

SEAFDEC AQD Matters

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

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(L-R) AQD Deputy Chief Dr. Teruo Azuma, JIRCAS fisheries division director Dr. Hiroyuki Sudo, JIRCAS program director Dr. Masayoshi Saito, and AQD research division head Dr. Ma. Junemie Hazel Lebata-Ramos

benefits the different sectors equitably,” was AQD Chief Dr. Felix Ayson’s message as read by RD head Dr. Ma. Junemie Hazel Lebata-Ramos during the opening of the workshop.

In response, JIRCAS Program Director Dr. Masayoshi Saito said, “I hope our cooperation is not only bilateral but multilateral to get synergistic effects from our existing cooperation.”

AQD Deputy Chief Dr. Teruo Azuma shares the views of Dr. Saito where he said in his closing remarks, “We are highly pleased to strengthen our collaboration towards the future through not only bilateral but multilateral relationship.” Dr. Azuma also mentioned that JIRCAS, AQD, and Government of Japan Trust Fund programs have a common goal, that is, sustainable aquaculture; hence working hand in hand makes it easier in achieving the goal.

JIRCAS workshop on aquaculture technologies

AQD hosted the JIRCAS (Japan International Research Center for Agricultural Sciences) workshop on 9 October held at its Tigbauan Main Station.

The workshop has about 30 participants from AQD, Fisheries Research Institute – Malaysia (FRI), Department of Fisheries Malaysia (DOF), KingMongkut’s Institute of

Technology Ladkrabang in Thailand (KMITL), Fisheries Research Agency Japan (FRA), and JIRCAS. The workshop discussed the studies under JIRCAS’ research project “Development of aquaculture technologies for sustainable and equitable production of aquatic products in tropical coastal areas.” These studies with topics on integrated multi-trophic aquaculture, fishery

management for blood cockles, and co-culture system of giant tiger prawns were done in collaboration with AQD, FRI, and KMITL respectively.

“It is AQD’s hope that this joint undertaking (AQD and JIRCAS) will continue to become stronger as we work together towards the development of technologies for sustainable production of aquatic products that

No longer windswept!



Much has been said on the generosity and assistance given by JIRCAS to AQD and we are thankful for yet another project, said research division head Dr. Ma. Junemie Hazel Lebata-Ramos as she welcomed guests for the inauguration of the mini wet laboratory building at Igang Marine Station (IMS), Guimaras on 10 October. The wet lab was co-funded by JIRCAS with AQD.

The mini wet laboratory can help AQD researchers perform experiments in a more conducive space. “I learned that researchers do sampling in the dining hall [of IMS] to avoid strong winds,” said Dr. Masayoshi Saito, JIRCAS program director. JIRCAS and AQD also collaborated on an IMTA (Integrated multi-trophic aquaculture) facility that was inaugurated 12 October of last year. Both projects were initiated by AQD visiting scientist Dr. Satoshi Watanabe.

AQD assists Timor Leste anew

Upon the request of ACDI/VOCA (Agricultural Cooperative Development International / Volunteers in Overseas Cooperative Assistance of the US Department of Agriculture), scientist and head of technology verification & demonstration Dr. Emilia Quintio was sent by SEAFDEC/AQD to Vermasse, Baucau district of Timor Leste from 13 to 19 October.

Dr. Quintio was able to (1) demonstrate and supervise the operation of the newly constructed hatchery, in particular, setting-up the phycology laboratory using green microalgae and rotifers brought from AQD; (2) conduct training on the hatchery management of mud



Demonstration on identifying mature female crab

PHOTO COURTESY OF ET QUINTIO

crab (total trainees = 14); and (3) inspect and set-up the operation of the broodstock / larval rearing facilities and nursery ponds designed by AQD. For the phycology lab, she was assisted by technician Ms. Sharon Saracin who stayed in Timor Leste for a month.

A meeting with entrepreneurs and potential investors was also arranged by ACDI/VOCA to discuss possible aqua-businesses in Timor Leste. ACDI/VOCA has engaged AQD for technical assistance in the mud crab project which started in 2010.

