

Current Awareness Service

Contents of Selected Journals

Vol. 5 No. 9

September 2015



Library & Documentation Centre
Central Marine Fisheries Research Institute
P.B.No.1603, Cochin - 682 018, Kerala

Contents of Selected Journals

September 2015



**Library and Documentation Centre
CMFRI, Cochin - 18**

Contents

Sl. No.	Title	Vol./No.	Mon./Yr	Page No.
1	Aquaculture Research	46 (8)	Aug '15	1
2	Candian J. of Fisheries and Aquatic Sciences	72 (6)	Jun '15	2-3
3	Copeia	103 (2)	Jul '15	4-5
4	Crustaceana	88 (6)	Jun '15	6-7
5	Fisheries	40 (6)	Jun '15	8-9
6	Fisheries	40 (7)	Jul '15	10-11
7	Fisheries Management and Ecology	22 (4)	Aug '15	12
8	Global aquaculture advocate	18 (4)	Jul-Aug '15	13
9	ICES Journal of Marine Science	72 (1)	Jul '15	14-15
10	ICES Journal of Marine Science	72 (6)	Jul-Aug '15	16-18
11	Journal of Aquatic Animal Health	27 (2)	Jun '15	19
12	Journal of Fish Biology	87 (2)	Aug '15	20-21
13	Journal of Fish Diseases	38 (8)	Aug '15	22
14	Journal of Fish Diseases	38 (9)	Sep '15	23
15	Journal of Molluscan Studies	81 (3)	Aug '15	24
16	Marine Ecology Progress Series	531	Jul '15	25-26
17	Marine Resource Economics	30 (3)	Mar '15	27
18	North American J. of Fisheries Management	35 (3)	Jun '15	28
19	Statistical Science	30 (2)	May '15	29
20	The Biological Bulletin	228 (3)	Jun '15	30
21	Transactions of the American Fisheries Society	144 (3)	May '15	31

New Additions to Library

22 Periodicals

32-35



Aquaculture Research

Volume 46, Number 8, August 2015

Contents

Original Articles

- 1793 Rotifers enriched with iodine, copper and manganese had no effect on larval cod (*Gadus morhua*) growth, mineral status or redox system gene mRNA levels
S Penglase, K Hamre, P A Olsvik, E Grøtan and A Nordgreen
- 1801 Effects of dietary arginine on growth performance, feed utilization, haematological parameters and non-specific immune responses of juvenile Nile tilapia (*Oreochromis niloticus* L.)
Y Yue, Z Zou, J Zhu, D Li, W Xiao, J Han and H Yang
- 1810 Improvement in lipid metabolism and stress tolerance of juvenile giant grouper, *Epinephelus lanceolatus* (Bloch), fed supplemental choline
S-P Yeh, P-J Shiu, W-C Guei, Y-H Lin and C-H Liu
- 1822 Quantitative dietary requirement of juvenile Atlantic ditch shrimp *Palaeomonetes varians* for lysine, methionine and arginine
J Palma, J P Andrade, A Lemme and D P Bureau
- 1831 Vaccination strategies with oral booster for surubim hybrid (*Pseudoplatystoma coruscans* × *P. reticulatum*) against haemorrhagic septicaemia
G d V Pereira, B C d Silva, F d N Vieira, W Q Seiffert, T T Ushizima, J L P Mourão and M L Martins
- 1842 Depletion of florfenicol amine in tilapia (*Oreochromis* sp.) maintained in a recirculating aquaculture system following Aquaflor®-mediated feed therapy
M P Gaikowski, M K Whitsel, S Charles, S M Schleis, L S Crouch and R G Endris
- 1858 Effects of stocking density on intermediate culture of the razor clam *Ensis arcuatus* (Pharidae: Bivalvia)
F da Costa, B Barreiro, J Ojea, S Núñez and D Martínez-Patiño
- 1866 Effects of synthetic kisspeptin peptides and GnRH analogue on oocyte growth and circulating sex steroids in prepubertal female chub mackerel (*Scomber japonicus*)
S Selvaraj, H Ohga, M Nyuji, H Kitano, N Nagano, A Yamaguchi and M Matsuyama
- 1878 Larval development and salinity tolerance of Japanese flounder (*Paralichthys olivaceus*) from hatching to juvenile settlement
Y Wang, Q Guo, H Zhao, H Liu and W Lu
- 1891 Performance of mono-sex tilapia (*Oreochromis niloticus*) in rice field with different ditch size
M A Hossain, M A R Mridha, A K M A Shah, M Nahiduzzaman and M S Uddin
- 1902 RT-LAMP detection of shrimp Taura syndrome virus (TSV) by combination with a nanogold-oligo probe
J Phromjai, T Mathuros, D Phokharatkul, P Prombum, R Suebsing, A Tuantranont and W Kiatpathomchai
- 1914 Mixed mycobacterial infections in farmed sturgeons
D F Zhang, C Ji, X J Zhang, T T Li, A H Li and X N Gong
- 1924 Growth performance, survival and body composition of southern flounder *Paralichthys lethostigma* larvae fed different formulated microdiets
M S Alam, W O Watanabe, T C Rezek, A R Myers, P M Carroll and H V Daniels
- 1937 RNA/DNA ratio is an early responding, accurate performance parameter in growth experiments of noble crayfish *Astacus astacus* (L.)
C Grimm, K Lehmann, C Clemmesen and H Brendelberger
- 1946 Molecular ontogeny of selected immune-relevant and metabolism-related genes in cod, *Gadus morhua* during early development
C M A Caipang and F F Fagulao
- 1958 Why is cannibalism less frequent when larvae of sutchi catfish *Pangasianodon hypophthalmus* are reared under dim light?
Y Mukai, N H Tan and L S Lim
- 1965 Use of biofloc technology during the pre-maturation period of *Litopenaeus vannamei* males: effect of feeds with different protein levels on the spermatophore and sperm quality
A Braga, D L Lopes, V Magalhães, L H Poersch and W Wasielesky
- 1974 Hot water immersion lowers survival, shell growth rate and lysosomal membrane stability of oysters *Crassostrea virginica* (Gmelin)
E Mayrand, T Sonier and L A Comeau
- 1988 Growth variations within a farm of mussel (*Mytilus galloprovincialis*) held near fish cages: importance for the implementation of integrated aquaculture
J Irisarri, A M Cubillo, M J Fernández-Reiriz and U Labarta
- 2003 Analysis of viral load between different tissues and rate of progression of white spot syndrome virus (WSSV) in *Penaeus monodon*
J Jeswin, A Anju, P C Thomas, M P Paulton and K K Vijayan
- 2013 Dietary L-tryptophan modulates growth and immuno-metabolic status of *Labeo rohita* juveniles exposed to nitrite
A Ciji, N P Sahu, A K Pal and M S Akhtar
- 2025 Effect of dissolved oxygen levels on growth performance, energy budget and antioxidant responses of yellow catfish, *Pelteobagrus fulvidraco* (Richardson)
K Yang, Q Fan, L Zhang, B Li, Y Gao, K Zeng, Q Wang, S Zhu and G Fang

Short Communications

- 2034 Farming of the fire-coral *Millepora alcicornis* for reef restoration purposes: the influence of inclination on growth
E N Calderon, C Zilberman and C B e Castro
- 2037 Spermatozoa and seminal plasma enzyme activity in Persian sturgeon, *Acipenser persicus*, in relation to short-term storage
M S Aramli, M R Kalbassi and R M Nazari
- 2043 Effects of starvation on $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ in Atlantic bonito, *Sarda sarda* (Bloch, 1793)
J L Varela, A Ortega, F de la Gándara and A Medina

Corrigendum

- 2048 Corrigendum

Canadian Journal of Fisheries and Aquatic Sciences

Volume 72, Number 6, June 2015

Journal canadien des sciences halieutiques et aquatiques

Volume 72, numéro 6, juin 2015

RAPID COMMUNICATION

**Richard T. Kraus, Carey T. Knight,
Troy M. Farmer, Ann Marie Gorman,
Paris D. Collingsworth, Glenn J. Warren,
Patrick M. Kocovsky, and Joseph D. Conroy**

797–806

COMMUNICATION RAPIDE

Dynamic hypoxic zones in Lake Erie compress fish habitat, altering vulnerability to fishing gears

ARTICLES

Brian D. Barnes and Wayne A. Wurtsbaugh

807–817

ARTICLES

The effects of salinity on plankton and benthic communities in the Great Salt Lake, Utah, USA: a microcosm experiment

**Gregory T. Ruggerone
and Brendan M. Connors**

818–833

Productivity and life history of sockeye salmon in relation to competition with pink and sockeye salmon in the North Pacific Ocean

**Andrew L. Rypel, Daisuke Goto,
Greg G. Sass, and M. Jake Vander Zanden**

834–844

Production rates of walleye and their relationship to exploitation in Escanaba Lake, Wisconsin, 1965–2009

**Sara M. Turner, Karin E. Limburg,
and Eric P. Palkovacs**

845–854

Can different combinations of natural tags identify river herring natal origin at different levels of stock structure?

