid stability during the frozen storage of fillets from silver catfish exposed *in vivo* to the essential oil of *Lippia alba* (Mill.) NE Brown. *Journal of the Science of Food and Agriculture* **93(4):955-960**.

Velisek, J, et al. 2009. Comparison of the effects of four anaesthetics on biochemical blood profiles of perch. *Aquaculture Research* **40(3):354-361**.

Velisek, J, et al. 2011. Comparison of the effects of four anaesthetics on blood biochemical profiles and oxidative stress biomarkers in rainbow trout. *Aquaculture* **310(3-4):369-375**.

Vera, LM, et al. 2010. MS-222 toxicity in juvenile seabream correlates with diurnal activity, as measured by a novel video-tracking method. *Aquaculture* **307(1-2):29-34**.

Vera, LM, et al. 2013. Effectiveness of the anaesthetic MS-222 in gilthead seabream, *Sparus aurata*: effect of feeding time and day-night variations in plasma MS-222 concentration and GST activity. *Physiology & Behavior* **110-111:51-57**.

Von Tungeln, LS, et al. 2011. Benzocaine-induced methemoglobinemia in an acute-exposure rat model. *Food and Chemical Toxicology* **49(10):2530-2535**.

Ward, JL, et al. 2012. Development of a minimum-anesthetic-concentration depression model to study the effects of various analgesics in goldfish (*Carassius auratus*). *Journal of Zoo and Wildlife Medicine* **43(2):214-222**.

Weber, RA, et al. 2009. The efficacy of 2-phenoxyethanol, metomidate, clove oil and MS-222 as anaesthetic agents in the Senegalese sole (*Solea senegalensis* Kaup 1858). *Aquaculture* **288(1-2):147-150**.

Weber, RA, et al. 2011. Effects of acute exposure to 2-phenoxyethanol, clove oil, MS-222, and metomidate on primary and secondary stress responses in Senegalese sole (*Solea senegalensis* Kaup 1858). *Aquaculture* **321(1-2):108-112**.

Woods, LC, et al. 2008. Efficacy of Aqui-S as an anesthetic for market-sized striped bass. *North American Journal of Aquaculture* **70(2):219-222**.

Zahl, IH, et al. 2009. Anaesthesia of Atlantic cod (*Gadus morhua*) - Effect of pre-anaesthetic sedation, and importance of body weight, temperature and stress. *Aquaculture* **295(1-2):52-59**.

Zahl, IH, et al. 2011. Anaesthesia of Atlantic halibut (*Hippoglossus hippoglossus*) – effect of pre-anaestheic sedation, and importance of body weight and water temperature. *Aquaculture Research* **42(9):1235-1245**.

Zahl, IH, et al. 2012. Anaesthesia of farmed fish: implications for welfare. *Fish Physiology and Biochemistry* **38(1):201-218**.

Skeletal Marking

Ambrose, WG, et al. 2012. Growth line deposition and variability in growth of two circumpolar bivalves (*Serripes groenlandicus*, and *Clinocardium ciliatum*). *Polar Biology* **35(3):345-354**.

Boglino, A, et al. 2013. High dietary arachidonic acid levels affect the process of eye migration and head shape in pseudoalbino Senegalese sole *Solea senegalensis* early juveniles. *Journal of Fish Biology* **83(5):1302-1320**. (alizarin red).

Booth, AJ, et al. 2011. Age validation, growth, mortality, and demographic modeling of spotted gully shark (*Triakis megalopterus*) from the southeast coast of South Africa. *Fishery Bulletin* **109(1):101-112**.

Brooke, S, and Young, CM. 2010. *In situ* measurement of survival and growth of *Lophelia pertusa* in the northern Gulf of Mexico. *Marine Ecology Progress Series* **397:153-161**.

Cameron, LM, et al. 2012. Optimising chemical marking techniques for Australian bass, *Macquaria novemaculeata*, fry and fingerlings prior to restocking. *Australian Journal of Zoology* **59(4):242-248**.

Carty, D, and Bowker, JD. 2013. A Terramycin 200 for Fish (44.09% oxytetracycline dihydrate) treatment regimen proposed for the fluorescent marking of rainbow trout vertebrae. *North American Journal of Aquaculture* **75(1):34-38**.

Caudron, A, and Champigneulle, A. 2009. Multiple marking of otoliths of brown trout, *Salmo trutta* L., with alizarin red S to compare efficiency of stocking of three early life stages. *Fisheries Management and Ecology* **16(3):219-224**.

Chang, W-C. 2011. Population size and stocking contribution rates for marked and recaptured black porgy, *Acanthopagrus schlegelli*, in northwestern Taiwan, 2005-2008. *Fisheries Research* **109(2-3):252-256**.

Crook, DA, et al. 2009. Development and evaluation of methods for osmotic induction marking of golden perch *Macquaria ambigua* with calcein and alizarin red S. North *American Journal of Fisheries Management* **29(2):279-287**.

Crumpton, RL, et al. 2012. Marking otoliths and fin spines of juvenile shortnose sturgeon with oxytetracycline and the effects of water temperature during treatment. *North American Journal of Fisheries Management* **32(3):523-527**.

Darias, MJ, et al. 2010. Double staining protocol for developing European sea bass (*Dicentrarchus labrax*) larvae. *Journal of Applied Ichthyology* **26(2):280-285**.

Devaux, A, et al. 2011. Reproduction impairment following paternal genotoxin exposure in brown trout (*Salmo trutta*) and Arctic charr (*Salvelinus alpinus*). *Aquatic Toxicology* **101(2):405-411**.

Dong, Z, et al. 2010. A fluorescent method for marking the cuttlefish, *Sepiella maindroni de rochebrune*. *Journal of Zhejiang Ocean University* **29(2):120-127**.

Dougherty, AB. 2008. Daily and sub-daily otolith increments of larval and juvenile walleye pollock, *Theragra chalcogramma* (Pallas), as validated by alizarin complexone experiments. *Fisheries Research* **90(1-3):271-278**.

Durham, BW and Wilde, GR. 2008. Validation of daily growth increment formation in the otoliths of juvenile cyprinid fishes from the Brazos River, Texas. *North American Journal of Fisheries Management* **28(2):442-446**.

Ebert, TA. 2010. Demographic patterns of the purple sea urchin *Strongylocentrotus purpuratus* along a latitudinal gradient, 1985-1987. *Marine Ecology Progress Series* **406:105-120**.

Eckmann, R. 2012. Massive stocking with hatchery larvae may constrain natural recruitment of whitefish stocks and induce unwanted evolutionary changes. *Advances in Limnology* **63:325-336**.

Elle, FS, et al. 2010. Evaluation of calcein as a mass mark for rainbow trout raised in outdoor hatchery raceways. *North American Journal of Fisheries Management* **30(6):1408-1412**.

Ellers, O, and Johnson, AS. 2009. Polyfluorochrome marking slows growth only during the marking month in the green sea urchin *Strongylocentrotus droebachiensis*. *Invertebrate Biology* **128(2):126-144**.

Farley, JH, et al. 2013. Age estimation and validation for South Pacific albacore *Thunnus alalunga*. *Journal of Fish Biology* **82(5):1523-1544**. (oxytetracycline).

Fitzpatrick, MP, et al. 2013. Efficacy of calcein as a chemical marker of green-lipped mussel (*Perna canaliculus*) larvae and its potential use for tracking larval dispersal. *Aquaculture Research* **44(3): 345-353**.

Fontagne, S, et al. 2009. Effects of dietary phosphorus and calcium level on growth and skeletal development in rainbow trout (*Oncorhynchus mykiss*) fry. *Aquaculture* **297(1-4):141-150**.

Fujiwara, K, et al. 2010. Multiple marking of alizarin complexone for the otolith of nigorobuna *Carassius auratus grandoculis* and estimation of individual size-at-release. *Nippon Suisan Gakkaishi* **76(4):637-645**.

Gardner, MJ, et al. 2013. Biological and genetic characteristics of restocked and wild *Acanthopagrus butcheri* (Sparidae) in a southwestern Australian estuary. *Reviews in Fisheries Science* **21(3-4):441-453**. (alizarin complexone)

Herrmann, M, et al. 2009. Growth estimations of the Argentinean wedge clam *Donax hanleyanus*: a comparison between length-frequency distribution and size-increment analysis. *Journal of Experimental Marine Biology and Ecology* **379(1-2):8-15**.

Hermans, J, et al. 2010. Growth rate and chemical features of the massive calcium carbonate skeleton of *Petrobiona massiliana* (Baeriida: Calcaronea: Calcispongiae). *Journal of the Marine Biological Association of the United Kingdom* **90(4):749-754**.

Hill, MS, and Quesada, CJ. 2010. Calcein mark retention in Chinook salmon and steelhead fry in artificial and natural rearing environments. *North American Journal of Fisheries Management* **30(6):1370-1375**.

Honeyfield, DC, et al. 2011. Dietary calcein marking of shovelnose sturgeon and the effect of sunlight on mark retention. *North American Journal of Aquaculture* **73(2):129-134**.

Ibáñez, AL, et al. 2013. Evaluation of marking efficiency of different alizarin red S concentrations on body fish structures in *Oreochromis niloticus* (Perciformes: Cichlidae) juveniles. *Revista de Biología Tropical* **61(1):193-201**.

Johnson, AS, et al. 2013. Externally visible fluorochrome marks and allometries of growing sea urchins. *Invertebrate Biology* **132(3):251-269**. (calcein, calcein blue, and tetracycline)

Johnson, JE, et al. 2010. Mass-marking reveals emerging self regulation of the Chinook salmon population in Lake Huron. *North American Journal of Fisheries Management* **30(2):518-529**.

Kanou, K, et al. 2009. Alizarin complexone staining of the otolith and scale of largemouth bass, *Micropterus salmoides*. *Journal of Fisheries Technology (Yokohama)* **1(2):71-75**.

Kuroki, M, et al. 2010. Validation and efficacy of transgenerational mass marking of otoliths in viviparous fish larvae. *Journal of Fish Biology* **77(1):292-298**.

Lartaud, F, et al. 2010. Experimental growth pattern calibration of Antarctic scallop shells (*Adamussium colbecki*, Smith 1902) to provide a biogenic archive of high-resolution records of environmental and climatic changes. *Journal of Experimental Marine Biology and Ecology* **393(1-2):158-167**.

Lederoun, D, et al. 2012. Postembryonic development of the cephalic skeleton in relation to external morphological changes in *Labeo parvus* (Ostariophysi, Cyprinidae). *Cybium* **36(2):383-396**.

Linard, C, et al. 2011. Calcein staining of calcified structures in pearl oyster *Pinctada margaritifera* and the effect of food resource level on shell growth. *Aquaculture* **313(1-4):149-155**.

Liu, Q, et al. 2009. The use of alizarin red S and alizarin complexone for immersion marking Japanese flounder *Paralichthys olivaceus* (T.). *Fisheries Research* **98(1-3):67-74**.

Lochet, A, et al. 2011. Detection of chemical marks for stocking purposes in sturgeon species. 2011. *Journal of Applied Ichthyology* **27(2):444-449**.

Logsdon, DE, and Pittman, BJ. 2012. Evaluation of osmotic induction of calcein treatments for marking juvenile walleyes. *North American Journal of Fisheries Management* **32(4):796-805**.

Meyer, S, et al. 2012. Sublethal effects of alizarin complexone marking on Baltic cod (*Gadus morhua*) eggs and larvae. *Aquaculture* **324–325:158-164**.

Michels, J, and Buentzow, M. 2010. Assessment of Congo red as a fluorescence marker for the exoskeleton of small crustaceans and the cuticle of polychaetes. *Journal of Microscopy* **238(2):95-101**.

Mohler, JW, and Bradley, KM. 2008. Removal of calcein in wastewater produced from the batch marking of fish. *North American Journal of Fisheries Management* **28(4):1177-1181**.

Morales-Nin, B, et al. 2010. Marking of otoliths, age validation and growth of *Argyrosomus regius* juveniles (Sciaenidae). *Fisheries Research* **106(1):76-80**.

Morales-Nin, B, et al. 2011. Oxytetracycline hydrochloride vital labeling revisited: the case of *Dicentrarchus labrax* and *Diplodus puntazzo*. *Journal of Fish Biology* **78:762-782**.

Nakaya, M, et al. 2008. Validation of otolith daily increments for larval and juvenile Japanese halfbeak *Hyporhamphus sajori*. *Fisheries Research* **93(1-2):186-189**.

Noda, T. et al. 2011. A comparison of remaining rates of pelvic fin removal markings between tank-reared groups and released-landed groups of black rockfish, *Sebastes schlegeli*. *Journal of Fisheries Technology (Yokohama)* **3(2):127-130**.

Parkinson, KL, et al. 2012. Validation of otolith daily increment formation for two temperate syngnathid fishes: the pipefishes *Stigmatopora argus* and *Stigmatopora nigra*. *Journal of Fish Biology* **80(3):698-704**.

Pierce, SJ, and Bennett, MB. 2010. Validated annual band-pair periodicity and growth parameters of blue-spotted maskray *Neotrygon kuhlii* from south-east Queensland, Australia. *Journal of Fish Biology* **75(10):2490-2508**.

Poulain, C, et al. 2011. An environmentally induced tidal periodicity of microgrowth increment formation in subtidal populations of the clam *Ruditapes philippinarum*. *Journal of Experimental Marine Biology and Ecology* **397(1):58-64**.

Pratt, TC, and Threader, RW. 2011. Preliminary evaluation of a large-scale American eel conservation stocking experiment. *North American Journal of Fisheries Management* **31(4):619-628**.

Purcell, SW, and Blockmans, BF. 2009. Effective fluorochrome marking of juvenile sea cucumbers for sea ranching and restocking. *Aquaculture* **296(3-4):263-270**.

Russell, DJ, et al. 2013. Age and growth of two newly established invasive populations of *Tilapia mariae* in northern Australia. *Journal of Fish Biology* **82(4):1211-1225**.

Shippentower, GE, et al. 2012. Who's your mama? Recognizing maternal origin of juvenile steelhead using injections of strontium chloride to create transgenerational marks. *Transactions of the American Fisheries Society* **140(5):1330-1339**.

Simon, J, et al. 2009. Growth and mortality of European glass eel *Anguilla anguilla* marked with oxytetracycline and alizarin red. *Journal of Fish Biology* **74(1):289-295**.

Smith, JE, et al. 2010. An osmotic induction method for externally marking saltwater fishes, *Stigmatopora argus* and *Stigmatopora nigra*, with calcein. J*ournal of Fish Biology* **76(4):1055-1060**.

Snover, ML, et al. 2011. Validation of annual skeletal marks in green sea turtles *Chelonia mydas* using tetracycline labeling. *Aquatic Biology* **12(3):197-204**.

Torao, M, et al. 2010. Seasonal timing of downstream migration and migrating speed of the hatchery and wild pink salmon, *Oncorhynchus gorbuscha*, fry in the Tohoro River, eastern Hokkaido, Japan. *Scientific Reports of the Hokkaido Fish Hatchery* **64:7-15**.

Treble, MA, et al. 2008. Growth analysis and age validation of a deepwater Arctic fish, the Greenland halibut (*Reinhardtius hippoglossoides*). *Canadian Journal of Fisheries and Aquatic Sciences* **65(6):1047-1059**.

van der Geest, M, et al. 2011. Suitability of calcein as an in situ growth marker in burrowing bivalves. *Journal of Experimental Marine Biology and Ecology* **399(1):1-7**.

Verreault, G, et al. 2010. First record of migrating silver American eels (*Anguilla rostrata*) in the St. Lawrence Estuary originating from a stocking program. *Journal of Great Lakes Research* **36(4):794-797**.

Walsh, CT, et al. 2010. Growth, episodic recruitment and age truncation in populations of a catadromous percichthyid, *Macquaria colonorum*. *Marine & Freshwater Research* **61(4):397-407**.

Wells, RJD, et al. 2013. Age validation of juvenile shortfin mako (*Isurus oxyrinchus*) tagged and marked with oxytetracycline off southern California. *Fishery Bulletin* **111(2):147-160**.

Xi, Yang. 2013. Characterization of zebrafish mutants with defects in bone calcification during development. *Biochemical and Biophysical Research Communications* **440(1):132-136**. (calcein and alcian blue)

Spawning Hormones and Sex Manipulation

Adebayo, OT, and Popoola, OM. 2008. Comparative evaluation of efficacy and cost of synthetic and non-synthetic hormones for artificial breeding of African catfish, *Clarias gariepinus* (Burchell, 1822). *Journal of Fisheries and Aquatic Science* **3(1):66-71**.

Adebayo, OT, and Fatoyinbo, OA. 2010. Effect of storage period on the efficacy of African bull frog pituitary extract for induced spawning of *Clarias gariepinus* [African catfish]. *International Journal of Zoological Research* **6(4):369-372**.

Aflalo, ED, et al. 2012. Toward a sustainable production of genetically improved all-male prawn (*Macrobrachium rosenbergii*): evaluation of production traits and obtaining neo-females in three Indian strains. *Aquaculture* **338-341:197-207**.

Ahmed, AS, et al. 2011. Activation of GH signaling and GH-independent stimulation of growth in zebrafish by introduction of a constitutively activated GHR construct. *Transgenic Research* **20(3):557-67**.

Al-Ansari, AM, et al. 2011. The development of an optimized sample preparation for trace level detection of 17 alpha-ethinylestradiol and estrone in whole fish tissue. *Journal of Chromatography B* **879(30):3649-3652**.

Alavi, SMH, et al. 2012. Sperm characteristics and androgens in *Acipenser ruthenus* after induction of spermiation by carp pituitary extract or GnRHa implants. *Fish Physiology and Biochemistry* **38(6):1655-1661**.

Amarasinghe, K, et al. 2012. Development of a fast screening and confirmatory method by liquid chromatography-quadrupole-time-of-flight mass spectrometry for glucuronide-conjugated methyltestosterone metabolite in tilapia. *Journal of Agricultural and Food Chemistry* **60(20):5084-5088**.

Andersson, E, et al. 2103. Pituitary gonadotropin and ovarian gonadotropin receptor transcript levels: seasonal and photoperiod-induced changes in the reproductive physiology of female Atlantic salmon (*Salmo salar*). *General and Comparative Edocrinology* **191:247-258**.

Aranda, G, et al. 2011. GnRHa-induced spawning in cage-reared Atlantic Bluefin tuna: an evaluation using stereological quantification of ovarian post-ovulatory follicles. *Aquaculture* **317(1-4):255-259**.

Arantes, FP, et al. 2013. Spawning induction and fecundity of commercial native fish species from the São Francisco River basin, Brazil, under hatchery conditions. *Agricultural Sciences* **4(8):382-388**.

