

JUST LIKE PASTA – A close-up shot of *Chaetomorpha linum*, also known as “spaghetti algae,” aptly named for its pasta-like appearance. It is being investigated as a potential replacement for expensive aquafeed ingredients to bring down the feed cost in aquaculture. Photo by JB Biñas

aqdmatters

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

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'Spaghetti' fed to shrimp in bid to cut aquaculture cost



HARVESTING 'SPAGHETTI ALGAE' – A worker gathers bundles of “spaghetti algae” (*Chaetomorpha linum*) grown in a hatchery wastewater catchment facility in Tigbauan, Iloilo. Photo by JB Biñas

HUMANS are not the only ones who enjoy eating spaghetti—shrimp can, too.

Researchers are using nutritious green “spaghetti algae” in fish and shrimp feeds as part of a broader move to bring down the cost of expensive aquafeeds which account for over half the expenses of farmers.

“The ultimate aim of using spaghetti algae, or any

other alternative ingredient, in aquafeed is to bring down the feed cost in aquaculture,” said Joseph Biñas, associate researcher and feed mill supervisor at SEAFDEC/AQD in Tigbauan, Iloilo.

Biñas further said that, “The use of alternative ingredients, especially if these are locally available and sustainably produced, may

considerably reduce the cost of formulated feeds.”

Chaetomorpha linum, also known as “spaghetti algae” or “green hair algae”, derives its name from its wiry and rigid strands, forming a loosely entangled mass resembling cooked pasta noodles.

According to Biñas, spaghetti algae is being considered as a source of nutrition because it has a protein content of up to 17 percent and contains various health-promoting bioactive compounds.

He also added that this species of algae grows locally year-round and can tolerate a wide range of environmental conditions. While growing, spaghetti algae also absorbs excess nutrients from aquaculture wastewater, thereby helping to reduce pollution.

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Testing spaghetti algae on shrimp

In his SEAFDEC/AQD-funded research which is scheduled to be completed this year, Biñas and his colleagues included various amounts of the algae into aquafeeds, partially substituting soybean and fishmeal which are more expensive imported ingredients.

The feeds, containing between zero and 18 percent processed spaghetti algae, were then tested for 90 days on juveniles of tiger shrimp, also locally known as *lukon* or *sugpo*.

The results were promising as shrimp survival and growth were normal with up to 12 percent spaghetti algae in their diet. Biñas, however, said the sweet spot seemed to be at around 6 percent.

He also said that they continue to improve the quality of the spaghetti algae by using lactic acid bacteria, yeast, and fungi to ferment it before including it in feeds. Fermentation improves the nutritional quality of alternative protein sources.

“Once the fermentation protocol is optimized, fermented spaghetti algae can then be produced in large scale quantities,” he remarked.

Biñas also said that spaghetti algae would later be tested as a potential feed source for tilapia and milkfish. **a**

— JR PAGADOR

Disease-afflicted seaweed farms in PH see hope with help of scientists

SEAWEED farming, a multi-million dollar export industry in the Philippines, is at the centerpiece of a worldwide effort by scientists to better address the outbreak of diseases and pests that are plaguing the farms.

With an estimated 116,000 families in the country reliant on seaweed farming, SEAFDEC/AQD, as part of the UK Research and Innovation (UKRI)-Global Challenge Research Fund (GCRF) Global Seaweed Star Project, is working to better understand outbreaks of “ice-ice” disease (IID) and epiphyte infestations in farms which have inflicted losses worth as much as 15 percent of the total seaweed production.

According to Joseph Faisan Jr. an associate researcher at SEAFDEC/AQD, IID outbreaks are caused by extreme environmental conditions (temperature, salinity, pH, siltation) and are characterized by the whitening

of the seaweed branches, leading to disintegration and decay. Meanwhile, epiphytic filamentous algae (EFA) are algae that attach to seaweeds and penetrate their inner layers, resulting in damage and disease.

