

SEAFDEC AQD Matters

Newsletter of the SEAFDEC Aquaculture Department (AQD), Tigbauan, Iloilo, Philippines

AQD co-sponsors shrimp congress

More than 600 industry stakeholders gathered in Bacolod City from 9 to 11 May to attend the *8th Philippine Shrimp Congress*. The congress supported the apparent conclusion that science-based technology is the key to sustainable production of shrimps, white shrimps in particular.

The focus of discussion during the congress was on white shrimp or *Penaeus vannamei* aquaculture. The presenters came from Thailand, India, Taiwan, Belgium, Malaysia, France and the Philippines science-based research.

The congress was co-organized by PhilShrimp (Philippine Shrimp Industry Inc), DOST–Region 6 (Department of Science & Technology), DA-BFAR (Region 6 and Central Office of the Department of Agriculture – Bureau of Fisheries & Aquatic Resources), AQD, and University of the Philippines Visayas

Side events included an exhibit, scientific poster contest, and shrimp cooking contest.



AQD scientist Dr. Leobert de la Peña presented a paper on *Living with the threat of white spot: the CARDS experience* while AQD scientist Dr. Fe Estepa delivered a paper on *Initial efforts on the development of captive Penaeus monodon broodstock in the Philippines*. Beside Dr. Estepa is AQD scientist Dr. Emilia Quintito who moderated the session on grow-out management and seed production technology



AQD displayed six posters of its research studies as well as sold its manuals and books



AQD won first place and a P3,000 cash prize in the DOST-sponsored cooking contest with its seaweed spring rolls with shrimp recipe (inset). The recipe was prepared by AQD's seaweed team composed of researcher Ms. Rovilla Luhan and technical assistants Ms. Hananiah Sollesta and Ms. Sheryl Santander-Avanceña. The judging panel included a professional chef

AQD joins two international conferences in Australia

On 6 to 11 May, AQD Senior technical assistant Mr. Vincent Encena presented the results of his study at the *8th International abalone symposium* held in Hobart, Tasmania, Australia. His paper on *Nursery and grow-out of the tropical abalone Haliotis asinina* Linne 1758 was co-authored by Ms. Milagros de la Peña and Mr. Vicente Balinas.

AQD scientist Dr. Myrna Teruel also attended the same symposium and presented her paper on *Evaluation of agar-bound microparticulate diet as alternative food in abalone hatchery: effects of agar concentrations and feeding frequencies*. She wrote the paper with Ms. de la Peña and Ms. Analyn Asutilla.

Noted Dr. Teruel about the symposium: "It was a multi-disciplinary event combining aspects of abalone fisheries, biology, economics and trade, with 150 oral and poster presentations. Prominent 'abalone people' in attendance included Dr. Peter Britz, Dr. Nick Elliot and Dr. Peter Cook, among others."

There were also workshops on biosecurity and re-seeding (resource enhancement).

Meanwhile, AQD scientist Dr. Maria Lourdes Aralar presented her paper on the *Effect of substrate area on the culture of the giant freshwater prawn in lake-based cages* during the *Australasian aquaculture 2012* held in Melbourne, Victoria, Australia from 1 to 5 May.



AQD's abalone grow-out specialist Mr. Vincent Encena II (top left) with Mr. Mohammad Balkhair (middle) of Oman, former AQD trainee, and Dr. Scoresby Shepherd of Australia, a renowned abalone researcher. AQD scientist Dr. Myrna Teruel (left)

CONSAL conference in Indonesia



Photo courtesy of SB ALAYON

Mr. Stephen Alayon (rightmost) with Filipino CONSAL executive board members and other delegates

To impart the services of the AQD library, AQD took part in the 15th CONSAL (Congress of Southeast Asian Librarians) meeting and general conference held 28 - 31 May in Bali, Indonesia. More than 700 librarians and information officers from different countries attended to share their experiences, knowledge, and expertise.

Mr. Stephen Alayon, officer-in-charge of the AQD library & data banking services section, presented a paper on “The development of an institutional repository at SEAFDEC/AQD, Philippines” which he co-authored with Mr. Elvi Nemiz, Mr. Daryl Superio, Ms. Jesserylle dela Peña, and Ms. Luisa Pacino.

AQD joins biodiversity celebration

AQD participated in the marine biodiversity lecture series at the University of the Philippines Diliman, Quezon City last 8 May. AQD scientists Dr. Ma. Junemie Hazel Lebata-Ramos and Dr. Teodora Bagarinao talked about biodiversity of mangroves and molluscs, respectively. This is in support of the *Month of the Ocean and International Day for Biological Diversity* celebration spearheaded by DENR (Department of

Environment and Natural Resources).

