



Hatchery-reared abalone juveniles were released off the island of Molocaboc Diut, upon the request of fisherfolk who hope to replicate the success of SEAFDEC/AQD's Community-Based Resource Enhancement project in the neighboring Molocaboc Dacu. PHOTO BY ND SALAYO

# aqdmatters

May - June 2017

Newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo, Philippines

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## AQD to lead aquaculture component of eel project



Dr. Maria Lourdes Aralar, a scientist from SEAFDEC/AQD (front row, 6th from left), poses with the other participants of the preparatory meeting for the new Japan-ASEAN Integration Fund project on anguillid eels - PHOTO COURTESY OF MLC ARALAR

PALEMBANG, Indonesia - In order to improve the current on-farm survival of glass eels in the nursery, SEAFDEC/AQD was assigned to take charge of the aquaculture component of the "Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eel Resources in Southeast Asia" project funded by Japan-ASEAN Integration Fund (JAIF).

Dr. Maria Lourdes Aralar, a scientist of SEAFDEC/AQD, attended the preparatory meeting for the JAIF project on anguillid eels on June 9,

2017 in Palembang, Indonesia.

The aquaculture component of the project will involve rearing trials of glass eels using various refinements to improve survival. It will also include a survey of existing eel farms for rearing practices and survival data.

Based on Dr. Aralar's report, DNA analysis of glass eels will be conducted in the second year of the project. It was agreed that ASEAN member states with anguillid eel fisheries (i.e. Cambodia, Indonesia, Myanmar, Philippines, and Viet Nam) will conduct their own genetic

analysis for their own stocks.

For the Philippines, Dr. Evelyn Ame of the Bureau of Fisheries and Aquatic Resources-Region II and the technical person for eel, said that the National Fisheries Research and Development Institute will do the analysis. In addition, Dr. Aralar suggested during the meeting that SEAFDEC/AQD can do the analysis for glass eel samples collected for the nursery rearing component.

The JAIF fund for the eel project is expected to be released in July 2017. - RH LEDESMA



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# Study on "puti-an" wins best poster in scientific conference

BANGA, Aklan - A study to optimize the breeding potential of white shrimp, *Penaeus indicus* in a bigger scale was judged the best poster paper in the recently concluded Annual Scientific Conference of the National Research Council of the Philippines (NRCP)-Visayas Regional Cluster (VRC) last May 19, 2017.

The scientific poster paper "Reproductive performance of wild and captive *Penaeus indicus* and growth of offspring" was a SEAFDEC/AQD-funded study and authored by Researcher Sheryll Avanceña and Scientist Dr. Fe Dolores Estepa.

Locally known as "puti-an", *P. indicus* is classified as an economically important shrimp species and is indigenous to the Philippines.

According to Avanceña, "With the impending problems due to climate change such as extreme salinity levels, it will be an advantage to culture *P. indicus* because of its ability to

osmoregulate in a wide range of salinities.

"Early researches on shrimp also proposed that this species is one of the most promising in terms of maturation as it matures with or without ablation," she added.

The long-term goals of the study are the establishment of hatchery-bred broodstock, assure a stable supply of shrimp seeds and start the development of specific pathogen free broodstock and genetically improved culture lines.

The theme of this year's NRCP-VRC assembly was "Philippine Development: Foregrounding Ethical and Moral Values". Dr. Christina A. Binag, the newly elected President of the NRCP was the Keynote Speaker in the said event.

About 50 members from Iloilo, Aklan, Samar, Tacloban and Cebu attended the Conference including scientists from SEAFDEC, Dr.



Researcher Ms. Sheryll Avanceña receives her award for winning the Best Poster Paper from outgoing VRC President Dr. Relicardo Coloso (leftmost), newly-elected VRC President Dr. Jane Amar (2nd from left) and NRCP President Dr. Christina Binag (rightmost) during the Annual Scientific Conference Regional Cluster of NRCP-VRC - PHOTO BY SF KATALBAS

Emilia Qunitio, Dr. Rolando Pakingking and Dr. Nerissa Salayo.

During the plenary scientific session Dr. Salayo gave a lecture on "Science, governance, and fisherfolk partnership: key to successful

community-based resource enhancement".

NRCP is a collegial body of scientists and researchers all over the Philippines coming from different fields of expertise. ➔ - **SS AVANCEÑA**

## Technical seminars: a hit at aquaculture expo

PASAY City -The seminar room was overflowing with over 150 participants attending each of the nine lectures given by SEAFDEC/AQD experts during the last day of the Aquaculture Philippines held 24-26 May 2017 at the SMX Convention Center in Pasay City, Philippines.