The concern is further emphasized because seaweed is the Philippines’ top aquaculture commodity by volume, according to the Philippine Fisheries Profile published by the Bureau of Fisheries and Aquatic Resources in 2018. For that year, 1.5 million metric tons, mainly of the seaweeds *Kappaphycus* and *Eucheuma*, comprised 64 percent of the total volume of aquaculture production in the country.

Kappaphycus is a source of carrageenan, an additive in food and drinks that serves as thickener, emulsifier, and preservative. Carrageenan is also used in toothpaste, skin care and hair care products,

shaving cream, sunscreen, and even makeup.

Disease and pest problems

In the Philippines, farmed species of seaweeds like *Kappaphycus alvarezii* (locally known as *guso* or *tambalang*), *K. striatus* (locally known as *katunay* or *flower*), and *Eucheuma denticulatum* (locally known as *milyon-milyon* or *spinosum*) remain highly vulnerable to these threats.

“Like humans who are prone to sickness when stressed, seaweeds can also contract these illnesses and pests,” explained Faisan, who, with colleagues at the University of the Philippines Visayas and United Kingdom partner institutions including the National History Museum, Scottish Association for Marine Science (SAMS) and Centre for Environment, Fisheries and Aquaculture Science (Cefas), are developing methods and tools to detect and diagnose diseases and pests that limit seaweed production yields.

They collected and examined seaweed samples from 16 farming sites in the Philippines, in the following locations: Bohol, Davao del Norte, Zamboanga City, Tawi-Tawi, and Palawan.

The team used histology and electron microscopy to diagnose diseases and pests before using Polymerase Chain Reaction (PCR) to confirm the presence of EFA by detecting their DNA.

After examining the samples, Faisan said that they forwarded the results to the United Kingdom partners of the project to be added to the planned open-access, Digital Atlas of Anatomy and



A seaweed farmer in Tigtabon, Zamboanga City shows his fixed off-bottom seaweed farm growing *Kappaphycus alvarezii*, a source of carrageenan used in food, drinks, and cosmetics. Photo by JP Faisan, Jr.

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Pathology of Seaweeds (DAPS) and the Seaweed Holobiome Data Repository (SHoRE).

Working on the bigger picture

Faisan said their findings will be integrated with those of other researchers doing work on policies, genetics, and socio-economics, to conduct a Sharing Best Practices (SBP) event in key seaweed growing areas around the country wherein among other strategies, brochures and information about seaweeds will also be produced and distributed.

“The end-goal is to provide free access to reference materials on farm management and biosecurity measures to include pest and disease infestation, stock improvement, and risk managements of the seaweed industry of the Philippines to everyone and promote information dissemination

in the scientific community as well,” emphasized Faisan.

SEAFDEC/AQD Research Division Head Dr. Leobert dela Peña stressed that “interventions such as the use of prophylactics should also be developed to reduce the impact of seaweed pests and diseases should they eventually make their way into farming sites despite biosecurity measures and risk management.” SEAFDEC/AQD Chief Dan Baliao added that “addressing the disease issue first is critical before we can focus on the expanded production of tissue-culture based plantlets for distribution to farms without access to good quality planting materials.”

The Global Seaweed Star project was initiated last Oct. 1, 2017 and funded by UKRI -GCRF. Expected to end by Dec. 31, 2021, the program brings together an international team of experts in science, policy, and economics across the United Kingdom, Philippines, Malaysia, Tanzania, and Canada. **a**

