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ASIAN FISHERIES SOCIETY

e-Newsletter

MESSAGE FROM EDITOR

I wish all members and readers of this newsletter a very happy, healthy and productive 2017. Congratulations to all members of the 12 Council and I am sure under their guidance, AFS will see new heights in its activities. 2016 has seen the Society successfully organising the mega event – the 11th Asian Fisheries and Aquaculture Forum (11AFAF) in Bangkok. The large number of scientists attending and the large number of papers presented at the forum is a testimony to the importance of this triennial forum. In 2017, the Society and its branches are organising two important conferences: (i) International Conference on Advances in Fish Health 2017 (ICIFISH) in Kuala Lumpur, Malaysia during 4-6 April and (ii) 11th Indian Fisheries and Aquaculture Forum (11IFAF) during November in Kochi, India.

Gender issues in fisheries and aquaculture are gaining importance and receiving attention of not only scientists, but also policy makers and administrators. The gender group in the Society under the leadership of Dr Meryl J Williams has been very active as evidenced by the record number of participants and presentations at 11 AFAF in Bangkok (17% of all presentations of 11AFAF) and publication of papers in special issues of Asian Fisheries Science Journal. The Society has rightly taken the decision to make the gender group as a Section of the Society – Gender in Fisheries and Aquaculture Section of AFS (GAFS).

This newsletter also provides some information on recent developments in the sector, new publications and upcoming conferences/meetings.

Looking forward to a successful 2017 in terms of better management of fisheries and aquaculture.

M. V. Gupta

Inside this issue:

AFS PRESIDENT MESSAGE

Dear Esteemed Members of AFS,

First of all, I would like to convey you all Warmest Greetings and Best Wishes for a Merry Christmas and a very Happy New Year-2017 .The preceding six months period (July-December, 2016) has remained eventful for the Society, largely due to the organisation of its triennial event, the 11th Asian Fisheries and Aquaculture Forum (11AFAF) during August 3-7, 2016 at Bangkok, Thailand. Further, successful organisation of the 6th Global Symposium on Gender in Aquaculture and Fisheries' during the period, was an added significance. On behalf of the Society, I extend sincere thanks to Dr. C. Virapat, Director General, Network of Aquaculture Centres in Asia-Pacific (NACA) and his Team for their efforts in organisation 11AFAF, which was highly successful. Dr Meryl Williams and Dr Nikita Gopal also deserve appreciation for successful organisation of GAF. Contributions of Chulalongkorn University and BITEC is also duly acknowledged.

I am sure the lessons learnt during the organisation of 11AFAF would be of great help in conducting the 12AFAF in the Philippines during September 2019 in more befitting manner and drawing attention of more researchers and other stakeholders from all across the globe. Several decisions taken in its 49th Council Meeting and formation of different functional committees are further expected to provide new vigour for efficient functioning of the Society and drawing more new members. The 3rd International Symposium on Aquaculture and Fisheries Education (ISAFE3) to be held during later part of 2017 in Mumbai, India provides an appropriate platform for drawing action plan for reshaping fisheries education in the region and making it efficient and appropriate. I sincerely wish to have a greater cooperation of the members of the Society for their participation and facilitating in participation of their colleagues and friends.

I am also pleased to announce that AFS, as a Co-organiser, is associated in the organisation of the 'International Conference on Advances in Fish Health 2017 (ICFISH)' along with Universiti Putra Malaysia, Department of Fisheries Malaysia and Malaysian Fisheries Society during April 4-6, 2017 at Kuala Lumpur, Malaysia. The Fish Health Section of AFS is also going to organise its triennial event, Diseases in Asian Aquaculture (DAA10) in Bali, Indonesia during 28th August to 1st September, 2017.

I would like to express my sincere thanks and gratitude to Past President Prof Huang, all the Members of 11th Executive Council and the Advisors Drs. Chan Lee, Mohan J. Modayil and Meryl Williams for their enormous contribution to the Society, consistent support and valuable guidance. I sincerely wish to receive all support, cooperation and commitments from all the newly elected Members of 12th AFS Council and also from esteemed Members of the Society for taking the Asian Fisheries Society to a newer height.

J.K.Jena

President AFS

ASIA PACIFIC-FISHWATCH NEWS

Since the last AFS Newsletter, AsiaPacific-FishWatch has made good progress on compiling the species profile for Pacific Bluefin tuna (*Thunnus orientalis)*. The final profile pages are now under peer review and the pages are expected to be given their final edits and uploaded in early 2017. A notice will be posted on the AFS list when the profile is made public.

In addition to information on the AsiaPacific-FishWatch website, AFS members can keep abreast of Asia-Pacific fisheries and aquaculture news by liking our Facebook page (https://www.facebook.com/asiapacificfishwatch), and following us on Twitter (@Asiapacfish, https://twitter.com/Asiapacfish). The followers for both their social media outlets continues to grow steadily.

We welcome suggestions and contributions for AsiaPacific-FishWatch.

Please contact: asiapacific.fishwatch@gmail.com.

Contributed by Meryl J Williams

GENDER IN AQUACULTURE AND FISHERIES (GAF) UPDATE

The last 6 months have been marked by major achievements on gender in aquaculture and fisheries (GAF) in AFS. We have formalized the Asian Fisheries Society Gender in Aquaculture and Fisheries Section, published Special Issue 29S of the *Asian Fisheries Science* journal with papers from the 5th Global Symposium on Gender in Aquaculture and Fisheries (GAF5 – November 2014, Lucknow, India), and conducted a highly successful GAF6 at the 11th Asian Fisheries and Aquaculture Forum.

Formalizing the Gender in Aquaculture and Fisheries group in AFS: Following approval and guidance from the AFS Council, the informal GAF team is forming the AFS-GAF Section (GAFS). Operating arrangements (articles, bylaws, structure of office bearers and initial office bearers) are almost complete and will be all announced in January 2017. The Asian Fisheries Society will be the first professional fisheries or aquaculture society to have created a gender section.

GAF5 Proceedings Published as Special Issue 29S of Asian Fisheries Science Journal: Selected papers from GAF5 were published in a Special Issue of *Asian Fisheries Science* journal, released at the 11th Asian Fisheries and Aquaculture Forum (11AFAF) and uploaded shortly after at: http://www.asianfisheriessociety.org/publication/archivedetails.php?id=139. The Special Issue was prepared by an editorial team comprising Nikita Gopal (Chief Guest Editor), Meryl Williams, Marilyn Porter and Kyoko Kusakabe. The Special Issue consists of a Foreword from the past and present AFS Presidents, a Guest Editorial, 12 refereed papers, and a GAF65 conference report. The guest editors are grateful for the *Asian Fisheries Science* journal team for their support in publishing the Special Issue.

GAF6 Attracts a Record Number of Presentations: Attracting over 17% of all presentations at 11AFAF, the 6th Global Symposium on Gender in Aquaculture and Fisheries (GAF6) concluded in Bangkok, Thailand, on 6 August 2016 after four days that were filled with a record number of stimulating contributions of several kinds. The theme of GAF6 was "*Engendering Security in Fisheries and Aquaculture*."

Statistically, the diverse program contributions were:

- The first **GAF-101 Training Workshop: Theorizing Gender in Aquaculture and Fisheries Research**, attended by over 50 people.
- **68 presentations** – 47 oral presentations, 19 oral summaries of posters and 2 posters., organised in Special Sessions, some with panels, and Regular Sessions
- **2 Special Sessions with panels –** one on the "Implementation of the Gender Elements of the Small Scale Fisheries Guidelines" and the other on "The Fish Industry, Gender and Social Development"
- **Special Sessions** on: "Gender in Fish Trade and Value Chains,'" "Focus Thailand and Mekong Region." and "Regional Updates on Gender in Fisheries and Aquaculture."
- **Regular Sessions** on: "Climate Change and Disaster Preparedness," "Fisheries Resources, Aquaculture and Gender." "Fishing Communities and Wellbeing, Including Violence Against Women," "Thinking Beyond the Framework of Gender and Fisheries," and "Gender and Food Safety."
- A "**Youth and Fish" painting competition** for students

A GAF **Networks Meeting**

A comprehensive report of the event is now being drafted, and selected papers are being submitted for review and publication by the end of 2017.