Arski, D, et al. 2013. Effect of different commercial spawning agents and thermal regime on the effectiveness of pikeperch, *Sander lucioperca* (L.), reproduction under controlled conditions. *Aquaculture International* **21(4):819-828**.

Babiak, J, et al. 2012. Induced sex reversal using an aromatase inhibitor, fadrozole, in Atlantic halibut (*Hippoglossus hippoglossus* L.). *Aquaculture* **324-325:276-280**.

Baek, HJ, et al. 2011. Effects of nonylphenol and 3,3',4,4',5-pentachlorobiphenyl on in vitro oocyte steroidogenesis in redlip mullet, *Chelon haematocheilus. Animal Cells and Systems* **15(3):189-196**.

Baumann, L, et al. 2013. The maturity index as a tool to facilitate the interpretation of changes in vitellogenin production and sex ratio in the fish sexual development test. *Aquatic Toxicology* **128-129:34-42**.

Beaven, U, and Muposhi, V. 2012. Aspects of a monosex population of *Oreochromis niloticus* fingerlings produced using 17-α methyltestosterone hormone. *Journal of Aquaculture Research and Development* **3(3): Article No. 132 (5 pages)**.

Belanger, R, et al. 2010. Methyltestosterone-induced changes in electro-olfactogram responses and courtship behaviors of cyprinids. *Chemical Senses* **35(1):65-74**.

Black, BJ, and Black, M. 2013. Efficacy of two exogenous hormones (GnRHa and hCG) for induction of spontaneous spawning in captive yellowfin bream, *Acanthopagrus australis* (Sparidae) and influence of sex ratio on spawning success. *Aquaculture* **416-417:105-110**.

Botero, MC. 2011. Exposure of red tilapia (*Oreochromis* spp.) eggs to 17 alpha- methyltestosterone and the sex ratio of the fish offspring. *Revista Colombiana de Ciencias Pecuarias* **24(1):38-47**.

Boza Abarca, J, et al. 2011. Hormone-induced spawning of wild and captive-grown spotted rose snapper *Lutjanus guttatus* using carp pituitary suspension and human chorionic gonadotropin. *Ciencias Marinas* **37(2):125-139**.

Cabas, I, et al. 2011. Dietary intake of 17 alpha-ethinylestradiol promotes leukocytes infiltration in the gonad of the hermaphrodite gilthead seabream. *Molecular Immunology* **48(15-16):2079-2086**.

Cabrita, E, et al. 2009. Successful cryopreservation of sperm from sex-reversed dusky grouper *Epinephelus marginatus*. *Aquaculture* **287(1-2):152-157**.

Cejko, B, et al. 2011. Effect of time after hormonal stimulation on semen quality indicators of common carp, *Cyprinus carpio* (Actinopterygii: Cypriniformes: Cyprinidae). *Acta Ichthyologica Et Piscatoria* **41(2):75-80**.

Cejko, B, et al. 2012. The effectiveness of hormonal preparations (Ovopel, Ovaprim, LHRHa, hCG and CPE) in stimulating spermiation in dace *Leuciscus leuciscus* (L.). *Journal of Applied Ichthyology* **28(6):873-877**.

Celik, I. 2011. Effect of orally-administered 17 alpha-methyltestosterone at different doses on the sex reversal of the Nile tilapia (*Oreochromis niloticus*, Linneaus 1758). *Journal of Animal and Veterinary Advances* **10(7):853-857**.

Chakraborty, SB, et al. 2011. Growth of mixed-sex and monosex Nile tilapia in different culture systems. *Turkish Journal of Fisheries and Aquatic Sciences* **11(1):133-140**.

Chakraborty, SB, et al. 2011. Increased androgen receptor expression in muscle tissue contributing to growth increase in androgen-treated Nile tilapia. *Aquaculture International* **19(6):1119-1137**.

Chand, BK, et al. 2011. Studies on the breeding of *Pangasius sutchi* using different inducing agents. *Journal of Applied Aquaculture* **23(1):32-40**.

Chen, H, et al. 2011. Molecular cloning, characterization and expression profiles of three estrogen receptors in protogynous hermaphroditic orange-spotted grouper (*Epinephelus coioides*). *General and Comparative Endocrinology* **172(3):371-381**.

Chen, J. 2010. Analysis of false-positive reaction for HPLC determination of 17- methyltestosterone in aquatic product by HPLC. *South China Fisheries Science* **6(6):74-76**.

Christopher, JG, et al. 2011. Optimization of artificial fertilization in the stinging catfish heteropneustes fossilis (Bloch). *Zygote* **19(1):63-6**.

Correia, TG, et al. 2010. Aluminum as an endocrine disruptor in female Nile tilapia (*Oreochromis niloticus*). *Comparative Biochemistry and Physiology, Part C: Toxicology & Pharmacology* **151(4):461-466**.

Criscuolo-Urbinati, E, et al. 2012. The administration of exogenous prostaglandin may improve ovulation in pacu (*Piaractus mesopotamicus*). *Theriogenology* **78(9):2087-2094**.

Cuevas-Uribe, R, et al. 2009. Progress in studies on hormonal sex reversal and genetic sex control in black crappie. *Reviews in Fisheries Science* **17(1):1-7**.

Dada, AA, and Ogunduyile, FD. 2011. Effects of velvet bean (*Mucuna pruriens*) on sperm quality of african catfish, *Clarias gariepinus* (Burchell, 1822) broodstock. *Journal of Fisheries and Aquatic Science* **6(6):655-661**.

Dhara, K, and Saha, NC. 2013. Controlled breeding of Asian catfish *Clarias batrachus* using pituitary gland extracts and Ovaprim at different temperatures, latency periods and their early development. *Journal of Aquaculture Research & Development* **4(4): Article No. 1000186 (9 pages)**.

Drummond, CD, et al. 2009. Growth and survival of tilapia *Oreochromis niloticus* (Linnaeus, 1758) submitted to different temperatures during the process of sex reversal. *Cienciae Agrotecnologia* **33(3):895-902**.

Dzieweczynski, TL. 2011. Short-term exposure to an endocrine disruptor affects behavioural consistency in male threespine stickleback. *Aquatic Toxicology* **105(3-4):681-687**.

Dzyuba, B, et al. 2012. Spermatozoa motility, cryoresistance, and fertilizing ability in sterlet *Acipenser ruthenus* during sequential stripping. *Aquaculture* **356-357:272-278**.

El-Greisy, ZA, and El-Gamal, AE. 2012. Monosex production of tilapia, *Oreochromis niloticus*, using different doses of 17α-methyltestosterone with respect to the degree of sex stability after one year of treatment. *The Egyptian Journal of Aquatic Research* **38(1):59-66**.

El-Hawarry, WN, et al. 2012. Induced spawning of silver carp, *Hypophthalmichthys molitrix*, using hormones/hormonal analogue with dopamine antagonists. *Online Journal of Animal and Feed Research* **2(1):58-63**.

El-Sayed, A-F, et al. 2012. Effects of phytoestrogens on sex reversal of Nile tilapia (*Oreochromis niloticus*) larvae fed diets treated with 17α-methyltestosterone. *Aquaculture* **360–361:58-63**.

Elmdoust, ARA. 2011. Masculinization of blue hap (*Sciaenochromis ahli*) treated with 17 alpha-methyltestosterone. *Journal of Agricultural Science and Technology* **13(2):173-180**.

Espinosa, E, et al. 2011. Sex steroid levels in XY males and sex-reversed XX males, of rainbow trout (*Oncorhynchus mykiss*), during the reproductive cycle. *Reproduction in Domestic Animals* **46(1):8-14**.

Farmer, JL, and Orlando, EF. 2012. Creating females? Developmental effects of 17α-ethynylestradiol on the *Mangrove rivulus'* ovotestis. *Integrative and Comparative Biology* **52(6):769-780**.

Felizardo, VO, et al. 2012. Effect of timing of hormonal induction on reproductive activity in lambari (*Astyanax bimaculatus*). *Theriogenology* **77(8):1570-1574**.

Gao, Z-X, et al. 2010. Effects of a nonsteroidal aromatase inhibitor on gonadal differentiation of bluegill sunfish *Lepomis macrochirus*. *Aquaculture Research* **41(9):1282-1289**.

Gennotte, V. 2012. Sperm quality analysis in XX, XY and YY males of the Nile tilapia (*Oreochromis niloticus*). *Theriogenology* **78(1):210-217**.

Garber, AF, et al. 2009. Hormonal induction of ovulation and spermiation in Atlantic cod (*Gadus morhua*). *Aquaculture* **296(1-2):179-183**.

Gomes, RZ, et al. 2013. Early development of *Brycon orthotaenia* (Pisces: Characidae). *Zygote* **21(1):11-20**.

Green, BW, and Teichert-Coddington, DR. 2000. Human food safety and environmental assessment of the use of 17α-methyltestosterone to produce male tilapia in the United States. *Journal of the World Aquaculture Society* **31(3):337-357**.

Guzmán, JM, et al. 2011. Comparative effects of human chorionic gonadotropin (hCG) and gonadotropin-releasing hormone agonist (GnRHa) treatments on the stimulation of male Senegalese sole (*Solea semegalensis*) reproduction. *Aquaculture* **316(1-4):121-128**.

Haffray, P, et al. 2009. Successful production of monosex female brook trout *Salvelinus fontinalis* using gynogenetic sex reversed males by a combination of methyltestosterone immersion and oral treatments. *Aquaculture* **290(1-2): 47-52**.

Haffray, P, et al. 2009. Genetic determination and temperature effects on turbot *Scophthalmus maximus* sex differentiation: an investigation using steroid sex-inverted males and females. *Aquaculture* **294(1-2):30-36**.

Hallgren, S, et al. 2011. Anxiogenic behaviour induced by 17 alpha-ethynylestradiol in male guppies (*Poecilia reticulata*). *Fish Physiology and Biochemistry* **37(4):911-918**.

Hano, T, et al. 2011. Evaluation of the effects of ethinylestradiol on sexual differentiation in the olvas-GFP/STII-YI medaka (transgenic *Oryzias latipes*) strain as estimated by proliferative activity of germ cells. *Aquatic Toxicology* **104(3-4):177-184**.

Haugen, T, et al. 2011. The production of hermaphrodites of Atlantic cod (*Gadus morhua*) by masculinization with orally administered 17-alpha-methyltestosterone, and subsequent production of all-female cod populations. *Aquaculture* **311(1-4):48-254**.

Hayashi, Y, et al. 2010. High temperature causes masculinization of genetically female medaka by elevation of cortisol. *Molecular Reproduction and Development* **77(8):679-686**.

Hill, H, et al. 2013. Influence of lineage, broodstock conditioning, and hormone injection on Gila trout reproductive success and egg fatty acid composition. *North American Journal of Aquaculture* **75(3):393-403**.

Hill, JE, et al. 2009. Survey of Ovaprim use as a spawning aid in ornamental fishes in the United States as administered through the University of Florida Tropical Aquaculture Laboratory. *North American Journal of Aquaculture* **71(3):206-209**.

Homklin, S, et al. 2009. Biodegradation of 17 alpha-methyltestosterone and isolation of MT- degrading bacterium from sediment of a Nile tilapia masculinization pond. *Water Science & Technology* **59(2):261-265**.

Homklin, S, et al. 2011. Biotransformation of 17-alpha-methyltestosterone in sediment under different electron acceptor conditions. *Chemosphere* **82(10):1401-1407**.

Homklin, S, et al. 2012. Degradation of 17α-methyltestosterone by *Rhodococcus* sp. and *Nocardioides* sp. isolated from a masculinizing pond of Nile tilapia fry. *Journal of Hazardous Materials* **221-222:35-44**.

Horváth, LL, et al. 2011. Induced oogenesis of the European eel (*Anguilla anguilla* L.) in freshwater condition. *Acta Biologica Hungarica* **62(4):485-488**.

Hu, XS. 2011. Expression profiles of gonadotropins and their receptors during 17- methyltestosterone implantation-induced sex change in the orange-spotted grouper (*Epinephelus coioides*). *Molecular Reproduction and Development* **78(6):376-390**.

Hulak, M, et al. 2010. Morphological sex change upon treatment by endocrine modulators in meiogynogenetic tench (*Tinca tinca* L.). *Aquaculture Research* **41(2):233-239**.

Ibarra-Castro, L, and Alvarez-Lajonchère, L. 2011. GnRHa-induced multiple spawns and volition spawning of captive spotted rose snapper, *Lutjanus guttatus*, at Mazatlan, Mexico. *Journal of the World Aquaculture Society* **42(4):564-574**.

Ibarra-Castro, L, et al. 2011. GnRHa-induced spawning with natural fertilization and pilot-scale mass production of common snook, *Centropomus undecimalis* (Bloch 1792). *Aquaculture* **319 (3-4):479-483**.

Jeng, S-R, et al. 2012. Differential regulation of the expression of cytochrome P450 aromatase, estrogen and androgen receptor subtypes in the brain-pituitary-ovarian axis of the Japanese eel (*Anguilla japonica*) reveals steroid dependent and independent mechanisms. *General and Comparative Endocrinology* **175(1):163-172**.

Jiang, W, et al. 2011. Effects of sexual steroids on the expression of foxl2 in *Gobiocypris rarus*. *Comparative Biochemistry & Physiology Part B* **160(4):187-193**.

Kagawa, H, et al. 2013. Mechanism of oocyte maturation and ovulation and its application to seed production in the Japanese eel. *Fish Physiology and Biochemistry* **39(1):13-7**.

Kamaruzzaman, N, et al. 2009. Growth performance of mixed sex, hormonally sex reversed and progeny of YY male tilapia of the GIFT strain, *Oreochromis niloticus*. *Aquaculture Research* **40(6):720-728**.

Kanamori, A, and Toyama, K. 2013. A transgenic medaka line with visible markers for genotypic and phenotypic sex. *Environmental Science & Technology* **47(12):6640-6645**.

Kang, IJ, et al. 2008. The effects of methyltestosterone on the sexual development and reproduction of adult medaka (*Oryzias latipes*). *Aquatic Toxicology* **87(1):37-46**.

Kaptaner, B, and Unal, G. 2011. Effects of 17 alpha-ethynylestradiol and nonylphenol on liver and gonadal apoptosis and histopathology in *Chalcalburnus tarichi*. *Environmental Toxicology* **26(6):610-622**.

Karami, A, et al. 2011. Ovaprim treatment promotes oocyte development and milt fertilization rate in diploid and triploid African catfish (*Clarias gariepinus*). *Aquaculture International* **19(6):1025-1034**.

Kausar, N, et al. 2013. Status of whole body cortisol and total protein content in eggs, embryos and larvae of silver carp (*Hypophthalmichthys molitrix*). *International Journal of Agriculture and Biology* **15(2):252-258**. (Ovaprim)

Kim, NN, et al. 2013. Molecular cloning and expression of caspase-3 in the protandrous cinnamon clownfish, *Amphiprion melanopus*, during sex change. *Fish Physiology and Biochemistry* **39(3):417-429**.

Kipouros, K, et al. 2011. Masculinization of the ornamental Siamese fighting fish with oral hormonal administration. *ScienceAsia* **37(3):277-280**.

Kitano, T, et al. 2012. Estrogen rescues masculinization of genetically female medaka by exposure to cortisol or high temperature. *Molecular Reproduction and Development* **79(10):719-726**.

Kobayashi, H, et al. 2011. Effects of co-administration of estrogen and androgen on induction of sex reversal in the medaka *Oryzias latipes*. *Zoological Science* **28(5):355-359**.

Kohn, YY. 2013. The effects of 11-ketotestosterone on ovarian physiology of previtellogenic captive hapuku (*Polyprion oxygeneios*). *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* **166(3):496-502**.

Kowalski, R, et al. 2012. Quality and quantity of smelt (*Osmerus eperlanus* L.) sperm in relation to time after hormonal stimulation. *Reproductive Biology* **12(2):231-246**.

Krol, J, et al. 2009. The effects of commercial preparations containing two different GnRH analogues and dopamine antagonists on spermiation and sperm characteristics in the European smelt *Osmerus eperlanus* (L.). *Aquaculture* **286(3-4):328-331**.

Kujawa, R, et al. 2011. Artificial spawning of common tench, *Tinca tinca* (Linnaeus, 1758), obtained from wild and domestic stocks. *Aquaculture International* **19(3):513-521**.

Kuramochi, A, et al. 2011. Sexual dimorphism of gonadotropin-releasing hormone Type-III (GnRH3) neurons and hormonal sex reversal of male reproductive behavior in Mozambique tilapia. *Zoological Science* **28(10):733-739**.

Kuzminski, H and Dobosz, S. 2010. Effect of sex reversal in rainbow trout (*Oncorhynchus mykiss* Walbaum) using 17-alfa-methyltestosterone and 11-beta-hydroxyandrostenedione. *Archives of Polish Fisheries* **18(1):45-49**.

Legendre, M, et al. 2012. Biology and culture of the clown loach *Chromobotia macracanthus* (Cypriniformes, Cobitidae): 1-hormonal induced breeding, unusual latency response and egg production in two populations from Sumatra and Borneo Islands. *Aquatic Living Resources* 25**(2):95-108**.

Lehnert, SJ, et al. 2012. Sperm trait differences between wild and farmed Chinook salmon (*Oncorhynchus tshawytscha*). *Aquaculture* **344-349:242-247**.

Lei, B, et al. 2013. β-estradiol 17-valerate affects embryonic development and sexual differentiation in Japanese medaka (*Oryzias latipes*). *Aquatic Toxicology* **134-135:128-134**.

Li, M, et al. 2013. Molecular cloning and characterization of amh, dax1 and cyp19a1a genes and their response to 17α-methyltestosterone in Pengze crucian carp. *Comparative Biochemistry and Physiology—Toxicology & Pharmacology* **157(4):372-381**.

Li, M-H, et al. 2013. Antagonistic roles of dmrt1 and foxl2 in sex differentiation via estrogen production in tilapia as demonstrated by TALENs. *Endocrinology* **154(12):4814-4825**.

Li, SW, et al. 2009. Analysis of differential expression and characterization of PIN in the gonads during sex reversal in the red-spotted grouper. *Molecular and Cellular Endocrinology* **309(1-2):32-38**.

Liarte, S, et al. 2011. Natural and synthetic estrogens modulate the inflammatory response in the gilthead seabream (*Sparus aurata* L.) through the activation of endothelial cells. *Molecular Immunology* **48(15-16):1917-1925**.

Lim, H, and Sorensen, PW. 2011. Polar metabolites synergize the activity of prostaglandin F.sub. 2[alpha] in a species-specific hormonal sex pheromone released by ovulated common carp. *Journal of Chemical Ecology* **37(7):695-704**.