— JR PAGADOR

News briefs

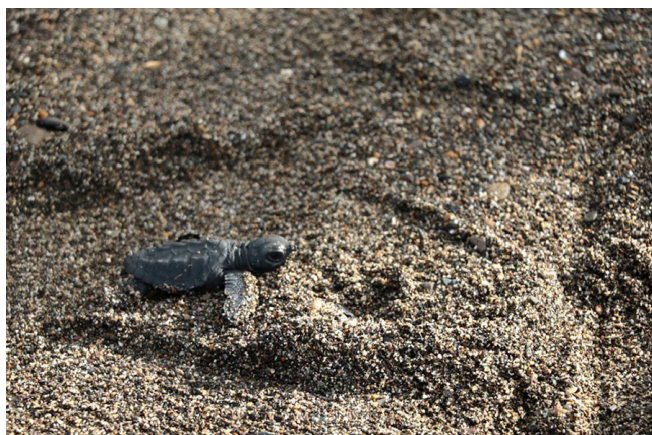
Asian Regional Consultation on Development of Guidelines for Sustainable Aquaculture. SEAFDEC/AQD, represented by Research Division head Dr. Leobert D. de la Peña, joined the roster of technical experts during the recently concluded Asian Regional Consultation on Development of Guidelines for Sustainable Aquaculture (GSA). Participants convened and evaluated current policies, practices, and examined possible studies as part of continuous efforts to secure sustainability in aquaculture across Asia. The workshop spanned three days, running from 30 Nov. to 2 Dec. 2020. **a**

Iloilo Investment Forum. To augment Iloilo’s economic recovery efforts in fisheries and agriculture, SEAFDEC/AQD lent its experts to the Iloilo Investment Forum (IIF) held last 9 to 10 Dec. 2020. The forum was organized by the Iloilo Provincial Government, Iloilo City Government, Iloilo Economic Development Foundation, Inc. (ILEDf) in collaboration with the regional offices of the Department of Agriculture (DA), Department of Trade and Industry (DTI), and Department of Tourism (DOT). IIF also aimed to boost the local economy promotion and encourage investors’ interest in the city while in the wake of the COVID-19 pandemic. **a**

Regional Symposium on Research & Development Highlights. Dr. Shelah Mae Ursua, an associate scientist of SEAFDEC/AQD, served as a judge for the Poster category of the 30th Regional Symposium on Research & Development Highlights hosted by the Western Visayas Agriculture, Aquatic and Natural Resources Research and Development Consortium (WESVAARRDEC). Held last 10 to 11 Dec. 2020, the event identified and presented significant R&D findings and outputs for packaging toward adoption, licensing, or commercialization. **a**

Technical Review and Evaluation Panel. Dr. Ma. Rowena Eguia, together with other reputable panelists, shared her knowledge and expertise and evaluated the Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development's program and terminal report presentations on milkfish, prawn, tilapia, mangrove crabs, shrimps, mussels, Anguillid eels, biodiversity, and aquafeeds last 9 to 11 Dec. 2020 through an online platform. **a**

AQD assists in protection of sea turtle nest



TECHNICAL staff of FishWorld at AQD lent their expertise upon the discovery of a sea turtle nesting site last 24 October 2020 in the village of Atabayan, Tigbauan, Iloilo. With the assistance of locals, 68 turtle eggs were retrieved from the original nest and transferred a few meters to higher ground to keep them from the rising tide and stray dogs that began to gather around. AQD, identified the hatchlings as those of olive ridley turtles and guided locals to secure the relocated nest while the eggs incubated. Towards the end of November 2020, three hatchlings surfaced from the nest and were immediately released to ocean waters. **a**

— RD DIANALA / JR PAGADOR

Hardy tilapia live peacefully with *Aeromonas* bacteria

HOW much disease-causing bacteria can tilapia tolerate? A recently published study provides a glimpse, at least for the impact of *Aeromonas*, a type of waterborne bacteria.

Aeromonas causes diseases in fish, crustaceans, mammals, and even humans. While they are naturally present in the environment and even in the body of healthy tilapia, they pose a health risk at sufficient numbers, especially when the water quality deteriorates, and the immune system of fish are impaired.

Symptoms of *Aeromonas* infections in fish include dropsy (swelling), necrosis, red sores, open wounds, and “pop-eye”.


Dr. Rolando Pakingking, a scientist at SEAFDEC/AQD, stocked tilapia in earthen ponds in the Philippines

and examined their gills and intestines for *Aeromonas*. He monitored the fish organs, as well as the water and pond sediments every two weeks from day 30 to day 120.