GAF-101 Training Workshop, 3 August 2016

The prize winners were:

- *GAF6 M.C. Nandeesha Best Presentation Award:* Afrina Choudhury: "Women's empowerment in aquaculture: Case studies from Bangladesh." Presentation prepared by: Afrina Choudhury and Cynthia McDougall
- *GAF6 Highly Commended Presentations:*
  - Alexander Kaminski: "A gendered value chain analysis of post-harvest losses in Barotse Floodplain, Zambia." Presentation prepared by: Alexander Kaminski, Alexander Kefi, Steven M Cole, Kate Longley, Chifuniro Somanje, Pamela Marinda, Ansen Ward, Alexander Chilala and Gethings Chisule
  - Mary Barby P. Badayos-Jover: "Security in adversity: coastal women's agency in the aftermath of Haiyan"
- *GAF6 Student Presentation Awards*:
  - Khamnuan Kheuntha: "The adaptability to shock in small-scale fishing community: case studies Bang Ya Preok sub-district, Samut Sakorn Province"
  - Anindya Indira Putri: "The survival story of wife in securing household's economy in fishing community of Pemalang Regency – Indonesia." Presentation prepared by: Indah Susilowati, Mayanggita Kirana and Anindya Indira Putri

The GAF6 Organizing Committee gratefully acknowledges the following sponsors and partners:

- *Platinum Sponsor*: AquaFish Innovation Lab
- *Gold Sponsors*: Thailand Department of Fisheries, Asian Development Bank
- *Silver Sponsors*: United States Agency for International Development (USAID), Network of Aquaculture Centres in Asia-Pacific (NACA)

Partners: Asian Fisheries Society, 11AFAF, University of the Philippines Visayas, Asian Institute of Technology, SEAFDEC, Aquaculture without Frontiers, Marketing Seafood (Marie Christine Monfort)

- *Technical Support*: Food and Agriculture Organization of the United Nations
- *Support towards the Fish Industry, Gender and Social Development Panel*: French Agency for Development

For more information, please check out these online sources.

http://genderaquafish.org/
https://www.facebook.com/pages/AFS-Gender-in-Aquaculture-and-Fisheries/181176555231544
https://twitter.com/Genderaquafish

Contributed by Meryl J Williams

NEWS FROM AFS SECRETARIAT

♦ The 49th Council Meeting of AFS held in Bangkok on 6th August 2016 elected the following members to the 12th Council.

1) Executive Committee		
President	:	Dr. J.K Jena
Vice President	:	Dr. Alice Joan Ferrer
Immediate Past President	:	Prof. Shuolin Huang
Treasurer	:	Prof. Aziz Arshad
Secretary	:	Prof.Dr. Abol Munafi Ambok Bolong

2) Finance Committee		
Chair	:	Prof. Aziz Arshad
Members	:	Prof. Shuolin Huang
		Prof. Chen-Huei Huang
		Prof. Abol Munafi Ambok Bolong

3) Membership Committee		
Chair	:	Prof. Marieta B. Sumagaysay
Members	:	Prof. Abol Munafi Ambok Bolong
		Prof. Shunsuke Koshio
		Prof.Dr. Han-Ching Wang
		Dr. Min Jiang
		Dr. A. Gopalakrishnan
		Dr. Ilona Stobutzki
		Dr. Sirawut Klinbunga

4) Publication Committee		
Chair	:	Dr. Sirawut Klinbunga
Members	:	Dr. A. Gopalakrishnan
		Prof. Min Jiang
		Dr. Nicholas Paul

5) Conference and Workshop Committee		
Chair	:	Dr. Alice Joan Ferrer
Members	:	Dr. J.K Jena
		Prof. Marieta B. Sumagaysay
		Prof. Atsushi Hagiwara
		Prof. Chen-Huei Huang
		Prof.Dr. Thaithaworn Lirdwitayaprasit

AFS journal manuscripts submission system upgraded using ScholarOne Manuscripts™

We are pleased to announce that beginning December 2016, the system for submission of manuscripts for publication consideration to the Asian Fisheries Science Journal has been upgraded with the implementation of ScholarOne Manuscripts™. The system is a comprehensive workflow management systems for scholarly journals and is being used by many international journals. The use of the system is being facilitated by the courtesy of Universiti Putra Malaysia where the Asian Fisheries Society Head Quarters is based.

- In order to access our latest service, please go to the link:

  http://www.asianfisheriessociety.org/publication/index.php

- At the right hand column, click on "Submit a Manuscript" which will take you to the link :

  https://mc.manuscriptcentral.com/afsj

First time users will need to click "Create Account" with your email as an ID and you will immediately receive a temporary password to log in. You can change the password after you have logged in. After logging into the system, select "Author" in the top left hand after which "Author Dashboard" will appear. The system is user friendly and will guide you through the 7 steps to facilitate submission of manuscript.

Many AFS members are already familiar with the system as it is commonly used by international journals. Tips for members who are using the system for the first time for submission of manuscripts. Have the followings ready;

a. abstract

b. full manuscript, which includes figures and tables laid out in the appropriate place within the text.

c. 6 keywords.

d. 3 potential reviewers with their email contacts

e. Cover letter stating the work is original and the manuscript has not been published previously nor is being considered for publication elsewhere.

1. **DO NOT** prepare a title page with names of authors and their affiliations. Author's names and affiliations have to be typed into the system.

2. The abstract and the main text should be in separate files.

3. Abstract can be copied into the space provided or you can upload the abstract file.

4. Provide names of three possible reviewers although the Editorial Board may have their own choice of reviewers.

5. The process can be completed intermittently over a few hours or a few days by saving the incomplete sections. The data saved can be recalled on logging into the system. The processing system will save Information of the author/s and will appear during subsequent submissions.

6. Before submission check that everything is in order.

7. Acknowledgement will be sent to the corresponding author and the co-authors immediately on submission.

8. The authors can monitor the progress of their submission by logging into the system.

9. The system will save the information of the author/s and will be recalled for subsequent submissions.

UPCOMING CONFERENCES ORGANISED BY AFS & BRANCHES/NETWORKS

The 11th Indian Fisheries and Aquaculture Forum (11th IFAF)

The 11th Indian Fisheries and Aquaculture Forum (11th IFAF) with the theme "*Fostering Innovations in Fisheries and Aquaculture- Focus on Sustainability and Safety*" will be hosted by the ICAR- Central Institute of Fisheries Technology (ICAR-CIFT), at Kochi, Kerala, India during 21-24 November, 2017.

The Forum will be organized under the following technical sessions:

1. Fisheries Resources: Genetics, Biodiversity and Management
2. Fishing Systems for Sustainable Fisheries
3. Fishery Biology, Toxicology and Environment
4. Aquaculture production
5. Aquatic Animal Health Management
6. Adding Value to Fish: Avenues in Fish biochemistry and Fish Processing
7. Safe Fish: Quality, Risk Assessment and Regulations
8. Fishomics and Frontier Sciences for Blue Bio-economy
9. Socio-Economics, Gender, Capacity Building and Livelihood
10. Fisheries Trade, Policy and Governance

An international symposium on "*CLIMATE CHANGE AND FOOD SAFETY ISSUES*" is also scheduled to be held during the forum.

An interaction of the fishers, aquafarmers, entrepreneurs, scientists, policy makers and other stake holders will be organized during the forum to get feedback on the emerging policy issues and for reprisal of the concerns of the stakeholders in the industry.

The following awards will be presented during the forum:

1. **Young Scientist Award (up to 10 awards):** *Eligibility:* Scientists and Research Scholars below the age of 35 years (as on 30th June 2017) working in the field of fisheries related disciplines. The award carries a cash prize of Rs. 1000/- and a citation.

2. **Prof. H.P.C Shetty Award**: *Eligibility*: Persons involved in Fisheries research and development, below 50 years as on 30th June 2017. The award carries a cash prize of Rs. 10,000/- a medallion and an invitation to deliver keynote address at the forum.

3. **Professors T.J. Pandian and A.J. Matty Award:** *Eligibility*: Applicant should be below 35 years (40 years in the case of women) as on 30th June 2017, preferably carried out his/her work in India and has worked towards aquaculture development through research. Award carries a cash prize of Rs. 10,000/-, a medallion and an invitation to deliver keynote address at the forum.