**Arne Johan Jensen, Ola Håvard Diserud,
Bengt Finstad, Peder Fiske,
and Audun Håvard Rikardsen**

855–863

Between-watershed movements of two anadromous salmonids in the Arctic

Continued on inside back cover / Suite au verso

Anne-Cécile Dragon, Inna Senina, Olivier Titaud, Beatriz Calmettes, Anna Conchon, Haritz Arrizabalaga, and Patrick Lehodey	864–878	An ecosystem-driven model for spatial dynamics and stock assessment of North Atlantic albacore
Stephen G. Wischniowski, Craig R. Kastelle, Timothy Loher, and Thomas E. Helser	879–892	Incorporation of bomb-produced ^{14}C into fish otoliths. An example of basin-specific rates from the North Pacific Ocean
Brooke E. Penaluna, Steve F. Railsback, Jason B. Dunham, Sherri Johnson, Robert E. Bilby, and Arne E. Skaugset	893–901	The role of the geophysical template and environmental regimes in controlling stream-living trout populations
James Duncan Sydney Cullis, Diane Marie McKnight, and Sarah A. Spaulding	902–914	Hydrodynamic control of benthic mats of <i>Didymosphenia geminata</i> at the reach scale
Rebecca A. Mortensen, Stephen A. Arnott, William J. Jones, and Dianne I. Greenfield	915–925	Development of a sandwich hybridization assay for the identification and quantification of red drum (<i>Sciaenops ocellatus</i>) eggs: a novel tool for fishery research and management
Zach J. Lawson, M. Jake Vander Zanden, Colin A. Smith, Emily Heald, Thomas R. Hrabik, and Stephen R. Carpenter	926–937	Experimental mixing of a north-temperate lake: testing the thermal limits of a cold-water invasive fish
Sondre Aanes and Jon Helge Vølstad	938–953	Efficient statistical estimators and sampling strategies for estimating the age composition of fish

Copeia

Contents

103, No. 2, 2015

Articles

Spatial Ecology of Female Barbour's Map Turtles (<i>Graptemys barbouri</i>) in Ichawaynochaway Creek, Georgia Sean C. Sterrett, Adam J. Kaeser, Rachel A. Katz, Lora L. Smith, Jean C. Brock, and John C. Maerz	263
Lack of Hybridization between Naturally Sympatric Populations of Red and Blacktail Shiner (<i>Cyprinella lutrensis</i> and <i>C. venusta</i>) in Texas, but Evidence of Introgession among Three Lineages of the <i>C. lutrensis</i> Species Group Christopher L. Higgins, Allison Love-Snyder, Wesley Wiegrefe, and Russell S. Pfau	272
A New Species of <i>Characidium Reinhardt</i> (Characiformes, Crenuchidae) with a Distinctively Dimorphic Male Marcelo R. S. Melo and Osvaldo T. Oyakawa	281
A New Species of <i>Pethia</i> from the Western Ghats, India (Teleostei: Cyprinidae) V. M. Atkore, J. D. Marcus Knight, K. Rema Devi, and J. Krishnaswamy	290
Are Commonly Used Fitness Predictors Accurate? A Meta-analysis of Amphibian Size and Age at Metamorphosis Julia E. Earl and Howard H. Whiteman	297
Sexual Dimorphism and Patch Size Variation in Three Lizard Species Suggests Potential for Sexual Confusion Drew E. Dittmer, James Bradley Johnson, and Toby J. Hibbitts	310
The Omnivorous Diet of the Western Chicken Turtle (<i>Deirochelys reticularia miaria</i>) Donald T. McKnight, Anne C. Jones, and Day B. Ligon	322
Sexual Dimorphism, Growth, and Longevity of Two Toad Species (Anura, Bufonidae) in a Neotropical Savanna Ísis da C. Arantes, Mariana M. Vasconcellos, Taissa C. V. Boas, Laís B. A. Veludo, and Guarino R. Colli	329
Trophic Interactions of Turtles in a North Florida Lake Food Web: Prevalence of Omnivory Matthew J. Aresco, Joseph Travis, and Pamela S. D. MacRae	343
A Tale of Three Tails: Cryptic Speciation in a Globally Distributed Marine Fish of the Genus <i>Seriola</i> Natalie Martinez-Takeshita, Catherine M. Purcell, Chris L. Chabot, Matthew T. Craig, Corinne N. Paterson, John R. Hyde, and Larry G. Allen	357
Evaluating the Need for Supplemental Shallow Water Access for Amphibians Reared in Mesocosms Tyler D. Hoskins and Michelle D. Boone	369
Revision of the Zipper Loaches, <i>Acanthocobitis</i> and <i>Paracanthocobitis</i> (Teleostei: Nemacheilidae), with Descriptions of Five New Species Randal A. Singer and Lawrence M. Page	378
Rediscovery and Redescription of <i>Theloderma phrynoderma</i> (Ahl, 1927) (Anura: Rhacophoridae) from Myanmar Jennifer A. Dever, Hai Nguyen, and Jeffery A. Wilkinson	402
Summer Stream Temperatures Influence Sculpin Distributions and Spatial Partitioning in the Upper Clark Fork River Basin, Montana Susan B. Adams, David A. Schmetterling, and David A. Neely	416
A New Species of the Ceratioid Anglerfish Genus <i>Lasiognathus</i> Regan (Lophiiformes: Oneirodidae) from the Northern Gulf of Mexico Theodore W. Pietsch and Tracey T. Sutton	429
Occupancy and Abundance Modeling of the Endangered Yellowcheek Darter in Arkansas Daniel D. Magoulick and Dustin T. Lynch	433
Phylogeography and Population Structure of the Imperiled Redtail Splitfin (Goodeidae: <i>Xenotoca eiseni</i>): Implications for Conservation K. R. Piller, C. S. Kenway-Lynch, D. T. Camak, and O. Dominguez-Dominguez	440

Historical Perspectives

Arthur Wilbur Henn: Unsung Hero of the American Society of Ichthyologists and Herpetologists Inci A. Bowman and David G. Smith	455
Murray John Littlejohn and Patricia Gordon (Patsy) Littlejohn Brian K. Sullivan, Angus A. Martin, Margaret M. Stewart, and Martin J. Fouquette, Jr.	467

Obituaries

Edmundo Díaz Pardo (1945–2013) Norman Mercado-Silva, Claudia P. Ornelas-García, and Rocío Rodiles-Hernández	476
The (Mis)measure of a Man: Martin "Jack" J. Fouquette, Jr. (1930–2014) Brian K. Sullivan	482

Contents

(continued from back cover)

Book Reviews		
Tadpoles and Frogs of Australia. By M. Anstis	Ross A. Alford.....	487
A Field Guide to the Amphibians and Reptiles of Iowa. By J. B. LeClere	Gary S. Casper	488
Editorial Notes and News		491

Front cover image: An underwater photograph of a typical yellowtail jack, *Seriola dorsalis*, taken off Southern California. All members of this taxon exhibit the same basic morphology throughout the subtropical and warm temperate seas of the world (photo credit: Dr. Terry Maas). From the article by Martinez-Takeshita et al. in this issue (p. 357).

Contents

L. C. SANTOS, C. E. R. D. ALENCAR, F. A. M. FREIRE & A. C. LUCHIARI, Agonistic interactions in the male fiddler crab <i>Uca leptodactyla</i> Rathbun, 1898 at varying densities	625
M. KOCH, V. C. CHONG, A. SASEKUMAR & Z. ĐURIŠ, New records and range-extension of the swimming crab <i>Xiphonectes pseudohastatoides</i> (Yang & Tang, 2006) (Brachyura, Portunidae).....	641
KEREM BAKIR, AKIN T. İLKAYAZ, CELALETTİN AYDIN & GÜREL TÜRKMEN, The presence of <i>Alpheus lobidens</i> De Haan, 1849 (Decapoda, Alpheidae) on the Turkish Aegean Sea coast	651
MARIA L. FIDALGO, PAULO SANTOS, CLÁUDIA FERREIRA & ANDREIA SILVA, Population structure and dynamics of the freshwater shrimp <i>Atyaephyra desmarestii</i> (Millet, 1831) in the lower River Minho (NW Portugal)	657
I. WENDT & P. THOR, Influence of prey species and concentration on egg production efficiency and hatching success in <i>Acartia tonsa</i> Dana (Copepoda, Calanoida)	675
R. GASCA, E. SUÁREZ-MORALES & S. H. D. HADDOCK, <i>Saphirina iris</i> Dana, 1849 and <i>S. sinuicauda</i> Brady, 1883 (Copepoda, Cyclopoida): predators of salps in Monterey Bay and the Gulf of California	689
WENLIANG LIU & ZHONGLI SHA, A new species of the genus <i>Austinogebia</i> Ngoc-Ho, 2001 (Decapoda, Gebiidea, Upogebiidae) from the Bohai Sea, China	701
KUNIHIKO IZAWA, Descriptions of the postembryonic developmental stages of <i>Hatschekia bifurcata</i> Yamaguti & Yamasu, 1959 (Copepoda, Siphonostomatoidea, Hatschekiidae).....	709

(Continued on inside cover page)

(Contents continued)

Notes and News	727
JAKOV DULČIĆ, BRANKO DRAGIČEVIĆ, MARIJA DESPALATOVIĆ, IVAN CVITKOVIĆ, DUBRAVKA BOJANIĆ-VAREZIĆ & MAURO ŠTIFANIĆ, Lepadid barnacles found attached to a living <i>Lobotes surinamensis</i> (Pisces).....	727
JAKOV DULČIĆ & BRANKO DRAGIČEVIĆ, <i>Percnon gibbesi</i> (H. Milne Edwards, 1853) (Decapoda, Percnidae): first substantiated record from the Adriatic Sea	733
SANCIA E. T. VAN DER MEIJ, Rediscovery of <i>Fizesereneia tholia</i> Kropp, 1994 (Decapoda, Cryptochiridae).....	741

Fisheries

Vol. 40 • No. 6 • June 2015

COLUMN

POLICY

- 243 **Nature-Based Remedies to Societal Woes**
Thomas E. Bigford

JOURNAL REVIEWS

- 245 **Coping with Crisis: Lessons from the Maine Lobster Fishery**
Jeff Schaeffer
- 245 **"All Water Has pH!" Except Now You Can Understand What That Means**
Jeff Schaeffer
- 246 **Ozone Disinfection Has Minimal Impacts on Larvae of Three Important Species in Aquaculture**
Jeff Schaeffer
- 246 **Artificial Reef Types Affect Red Snapper Sizes**
Sarah Harrison
- 247 **Catch-and-Release Practices Inhibit Refuge-Seeking Behavior in Fish**
Sarah Harrison

252 The March 2015 grand reopening of the Toledo Zoo Aquarium. Photo credit: Toledo Zoo, Andi Norman.

AFS NEWS

- 248 **Improving Communication/Cooperation among Aquatic Professional Societies**
Mark V. Hoyer, Terry McNabb, Micheal Allen, and Michael D. Netherland

258 A pair of Muskellunge observed during a spotlight spawning survey in northern Wisconsin. Photo credit: J. Nohner.

INTERVIEWS

- 252 **Q&A: Interview with Jay Hemdal, Toledo Zoo Fish Curator**
Jeff Schaeffer
- 256 **Q&A: Interview with Sara Turner**
Sarah Harrison

292 Inland Silverside *Menidia beryllina*. Photo credit: Richard A. King.

Fisheries

American Fisheries Society • www.fisheries.org

FEATURES

- 258 **Muskellunge and Northern Pike Ecology and Management: Important Issues and Research Needs**

Derek P. Crane, Loren M. Miller, James S. Diana, John M. Casselman, John M. Farrell, Kevin L. Kapuscinski, and Joe K. Nohner

- 268 **The Science Framework for Implementing the Fisheries Protection Provisions of Canada's Fisheries Act**

Jake Rice, Michael J. Bradford, Keith D. Clarke, Marten A. Koops, Robert G. Randall, and Roger Wysocki

- 276 **A Tool Supporting the Extraction of Angling Effort Data from Remote Camera Images**