Lin, BL, et al. 2009. The fragmented testis method: development and its advantages of a new quantitative evaluation technique for detection of testis-ova in male fish. *Ecotoxicology and Environmental Safety* **72(2):286-292**.

Lin, S, et al. 2012. Hormonal sex reversal in Atlantic cod, *Gadus morhua*. *Aquaculture* **364–365:192-197**.

Liñán-Cabello, MA, et al. 2013. Somatic growth effects of intramuscular injection of growth hormone in androgen-treated juvenile Nile tilapia, *Oreochromis niloticus* (Perciformes: Cichlidae). *Revista de Biología Tropical* **61(1):203-212**.

Liu, H, et al. 2013. Genetic manipulation of sex ratio for the large-scale breeding of YY super-male and XY all-male yellow catfish (*Pelteobagrus fulvidraco* (Richardson)). *Marine Biotechnology* **15(3):321-328**.

Liu, X-L, et al. 2013. Artificial propagation and embryonic development observation of Mandarin fish. *Journal of Guangxi Normal University (Natural Science Edition)* **31(2):100-106**.

Luo, KK. 2011. Massive production of al-female diploids and triploids in the Crucian carp. *International Journal of Biological Sciences* **7(4):487-495**.

Luo, Y-S, et al. 2010. Molecular cloning and mRNA expression pattern of Sox9 during sex reversal in orange-spotted grouper (*Epinephelus coioides*). *Aquaculture* **306(1-4):322-328**.

Maria, AN, et al. 2012. Hormonal induction and semen characteristics of tambaqui *Colossoma macropomum*. *Zygote* **20(1):39-43**.

Martyniuk, CJ, and Denslow, ND. 2012. Exploring androgen-regulated pathways in teleost fish using transcriptomics and proteomics. *Integrative and Comparative Biology* **52(5):695-704**.

Mathew, G. 2011. Gonadal restructuring during sex transformation in the protogynous greasy grouper *Epinephelus tauvina* (Forsskal) (Perciformes: Serranidae). *Indian Journal of Fisheries* **58(1):39-43**.

Mazzeo, I, et al. 2012. Variations in the gene expression of zona pellucida proteins, zpbandzpc, in female European eel (*Anguilla anguilla*) during induced sexual maturation. *General and Comparative Endocrinology* **178(2):338-346**.

Migaud, H, et al. 2013. Gamete quality and broodstock management in temperate fish. *Reviews in Aquaculture* **5:194-S223**.

Mortensen, AS. 2011. Tissue bioaccumulation patterns, xenobiotic biotransformation and steroid hormone levels in Atlantic salmon (*Salmo salar*) fed a diet containing perfluoroactane sulfonic or perfluorooctane carboxylic acids. *Chemosphere* **83(8):1035-1044**.

Mubarik, MS. 2011. 17 alpha-methyltestosterone induced masculinization and its effect on growth and meat quality of *Cyprinus carpio*. *International Journal of Agriculture and Biology* **13(6):971-975**.

Murata, R, et al. 2010. Precocious sex change and spermatogenesis in the underyearling Malabar grouper *Epinephelus malabaricus* by androgen treatment. *Aquaculture Research* **41(2):303-308**.

Mylonas, CC, et al. 2013. Reproduction of hatchery-produced meagre *Argyrosomus regius* in captivity II. Hormonal induction of spawning and monitoring of spawning kinetics, egg production and egg quality. *Aquaculture* **414-415:318-327**.

Naeem M, et al. 2011. Breeding performance of sustainable fish *Ctenopharyngodon idella* through single intramuscular injection of ovaprim-C at Bahawalpur, Pakistan. *African Journal of Biotechnology* **10(57):12315-12318**.

Naeem M, et al. 2011. Induced spawning, fecundity, fertilization rate and hatching rate of grass carp (*Ctenopharyngodon idella*) by using a single intramuscular injection of ovaprim-C at a fish hatchery Faisalabad, Pakistan. *African Journal of Biotechnology* **10(53):11048-11053**.

Nallani, GC. 2012. Tissue-specific uptake and bioconcentration of the oral contraceptive norethindrone in two freshwater fishes. *Archives of Environmental Contamination and Toxicology* **62(2):306-313**.

Navarro-Martín, L, et al. 2009. Balancing the effects of rearing at low temperature during early development on sex ratios, growth and maturation in the European sea bass (*Dicentrarchus labrax*). *Aquaculture* **296(3-4):347-358**.

Noori, A, et al. 2010. LHRHa-induced ovulation of the endangered Caspian brown trout (*Salmo trutta caspius*) and its effect on egg quality and two sex steroids: testosterone and 17 alpha–hydroxyprogestrone. *Aquaculture Research* **41(6):871-877**.

Nynca, J, et al. 2012. Biochemical and physiological characteristics of semen of sex-reversed female rainbow trout (*Oncorhynchus mykiss*, Walbaum). *Theriogenology* **77(1):174-183**.

Nynca, J, et al. 2012. Changes in sperm parameters of sex-reversed female rainbow trout during spawning season in relation to sperm parameters of normal males. *Theriogenology* **77(7):1381-1389**.

Nyuji, M, et al. 2013. GnRHa-induced spawning of wild-caught jack mackerel *Trachurus japonicas*. Fisheries Science **79(2):251-258**.

Ogawa, A, et al. 2011. Induction of ovulation in *Xenopus* without hCG injection: the effect of adding steroids into the aquatic environment. *Reproductive Biology & Endocrinology* **9(1):1-6**.

Olaniyi, CO, and Akinbola, DO. 2013. Comparative studies on the hatchability, performance and survival rate of African catfish (*Clarias gariepinus*) larval produced using Ovaprim and catfish pituitary extract hormones. *Journal of Biology, Agriculture and Healthcare* **3(9):57-62**.

Olumuji, OK, and Mustapha, MK. 2012. Induced breeding of African mud catfish, *Clarias gariepinus* (Burchell 1822), using different doses of normal saline diluted Ovaprim. *Journal of Aquaculture Research & Development* **3(4): Article No. 133 (3 pages)**.

Ong, SK, et al. 2012. Sorption of 17α-methyltestosterone onto soils and sediment. *Water, Air, & Soil Pollution* **223(7):3869-3875**.

Orlu, EE, and Ogbalu, OK. 2011. Effect of sublethal concentrations of *Lepidagathis alopecuroides* (vahl) on sperm quality, fertility and hatchability in gravid *Clarias gariepinus* (burcheli, 1822) broodstock. *Research Journal of Environmental Toxicology* **5(2):117-124**.

Owodeinde, FG, et al. 2013. Survival, growth and feed utilization of the reciprocal hybrids of *Clarias gariepinus* (Burchell, 1822) and *Heterobranchus bidorsalis* (Geoffroy, 1809) in concrete tanks. *Journal of Fisheries and Aquatic Science* **8(1):122-128**.

Palaiokostas, C, et al. 2013. Mapping and validation of the major sex-determining region in Nile Tilapia (*Oreochromis niloticus* L.) using RAD sequencing. *PLoS One* **8(7):e68389**.

Park, C-b, et al. 2013. Transient effects of methyltestosterone injection on different reproductive parameters of the hermaphrodite fish *Kryptolebias marmoratus*. *Ecotoxicology* **22(7):1145-54**.

Park, J-W, et al. 2011. The association between nC(60) and 17 alpha-ethinylestradiol (EE2) decreases EE2 bioavailability in zebrafish and alters nanoaggregate characteristics. *Nanotoxicology* **5(3):406-416**.

Paulos, P, et al. 2010. Reproductive responses in fathead minnow and Japanese medaka following exposure to a synthetic progestin, norethindrone. *Aquatic Toxicology* **99(2):256-262**.

Paul-Prasanth, B, et al. 2011. Exposure to diethylstilbestrol during embryonic and larval stages of medaka fish (*Oryzias latipes*) leads to sex reversal in genetic males and reduced gonad weight in genetic females. *Endocrinology* **152(2):707-717**.

Pérez, LL, et al. 2011. Influence of temperature regime on endocrine parameters and vitellogenesis during experimental maturation of European eel (*Anguilla anguilla*) females. *General and Comparative Endocrinology* **174(1):51-59**.

Pham, HQ, and Arukwe, A. 2013. Effects of dopamine 2 receptor antagonist on sex steroid levels, oocyte maturation and spawning performances in Waigieu seaperch (*Psammoperca waigiensis*). *Fish Physiology and Biochemistry* **39(2):403-411**.

Phelps, RP and Okoko, M. 2011. A non-paradoxical dose response to 17 alpha- methyltestosterone by Nile tilapia *Oreochromis niloticus* (L.): effects on the sex ratio, growth and gonadal development. *Aquaculture Research* **42(4):549-558**.

Phumyu, N, et al. 2012. Pubertal effects of 17α-methyltestosterone on GH-IGF-related genes of the hypothalamic-pituitary-liver-gonadal axis and other biological parameters in male, female and sex-reversed Nile tilapia. *General & Comparative Endocrinology* **177(2):278-292**.

Piau, R Jr., et al. 2012. Morphometry of white muscle fibers and performance of Nile tilapia (*Oreochromis niloticus*) fingerlings treated with methyltestosterone or a homeopathic complex. *Homeopathy* **101(3):154-158**.

Podhorec, P, et al. 2012. The effects of water temperature and hormone treatments on circulating LH and ovulation in tench (*Tinca tinca*). *Reviews in Fish Biology and Fisheries* **22(3):791-796**.

Pompini, M, et al. 2013. Temperature-induced sex reversal is not responsible for sex-ratio distortions in grayling *Thymallus thymallus* or brown trout *Salmo trutta*. *Journal of Fish Biology* **83(2):404-411**.

Rasines, I, et al. 2013. Artificial fertilisation of cultured Senegalese sole (*Solea senegalensis*): effects of the time of day of hormonal treatment on inducing ovulation. *Aquaculture* **392-395:94-97**.

Razmi, K, et al. 2011. Hormonal sex reversal of rainbow trout (*Oncorhynchus mykiss*) by ethynylestradiol-17 α (EE2). *Iranian Journal of Fisheries Sciences* **10(2):304-315**.

Reyhanian, N, et al. 2011. 17 alpha-ethinyl estradiol affects anxiety and shoaling behavior in adult male zebra fish (*Danio rerio*). *Aquatic Toxicology* **105(1-2):41-48**.

Ribeiro, C, et al. 2012. In vitro exposure of Nile tilapia (*Oreochromis niloticus*) testis to estrogenic endocrine disrupting chemicals: mRNA expression of genes encoding steroidogenic enzymes. *Toxicology Mechanisms and Methods* **22(1):47-53**.

Rivero-Wendt, CLG. 2013. Cytogenetic toxicity and gonadal effects of 17 α-methyltestosterone in *Astyanax bimaculatus* (Characidae) and *Oreochromis niloticus* (Cichlidae). *Genetics and Molecular Research* **12(3):3862-3870**.

Rolland, AD, et al. 2013. Profiling of androgen response in rainbow trout pubertal testis: relevance to male gonad development and spermatogenesis. *PLoS ONE* **8(1):e53302**.

Ruksana, S, et al. 2010. Efficacy of exemestane, a new generation of aromatase inhibitor, on sex differentiation in a gonochoristic fish. *Comparative Biochemistry and Physiology, Part C: Toxicology & Pharmacology* **152(1):69-74**.

Sadiq, HO. 2013. Preliminary investigation of *Tribulus terrestris* (Linn., 1753) extracts as natural sex reversal agent in *Oreochromis niloticus* (Linn., 1758) larvae. *International Journal of Aquaculture* **3(23):133-137**.

Sahu, DK, et al. 2013. Identification of reproduction-related genes and SSR-markers through expressed sequence tags analysis of a monsoon breeding carp rohu, *Labeo rohita* (Hamilton). *Gene* **524(1):1-14**.

Saoshiro, S, e al. 2013. Sexual bipotentiality of behavior in male and female goldfish. *General and Comparative Endocrinology* **181:265-270**.

Selim, KM, et al. 2009. Effects of high temperature on sex differentiation and germ cell population in medaka, *Oryzias latipes*. *Aquaculture* **289(3-4):340-349**.

Selvaraj, S, et al. 2013. Peripheral administration of Kiss1 pentadecapeptide induces gonadal development in sexually immature adult scombroid fish. *Zoological Science* **30(6):446-454**.

Senior, AM, et al. 2012. The fitness consequences of environmental sex reversal in fish: a quantitative review. *Biological Reviews* **87(4):900-911.**

Senior, AM, et al. 2013. A comparative analysis of chemically induced sex reversal in teleosts: challenging conventional suppositions. *Fish and Fisheries* **14(1):60-76**.

Sharaf, SM. 2012. Effect of GnRHa, pimozide and Ovaprim on ovulation and plasma sex steroid hormones in African catfish *Clarias gariepinus*. *Theriogenology* **77(8):1709-1716**.

Shi, Y, et al. 2010. Molecular identification of the Kiss2/Kiss1ra system and its potential function during 17alpha-methyltestosterone-induced sex reversal in the orange-spotted grouper, *Epinephelus coioides*. *Biology of Reproduction* **83(1):63-74**.

Shi, Y, et al. 2012. Molecular identification of an androgen receptor and its changes in mRNA levels during 17α-methyltestosterone-induced sex reversal in the orange-spotted grouper *Epinephelus coioides*. *Comparative Biochemistry & Physiology - Part B: Biochemistry and Molecular Biology* **163(1):43-50**.

Singh, AK. 2013. Introduction of modern endocrine techniques for the production of monosex population of fishes. *General and Comparative Endocrinology* **181:146-155**.

Sreenivasulu, G. 2012. Expression and immunolocalization of 20 beta-hydroxysteroid dehydrogenase during testicular cycle and after hCG induction, in vivo in the catfish, *Clarias gariepinus*. *General and Comparative Endrocrinology* **175(1):48-54**.

Srivastava, PP, et al. 2012. Breeding and larval rearing of Asian catfish, *Clarias batrachus* (Linnaeus, 1758) on live and artificial feed. *Journal of Aquaculture Research & Development* **3(4): Article No. 134 (4 pages)**.

Stacey, NE, et al. 2012. Male primer endocrine responses to preovulatory female cyprinids under natural conditions in Sweden. *Journal of Fish Biology* **80(1):147-165**.

Stevenson, LM, et al. 2011. Reproductive consequences of exposure to waterborne phytoestrogens in male fighting fish *Betta splendens*. *Archives of Environmental Contamination and Toxicology* **60(3):501-510**.

Straus, DL, et al. 2013. Safety of feed treated with 17α-methyltestosterone (17MT) to larval Nile tilapia. *North American Journal of Aquaculture* **75(2):212-219**.

Su, B, et al. 2013. Relative effectiveness of carp pituitary extract, luteininzing hormone releasing hormone analog (LHRHa) injections and LHRHa implants for producing hybrid catfish fry. *Aquaculture* **372–375:133-136**.

Sugni, M, et al. 20101. Chemical fate and biological effects of several endocrine disrupters compounds in two echinoderm species. *Ecotoxicology* **19(3):538-554**.

Sun, L, et al. 2011. Transcriptional responses in Japanese medaka (*Oryzias latipes*) exposed to binary mixtures of an estrogen and anti-estrogens. *Aquatic Toxicology* **105(3-4):629-639**.

Sun, P, et al. 2010. Steroid sex hormone dynamics during estradiol-17 beta induced gonadal differentiation in *Paralichthys olivaceus* (Teleostei). *Chinese Journal of Oceanology and Limnology* **28(2):254-259**.

Svinger, VW, et al. 2013. Synchronization of ovulation in brook char (*Salvelinus fontinalis*, Mitchill 1814) using emulsified D-Arg "ProNEt" sGnRHa. *Aquaculture International* **21(4):783-799**.

Swapna, I, and Senthilkumaran, B. 2009. Influence of ethynylestradiol and methyltestosterone on the hypothalamo-hypophyseal-gonadal axis of adult air-breathing catfish, *Clarias gariepinus*. *Aquatic Toxicology* **95(3):222-229**.

Tao, W, et al. 2013. Characterization of gonadal transcriptomes from Nile tilapia (*Oreochromis niloticus*) reveals differentially expressed genes. *PLoS ONE* **8(5):e63604**.

Targońska, K, et al. 2010. Controlled reproduction of asp, *Aspius aspius* (L.) using luteinizing hormone releasing hormone (LHRH) analogues with dopamine inhibitors. *Aquaculture* **306(1-4):407-410**.

Targońska, K, and Kucharczyk, D. 2011. The application of hCG, CPH and ovopel in successful artificial reproduction of goldfish (*Carassius auratus auratus*) under controlled conditions. *Reproduction in Domestic Animals* **46(4):651-655**.

Targońska K, et al. 2011. Artificial reproduction of wild and cultured barbel (*Barbus barbus*, Cyprinidae) under controlled conditions. *Acta Veterinaria Hungarica* **59(3):363-372**.

Targońska, K, et al. 2012. Controlled reproduction of the crucian carp *Carassius carassius* (L.) combining temperature and hormonal treatment in spawners. *Journal of Applied Ichthyology* **28(6):894-899**.

Tessaro, L. 2012. Growth and reproductive characteristics of *Rhamdia quelen* males fed on different digestible energy levels in the reproductive phase. *Aquaculture* **326-329:74-80**.

Tokumoto, T, et al. 2011. In vivo induction of oocyte maturation and ovulation in zebrafish. *PLoS One* **6(9); Article Number e25206**.

Tong, SK, et al. 2010. Zebrafish monosex population reveals female dominance in sex determination and earliest events of gonad differentiation. *Developmental Biology* **344(2):849-856**.

Vazirzadeh, A, et al. 2011. Comparison of the effects of different methods of mammalian and salmon GnRHa administration on spawning performance in wild-caught female carp (*Cyprinus carpio carpio*) from the Caspian sea. *Aquaculture* **320(1-2):123-128.**

Vernetti, CHMM, et al. 2013. Genes involved in sex determination and the influence of temperature during the sexual differentiation process in fish: a review. *African Journal of Biotechnology* **12(17):2129-2146**.

Vinas, J, et al. 2013. Gonadal sex differentiation in the Senegalese sole (*Solea senegalensis*) and first data on the experimental manipulation of its sex ratios. *Aquaculture* **384-387:74-81.**

Vincent, M and Thomas, KJ. 2008. Nuptial colouration and courtship behaviour during induced breeding of the swamp barb *Puntius chola*, a freshwater fish. *Current Science* **94(7):922-925**.

Wang, HP, et al. 2008. Effects of estradiol-17 beta on survival, growth performance, sex reversal, and gonadal structure of bluegill sunfish *Lepomis macrochirus*. *Aquaculture* **285(1-4):216-223**.