4. **Dr. Pillay Aquaculture Award**: *Eligibility*: Outstanding work on any aspect of aquaculture (research/ extension/ development) carried out in India by an individual, group or organization (government or private). The award carries a cash prize of Rs. 25,000/- and a citation and invitation to deliver keynote address during the Forum.

5. Dr. M.C. Nandeesha Award: This award is given for the best innovation by a fish farmer. The award carries a cash prize of Rs. 25000 and a citation.

Details about the above awards can be obtained from the Secretary, AFSIB Building, College of Fisheries Campus, Kankanadi, Mangalore – 575 002, Karnataka, India. Applications for the awards should reach the Secretary latest by 30th June 2017.

6. Shri J.V.H. Dixitulu National Award for Outstanding work in Fisheries Extension / Communication: *Eligibility*: Outstanding contributions in the field of fisheries extension / communication in India by individuals /institutions / NGOs. The award will carry a memento, citation and cash award of Rs. 15,000/- and invitation to present the work at the Forum. Applications for this award should be submitted to the Convener of the J.V.H. Dixitulu Award – The President, MBAI, CMFRI Campus, Post Box No. 1604, Kochi -682 018, Kerala, India. The last date for receiving applications is 15th August, 2017.

ONLINE SUBMISSION OF ABSTRACTS : Contributors can submit extended abstracts online at www.11ifaf.in

PUBLICATIONS OF THE FORUM: The papers presented in the forum will be subjected to scientific review for publishing in journals with high impact factor.

POST-FORUM TOURS

Kochi (colonial name Cochin) also referred to as the "Gateway to Kerala", is a vibrant city situated on the south-west coast of the Indian. It is rated as the top three tourist destinations by the World Travel & Tourism Council and featured in National Geographic Traveller's '50 greatest places of a lifetime' and has a lot of tourist attractions and places to visit. Details of post-forum tours and other details will be uploaded shortly in the forum website www.11ifaf.in .

REGISTRATION

Overseas delegates

	Early bird registration fee	Late / spot registration
Members of AFS/AFSIB	US $ 250	US $ 300
Non-members of AFS/AFSIB	US $ 300	US $ 350

Indian delegates

	Early bird registration fee	Late / spot registration
Members of AFS/AFSIB	12000	13000
Non-members of AFS/AFSIB	15000	16000
Students	5000	6000
Observers & Spouses*	5000	6000

DATES TO REMEMBER

Submission of Abstracts : 01 April – 31 May 2017

Communication of Acceptance of Abstracts : 31 July 2017

Last date of Submission of Application for Awards : 30 June 2017*

Last date of Submission of Full Paper : 31 September 2017

11th Indian Fisheries and Aquaculture Forum : 21 - 24 November, 2017

(*Last date of Submission of Application for Shri J.V.H. Dixitulu National Award: 15 August 2017)

International Conference on Advances in Fish Health 2017 (ICFISH)

Universiti Putra Malaysia in collaboration with Department of Fisheries Malaysia, Malaysian Fisheries Society and Asian Fisheries Society will be organizing a conference entitled *"International Conference on Advances in Fish Health 2017 (ICFISH)"* during 4 to 6 April 2017 in Universiti Putra Malaysia, Serdang, Selangor, Malaysia

The conference will comprises of three days of scientific sessions inclusive of keynote, plenary, oral and poster presentations.

The major topics that will be covered by the conference include:

- Epidemiology of Fish Diseases in Aquaculture
- Diagnostics and biomarkers for disease identification
- Immunology and Vaccine Technologies
- Probiotics and Therapeutics, and
- Disease Management Practices in Aquaculture Systems

Invited keynote and plenary speakers include:

1. Prof. Dr. Alexandra (Sandra) Adams (University of Stirling, UK)
2. Dr. Melba B. Reantaso (FAO, Italy)
3. Prof. Dato' Dr. Mohamed Shariff Mohamed Din (Universiti Putra Malaysia)
4. Professor Dr. K. Pani Prasad (Central Institute of Fisheries Education, India)
5. Dr. Celia Lavilla-Pitogo (iAqua Sdn.Bhd, Blue Archipelago, Malaysia)
6. Dr. Hj. Mazuki Hashim (Department of Fisheries, Malaysia)

Last date for abstract submission is 31 January 2017.

- AFS Members will get a discounted registration fee rate of USD230 compared to normal rate of USD300.
- A special discount is offered to participants that register before **31th January 2017.**

For additional information visit: **http://www.icfish.my or** http://www.facebook.com/icfish.my

NEWS

ASEAN Fisheries Education Network" (ASEAN-FEN)

The "ASEAN Fisheries Education Network" (ASEAN-FEN) established in 2011 consists of a team of university-based consortia representing the fisheries and aquaculture oriented institutions within the Southeast Asia region. ASEAN-FEN was established by agreement of its 9 principal members namely Universiti Malaysia Terengganu (Malaysia), Universiti Sains Malaysia (Malaysia), Can Tho University (Vietnam), Nong Lam University (Vietnam), Kasetsart University (Thailand), Prince of Songkla University (Thailand), Rajamangala University of Technology Srivijaya (Thailand) and Universitas Air Langga (Indonesia) for the purpose of supporting and enhancing the fisheries and aquaculture sector through education, research, and public outreach in the region. The ASEAN-FEN supports and facilitates activities of educators, scientists, and agencies responding to local, regional, national, and international issues on fisheries and aquaculture.

In addition to student and staff exchange between the principal members, ASEAN-FEN organizes a major fisheries and aquaculture event annually, termed as the "International Fisheries Symposium" (IFS). The 6th IFS was held recently in Phu Quoc Island, Vietnam, with the theme "Promoting Healthier Aquaculture and Fisheries for Food Safety and Security", and was attended by more than 600 participants from all around the world, with strong participation from the European countries. This event is seen as an opportunity for ASEAN-FEN to work with the aquaculture network in EU, primarily to disseminate/exchange valuable information, data and/or research findings for mutual benefit.

For additional information, visit their official website at : www.aseanfen.com

10th Symposium on Diseases in Aquaculture (DAA 10)

The triennial symposia of Fish Health Section of AFS – the 10th Symposium on Diseases in Aquaculture (DAA10) with the theme *"Enhancing Aquatic Animal Health Research and Services through Public – Private Sector Partnerships"* is scheduled for 28 August to 1 September in Bali, Indonesia.

Important Dates to remember:

Registration and Abstract Submission Open : 2 January 2017

Abstract Submission Deadline : 31 March 2017

Abstract Review process : 1 April – 31 May 2017

Notification of Abstract Acceptance : 31 May 2017

Early Registration Deadline : 31 May 2017

Latest Registration Deadline : 31 July 2017

Full Paper Submission Deadline : 30 November 2017

For additional details, please visit www.daa10.org

U.S launches world's largest Ocean marine protected area amid controversy

The world's largest ocean research and protection area, the Papahanaumokuakea Marine National Monument, was launched in Hawaii, USA on 31 August 2016 amid criticisms of its impact on trade and fishing. The reserve comprises of 1.5 million square miles of marine territory northwest of the Hawaii island chain. The area will be open for scientific projects to study climate change impacts on oceanic biodiversity, but will be strictly closed off to fishers.

However, the effort was criticised by some island nation representatives for not being ambitious enough to permanently protect the wildlife of the sea. Palau, for example, has placed 80 per cent of its economic zone under marine protection as part of this initiative, strictly forbidding any fish catch from this area. Tommy Remengesau, the president of Palau, said the reserve was a good effort, but that the US could have done more considering its size and wealth.

The fencing off of marine areas for protection and research purposes emerged as a controversial issue. Fishers are opposed to these conservation efforts saying that marine-protected areas make the environmental impact of fishing worse by stifling local innovations in sustainable fishing. In the lead-up to Papahanaumokuakea's launch, representatives from Hawaii's fishing industry said that local fishers were making huge strides in developing sustainable fishing technologies, using hooks and lines instead of nets, which produce wasteful bycatch. Their exclusion from the reserve will slow down such innovations whilst forcing Hawaii to import more fish from abroad, they argued.