Saul Greenberg and Theresa Godin

IN MEMORIAM

- 288 **R. Weldon "Larry" Larimore**

JOURNAL HIGHLIGHTS

- 289 **North American Journal of Aquaculture, Volume 77, Number 2, April 2015**

290 CALENDAR

BACK PAGE

- 292 **From Your Body to Theirs: How Exposure to Pharmaceuticals Is Altering Gene Expression in Fishes**

Natalie Sopinka

Fisheries

Vol. 40 • No. 7 • July 2015

COLUMNS

GUEST COLUMN

- 295 **Point-Counterpoint: Be Flexible in the Number of Talks per Speaker at Meetings!**
Scott A. Bonar

POLICY

- 296 **Silt Happens . . . Literally**
Thomas E. Bigford

JOURNAL REVIEWS

- 297 **Bluegill Can Be Managed More Effectively with Bag Limits!**
Jeff Schaeffer

- 297 **Support Solutions to California's Drought Issues: Modeling Suggests Ways to Conserve Chinook Salmon in the Face of Water Diversion**
Jeff Schaeffer

- 298 **Probiotics Show Promise for Aquaculture**
Jeff Schaeffer

- 298 **More Evidence That Plant-Based Feeds Can Support Sustainable Aquaculture**
Jeff Schaeffer

- 299 **Using a Video Lander to Assess Difficult Marine Habitats**
Jeff Schaeffer

STUDENT ANGLES

- 300 **The 2013–2014 Fenske Fellowship: Learning the Ins and Outs of Lake Whitefish Management in the Upper Great Lakes**
Marissa L. Hammond

- 302 **West Virginia University AFS Student Subunit Leads a Citizen Science Program**
Daniel Hanks, Ross Andrew, and Alison Anderson

AFS NEWS

- 303 **The 63rd Annual Business Meeting of the Northeastern Division**
John Cooper

- 302 West Virginia University undergraduates and DLiWV participants record lengths and weights of captured fish. Photo credit: Daniel Hanks.

- 304 Culverts in Beaver Creek that prevented fish passage were replaced with a fish-friendly structure in 2005. Photo credit: Elko District BLM.

- 338 Shayle Matsuda's conference sketches. Image credit: Shayle Matsuda.

Fisheries

American Fisheries Society • www.fisheries.org

EDITORIAL / SUBSCRIPTION / CIRCULATION OFFICES
5410 Grosvenor Lane, Suite 110 • Bethesda, MD 20814-2199
(301) 897-8616 • fax (301) 897-8096 • main@fisheries.org

The American Fisheries Society (AFS), founded in 1870, is the oldest and largest professional society representing fisheries scientists. The AFS promotes scientific research and enlightened management of aquatic resources for optimum use and enjoyment by the public. It also encourages comprehensive education of fisheries scientists and continuing on-the-job training.

AFS OFFICERS

PRESIDENT	Donna L. Parrish
PRESIDENT-ELECT	Ron Essig
FIRST VICE PRESIDENT	Joe Margraf
SECOND VICE PRESIDENT	Steve L. McMullin
PAST PRESIDENT	Bob Hughes
EXECUTIVE DIRECTOR	Doug Austen

FISHERIES STAFF

SENIOR EDITOR	Doug Austen
DIRECTOR OF PUBLICATIONS	Aaron Lerner
MANAGING EDITOR	Sarah Fox
CONTRIBUTING EDITORS	Beth Beard Sarah Harrison
CONTRIBUTING WRITER	Natalie Sopinka

ABSTRACT TRANSLATION
Pablo del Monte-Luna

ARCHIVE EDITOR
Mohammed Hossain

FEATURES

- 304 Climate Change Adaptation and Restoration of Western Trout Streams: Opportunities and Strategies
Jack E. Williams, Helen M. Neville, Amy L. Haak, Warren T. Colyer, Seth J. Wenger, and Stan Bradshaw
- 318 Smartphones Reveal Angler Behavior: A Case Study of a Popular Mobile Fishing Application in Alberta, Canada
Jason T. Papenfuss, Nicholas Phelps, David Fulton, and Paul A. Venturelli

AFS ANNUAL MEETING 2015

- 328 Schedule at a Glance

IN MEMORIAM

- 332 C. Lavett Smith, Jr.
John Waldman

UNIT NEWS

- 334 Urban Land Use, Water Quality, and Biological Conditions in the Lower Mississippi River Basin Bayous
Yushun Chen, Kathryn Herzog, Sagar Shrestha, Daniel Grigas, John Farrelly, Christopher Laskodi, and Matthew Skoog

JOURNAL HIGHLIGHTS

- 336 Transactions of the American Fisheries Society Volume 144, Number 3, May 2015

CALENDAR

BACK PAGE

- 338 Try This! Sketch Your Conference Notes
Natalie Sopinka

Fisheries Management and Ecology

Contents

Original Articles

- 269 Evaluation of non-traditional modelling techniques for forecasting salmon returns
J. L. McCormick & M. R. Falcy
- 279 Successful reproduction of common carp *Cyprinus carpio* in irrigation waterways
Z. Adámek, M. Anton Pardo, L. Vilizzi & J. Roberts
- 286 Evaluation of downstream migration mitigation actions for eel at an Archimedes screw pump pumping station
D. Buysse, A. M. Mouton, R. Baeyens & J. Coeck
- 295 Food consumption rates of piscivorous brown trout (*Salmo trutta*) foraging on contrasting coregonid prey
H. Jensen, K. K. Kahilainen, M. Vinni, K. Ø. Gjelland, T. Malinen, C. Harrod & P.-A. Amundsen
- 307 Efficiency of a dual density studded fish pass designed to mitigate for impeded upstream passage of juvenile European eels (*Anguilla anguilla*) at a model Crump weir
A. S. Vowles, A. M. Don, P. Karageorgopoulos, T. A. Worthington & P. S. Kemp
- 317 Linking coastal aquaculture of meagre *Argyrosomus regius* and Western Mediterranean coastal fisheries through escapes incidents
P. Arechavala-Lopez, J. M. Valero-Rodriguez, J. Peñalver-García, D. Izquierdo-Gómez & P. Sanchez-Jerez
- 326 The introduced species fishery of Lake Naivasha, Kenya: ecological impact vs socio-economic benefits
P. Hickley, J. R. Britton, S. Macharia, S. M. Muchiri & R. R. Boar
- 337 Temporal and spatial trends in size, biomass and abundance of groupers (Epinephelinae) in Mafia Island Marine Park: fishers' perceptions and underwater visual census surveys
L. Gaspare, I. Bryceson & Y. D. Mgaya

production

- 14 Non-SPF Shrimp Breeding In Ecuador – Alternative Approach Successfully Addresses Localized Conditions
João L. Rocha, Ph.D.; Rafael Verduga; Hugo Mario Armijos
- 16 Rapid On-Site Diagnostic Tool For AHPND Management
Simon Chung, Dr. Pei-Yu Alison Lee, Li-Juan Ma
- 20 Breaking The 20% Soy Barrier In Fish Feed – Improved Trout Line Boasts Good Growth, No Distal Enteritis
Ronald W. Hardy, Ph.D.; Ken Overturf, Ph.D.; Andreas Brezas
- 23 The Bottom Line
Use Caution When Predicting Profitability With Feed Cost/Unit Gain Metrics
Thomas R. Zeigler, Ph.D.; Timothy A. Markey
- 28 Aquaculture Feed Composition Helps Define Potential For Water Pollution
Sirirat Chatvijitkul; Claude E. Boyd, Ph.D.; D. Allen Davis, Ph.D.
- 30 Sustainable Aquaculture Practices
Water Composition: Dissolved Inorganic Solids
Claude E. Boyd, Ph.D.
- 33 Pond Aeration And Aerators: Second Thoughts
Yoram Avnimelech, Ph.D.
- 35 Stocking Density Affects Super-Intensive Biofloc Nursery Shrimp Production
Héctor M. Esparza-Leal, Ph.D.; Alessandro Pereira Cardozo, Ph.D.; Wilson Wasilewsky, Jr., Ph.D.
- 38 Aquaculture Engineering
Flow Rate Estimation For RAS
Thomas M. Losordo, Ph.D.; Dennis P. DeLong, MSM
- 40 Aquaculture Planning, Development In Brazilian Federal Waters
Rodrigo Roubach, Ph.D.; Antônio Ostrensky, Ph.D.; Eduardo Pickler Schulte; Dr. Guilherme Wolff Bueno
- 44 Stalked Barnacles Hold Aquaculture Potential, But Face Bottlenecks
Sofia C. Franco, Ph.D.; Nick Aldred, Ph.D., Prof. Anthony S. Clare, Ph.D.

marketplace

- 48 Seafood Marketing
Seafood Demand And Aquaculture Growth – Relationships Vary In Developed, Emerging Markets
José Fernández Polanco, Ph.D.; Ignacio Llorente, Ph.D.; Audun Lem, Ph.D.
- 50 Seafood And Health
Seafood Benefits Nutrition Health – Need For Constant, Clear Communications Continues
Roy D. Palmer, FAICD
- 52 Food Safety And Technology
Human Enteric Viruses In Shellfish – Part II. Noroviruses
George J. Flick, Jr., Ph.D.; David D. Kuhn, Ph.D.
- 54 Improving Transportation Of Live Hybrid Striped Bass
Kelli Barry; John Bowzer, Ph.D.; Jesse T. Trushenski, Ph.D.
- 56 U.S. Shrimp Market
Paul Brown, Jr.

DEPARTMENTS

From The Director	2
From The Editor	3
GAA Activities	6
Industry News	76
GAA Calendar	78
Advocate Advertisers	80

On the cover:

Rainbow trout is a popular farmed dish. Selective breeding of the species has led to fish that grow well on diets containing more soy and less fishmeal. See page 20.

Page 33

Aerators: Second Thoughts

Most aerators do not provide the most efficient and power-conscious service. Emerging designs should better address mixing and aerating of pond water.