Aquaculture training

Fish health

Twelve staff of DOF (Department of Fisheries) and a fishfarmer attended the *On-site training on freshwater fish health management with*

emphasis on detection of fish-borne zoonotic (a disease communicable from animals to humans) parasites that was held from 22 until 25 October 2013 at DOF-Yangon, Myanmar.

The course was funded by GOJ-TF (Government of Japan – Trust Fund) with AQD scientists Dr. Edgar Amar and Dr. Rolando Pakingking, and researcher Ms. Gregoria Pagador serving as resource persons. It is to be noted that AQD conducted a similar course in Myanmar in 2010 and in Cambodia in 2012.

In addition, 25 veterinarians from BFAR (Bureau of Fisheries & Aquatic Resources) regional and central offices finished the course *Fish health management in aquaculture.*

“Thank you to SEAFDEC/AQD for giving us the opportunity to learn more,” said Dr. Elaine Vera Belvis, a veterinarian at BFAR-11 (Davao) during the course’ closing ceremony.

The course ran from 11 to 15 November. Lectures and practical sessions covered topics such as sustainable aquaculture, major diseases of marine fishes & crustaceans, diseases prevention & control, and techniques in disease diagnosis.

In his message, AQD scientist Dr. Rolando Pakingking Jr, who is the technical lead person and is instrumental in getting the funds from BFAR for the course, hoped that this BFAR-funded activity will bring more collaborative endeavors between AQD and BFAR.



PHOTO BY GE PAGADOR



PHOTO BY CV GENZOLA

Myanmar trainees process fish samples on-site for detection of fish-borne zoonotic parasites (top) and AQD scientist Dr. Rolando Pakingking Jr demonstrates how to conduct fish necropsy to BFAR trainees (left)

Sandfish



(Top) A trainee getting a 3-liter larval sample from the 3,000-li tank to estimate the total number of larvae. (Above) One of the trainees transferring broodstock from a container with ambient temperature to the spawning tank with warm water temperature to induce spawning of sandfish by thermal shock

Six trainees successfully finished the two-week course on sandfish seed production, nursery and management from 2 until 17 October 2013 at AQD Tigbauan Main Station. As AQD Chief Felix Ayson explained, the lectures (20% of the course schedule) are where the theories behind the techniques are described, and practicals (80%) are done to gain the actual experience.

At the closing ceremony, the trainees said good words for AQD. “What I like about the training is that you don’t have to be an aquaculturist to understand the lectures because it’s so basic. You can eventually learn and develop the knowledge. I am very confident now and I think I can do this [producing sandfish],” said Mr. Ali Shafeeg of Maldives. Mr. Shafeeg also said that he will come back to train to learn



AQD assess a private hatchery in Kota Kinabalu at the request of a former sandfish trainee

about other commodities and will recommend AQD to other people in his country who are interested in aquaculture, even wished for the President of Maldives to see what AQD has to offer.

Associate scientist Dr. Jon Altamirano, the technical lead person of the sandfish course, noted that relationship between AQD and its trainees goes beyond the time they spent training at the department. AQD was requested by Mr. Keith Ng, a former sandfish

training participant from Century Marine Products (Kota Kinabalu, Malaysia) to assess hatchery facilities and recommend improvements in operations. Century is into sandfish farming and processing, and has been relying on natural sandfish juvenile stocks. Dr. Altamirano, who was sent in Kota Kinabalu by AQD in 5 until 7 November 2012, said that Tanjung Badak multi-species hatchery research complex shows high prospects for expansion of sea cucumber production.

PHOTOS THIS PAGE BY JIM DE LACRUZ / JALTAMIRANO / CV GENZOLA

Mud crab

Fourteen trainees – from the Philippines (7), Madagascar (5), France(1) and Japan (1) –finished the international training course on *Mud crab nursery and grow-out operations* from 20 to 29 November at Tigbauan Main Station (TMS). The training is a combination of lectures and practical exercises which help the participants understand the process of starting and managing a mud crab hatchery.