Source: http://www.scidev.net/global/fisheries/news/largest-marine-reserve-Papahanaumokuakea.html?utm_medium=email&utm_source=SciDevNewsletter&utm_campaign=international%20SciDev.Net%20update%3A%2012%20September%202016

Tropics told to ban coral-killing sunscreen

Chemical compounds in sunscreen lotions cause irreparable damage to reefs, which are crucial to the livelihoods of 500 million people in the tropics and should be banned said scientists and policymakers at the IUCN World Conservation Congress on 3 September 2016. Hawaii, USA is leading a legislative effort to ban the use of sunscreen that contains oxybenzone or similar harmful agents, at its beaches.

The chemical agents in many sunscreen brands have long-term harmful effects on corals, damaging their fertility and ability to absorb sunlight. They also cause baby corals to become grossly deformed, so they cannot colonise new spaces.

Sunscreen pollution can travel from a single beach to a very far distance. Hawaii experienced its first major coral bleaching case in 2014, and has seen coral reef die-off every year since then. Severe bleaching cases have also been observed in the Easter islands, Fiji, Tonga and several Caribbean nations — all of which have economies highly dependent on tourism.

Research presented at the summit showed that most tourists buy their sunscreen once they get to their holiday destination. The scientists present agreed that a sales ban on harmful sunscreen products on tropical islands would be the best way forward, as raising awareness among holiday makers is proving difficult.

Source: http://www.scidev.net/global/pollution/news/tropics-ban-coral-killing-sunscreen.html?utm_medium=email&utm_source=SciDevNewsletter&utm_campaign=international%20SciDev.Net%20update%3A%2012%20September%202016

Climate influence on Vibrio and associated human diseases

Climate change is having a dramatic impact on marine animal and plant communities but little is known of its influence on marine prokaryotes, which represent the largest living biomass in the world oceans and play a fundamental role in maintaining life on our planet. This study provides experimental evidence on the link between multidecadal climatic variability in the temperate North Atlantic and the presence and spread of an important group of marine prokaryotes, the vibrios, which are responsible for several infections in both humans and animals. Using archived formalin-preserved plankton samples collected by the Continuous Plankton Recorder survey over the past half-century (1958–2011), the authors assessed retrospectively the relative abundance of vibrios, including human pathogens, in nine areas of the North Atlantic and North Sea and showed correlation with climate and plankton changes.

Generalized additive models revealed that long-term increase in *Vibrio* abundance is promoted by increasing sea surface temperatures (up to ~1.5 °C over the past 54 years) and is positively correlated with the Northern Hemisphere Temperature (NHT) and Atlantic Multidecadal Oscillation (AMO) climatic indices ($P < 0.001$). Such increases are associated with an unprecedented occurrence of environmentally acquired *Vibrio* infections in the human population of Northern Europe and the Atlantic coast of the United States in recent years.

Reference: Luigi Vezzulli, Chiara Grande,Philip C. Reid, Pierre Hélaouët, Martin Edwards, Manfred G. Höfle, Ingrid Brettar, Rita R. Colwell, and Carla Pruzzo: Climate influence onVibrio and associated human diseases during the past half-century in the coastal North Atlantic. PNAS 2016 113 (34) E5062-E5071;published ahead of print August 8, 2016.

Indonesian Fisheries Industry Asks Government to Review Policy

The Indonesian fisheries industry has asked the government to review a policy on ships that it claims has crippled business. Business people with the Indonesia Fishery Industry Association (Gappindo) said they had seen a significant drop in exports and production after the Maritime Affairs and Fisheries Ministry put in place a moratorium on the use of foreign-made vessels. The moratorium, which was implemented from November 2014 to October 2015, froze the operation of vessels with a capacity of 30 gross tons (GT).

The ministry required them to undergo permit audits and demanded that their presence be replaced by locally made vessels. As many as 1,132 ships were pulled from operations during the period of the moratorium. Some 500 ships have been cleared in the audit, but the ministry is standing its ground and obliging locals to only use locally made ships.

According to the Indonesian Marine Fish Farming Association (Abilindo), the production of groupers is projected to drop to 1,000 tons this year from 4,000 tons in 2014, while the Indonesian Tuna Association (Astuin) said tuna export volumes to Japan dropped by half to 7.5 million kilograms in 2015 from 2014.

Source: Samudra News Alert 16 Sept. 2016

WTO Members Announce Talks to Ban Harmful Fisheries

A group of 13 WTO members comprising Argentina, Australia, Canada, Chile, Colombia, New Zealand, Norway, Papua New Guinea, Peru, Singapore, Switzerland, Uruguay, and the United States during the 3rd Our Ocean Conference held on 15-16 September 2016 in Washington, announced plans to begin preparations for negotiations to ban harmful fisheries subsidies, aiming to reach an international agreement under the Geneva-based organisation. According to a joint statement, these talks would aim to tackle subsidies that contribute to overfishing and overcapacity, along with those linked to illegal, unreported, and unregulated (IUU) fishing. Along with addressing subsidies themselves, the group also aims to improve reporting and transparency on such state aid. Some studies suggest that IUU fishing makes up between 13 and 31 percent of reported catches, climbing to as much as 50 percent in certain regions. The participants also aim to strengthen the capacity of developing countries to implement these planned subsidies disciplines. Discussions are now underway on exactly how to conduct the talks as well as next steps.

This initiative is expected to result in significant trade, economic, development, and environmental benefits, and help put on track towards achieving target 14.6 of the UN Sustainable Development Goals which calls for the prohibition of fisheries subsidies that contribute to overcapacity and overfishing, and the elimination of those related to IUU fishing activities, by 2020. Some subsidies can augment fishing capacity and effort, thereby exacerbating pressure on stocks, while IUU fishing undermines marine management and conservation efforts .

The UN Food and Agriculture Organization (FAO) estimates that approximately 31.4 percent of commercial fish stocks are overfished. This includes familiar species such as the Atlantic cod, chub mackerel, and certain types of tuna.

Source: Samudra News Alerts, 23 September 2016

Omega-3 levels fall in farmed salmon, but still a top source

As the salmon aquaculture industry expanded, feed largely derived from wild fisheries (fishmeal and fish oil) in the industry's earlier days is getting replaced with vegetable proteins. Feed conversion ratios" for farmed fish are well below those of terrestrial animals like broiler chickens, hogs and cattle. But with the inclusion of more terrestrial plant ingredients in the feed (soy, rapeseed oil and other ingredients that do not contain similarly high levels of healthful fatty acids) came another reality - farmed salmon from Scotland, on average, have about half the levels of omega-3s that they once did according to research undertaken by the University of Stirling,

"This is not controversial but rather a fact," said Ronald W. Hardy, Director of the Aquaculture Research Institute at the University of Idaho. "Levels are a little more than half of levels a decade ago but they are still quite high, such that the recommended intake can be supplied by consuming a relatively small amount of salmon each week."

Despite the changes, farmed salmon remain one of consumers' best sources of omega-3s, which are crucial long-chain polyunsaturated fatty acids (LC-PUFA) originating from algae that animals cannot synthesize and must get from diet.

This was published in an open-access journal from the publishers of *Nature* [Sprague, M. *et al*. Impact of sustainable feeds on omega-3 long-chain fatty acid levels in farmed Atlantic salmon, 2006-2015. *Sci. Rep.* 6, 21892; doi: 10.1038/srep21892 (2016).]

Freshwater fish play a crucial role in feeding some of the world's most vulnerable

"It was eye-opening just how many people are deeply dependent on freshwater fisheries as sources of protein," says Pete McIntyre, a lead co-author of the study and professor of zoology in the Center for Limnology at the University of Wisconsin-Madison, in a study published in Proceedings of National Academy of Sciences. "Many people in poor nations do not get much animal protein to eat, and freshwater fish provide protein for the nutritional equivalent of 158 million people around the world."

By creating a map of the world's fisheries documenting where people catch freshwater fish at the highest rates, and then linking it to data about fish biodiversity, ecosystem health, and human nutrition and socioeconomics, McIntyre's team hopes the study helps put freshwater fish on the radar for decision-makers around the globe.

"When making big decisions, for instance when the World Bank is considering funding a dam project, we think the collateral damage done to freshwater fisheries should be explicitly listed as a quantifiable impact," McIntyre says.

McIntyre and study co-lead Catherine Reidy Liermann of UW-Madison, along with co-author Carmen Revenga of The Nature Conservancy, found that 90 percent of fish caught worldwide are harvested from rivers facing higher-than-average levels of environmental stress from chemical pollution, invasive species, land use change, and other human factors.