Page 66

Crowder/Graders Improve Tank Harvests

By combining functions, new crowder/grader units are more efficient, easier to control and less stressful to fish than other tank-harvesting equipment.

innovation

- 58 Aquaponic System Produces Red Drum, Saltwater Vegetable Species
Suzanne Boxman; Kevan Main, Ph.D.; Michael Nystrom; Sarina J. Ergas, Ph.D.; Maya A. Trotz, Ph.D.
- 62 Developmental Transcriptomes From Penaeid Shrimp
Philip L. Hertzler, Ph.D.; Melony J. Sellars, Ph.D.
- 64 Probiotics Improve Nursery Performance Of Juvenile Sea Cucumbers
Kai Zhang; Zizhong Qi, Ph.D.; Yin Han, Ph.D.; Geert Rombaut, Ph.D.; Patrick Lavens, Ph.D.
- 66 Crowder/Grader Units Improve Harvest Efficiency In Large Circular Tanks
Steven Summerfelt, Ph.D.; John Davidson, M.S.; Travis May; Curtis Crouse; Thomas Waldrop
- 69 LED Lighting Technology Provides Unique Benefits For Aquaculture
Dr. Juliette Delabbio
- 73 Low Inclusions Of Krill Meal Replace Cholesterol In Diets For Juvenile Shrimp
Alberto J. P. Nunes, Ph.D.; Felipe Nobre Façanha, M.S.; Dr. Hassan Sabry-Neto

ICES Journal of Marine Science

Journal du Conseil

Volume 72 Supplement 1 July 2015

<http://icesjms.oxfordjournals.org/>

Contents

i1 Introduction

P. Briones-Fourzán & E. Lozano-Álvarez

Lobsters: ocean icons in changing times

i7 Reviews

E. Spanier, K. L. Lavalli, J. S. Goldstein, J. C. Groeneveld, G. L. Jordaan, C. M. Jones, B. F. Phillips, M. L. Bianchini, R. D. Kibler, D. Díaz, S. Mallol, R. Goñi, G. I. van Der Meerden, A-L. Agnalt, D. C. Behringer, W. F. Keegan, & A. Jeffs

A concise review of lobster utilization by worldwide human populations from prehistory to the modern era

i22 *J. W. Penn, N. Caputi, & S. de Lestang*

A review of lobster fishery management: the Western Australian fishery for *Panulirus cygnus*, a case study in the development and implementation of input and output-based management systems

i35 *C. D. Ellis, D. J. Hodgson, C. L. Daniels, D. P. Boothroyd, R. C. A. Bannister, & A. G. F. Griffiths*

European lobster stocking requires comprehensive impact assessment to determine fishery benefits

i49 Original Articles

S. de Lestang, N. Caputi, M. Feng, A. Denham, J. Penn, D. Slawinski, A. Pearce, & J. How
What caused seven consecutive years of low puerulus settlement in the western rock lobster fishery of Western Australia?

i59 *I. A. Hinojosa, B. S. Green, C. Gardner, & A. Jeffs*

Settlement and early survival of southern rock lobster, *Jasus edwardsii*, under climate-driven decline of kelp habitats

i69 *R. A. Wahle, L. Dellinger, S. Olszewski, & P. Jekielek*

American lobster nurseries of southern New England receding in the face of climate change

i79 *B. K. Quinn & R. Rochette*

Potential effect of variation in water temperature on development time of American lobster larvae

i91 *C. D. Ellis, H. Knott, C. L. Daniels, M. J. Witt, & D. J. Hodgson*

Geographic and environmental drivers of fecundity in the European lobster (*Homarus gammarus*)

i101 *M. Butler, IV, R. Bertelsen, & A. MacDiarmid*

Mate choice in temperate and tropical spiny lobsters with contrasting reproductive systems

i115 *M. J. Butler, IV, A. Macdiarmid, & G. Gnanalingam*

The effect of parental size on spermatophore production, egg quality, fertilization success, and larval characteristics in the Caribbean Spiny lobster, *Panulirus argus*

- i124** *R. O'Rorke, S. D. Lavery, M. Wang, R. Gallego, A. M. Waite, L. E. Beckley, P. A. Thompson, & A. G. Jeffs*
Phyllosomata associated with large gelatinous zooplankton: hitching rides and stealing bites
- i128** *C. E. Davies, A. F. Johnson, E. C. Wootton, S. J. Greenwood, K. F. Clark, C. L. Vogan, & A. F. Rowley*
Effects of population density and body size on disease ecology of the European lobster in a temperate marine conservation zone
- i139** *A. S. Kough, C. B. Paris, D. C. Behringer, & M. J. Butler, IV*
Modelling the spread and connectivity of waterborne marine pathogens: the case of PaV1 in the Caribbean
- i147** *J. S. Goldstein, E. A. Dubofsky, & E. Spanier*
Into a rhythm: diel activity patterns and behaviour in Mediterranean slipper lobsters, *Scyllarides latus*
- i155** *P. Briones-Fourzán, R. Domínguez-Gallegos, & E. Lozano-Álvarez*
Aggressive behaviour of spotted spiny lobsters (*Panulirus guttatus*) in different social contexts: the influence of sex, size, and missing limbs
- i164** *R. I. Candia-Zulbarán, P. Briones-Fourzán, E. Lozano-Álvarez, C. Barradas-Ortiz, & F. Negrete-Soto*
Caribbean spiny lobsters equally avoid dead and clinically PaV1-infected conspecifics
- i170** *M. J. Childress, K. A. Heldt, & S. D. Miller*
Are juvenile Caribbean spiny lobsters (*Panulirus argus*) becoming less social?
- i177** *B. C. Gutzler, M. J. Butler, IV, & D. C. Behringer*
Casitas: a location-dependent ecological trap for juvenile Caribbean spiny lobsters, *Panulirus argus*
- i185** *C. B. Butler & T. R. Matthews*
Effects of ghost fishing lobster traps in the Florida Keys
- i199** *I. D. Tuck, D. M. Parsons, B. W. Hartill, & S. M. Chiswell*
Scampi (*Metanephrops challengeri*) emergence patterns and catchability
- i211** *H. A. Lizárraga-Cubedo, I. Tuck, N. Bailey, G. J. Pierce, A. F. Zuur, & D. Bova*
Scottish lobster fisheries and environmental variability
- i225** *G. Ewing & S. Frusher*
New puerulus collector design suitable for fishery-dependent settlement monitoring
- i232** *E. A. Babcock, W. J. Harford, R. Coleman, J. Gibson, J. Maaz, J. R. Foley, & M. Gongora*
Bayesian depletion model estimates of spiny lobster abundance at two marine protected areas in Belize with or without in-season recruitment
- i244** *Z. Kordjazi, S. Frusher, C. D. Buxton, & C. Gardner*
Estimating survival of rock lobsters from long-term tagging programmes: how survey number and interval influence estimates
- i252** *C. Gardner, K. Hartmann, A. E. Punt, & E. Hoshino*
Fewer eggs from larger size limits: counterintuitive outcomes in a spatially heterogeneous fishery
- i260** *S. Lee, N. D. Hartstein, & A. Jeffs*
Modelling carbon deposition and dissolved nitrogen discharge from sea cage aquaculture of tropical spiny lobster

ICES Journal of Marine Science

Journal du Conseil

Volume 72 Number 6 July/August 2015

<http://icesjms.oxfordjournals.org/>

Contents

1715 Original Articles

F. Carvalho, R. Ahrens, D. Murie, K. Bigelow, A. Aires-Da-Silva, M. N. Maunder, & F. Hazin
Using pop-up satellite archival tags to inform selectivity in fisheries stock assessment models: a case study for the blue shark in the South Atlantic Ocean

1731 *C. H. Stortini, N. L. Shackell, P. Tyedmers, & K. Beazley*

Assessing marine species vulnerability to projected warming on the Scotian Shelf, Canada

1744 *L. Maugendre, J.-P. Gattuso, J. Louis, A. de Kluijver, S. Marro, K. Soetaert, & F. Gazeau*

Effect of ocean warming and acidification on a plankton community in the NW Mediterranean Sea

1756 *G. Certain & B. Planque*

Biodiversity baseline for large marine ecosystems: an example from the Barents Sea

1769 *A. O. Shelton, J. A. Hutchings, R. S. Waples, D. M. Keith, H. R. Akçakaya, & N. K. Dulvy*

Maternal age effects on Atlantic cod recruitment and implications for future population trajectories

1779 *T. Jansen, K. Kristensen, J. van der Kooij, S. Post, A. Campbell, K. R. Utne, P. Carrera,*

J. A. Jacobsen, A. Guðmundsdóttir, B. A. Roel, & E. M. C. Hatfield

Nursery areas and recruitment variation of Northeast Atlantic mackerel (*Scomber scombrus*)

1790 *D. Bekkevold, S. J. Helyar, M. T. Limborg, E. E. Nielsen, J. Hemmer-Hansen,*

L. A. W. Clausen, & G. R. Carvalho, FishPopTrace Consortium

Gene-associated markers can assign origin in a weakly structured fish, Atlantic herring

1802 *J. Calderwood, N. E. O'Connor, & D. Roberts*

Effects of baited crab pots on cultivated mussel (*Mytilus edulis*) survival rates

1811 *N. Hold, L. G. Murray, J. R. Pantin, J. A. Haig, H. Hinz, & M. J. Kaiser*

Video capture of crustacean fisheries data as an alternative to on-board observers

1822 *W. M. L. Robinson, D. S. Butterworth, & É. E. Plagányi*

Quantifying the projected impact of the South African sardine fishery on the Robben Island penguin colony

1834 *H. P. Benoît, C. W. Capizzano, R. J. Knotek, D. B. Rudders, J. A. Sulikowski, M. J. Dean, W. Hoffman, D. R. Zemeckis, & J. W. Mandelman*

A generalized model for longitudinal short- and long-term mortality data for commercial fishery discards and recreational fishery catch-and-releases

1848 *C. Ulrich, H. J. Olesen, H. Bergsson, J. Egekvist, K. B. Håkansson, J. Dalskov, L. Kindt-Larsen, & M. Storr-Paulsen*