“I am confident that I will be able to set up a profitable and sustainable mud crab aquaculture business in my country,” said Mr. Vincent Bernier, one of the trainees from Madagascar. Meanwhile, Mr. Alfonso Lim of the private sector in the Philippines, said, “I decided to come back to improve the system in my

farm and luckily, this training was organized. I gained knowledge in operations, established connections with the scientists & experts, and I gained confidence to start a mud crab hatchery.” As for the academe, Mr. Aldrin Mel Macale of Bicol University said that the information learned in the training will be shared to people and will be used in further research on mud crab hatchery.

Moreover, a special course on *Mud crab hatchery and nursery* was conducted by AQD at TMS from 23 September to 9 October with funding from DOST (Department of Science and Technology). The first batch was attended by eight participants from Cavite State University, Aklan State University, Davao del Norte State College and LGU (Local Government Unit) Tagum City. “From this course we have

learned that we need to update our research facilities in our respective places. This training becomes a good venue for us to tackle issues and to address the needs of our stakeholders,” said Mr. Astrolome Maningo, multi-species hatchery in-charge of LGU Tagum City.

In response, AQD’s technology verification & demonstration head / Program & project leader for mud crab Dr. Emilia Quintito thanked the participants for their enthusiasm to learn all the activities involved in the hatchery and nursery, and to assist AQD in information dissemination.

To hasten the promotion of mud crab hatchery and nursery technologies, AQD entered into an agreement with some SUCs and LGUs with laboratory, hatchery and pond facilities as partners in disseminating technologies to stakeholders. The participants will also be trained in their respective sites.



(Top) Stocking of crablets in AQD’s Dumangas Brackishwater Station. (Above) The trainees with technical assistant Ms. Joana Joy Huervana in their practical session on ablation and tagging of crabs

Mangroves

Twenty-two

trainees successfully completed the course on *Mangrove conservation, management and rehabilitation* held 7-22

November at Tigbauan Main Station.

The trainees had undergone a series of lectures that covers the vast subject of mangroves from its biology & taxonomy to community's roles in its conservation & rehabilitation. There were practical exercises such as species identification & outplanting and site visits.



Mangrove species identification activity in Ibabay ecopark (left) and outplanting of mangrove at a rehabilitated pond at Leganes (right)



PHOTOS BY RF BOMBEO

The trainees are mainly from local government units (LGUs), provincial environmental management offices (PEMOs) and people's organizations (POs) who, at the end of the course, assured the resource persons that they will replicate the techniques of initiating a mangrove plantation in their respective places.

The course is part of the agreement between AQD and ZSL (Zoological Society of London) to pool resources and technical expertise to attain the vision of conserving mangroves through community-based groups. It was funded by the GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), a German development organization.

Meetings, conferences, symposium

PTAC

As the first step in getting its activities and budget approved by the Philippine government, AQD was called to the meeting of

PTAC (or the Philippine Technical & Administrative Committee of SEAFDEC) on 29 October in Quezon City. This year's PTAC meeting was chaired by SEAFDEC Council Director for the Philippines and BFAR National Director Atty. Asis Perez.

Overall, PTAC had a positive response and endorsed AQD's proposed 2014-2015 activities. Noting AQD's many



AQD Chief Dr. Felix Ayson (right) gives his presentation at the PTAC meeting; on his left is BFAR Director Atty. Asis Perez who acted as Chair of the meeting



(R-L) AQD Deputy Chief Dr. Teruo Azuma and research head Dr. Ma. Junemie Hazel Leбата-Ramos at the PTAC meeting

PHOTOS BY B ACOSTA/IT TENDENCIA

on-going and planned activities but limited operational budget, PTAC advised AQD to (1) continue dialogue with BFAR on collaborative R&D on nationally-important commodities (eg. seaweed *Caulerpa* and mangrove clam *Anodontia*); and (2) review its staffing pattern based on the 2004 organizational structure so AQD can be "lean-and-mean".