The Technical Seminar Series featured SEAFDEC/AQD aquaculture technologies for sustainable food production and stock enhancement.

The morning topics included the production of quality seeds of marine fishes; community-based resource enhancement; breeding and farming updates on tilapia, freshwater prawn and silver perch; and aquaculture in inland waters. The lectures were delivered by SEAFDEC/AQD experts Dr. Evelyn Grace Ayson, Dr. Nerissa Salayo, Dr. Maria Rowena Eguia, and Dr. Maria Lourdes Aralar, respectively.



An attendee asks a question about the stock enhancement activities of SEAFDEC/AQD during the open forum - PHOTO BY GK FAIGANI

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Afternoon sessions were on feed formulation and production; emerging diseases in Philippine shrimp farming; clonal propagation and culture of seaweed *Kappaphycus*; mud crab production in pond; and production of single oysters. The lectures were given by SEAFDEC/AQD experts Dr. Relicardo Coloso, Dr. Rolando Pakingking, Jr., Ms. Maria Rovilla Luhan, Dr. Emilia Quinitio, and Dr. Ma. Junemie Hazel Lebata-Ramos, respectively.

Acting Chief Dr. Chihaya Nakayasu expressed his gratitude to UBM, the organizer of the event, and to all the speakers for sharing to the stakeholders the latest updates in the science-based aquaculture technologies and technical services of SEAFDEC/AQD.

Co-located with Aquaculture Philippines was the 2nd National Aquaculture Summit where Dr. Eguia was able to present SEAFDEC/AQD as a generator and

promoter of science-based aquaculture technologies on the second day. She emphasized that SEAFDEC/AQD's main mandate is to do research on aquaculture and has been partnering with the Bureau of Fisheries and Aquatic Resources to address the needs of the fish farmers and other stakeholders in the industry. Associate Scientist Ms. Jocelyn Ladja, Researcher Ms. Gregoria Pagador and Senior Technical Assistant Ms.

Haydee Dumaran also attended the event.

The three-day expo, organized by UBM Exhibitions Philippines, Inc. in partnership with the Department of Agriculture, served as one of the venues for SEAFDEC/AQD to promote its programs and reach out to the public. As one of the exhibitors, SEAFDEC/AQD offered technical consultation and farmer-friendly publications to entrepreneurs and other stakeholders. - RD DIANALA / GK FAIGANI



Visitors check the publications displayed at SEAFDEC/AQD booth - PHOTO BY GK FAIGANI



Research Division Head Dr. Evelyn Grace Ayson answers the queries of fish farmers who avail of technical consultation at the SEAFDEC/AQD booth - PHOTO BY GK FAIGANI



SEAFDEC/AQD Scientist and OIC of Manila Office Dr. Maria Rowena Eguia talks about the mandates of AQD to the participants of the 2nd National Aquaculture Summit - PHOTO BY GK FAIGANI



The speakers of the technical seminar series were SEAFDEC/AQD experts (L-R): Dr. Ma. Junemie Lebata-Ramos, Dr. Emilia Quinitio, Ms. Maria Rovilla Luhan, Dr. Rolando Pakingking, Jr., Dr. Fe Dolores Estepa (moderator), Ms. Rose Chitanuwat (UBM representative), Dr. Relicardo Coloso, Dr. Maria Lourdes Aralar, Dr. Nerissa Salayo, Dr. Evelyn Grace Ayson and Dr. Maria Rowena Eguia (not in the picture) - PHOTO BY GK FAIGANI



# Stakeholders learn sustainable oyster farming techniques

To address the need for a more sustainable source of oysters, 14 stakeholders attended the training course on oyster hatchery, nursery, and grow-out conducted by SEAFDEC/AQD last May 29 to June 3, 2017.

Experts shared effective and research-based aquaculture techniques to the trainees in order to provide them with enough knowledge and technical skills to start their own oyster farms that do not rely on wild stocks.

“We used to rely on stocks from the wild until now that we think about putting up a hatchery. Our biggest mistake is putting up a hatchery without any knowledge,” one of the trainees Jaime Martin Pabalan, Jr. of Hok Bay

Aquaculture said during the training’s closing ceremonies.

“I’m glad that we came here [SEAFDEC/AQD] to gain knowledge. We appreciate the help from the instructors. They are very accommodating in answering our questions,” he added.