Discarding of cod in the Danish Fully Documented Fisheries trials

- 1861** *R. J. Kynoch, R. J. Fryer, & F. C. Neat*
A simple technical measure to reduce bycatch and discard of skates and sharks in mixed-species bottom-trawl fisheries
- 1869** *N. Nikolic, J. Diméet, S. Fifas, M. Salaün, D. Ravard, L. Fauconnet, & M-J. Rochet*
Efficacy of selective devices in reducing discards in the *Nephrops* trawl fishery in the Bay of Biscay
- 1882** *C. Tyson, J. Shamoun-Baranes, E. E. Van Loon, K. (C. J.) Camphuysen, & N. T. Hintzen*
Individual specialization on fishery discards by lesser black-backed gulls (*Larus fuscus*)
Revisiting Sverdrup's Critical Depth Hypothesis
- 1892** **Introduction**
S. Sathyendranath, R. Ji, & H. I. Brownman
Revisiting Sverdrup's critical depth hypothesis
- 1897** **Food for Thought**
P. J. S. Franks
Has Sverdrup's critical depth hypothesis been tested? Mixed layers vs. turbulent layers
- 1908** *A. M. Lewandowska, M. Striebel, U. Feudel, H. Hillebrand, & U. Sommer*
The importance of phytoplankton trait variability in spring bloom formation
- 1916** *M. Lévy*
Exploration of the critical depth hypothesis with a simple NPZ model
- 1926** **Original Articles**
R. M. Enriquez & J. R. Taylor
Numerical simulations of the competition between wind-driven mixing and surface heating in triggering spring phytoplankton blooms
- 1942** *C. Lindemann, J. O. Backhaus, & M. A. St John*
Physiological constrains on Sverdrup's Critical-Depth-Hypothesis: the influences of dark respiration and sinking
- 1952** *W. O. Smith, Jr & R. M. Jones*
Vertical mixing, critical depths, and phytoplankton growth in the Ross Sea
- 1961** *S. R. Brody & M. S. Lozier*
Characterizing upper-ocean mixing and its effect on the spring phytoplankton bloom with *in situ* data
- 1971** *J. Llort, M. Lévy, J-B. Sallée, & A. Tagliabue*
Onset, intensification, and decline of phytoplankton blooms in the Southern Ocean
- 1985** *J-B. Sallée, J. Llort, A. Tagliabue, & M. Lévy*
Characterization of distinct bloom phenology regimes in the Southern Ocean
- 1999** *S. J. Thomalla, M-F. Racault, S. Swart, & P. M. S. Monteiro*
High-resolution view of the spring bloom initiation and net community production in the Subantarctic Southern Ocean using glider data
- 2021** *J. F. Marra, T. D. Dickey, A. J. Plueddemann, R. A. Weller, C. S. Kinkade, & M. Stramska*
Phytoplankton bloom phenomena in the North Atlantic Ocean and Arabian Sea
- 2029** *H. S. Cole, S. Henson, A. P. Martin, & A. Yool*
Basin-wide mechanisms for spring bloom initiation: how typical is the North Atlantic?
- 2041** *D. L. Aksnes*
Sverdrup critical depth and the role of water clarity in Norwegian Coastal Water
- 2051** *S. Diehl, S. A. Berger, Q. Soissons, D. P. Giling, & H. Stibor*
An experimental demonstration of the critical depth principle

2061 Review Article

B. Walter, J. Peters, J. E. E. van Beusekom, & M. A. St. John

Interactive effects of temperature and light during deep convection: a case study on growth and condition of the diatom *Thalassiosira weissflogii*

JOURNAL OF AQUATIC ANIMAL HEALTH

VOLUME 27, NUMBER 2, June 2015

- 71 Beneficial Effects of *Rhodotorula* sp. C11 on Growth and Disease Resistance of Juvenile Japanese Spiky Sea Cucumber
Apostichopus japonicus
ZhiPing Yang, JianMing Sun, and Zhe Xu
- 77 Effects of Waterborne Lead Exposure in Mozambique Tilapia: Oxidative Stress, Osmoregulatory Responses, and Tissue Accumulation
Hasan Kaya and Mehmet Akbulut
- 88 [Communication] Activity of Antibiotics against *Mycobacterium* Species Commonly Found in Laboratory Zebrafish
Carolyn T. Chang and Christopher M. Whipps
- 96 Pathogenicity of Members of the *Vibrionaceae* Family to Cultured Juvenile Sablefish
Mary R. Arkoosh and Joseph P. Dietrich
- 104 Chitosan Influences the Expression of P-gp and Metabolism of Norfloxacin in Grass Carp
Kun Hu, Xinyan Xie, Yi-Ni Zhao, Yi Li, Jiming Ruan, Hao-Ran Li, Tianyi Jin, and Xian-Le Yang
- 112 Growth Inhibition of Bacterial Fish Pathogens and Quorum-Sensing Blocking by Bacteria Recovered from Chilean Salmonid Farms
Mery de la Fuente, Claudio D. Miranda, Paz Jopia, Gerardo González-Rocha, Nicolás Giuliani, Katherine Sossa, and Homero Urrutia
- 123 Characterization of Isolates of *Streptococcus agalactiae* from Diseased Farmed and Wild Marine Fish from the U.S. Gulf Coast, Latin America, and Thailand
Esteban Soto, Rui Wang, Judy Wiles, Wes Baumgartner, Christopher Green, John Plumb, and John Hawke
- 135 Oral Vaccination of Channel Catfish against Enteric Septicemia of Catfish Using a Live Attenuated *Edwardsiella ictaluri* Isolate
David J. Wise, Terrence E. Greenway, Todd S. Byars, Matt J. Griffin, and Lester H. Khoo

REGULAR PAPERS

Nandi, S. and Saikia, S. K., Size-selective feeding on phytoplankton by two morpho-groups of the small freshwater fish <i>Amblypharyngodon mola</i>	215
Zhao, H. B., Zhang, X. Y., Feng, G. Q., Guo, M. M., Chang, P., Qi, C., Zhong, X. P., Zhou, Q. C. and Wang, J. L., Expression of <i>plzfa</i> in embryo and adult of medaka <i>Oryzias latipes</i>	231
Shan, S. J., Liu, D. Z., Wang, L., Zhu, Y. Y., Zhang, F. M., Li, T., An, L. G. and Yang, G. W., Identification and expression analysis of <i>irak1</i> gene in common carp <i>Cyprinus carpio</i> L.: indications for a role of antibacterial and antiviral immunity	241
Vaslet, A., Phillips, D. L., France, C. A. M., Feller, I. C. and Baldwin, C. C., Trophic behaviour of juvenile reef fishes inhabiting interlinked mangrove–seagrass habitats in offshore mangrove islets	256
Katselis, G., Koukou, K., Ramfos, A. and Moutopoulos, D. K., Sex-specific daily spawning seaward migration of striped mullet <i>Mugil cephalus</i> in a coastal lagoon	274
Dorval, E., McDaniel, J. D., Macewicz, B. J. and Porzio, D. L., Changes in growth and maturation parameters of Pacific sardine <i>Sardinops sagax</i> collected off California during a period of stock recovery from 1994 to 2010	286
Lara-Mendoza, R. E., Márquez-Farías, J. F. and Román-Reyes, J. C., Feeding habits of the speckled guitarfish <i>Rhinobatos glaucostigma</i> (Elasmobranchii: Rhinobatidae)	311
Escalle, L., Speed, C. W., Meekan, M. G., White, W. T., Babcock, R. C., Pillans, R. D. and Huveneers, C., Restricted movements and mangrove dependency of the nervous shark <i>Carcharhinus cauteratus</i> in nearshore coastal waters	323
Havn, T. B., Uglem, I., Solem, Ø., Cooke, S. J., Whoriskey, F. G. and Thorstad, E. B., The effect of catch-and-release angling at high water temperatures on behaviour and survival of Atlantic salmon <i>Salmo salar</i> during spawning migration	342
Zhang, D. L., Yu, D. H., Chen, J., Chen, C. and Wang, Z. Y., Co-expression of <i>march5b</i> and <i>tlr7</i> in large yellow croaker <i>Larimichthys crocea</i> in response to <i>Cryptocaryon irritans</i> infection	360
Chabot, C. L., Microsatellite loci confirm a lack of population connectivity among globally distributed populations of the tope shark <i>Galeorhinus galeus</i> (Triakidae)	371
Chen, Z.-Y., Hsieh, W.-Y. and Lai, Y.-S., Identification and characterization of a late gene of grouper iridovirus <i>61l</i> and antibody production against the protein encoded by it	386
Bertucci, F., Lejeune, P., Payrot, J. and Parmentier, E., Sound production by dusky grouper <i>Epinephelus marginatus</i> at spawning aggregation sites	400
Holmes, B. J., Peddemors, V. M., Gutteridge, A. N., Geraghty, P. T., Chan, R. W. K., Tibbetts, I. R. and Bennett, M. B., Age and growth of the tiger shark <i>Galeocerdo cuvier</i> off the east coast of Australia	422
Aalvik, I. M., Moland, E., Olsen, E. M. and Stenseth, N. C., Spatial ecology of coastal Atlantic cod <i>Gadus morhua</i> associated with parasite load	449

Continued on inside back cover.

Continued from outside back cover

BRIEF COMMUNICATIONS

Moore, A. B. M., Morphological abnormalities in elasmobranchs	465
Forsman, A., Tibblin, P., Berggren, H., Nordahl, O., Koch-Schmidt, P. and Larsson, P., Pike <i>Esox lucius</i> as an emerging model organism for studies in ecology and evolutionary biology: a review	472
Ólafsdóttir, G. A., Gunnarsson, G. S. and Karlsson, H., More rapid shift to a benthic niche in larger <i>Gadus morhua</i> juveniles	480
Hundt, M., Scharbert, A., Weibel, U., Kuhn, G., Metzner, K., Jatteau, P., Pies, A., Schulz, R. and Gergs, R., First evidence of natural reproduction of the Allis shad <i>Alosa alosa</i> in the River Rhine following re-introduction measures	487
Fost, B.A. and Ferreri, C. P., Preference and avoidance pH of brook trout <i>Salvelinus fontinalis</i> and brown trout <i>Salmo trutta</i> exposed to different holding pH	494
Kéver, L., Boyle, K. S. and Parmentier, E., Effects of seawater temperature on sound characteristics in <i>Ophidion rochei</i> (Ophidiidae)	502
Nelson, J. A. and Lipkey, G. K., Hypoxia tolerance variance between swimming and resting striped bass <i>Morone saxatilis</i>	510

Journal of Fish Diseases

Volume 38, Number 8, August 2015

Contents

Original Articles

- 687 Host tropism of infectious salmon anaemia virus in marine and freshwater fish species
M Aamelfot, O B Dale, A McBeath and K Falk
- 695 Pathogenesis of acute and chronic diseases caused by cyprinid herpesvirus-3 *S Miwa, I Kiryu, K Yuasa, T Ito and T Kaneko*
- 713 Piscine reovirus in wild and farmed salmonids in British Columbia, Canada: 1974–2013
G D Marty, D B Morrison, J Bidulka, T Joseph and A Siah
- 729 Effects of water temperature on mortality in *Megalocytivirus*-infected rock bream *Oplegnathus fasciatus* (Temminck et Schlegel) and development of protective immunity
M H Jung, S J Jung, T N Vinay, C Nikapitiya, J O Kim, J H Lee, J Lee and M J Oh
- 739 Development and application of molecular methods (PCR) for detection of Tasmanian Atlantic salmon reovirus *S C Zainathan, G Carlile, J Carson, K A McColl, M St. J Crane, L M Williams, J Hoad, N J G Moody, H M Aiken, G F Browning and B F Nowak*
- 755 Fishpathogens.eu/noda: a free and handy online platform for Betanodavirus targeted research and data sharing *S S Mikkelsen, V Panzarini, S P Jonstrup, L Bigarré, M Baud, T Gray, P-M Agapow and N J Olesen*