"With population and climate change, human dependency on freshwater systems is increasing dramatically in many parts of the world," says Reidy Liermann. "At the same time, freshwater species are being lost at faster rates than marine or terrestrial species.

Ecological theory and experimental data from other studies suggest that diverse ecosystems are typically more productive than less species-rich environments. The researchers expected to find that rivers with high fish biodiversity would also be more productive.

Using the best available data -- national statistics from the FAO combined with powerful statistical methods, the researchers looked at the relationship between fish catches and fish diversity, ecosystem health threats and human nutritional needs.

To their surprise, the team learned that greater biodiversity does not provide a clear boost to fishery productivity. Rather, the study found that the link between fish catches and species richness is indirect: catches increase with the size of the river and with human population density, while biodiversity also happens to increase with river size.

Story Source: *Materials provided by* ***University of Wisconsin-Madison****. Original written by Kelly* April Tyrrell. *Note: Content may be edited for style and length.*

Journal Reference: *Peter B. McIntyre, Catherine A. Reidy Liermann, and Carmen Revenga. Linking freshwater fishery management to global food security and biodiversity conservation. PNAS, October 2016 DOI: 10.1073/pnas.1521540113*

Precision shrimp feed for automated feeders using acoustic technology says Cargill

Cargill says it is revolutionizing how shrimp are being fed through its introduction of iQuatic ™, a first-of-its-kind shrimp feed produced exclusively for automated feeders using acoustic technology. According to Cargill, its iQuatic ™ feed will be available in Central and South America over the next few months. Through this acoustic technology, the automatic feed dispensers use microphones to detect when shrimp are eating, enabling the sytem to deliver more precise amounts of food when shrimp are hungry. "Our iQuatic ™ feed gives shrimp farmers a big competitive advantage because it maximizes feeding times," said Adel El-Mowafi, Cargill global technology director for aqua. "Giving shrimp food during their natural feeding patterns makes a huge impact on productivity, but the nutritional and functional design of the feed itself has to be right. Otherwise key nutrients can dissolve.

Automated feeders use the acoustic technology to understand the natural eating patterns of shrimp, resulting in improved efficiency. Because the shrimp make better use of the nutrients delivered, they grow faster and produce less waste. This results in improved feed conversion ratio and better water quality allowing for a more environmentally sustainable operation with healthier, larger shrimp.
"Our iQuatic ™ feed field trials have resulted in improved feed conversion ratios as much as 15 to 20 percent," said Martin Baertl, Cargill strategic marketing lead for aqua. "Our customized iQuatic ™ feed ingredients and nutrients are designed specifically for acoustic automated feed technology to meet distinct farming needs.

Source: http://www.cargill.com/news/releases/2016/NA31984677.jsp

South Korea Successfully Farms Salmon

South Korea's Ministry of Oceans and Fisheries has reported that, *for the first time,* the country has successfully farmed 500 tons of salmon at a facility in Goseong County (Gangwon Province).
In the past, the country has struggled to farm salmon due to warm ocean temperatures, often exceeding 29°C in the summer. To overcome the setbacks, a fisheries company hatched salmon eggs imported from Canada in 2014, and raised them for 10 months at its aquafarm located in inland waters. After growing to 200 – 400 grams in size, in March 2015 the fish were moved to sea cages in Goseong that were placed 25 metres deep in order to be in 15–18°C water all year round.

Source: https://outlook.live.com/owa/?realm=hotmail.com&path=/mail/inbox

Rice Field Fisheries Project in Cambodia

A new project is underway to boost average fish production in Cambodia's rice field fisheries by 50 kilograms per hectare per year, equivalent to an additional output of 100,000 metric tons per year. The project will also strengthen targeted communities' abilities to adapt to climate change risks. In Cambodia, almost all rural households depend on rice field fisheries – the fishing that mainly occurs in and around flooded rice fields during the wet season from May to November – as a "free" nutritious food source.
The "Feed the Future Cambodia Rice Field Fisheries Phase II" project is implemented by WorldFish Center through grants provided by USAID and funding from the US Feed the Future Initiative.

Source: https://outlook.live.com/owa/?realm=hotmail.com&path=/mail/inbox

World's Largest Marine Protected Area set up

The world's largest marine protected area has been set up in the Southern Ocean. Members of the Commission for the Conservation of **Antarctic** Marine Living Resources (CCAMLR) agreed to safeguard 1.55 million km^2 of the Ross Sea, offering protection to one of the last intact marine ecosystems in the world.

Source: https://outlook.live.com/owa/?realm=hotmail.com&path=/mail/inbox

Odourless Fish in Japan

In Tokyo, slices of buri, or Japanese amberjack, line the shelves at Ito-Yokado, one of Japan's major supermarket chains. But these are not standard amberjack fillets; they are odourless amberjack developed by Professor Masahiko Ariji at Kindai University. Professor Ariji and his colleagues spent five years developing and commercialising odour-free amberjack. In January 2016, they began selling the fish to retailers after teaming up with a university-affiliated wholesaler.

The secret to odourless amberjack lies in the feed. Ordinary feed for farmed fish tends to be 40-60 per cent fishmeal, or ground dried fish and bones. Professor Ariji's team changed the diet of their amberjack by reducing the ratio of fishmeal to 28 per cent. They made up the difference with other alternatives such as soybean meal and vegetable proteins that were mixed together with chicken meal. This created a savoury taste, and green tea powder was also used to remove the fishy smell.

In western Japan, fish raised on feed mixed with citrus and other fruit have been hitting the market. Sakai city near Osaka has been selling *mikan buri* or orange amberjack since 2012 at conveyor belt sushi restaurants, and believes that the clean aftertaste is a huge selling point. The fish are raised on feed mixed with the peel and juice of mikan oranges. Other species on offer include *mikan salmon* and *sudachi citrus white trevally*, depending on the season.

Fruit fish is the work of Associate Professor Haruhisa Fukada, who specialises in fish nutritional physiology at Kochi University. While researching the antioxidative effects of polyphenol in yuzu citrus fruit, Professor Fukada found that when the fruit was added to fish feed, he could control any changes in colour to the fish meat. He also observed that the fish retained a yuzu flavour. Yuzu-flavoured amberjack hit the market in 2007 after Professor Fukada began working with a local fishermen's cooperative.

Fruit-flavoured amberjack are raised on feed that contains about 10 per cent of yuzu peel and juice. The feed raises the concentration of limonene, a substance responsible for the aroma of citrus fruit, to 20 times larger than the minimum level humans can smell. As of last December, at least 23 types of fruit fish had been cultivated in eight prefectures across Japan.

In Kagawa prefecture on the island of Shikoku, farmers are grinding olive tree leaves into a powder and mixing it into feed pellets given to hamachi or yellowtail. The fish are given the pellets for just over two weeks. Olives add flavour, a high amount of Vitamin E and reduce any unpleasant odours. In Nagasaki prefecture, southern Japan, farmed mackerel are given nutmeg, oregano, cinnamon and ginger so their meat becomes more fragrant.

Fruit and herb flavoured fish are still only a small fraction of all farmed fish but producers hope that the distinct flavours and aromas of their products will draw attention at home and abroad.

Source: http://www.thefishsite.com/fishnews/28402/removing-the-smell-could-odourless-fish-take-off-in-japan/

Assessing the Health of Fish Conservation Zones in Lao PDR

FISHBIO and the Lao Department of Livestock and Fisheries organized a workshop in Vientiane, Lao PDR, on 7- 8 November 2016, to identify indicators (such as fish abundance, community standard of living, or the level of FCZ regulation enforcement, etc.), for assessment of the success of fish conservation zones (FCZs), or freshwater protected areas, in Lao PDR and come up with a guidebook. The workshop was attended by more than 20 groups representing non-profit, government, and private sectors in Lao PDR, as well as two members of Conservation International in Cambodia, and a researcher from Charles Sturt University in Australia.

During the workshop participants reviewed 50 potential indicators (ecological, socioeconomic and governance) based on a previously developed marine protected area assessment framework (Pomeroy et al. 2004) and a literature review. The participants identified abundance of key species or groups of species, return on fishing effort, and the composition of the aquatic community as indicators under ecological category; community perceptions, such as values and beliefs about aquatic resources, understanding of human impact on natural resources, and the distribution of scientific or formal knowledge to the community under socioeconomic category; and existence of an FCZ management plan, the existence of signs and other administrative resources, and local understanding of FCZ regulations under governance category.