The trainees were from Agricultural Sustainability Initiatives for Nature, (ASIN) Inc., Aklan State University-College of Fisheries and Marine Sciences (ASU-CFMS), Hok Bay Aquaculture and Arton Farms, Inc.

Having done research work on oyster biology, rearing and monitoring, SEAFDEC/AQD had been in the forefront of promoting and boosting the expansion of oyster aquaculture in the Philippines.

 - JM DELA CRUZ



Trainees clean and sort spat in preparation for grow-out culture - PHOTO BY TRAINING SECTION



Trainees clean (removing dirt and epiphytes) oyster broodstock in preparation for spawning - PHOTO BY TRAINING SECTION

## Workshop conducted to boost news writing skills



The participants of the news writing workshop with Ms. Hazel Villa - PHOTO BY IT TENDENCIA

To enhance their news writing skills, representatives from different offices and programs of SEAFDEC/AQD participated in a two-day workshop on writing engaging news articles which was conducted at Tigbauan Main Station on June 15-16, 2017.

Hazel Villa, a freelance journalist who holds a Master of Journalism degree from Bond University, gave lectures on the importance of the journalism stylebook, inverted pyramid, news writing method, writing of headlines,

basic photojournalism, and captioning.

Participants were assessed of their basic news writing skills via the journalism stylebook and asked to review SEAFDEC’s current news and make their own lead story. They also wrote their own news and headlines based on the latest activities in their respective sections.

The news articles of the participants were critiqued to show their strengths and weaknesses in writing. They also submitted photos for photojournalism and

captioning exercises which were likewise evaluated.

Villa emphasized the importance of finding the right angle in writing news stories. She noted that writing news articles that engage the public is a necessity to have a better impact to the community.

The news writing workshop was organized by the Development Communication Section. Further workshops on clear writing and feature writing are intended within the year to further improve SEAFDEC/AQD’s information programs. -  - GK FAIGANI



# Palaro 2017

*Building a productive AQD family by embracing diversity and promoting physical and mental fitness*

A demonstration of teamwork and sportsmanship sums up SEAFDEC/AQD's Palaro 2017 festivities. The staff were grouped into two teams, Kasag and Ayungin, to compete in a series of games from May 31 to June 2, 2017 at AQD's Tigbauan Main Station.

It was a fun-filled week giving everyone a chance to relax from the daily routine, thus we bring you snapshots from the three-day event.



Acting Chief Dr. Chihaya Nakayasu gives the welcome remarks, Palaro 2017 Chairperson Dr. Leobert dela Peña officially opens the event and OIC Administration and Finance Division Ms. Jiji Rillo leads the Oath of Sportmanship - PHOTO BY JM DELA CRUZ



Team Ayungin and Team Kasag during the opening parade starting from Tigbauan Plaza - PHOTO BY JM DELA CRUZ



Pedro Santoluis, Jr. from Team Kasag and Quenie Montinola from Team Ayungin win the marathon for men and women categories - PHOTO BY RH LEDESMA



[Left-right] OIC Training Section Mr. Caryl Vincent Genzola, Technology Verification and Demonstration Division Head Dr. Fe Dolores Estepa, Research Division Head Dr. Evelyn Grace Ayson, OIC Administration and Finance Division Ms. Jiji Rillo and Acting Chief Dr. Chihaya Nakayasu lit the torch to officially open Palaro 2017 - PHOTO BY JM DELA CRUZ



After the opening program AQD staff enjoy the breakfast boodle fight - PHOTO BY JM DELA CRUZ



The first day of Palaro 2017 began with a parade and a marathon from Tigbauan Plaza to TMS grounds. Employees prepare for the games doing zumba. The games for the day were darts, chess, table tennis, track and field (100 meter dash), volleyball (men and women), basketball (men and women), lawn tennis (men, singles), and badminton (singles).

ALL PHOTOS IN THIS PAGE BY DEVCOM SECTION





The games continued in the second day with football (men), lawn tennis (singles and doubles), badminton (doubles), volleyball (men and women), swimming and billiards. On the third day the second game of basketball was held and series of parlor games (tug of war, dodgeball, obstacle course, mixed food and drink relay, and “imnanay tuba”). After all that, the sports festivities ended with the closing ceremonies and an after-party.