Short Communications

- 761 Non-immune-related genes and signalling pathways in spleen of *Vibrio parahaemolyticus*-infected *Epinephelus fuscoguttatus* (Forskal) *C-F Low, N S Mariana, A Maha, H-Y Chee and M Y Fatimah*
- 765 Infectivity of *Piscirickettsia salmonis* in immersion-bath exposed rainbow trout *Oncorhynchus mykiss* (Walbaum) fry *P A Smith, J R Contreras, M E Rojas, A Guajardo, S Díaz and A Carbonero*

Journal of Fish Diseases

Volume 38, Number 9, September 2015

Contents

Original Articles

- 771 Mechanisms of quorum sensing and strategies for quorum sensing disruption in aquaculture pathogens
J Zhao, M Chen, C S Quan and S D Fan
- 787 Direct visualization of the novel pathogen, *Spiroplasma eriocheiris*, in the freshwater crayfish *Procambarus clarkii* (Girard) using fluorescence *in situ* hybridization
Z F Ding, S Y Xia, H Xue, J Q Tang, Q Ren, W Gu, Q G Meng and W Wang
- 795 Comparative genome sequencing to assess the genetic diversity and virulence attributes of 15 *Vibrio anguillarum* isolates
P Busschaert, I Frans, S Crauwels, B Zhu, K Willems, P Bossier, C Michiels, K Verstrepen, B Lievens and H Rediers
- 809 Purified deoxynivalenol or feed restriction reduces mortality in rainbow trout, *Oncorhynchus mykiss* (Walbaum), with experimental bacterial coldwater disease but biologically relevant concentrations of deoxynivalenol do not impair the growth of *Flavobacterium psychrophilum*
I A Ryerse, J M Hoof, D P Bureau, M A Hayes and J S Lumsden
- 821 Serum enolase: a non-destructive biomarker of white skeletal myopathy during pancreas disease (PD) in Atlantic salmon *Salmo salar* L.
M Braceland, M F McLoughlin, J Tinsley, C Wallace, D Cockerill, M McLaughlin and P D Eckersall

Short Communications

- 833 Cystic lesions in the kidney of flower horn fish, hybrid cichlid
H Rabmati-holasoo, M Masoudifard, H E Mousavi, S Shokrpoor, A Tavakkoli and M S Farazandemehr
- 839 First report of *Erysipelothrix rhusiopathiae*-associated septicaemia and histologic changes in cultured Australian eels, *Anguilla reinhardtii* (Steindachner, 1867) and *A. australis* (Richardson, 1841)
R S-M Chong, M W Shinwari, M J Amigh, M Aravena-Roman and T V Riley
- 849 Detection of Japanese eel endothelial cells-infecting virus (JEECV) in the Japanese eel *Anguilla japonica* (Temminck & Schlegel), living in natural habitats
S Okazaki, H Manabe, T Omatsu, S Tsuchiaka, T Yamamoto, S Chow, T Shibuno, K Watanabe, S Ono, H Kuwada and T Mizutani
- 853 Detection of *Ichthyophonus* by chromogenic *in situ* hybridization
C M Conway, M K Purcell, D G Elliott and P K Hershberger

Journal of Molluscan Studies

Volume 81 Part 3 August 2015

Featured Articles

Y. Dong, X. Huang and D. G. Reid

Rediscovery of one of the very few 'unequivocally extinct' species of marine molluscs: *Littoraria flammnea* (Philippi, 1847) lost, found—and lost again? 313

C. Chen, K. Linse, J. T. Copley and A. D. Rogers

The 'scaly-foot gastropod': a new genus and species of hydrothermal vent-endemic gastropod (Neomphalina: Peltospiridae) from the Indian Ocean 322

Research Papers

M. R. Enriquez-Diaz, J. M. Volland, J. F. Chavez-Villegas,

D. Aldana-Aranda and O. Gros

Development of the planktotrophic veligers and planitrigades of *Strombus pugilis* (Gastropoda) 335

A. Arkhipkin, R. Weis, N. Mariotti and Z. Shcherbich

'Tailed' cephalopods 345

K. Gadomski, H. Moller, M. Beentjes and M. Lamare

Embryonic and larval development of the New Zealand bivalve *Paphies ventricosa* Gray, 1843 (Veneroida: Mesodesmatidae) at a range of temperatures 356

A. Martynov and T. Korshunova

A new deep-sea genus of the family Polyceridae (Nudibranchia) possesses a gill cavity, with implications for the cryptobranch condition and a 'Periodic Table' approach to taxonomy 365

C. R. Lourenço, K. R. Nicastro, E. A. Serrão, R. Castilho

and G. I. Zardi

Behind the mask: cryptic genetic diversity of *Mytilus galloprovincialis* along southern European and northern African shores 380

A. Z. Cyrus, J. Swiggs, P. Santidrian Tomillo, F. V. Paladino and W. S. Peters

Cannibalism causes size-dependent intraspecific predation pressure but does not trigger autotomy in the intertidal gastropod *Agaronia propatula* 388

J. Lützen, Å. Jespersen and M. P. Russell

The Pacific clam *Nutricola tantilla* (Bivalvia: Veneridae) has separate sexes and makes use of brood protection and sperm storage 397

Research Notes

M. K. Holborn, M. V. Krick, S. Pedersen, D. A. G. A. Hunt and E. G. Boulding

Polymorphic microsatellite loci for *Littorina plena* show no population structure between the eastern and western coasts of Vancouver Island, Canada 407

A. V. Zhulidov, A. V. Kozhara, G. van der Velde, R. S. E. W. Leuven,

D. A. Zhulidov, T. Y. Gurtovaya, T. F. Nalepa and V. J. R. Santiago-Fandino

New records from the Ponto-Azov region demonstrate the invasive potential of *Mytilopsis leucophaeata* (Conrad, 1831) (Bivalvia: Dreissenidae) 412

A. C. Y. Yeung and D. Dudgeon

Do adult snails in headwater streams make upstream migrations to compensate for spate-induced washout? A test using three populations of a tropical caenogastropod 417

J. Carvalho, C. Pereira, G. Sotelo, D. Costa, J. Galindo and R. Faria

De novo isolation of 17 microsatellite loci for flat periwinkles (*Littorina fabalis* and *L. obtusata*) and their application for species discrimination and hybridization studies 421

MARINE ECOLOGY

PROGRESS SERIES

Volume 531 · 2015

July 2

FEATURE ARTICLE

**Cardona L, Martínez-Iñigo L, Mateo R,
González-Solís J**

The role of sardine as prey for pelagic predators in the western Mediterranean Sea assessed using stable isotopes and fatty acids

RESEARCH ARTICLES

Divine LM, Iken K, Bluhm BA

Regional benthic food web structure on the Alaska Beaufort Sea shelf

Kaminsky J, Alberti J, Aguiar M, Iribarne O

Biological and physical factors affecting the colonization of vegetation-free patches in a SW Atlantic salt marsh

**McFarland MN, Rines J, Sullivan J,
Donaghay P**

Impact of phytoplankton size and physiology on particulate optical properties determined with scanning flow cytometry

Mathews AL, Philips EJ, Badylak S

Modeling phytoplankton productivity in a shallow, microtidal, subtropical estuary

Müller MN, Trull TW, Hallegraeff GM

Differing responses of three Southern Ocean *Emiliania huxleyi* ecotypes to changing seawater carbonate chemistry

81–90

1–14

**Loeffler CR, Richlen ML, Brandt ME,
Smith TB**

Effects of grazing, nutrients, and depth on the ciguatera-causing dinoflagellate *Gambierdiscus* in the US Virgin Islands

91–104

15–32

Sijerčić A, Price NM

Hydroxamate siderophore secretion by *Pseudoalteromonas haloplanktis* during steady-state and transient growth under iron limitation

105–120

33–41

**Villarino E, Chust G, Licandro P,
Butenschön M, Ibaibarriaga L,
Larrañaga A, Irigoien X**

Modelling the future biogeography of North Atlantic zooplankton communities in response to climate change

121–142

43–61

Nielsen JM, Winder M

Seasonal dynamics of zooplankton resource use revealed by carbon amino acid stable isotope values

143–154

Contents continued on back cover →

MARINE ECOLOGY PROGRESS SERIES
Volume 531 · 2015

Contents continued from front cover

Kim JK, Kraemer GP, Yarish C Use of sugar kelp aquaculture in Long Island Sound and the Bronx River Estuary for nutrient extraction	155–166	Munroe DM, Powell EN, Ford SE, Hofmann EE, Klinck JM Outcomes of asymmetric selection pressure and larval dispersal on evolution of disease resistance: a metapopulation modeling study with oysters	221–239
Rodil IF, Olabarria C, Lastra M, Arenas F Combined effects of wrack identity and solar radiation on associated beach macrofaunal assemblages	167–178	Ingeman KE, Webster MS Native prey mortality increases but remains density-dependent following lionfish invasion	241–252
Sams MA, Warren-Myers F, Keough MJ Increased larval planktonic duration and post-recruitment competition influence survival and growth of the bryozoan <i>Watersipora subtorquata</i>	179–191	Stevens JL, Olson JB Bacterial communities associated with lionfish in their native and invaded ranges	253–262
Howes EL, Stemmann L, Assailly C, Irissen JO, Dima M, Bijma J, Gattuso JP Pteropod time series from the North Western Mediterranean (1967–2003): impacts of pH and climate variability	193–206	Quintanilla JM, Laiz-Carrión R, Uriarte A, García A Influence of trophic pathways on daily growth patterns of western Mediterranean anchovy <i>Engraulis encrasicolus</i> larvae	263–275
Valls M, Cabanellas-Reboreda M, Uranga I, Quetglas A Feeding ecology of two squid species from the western Mediterranean	207–219	Peters J, Diekmann R, Clemmesen C, Hagen W Lipids as a proxy for larval starvation and feeding condition in small pelagic fish: a field approach on match–mismatch effects on Baltic sprat	277–292

Marine Resource Economics

CONTENTS

PERSPECTIVES

- 235 | The Application of Basic Economic Principles to Real-World Fisheries Management and Regulation *Lee G. Anderson*

- 251 | World Fisheries in Crisis? *Rögnvaldur Hannesson*

ARTICLES

- 261 | Advancing Marine Policy Toward Ecosystem-Based Management by Eliciting Public Preferences *Sophal Chhun, Viktoria Kahui, Henrik Moller, and Paul Thorsnes*