Immediately after the PTAC meeting, AQD Chief Dr. Felix Ayson called a general assembly of employees on 6 November. After apprising the 150 employees in attendance, Dr. Ayson said that his management will try to do everything to make AQD run smoothly and for all (employees) to be happy.

AQD employees at the general assembly



Information

SEAFDEC information officers and officials from Thailand, Malaysia and the Philippines assessed the activities and results of the center's information strategies to improve SEAFDEC visibility to the public. The *SEAFDEC information staff program (ISP) meeting* was held 30 October to 1 November at the Petchaburi province in Thailand.

While most of its information benchmarks (number of publications produced, online and actual visitors, media coverage, among others) in the past eight years have held

steady or slightly increased, SEAFDEC officers still felt that "visibility" remains an underachieved goal. "We need to let the public know more of SEAFDEC's technical results," said Dr. Chumnarn Pongsri, SEAFDEC Secretary-General. "Information activity is like the face or mouth of a person," added Mr. Hajime Kawamura, Deputy Sec-Gen. "It (conveys) what SEAFDEC is doing."

What to do? First, all technical/research results must first be published, better if this is first done in science journals. Second is to "laymanize" the available information so stakeholders can better understand these. Third is to continue increasing awareness through institutional media (eg. websites and newsletters) and the mass media that SEAFDEC has such technical info / data to support science-based policies or to improve

productivity. Fourth is continuing with networking to make information widely available; for example, SEAFDEC as a partner institution in the Food & Agriculture Organization's Aquatic Science & Fisheries Abstracts.

On 19 November, NFRDI staff met with AQD's training & information group to discuss a possible capacity building on information dissemination and data management for NFRDI personnel. NFRDI plans to strengthen its science and documentation group and noted AQD's success in aquaculture information dissemination. AQD's development communication staff gave briefings on devcom initiatives and tools, including the online databases to support AQD's management committee, while AQD's librarians showed the institutional repository video.

PHOTOS BY MIT CASTAÑOS



SEAFDEC information officers toured the Thai government's Ratchaburi research & development center. The center works on the culture of unusual (non-food) species like anemonefish (tanks at the top) and decorative shrimp



Culture of marine annelids (inset) at the Ratchaburi research & development center

PHOTOS BY MIT CASTAÑOS



2013 meeting of officials and information officers from the SEAFDEC Secretariat and its Departments. AQD was represented by development communication head Ms. Mila Castaños (first row, second from right) and librarian Mr. Elvi Nemiz (second row, first from left)

PHOTO BY SEAFDEC SECRETARIAT



NFRDI's planning, monitoring and evaluation division OIC Ms. Ma. Salvacion Ferrer (left) and AQD's training and information division head Dr. Evelyn Grace Ayson (right) during the meeting



PHOTOS BY RH LEDESMA



(Top) Information officers Mr. Teehanie Laderas and Mr. Aran Jed Joaquin represent NFRDI; information assistants Ms. Jesserylle de la Peña & Mr. Elvi Nemiz with senior information assistant Mr. Daryl Superio for library and databanking services. (Above) Development communication head Ms. Mila Castaños, information assistant Ms. Joesyl Marie de la Cruz and information specialist Mr. Julius de Pili for devcom section.

Marine science

AQD participated in the 12th National Symposium on Marine Science-Marine Biodiversity Conservation: Key for Sustaining Ecosystem Goods and Services held from 24 to 26 October at the University of the Philippines Visayas Tacloban College.

AQD participants Dr. Teodora Bagarinao, Dr. Jon Altamirano and Mr. Joseph Biñas presented papers on biodiversity in aquaculture ponds and cages, sea cucumber bioremediation for aquaculture, and response of sandworm to salinity and feed type, respectively.