Also, the second of a series of three training courses on *Biodiversity conservation projects for locally managed protected areas and principles of stock enhancement & habitat rehabilitation* kicked off on 17 May at AQD’s Tigbauan Main Station. The seven-day training had 24 participants from DENR, Bureau of Fisheries and Aquatic Resources, local government units, and the academe.



“We learned so much here in SEAFDEC... I believe that this institution can help us a lot in promoting alternative fishing activities, teach us new technology and new innovation in (helping) our fisherfolk.”

Mr. Tito Velza, LGU Masbate City

River summit in Iloilo

AQD scientists Dr. Helen Marcial, Dr. Evelyn Grace Ayson, Dr. Ma. Junemie Hazel Lebata-Ramos, Dr. Felix Ayson, Dr. Teodora Bagarinao, Dr. Rolando Pakingking and researcher Ms. Ma. Rovilla Luhan took part in the 1st International river summit held 30 May - 1 June in Iloilo City.

Attended by more than 1,200 experts, scientists, policy makers, river administrators, and practitioners coming from 15 countries, sustainable river basin management practices, issues and problems and the role of science in managing

and restoring damaged river basins were discussed in the meeting.

Gracing the event was Philippine President Benigno Aquino III who commended the local government unit of Iloilo City for restoring the 15 km Iloilo River.

At the end of the summit, DENR Undersecretary Demetrio Ignacio Jr. recommended the declaration of March 22 as the yearly Philippine River Day. The date is also the celebration of World Water Day.



Photo courtesy of MJHL RAMOS

(Left) AQD scientist Dr. Ma. Junemie Hazel Lebata-Ramos and researcher Ms. Ma. Rovilla Luhan; and (right) scientist Dr. Felix Ayson (in white) together with Dr. Eva Abal (plenary speaker) and her husband Mr. Sonny Abal



AQD scientists Dr. Ma. Junemie Hazel Lebata-Ramos (left) and Dr. Teodora Bagarinao talk on mangrove and mollusk biodiversity (top); AQD researcher Ms. Shelah Mae Ursua shows the biodiversity trainees the species of seahorse cultured at AQD (above)

Training courses this May

For the month of May, AQD conducted two international courses for its stakeholders: *Abalone hatchery and grow-out*, 10 - 30 May, for seven participants from Cambodia (1), Vietnam (1) and the Philippines (5); and *Mud crab hatchery, nursery and grow-out operations*, 28 May - 19 June, attended by nine participants from Malaysia (1), Sri Lanka (2), and the Philippines (6).

The training included a series of lectures and practical exercises. For the abalone training course, new topics such as abalone anatomy/digestive physiology, business planning, and food safety in abalone production & processing were included.

Meanwhile, participants of mud crab training provided technical knowledge and skills in rearing *Scylla serrata* for sustainable livelihood and employment generation.



Clockwise: (A) Mudcrab trainees identify planktons and (B) stock megalopae at DBS (C) abalone training course participants feed abalone larvae and (D) prepare settlement plates



"We are proud and at the same time, grateful to have this interaction with people of high calibre. It has been a very rewarding and pleasant experience to work with you."

Mr. Dammika Yapa (Mud crab trainee)
Major, Army Camp
Sri Lanka



"I hope that I can use the knowledge I acquired here at AQD for our community projects. (To) AQD thank you for everything and I am praying that you will continue to share this technology to other people."

Mr. Robin Magahin (Abalone trainee)
Adviser, Fishery Resource Development
Management
Surigao City

Microbial genetic course



Dr. Michele Nishiguchi of New Mexico State University conduct practical exercises at the biotech laboratories in AQD

A course on *Microbial genetics for microbial ecologists* was held at AQD from 21 May to 1 June. It was organized by AQD and New Mexico State University (NMSU, USA) with funding support from the American Society for Microbiology.

NMSU-Department of Biology associate head Dr. Michele Nishiguchi and her assistant Ms. Melina Sedano were the instructors, conducting lectures and laboratory exercises on microbial ecology, genetics, and biotechnology. A total of 24 participants from universities in Iloilo as well as AQD staff attended the course.

Dr. Nishiguchi also gave a seminar about sepiolid squids and luminous bacteria on 24 May. She said that the symbiotic relationship between squid and *Vibrio* may play a role in bacterial speciation (formation of new and distinct species) through abiotic selection and host specificity.

AQD visitors

Northern Marianas

AQD welcomed Dr. Alfredo de Torres, director of the Northern Marianas College - Marine Science Center in the Northern Mariana Islands on 18-19 May. He met with AQD officials to discuss possible collaboration in research and training.



Dr. Alfredo de Torres (in orange) with senior technical assistant Mr. Albert Gaitan

Saudi Arabia

Mr. Philip Bodington of the National Prawn Company (NPC) in Saudi Arabia toured the facilities at TMS on 17 May. Mr. Bodington is mostly interested in AQD's fish and sea cucumber culture technologies.