- 277 | Pricing on the Fish Market—Does Size Matter? *Eric Sjöberg*

- 297 | Stochastically Induced Critical Depensation and Risk of Stock Collapse *Diwakar Poudel, Leif K. Sandal, and Sturla F. Kvamsdal*

- 315 | Time for Fishing: Bargaining Power in the Swedish Baltic Cod Fishery *Johan Blomquist, Cecilia Hammarlund, and Staffan Waldo*

- 331 | Untangling Economic Impacts for Alaska Fisheries: A Structural Path Analysis *Chang K. Seung*

NORTH AMERICAN JOURNAL OF FISHERIES MANAGEMENT

VOLUME 35, NUMBER 3, June 2015

- 403 Evaluation of Creel Survey Methods to Estimate Recreational Harvest of Surf Smelt in Puget Sound, Washington
Dayv Lowry, Kurt Stick, Adam Lindquist, and Yuk W. Cheng
- 418 Characteristics and Spatial Segregation of Sympatric Saugers and Walleyes in the Ottawa River, Canada
Tim Haxton
- 431 Dispersal Patterns of Coastal Largemouth Bass in Response to Tournament Displacement
Daniel T. Brown, James A. Rice, Cory D. Suski, and D. Derek Aday
- 440 Response of Bighead Carp and Silver Carp to Repeated Water Gun Operation in an Enclosed Shallow Pond
Jason G. Romine, Nathan R. Jensen, Michael J. Parsley, Robert F. Gaugush, Todd J. Severson, Tyson W. Hatton, Ryan F. Adams, and Mark P. Gaikowski
- 454 Predation by American White Pelicans on Yellowstone Cutthroat Trout in the Blackfoot River Drainage, Idaho
David M. Teuscher, Matthew T. Green, Daniel J. Schill, Arnold F. Brimmer, and Ryan W. Hillyard
- 464 Genetic Population Structure of Black Drum in U.S. Waters
Jacqueline M. Leidig, Virginia R. Shervette, Christopher J. McDonough, and Tanya L. Darden
- 478 Effects of Lake Surface Elevation on Shoreline-Spawning Lost River Suckers
Summer M. Burdick, David A. Hewitt, Josh E. Rasmussen, Brian S. Hayes, Eric C. Janney, and Alta C. Harris
- 491 An Evaluation of the Efficiency of Minnow Traps for Estimating the Abundance of Minnows in Desert Spring Systems
James T. Peterson, Paul D. Scheerer, and Shaun Clements
- 503 Direct and Indirect Evidence Suggests Continuous Presence of Viral Hemorrhagic Septicemia Virus (Genotype IVb) in Budd Lake, Michigan: Management Implications
Elizabeth Throckmorton, Amber Peters, Travis Brenden, and Mohamed Faisal
- 512 How Should We Harvest an Animal that Can Live for Centuries?
Daniel R. Hennen
- 528 [Management Brief] Estimating Trout Abundance with Cataract-Mounted Dual-Frequency Identification Sonar: a Comparison with Drift Diving
John W. Hayes, Joe Hay, Iain Maxwell, and Aaron Quarterman
- 537 Assessing Walleye Movement among Reaches of a Large, Fragmented River
Tim Haxton, Sarah Nienhuis, Kirby Punt, and Tania Baker
- 551 [Management Brief] Agonistic Behavior among Three Stocked Trout Species
Konrad Hafner and Phaedra Budy
- 557 Estimating the Riverine Abundance of Green Sturgeon Using a Dual-Frequency Identification Sonar
E. A. Mora, S. T. Lindley, D. L. Erickson, and A. P. Klimley
- 567 Contributions of Lake Erie and Lake St. Clair Walleye Populations to the Saginaw Bay, Lake Huron, Recreational Fishery: Evidence from Genetic Stock Identification
Travis O. Brenden, Kim T. Scribner, James R. Bence, Iyob Tsehay, Jeannette Kanefsky, Christopher S. Vandergoot, and David G. Fielder
- 578 [Management Brief] Comparison of Fish Communities at Random and Nonrandom Locations in a Sand-Bed River
Thomas P. Archdeacon, Kjetil R. Henderson, Tristan J. Austring, and Rebecca L. Cook
- 586 Diel Resource Partitioning among Juvenile Atlantic Salmon, Brown Trout, and Rainbow Trout during Summer
James H. Johnson and James E. McKenna Jr.
- 598 [Management Brief] Numerical and Economic Contributions of Wild and Hatchery Pink Salmon to Commercial Catches in Japan Estimated from Mass Otolith Markings
Tsutomu Ohnuki, Kentaro Morita, Hiroshi Tokuda, Yasutaka Okamoto, and Kazumasa Ohkuma
- 605 [Management Brief] Efficacy of Portable PIT Detectors for Tracking Long-Term Movement of Colorado River Cutthroat Trout in a Small Montane Stream
Brian W. Hodge, Richard Henderson, Kevin B. Rogers, and Kyle D. Battigie
- 611 [Management Brief] A Strategy for Increasing Gill-Net Catch Rates and Minimizing Sampling Mortality of Alligator Gars
Kristopher A. Bodine, Daniel J. Daugherty, J. Warren Schlechte, and Greg R. Bignon
- 616 [Management Brief] Effectiveness of Two Commercial Rotenone Formulations in the Eradication of Virile Crayfish *Orconectes virilis*
Matthew S. Recsetar and Scott A. Bonar

STATISTICAL SCIENCE

Volume 30, Number 2

May 2015

Cross-Covariance Functions for Multivariate Geostatistics	<i>Marc G. Genton and William Kleiber</i>	147
Beyond the Valley of the Covariance Function	<i>Daniel Simpson, Finn Lindgren and Håvard Rue</i>	164
On the Flexibility of Multivariate Covariance Models: Comment on the Paper by Genton and Kleiber	<i>Moreno Bevilacqua, Amanda S. Hering and Emilio Porcu</i>	167
Capturing Multivariate Spatial Dependence: Model, Estimate and then Predict	<i>Noel Cressie, Sandy Burden, Walter Davis, Pavel N. Krivitsky, Payam Mokhtarian, Thomas Suesse and Andrew Zammit-Mangion</i>	170
When Doesn't Cokriging Outperform Kriging?	<i>Hao Zhang and Wenxiang Cai</i>	176
Rejoinder	<i>Marc G. Genton and William Kleiber</i>	181
On the Question of Effective Sample Size in Network Modeling: An Asymptotic Inquiry	<i>Pavel N. Krivitsky and Eric D. Kolaczyk</i>	184
Multi-armed Bandit Models for the Optimal Design of Clinical Trials: Benefits and Challenges	<i>Sofía S. Villar, Jack Bowden and James Wason</i>	199
On Various Confidence Intervals Post-Model-Selection	<i>Hannes Leeb, Benedikt M. Pötscher and Karl Ewald</i>	216
Posterior Model Consistency in Variable Selection as the Model Dimension Grows	<i>Elías Moreno, Javier Girón and George Casella</i>	228
Approximate Bayesian Model Selection with the Deviance Statistic	<i>Leonhard Held, Daniel Sabanés Bové and Isaac Gravestock</i>	242
A Conversation with Robert C. Elston	<i>Gang Zheng, Zhaohai Li and Nancy L. Geller</i>	258
A Conversation with Jerry Friedman	<i>N. I. Fisher</i>	268

The Biological Bulletin

CONTENTS

VOLUME 228, NO. 3: JUNE 2015

DEVELOPMENT AND REPRODUCTION

- Carrier, Tyler J., Benjamin L. King, and James A. Coffman
Gene expression changes associated with the developmental plasticity of sea urchin larvae in response to food availability 171

ECOLOGY AND EVOLUTION

- Baldanzi, Simone, Christopher D. McQuaid, and Francesca Porri
Temperature effects on reproductive allocation in the sandhopper *Talorchestia capensis* 181
- Gooding, Rebecca A., and Christopher D. G. Harley
Quantifying the effects of predator and prey body size on sea star feeding behaviors 192
- Yund, Philip O., Catherine Collins, and Sheri L. Johnson
Evidence of a native northwest atlantic *COI* haplotype clade in the cryptogenic colonial ascidian *Botryllus schlosseri* 201

NEUROBIOLOGY AND BEHAVIOR

- Shigeno, Shuichi, Akihiro Tame, Katsuyuki Uematsu, Tomoyuki Miura, Shinji Tsuchida, and Katsunori Fujikura
Dual cellular supporters: multi-layer glial wrapping and the penetrative matrix specialized in deep-sea hydrothermal vent endemic scale-worms 217

PHYSIOLOGY AND BIOMECHANICS

- Ruiz-Jones, Lupita J., and Stephen R. Palumbi
Transcriptome-wide changes in coral gene expression at noon and midnight under field conditions 227
- Tommerdahl, Anna P., Karen G. Burnett, and Louis E. Burnett
Respiratory properties of hemocyanin from wild and aquacultured penaeid shrimp and the effects of chronic exposure to hypoxia 242

SYMBIOSIS AND PARASITOLOGY

- Eeckhaut, Igor, Guillaume Caulier, Lola Brasseur, Patrick Flammang, Pascal Gerbaux, and Eric Parmentier
Effects of holothuroid ichtyotoxic saponins on the gills of free-living fishes and symbiotic pearlfishes 253
- * * *
- Index for Volume 228 266

TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY

VOLUME 144, NUMBER 3, May 2015

- 445 Effect of Tides, River Flow, and Gate Operations on Entrainment of Juvenile Salmon into the Interior Sacramento–San Joaquin River Delta
Russell W. Perry, Patricia L. Brandes, Jon R. Burau, Philip T. Sandstrom, and John R. Skalski
- 456 Migratory Characteristics and Passage of Paddlefish at Two Southeastern U.S. Lock-and-Dam Systems
Brandon L. Simcox, Dennis R. DeVries, and Russell A. Wright
- 467 Fish Community Response to a Small-Stream Dam Removal in a Maine Coastal River Tributary
Robert S. Hogg, Stephen M. Coghlan Jr., Joseph Zydlewski, and Cory Gardner
- 480 Spatial Structure of Morphological and Neutral Genetic Variation in Brook Trout
David C. Kazyak, Robert H. Hilderbrand, Stephen R. Keller, Mark C. Colaw, Amanda E. Holloway, Raymond P. Morgan II, and Tim L. King
- 491 Diel Cycle and Effects of Water Flow on Activity and Use of Depth by Common Carp
Josep Benito, Lluís Benejam, Lluís Zamora, and Emili García-Berthou
- 502 Translocation of Humpback Chub into Tributary Streams of the Colorado River: Implications for Conservation of Large-River Fishes
Jonathan J. Spurgeon, Craig P. Paukert, Brian D. Healy, Melissa Trammell, Dave Speas, and Emily Omana-Smith
- 515 Consequences of Actively Managing a Small Bull Trout Population in a Fragmented Landscape
Robert Al-Chokhachy, Sean Moran, Peter A. McHugh, Shana Bernall, Wade Fredenberg, and Joseph M. DosSantos
- 532 Effect of Exhaustive Exercise on the Swimming Capability and Metabolism of Juvenile Siberian Sturgeon
L. Cai, D. Johnson, P. Mandal, M. Gan, X. Yuan, Z. Tu, and Y. Huang
- 539 The Spawning Success of Early Maturing Resident Hatchery Chinook Salmon in a Natural River System
Michael Ford, Todd N. Parsons, and Andrew Murdoch
- 549 Fine-Scale Pathways Used By Adult Sea Lampreys during Riverine Spawning Migrations
Christopher M. Holbrook, Roger Bergstedt, Noah S. Adams, Tyson W. Hatton, and Robert L. McLaughlin
- 563 Diel Patterns and Temporal Trends in Spawning Activities of Robust Redhorse and River Redhorse in Georgia, Assessed Using Passive Acoustic Monitoring
Carrie A. Straight, C. Rhett Jackson, Byron J. Freeman, and Mary C. Freeman
- 577 Variation in Juvenile Steelhead Density in Relation to Instream Habitat and Watershed Characteristics
Knut Marius Myrvold and Brian P. Kennedy
- 591 Shortnose Sturgeon and Atlantic Sturgeon in the Kennebec River System, Maine: a 1977–2001 Retrospective of Abundance and Important Habitat
Gail S. Wippelhauser and Thomas S. Squiers Jr.
- 602 Phenotypic Shifts in Life History Traits Influence Invasion Success of Goldfish in the Yarlung Tsangpo River, Tibet
Chunlong Liu, Yifeng Chen, Julian D. Olden, Dekui He, Xiaoyun Sui, and Chengzhi Ding
- 610 Brown Trout Removal Effects on Short-Term Survival and Movement of *Myxobolus cerebralis*-Resistant Rainbow Trout
Eric R. Fetherman, Dana L. Winkelman, Larissa L. Bailey, George J. Schisler, and K. Davies
- 627 Abundance, Survival, and Life History Strategies of Juvenile Chinook Salmon in the Skagit River, Washington
Mara S. Zimmerman, Clayton Kinsel, Eric Beamer, Edward J. Connor, and David E. Pflug
- 642 Can Conservation Stocking Enhance Juvenile Emigrant Production in Wild Atlantic Salmon?
P. J. Bacon, I. A. Malcolm, R. J. Fryer, R. S. Glover, C. P. Millar, and A. F. Youngson

New Additions to Library

Periodicals

1. African Journal of Marine Science: Vol. 37 (1) Apr'15
2. Annual Report - National Bureau of Fish Genetic Resources: 2014-15
3. Annual Report - National Research Centre for Agro forestry: 2014-2015
4. Annual Report - NICRA - National Innovations on Climate Resilient Agriculture: 2014-2015
5. Annual Report - Rajiv Gandhi Centre for Aquaculture (RGCA): 2013-2014
6. Annual Report- Agricultural Scientists Recruitment Board: 2014-15 (ASRB)
7. Annual Report- Central Plantation Crops Research Institute: 2014-2015
8. Annual Report- Central Research Institute for Jute & Allied Fibres (CRIJAF): 2014-2015
9. Annual Report- CRIDA: 2014-2015
10. Annual Report- Directorate of Floriculture Research: 2014-2015
11. Annual Report- Directorate of Groundnut Research: 2014-15
12. Annual Report- Directorate of Mushroom Research: 2014-15
13. Annual Report- Directorate of Mushroom Research: Vision 2050 - Dirlt. of Mushroom Research
14. Annual Report- Directorate of Onion and Garlic Research: 2014-15
15. Annual Report- Directorate of Poultry Research: 2014-2015
16. Annual Report- ICAR Research Complex for Goa: 2014-2015
17. Annual Report- Indian Agricultural Research Institute: 2014-15 (IARI)
18. Annual Report- Indian Agricultural Statistics Research Institute: 2014-15
19. Annual Report- Indian Agricultural Statistics Research: 2014-15
20. Annual Report- Indian Institute of Natural Resins and Gums: 2014-15
21. Annual Report- National Bureau of Soil Survey and Land Use Planning: 2014-15
22. Annual Report- National Institute of Abiotic Stress Management: 2014-15
23. Annual Report- National Research Centre for Orchids: 2014-15
24. Annual Report- National Research Centre on Mithun: 2014-15
25. Annual Report- National Research Centre on Pig: 2014-15

26. Annual Report- National Research Centre on Yak: 2014-15
27. Annual Report- Sugarcane Breeding Institute: 2014-15
28. Aquaculture Asia: Vol. 19 (3) Jul-Sep '14
29. Aquaculture Asia: Vol. 19 (4) Oct-Dec '14
30. Aquaculture Research: Vol. 46 (8) Aug '15
31. Biological Bulletin: Vol. 228 (3) Jun '15
32. Biospectrum: Vol. 13 (7) Jul '15
33. Biospectrum: Vol. 13 (8) Aug '15
34. Bulletin of Japanese Society of Fisheries Oceanography: Vol.79 (2) 2015
35. Canadian Journal of Fisheries and Aquatic Sciences: Vol. 72 (4) Apr '15
36. Canadian Journal of Fisheries and Aquatic Sciences: Vol. 72 (5) May '15
37. Canadian Journal of Fisheries and Aquatic Sciences: Vol. 72 (6) Jun '15
38. Copeia: Vol. 103 (2) Jul '15
39. Crustaceana: Vol. 88 (6) Jun '15
40. Current Science: Vol. 109 (3) Aug '15
41. Current Science: Vol. 109 (4) Jul '15
42. Daily Weather Report - Kerala and Lakshadweep: Jun 2015
43. Down To Earth: Vol. 24 (6) Aug '15
44. Down to Earth: Vol. 24 (7) Aug '15
45. DREAM 2047: Vol. 17 (11) Aug '15
46. Economic and Political Weekly: Vol. 50 (32) Aug '15
47. Economic and Political Weekly: Vol. 50 (33) Aug '15
48. Fish for the People (SEAFDEC): Vol. 12 (1) 2014
49. Fish for the People (SEAFDEC): Vol. 12 (2) 2014
50. Fish for the People (SEAFDEC): Vol. 12 (3) 2014
51. Fisheries Management and Ecology: Vol. 22 (4) Aug '15
52. Fisheries: Vol. 40 (5) May '15
53. Fisheries: Vol. 40 (6) Jun '15
54. Fisheries: Vol. 40 (7) Jul '15
55. Fishery Resources Survey, Assessment and Research Programme: 2015-16
56. Fishery Technology: Vol. 52 (3) Jul '15

57. Global Aquaculture Advocate: Vol. 18 (4) Jul / Aug '15
58. Hornbill: Apr-Jun '15
59. ICAR News: Vol. 21 (2) Apr-Jun '15
60. ICAR Reporter: Apr-Jun '15
61. ICES Journal of Marine Science : Vol. 72 Supplment1 / Jul '15
62. ICES Journal of Marine Science : Vol. 72 (6) Jul /Aug '15
63. Indigenous Technical Knowledge of Indian Marine Fishermen with reference to Climate Change: ITK Malayalam 2015
64. INFISH News (NFDB): Vol. 7 (1) Apr-Jun '15
65. Info fish International: No. 4 Jul / Aug '15
66. Journal of Aquatic Animal Health: Vol. 27 (2) Jun '15
67. Journal of Fish Biology: Vol. 87 (1) Jul '15
68. Journal of Fish Biology: Vol. 87 (2) Aug '15
69. Journal of Fish Diseases: Vol. 38 (8) Aug '15
70. Journal of Fish Diseases: Vol. 38 (9) Sep '15
71. Journal of Inland Fisheries Society of India: Vol. 47 (1) Jun '15
72. Journal of Marine Research: Vol. 72 (4) Jul '14
73. Journal of Molluscan Studies: Vol. 81 (3) Aug '15
74. Journal of Taiwan Fisheries Research: Vol. 23 (1) Jun '15
75. Marine Ecology Progress Series : Vol. 530 Jun2015
76. Marine Ecology Progress Series: Vol. 531 Jul 2015
77. Marine Fisheries Review: Vol. 77 (1) 2015
78. Marine Resource Economics: Vol. 30 (3) 2015
79. MPEDA Newsletter: Vol. 3 (3) Jun '15
80. Memoirs of Faculty of Fisheries Kagoshima University: Vol. 63 , 2014
81. National Geographic: Vol. 3 (1) Aug '15
82. Nature: Vol. 523 (7559) Jul '15
83. Nature: Vol. 523 (7560) Jul '15
84. Nature: Vol. 523 (7561) Jul '15
85. Nature: Vol. 523 (7562) Jul '15
86. Nature: Vol. 523 (7563) Aug '15

87. Nature: Vol. 523 (7564) Aug '15
88. North American Journal of Fisheries Management: Vol. 35 (3) Jun '15
89. Pacific Science: Vol. 69 (1) Jan '15
90. Protected Area Update: Vol. 21 (4) Aug '15
91. Resonance: Vol. 8 Aug '15
92. SEAFDEC Aquaculture Extension Manual: No. 56 Jul '14
93. SEAFDEC Aquaculture Extension Manual: No. 57 Jul '14
94. SEAFDEC Aquaculture Extension Manual: No. 58 Jul '14
95. SEAFDEC Aquaculture Extension Manual: No. 59 Jul '14
96. SEAFDEC Newsletter: Vol. 37 (2) Apr-Jun'14
97. Seshaiyana - ENVIS Newsletter on Estuaries, Mangroves Coral Reefs and Lagoons: Vol. 22 (1) Apr -Jun'14
98. Seshaiyana - ENVIS Newsletter on Estuaries, Mangroves: Coral Reefs and Lagoons: Vol. 22 (2) Jul - Sep'14
99. Seshaiyana - ENVIS Newsletter on Estuaries, Mangroves: Coral Reefs and Lagoons: Vol. 22 (3) Oct -Dec'14
100. Statistical Science: Vol. 30 (2) May '15
101. Transactions of American Fisheries Society: Vol. 144 (3) May '15