On the other hand, AQD attendees Ms. Ma. Rovilla Luhan, Ms. Hananiah Sollesta and Ms. Jonalyn Mateo joined the event's poster presentation where they entered posters on



(L-R) AQD participants Ms. Jonalyn Mateo, Ms. Ma. Rovilla Luhan, Ms. Hananiah Sollesta, Mr. Joseph Biñas, Dr. Jon Altamirano visit the Leyte Landing Memorial after the symposium

PHOTOS BY J. ALTAMIRANO

Cultivation of Gracilariopsis heteroclada in pond, canal, and intertidal area, Ultrastructure of healthy and ice-ice infected Kappaphycus alvarezii, and Effect of season on the growth and carageenan quality of Kappaphycus alvarezii. Dr. Bagarinao also has poster entries titled *The SEAFDEC/AQD museum of aquatic biodiversity and documentation*

of marine megafauna, The sea turtles around Panay and Guimaras: documentation, care, tagging, and release, and Waste of biodiversity in the fine-mesh fixed filter net (tangab) fishery in Iloilo Strait.

The Philippine Association of Marine Science organizes this event every two years and is alternately held in Luzon, Visayas, and Mindanao.



AQD technical assistant Mr. Joseph Biñas talks about his paper on sandworm

Aquaculture

AQD had been invited to take part in two aquaculture gatherings.

The first one is *Taal Lake aquaculture forum* funded by the San Miguel Foods Inc (or B-MEG) on 4 October 2013 at Talisay, Batangas. The forum was co-organized by AQD with Department of Science and

Technology (DOST) & the Graduate Student Council of De La Salle University (DLSU Manila). AQD and BMEG have been working closely with Taal fishfarmers, giving advice and conducting seminars on good aquaculture practices.

AQD scientists Dr. Ma. Rowena Eguia, Dr. Nerissa Salayo and Dr. Rolando Pakingking Jr together with associate researcher Mr. Mark Nell Corpuz and technical coordinator Ms. Grace



AQD Chief Dr. Felix Ayson was given a plaque of appreciation by NFRDI OIC Mr. Melchor Tayamen together with NFRDI staff

PHOTOS BY MIRR EGUIA

Gracia represented AQD. Dr. Pakingking and Dr. Eguia spoke on *Mga mikrobyo sa isda at sa tubig ng Lawa ng Taal at mga paraan ng pag-iwas sa pagdami at pamiminsala nito* (how to prevent damage from fish and water pathogens in Taal Lake) and *Ekolohiya ng Lawa ng Taal* (lake ecology), respectively.

The second function was the *5th BFAR-NFRDI (Bureau of Fisheries and Aquatic Resources-National Fisheries Research and Development Institute) scientific conference* from 14 to 15 October 2013 at the Manila Ocean Park, Manila.

Dr. Eguia and Dr. Salayo were invited as judges for the scientific paper presentations on aquaculture category and postharvest & social science category, respectively. Also, AQD Chief Dr. Felix Ayson was in attendance to present a plenary lecture on abalone aquaculture. According to Dr. Ayson, events like this provided AQD with the opportunity to support the activities of its partners like NFRDI because cooperation is vital. NFRDI in response appreciated the review and evaluation provided by AQD whose scientists/researchers have numerous papers published in science journals.



(L-R) AQD representatives with BFAR's Dr. Jojo Somga (second to the left)

Microbiology

AQD continues its support to the Philippine Society for Microbiology Inc - Visayas Regional Chapter (PSM-Visayas) through three of its staff who are officers and organizers of the *21st Annual meeting and regional scientific convention* which was held 17-18 October in Iloilo City.

Technical assistant Mr. Demy Catedral is the corresponding secretary; scientist Dr. Rolando Pakingking Jr. is division representative for aquatic microbiology, technical



Officers of PSM including AQD's Dr. Edgar Amar (seated, 3rd from right), Dr. Rolando Pakingking Jr (standing, 3rd from right), and Mr. Joseph Faisan Jr (standing, 6th from right)

PHOTO COURTESY OF J FAISAN JR

assistant Mr. Joseph Faisan Jr is division representative for veterinary microbiology and scientist Dr. Edgar Amar is the immediate previous president.

In addition, two technical assistants presented a paper and a poster: Mr. Peter Palma on the efficacy of potassium

permanganate in controlling trichodiniasis on milkfish fingerlings, and Ms. Juliette Virgula on the application of copper sulfate as treatment for an ectoparasite in milkfish fry. Both are graduates of the University of the Philippines Visayas.