Weng, Y, et al. 2010. Survival and reproduction in post-spawning Japanese eel, *Anguilla japonica*. *Journal of Fishery Sciences of China* **17(6):1218-1224**.

Woods, M and Kumar, A. 2011. Vitellogenin induction by 17 beta-estradiol and 17 alpha-ethynylestradiol in male Murray rainbowfish (Melanotaenia fluviatilis). Environmental Toxicology and Chemistry 30(11):2620-2627.

Wu, T, et al. 2012. Expression of zona pellucida B proteins in juvenile rare minnow (*Gobiocypris rarus*) exposed to 17 alpha-ethinylestradiol, 4-nonylphenol and bisphenol A. *Comparative Biochemistry and Physiology Part C Toxicology & Pharmacology* **155(2):259-268**.

Yamaguchi, T, and Kitano, T. 2012. High temperature induces cyp26b1 mRNA expression and delays meiotic initiation of germ cells by increasing cortisol levels during gonadal sex differentiation in Japanese flounder. *Biochemical & Biophysical Research Communications* **419(2):287-292**.

Yaron, Z, et al. 2009. Spawning induction in the carp: past experience and future prospects - a review. *Israeli Journal of Aquaculture/Bamidgeh* **61(1):5-26**.

Yin, X-H, et al. 2013. Studies on the effect of sustaining releasing chitosan luteinizing hormone releasing hormone analogue preparation on reproduction endocrine function of fish. *Periodical of Ocean University of China* **43(6):29-37**.

Zak, Z, et al. 2013. Effect of gonadotropin hormonal stimulation on out-of-season propagation success of different year classes of indoor-reared pikeperch (*Sander lucioperca* (L.)). *Aquaculture International* **21(4):801-810**.

Zanardi, MF. 2011. Hormone concentration in carcass of Nile tilapia submitted to early maturation after sexual reversion. *Revista Brasileira de Zootecnia* 40(1):7-11.

Zhang, D, et al. 2010. Temporal expression and steroidal regulation of piRNA pathway genes (mael, piwi, vasa) during Silurana (Xenopus) tropicalis embryogenesis and early larval development. *Comparative Biochemistry and Physiology, Part C: Toxicology & Pharmacology* 152(2):202-206.

Zheng, Y, et al. 2013. Molecular characterization of five steroid receptors from Pengze crucian carp and their expression profiles of juveniles in response to 17α-ethinylestradiol and 17α-methyltestosterone. *General and Comparative Endocrinology* 191:113-122.

Zhuo, Q, et al. 2012. Gonadotropin-releasing hormone analogue multiple injection potentially accelerated testicular maturation of male yellow catfish (*Pelteobagrus fluvidraco*, Richardson) in captivity. *Aquaculture Research* **43(3):467-480**.

Zuberi, A, et al. 2011. Relative *in vitro* effectiveness of several gonadal steroids on oocyte maturation in freshwater teleost *Barilius vagra*. *African Journal of Biotechnology* **10(55):11772-11777**.

Zuberi, A, et al. 2011. Effect of human chorionic gonadotropin (hCG) on in vitro oocyte maturation in freshwater cyprinid, *Barilius vagra*. *African Journal of Biotechnology* **10(74):16986-16993**.

Vaccines/Biologics

Vaccines/Biologics—Salmonids

Adomako, M, et al. 2012. Oral DNA vaccination of rainbow trout, *Oncorhynchus mykiss* (Walbaum), against infectious haematopoietic necrosis virus using PLGA [Poly(D,L-Lactic-Co-Glycolic Acid)] nanoparticles. *Journal of Fish Diseases* **35(3):203-214**.

Aykanat, T, et al. 2012. Additive, non-additive and maternal effects of cytokine transcription in response to immunostimulation with Vibrio vaccine in Chinook salmon (*Oncorhynchus tshawytscha*). *Immunogenetics* **64(9):691-703**.

Ballesteros, NA, et al. 2012. Oral immunization of rainbow trout to infectious pancreatic necrosis virus (IPNV) induces different immune gene expression profiles in head kidney and pyloric ceca. *Fish & Shellfish Immunology* **33(2):174-185**.

Ballesteros, NA, et al. 2013. The pyloric caeca area Is a major site for IgM^+ and IgT^+ B cell recruitment in response to oral vaccination in rainbow trout. *PLoS ONE* **8(6):e66118**.

Bang, JB, et al. 2012. Cohort study of effect of vaccination on pancreas disease in Norwegian salmon aquaculture. *Diseases of Aquatic Organisms* **102(1):23-31**.

Bastardo, A, et al. 2012. Effectiveness of bivalent vaccines against *Aeromonas hydrophila* and *Lactococcus garvieae* infections in rainbow trout *Oncorhynchus mykiss* (Walbaum). *Fish & Shellfish Immunology* **32(5):756-761**.

Bastardo, A, et al. 2012. Highly sensitive detection and quantification of the pathogen *Yersinia ruckeri* in fish tissues by using real-time PCR. *Applied Microbiology and Biotechnology* **96(2):511-520**.

Bridle, AR, et al. 2012. Identification of surrogates of protection against Yersiniosis in immersion vaccinated Atlantic salmon. *PLoS ONE* **7(7):e40841**.

Chettri, JK, et al. 2013. Comparative evaluation of administration methods for a vaccine protecting rainbow trout against *Yersinia ruckeri* O1 biotype 2 infections. *Veterinary Immunology and Immunopathology* **154(1-2):42-47**.

Deshmukh, S, et al. 2012. Comparative protection of two different commercial vaccines against Yersinia ruckeri serotype O1 and biotype 2 in rainbow trout (*Oncorhynchus mykiss*). *Veterinary Immunology and Immunopathology* **145(1-2):379-385**.

Drangsholt, TMK, et al. 2012. Genetic correlations between disease resistance, vaccine-induced side effects and harvest body weight in Atlantic salmon (*Salmo salar*). *Aquaculture* **324-325:312-314**.

Fjelldal, PG, et al. 2012. Vaccination and elevated dietary phosphorus reduces the incidence of early sexual maturation in Atlantic salmon (*Salmo salar* L.). *Aquaculture* **364–365:333-337**.

Fredriksen, BN, and Grip, J. 2012. PLGA/PLA micro- and nanoparticle formulations serve as antigen depots and induce elevated humoral responses after immunization of Atlantic salmon (*Salmo salar* L.). *Vaccine* **30(3):656-667**.

Fredriksen, BN, et al. 2013. Efficacy of a divalent and a multivalent water-in-oil formulated vaccine against a highly virulent strain of *Flavobacterium psychrophilum* after intramuscular challenge of rainbow trout (*Oncorhynchus mykiss*). *Vaccine* **31(15):1994-1998**.

Fredriksen, BN, et al. 2013. Intramuscular challenge of rainbow trout (*Oncorhynchus mykiss*) with two Norwegian field strains of *Flavobacterium psychrophilum*. *Fish & Shellfish Immunology* **35(2):595-598**.

Gliniewicz, K, et al. 2012. Comparative proteomic analysis of virulent and rifampicin-attenuated *Flavobacterium psychrophilum*. *Journal of Fish Diseases* **35(7):529-539**.

Harkness, JE, et al. 2013. Demonstrated efficacy of a pilot heterologous whole-spore vaccine against microsporidial gill disease in rainbow trout. *Clinical and Vaccine Immunology* **20(9):1483-1484**.

Hedrick, RP, et al. 2012. Invasion and initial replication of ultraviolet irradiated waterborne infective stages of *Myxobolus cerebralis* results in immunity to whirling disease in rainbow trout. *International Journal for Parasitology* **42(7):657-666**.

Henríquez, M, et al. 2013. A novel liquid medium for the efficient growth of the salmonid pathogen *Piscirickettsia salmonis* and optimization of culture conditions. *PLoS ONE* **8(9):e71830**.

Jensen, BB, et al. 2012. Cohort study of effect of vaccination on pancreas disease in Norwegian salmon aquaculture. *Diseases of Aquatic Organisms* **102(1):23-31**.

Julin, K, et al. 2013. Study of virulence in field isolates of infectious pancreatic necrosis virus obtained from the northern part of Norway. *Journal of Fish Diseases* **36(2):89-102**.

Kamil, A, et al. 2013. Vaccination of Atlantic salmon leads to long-lasting higher levels of serum immunoglobulin and possible skewed ratios of two distinct IgM isotypes. *Advances in Bioscience and Biotechnology* **4(4A):85-90**.

Karlsen, M, et al. 2012. Efficacy and safety of an inactivated vaccine against *Salmonid alphavirus* (family Togaviridae). *Vaccine* **30(38):5688-5694**.

Khimmakthong, U, et al. 2013. Tissue specific uptake of inactivated and live *Yersinia ruckeri* in rainbow trout (*Oncorhynchus mykiss*): visualization by immunohistochemistry and *in situ* hybridization. *Microbial Pathogenesis* **59-60:33-41**.

Kvamme, BO, et al. 2013. Modulation of innate immune responses in Atlantic salmon by chronic hypoxia-induced stress. *Fish & Shellfish Immunology* **34(1):55-65**.

Lafrentz, BR, et al. 2012. Reproducible challenge model to investigate the virulence of *Flavobacterium columnare* genomovars in rainbow trout *Oncorhynchus mykiss*. *Diseases of Aquatic Organisms* **101(2):115-122**.

LeBlanc, F, et al. 2012. Transcriptional response of Atlantic salmon (*Salmo salar*) after primary versus secondary exposure to infectious salmon anemia virus (ISAV). *Molecular Immunology* **51(2):197-209**.

Li-Li, Z, et al. 2012. Expression of infectious pancreatic necrosis virus (IPNV) VP2-VP3 fusion protein in *Lactobacillus casei* and immunogenicity in rainbow trouts. *Vaccine* **30(10):1823-1829**.

Long, A, et al. 2013. Enhanced efficacy of an attenuated *Flavobacterium psychrophilum* strain cultured under iron-limited conditions. *Fish & Shellfish Immunology* **35(5):1477-1482**.

Martinez-Alonso, S, et al. 2012. Immune responses elicited in rainbow trout through the administration of infectious pancreatic necrosis virus-like particles. *Developmental and Comparative Immunology* **36(2):378-384**.

Min, L, et al. 2012. Immunogenicity of *Lactobacillus*-expressing VP2 and VP3 of the infectious pancreatic necrosis virus (IPNV) in rainbow trout. *Fish & Shellfish Immunology* **32(1):196-203**.

Monte, MM, et al. 2012. Cloning and expression analysis of two ROR-γ homologues (ROR-γa1 and ROR-γa2) in rainbow trout *Oncorhynchus mykiss*. *Fish & Shellfish Immunology* **33(2):365-374**.

Munang'andu, HM, et al. 2012. Comparison of vaccine efficacy for different antigen delivery systems for infectious pancreatic necrosis virus vaccines in Atlantic salmon (*Salmo salar* L.) in a cohabitation challenge model. *Vaccine* **30(27):4007-4016**.

Munang'andu, HM, et al. 2013. The kinetics of CD4+ and CD8+ T-cell gene expression correlate with protection in Atlantic salmon (*Salmo salar* L) vaccinated against infectious pancreatic necrosis. *Vaccine* **31(15):1956-1963**.

Munang'andu, HM, et al. 2013. Immunogenicity and cross protective ability of the central VP2 amino acids of infectious pancreatic necrosis virus in Atlantic salmon (*Salmo salar* L.). *PloS One* **8(1):e54263**.

Munang'andu, HM, et al. 2013. Antigen dose and humoral immune response correspond with protection for inactivated infectious pancreatic necrosis virus vaccines in Atlantic salmon (*Salmo salar* L). *Veterinary Research* **44(Article 7):16 pages**.

Ortega-Villaizan, M, et al. 2012. *Ex vivo* transfection of trout pronephros leukocytes, a model for cell culture screening of fish DNA vaccine candidates. *Vaccine* **30(41):5983-5990**.

Rivas-Aravena, A, et al. 2012. Evaluation of the immune response against immature viral particles of infectious pancreatic necrosis virus (IPNV): a new model to develop an attenuated vaccine. *Vaccine* **30(34):5110-5117**.

Romstad, AB, et al. 2012. Development of an antibody ELISA for potency testing of furunculosis (*Aeromonas salmonicida* subsp *salmonicida*) vaccines in Atlantic salmon (*Salmo salar* L). *Biologicals* **40(1):67-71**.

Romstad, AB, et al. 2013. Antibody responses correlate with antigen dose and *in vivo* protection for oil-adjuvanted, experimental furunculosis (*Aeromonas salmonicida* subsp. *salmonicida*) vaccines in Atlantic salmon (*Salmo salar* L.) and can be used for batch potency testing of vaccines. *Vaccine* **31(5):791-796**.

Schwenteit, J, et al. 2013. Toxoid construction of AsaP1, a lethal toxic aspzincin metalloendopeptidase of *Aeromonas salmonicida* subsp. achromogenes, and studies of its activity and processing. *Veterinary Microbiology* **162(2-4):687-694**.

Scott, CJW, et al. 2013. Non-adjuvanted flagellin elicits a non-specific protective immune response in rainbow trout (*Oncorhynchus mykiss*, Walbaum) towards bacterial infections. *Vaccine* **31(32):3262-3267**.

Skov, J, et al. 2012. Immunomodulatory effects of dietary Î²-1,3-glucan from *Euglena gracilisin* in rainbow trout (*Oncorhynchus mykiss*) immersion vaccinated against *Yersinia ruckeri*. *Fish & Shellfish Immunology* **33(1):111-120**.

Thim, HL, et al. 2012. Immunoprotective activity of a salmonid alphavirus vaccine: cmparison of the immune responses induced by inactivated whole virus antigen formulations based on CpG class B oligonucleotides and poly I:C alone or combined with an oil adjuvant. *Vaccine* **30(32):4828-4834**.

Tøndervik, A, et al. 2013. High production of recombinant Norwegian salmonid alphavirus E1 and E2 proteins in *Escherichia coli* by fusion to secretion signal sequences and removal of hydrophobic domains. *Biotechnology and Bioprocess Engineering* **18(4):742-750**.

Valenzuela, B, et al. 2013. Immunomodulatory effects of the aromatic geranyl derivative filifolinone tested by the induction of cytokine expression. *Developmental and Comparative Immunology* **41(4):675-682**.

Villumsen, KR, and Raida, MK. 2013. Long-lasting protection induced by bath vaccination against *Aeromonas salmonicida* subsp. *salmonicida* in rainbow trout. *Fish & Shellfish Immunology* **35(5):1649-1653**.

Welch, TJ, et al. 2013. Mortality associated with Weissellosis (*Weissella* sp.) in USA farmed rainbow trout: potential for control by vaccination. *Aquaculture* **388-391:122-127**.

Wiik-Nielsen, J. 2013. Genetic variation in Norwegian piscine myocarditis virus in Atlantic salmon, *Salmo salar* L. *Journal of Fish Diseases* **36(2):129-139**.

Wilda, M, et al. 2012. Development and preliminary validation of an antibody filtration-assisted single-dilution chemiluminometric immunoassay for potency testing of *Piscirickettsia salmonis* vaccines. *Biologicals* **40(6):415-420**.

Wolf, A, et al. 2013. A hemagglutinin-esterase-expressing salmonid alphavirus replicon protects Atlantic salmon (*Salmo salar*) against infectious salmon anemia (ISA). *Vaccine* **31(4):661-669**.

Xu, C, et al. 2012. Superior protection conferred by inactivated whole virus vaccine over subunit and DNA vaccines against salmonid alphavirus infection in Atlantic salmon (*Salmo salar* L.). *Vaccine* **30(26):3918-3928**.

Vaccines/Biologics—Catfish

Bebak, J, and Wagner, B. 2012. Use of vaccination against enteric septicemia of catfish and columnaris disease by the U.S. catfish industry. *Journal of Aquatic Animal Health* **24(1):30-36**.

Dahal, N, et al. 2013. Tricarboxylic acid cycle and one-carbon metabolism pathways are important in *Edwardsiella ictaluri* virulence. *PLoS ONE* **8(6):e65973**.

Pohlenz, C, et al. 2012. Synergies between vaccination and dietary arginine and glutamine supplementation improve the immune response of channel catfish against *Edwardsiella ictaluri*. *Fish & Shellfish Immunology* **33(3):543-551**.

Pridgeon, JW, et al. 2012. Global transcription analysis of vaccinated channel catfish following challenge with virulent *Edwardsiella ictaluri*. *Veterinary Immunology and Immunopathology* **146(1):53-61**.

Pridgeon, JW, et al. 2012. Global gene expression in channel catfish after vaccination with an attenuated *Edwardsiella ictaluri*. *Fish & Shellfish Immunology* **32(4):524-533**.

Pridgeon, JW, et al. 2013. Biochemical and molecular characterization of the novobiocin and rifampicin resistant *Aeromonas hydrophila* vaccine strain AL09-71N+R compared to its virulent parent strain AL09-71. *Veterinary Microbiology* **165(3-4):349-357**.

Pridgeon, JW, et al. 2013. Identification of gyrB and rpoB gene mutations and differentially expressed proteins between a novobiocin-resistant *Aeromonas hydrophila* catfish vaccine strain and its virulent parent strain. *Veterinary Microbiology* **166(3-4):624-630**.

Pridgeon, JW, et al. 2013. Chicken-type lysozyme in channel catfish: expression analysis, lysozyme activity, and efficacy as immunostimulant against *Aeromonas hydrophila* infection. *Fish & Shellfish immunology* **35(3):680-688**.

Pridgeon, JW, and Klesius, PH. 2013. G-protein coupled receptor 18 (GPR18) in channel catfish: expression analysis and efficacy as immunostimulant against *Aeromonas hydrophila* infection. *Fish & Shellfish Immunology* **35(4):1070-1078**.

Pridgeon, JW, and Klesius, PH. 2013. Apolipoprotein A1 in channel catfish: transcriptional analysis, antimicrobial activity, and efficacy as plasmid DNA immunostimulant against *Aeromonas hydrophila* infection. *Fish & Shellfish Immunology* **35(4):1129-1137**.

Pridgeon, JW, et al. 2013. Recombinant goose-type lysozyme in channel catfish: lysozyme activity and efficacy as plasmid DNA immunostimulant against *Aeromonas hydrophila* infection. *Fish & Shellfish Immunology* **35(4):1309-1319**.

Santander, J, et al. 2012. Fur-regulated iron uptake system of *Edwardsiella ictaluri* and its influence on pathogenesis and immunogenicity in the catfish host. *Infection and Immunity* **80(8):2689-2703**.