Based on the outcomes from the workshop, FISHBIO plans to come up with a draft version of the FCZ assessment guidebook, which will then be pilot-tested in the field. For more information, please contact: fishbiolaos@fishbio.com.

Contributed by: Erin Loury, FISHBIO

World Fish Migration Day

World Fish Migration Day celebrated on 21 April 2016 is a one-day worldwide celebration to create awareness on the importance of open rivers and migratory fish. Organizations from around the World organized their own event like kayak trips, dam removals, openings of fishways, school trips, conferences, and many more, around the common theme of: *CONNECTING FISH, RIVERS AND PEOPLE*. Through this event, WFMD aims at improving the public's understanding of the importance of migratory fish and healthy rivers, as well as creating lasting commitments from NGO's, industries and governments.

The success of WFMD led to the creation of the World Fish Migration Foundation in 2014 and to the launch of an increasing number of concrete projects. After only two editions in 2014 and 2016, the concept and its meaning is already deeply-rooted in fisheries and conservation organisations and institutes around the world.

One hundred million people have been reached through direct events and medias on WFMD2016. About 100 events have taken place in Asia, such as exhibitions in Bangladesh, TV and radio shows in Cambodia, fishing with angling camps in India, a Mekong river parade in Laos, the launch of a research hub in Papua New Guinea, and many more that you can discover here: www.worldfishmigrationday.com/feedback.

If you are interested and want to get involved, visit WFMD2018 website www.worldfishmigrationday.com to learn more and register your event, or contact us info@fishmigration.org.
Contributed by: Sandra Chevret

NEW PUBLICATIONS

Cultured species fact sheets
Fisheries and aquaculture department of FAO has come up with fact sheet on 71 cultured species. The factsheet can be downloaded at: www.fao.org/fishery/culturedspecies/search/en

Market competition between farmed and wild fish
FAO-2016. Market competition between farmed and wild fish: a literature survey by Trond Bjorndal and Jordi Guillen has been published as FAO Fisheries and Aquaculture Circular no. 1114.
The publication can be downloaded at: www.fao.org/3/a-i5700e.pdf

Climate change implications for fisheries and aquaculture
FAO 2016. Climate change implications for fisheries and aquaculture: Summary of the findings of the intergovernmental panel on climate change Fifth Assessment Report by Anika Seggel and Cassandra de Young. FAO Fisheries and Aquaculture Circular No. 1122.
The publication can be downloaded at: www.fao.org/3/a-i5707e/pdf
Brief on the same subject can be found at: www.fao.org/3/a-i5871e.pdg

Water accounting in fisheries and aquaculture
FAO 2016. Lessons learned in water accounting: the fisheries and aquaculture perspective by Daniel Ottaviani, Sachiko Tsuji and Cassandra de Young. FAO Fisheries and Aquaculture Technical Paper No. 599.
The publication can be downloaded at: www.fao.org/3/a-i5880e.pdf
Perspectives on Culture-Based Capture Fisheries Developments in Asia.
by De Silva, S., Ingram, B.A., Wilkinson, S. 2015.

The book is proceedings of regional consultation on culture-based fisheries development in Asia held on 21-24 October 2014 in Cambodia.
The book can be downloaded at: http://enaca.org/publications/inland-aquaculture/perspectives-on-culture-based-fisheries-developments-in-asia.pdf

A new and improved PCR detection method for Enterocytozoon hepatopenaei (EHP) based on a gene encoding a spore wall protein by *Itsathitphaisarn, O, Jaroenlak, P., Sanguanrut, P., Salachan, P.V., Wiredu-Boakye, D., Williams, B.A.P, Stantiford, G.D., Flegel, T.W., Sritunyalucksana, K.*

The second generation EHP detection method presented in this publication is based on a gene encoding a spore wall protein (SWP) of EHP (SWP-PCR).
The publication can be downloaded at:
http://www.enaca.org/modules/library/publication.php?publication_id=1177&title=improved-pcr-detection-of-ehp

Proceedings of the International Symposium on Small-scale Freshwater Aquaculture Extension
This publication is outcome of an international symposium organized in 2014 for stakeholders involved in small-scale aquaculture in Southeast Asia and Sub-Saharan Africa that demonstrated effectiveness of farmer to farmer extension.
The publication can be downloaded at:
http://www.enaca.org/modules/library/publication.php?publication_id=1139&title=proceedings-symposium-small-scale-freshwater-aquaculture-extension

UPCOMING CONFERENCES

Aquaculture America 2017
Scheduled for 19-22 February 2017 in San Antonio, Texas, USA.
For information visit: https://www.was.org/meetings/default.aspx?code=AA2017

Canadian Conference for Fisheries Research
Scheduled for 5-8 January 2017 in Montreal, Canada.
For details visit: http://www1.uwindsor.ca/glier/ccffr/ccffrccrp- 2017

77th Midwest Fish & Wildlife Conference
Scheduled for 5-8 February 2017 in Lincoln, Nebraska, USA.
For details visit: http://www.midwestfw.org

Aquaculture America 2017
Scheduled for 19-22 February 2017 in San Antonio, Texas, USA.
For details visit: https://www.was.org/meetings/default.aspx?code =AA2017

ICES/PICES Symposium on Drivers of Dynamics of Small Pelagic Neritic Fish Resources
Scheduled for 6-11 March 2017 in Victoria BC, Canada.
For details visit: http://www.ices.dk/news-andevents/symposia/Pages/default.aspx

International Conference on Marine Sciences and Aquaculture 2017 (ICOMSA)
The conference with the theme "New Frontier in Sustainable Marine Bioresources is scheduled for 14-5 March 2017 in Kota Kinabalu, Sabah, Malaysia.
For additional information, visit: http://www.ums.edu.my/ipmbv2/icomsa/

Giant Prawn 2017
Scheduled for 22-24 March 2017 in Bangkok, Thailand.
For information visit http://www.giantprawn.org/

International Conference on Advances in Fish Health 2017 (ICFISH)
The conference is scheduled for 4-6 April 2017 in Universiti Putra Malaysia, Serdang, Malaysia.
For information, visit: http://www.icfish.my

73rd Annual Northeast Fish & Wildlife Conference
Scheduled for 9-11 April 2017 in Norfolk, Virginia, USA.
For details visit: http://www.neafwa.org

International Conference on Advances in Fish Health 2017 (ICFISH)
The conference is scheduled for 4-6 April 2017 in Universiti Putra Malaysia, Serdang, Malaysia.
For information, visit: http://www.icfish.my

International Conference on the Status and Future of the World's Large Rivers Scheduled for 18-21 April 2017 in New Delhi, India. For additional information, visit: http://worldslargerivers.boku.ac.at/wlr/

Aquaculture Philippines and National Aquaculture Summit 2017
Scheduled for 24-26 May 2017 in Pasay City, Philippines.
For information, email:Michael.blancas@ubm.com

6th Global Summit on Aquaculture and Fisheries
Scheduled for 25-27 May 2017 in Osaka, Japan.
For details, visit: http://aquaculture.global-summit.com/call-for-abstracts.php

4th International Conference on Fish Telemetry
Scheduled for 19-23 June 2017 in Cairns, Australia.
For additional information, visit: http://www.4thicft.org

Fish Passage 2017
Scheduled for 19-21 June 2017 in Corvallis, Oregon, USA.
For details visit: https://fishpassage.umass.edu/

World Aquaculture 2017
Scheduled for 26-30 June 2017 in Cape Town, South Africa.
For details, visit: https://www.was.org/meetings/default.aspx?code =WA2017

Asian-Pacific Aquaculture 2017
Scheduled for July 24-27, 2017 in Kuala Lumpur, Malaysia.
For details visit: www.was.org or contact worldaqua@aol.com

6th International Conference on Aquaculture and Fisheries
Scheduled for 7-9 August, 2017 in Rome, Italy.
For details visit: http://www.conferenceseries.com/agri-food-aqua-meetings

Aqua Nor 2017 International Aquaculture Trade Show
Scheduled for 15-18 August 2017 in Trondheim, Norway.
For details visit: http://www.aqua-nor.no/?lang=en

2nd Icelandic Fisheries Conference
Scheduled for 13-15 September 2017 in Iceland.
For details visit: http://www.icefishconference.com/

The 10th Indo-Pacific Fish Conference

The 10th Indo-Pacific Fish Conference is being organized in Tahiti, French Polynesia during 2-6 October 2017.
During the conference, a session on Primitive Fishes: Scientific, Cultural and Commercial Importance is being organized by Alexei M. Orlov and Marcelo R. de Carvalho.
Link to description of the session: https://ipfc10.criobe.pf/primitive-fishes-scientific-cultural-and-commercial-importance/

11th Indian Fisheries and Aquaculture Forum (11ifaf)
The 11th Indian Fisheries and Aquaculture Forum with the theme "Fostering Innovations in Fisheries and Aquaculture with Focus on Sustainability and Safety" is scheduled for 21-24 November 2017 in Kochi, India. For more information, visit www.11ifaf.in

AFS MEMBERSHIP RENEWAL NOTICE

Dear AFS Members:

Thank you all AFS Members for your ongoing commitment and support towards the Society!