Fairs and exhibits

AgriLink

AQD reached out to more than 400 stakeholders who visited its booth during the *AgriLink-FoodLink-AquaLink 2013* held from 10 to 12 October at the World Trade Center in Pasay City. AQD offered technical consultation, promoted its programs to entrepreneurs, students & other stakeholders, and sold books and extension manuals.



(L-R) Research head Dr. Ma. Junemie Hazel Ramos, scientist Dr. Fe Dolores Estepa, associate scientist Ms. Jocelyn Ladja and senior technical assistant Engr. Emiliano Aralar entertain queries from a visitor



Stakeholders visit the AQD booth

PHOTOS BY IT TENDENCIA

On 12 October, AQD Chief Dr. Felix Ayson and scientist Dr. Fe Dolores Estepa lectured on *Aquaculture of pompano* and *Mud crab culture*, respectively. Also present in the exhibit were AQD research head Dr. Ma. Junemie Hazel Lebata-Ramos, scientist Dr. Ma. Rowena Eguia, associate scientists Dr. Frolan Aya & Ms. Jocelyn Ladja, senior technical assistant Engr.

Emiliano Aralar and technical coordinator Ms. Grace Garcia who served as technical resource persons. AQD junior technical staff from its Binangonan Freshwater Station on the other hand, manned the booth and assisted in selling AQD publications.

AQD has been a regular participant to the annual AgriLink.

Agri-Biotech

Around 100 visitors from the government, academe, private sector, and media dropped by the AQD booth during the Agri-Biotech exhibit at the House of Representatives, Quezon City from 21 to 24 October.

AQD scientists Dr. Myrna Teruel and Dr. Maria Rowena Euia provided free consultation on AQD's aquaculture

technologies and training programs. On the other hand, administrative assistant Ms. Ma. Haydee Stinson distributed free AQD information materials.

AQD publications that are for sale like extension manuals



News anchor from Net 25 (right) interviews Dr. Teruel about the milkfish diet developed by AQD

PHOTOS BY MH STINSON



(L-R) AQD participants Ms. Ma. Haydee Stinson, Dr. Myrna Teruel and Dr. Maria Rowena Eguia at the Agri-Biotech exhibit

and books were also made available during the exhibit.

S&T Fair



Kids looking at the mud crab and shrimp in the AQD aquaria

AQD participated in the 2013 Visayas Cluster S&T Fair (VCSTF) of the Department of Science and Technology (DOST) held at SM City Iloilo from 16 to 18 October.

The AQD booth featured the DOST funded research programs on mud crab and shrimp. It has about a hundred visitors from the academe, the private sector, and the government.

The 2013 VCSTF themed “Science, Technology and Innovation: The way to a smarter Visayas” was hosted by DOST Region 6 in cooperation with DOST Region 7 and 8.



PHOTOS BY RH LEDESMA / JM DE LA CRUZ

(Clockwise) AQD scientist Dr. Veronica Alava and technical assistants Ms. Joana Joy Huervana & Mr. Joseph Biñas entertain visitors at the AQD booth and a guest gets hold of a copy of AQD's free information materials

Staff development

JASSO research fellowship

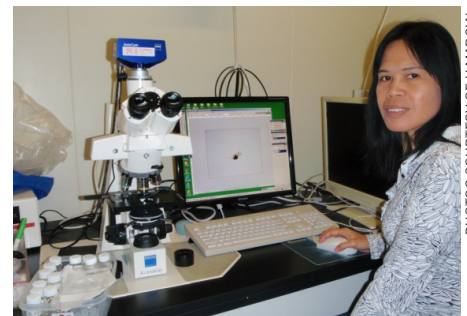
A three-month follow-up research fellowship sponsored by the Japanese Association of Student Services Organization (JASSO) was granted to AQD scientist Dr. Helen Marcial.