Santander, J, et al. 2013. Mechanisms of intrinsic resistance to antimicrobial peptides of *Edwardsiella ictaluri* and its influence on fish gut inflammation and virulence. *Microbiology* **159(7):1471-1486**.

Yang, M, et al. 2012. *Edwardsiella* comparative phylogenomics reveal the new intra/inter-species taxonomic relationships, virulence evolution and niche adaptation mechanisms. *PLoS ONE* **7(5):e36987**.

Vaccines/Biologics—Tilapia

Amal, MNA, et al. 2013. Molecular characterization of *Streptococcus agalactiae* strains isolated from fishes in Malaysia. *Journal of Applied Microbiology* **115(1):20-29**.

Chen, M, et al. 2012. Screening vaccine candidate strains against *Streptococcus agalactiae* of tilapia based on PFGE genotype. *Vaccine* **30(42):6088-6092**.

Chen, M, et al. 2012. Effects of recombinant tHsp70 on immune function of tilapia peritoneal macrophages. *Journal of Fishery Sciences of China* **19(1):145-153**. (English abstract)

Firdaus-Nawi, M, et al. 2013. Efficacy of feed-based adjuvant vaccine against *Streptococcus agalactiae* in *Oreochromis* spp. in Malaysia. *Aquaculture Research* **45(1):87-96**.

Hao, G, et al. 2013. Preparation and application of immunoglobulin monoclonal antibodies in tilapia *Oreochromis niloticus* x *O. aureus*. *Journal of Dalian Ocean University* **28(1):7-11**.

Liu, G, et al. 2013. Identification of immunoreactive proteins of *Streptococcus agalactiae* isolated from cultured tilapia in China. *Pathogens and Disease* **69(3):223-231**.

Misumi, I, et al. 2012. Immune protection of Mozambique tilapia (*Oreochromis mossambicus*) exposed to different infectious doses of ectoparasite (*Cryptocaryon irritans*). *Parasitology Research* **110(1):363-372**.

Noraini, O, et al. 2013. Efficacy of spray administration of formalin-killed *Streptococcus agalactiae* in hybrid red tilapia. *Journal of Aquatic Animal Health* **25(2):142-148**.

Pridgeon, JW, et al. 2012. Efficacy of QCDCR formulated CpG ODN 2007 in Nile tilapia against *Streptococcus iniae* and identification of upregulated genes. *Veterinary Immunology and Immunopathology* **145(1-2):179-190**.

Pridgeon, JW, and Klesius, PH. 2013. Development of live attenuated *Streptococcus agalactiae* as potential vaccines by selecting for resistance to sparfloxacin. *Vaccine* **31(24):2705-2712**.

Salvador, R, et al. 2012. Inflammatory responses of Nile tilapia *Oreochromis niloticus* to *Streptococcus agalactiae*: effects of vaccination and yeast diet supplement. *Diseases of Aquatic Organisms* **98(3):235-241**.

Shoemaker, CA, et al. 2012. Bivalent vaccination of sex reversed hybrid tilapia against *Streptococcus iniae* and *Vibrio vulnificus*. *Aquaculture* **354-355:45-49**.

Soto, E, et al. 2013. *Francisella noatunensis* subsp. *orientalis* pathogenesis analyzed by experimental immersion challenge in Nile tilapia, *Oreochromis niloticus* (L.). Veterinary Microbiology 164(1-2):77-84.

Sulaiman, SFB, et al. 2013. Herbal sensitivity of *Pseudomonas* bacteria isolated from cultured tilapia with useful applications in vaccine preparation. *Asian Journal of Animal and Veterinary Advances* **8(2):383-388**.

Wang, R, et al. 2013. Identification of multiple genes and their expression profiles in four strains of *Oreochromis* spp. in response to *Streptococcus iniae*. *Journal of Fish Biology* **82(2):492-504**.

Vaccines/Biologics—Shrimp

Bartholomay, LC, et al. 2012. Nucleic-acid based antivirals: augmenting RNA interference to 'vaccinate' *Litopenaeus vannamei*. *Journal of Invertebrate Pathology* **110(2):261-266**.

Kulkarni, A, et al. 2013. Truncated VP28 as oral vaccine candidate against WSSV infection in shrimp: an uptake and processing study in the midgut of *Penaeus monodon*. *Fish & Shellfish Immunology* **34(1):159-166**.

Lin, Y-C, et al. 2013. Vaccination enhances early immune responses in white shrimp *Litopenaeus vannamei* after secondary exposure to *Vibrio alginolyticus*. *PLoS ONE* **8(7):69722**.

Pathan, M, et al. 2013. *In vivo* therapeutic efficacy of recombinant *Penaeus monodon* antiviral protein (rPmAV) administered in three different forms to WSSV infected *Penaeus monodon*. *Aquaculture* **376-379:64-67**.

Satoh, J. 2012. Studies on prevention measure of white spot disease of kuruma shrimp Marsupenaeus japonicas. *Bulletin of Fisheries Research Agency (Japan)* **36:57-106**. (English abstract)

Sun, R, et al. 2013. Hemocytic immune responses triggered by CpG ODNs in shrimp *Litopenaeus vannamei*. *Fish & Shellfish Immunology* **34(1):38-45**.

Vimal, S, et al. 203. Chitosan tripolyphosphate (CS/TPP) nanoparticles: preparation, characterization and application for gene delivery in shrimp. *Acta Tropica* **128(3):486-493**.

Yang, J-Y, et al. 2012. Viral resistance and immune responses of the shrimp *Litopenaeus vannamei* vaccinated by two WSSV structural proteins. *Immunology Letters* **148(1):41-48**.

Yogeeswaran, A, et al. 2012. Protection of *Penaeus monodon* against white spot syndrome virus by inactivated vaccine with herbal immunostimulants. *Fish & Shellfish Immunology* **32(6):1058-1067**.

Zhang, J, et al. 2012. Protection efficacy of vp28 DNA vaccine and immune responses in *Litopenaeus vannamei* against white spot syndrome virus. *Progress in Fishery Science* **33(3):77-82**. (English abstract)

Zhi, B, et al. 2011. Enhancement of shrimp antiviral immune response through caspase-dependent apoptosis by small molecules. *Marine Biotechnology* **13(3):575-83**.

Zhu, F, and Zhang, X. 2012. Protection of shrimp against white spot syndrome virus (WSSV) with [beta]-1,3-d-glucan-encapsulated vp28-siRNA particles. *Marine Biotechnology* **14(1):63-68**.

Vaccines/Biologics—Miscellaneous

Alonso, M, et al. 2013. Licensed DNA vaccines against infectious hematopoietic necrosis virus (IHNV). *Recent Patents on DNA & Gene Sequences* **7(1):62-65**.

Andreoni, F, et al. 2013. Isolation of a novel gene from *Photobacterium damselae* subsp. *piscicida* and analysis of the recombinant antigen as promising vaccine candidate. *Vaccine* **31(5):820-826**.

Aviles, F, et al. 2013. The conserved surface M-protein SiMA of *Streptococcus iniae* is not effective as a cross-protective vaccine against differing capsular serotypes in farmed fish. *Veterinary Microbiology* **162(1):151-159**.

Brudeseth, BE, et al. 2013. Status and future perspectives of vaccines for industrialised fin-fish farming. *Fish & Shellfish Immunology* **35(6):1759-1768**.

Budiño, B, et al. 2012. Characterization of *Philasterides dicentrarchi* isolates that are pathogenic to turbot: serology and cross-protective immunity. *Aquaculture* **364–365:130-136**.

Cai, SH. 2013. Expression and immunogenicity analysis of accessory colonization factor A from *Vibrio alginolyticus* strain HY9901. *Fish & Shellfish Immunology* **34(2):454-462**.

Cai, SH, et al. 2013. Cloning, expression of *Vibrio alginolyticus* outer membrane protein-OmpU gene and its potential application as vaccine in crimson snapper, *Lutjanus erythropterus* Bloch. *Journal of Fish Diseases* **36(8):695-702**.

Caipang, CMA. 2013. Expression of genes involved in the early immune response at the distal segment of the gut in Atlantic cod, *Gadus morhua* L. after vaccination with a bacterial antigen. *Aquaculture International* **21(3):591-603**.

Carpio, Y, et al. 2013. Akirins in sea lice: first steps towards a deeper understanding. *Experimental Parasitology* **135(2):188-199**.

Cen, J, et al. 2013. Identification and immunogenicity of immunodominant mimotopes of outer membrane protein U (OmpU) of *Vibrio mimicus* from phage display peptide library. *Fish & Shellfish Immunology* **34(1):291-295**.

Chen, CL, et al. 2013. Antigenic analysis of grass carp reovirus using single-chain variable fragment antibody against IgM from *Ctenopharyngodon idella*. *Science China: Life sciences* **56(1):59-65**.

Choi, YR, et al. 2013. Chromatographically-purified capsid proteins of red-spotted grouper nervous necrosis virus expressed in *Saccharomyces cerevisiae* form virus-like particles. *Protein Expression and Purification* **89(2):162-168**.

Clarke, JL, et al. 2013. How can plant genetic engineering contribute to cost-effective fish vaccine development for promoting sustainable aquaculture? *Plant Molecular Biology* **83(1-2):33-40**.

Dan, X-M, et al. 2013. Immune responses and immune-related gene expression profile in orange-spotted grouper after immunization with *Cryptocaryon irritans* vaccine. Fish *& Shellfish Immunology* **34(3):885-891**.

Dong, C, et al. 2013. Efficacy of a formalin-killed cell vaccine against infectious spleen and kidney necrosis virus (ISKNV) and immunoproteomic analysis of its major immunogenic proteins. *Veterinary Microbiology* **162(2-4):419-428**.

Dong, Y, et al. 2013. Field trial tests of FKC vaccines against RSIV genotype Megalocytivirus in cage-cultured mandarin fish (*Siniperca chuatsi*) in an inland reservoir. *Fish & Shellfish Immunology* **35(5):1598-1603**.

Evensen, O, et al. 2013. DNA vaccines against viral diseases of farmed fish. *Fish & Shellfish Immunology* **35(6):1751-1758**.

Fan, T, et al. 2012. Development of an inactivated iridovirus vaccine against turbot viral reddish body syndrome. *Journal of Ocean University of China* **11(1):65-69**.

Fekih-Zaghbib, S, et al. 2013. A complementary LC-ESI-MS and MALDI-TOF approach for screening antibacterial proteomic signature of farmed European sea bass mucus. *Fish & Shellfish Immunology* **35(2):207-212**.

Feng, J, et al. 2013. Identification and expression analysis of a CC chemokine from cobia (*Rachycentron canadum*). *Fish Physiology and Biochemistry* **39(3):459-69**.

Fu, X, et al. 2012. Protective immunity against iridovirus disease in mandarin fish, induced by recombinant major capsid protein of infectious spleen and kidney necrosis virus. *Fish & Shellfish Immunology* **33(4):880-885**.

Galindo-Villegas, J, et al. 2013. Recombinant TNFα as oral vaccine adjuvant protects European sea bass against vibriosis: insights into the role of the CCL25/CCR9 axis. *Fish & Shellfish immunology* **35(4):1260-1271**.

Gotesman, M, et al. 2013. CyHV-3: the third cyprinid herpesvirus. *Diseases of Aquatic Organisms* **105(2):163-174**.

Gudding, R, and Van Muiswinkel, WB. 2013. A history of fish vaccination: science-based disease prevention in aquaculture. *Fish & Shellfish Immunology* **35(6):1683-1688**.

Hart, LM, et al. 2012. Efficacy of a glycoprotein DNA vaccine against viral haemorrhagic septicaemia (VHS) in Pacific herring, *Clupea pallasii* Valenciennes. *Journal of Fish Diseases* **35(10):775-779**.

Hu, M, et al. 2013. Biological characterization of epidemic *Aeromonas hydrophila* strains. *Chinese Veterinary Science* **43(5):441-445**. (in Chinese with English abstract)

Hu, Y-h, et al. 2012. Development and efficacy of an attenuated *Vibrio harveyi* vaccine candidate with cross protectivity against *Vibrio alginolyticus*. *Fish & Shellfish Immunology* **32(6):1155-1161**.

Hu, Y-h, et al. 2012. Japanese flounder (*Paralichthys olivaceus*) Hsp70: adjuvant effect and its dependence on the intrinsic ATPase activity. *Fish & Shellfish Immunology* **33(4):829-834**.

Jia, P-P, et al. 2013. Comparative study of four flagellins of *Vibrio anguillarum*: vaccine potential and adjuvanticity. *Fish & Shellfish Immunology* **34(2):514-520**.

Jin, R-p, et al. 2012. *Edwardsiella tarda* sialidase: pathogenicity involvement and vaccine potential. *Fish & Shellfish Immunology* **33(3):514-521**.

Kato, G, et al. 2011. Vaccine efficacy of *Mycobacterium bovis* BCG against *Mycobacterium* sp. infection in amberjack *Seriola dumerili*. *Fish & Shellfish Immunology* **30(2):467-472**.

Kato, G, et al. 2012. *Mycobacterium bovis* BCG vaccine induces non-specific immune responses in Japanese flounder against *Nocardia seriolae*. *Fish & Shellfish Immunology* **33(2):243-250**.

Kim, J-W, et al. 2013. Molecular identification and expression analysis of the CC chemokine gene in rock bream (*Oplegnathus fasciatus*) and the biological activity of the recombinant protein. *Fish & Shellfish Immunology* **34(3):892-901**.

Kim, J-W, et al. 2013. Molecular characterisation and biological activity of a novel CXC chemokine gene in rock bream (*Oplegnathus fasciatus*). *Fish & Shellfish Immunology* **34(5):1103-1111**.

Kim, S, et al. 2011. In vitro antiviral activity of red alga, *Polysiphonia morrowii* extract and its bromophenols against fish pathogenic infectious hematopoietic necrosis virus and infectious pancreatic necrosis virus. *The Journal of Microbiology* **49(1):102-106**.

Kim, W-S, et al. 2012. Disease control efficacy of synthetic double-stranded RNA Poly (I:C) administration for viral nervous necrosis (VNN) in sevenband grouper (*Epinephelus septemfasciatus*). *Aquaculture* **364-365:259-262**.

Lafrentz, BR, et al. 2011. Modified live *Edwardsiella ictaluri* vaccine, AQUAVAC-ESC, lacks multidrug resistance plasmids. *Journal of Aquatic Animal Health* **23(4):195-199**.

Lee, LH, et al. 2013. Electrotransfer of the epinecidin-1 gene into skeletal muscle enhances the antibacterial and immunomodulatory functions of a marine fish, grouper (*Epinephelus coioides*). *Fish & Shellfish Immunology* **35(5):1359-1368**.

León-Rodríguez, L, et al. 2013. Biodegradable microparticles covalently linked to surface antigens of the scuticociliate parasite *P. dicentrarchi* promote innate immune responses *in vitro*. *Fish & Shellfish Immunology* **34(1):236-243**.

Liang, S, et al. 2012. Immune response of turbot (*Scophthalmus maximus* L.) to a broad spectrum vaccine candidate, recombinant glyceraldehyde-3-phosphate dehydrogenase of *Edwardsiella tarda*.*Veterinary Immunology and Immunopathology* **150(3):198-205**.

Liu, L, et al. 2012. Evaluation of immune efficacy of GCRV vp6 DNA vaccine. *Journal of Fishery Sciences of China* **19(5):841-847**. (English abstract)

Maiti, B, et al. 2012. Evaluation of two outer membrane proteins, Aha1 and OmpW, of *Aeromonas hydrophila* as vaccine candidate for common carp. *Veterinary Immunology and Immunopathology* **149(3-4):298-301**.

Mao, Z, et al. 2013. Vaccination efficiency of surface antigens and killed whole cell of *Pseudomonas putida* in large yellow croaker (*Pseudosciaena crocea*). *Fish & Shellfish Immunology* **35(2):375-381**.

Martinez-Lopez, A, et al. 2013. Improving the safety of viral DNA vaccines: development of vectors containing both 5' and 3' homologous regulatory sequences from non-viral origin. *Applied Microbiology and Biotechnology* **97(7):3007-3016**.

Millard, CM, et al. 2012. Evolution of the capsular operon of *Streptococcus iniae* in response to vaccination. *Applied and Environmental Microbiology* **78(23):8219-8226**.

Mo, Z-I, et al. 2013. Phenotypic characterization, virulence, and immunogenicity of *Edwardsiella tarda* LSE40 aroA mutant. *Applied Microbiology and Biotechnology* **97(14):6325-6335**.

Mohammed, H, et al. 2013. New attenuated vaccine against columnaris disease in fish: choosing the right parental strain is critical for vaccine efficacy. *Vaccine* **31(45):5276-5280**.

Mori, K, and Fukuda, Y. 2012. Protective efficacy of formalin-killed Serotype I and II vaccines for *Streptococcus parauberis* infection in Japanese flounder *Paralichthys olivaceus*. *Fish Pathology* **47(3):107-110**.

Mu, Y, et al. 2012. A vector that expresses VP28 of WSSV can protect red swamp crayfish from white spot disease. *Developmental & Comparative Immunology* **36(2):442-449**.

Nam, B-H, et al. 2012. Purification and characterization of an antimicrobial histone H1-like protein and its gene from the testes of olive flounder, *Paralichthys olivaceus*. *Fish & Shellfish Immunology* **33(1):92-98**.

Oevergaard, A-C, et al. 2013. Atlantic halibut (*Hippoglossus hippoglossus* L.) T-cell and cytokine response after vaccination and challenge with nodavirus. *Vaccine* **31(19): 2395-2402.**

Oh, M-J, et al. 2013. Assessment of the sevenband grouper *Epinephelus septemfasciatus* with a live nervous necrosis virus (NNV) vaccine at natural seawater temperature. *Vaccine* **31(16):2025-2027**.

Ou-yang, Z, et al. 2012. Selection and identification of Singapore grouper iridovirus vaccine candidate antigens using bioinformatics and DNA vaccination. *Veterinary Immunology and Immunopathology* **149(1-2):38-45**.

Ou-yang, Z, et al. 2012. Immunogenicity and protective effects of inactivated Singapore grouper iridovirus (SGIV) vaccines in orange-spotted grouper, *Epinephelus coioides*. *Developmental and Comparative Immunology* **38(2):254-261**.

Pang, H-Y, et al. 2013. Identification of novel immunogenic proteins of *Vibrio alginolyticus* by immunoproteomic methodologies. *Aquaculture Research* **44(3):472-484**.

Peng, X-X. 2013. Proteomics and its applications to aquaculture in China: infection, immunity, and interaction of aquaculture hosts with pathogens. *Developmental and Comparative Immunology* **39(1-2):63-71**. **(review article)**

Piazzon, MC, et al. 2013. Fish immunity to scuticociliate parasites. *Developmental and Comparative Immunology* **41(2):248-256**.