All things factored in, tilapia appeared to tolerate an *Aeromonas* load of 10^3 cfu/ml both in the water and pond sediment. The tilapia, all of which remained apparently healthy, likewise tolerated 10^5 cfu/g of *Aeromonas* in their gut and as much as 10^7 cfu/g in their gills without a hitch. About 92 percent of the *Aeromonas* in the study were identified to be *A. hydrophila*.

The article “*Aeromonas* load and species composition in tilapia (*Oreochromis niloticus*) cultured in earthen ponds in the Philippines” by Dr. Pakingking and his co-authors, including

SEAFDEC/AQD Researcher Peter Palma, was published in the journal *Aquaculture Research* on 14 Aug. 2020 and may be requested at <https://repository.seafdec.org.ph/handle/10862/5970>.

Funding was provided in part by the Department of Science and Technology – National Research Council of the Philippines. 

— RD DIANALA



Screenshot of the journal article published in *Aquaculture Research*

Iloilo mudworm likes it dark, study finds



Jelly cocoons that contains the eggs of *Marphysa iloiloensis* at SEAFDEC/AQD's Polychaete Hatchery in Tigbauan, Iloilo. Photo by MAE Mandario

THE WORLD is hungry for worms, marine worms. Every year, an estimated 121,000 tons of the tiny burrowers, called polychaetes, are dug up from ponds and mudflats to meet the demand for fishing bait and aquaculture feed.

In aquaculture, polychaetes are valued as aphrodisiacs for crabs and shrimp. Studies have shown that the worms are sources of essential fatty acids that boost the reproductive performance

of crustacean broodstock. However, the polychaetes are potential carriers of disease, and feeding sensitive crustaceans with wild-sourced worms is a risky exercise.

At SEAFDEC/AQD, Associate Researcher Mary Anne Mandario is working on breeding and propagating the mudworm *Marphysa iloiloensis*, a new species of polychaete she discovered in 2019 and named after Iloilo province.

In a bid to produce more of this aquaculture superfood and as efficiently as possible, Mandario recently established the optimal light conditions for the polychaete hatchery where the mudworm eggs are hatched, and larvae are nursed.

What is the best brightness setting, and for how long? It turns out – zero. Nil. Nada. Just like their mud-burrowing parents, *Marphysa iloiloensis* eggs and larvae thrive in total darkness.

Polychaetes' diverse behaviors

The finding is important because the 10,000 species of polychaetes have varying responses to light at their different life stages. For example, larvae of the reef-building polychaete *Phragmatopoma lapidosa* are first attracted to light, only to begin burrowing into the sediment at a later stage. In

another polychaete, *Hediste diadroma*, the larvae's affinity to light quickly turns to aversion, only within four days of hatching.