Mr. Philip Bodington (middle) with RD head Dr. Relicardo Coloso and associate researcher Dr. Jon Altamirano

Negros LGU

On 28 - 29 May, four participants from LGU-Bais City, Negros Oriental spent time discovering AQD's hatcheries and visited AQD's stations in Dumangas, Iloilo and Igang, Guimaras.



LGU-Bais staff listen to Ms. Ofelia Reyes as she explains marine fish hatchery operation

In addition, 26 LGU staff from seven municipalities of Negros Occidental visited 30 - 31 May. The group toured AQD's facilities and attended a lecture on mud crab hatchery, nursery and grow-out by AQD scientist Dr. Emilia Quintio.



LGU-Negros Oriental staff visit AQD's integrated fish broodstock hatchery complex

Research Seminars



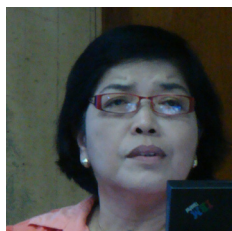
Mr. Vincent Encena, AQD senior technical assistant, talked about the *Nursery and grow-out of the tropical abalone, Haliotis asinina* Linne 1758 on 3 May.

He recommended the use of multi-tier trays or boxes at

500 pcs/m² stocking density with initial shell length of 10-15 mm to attain a grow-out size of 26 to 30 mm shell length in 90 days.

He also said that to grow abalone further to 50 mm

average shell length and 30 g average body weight, a stocking density of 50-100 pcs/m² is recommended. This will take 180 days with survival rate of about 84%.



Dr. Myrna Teruel, AQD Scientist, presented her paper on *Evaluation of agar-bound microparticulate diet (A-MPD) as alternative food in abalone hatchery: effects of agar concentrations and feeding frequencies* on 3 May.

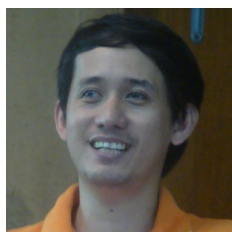
She tested the effects of diets with different concentrations of agar as binder given at different feeding frequencies (daily, every other

day, and every two days) on post-larval settlement, growth and survival after 15 and 90 days.

She found out that feeding with diets with low agar concentrations (5.0 and 7.5 mg agar/ml solution) result in higher post-larval survival rate when fed daily. She further explained that post-larvae fed a diet bound with 7.5 mg/ml agar solution daily resulted in

bigger sizes compared to other feeding frequencies. She also noted that diets with higher agar concentrations (10.0 and 12.5 mg agar/ml solution) cause low survival at day 90.

She concluded that agar-bound microparticulate diet may be used as alternative food in abalone hatchery with incorporation of 7.5 mg/ml agar solution and fed on a daily basis.



Mr. Stephen Alayon, AQD OIC of library and data banking services, presented on 10 May *The development of an institutional repository at SEAFDEC/AQD, Philippines*.

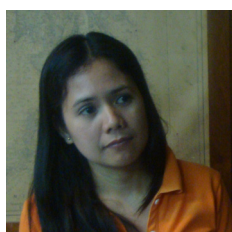
He explained that SEAFDEC/AQD institutional repository (SAIR) aims to promote AQD's publications specially those in international

peer-reviewed journals to generate higher citations through increased visibility.

He also discussed that the repository contains preprints, full-text or abstract of journal articles, books and conference proceedings written by AQD researchers. It also provides free access to all of AQD's in-house publications.

He noted that SAIR is one of only three open access institutional repositories in the Philippines that are based on OpenDOAR and the *Registry of open access repositories*.

Currently, the repository contains 771 items with 541 downloadable PDFs.



Ms. Zenith Gaye Orozco, JIRCAS visiting research fellow, talked about *JIRCAS collaborative training on digestive enzyme assay and carbon and nitrogen stable isotope ratio analysis* on 10 May.

She explained that integrated multi-trophic

aquaculture (IMTA) is one of the systems employed to minimize organic pollution in aquafarms. She said that IMTA is the polyculture of species found in different trophic levels.

She noted that important methods in evaluating the assimilation

and the flow of nutrients in the system include stable isotope ratio analysis and digestive enzyme assay.



Ms. Aletha Nogra, civil defense officer of Regional Disaster Risk Reduction Management Council, lectured about *Earthquake and tsunami preparedness and risk reduction* on 11 May.

She said that the issue on disaster preparedness is everyone's business. She pointed out that the West Panay Fault and Negros Trench may trigger earthquakes and

tsunamis affecting areas in southern Iloilo where AQD is located.

Moreover, she underscored the importance of building code compliance, conduct of community drills, and information drive to avoid loss of life and damage to properties.



AQD Matters

is published monthly by the Development Communication Section SEAFDEC Aquaculture Department Tigbauan, Iloilo, Philippines

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