Pridgeon, JW, et al. 2013. Attempt to develop live attenuated bacterial vaccines by selecting resistance to gossypol, proflavine hemisulfate, novobiocin, or ciprofloxacin. *Vaccine* **31(18):2222-2230**.

Rowley, AF, and Pope, EC. 2012. Vaccines and crustacean aquaculture—a mechanistic exploration. *Aquaculture* **334-337:1-11**.

Salgado-Miranda, C, et al. 2013. Viral vaccines for bony fish: past, present and future. *Expert Review of Vaccines* **12(5): 567-578**.

Sarath Babu, V, et al. 2013. Comparison of betanodavirus replication efficiency in ten Indian fish cell lines. *Archives of Virology* **158(6):1367-1375**.

Sarropoulou, E, et al. 2012. Characterization of European sea bass transcripts by RNA SEQ after oral vaccine against *V. anguillarum*. *Marine Biotechnology* **14(5):634-642**.

Seo, JY, et al. 2013. Codon-optimized expression of fish iridovirus capsid protein in yeast and its application as an oral vaccine candidate. *Journal of Fish Diseases* **36(9):763-768**.

Su, Y, et al. 2013. Characterization and transcriptional analysis of a new CC chemokine associated with innate immune response in cobia (*Rachycentron canadum*). *Molecular Biology* **47(3):389-398**.

Sun, Y, et al. 2012. Construction and comparative study of monovalent and multivalent DNA vaccines against *Streptococcus iniae*. *Fish & Shellfish Immunology* **33(6):1303-1310**.

Thanga Viji, V, et al. 2013. Vaccination strategies to protect goldfish *Carassius auratus* against *Aeromonas hydrophila* infection. *Diseases of Aquatic Organisms* **104(1):45-57**.

Tian, Y, et al. 2013. Development of a novel candidate subunit vaccine against Grass carp reovirus Guangdong strain (GCRV-GD108). *Fish & Shellfish immunology* **35(2):351-356**.

Vestvik, N, et al. 2013. *Francisella noatunensis* subsp. *noatunensis* replicates within Atlantic cod (*Gadus morhua* L.) leucocytes and inhibits respiratory burst activity. *Fish & Shellfish Immunology* **35(3):725-733**.

Vinay, T-N, et al. 2013. Inactivated vaccine against viral hemorrhagic septicemia (VHS) emulsified with squalene and aluminum hydroxide adjuvant provides long term protection in olive flounder (*Paralichthys olivaceus*). *Vaccine* **31(41): 4603-4610**.

Wang, C, et al. 2013. Environmental isolates P1SW and V3SW as a bivalent vaccine induce effective cross-protection against *Edwardsiella tarda* and *Vibrio anguillarum*. *Diseases of Aquatic Organisms* **103(1):45-53**.

Wang, C, et al. 2013. The major fimbrial subunit protein of *Edwardsiella tarda*: vaccine potential, adjuvant effect, and involvement in host infection. *Fish & Shellfish immunology* **35(3):858-865**.

Wang, N, et al. 2013. Identification of Omp38 by immunoproteomic analysis and evaluation as a potential vaccine antigen against *Aeromonas hydrophila* in Chinese breams. *Fish & Shellfish immunology* **34(1):74-81**.

Wang, T, and Secombes, CJ. The cytokine networks of adaptive immunity in fish. *Fish & Shellfish Immunology* **35(6):1703-1718**.

Wang, T, et al. 2013. Quantitative *in vivo* and *in vitro* characterization of co-infection by two genetically distant grass carp reoviruses. *The Journal of General Virology* **94(6):1301-1309**.

Wang, Y, et al. 2012. Identification and characterization of a hepcidin from half-smooth tongue sole *Cynoglossus semilaevis*. *Fish & Shellfish Immunology* **33(2):213-219**.

Wang, Y, et al. 2013. Functional characterization of *Edwardsiella tarda* twin-arginine translocation system and its potential use as biological containment in live attenuated vaccine of marine fish. *Applied Microbiology and Biotechnology* **97(8):3545-3557**.

Xiao, J, et al. 2013. *Edwardsiella tarda* mutant disrupted in type III secretion system and chorismic acid synthesis and cured of a plasmid as a live attenuated vaccine in turbot. *Fish & Shellfish Immunology* **35(3):632-641**.

Xue, R, et al. 2013. Oral vaccination of BacFish-vp6 against grass carp reovirus evoking antibody response in grass carp. *Fish & shellfish immunology* **34(1):348-355**.

Yan, Y, et al. 2013. Asd-based balanced-lethal system in attenuated *Edwardsiella tarda* to express a heterologous antigen for a multivalent bacterial vaccine. *Fish & Shellfish Immunology* **34(5):1188-1194**.

Yu, JE, et al. 2013. Identification of antigenic *Edwardsiella tarda* surface proteins and their role in pathogenesis. *Fish & Shellfish Immunology* **34(2):673-682**.

Yu, L-P, et al. 2012. C312M: an attenuated *Vibrio anguillarum* strain that induces immunoprotection as an oral and immersion vaccine. *Diseases of Aquatic Organisms* **102(1):33-42**.

Zhang, C, et al. 2013. Effects of praziquantel and sanguinarine on expression of immune genes and susceptibility to *Aeromonas hydrophila* in goldfish (*Carassius auratus*) infected with *Dactylogyrus intermedius*. *Fish & Shellfish Immunology* **35(4):1301-1308**.

Zhang, DL, et al. 2013. Isolation and characterization of a novel antibacterial peptide derived from hemoglobin alpha in the liver of Japanese eel, *Anguilla japonica*. *Fish & Shellfish Immunology* **35(3):625-631**.

Zhang, H, et al. 2013. Transcriptome profiling reveals Th17-like immune responses Induced in zebrafish bath-vaccinated with a live attenuated *Vibrio anguillarum*. *PLoS ONE* **8(9):e73871**.

Zhang, M, et al. 2012. Construction and analysis of experimental DNA vaccines against megalocytivirus. *Fish & Shellfish Immunology* **33(5):1192-1198**.

Zhang, Z, et al. 2013. Immune responses evoked by infection with *Vibrio anguillarum* in zebrafish bath-vaccinated with a live attenuated strain. *Veterinary Immunology and Immunopathology* **154(3-4):138-144**.

Probiotics

Abid, A, et al. 2013. Dietary synbiotic application modulates Atlantic salmon (*Salmo salar*) intestinal microbial communities and intestinal immunity. *Fish & Shellfish Immunology* **35(6):1948-1956**.

Aguilera, E, et al. 2013. Cultivable intestinal microbiota of yellowtail juveniles (*Seriola lalandi*) in an aquaculture system. *Latin American Journal of Aquatic Research* **41(3): 395-403**.

Ahmadvand, S. et al. 2012. Effect of frozen *Daphnia magna* diet mixed with probiotic protexin on growth and survival of rainbow trout (*Onchorhynchus mykiss*) fry reared under controlled conditions. *Online Journal of Animal and Feed Research* **2(1):34-39**.

Aly, SM, et al. 2008. Studies on *Bacillus subtilis* and *Lactobacillus acidophilus*, as potential probiotics, on the immune response and resistance of *Tilapia nilotica* (*Oreochromis niloticus*) to challenge infections. *Fish & Shellfish Immunology* **25(1-2):128-136**.

Andani, HRR, et al. 2012. Antagonistic activity of two potential probiotic bacteria from fish intestines and investigation of their effects on growth performance and immune response in rainbow trout (*Oncorhynchus mykiss*). *Journal of Applied Ichthyology* **28(5):728-734**.

Angélica Garrido-Pereira, M, et al. 2013. Effect of ultraviolet (UV) radiation on the abundance and respiration rates of probiotic bacteria. *Aquaculture Research* **44(2):261-267**.

Aranda, CP, et al. 2012. Bacteriostatic anti-*Vibrio parahaemolyticus* activity of *Pseudoalteromonas* sp. strains DIT09, DIT44 and DIT46 isolated from Southern Chilean intertidal *Perumytilus purpuratus*. *World Journal of Microbiology & Biotechnology* **28(6):2365-2374**.

Bartley, MS, et al. 2012. Conservation aquaculture of northern leatherside chub and effects of temperature on egg survival. *North American Journal of Aquaculture* **74(3):289-296**.

Biswas, G, et al. 2013. Cytokine responses in the Japanese pufferfish (*Takifugu rubripes*) head kidney cells induced with heat-killed probiotics isolated from the Mongolian dairy products. *Fish & Shellfish Immunology* **34(5):1170-1177**.

Boutin, S, et al. 2012. Antagonistic effect of indigenous skin bacteria of brook charr (*Salvelinus fontinalis*) against *Flavobacterium columnare* and *F. psychrophilum*. *Veterinary Microbiology* **155(2-4):355-361.**

Boutin, S, et al. 2013. Probiotic treatment by indigenous bacteria decreases mortality without disturbing the natural microbiota of *Salvelinus fontinalis*. *Canadian Journal of Microbiology* **59(10):662-670**.

Burbank, DR, et al. 2011. Enhanced resistance to coldwater disease following feeding of probiotic bacterial strains to rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **321(3-4):185-190**.

Burbank, DR, et al. 2012. Isolation of bacterial probiotic candidates from the gastrointestinal tract of rainbow trout, *Oncorhynchus mykiss* (Walbaum), and screening for inhibitory activity against *Flavobacterium psychrophilum*. *Journal of Fish Diseases* **35(11):809-816**.

Cerezuela, R, et al. 2012. Increases in immune parameters by inulin and *Bacillus subtilis* dietary administration to gilthead seabream (*Sparus aurata* L.) did not correlate with disease resistance to *Photobacterium damselae*. *Fish & Shellfish Immunology* **32(6):1032-1040**.

Cerezuela, R, et al. 2012. Effects of dietary *Bacillus subtilis*, *Tetraselmis chuii*, and *Phaeodactylum tricornutum*, singularly or in combination, on the immune response and disease resistance of sea bream (*Sparus aurata* L.). *Fish & Shellfish Immunology* **33(2):342-349**.

Cerezuela, R, et al. 2012. Effects of dietary inulin and heat-inactivated *Bacillus subtilis* on gilthead seabream (*Sparus aurata* L.) innate immune parameters. *Beneficial Microbes* **3(1):77-81**.

Cerezuela, R, et al. 2012. Histological alterations and microbial ecology of the intestine in gilthead seabream (*Sparus aurata* L.) fed dietary probiotics and microalgae. *Cell and Tissue Research* **350(3):477-489**.

Cerezuela, R, et al. 2013. Changes in intestinal morphology and microbiota caused by dietary administration of inulin and *Bacillus subtilis* in gilthead sea bream (*Sparus aurata* L.) specimens. *Fish & Shellfish Immunology* **34(5):1063-1070**.

Cha, J-H, et al. 2013. Evaluations of *Bacillus* spp. as dietary additives on growth performance, innate immunity and disease resistance of olive flounder (*Paralichthys olivaceus*) against *Streptococcus iniae* and as water additives. *Aquaculture* **402-403 :50-57**.

Chiu, K-H, and Liu, W-S. 2014. Dietary administration of the extract of *Rhodobacter sphaeroides* WL-APD911 enhances the growth performance and innate immune responses of seawater red tilapia (*Oreochromis mossambicus* × *Oreochromis niloticus*). *Aquaculture* **418-419:32-38**.

Chu, WY, et al. 2013. Effects of dietary lactosucrose on the gene transcript profile in liver of grass carp (*Ctenopharyngodon idella*). *Aquaculture Nutrition* **19(5):798-808**.

D'Alvise, PW, et al. 2013. Protection of cod larvae from vibriosis by *Phaeobacter* spp.: a comparison of strains and introduction times. *Aquaculture* **384-387:82-86**.

Daga, P, et al. 2013. Bioencapsulated probiotics increased survival, growth and improved gut flora of turbot (*Psetta maxima*) larvae. *Aquaculture International* **21(2):337-345**.

Das, A, et al. 2013. Effects of potential probiotic *Bacillus amyloliquifaciens* FPTB16 on systemic and cutaneous mucosal immune responses and disease resistance of catla (*Catla catla*). *Fish & Shellfish Immunology* **35(5):1547-1553**.

Del'Duca, A, et al. 2013. Evaluation of the presence and efficiency of potential probiotic bacteria in the gut of tilapia (*Oreochromis niloticus*) using the fluorescent *in situ* hybridization technique. *Aquaculture* **388-391:115-121**.

Dias, DC, et al. 2012. Effect of incorporating probiotics into the diet of matrinxa (*Brycon amazonicus*) breeders. *Journal of Applied Ichthyology* **28(1):40-45**.

Fontana, L, et al. 2013. Sources, isolation, characterisation and evaluation of probiotics. *The British Journal of Nutrition* **109(S2):S35-50**.

Gao, Q, et al. 2013. *In vitro* protective efficacy of *Clostridium butyricum* against fish pathogen infections. *Indian Journal of Microbiology* **53(4):453-459**.

Garcia de la Banda, I, et al. 2012. Influence of dietary administration of a probiotic strain *Shewanella putrefaciens* on Senegalese sole (*Solea senegalensis*, Kaup 1858) growth, body composition and resistance to *Photobacterium damselae* subsp *piscicida*. *Aquaculture Research* **43(5):662-669**.

Geng, X, et al. 2012. Effects of dietary probiotic on the growth performance, non-specific immunity and disease resistance of cobia, *Rachycentron canadum*. *Aquaculture Nutrition* **18(1):46-55**.

Geraylou, Z, et al. 2013. Effects of dietary arabinoxylan-oligosaccharides (AXOS) and endogenous probiotics on the growth performance, non-specific immunity and gut microbiota of juvenile Siberian sturgeon (*Acipenser baerii*). *Fish & Shellfish Immunology* **35(3):766-775**.

Giri, SS, et al. 2012. Effects of dietary supplementation of potential probiotic *Pseudomonas aeruginosa* VSG-2 on the innate immunity and disease resistance of tropical freshwater fish, *Labeo rohita*. *Fish & Shellfish Immunology* **32(6):1135-1140**.

Gisbert, E, et al. 2013. *Bacillus cereus* var. *toyoi* promotes growth, affects the histological organization and microbiota of the intestinal mucosa in rainbow trout fingerlings. *Journal of Animal Science* **91(6):2766-2774**.

Gopalakannan, A, and Arul, V. 2011. Inhibitory activity of probiotic *Enterococcus faecium* MC13 against *Aeromonas hydrophila* confers protection against hemorrhagic septicemia in common carp *Cyprinus carpio*. *Aquaculture International* **19(5):973-985**.

Grześkowiak, L, et al. 2012. Evaluation of aggregation abilities between commensal fish bacteria and pathogens. *Aquaculture* **356-357:412-414**.

He, S, et al. 2013. Effects of dietary *Bacillus subtilis* C-3102 on the production, intestinal cytokine expression and autochthonous bacteria of hybrid tilapia *Oreochromis niloticus* female × *Oreochromis aureus* male. *Aquaculture* **412-413:125-130**.

Heo, W-S, et al. 2013. Effects of dietary probiotic, *Lactococcus lactis* subsp. *lactis* I2, supplementation on the growth and immune response of olive flounder (*Paralichthys olivaceus*). *Aquaculture* **376–379:20-24**.

Hossain, MI, et al. 2013. Scaling up of stocking density of tiger shrimp (*Penaeus monodon*) under improved farming system in Khulna region of Bangladesh. *American Journal of Experimental Agriculture* **3(4):839-848**.

Kim, D, et al. 2013. *Lactococcus lactis* BFE920 activates the innate immune system of olive flounder (*Paralichthys olivaceus*), resulting in protection against *Streptococcus iniae* infection and enhancing feed efficiency and weight gain in large-scale field studies. *Fish & Shellfish Immunology* **35(5):1585-1590**.

Korkea-aho, TL, et al. 2012. Pseudomonas M162 confers protection against rainbow trout fry syndrome by stimulating immunity. *Journal of Applied Microbiology* **113(1):24-35**.

Lamari, F, et al. 2013. Comparison of the effects of the dietary addition of two lactic acid bacteria on the development and conformation of sea bass larvae, *Dicentrarchus labrax*, and the influence on associated microbiota. *Aquaculture* **376-379:137-145**.

Lee, B-J, et al. 2013. Effects of dietary supplementation of citrus by-products fermented with a probiotic microbe on growth performance, innate immunity and disease resistance against *Edwardsiella tarda* in juvenile olive flounder, *Paralichthys olivaceus* (Temminck & Schlegel). *Journal of Fish Diseases* **36(7):617-628**.

Lee, J-S, et al. 2013. Effects of dietary supplementation of *Lactobacillus pentosus* PL11 on the growth performance, immune and antioxidant systems of Japanese eel *Anguilla japonica* challenged with *Edwardsiella tarda*. *Fish & Shellfish Immunology* **34(3):756-761**.

Liu, C-H, et al. 2012. Dietary administration of the probiotic, *Bacillus subtilis* E20, enhances the growth, innate immune responses, and disease resistance of the grouper, *Epinephelus coioides*. *Fish & Shellfish Immunology* **33(4):699-706**.

Liu, W, et al. 2013. Comparison of adhesive gut bacteria composition, immunity, and disease resistance in juvenile hybrid tilapia fed two different *Lactobacillus* strains. *Fish & Shellfish Immunology* **35(1):54-62**.

Moghaddam, JA, et al. 2013. Effects of dietary vegetal fatty acid and fat content on growth and acclimation to Caspian Sea water in Caspian brown trout (*Salmo trutta caspius*) parr. *Aquaculture* **412-413:144-150**.

Mohapatra, S, et al. 2012. Fenvalerate induced stress mitigation by dietary supplementation of multispecies probiotic mixture in a tropical freshwater fish, *Labeo rohita* (Hamilton). *Pesticide Biochemistry & Physiology* **104(1):28-37**.

Mohapatra, S, et al. 2013. Aquaculture and stress management: a review of probiotic intervention. *Journal of Animal Physiology and Animal Nutrition* **97(3):405-430**.

Muñoz-Atienza, E, et al. 2013. Antimicrobial activity, antibiotic susceptibility and virulence factors of lactic acid bacteria of aquatic origin intended for use as probiotics in aquaculture. *BMC Microbiology* **13:e15 (22 pages)**.

Neissi, A, et al. 2013. The effect of *Pediococcus acidilactici* bacteria used as probiotic supplement on the growth and non-specific immune responses of green terror, *Aequidens rivulatus*. *Fish & Shellfish Immunology* **35(6):1976-1980**.