From 20 August to 20 October, Dr. Marcial conducted some parts of her study on the effects of climate change on zooplanktons, including rotifers (*Brachionus rotundiformis*, *Brachionus plicatilis* and *Proalessimilis*), cladoceran (*Diaphanosoma celebensis*) as well as phytoplankton (*Nannochloropsis oculata*). She investigated the effects of elevated temperature and ocean acidification on the reproduction, nutritional contents and size of zooplanktons, and cell proliferation of phytoplankton using a carbon dioxide chamber at the Institute for

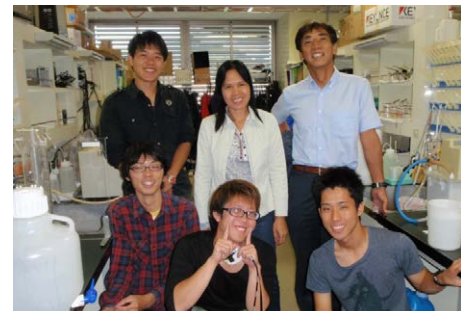
East China Sea Research Center in Mei, Nagasaki. She likewise visited several laboratories including the Chlorella Company in Fukuoka where she was able to observe recent developments in microalgal mass culture and preservation.

JASSO is an independent administrative institution that provides opportunity for researchers who have previously come to study in Japan. Dr. Marcial finished her doctorate degree in Nagasaki University in 2005. The research fellowship is intended

to assist in the advancement of academic / scientific research in developing countries.



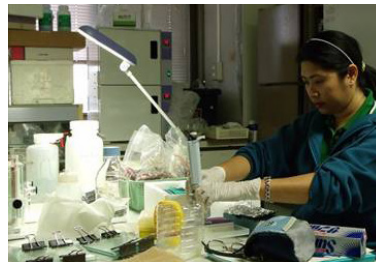
PHOTOS COURTESY OF H MARCIAL



(Top) AQD scientist Dr. Helen Marcial measures rotifers. (Above) Dr. Marcial with her former professor, Dr. Atsushi Hagiwara (standing, right) and students of the Laboratory of the Aquaculture Biology, Nagasaki University

JSPS grant

The JSPS or Japan Society for the Promotion of Science has given a grant to AQD researcher Ms. Shelah Mae Buen-Ursua to study seahorse genetics at Hokkaido University, Japan. Specifically, Ms. Ursua worked on *Genetic studies of seahorses for stock enhancement: species identification and population structure* from 7 October



(L-R) Ms. Shelah Mae Ursua extracts and purifies DNA samples from seahorse and with her sensei Prof. Katsutoshi Arai



PHOTOS COURTESY OF SMB URSUA

to 17 November under the supervision of Prof. Katsutoshi Arai.

The JSPS Ronpaku PhD Dissertation program allows

grantees to obtain their PhDs through a successfully defended research dissertation without the need for course work.

Cooperative research

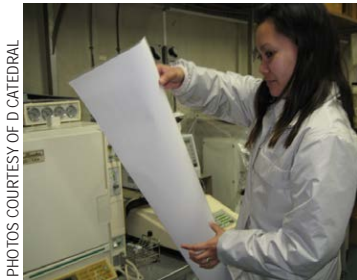
For four decades, SEAFDEC/AQD work together with Japan (a member country of SEAFDEC) in training aquaculture and fisheries researchers. Two AQD research staff were invited to visit the Faculty of Fisheries Science, Hokkaido University in Japan from 6 October to 1 November. They are invited to engage in cooperative research on *Environment-friendly aquaculture and stock enhancement in Southeast Asia* under the framework of the

Asia-Africa Science Platform Program of the Japan Society of the Promotion of Science (JSPS).

Through the exchange program, AQD senior technical assistant Mr. Demy Catedral conducted his study on *Sequencing of 16s rRNA gene of bacteria strains isolated from the biofilm of abalone (Haliotis asinina) larval rearing plates* at the Microbiology laboratory under Prof. Tomoo Sawabe. He also worked with Professor Katsutoshi Arai at the

Laboratory of aquaculture genetics and genomics. Meanwhile, technical assistant Ms. Jilla Alcalde worked on her research *Fatty acid analysis of abalone and seahorse sample* in the Department of Chemistry under the supervision of Prof. Yutaka Itabashi.