The Secretariat has started to update the Members details in database.

Therefore, the Secretariat requests all AFS members to update their membership dues and contact information, to the Secretariat via email at info@asianfisheriessociety.org

Kindly renew your membership dues using online payment system at http://www.asianfisheriessociety.org/join.php or you may also request the membership form from Secretariat via info@asianfisheriessociety.org.

Membership is open for all!

Please apply your membership at http://www.asianfisheriessociety.org/join.php.

If you have any question, kindly email us at info@asianfisheriessociety.org

SYNOPSIS OF PAPERS VOLUME 29 (ISSUE 3) : ASIAN FISHERIES SCIENCE JOURNAL

Taxonomic Clarification of Mud Crab Species of Genus *Scylla* (Brachyura: Portunidae) Available in the Coastal Regions of Bangladesh

MD. ABDUR ROUF, SHEIK ISTIAK MD. SHAHRIAR, MD. GOLAM SAROWER and MD. NAZMUL AHSAN

In this study 371 samples collected randomly from seven locations along the coastal areas of Bangladesh were used to study the taxonomy of the mud crab (*Scylla* spp) based on morphological characteristics, statistical analysis of morphometric ratios and genetic analysis. Partial sequences of one mitochondrial gene, 12S rRNA, in populations of *Scylla* spp. obtained from the study areas were used in the genetic analysis. Morphological characteristics, morphometric ratios and sequence data of the samples observed in this study provided sufficient evidence to conclude that the common mud crab species which is being caught from the coastal regions of Bangladesh is *Scylla olivacea*.

Water Quality, Survival and Growth Performance of *Cirrhinus mrigala* (Hamilton 1822) in Substrate Based Tanks

VIVEKANAND BHARTI*, PRAMOD KUMAR PANDEY, ALAGARSAMY VENNILA, MUTHUSAMY RAJKUMAR and MALACHY NWWIGWE OKECHUKWU AJIMA

Four substrates namely, paddy straw (E1), sugarcane bagasse (E2), plastic sheet (E3) and tile (E4) were submerged in separate fibre reinforced plastic (FRP) tanks of 500 L capacity in triplicate and allowed for biofilm development for 1 month. Three tanks without substrate served as control (E0). *Cirrhinus mrigala* (mean weight 1.42±0.05 g; length 4.12±0.08 cm) were introduced 30 days after introducing the substrates in the tanks. Water quality, survival and the growth performance of C. *mrigala* were examined in all the treatment and control tanks for 90 days. Total ammonia-N and nitrite-N contents were significantly low in the treatment tanks compared to the control. At the end of the experiment, survival rate of fish was significantly higher in the treatments than that of the control. Protein content in the biofilm was 41% in E1, which was significantly ($p<0.05$) higher than the other treatments. The study reveals that biofilms developed on the substrates helped to reduce the need for formulated feed in the culture of C. *mrigala*. The treatment tanks not only have better water quality, but fish in these tanks achieved higher survival and growth.

Feeding Ecology and Length-weight Relationship of Indian Glass Barb, *Laubuka laubuca* (Hamilton 1822) at Maguru Oya Stream (Deduru Oya River Tributary), Sri Lanka

U. P. K. EPA and N. M. A. J. NARAYANA

This study was conducted to investigate the feeding habit and length-weight relationship of *Laubuka laubuca* at Maguru Oya Stream, Sri Lanka. Gut contents of 180 fish were analysed, and food particles identified were categorised into 15 broad taxonomic groups. Relative abundance of each food category was calculated for 1-3, 3-5 and >5 cm length classes. Trophic niche breadth, food electivity index and Fulton's condition factor of *L. laubuca* were calculated. Length-weight relationship was determined using the expression, $W = aL^b$. *Laubuka laubuca* was a euryphagous-planktivorous fish and it showed a size dependent feeding pattern. Young fish had significantly broader ($P<0.05$) trophic niche breadth than that of adults. According to food electivity indices *L. laubuca* preferred euglenoids, rotifers, insect larvae, crustacean larvae, arachnid larvae and macrozoobenthos which were highly abundant in stream habitat. *Laubuka laubuca* showed a positive allometric growth pattern with length-weight relationship of $\log W = -2.3684 + 3.3528 \log TL$. Due to high availability of preferred food items in its habitat and positive allometiric growth *L. laubuca* could be categorised under least concern category in the IUCN Red List.

SYNOPSIS OF PAPERS VOLUME 29 (ISSUE 4) : ASIAN FISHERIES SCIENCE JOURNAL

Length-length, Length-weight Relationships and Condition Factor of the Giant Freshwater Prawn *Macrobrachium rosenbergii* (de Man 1879) Cultured in Earthen Pond at High Density

YANG MING, DING FUJIANG and DAI XILIN

Length-length and length-weight relationships of *Macrobrachium rosenbergii* (de Man 1879) cultured at high density in earthen pond were investigated. The results revealed that the relationships among various length measurements: rostrum length (*RL*), carapace length (*CL*), head length (*HL*), abdominal length (*AL*), body length (*BL*) and total length (*TL*) showed significant linear correlations through regression analysis ($P<0.001$). The values obtained from the length-weight relationship showed that there was a significant correlation between body weight (*BW*) and *RL*, *CL*, *HL*, *AL*, *BL* and *TL* ($P<0.001$). Their regression equation confirmed a power function relationship: $BW=1.5\times10^{-2}RL^{2.6572}$, $BW=9\times10^{-3}CL^{2.9433}$, $BW=1\times10^{-3}HL^{2.8676}$, $BW=2\times10^{-5}AL^{3.3475}$, $BW=9\times10^{-6}BL^{3.2277}$, and $BW=5\times10^{-6}TL^{3.1205}$. All the values of *b* obtained in the current study were significantly different from the isometric value ($b=3$). The growth type in *BW-RL*, *BW-CL* and *BW-HL* was negative-allometric growth ($b<3$) while growth type in *BW-AL*, *BW-BL* and *BW-TL* was postive-allometric growth ($b>3$). The values of Fulton's condition factor *K* obtained in the present study varied from 0.70 to 1.05. A high value of *K* (>1) was obtained at harvest time indicating that prawns cultured at high intensive condition were stout showing a good condition of robustness.

Blunt Snout Bream *Megalobrama amblycephala* Yih 1955 Interleukin-10: Characterisation, Comparative Homology Modelling and Expression

NGOC TUAN TRAN, HAN LIU and WEI-MIN WANG

Interleukin 10 (IL-10) is important in the inflammatory cytokine mechanisms of many organisms. This study describes the identification and characterisation of the IL-10 homolog obtained from transcriptome profile of blunt snout bream *Megalobrama amblycephala* Yih 1955. *MaIL-10*. It contained an ORF of 534 bp encoding a putative protein of 177 amino acids. *Ma*IL-10 protein contained a conserved IL10 family domain. Physicochemical characterisation analysis revealed that it was soluble, basic, hydrophilic, unstable based on the Instability Index, and thermostable based on its Aliphatic Index. Alpha helix (56.50%) was predominant among the secondary structure elements, followed by random coil (25.42%), extended strand (12.43%) and beta turn (5.65%), while the remaining elements were absent. *Ma*IL-10 3-D model was generated by comparative modelling using a human IL-10-like (PDB ID: 1lqs.1.D) as the template. The acceptable model was validated using Procheck's Ramachandran plot, ProQ and ProSA-web tools. Immune challenge of blunt snout bream with *Aeromonas hydrophila* bacterium (1.8×10^5 cfu fish^{-1}) demonstrated a significant differences in the expression of *maIL-10* in liver, spleen and kidney within 120 h post-infection ($P<0.01$). The results of this study indicate that *ma*IL-10 plays an important role in the innate immune system of blunt snout bream.