Neu, AK, et al. 2014. Toxicity of bioactive and probiotic marine bacteria and their secondary metabolites in *Artemia* sp. and *Caenorhabditis elegans* as eukaryotic model organisms. *Applied and Environmental Microbiology* **80(1):146-153**.

Nwachi, OF. 2013. An overview of the importance of probiotics in aquaculture. *Journal of Fisheries and Aquatic Science* **8(1):30-32**.

Oliva-Teles, A. 2012. Nutrition and health of aquaculture fish. *Journal of Fish Disease*s **35(2):83-108**. (**review article**)

Pan, C-Y, et al. 2013. Immunomodulatory effects of dietary *Bacillus coagulans* in grouper (*Epinephelus coioides*) and zebrafish (*Danio rerio*) infected with *Vibrio vulnificus*. *Aquaculture International* **21(5):1155-1168**.

Pieters, N, et al. 2008. Efficacy of in-feed probiotics against *Aeromonas bestiarum* and *Ichthyophthirius multifiliis* skin infections in rainbow trout (*Oncorhynchus mykiss*, Walbaum). *Journal of Applied Microbiology* **105(3):723-732**.

Qi, Z, et al. 2009. Probiotics in aquaculture of China - current state, problems and prospect. *Aquaculture* **290(1-2):15-21**.

Ramos, MA, et al. 2013. Dietary probiotic supplementation modulated gut microbiota and improved growth of juvenile rainbow trout (*Oncorhynchus mykiss*). *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* **166(2):302-307**.

Ranjit Kumar, N, et al. 2013. Effect of dietary supplementation of *Bacillus licheniformis* on gut microbiota, growth and immune response in giant freshwater prawn, *Macrobrachium rosenbergii* (de Man, 1879). *Aquaculture International* **21(2):387-403**.

Ren, P, et al. 2013. *Lactobacillus planarum* subsp. *plantarum* JCM 1149 vs. *Aeromonas hydrophila* NJ-1 in the anterior intestine and posterior intestine of hybrid tilapia *Oreochromis niloticus* female × *Oreochromis aureus* male: an *ex vivo* study. *Fish & Shellfish Immunology* **35(1):146-153**.

Reyes-Becerril, M, et al. 2012. Effects of marine silages enriched with *Lactobacillus sakei* 5-4 on haemato-immunological and growth response in Pacific red snapper (*Lutjanus peru*) exposed to *Aeromonas veronii*. *Fish & Shellfish Immunology* **33(4):984-992**.

Reyes-Becerril, M, et al. 2013. Dietary administration of microalgae *Navicula* sp. affects immune status and gene expression of gilthead seabream (*Sparus aurata*). *Fish & Shellfish Immunology* **35(3):883-889**.

Ridha, MT, and Azad, IS. 2012. Preliminary evaluation of growth performance and immune response of Nile tilapia *Oreochromis niloticus* supplemented with two putative probiotic bacteria. *Aquaculture Research* **43(6):843-852**.

Román, L, et al. 2012. The *in vitro* effect of probiotic *Vagococcus fluvialis* on the innate immune parameters of *Sparus aurata* and *Dicentrarchus labrax*. *Fish & Shellfish Immunology* **33(5):1071-1075**.

Román, L, et al. 2013. Cytokine expression in head-kidney leucocytes of European sea bass (*Dicentrarchus labrax* L.) after incubation with the probiotic *Vagococcus fluvialis* L-21. *Fish & Shellfish Immunology* **35(4):1329-1332**.

Rotman, FJ, et al. 2011. Efficacy of a commercial probiotic relative to oxytetracycline as Gram-negative bacterial control agents in a rotifer (*Brachionus plicatilis*) batch culture. *North American Journal of Aquaculture* **73(3):343-349**.

Sarra, M, et al. 2013. Isolation and characterization of enterococci bacteriocinic strains from Tunisian fish viscera. *Food and Nutrition Sciences* **4(6):701-708**.

Sharifuzzaman, SM, et al. 2014. Characteristics of growth, digestive system functionality, and stress factors of rainbow trout fed probiotics *Kocuria* SM1 and *Rhodococcus* SM2. *Aquaculture* **418-419:55-61**.

Sharma, P, et al. 2013. Effect of probiotic on haematological parameters of diseased fish (*Cirrihinus mrigal). Journal of Fisheries Sciences* **7(4):323-328**.

Sharma, P, et al. 2013. Relative efficacy of two probiotics in controlling the epizootic ulcerative syndrome disease in mrigal (*Cirrhinus mrigala* Ham.). *Journal of Fisheries and Aquatic Science* **8(2):305-322**.

Silva, EF, et al. 2012. Effect of probiotic (*Bacillus* spp.) addition during larvae and postlarvae culture of the white shrimp *Litopenaeus vannamei*. *Aquaculture Research* **44(1):13-21**.

Soltani, M, et al. 2013. Genetic diversity of lactic acid bacteria in the intestine of Persian sturgeon fingerlings. *Journal of Applied Ichthyology* **29(3):494-498**.

Standen, BT, et al. 2013. Probiotic *Pediococcus acidilactici* modulates both localised intestinal- and peripheral-immunity in tilapia (*Oreochromis niloticus*). *Fish & Shellfish Immunology* **35(4):1097-1104**.

Sun, Y.-Z, et al. 2012. Effect of *Lactococcus lactis* and *Enterococcus faecium* on growth performance, digestive enzymes and immune response of grouper *Epinephelus coioides*. *Aquaculture Nutrition* **18(3):281-289**.

Sun, Y-Z, et al. 2013. Application of autochthonous *Bacillus* bioencapsulated in copepod to grouper *Epinephelus coioides* larvae. *Aquaculture* **392-395:44-50**.

Tapia-Paniagua, ST, et al. 2012. Use of the probiotic *Shewanella putrefaciens* Pdp11 on the culture of Senegalese sole (*Solea senegalensis*, Kaup 1858) and gilthead seabream (*Sparus aurata* L). *Aquaculture International* **20(6):1025-1039**.

Touraki, M, et al. 2012. Evaluation of the probiotics *Bacillus subtilis* and *Lactobacillus plantarum* bioencapsulated in *Artemia nauplii* against vibriosis in European sea bass larvae (*Dicentrarchus labrax*, L.). *World Journal of Microbiology & Biotechnology* **28(6):2425-2433**.

Touraki, M, et al. 2013. Antibacterial effect of *Lactococcus lactis* subsp. *lactis* on *Artemia franciscana* nauplii and *Dicentrarchus labrax* larvae against the fish pathogen Vibrio *anguillarum*. *Aquaculture International* **21(2):481-495**.

Verma, VK, et al. 2013. Immunostimulatory effect of artificial feed supplemented with indigenous plants on *Clarias gariepinus* against *Aeromonas hydrophila*. *Fish & Shellfish Immunology* **35(6):1924-1931**.

Wu, ZX, et al. 2012. Effect of probiotic *Bacillus subtilis* Ch9 for grass carp, *Ctenopharyngodon idella* (Valenciennes, 1844), on growth performance, digestive enzyme activities and intestinal microflora. *Journal of Applied Ichthyology* **28(5):721-727**.

Xing, C-F, et al. 2013. Diet supplementation of *Pediococcus pentosaceus* in cobia (*Rachycentron canadum*) enhances growth rate, respiratory burst and resistance against photobacteriosis. *Fish & Shellfish Immunology* **35(4):1122-1128**.

Xueqin, J, et al. 2012. Comparative effects of four feed types on white spot disease susceptibility and skin immune parameters in rainbow trout, *Oncorhynchus mykiss* (Walbaum). *Journal of Fish Diseases* **35(2):127-135**.

Yee, LC, et al. 2013. Antibacterial ability and molecular characterization of probionts Isolated from gut microflora of cultured red tilapia. *Asian Journal of Animal and Veterinary Advances* **8(1):116-123**.

Zhang, C-N, et al. 2013. Combined effects of dietary fructooligosaccharide and *Bacillus licheniformis* on innate immunity, antioxidant capability and disease resistance of triangular bream (*Megalobrama terminalis*). *Fish & Shellfish Immunology* **35(5):1380-1386**.

Zink, IC, et al. 2013. Improvement of rotifer *Brachionus plicatilis* population growth dynamics with inclusion of *Bacillus* spp. probiotics. *Aquaculture Research* **44(2):200-211**.

Prebiotics

Akrami, R, et al. 2013. Effect of prebiotic mannan oligosaccharide on hematological and blood serum biochemical parameters of cultured juvenile great sturgeon (*Huso huso* Linnaeus, 1754). *Journal of Applied Ichthyology* **29(6):1214-1218**.

Anguiano, M, et al. 2013. The effects of prebiotics on the digestive enzymes and gut histomorphology of red drum (*Sciaenops ocellatus*) and hybrid striped bass (*Morone chrysops* × *M. saxatilis*). *The British Journal of Nutrition* **109(4):623-629**.

Ebrahimi, G, et al. 2012. Effects of a prebiotic, Immunogen, on feed utilization, body composition, immunity and resistance to *Aeromonas hydrophila* infection in the common carp *Cyprinus carpio* (Linnaeus) fingerlings. *Journal of Animal Physiology and Animal Nutrition* **96(4):591-599**.

Ganguly, S, et al. 2013. Supplementation of prebiotics in fish feed: a review. *Reviews in Fish Biology and Fisheries* **23(2):195-199**.

Geraylou, Z, et al. 2012. Effects of arabinoxylan-oligosaccharides (AXOS) on juvenile Siberian sturgeon (*Acipenser baerii*) performance, immune responses and gastrointestinal microbial community. *Fish & Shellfish Immunology* **33(4):718-724**.

Ghorbani, A, et al. 2012. The effect of different levels of prebiotic on the length of fingerling rainbow trout. *African Journal of Biotechnology* **11(36):8928-8931**.

Green, TJ, et al. 2013. Dietary soybean protein concentrate-induced intestinal disorder in marine farmed Atlantic salmon, *Salmo salar* is associated with alterations in gut microbiota. *Veterinary Microbiology* **166(1-2): 286-292**.

Hoseinifar, SH, et al. 2013. Dietary galactooligosaccharide affects intestinal microbiota, stress resistance, and performance of Caspian roach (*Rutilus rutilus*) fry. *Fish & Shellfish Immunology* **35(5):1416-1420**.

Kühlwein, H, et al. 2013. Effects of a dietary β-(1,3)(1,6)-D-glucan supplementation on intestinal microbial communities and intestinal ultrastructure of mirror carp (*Cyprinus carpio* L.). *Journal of Applied Microbiology* **115(5):1091-1106**.

Luna-Gonzalez, A, et al. The prebiotic inulin increases the phenoloxidase activity and reduces the prevalence of WSSV in whiteleg shrimp (*Litopenaeus vannamei*) cultured under laboratory conditions. *Aquaculture* **362-363:28-32**.

Mourino, JLP, et al. 2012. Effect of dietary supplementation of inulin and *W. cibaria* on haemato-immunological parameters of hybrid surubim (*Pseudoplatystoma* sp). *Aquaculture Nutrition* **18(1):73-80**.

Ortiz, LT, et al. 2013. Effects of inulin and fructooligosaccharides on growth performance, body chemical composition and intestinal microbiota of farmed rainbow trout (*Oncorhynchus mykiss*). *Aquaculture Nutrition* **19(4):475-482**.

Peso-Echarri, P, et al. 2012. Sodium alginate as feed additive in cultured sea bream (*Sparus aurata*): does it modify the quality of the flesh? *Food Chemistry* **135(2):699-705**.

Raggi, T, and Gatlin III, DM. 2012. Prebiotics have limited effects on nutrient digestibility of a diet based on fish meal and soybean meal in goldfish. *North American Journal of Aquaculture* **74(3):400-407**.

Razeghi Mansour, M, et al. 2012. Effect of dietary mannan oligosaccharide (MOS) on growth performance, survival, body composition, and some hematological parameters in giant sturgeon juvenile (*Huso huso* Linnaeus, 1754). *Fish Physiology and Biochemistry* **38(3):829-835**.

Seychelles, LH, et al. 2013. Impact of arachidonic acid enrichment of live rotifer prey on bacterial communities in rotifer and larval fish cultures. *Canadian Journal of Microbiology* **59(3):189-196**.

Soleimani, N, et al. 2012. Dietary supplementation of fructooligosaccharide (FOS) improves the innate immune response, stress resistance, digestive enzyme activities and growth performance of Caspian roach (*Rutilus rutilus*) fry. *Fish & Shellfish Immunology* **32(2):316-321**.

Wu, S-C, et al. 2012. Antivirus and prebiotic properties of seaweed-oligosaccharide-lysates derived from Agarase AS-II. *Journal of the Fisheries Society of Taiwan* **39(1):11-21**.

Miscellaneous Articles

Acosta, J, et al. 2013. Cloning and functional characterization of three novel antimicrobial peptides from tilapia (*Oreochromis niloticus*). *Aquaculture* **372–375:9-18**.

Aguilera, B, et al. 2009. Otolith growth of European sea bass (*Dicentrarchus labrax* L.) larvae fed with constant or varying food levels. *Scientia Marina (Barcelona)* **73(1):173-182**.

Alechaga, E, et al. 2012. Ultra-high performance liquid chromatography-tandem mass spectrometry for the analysis of phenicol drugs and florfenicol-amine in foods. *Analyst* **137(10):2486-2494**.

Altinterim, B, et al. 2012. Determination of safety dose of *Eucalyptus camaldulensis* hydrosol on mirror carp (*Cyprinus carpio*). *Fresenius Environmental Bulletin* **21(5a):1219-1222**.

Altintzoglou, T, et al. 2011. Association of health involvement and attitudes towards eating fish on farmed and wild fish consumption in Belgium, Norway and Spain. *Aquaculture International* **19(3):475-488**.

Alvarez, CA, et al. 2013. Detection of the hepcidin prepropeptide and mature peptide in liver of rainbow trout. *Developmental & Comparative Immunology* **41(1):77-81**.

Alvarez-Lajonchère, L, and Ibarra-Castro, L. 2013. Aquaculture species selection method applied to marine fish in the Caribbean. *Aquaculture* **408-409:20-29**.

Azzouz, A, et al. 2011. Determination of residual pharmaceuticals in edible animal tissues by continuous solid-phase extraction and gas chromatography-mass spectrometry. *Talanta* **84(3):820-828**.

Barkoh, A, et al. 2013. Use of aluminum sulfate to reduce pH and increase survival in fingerling striped bass production ponds fertilized with nitrogen and phosphorus. *North American Journal of Aquaculture* **75(3):377-384**.

Björnsson, B, et al. 2012. Optimal stocking density of juvenile Atlantic cod (*Gadus morhua* L.) reared in a land-based farm. *Aquaculture* **356-357:342-350**.

Boonsaner, M, et al. 2013. Evaluation of food chain transfer of the antibiotic oxytetracycline and human risk assessment. *Chemosphere* **93(6):1009-1014**.

Bowker, JD, and Trushenski, JT. 2013. Fish drug questions answered by the FDA. *Fisheries* **38(12):549-552**.

Boyd, CE, et al. 2011. Interpretation of pH, acidity, and alkalinity in aquaculture and fisheries. *North American Journal of Aquaculture* **73:403-408**.

Broughton, EI, and Walker, DG. 2010. Policies and practices for aquaculture food safety in China. *Food Policy* **35(5):471-478**.

Browman, HI, and Skiftesvik, AB. 2011. Welfare of aquatic organisms: is there some faith- based HARKing going on here? *Diseases of Aquatic Organisms* **94(3):255-257**.

Bueno, MJM, et al. 2009. Application of passive sampling devices for screening of micro- pollutants in marine aquaculture using LC-MS/MS. *Talanta* **77(4):1518-1527**.

Burnley, T, et al. 2012. Post-handling mortality during controlled field trials with marine grow-out Atlantic salmon, *Salmo salar* L. *Aquaculture* **368-369:55-60**.

Canistro, D, et al. 2012. Modulation of cytochrome P450 and induction of DNA damage in *Cyprinus carpio* exposed in situ to surface water treated with chlorine or alternative disinfectants in different seasons. *Mutation Research* **729(1-2):81-89**.

Carballeira, C, et al. 2012. Assessing the toxicity of chemical compounds associated with land-based marine fish farms: the sea urchin embryo bioassay with *Paracentrotus lividus* and *Arbacia lixula*. *Archives of Environmental Contamination and Toxicology* **63(2):249-261**.

Clayton, RD and Summerfelt, RC. 2011. A standpipe screen design to prevent fry loss during tank cleaning. *North American Journal of Aquaculture* **73(2):104-106**.

Clearwater, SJ, et al. 2008. Overview of potential piscicides and molluscicides for controlling aquatic pest species in New Zealand. *New Zealand Department of Conservation Research and Development Series* **283:5-72**.

Cole, DW, et al. 2009. Aquaculture: environmental, toxicological, and health issues. *International Journal of Hygiene and Environmental Health* **212(4):369-377**.

Connors, KA, et al. 2013. Comparative pharmaceutical metabolism by rainbow trout (*Oncorhynchus mykiss*) liver S9 fractions. *Environmental Toxicology and Chemistry* **323(8):1810– 818**.

Cornwell, ER, et al. 2011. Residual tannic acid destroys virucidal properties of iodophor. *North American Journal of Aquaculture* **73(1):8-12**.

Dance, A. 2013. Regulatory science: researchers in the pipeline. *Nature* **496:387-389**.

Davis, MW. 2010. Fish stress and mortality can be predicted using reflex impairment. *Fish and Fisheries* **11(1):1-11**.

de Amorim, MP, et al. 2009. Early development of the silver catfish *Rhamdia quelen* (Quoy & Gaimard, 1824) (Pisces: Heptapteridae) from the Sao Francisco River Basin, Brazil. *Aquaculture Research* **40(72-180)**.

de Godos, I, et al. 2012. Tetracycline removal during wastewater treatment in high-rate algal ponds. *Journal of Hazardous Materials* **229-230:446-449**.

Ducrot, V, et al. 2010. Modeling effects of diquat under realistic exposure patterns in genetically differentiated populations of the gastropod *Lymnaea stagnalis*. *Philosophical Transactions of the Royal Society of London, Series B: Biological Sciences* **365(1557):3485-3494**.

Edun, OM. 2013. Safety and quality concerns associated with fish production. *Journal of Fisheries and Aquatic Science* **8(1):21-25**.

Emmenegger, EJ, et al. 2011. Development of an aquatic pathogen database (AquaPathogen X) and its utilization in tracking emerging fish virus pathogens in North America. *Journal of Fish Diseases* **34(8):578-587**.

Fotedar, S, and Evans, L. 2011. Health management during handling and live transport of crustaceans: a review. *Journal of Invertebrate Pathology* **106(1):143-152**.