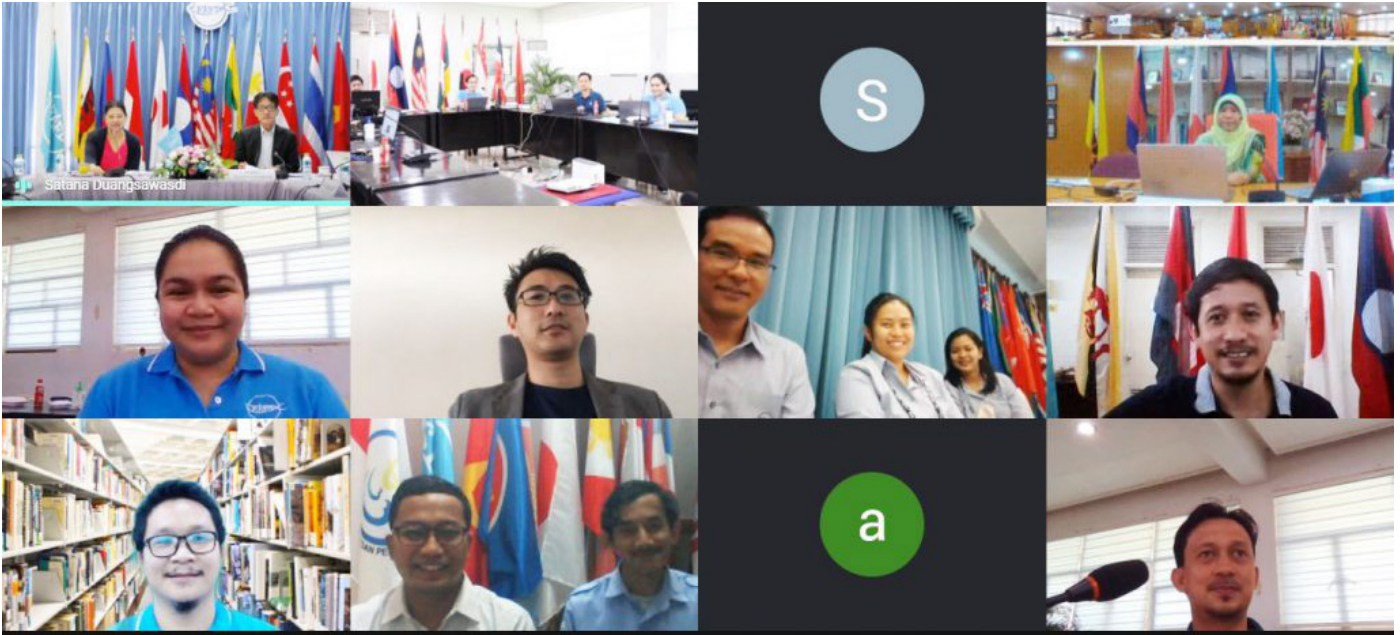
Iloilo mudworm's love for darkness

As for *Marphysa iloiloensis*, eggs and larvae consistently loved darkness. Hatching rates declined with increasing light intensity and duration. Survival significantly decreased at a brightness of $157 \mu\text{mol m}^{-2} \text{s}^{-1}$ even if the exposure was just for 1 hour per day. At that brightness, only 84 percent of eggs hatched compared to 98% (total darkness and $3.4 \mu\text{mol m}^{-2} \text{s}^{-1}$) and 96 percent ($64.4 \mu\text{mol m}^{-2} \text{s}^{-1}$) in other set-ups.

Similarly, the 29-day survival of larvae to juveniles was highest under total darkness (78 percent). At both 64.4 and $157 \mu\text{mol m}^{-2} \text{s}^{-1}$, mudworm did not survive a

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AQD's online presence grew during the pandemic



Information staff from all SEAFDEC Departments convene virtually for the Twenty-first Information Staff Program (ISP) last 31 Nov. - 1 Dec. 2020. Photo screengrab courtesy of SEAFDEC/SEC

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6-hour per day exposure. On the other hand, as long as the polychaetes survived, growth was not affected by light intensity and duration.

While “no light or lower light intensity is the best culture condition from embryonic to juvenile stage of *M. ilioiloensis*,” Mandario’s study also concludes that in these stages, $3.4 \mu\text{mol m}^{-2} \text{s}^{-1}$, or 250 lx, “can be considered as a threshold of light intensity to ensure high polychaete survival.”

The article “Interaction effect of light intensity and photoperiod on egg hatchability, survival and growth of polychaete *Marphysa ilioiloensis* from larva to juvenile” by Mandario and her co-authors Nomae Joylyn Castor (SEAFDEC/AQD) and Vicente Balinas (University of the Philippines Visayas) was accepted in the journal *Aquaculture* on 26 Aug. 2020. [a](#)

— RD DIANALA

DESPITE the novel coronavirus-related restrictions mandated by the government, SEAFDEC/AQD managed to reach its audiences and stakeholders with the help of social media and online repositories.