ALL PHOTOS IN THIS PAGE BY DEVCOM SECTION



In the end, Team Kasag (279.5 points) won over Team Ayungin (240.5 points)



# BFS - MO Palaro 2017

TANAY, Rizal- SEAFDEC/ AQD-Binangonan Freshwater Station (BFS) and Manila office (MO) staff gathered at Pranjetto Hills, Tanay, Rizal to participate in the “BFS-MO PALARO”.

The competition began with the group cheer

presentation, followed by basketball, mixed volleyball and obstacle course in the morning. The celebration continued in the afternoon with water games and karaoke.

Despite the number advantage of team Ayungin,

team Kasag tried to compete with team Ayungin on every game with a close score on basketball (20-17) first to 20 points, mixed volleyball (2 set is to 1) and obstacle course (1 minute and 42 seconds; 1 minute and 47 seconds) all in

favor of team Ayungin.

Team Ayungin with the total of 90/100 points made them the overall champion of the “BFS-MO PALARO 2017.”

Although it is just a day of activity, both teams competed healthily. ➤ - MR RUTAQUIO



Terry Paul Salvador of team Ayungin guarding Ryan Lazartigue of team Kasag on his way to their ring side (left photo). Kem Rito of team Kasag to execute a service during the mixed volleyball match - PHOTO BY MA. HAYDEE STINSON



Team members who will compete on the obstacle course - PHOTO BY MA. HAYDEE STINSON



Dexter Olorvida of team Ayungin and Ryan Lazartigue of team Kasag in the obstacle course - PHOTO BY MA. HAYDEE STINSON



Photo break after the exhausting morning activities - PHOTO BY MILDRED RUTAQUIO



Participants of “BFS-MO PALARO 2017.” - PHOTO BY ALLAN MORIDO



# Research Seminars



**Commodore Gert Heyns** of the Philippine Coastguard Auxiliary gave a lecture on “Water safety, disaster preparedness and safe rescue techniques” to SEAFDEC/AQD employees at the TID Conference Room on May 4, 2017.

Some of the topics discussed by Commodore Heyns were standard water

safety signs, personal protective equipment and rescue techniques for swimming and non-swimming rescues. He also talked about rescue principles and some water safety tips.

According to Commodore Heyns, there are four general categories of people in difficulty: injured person, unconscious person, non-

swimmer, and weak swimmer. But he told SEAFDEC/AQD employees to keep in mind that, “A person in difficulty will not necessarily fit precisely into one of the four categories.”

Commodore Heyns ended his presentation with this reminder: “The first consideration in any rescue is self-preservation.”



**Ms. Mary Grace Sedanza** of the University of the Philippines Visayas, talked about her study, “Evaluation of raw, protein concentrate and fermented seaweed, *Rhizoclonium riparium* var. *implexum* as feed ingredient in pacific white shrimp, *Penaeus vannamei*,” last May 25, 2017 at SEAFDEC/AQD’s Tigbauan Main Station.

In her study, Ms. Sedanza evaluated the potential uses of the various forms (i.e. raw, protein concentrate and fermented) of the seaweed *Rhizoclonium riparium* var. *implexum* (crinklegrass), as ingredient in the diet of Pacific white shrimp *Penaeus vannamei*.

Her study showed that *Rhizoclonium* raw meal (RM) can be incorporated up to 15.75% inclusion level as well as 15.75% with simultaneous mineral

replacement, that is equivalent to 30% soybean meal (SBM) replacement without significantly influencing the physical characteristics of the final formulated diet for *P. vannamei*. The results also showed that RM could also replace all the minerals in the diet without deleterious effect on growth and efficiency performance of the shrimp.

As for the *R. riparium* protein concentrate (RPC) meal, it was found out that *P. vannamei* fed with the test diet with 150µm RPC has better growth and feed efficiency performance than those fed with larger particle sizes. Evaluation on the biological value of RPC meal showed that optimum inclusion level of up to 10.50% or equivalent to 30% SBM replacement improved or did not negatively affect the growth performance and feed

efficiency of *P. vannamei*.

Ms. Sedanza also made a fermented *Rhizoclonium* meal (FRM). This was processed using a single inoculation of a yeast strain (*Kluyveromyces* sp.) with 375 U cellulase and α-amylase, 10% substrate concentration and incubated for 7 days under SSF conditions.

She discovered that enhancing the protein content value of *Rhizoclonium* by different methods can increase the crude protein content of the aquafeed. In addition, incorporating this unutilized and sometimes considered as ‘nuisance’ seaweed in its varied meal forms could serve as a cost-effective measure to replace expensive feed ingredients in aquafeeds, such as fish meal and soybean meal, especially in intensive *P. vannamei* culture.