Garcia, F, et al. 2013. Stocking density of Nile tilapia in cages placed in a hydroelectric reservoir. *Aquaculture* **410-411:51-56**.

Gates, KW. 2010. Fishery products—quality, safety and authenticity. *Journal of Aquatic Food Product Technology* **19(3-4):318-325**.

Green, TJ, et al. 2009. Differential expression of genes encoding anti-oxidant enzymes in Sydney rock oysters *Saccostrea glomerata* (Gould) selected for disease resistance. *Fish & Shellfish Immunology* **26(5):799-810**.

Hadfield, CA. 2011. Fish quarantine: current practices in public zoos and aquaria. *Journal of Zoo and Wildlife Medicine* **42(4):641-650**.

Harikrishnan, R, et al. 2010. Immune enhancement of chemotherapeutants on lymphocystis disease virus (LDV) infected *Paralichthys olivaceus*. *Fish & Shellfish Immunology* **29(5):862-867**.

Harikrishnan, R, et al. 2011. Fish health aspects in grouper aquaculture. *Aquaculture* **320(1-2):1-21**.

Harnisz, M, and Tucholski, S. 2010. Microbial quality of common carp and pikeperch fingerlings cultured in a pond fed with treated wastewater. *Ecological Engineering* **36(4):466-470**.

Hossain, M B, et al. 2013. Use of aqua-chemicals in the hatcheries and fish farms of greater Noakhali, Bangladesh. *Asian Journal of Animal and Veterinary Advances* **8(2):401-408**.

Hurtaud-Pessel, D, et al. 2013. Determination of residues of three triphenylmethane dyes and their metabolites (malachite green, leuco malachite green, crystal violet, leuco crystal violet, and brilliant green) in aquaculture products by LC/MS/MS: first action 2012.25. *Journal of AOAC International* **96(5):1152-1157**.

Immanuel, G, et al. 2009. Dietary medicinal plant extracts improve growth, immune activity and survival of tilapia *Oreochromis mossambicus*. *Journal of Fish Biology* **74(7):1462-1475**.

Irvine, JR, and Gaetz, H. 2012. Using golf balls to keep screens clean in circular rearing tanks. *North American Journal of Aquaculture* **74(4):584-585**.

Jensen, MA, et al. 2011. Seawater ozonation and formalin disinfection for the larval culture of eastern rock lobster, *Jasus* (*Sagmariasus*) *verreauxi*, phyllosoma. ***Aquaculture*** **318(1-2):213-222**.

Ji, K, et al. 2010. Effects of sulfathiazole, oxytetracycline and chlortetracycline on steroidogenesis in the human adrenocarcinoma (H295R) cell line and freshwater fish *Oryzias latipes*. *Journal of Hazardous Materials* **182(1-3):494-502**.

Johansen, L-H, et al. 2011. Disease interaction and pathogen exchange between wild and farmed fish populations with special reference to Norway. *Aquaculture* **315(3-4):167-186**.

Jovanović, B, and Dušan, P. 2012. Immunotoxicology of non-functionalized engineered nanoparticles in aquatic organisms with special emphasis on fish: review of current knowledge, gap identification, and call for further research. *Aquatic Toxicology* **118-119:141-151**.

Kasai, H, et al. 2011. Elimination of *Escherichia coli* from oysters using electrolyzed seawater. *Aquaculture* **319(3-4):315-318**.

Kim, H-A, et al. 2011. Analysis of formaldehyde in fisheries products. *Korean Journal of Food Science and Technology* **43(1):17-22**.

Kim, HY, et al. 2010. Monitoring of veterinary drug residues in foods produced in Korea. *Korean Journal of Food Science and Technology* **42(6):653-663**.

Konradsdottir, F. 2009. Fish skin as a model membrane: structure and characteristics. Journal of *Pharmacy and Pharmacology* **61(1):121-124**.

Kwok, KWH, et al. 2012. Uptake of silver nanoparticles and toxicity to early life stages of Japanese medaka (*Oryzias latipes*): effect of coating materials. *Aquatic Toxicology* **120-121:59-66**.

Landeira-Dabarca, A, et al. 2013. Change in food ingestion induces rapid shifts in the diversity of microbiota associated with cutaneous mucus of Atlantic salmon *Salmo salar*. *Journal of Fish Biology* **82(3):893-906**.

Lauzon, HL, et al. 2010. Microbiota of Atlantic cod (Gadus morhua L.) rearing systems at pre- and posthatch stages and the effect of different treatments. *Journal of Applied Microbiology* **109(5):1775-1789**.

Ledford, H. 2013. Transgenic salmon nears approval. ***Nature*** **497(7447):17-18**.

Li, H, et al. 2013. Molecular characterization of hepcidin gene in common carp (*Cyprinus carpio* L.) and its expression pattern responding to bacterial challenge. *Fish & Shellfish Immunology* **35(3):1030-1038**.

Li, K, et al. 2013. Risks for fishborne zoonotic trematodes in tilapia production systems in Guangdong province, China. *Veterinary Parasitology* **198(1-2):223-229**.

Lian, H, et al. 2013. Transgenic common carp do not have the ability to expand populations. *PLoS ONE* 8(6):e65506.

Lima dos Santos, CAM and Howgate, P. 2011. Fishborne zoonotic parasites and aquaculture: a review. *Aquaculture* 318(3-4):253-261.

Lopes, RP, et al. 2012. Multiresidue determination of veterinary drugs in aquaculture fish samples by ultra high performance liquid chromatography coupled to tandem mass spectrometry. *Journal of Chromatography B* **895-896:39-47**.

Lunn, D, et al. 2013. Modeling the dynamics of an experimental host-pathogen microcosm within a hierarchical Bayesian framework. *PLoS One* **8(8):e69775**.

Magondu, EW, et al. 2011. Evaluation of sodium chloride (NaCl) for the potential prophylactic treatment and its short-term toxicity to African catfish *Clarias gariepinus* (Burchell 1822) yolk-sac and swim-up fry. *Aquaculture* **319(1-2):307-310**.

Martins, ML, et al. 2011. Effect of parasitism on vaccine efficacy against *Streptococcus iniae* in Nile tilapia. *Aquaculture* **314(1-4):18-23**.

Marva, F, et al. 2010. Adaptation of green microalgae to the herbicides simazine and diquat as result of pre-selective mutations. *Aquatic Toxicology* **96(2):130-134**.

Mayor, DJ, et al. 2008. Acute toxicity of some treatments commonly used by the salmonid aquaculture industry to *Corophium volutator* and *Hediste diversicolor*: whole sediment bioassay tests. *Aquaculture* **285(1-4):102-108**.

McCarty, LS, et al. 2012. Information quality in regulatory decision making: peer review versus good laboratory practices. *Environmental Health Perspectives* **120(7):927-934**. (**open access**)

Menousek, J, et al. 2012. Database screening and *in vivo* efficacy of antimicrobial peptides against methicillin-resistant *Staphylococcus aureus* USA300. *International Journal of Antimicrobial Agents* **39(5):402-406**.

Merrifield, DL, et al. 2010. Probiotic applications for rainbow trout (*Oncorhynchus mykiss* Walbaum) II. Effects on growth performance, feed utilization, intestinal microbiota and related health criteria postantibiotic treatment. *Aquaculture Nutrition* **16(5):496-503**.

Metcalfe, JD and Craig, JF. 2011. Editorial – ethical justification for the use and treatment of fishes in research: an update. *Journal of Fish Biology* **78(2):393-394**.

Midtlyng, PJ, et al. 2011. What has been done to minimize the use of antibacterial and antiparasitic drugs in Norwegian aquaculture? *Aquaculture Research* **42(Supplement 1):28-34**.

Miladi, H, et al. 2010. Inhibitory effect of clove oil (*Syzium aromaticum*) against listeria monocytogenes cells incubated in fresh-cut salmon. *Journal of Food Safety* **30(2):432-442**.

Miladinović, DL, et al. 2012. Investigation of the chemical composition-antibacterial activity relationship of essential oils by chemometric methods. *Analytical & Bioanalytical Chemistry* **403(4):1007-1018**.

Milenkovski, S, et al. 2010. Toxicity of fungicides to natural bacterial communities in wetland water and sediment measured using leucine incorporation and potential denitrification. *Ecotoxicology* **19(2):285-294**.

Mitchell, A, and Farmer, B. 2010. Evaluation of an ultra-low-flow water delivery system for small experimental tanks. *North American Journal of Aquaculture* **72(3):195-200**.

Mitchell, SO et al. 2012. Development of a novel histopathological gill scoring protocol for assessment of gill health during a longitudinal study in marine-farmed Atlantic salmon (*Salmo salar*). *Aquaculture International* **20(5):813-825**.

Moeller, MS, et al. 2010. Degradation and effect of hydrogen peroxide in small-scale recirculation aquaculture system biofilters. *Aquaculture Research* **41(8):1113-1122**.

Mudryk, Z, et al. 2010. Detection of antibiotic resistant bacteria inhabiting the sand of non- recreational marine beach. *Marine Pollution Bulletin* **60(2):207-214**.

Munoz, I, et al. 2010. Environmental and human health risk assessment of organic micro- pollutants occurring in a Spanish marine fish farm. *Environmental Pollution* **158(5):1809-1816**.

Murray, AG. 2009. Using simple models to review the application and implications of different approaches used to simulate transmission of pathogens among aquatic animals. *Preventive Veterinary Medicine* **88(3):167-177**.

Nunes, JP, et al. 2011. Towards an ecosystem approach to aquaculture: assessment of sustainable shellfish cultivation at different scales of space, time and complexity. *Aquaculture* **315(3-4):369-383**.

Oidtmann, BC, et al. 2011. International and national biosecurity strategies in aquatic animal health. *Aquaculture* **320(1-2):22-3**.

Oplinger, RW, et al. 2009. Effect of sodium chloride, tricaine methanesulfonate, and light on New Zealand mud snail behavior, survival of snails defecated from rainbow trout, and effects of Epsom salt on snail elimination rate. *North American Journal of Aquaculture* **71(2):157-164**.

Oplinger, RW, and Wagner, EJ. 2009. Toxicity of common aquaculture disinfectants to New Zealand mud snails and mud snail toxicants to rainbow trout eggs. *North American Journal of Aquaculture* **71(3):229-237**.

Oplinger, RW, and Wagner, EJ. 2010. Effect of potassium permanganate treatments on New Zealand mud snail behavior and survival and rainbow trout growth and condition. *North American Journal of Aquaculture* **72(3):207-212**.

Park, K, and Heo, GJ. 2009. Acute and subacute toxicity of copper sulfate pentahydrate ($CuSO_4 \cdot 5H_2O$) in the guppy (*Poecilia reticulata*). *Journal of Veterinary Medical Science* **71(3):333-336**.

Peacock, SJ, et al. 2013. Cessation of a salmon decline with control of parasites. *Ecological Applications* **23(3):606-620**.

Peng, X-X. 2013. Proteomics and its applications to aquaculture in China: infection, immunity, and interaction of aquaculture hosts with pathogens. *Developmental & Comparative Immunology* **39(1-2):63-71**.

Pizzolon, M, et al. 2010. When fathers make the difference: efficacy of male sexually selected antimicrobial glands in enhancing fish hatching success. *Functional Ecology* **24(1):141-148**.

Pridgeon, JW, et al. 2013. Identification and virulence of *Chryseobacterium indologenes* isolated from diseased yellow perch (*Perca flavescens*). *Journal of Applied Microbiology* **114(3):636-643**.

Quesada, SP, et al. 2013. Considerations on the aquaculture development and on the use of veterinary drugs: special issue for fluoroquinolones—a review. *Journal of Food Science* **78(9):R1321-R1333**.

Rajanbabu, V and Chen, J-Y. 2011. Applications of antimicrobial peptides from fish and perspectives for the future. *Peptides* **32(2):415-420**.

Rambla-Alegre, M, et al. 2010. Analysis of selected veterinary antibiotics in fish by micellar liquid chromatography with fluorescence detection and validation in accordance with regulation 2002/657/EC. *Food Chemistry* **123(4):1294-1302**.

Ramírez-Godínez, J, et al. 2013. Recirculating systems for pollution prevention in aquaculture facilities. *Journal of Water Resource and Protection* **5(7A):5-9**.

Rawani, A, et al. 2013. Mosquito larvicidal and antimicrobial activity of synthesized nano-crystalline silver particles using leaves and green berry extract of *Solanum nigrum* L. (Solanaceae: Solanales). *Acta Tropica* **128(3):613-622**.

Ren, X, et al. 2012. Optimization of enzymatic hydrolysis of channel catfish bones for preparing antimicrobial agents. *Journal of Aquatic Food Product Technology* **21(2):99-110**.

Ribeiro, RV, et al. 2010. Incidence and antimicrobial resistance of enteropathogens isolated from an integrated aquaculture system. *Letters in Applied Microbiology* **51(6):611-618**.

Rico, A, et al. 2014. Probabilistic risk assessment of veterinary medicines applied to four major aquaculture species produced in Asia. *The Science of the Total Environment* **468-469:630-641**.

Rohini, B, et al. 2012. Potential of water and methanol extracts of *Lambis lambis* against fish and human pathogens. *Biologocal Rhythm Research* **43(2):205-213**.

Rowe, DK, and Wilding, T. 2012. Risk assessment model for the introduction of non-native freshwater fish into New Zealand. *Journal of Applied Ichthyology* **28(4):582-589**.

Sanabria, C, et al. 2009. Effects of commonly used disinfectants and temperature on swim bladder non-inflation in freshwater angelfish *Pterophyllum scalare* (Lichtenstein). *Aquaculture* **292(3-4):158-165**.

Santana, PA. 2013. Development of a sandwich ELISA for quantifying hepcidin in rainbow trout. *Fish & Shellfish Immunology* **35(3):748-755**.

Schillaci, D, et al. 2010. Antimicrobial and antistaphylococcal biofilm activity from the sea urchin *Paracentrotus lividus*. *Journal of Applied Microbiology* **108(1):17-24**.

Segner, H, et al. 2012. Health of farmed fish: Its relation to fish welfare and its utility as welfare indicator. *Fish Physiology and Biochemistry* **38(1):85-105**.

Shao, X-p, et al. 2010. Effects of dietary copper sources and levels on performance, copper status, plasma antioxidant activities and relative copper bioavailability in *Carassius auratus gibelio*. *Aquaculture* **308(1-2):60-65**.

Shaw, BJ, et al. 2012. Effects of waterborne copper nanoparticles and copper sulphate on rainbow trout, (*Oncorhynchus mykiss*): physiology and accumulation. *Aquatic Toxicology* **116-117:90-101**.

Shi, X, et al. 2012. Characterization and application of molecularly imprinted polymers for group-selective recognition of antibiotics in food samples. *Analyst* **137(4):3381-3389**.

Silverstein, J. 2013. The sum is greater than the parts: advances in catfish research. *Agricultural Research Magazine* **61(10):2**.

Sirri, R, et al. 2013. Effects of two water disinfectants (chloramine T and peracetic acid) on the epidermis and gills of *Garra rufa* used in human ichthyotherapy. *Polish Journal of Veterinary Sciences* **16(3):453-461**.

Soares, MC, et al. 2011. Tactile stimulation lowers stress in fish. *Nature Communications* **2:534-534**.

Soon, JM, and Baines, RN. 2012. Farm food safety and diseases risk assessments: case studies from the horticultural and salmonid farms. *Risk Research* **15(4):389-403**.

Stachowiak, M, et al. 2010. Tetracycline-resistant *Escherichia coli* in a small stream receiving fish hatchery effluent. *Water, Air, & Soil Pollution* **211(1-4):251-259**.

Strona, G, et al. 2013. Fish parasites resolve the paradox of missing coextinctions. *Nature Communications* 4, Article No.1718.

Sun, K, et al. 2010. Sorption of endocrine disrupting chemicals by condensed organic matter in soils and sediments. *Chemosphere* **80(7):709-715**.

Tacon, AGJ and Metian, M. 2008. Aquaculture feed and food safety. *Annals of the New York Academy of Sciences* **1140(1):50-59**.

Torrissen, O, et al. 2013. Salmon lice--impact on wild salmonids and salmon aquaculture. *Journal of Fish Diseases* **36(3):171-194**.

Treasurer, JW. 2012. Diseases of north European wrasse (Labridae) and possible interactions with cohabited farmed salmon, *Salmo salar* L. *Journal of Fish Diseases* **35(8):555-562**.

Vazquez-Sanchez, D, et al. 2012. Incidence and characterization of *Staphylococcus aureus* in fishery products marketed in Galicia (Northwest Spain). *International Journal of Food Mcrobiology* **157(2):286-296**.

Velicu, M and Suri, R. 2009. Presence of steroid hormones and antibiotics in surface water of agricultural, suburban and mixed-use areas. *Environmental Monitoring and Assessment* **154(1-4):349-359**.

Wang, H-C, et al. 2011. Effect of common antibiotics in aquaculture on phenoloxidase activity in mud crab. *Fisheries Science* **30(1):38-41**.

Wilkinson, RJ, et al. 2008. The effects of pre-harvest stress and harvest method on the stress response, rigor onset, muscle pH, and drip loss in barramundi *Lates calcarifer*. *Aquaculture* **282(1-4):26-32**.

Wolkers, CPB, et al. 2013. Stress-induced antinociception in fish reversed by naloxone. *PloS ONE* **8(7):e71175**.

Wyatt, TA, et al. 2013. Refining ammonia treatments for control of *Prymnesium parvum* in striped bass fingerling ponds. *North American Journal of Aquaculture* **75(2):170-177**.

Xie, B, et al. 2013. Organic aquaculture in China: a review from a global perspective. *Aquaculture* **414-415:243-253**.

Xu, D-H, et al. 2012. Enhanced susceptibility of channel catfish to the bacterium *Edwardsiella icta*luri after parasitism by *Ichthyophthirius multifiliis*. *Veterinary Microbiology* **158(1-2):216-219**.

Yamashita, Y, et al. 2009. The synthetic antioxidant, ethoxyquin, adversely affects immunity in tilapia (*Oreochromis niloticus*). *Aquaculture Nutrition* **15(2):144-151**.

Yao, H, et al. 2009. A high throughput chemiluminescence method for determination of chemical oxygen demand in waters. *Analytica Chimica Acta* **633(1):76-80**.

Zaroogian, GE, et al. 2012. An injectable, slow-release implantation method for exposing fish to chemicals over a period of weeks. *North American Journal of Aquaculture* **74(4):512-521**.

Zhu, L-Y, et al. 2013. Advances in research of fish immune-relevant genes: a comparative overview of innate and adaptive immunity in teleosts. *Developmental and Comparative Immunology* **39(1-2):39-62**.