AQD reported an increase in online interactions through its official Facebook page and digital repository in 2020. The official Facebook page gained around 104 percent more followers and achieved a 233 percent increase in reach compared to 2019. Meanwhile, monthly unique visitors of SEAFDEC/AQD’s Institutional Repository (SAIR), an online collection of AQD publications, soared by 900 percent.

These statistics were presented during the Twenty-first Information Staff Program (ISP) Meeting held last 30 Nov. to 1 Dec. 2020 through an online teleconference. This annual meeting gathers the SEAFDEC Secretariat and all Departments to discuss information-related initiatives done to improve the Center’s visibility.

This year, information officers experienced information dissemination challenges because of the COVID-19 pandemic. However, the Departments, including AQD, managed to maximize SEAFDEC’s online presence by actively connecting with stakeholders on social media and other online platforms.

During the meeting, Ms. Malinee Smithritee, secretary-general of SEAFDEC, expressed her appreciation to the Departments for their innovative communication and information dissemination efforts. Because of these efforts, the Center still managed to conduct seminars

and workshops and promote programs during the pandemic.

Further optimizations and improvements were also discussed during the meeting to ensure information programs keep pace with technological advancements.

“AQD’s Training and Information Division will keep abreast of the changes in communication and society to ensure that we continue to disseminate information about aquaculture technologies to the intended audiences in any given situation,” said Dr. Edgar Amar, head of the Training and Information Division of SEAFDEC/AQD. [a](#)

— JM DE LA CRUZ



Training and Information staff from SEAFDEC/AQD attend the ISP Meeting to discuss information-related initiatives with other SEAFDEC Departments. Photo by JF Aldon

Committee endorses AQD's research progress and plans

SEAFDEC/AQD participated in a series of annual meetings to present the progress and achievements of ongoing projects, seek opportunities for collaboration and partnership, and share ideas.

PCM. SEAFDEC/AQD participated in the Forty-third Program Committee Meeting of SEAFDEC (43PCM) conducted last 10 to 12 Nov. 2020 through Zoom. During the meeting, SEAFDEC/AQD presented its departmental and regional programs before a committee consisting of delegates from 11 SEAFDEC Member Countries. Subsequently, the Department proposed two pipeline projects to improve aquatic disease management and assess existing aquaculture technologies in Southeast Asia.

FCG/ASSP. For years, SEAFDEC has been addressing pressing issues on fisheries and aquaculture



Chief Dan Baliao, Deputy Chief Dr. Sayaka Ito, and Research Division Head Dr. Leobert de la Peña present SEAFDEC/AQD's research and development achievements for 2020 and plans for 2021 in a series of meetings held in the last quarter of the year.

as endorsed by the Fisheries Consultative Group (FCG) of the ASEAN-SEAFDEC Strategic Partnership (ASSP).

The Twenty-third Meeting of the FCG/ASSP was conducted last 17 to 18 Nov. 2020 via Zoom. Topics on combating IUU fishing, promoting sustainable fisheries

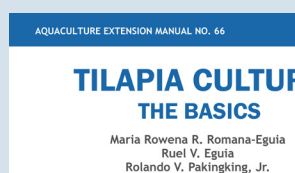
and aquaculture, ensuring the food safety and quality of fish and fishery products, and fish trade-related issues were discussed.

DCM. SEAFDEC/AQD attended the annual Department Chief's Meeting (DCM) last 3 Dec. 2020 to discuss the activities of the

Departments and SEAFDEC as a whole in the following year. The main topics that were tackled included the upcoming seminar-workshop on the impact of COVID-19 in the fisheries sector, centralization of servers for repositories, and publication of the SEASOFIA 2022. [a](#)

— JM DE LA CRUZ

#BookFairInDecember



AEM 66 was authored by SEAFDEC/AQD Scientists Dr. Maria Rowena Eguia and Dr. Rolando Pakingking, Jr. together with Mr. Ruel Eguia, a former research specialist of the Department.