Consumer Preferences for Canned Tuna Products: The Case of the Largest Tuna Producing City in the Philippines

MIKO MARIZ C. CASTRO, LARRY N. DIGAL, EMMA RUTH V. BAYOGAN, and DANNAH LEE AKOMENDRAS

Consumption of processed products has increased due to changes in the eating habits of consumers. This paper aimed to examine consumer preferences for canned tuna in a top canned tuna-producing city in the Philippines. Qualitative approach was used to identify the attributes and levels that were commonly considered by consumers and a quantitative approach, conjoint analysis, was used to estimate utility and importance values of the product attribute and levels to consumers. Price, packaging form, eco-label, and flavour have fairly equal relative importance. Two consumer segments were found using cluster analysis. The first segment placed high importance on packaging forms while the second on all attributes. Probit analysis showed the influence of socio-demographic factors and purchasing information to the consumer's association to the cluster. While consumers were aware of the concept of eco-label they tended to misinterpret the same as an assurance of food safety. The misconception can be reduced by intensive information drive on promoting marine resource conservation to influence consumer preference.

Stock Status and Fisheries Exploitation of Blue Swimming Crab *Portunus pelagicus* (Linnaeus 1758) in Lasongko Bay, Central Buton, Indonesia

ABDUL HAMID, YUSLI WARDIATNO, DJAMAR TUMPAL FLORINTHUS LUMBANBATU and ETTY RIANI

Research into the stock status and exploitation of the blue swimming crabs *Portunus pelagicus* (Linnaeus, 1758) in Lasongko Bay was conducted from April 2013 to April 2014. Blue swimming crabs were sampled monthly using gillnets and traps. Data on the number of fishermen and crab fishing gear were obtained via census and from secondary data. Data on the number of fishermen, fishing gear, and catches were analysed descriptively for every sampling period. Total catches of crabs were analysed using one-way ANOVA and *t*-test at p= 0.05. The status of crab stock was analysed using a Beverton–Holt model. The number of fishing gear increased rapidly from 2006 to 2014, but was not proportional to the increases in crab catches, while the number of fishermen declined. The amount of fishing gear and catches in 2006 and 2014 were 2,670 and 15,355 units and 44,194.56 kg and 66,926.6 kg, respectively. Daily crab catches were significantly different between the months. Crab stocks have been overfished and currently tend to be critical, and effective management is necessary.

Feed Additive Bioboost Forte: Influence on Growth and Muscle Composition of Freshwater Prawn, *Macrobrachium rosenbergii* (de Man 1879)

ANJANADEVI TIPPAIAH and KESHAVANATH PERAR

The effect of Bioboost forte, a commercial probiotic feed additive, containing *Saccharomyces cerevisiae* and *Bacillus coagulans*, was evaluated in *Macrobrachium rosenbergii* (de Man 1879) through an experiment of 105 days. Bioboost forte was added at 0, 25, 50, 75 and 100 $mg \cdot kg^{-1}$ to the basal diet having 35% protein, prepared by incorporating fish meal, groundnut oilcake, rice bran, tapioca flour and vitamin-mineral mixture. The test diets were fed to prawn juveniles of average weight 0.9 ± 0.04 g stocked in 25 m^3 outdoor cement tanks in triplicate. Addition of the probiotic enhanced body weight gain significantly ($P<0.05$), the best being with 75 mg. The highest feed conversion efficiency, protein efficiency ratio and RNA: DNA ratio was obtained in this treatment. The highest protein and fat content of prawn muscle as well as amylase and protease activity were also recorded in 75 mg Bioboost forte treated prawns. The results indicate the beneficial effects of adding Bioboost forte to the diet of *M. rosenbergii*.

Effect of Freezing and Thawing on the Quality of Tuna *Thunnus Thynnus* (Linnaeus 1758)

HIROKO SEKI, KAORI NAKAZATO, KAZUNORI KOBAYASHI, TAE SOO LEE, MIO SAKURADA and NAOKO HAMADA-SATO

Global tuna populations are in decline. Maintaining post-catch fish quality is important to prevent wastage of precious food resources. Tuna is often preserved by freezing; however, changes in tuna quality post-thawing have been poorly investigated. Therefore, this study aimed to measure and compare colour, bacterial count, K-value, pH and odour, which are the necessary characteristics for evaluating fish quality in thawed and raw northern bluefin tuna *Thunnus thynnus* over time, and to identify the thawing conditions under which the best quality is maintained. The results showed that colour was significantly influenced by freezing and thawing—the colour of thawed tuna flesh deteriorated after 3 days, while that of raw flesh was maintained for 6 days. In contrast, bacterial count, K-value, pH and odour were not significantly influenced by freezing and thawing. As the K-value was approximately 20% after 3 days at 4 °C in both raw and frozen/thawed flesh, tuna should not be eaten raw if they were stored for longer than 3 days at 4 °C, regardless of whether tuna was frozen and then thawed or kept raw. Freezing preserves the quality of fish flesh for a long period and is thus a good strategy to prevent tuna wastage.

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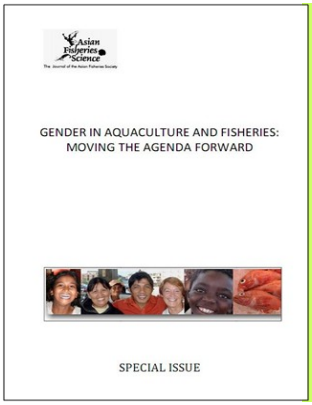

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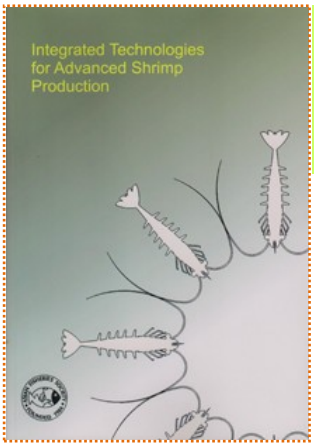
Gender in Aquaculture and Fisheries: Moving the Agenda Forward

MERYL J WILLIAMS, MARILYN PORTER, POH SZE CHOO, KYOKO KUSAKABE, VEIKILA VUKI, NIKITA GOPAL AND MELBA BONDAD-REANTASO

Gender in aquaculture and fisheries is still under-researched but interest is increasing. This volume shows progress in visualizing women's contribution to fisheries and aquaculture and also in structural analysis on value chains and institutions. Faced, however, with additional challenges such as climate change and economic integration, more nuanced analysis is now needed on ecological, economical, political and cultural systems. Factors such as class, age, ethnicity, race, caste, religion etc all come into play to define/condition gender relations.



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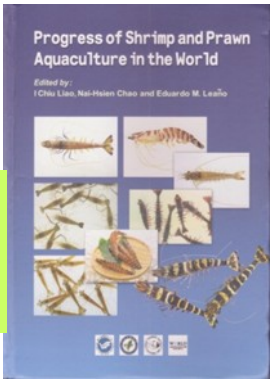

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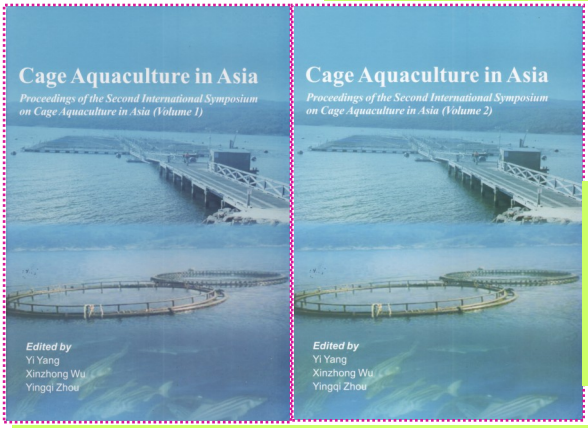
Progress Of Shrimp and Prawn Aquaculture in the world



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