During their training, they also visited the abalone hatchery of Hokkaido Aquaculture Promotion Corporation at Kumaishi, Hokkaido which culture temperate abalone (*Haliotis discus hannai*).



PHOTOS COURTESY OF D CATEDRAL



(Top) Technical assistant Ms. Alcalde doing laboratory work at Hokkaido University. (Left photo, R-L) AQD senior technical assistant Mr. Demy Catedral, Ms. Alcalde with Prof. Katsutoshi Arai (in pink) visit the abalone hatchery at Hokkaido Aquaculture Promotion Corporation and they are welcomed by Mr. Azumi (leftmost) the hatchery manager.

Student exchange program

An AQD research staff was among the recipients of the student exchange program at Kagoshima University (Japan) from 9 July to 8 November.

During this four-month training, technical assistant Ms. Ma. Irene Cabanilla, who is also pursuing a master's degree in Fisheries at the University of the Philippines Visayas, worked on the study on *DNA/RNA ratio and otolith growth as a measure of the nutritional condition of Pacific bluefin tuna (Thunnus orientalis)*

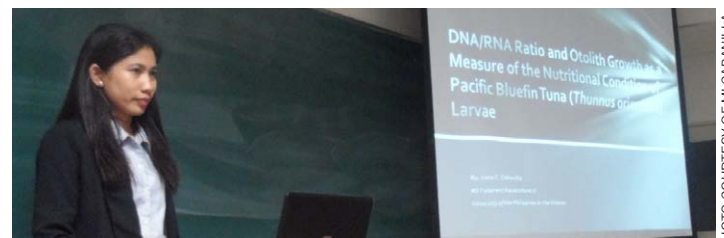


PHOTO COURTESY OF MI CABANILLA

larvae. She was supervised by associate professor Dr. Tomonari Kotani.

In addition, Ms. Cabanilla with her fellow participants visited eel farms and the hatchery of the Kagoshima Creative Abundant Sea Association which raises

amberjack, red seabream, flounder, yellowtail, and abalone. They also attended the *High-value aquaculture finfish symposium* and *Sushi making from high-value fish in Japan* seminar, both sponsored by the World Aquaculture Society – Asia Pacific chapter.

Fish parasitology

Offered by the University of Santo Tomas, Manila from 9 to 13 September, the *Certificate course on fish parasitology* was successfully completed by AQD researcher Ms. Gregoria Pagador and senior technical assistant Mr. Joseph Faisan Jr.

These two research staff joined the course to enhance their capabilities in detecting and in identifying fish parasites as the course taught host-parasite relationship, helminth life cycles, possible ecological interactions and the potential effects in the public health.



AQD researcher Ms. Gregoria Pagador (in dark blue), senior technical assistant Mr. Joseph Faisan Jr (in red), and the other participants collect and examine samples from Taal Lake

PHOTO COURTESY OF J FAISAN JR

AQD employees avail SSS mobile data capturing

About 150 AQD employees availed of the SSS (Social Security System) mobile data capturing service for the issuance of the Unified Multi-purpose Identification (UMID) card. This service took place at Miag-ao, Iloilo from 17 to 18 October.

The UMID card is a single harmonized identification card for SSS, Philhealth (Philippine Health Insurance), Pag-ibig Fund (Home Development Mutual Fund) and GSIS (Government Service Insurance System). This card is also a transaction card that will eventually enable members to withdraw benefits and loans from ATMs (automated teller machines).



AQD employees check their names on the list of approved UMID card applications



The SSS staff checks the UMID card application prior to data capturing

PHOTOS BY JIM DE LA CRUZ



AQD employees waiting for their turn at the data capturing station



The SSS staff inputs the UMID card applicant's thumb marks (left) and picture in the computer



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Editors this issue:
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Contributing writer-photographers:
GK Faigani, MT Castañeros

Editorial consultants:
MT Castañeros,
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For contributions and feedback,
kindly email:
devcom@seafdec.org.ph