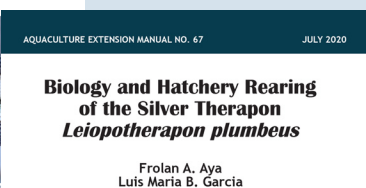
Last 10 Dec. 2020, SEAFDEC/AQD held its first virtual book fair and launched two Aquaculture Extension Manuals (AEM). Both manuals are made available at the SEAFDEC/AQD Institutional Repository from where they may be freely downloaded.

was also included to promote the prevention of tilapia diseases.

Biology and Hatchery Rearing of the Silver Therapon

The AEM No. 67 on the Biology and Hatchery Rearing of the Silver Therapon (*Leiopotherapon plumbeus*) contains SEAFDEC/AQD's patented technique on the seed production of silver therapon, a freshwater fish endemic to the Philippines and locally called 'ayungin'. It aims to serve as a useful reference for students, aquaculturists, researchers, government fishery agency personnel, and others interested in the breeding and culture of the native fish species. [a](#)

— JM DE LA CRUZ



Tilapia Culture: The Basics

The AEM No. 66 on Tilapia Culture: The Basics provides updated information on grow-out technology in cages and ponds. Updated cost and returns analyses are also included to guide farmers regarding the profitability of farming tilapia. A fresh chapter on tilapia health management



AEM 67 was authored by SEAFDEC/AQD Scientist Dr. Frolan Aya and Dr. Luis Maria Garcia, a biology professor from UP Diliman.

If you are viewing this through PDF, you can click the images above to download the manuals.

In-house training on effective presentation skills

WITH the increasing demand for online training courses and webinars, SEAFDEC/AQD conducted a three-day training workshop for the staff to enhance their skills in communicating, presenting, and using video conferencing software.

Fifteen staff from different offices participated in the Training Workshop on Effective Presentation Skills, which was held 9-11 Dec. 2020 at the Tigbauan Main Station.

Information staff served as trainers and delivered online lectures and demonstrations covering concepts on communication, slideshow preparation, video conferencing software, sourcing and citing data, online training courses, and the context of the Department's training program.



A panel evaluates the online lecture of a participant as part of the training on presentation skills. Photo by EC Macainan

In the workshop, participants prepared their own 10-minute presentations, which were then individually presented through the Zoom platform. A panel of critics provided feedback and suggestions to individual presenters to further enhance their performance.

The Government of Japan Trust Fund supported the training, which is the second this year after a first batch of trainees completed a similar course in July. [a](#)

— RD DIANALA



As a prerequisite to completing the training, a participant delivers an online lecture for evaluation by a panel. Photo by EC Macainan



aqd matters

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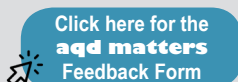
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Oplan Balik Sugpo Update



TIGER shrimp, *Penaeus monodon*, was harvested at the SEAFDEC/AQD Dumangas Brackishwater Station last 6 Nov. 2020. The culture run is part of continuing verification studies to provide the private sector and government agencies with environment-friendly approaches to growing the prized seafood.

SEAFDEC/AQD Chief Dan Baliao stressed that pond preparation, healthy shrimp seeds, biosecurity, close monitoring of shrimp and water parameters, as well as proper feeding management, are essential to achieving good yields.

BFAR-6 Regional Director Remia Aparri, who witnessed the harvest along with other BFAR staff, expressed her support to SEAFDEC/AQD. "It's a promising harvest for the two times that I've been witnessing this harvest here in SEAFDEC Dumangas, and I hope SEAFDEC and BFAR can work together so that the sugpo industry will be again at its peak," she said. [a](#) — RD DIANALA

Peter Palma and the Case of Serendipity

BEING a scientist was never part of his career plan, but this young researcher is already making waves in aquaculture research with his award-winning study on the giant grouper, a “threatened” fish locally known as *lapu-lapu*.

Peter Palma and his team recently bagged the prestigious Dr. Elvira O. Tan Awards – Outstanding Published Paper in the Aquatic Science Category for their paper that studied the sexual development of the hermaphrodite fish and debunked presumed norms on the origin of the male giant grouper.