As part of the objective of the National Abalone R&D program, a study was conducted to develop an efficient sorting and harvesting protocol using muscle relaxant to improve survival rate of abalone *Haliotis asinina* juveniles.

The study on the use of magnesium sulfate, benzocaine and 2-phenoxyethanol as anesthetic for abalone juveniles, authored by

SEAFDEC/AQD Senior Technical Assistant **Mr. Demy Catedral**, was presented last June 15, 2017 at AQD’s Tigbauan Main Station.

The anesthetic dose and suitability of three chemical agents, in varying concentrations, were evaluated in terms of detachment time, recovery time and survival using 10 tropical donkey’s ear abalone juveniles per treatment. The treatments

were done in triplicates. As a negative control, 10 unexposed juveniles were also monitored for daily mortality.

Results show that the use of 2-phenoxyethanol (1.00 mL/L) resulted in least detachment and recovery times of abalone juveniles. Thus, 2-phenoxy ethanol, at 1 ml/L, is the most suitable among the different anesthetic agents tested.





**Ms. Jocelyn Ladja**, an associate scientist of SEAFDEC/AQD, gave a seminar, “Growing single oysters....simple, efficient and irresistible!!!” on June 22, 2017 at SEAFDEC/AQD’s Tigbauan Main Station.

Single oysters, as discussed by Ms. Ladja, were grown from hatchery-bred single spat of *Crassostrea iredalei*. Single spat were reared for about 1-2 weeks in the hatchery

upwelling system until a 1-2 mm shell height (SH) is reached. Afterwards, the spat were transferred to outdoor nurseries in a brackishwater pond and an estuary. Using the bouncy bucket suspended nursery system, oyster juveniles (SH, 4-5 cm) were produced after 120 – 150 days from settlement. According to Ms. Ladja, oyster juveniles reached marketable sizes

earlier when reared in a pond system (251 days) than in an estuary (338 days). However, survival rate in ponds (78%) is lower than in estuary (85%). She said that growing single oysters is simple; culture containers were efficient with less cleaning and maintenance during the long culture period and the products were meaty, juicy and with uniform slipper-shaped shells.

## New faces at AQD



**Dr. Joy N. Saquibal-Demetria** is a graduate of Bachelor of Science in Biology Major in Microbiology and Doctor of Medicine from the University of the Philippines Visayas and West Visayas State University, respectively. She passed the Medical Licensure Examination in 2006. She is a Diplomate in Family Medicine and an S2 licensee. She has completed various trainings in her field like Basic Course in Occupational Medicine, HIV Counseling to Testing, and Essential Intrapartum and Newborn Care among others. Prior to joining the Department, she was a Primary Health Care Physician for more than 10 years. Her recent engagement was with Health Metrics, Inc. where she worked as Medical Director.

Dr. Joy is our new Medical Consultant. She reports at the Medical Clinic every Tuesday, Wednesday and Friday from 8:00 a.m. to 12:00 nn. You may reach her through our Medical Clinic local number 1438.



**Ms. Quenie S. Montinola** is from Pavia, Iloilo. She is a graduate of Bachelor of Science in Economics from the University of the Philippines Visayas. Prior to joining the Department, she was connected with F. Gurrea Construction Inc. as a Research and Development Assistant.

She is our new Technical Assistant under the Socioeconomics Section, Research Division. You may reach her through SES local number 1181 or email address [qmontinola@seafdec.org.ph](mailto:qmontinola@seafdec.org.ph).



**Ms. Jenalyn S. Lames** is already a familiar face for most of us, but we would like to officially welcome her as our new Administrative Assistant at the Office of the Technology Verification and Demonstration Division. Prior to joining the Department, she worked as a Research Assistant under the DOST-AQD collaborative project on blue swimming crab. She is a graduate of Bachelor of Science in Fisheries and currently taking up Master in Aquaculture in UP Visayas.

You may reach her through local number 1202 or email address [jsilvestre@seafdec.org.ph](mailto:jsilvestre@seafdec.org.ph).



**Mr. Rosthon S. Gardoce** was a Research Assistant under DOST-AQD collaborative project. He is now our new Technical Assistant in the Technology Verification and Demonstration Division. He is a graduate of Bachelor of Science in Biology from the University of the Philippines Visayas.

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