Their paper titled, “Reproductive development of the threatened giant grouper *Epinephelus lanceolatus*,” published in the Aquaculture Journal last July 2019, presented evidence that male giant grouper do not need to pass through a female stage at an earlier stage in their lives, contrary to the belief that males only arise from mature females.

The 28-year-old Palma and his co-authors monitored caged giant grouper in the Philippines and Vietnam for over three years to establish the onset of their sexual maturity in the hope of promoting the breeding and farming of the fish over their capture from the wild.

“Determining when these species reach their sexual maturity is fundamental when it comes to captive breeding,” emphasized Palma who is currently a researcher at the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/AQD) in Tigbauan, Iloilo.

Palma’s research paper was selected by the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development

(PCAARRD) to receive the Dr. Elvira O. Tan Award, a recognition conferred to studies that made significant impacts in their respective fields.

SEAFDEC/AQD Research Division Head Dr. Leobert de la Peña pointed out that “captive breeding is a priority research area which is hoped to address the problem of fry insufficiency of various high-value marine species being farmed in Southeast Asia.”

“I wasn’t actually expecting this paper to win so I was already psyching myself up to try again next year. Now, I’m very happy with how things turned out,” stated Palma, who hails from Sipalay City, Negros Occidental.

First steps in science

“My relationship with science as a kid wasn’t something special. Mathematics was the subject I enjoyed the most. I saw science as an ‘okay’ subject—I don’t hate it, but I don’t have any strong feelings for it either,” shared Palma, the son of a policeman father and a mother who was a high school science teacher.

Not long after he graduated valedictorian and got accepted into the business administration program of the University of the Philippines Visayas (UPV) in 2009, an opportunity to pursue science came to him in the form of a scholarship from the Department of Science and Technology (DOST) which eventually led him to pursue a bachelor’s degree in fisheries.

It was not until his senior year in college that he decided to pursue a career as a researcher after being inspired by Dr. Erlinda Lacierda, his thesis adviser and a former SEAFDEC/AQD scientist.



Peter Palma, a researcher of SEAFDEC/AQD in Tigbauan, Iloilo, is recipient of the 2020 Elvira O. Tan Award for Outstanding Published Paper in the Aquatic Science Category. Photo by JF Aldon

Lacierda shared that Palma had the makings of a good scientist as he exhibited patience, an eye for detail, and a sharp mind while he was working on his thesis.

“He was so hungry for knowledge, so eager to learn new things, always excited to do lab work. Aside from that, he was also humble, knowing how to look back and acknowledge people that were part of his journey,” said Lacierda.

Making a mark

Palma later joined SEAFDEC/AQD in 2013 as a research assistant working on fish microbiology, before joining the giant grouper research project funded by the Australian Centre for International Agricultural Research (ACIAR).

Palma then pursued a master’s degree at the University of Sunshine Coast in Queensland, Australia from 2016 to 2018 wherein he began working on the paper in 2017 along with Vietnamese and Australian collaborators.

SEAFDEC/AQD Chief Dan Balião commended Palma for his recent achievement, stressing the importance of quality research

in the advancement of the aquaculture industry.

“In line with SEAFDEC’s mandate to serve our constituents, these kinds of discoveries by our researchers serve as the foundation of science-based aquaculture practices that sustainably boost productivity, improve incomes, and create jobs.”

From hereon forward

Contrary to his initial relationship with science, Palma admits that he grew to love his job as a researcher through the years.

“It’s the freedom. I find it funny and sometimes weird that in my line of work, you’re paid to ask research questions and conduct experiments to answer those questions. So in a sense, we’re being spoiled,” shared Palma with a laugh.

Now, Palma is determined to conduct more studies and expand on the literature on reproductive biology of fishes in the Philippines as “there is still a lot to do.”

“The wonder of research is that we learn new things every day and, in my case, I get to apply them in developing aquaculture technologies that will benefit fish farmers,” said Palma. 