

Capture fisheries and aquaculture meet here at an *otoshi-ami* fishing gear in Tibao, Antique where SEAFDEC/AQD has been working with a local fishing cooperative to collect wild *kawakawa* and round scad. Captured fish are collected in a temporary holding cage (shown far right, with multi-color floaters) before being transported to broodstock tanks in Tigbauan, Iloilo. Photo by JF Aldon



aqd matters

March-April 2022

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

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DA, BFAR officials visit SEAFDEC/AQD

OFFICIALS from the Department of Agriculture (DA), its Bureau of Fisheries and Aquatic Resources (BFAR), and the National Fisheries Research and Development Institute (NFRDI), a DA attached agency, visited SEAFDEC/AQD's Tigbauan Main Station on 31 March 2022.

The visitors, including Rodolfo Vicerra

(Undersecretary for DA Attached Agencies), Dr. Leocadio Sebastian (DA Chief of Staff and Undersecretary for Research, Innovation, Training and Extension Support), Drusila Esther Bayate (BFAR Assistant Director for Research, Regulations, and International Engagement), and Dr. Lilian Garcia (NFRDI Executive Director), were received by SEAFDEC/AQD

Chief Dan Baliao and toured the new facilities inaugurated by DA Sec. William Dar in December last year.

Among the facilities toured were the new milkfish broodstock tanks which have a combined capacity of 2,000 tons to accommodate at least 400 breeders. It is projected to produce 320 million eggs or 256 million larvae per year.

The guests also toured



Undersecretary for Department of Agriculture Attached Agencies Rodolfo Vicerra (center) tours the multi-species freshwater hatchery, which has a rearing capacity of 40 tons to produce seeds of giant freshwater prawn, catfish, and tilapia. Photo by JF Aldon



Continued from previous page...

the multi-species freshwater hatchery which has a rearing capacity of 40 tons to produce seeds of giant freshwater prawn, catfish, and tilapia.

Also visited was the SEAFDEC/AQD Feed Mill which produces feeds for the Department's research

and verification activities, including diets for abalone, grouper, mangrove crab, milkfish, pompano, sea bass, shrimp, *siganid*, and tilapia.

An exhibit at the Multi-purpose Hall showcased to the guests the different commodities being studied by SEAFDEC/AQD for domestication

and efficient propagation. Included in the display were some of the world's first captive-bred round scad, locally known as *galunggong*, which were recently hatched and grown to fingerling size at the research center. **a**

— NG ARMADA

Multi-species marine hatchery eyed in Iloilo City

THE Iloilo City government is considering to establish a multi-species marine hatchery with the assistance of SEAFDEC/AQD to boost the fisheries sector in the city and provide Ilonggos with a source of income and food.

SEAFDEC/AQD Chief Dan Baliao shared his insights on the proposed establishment of a multi-species hatchery at the mouth of the Batiano River during a recent meeting held on 18 April 2022 at the Office of the Iloilo City Mayor Jerry Treñas.

The meeting was attended by Mayor Treñas, Iloilo City fishpond owners/operators, staff from the Bureau of Fisheries and Aquatic Resources Western Visayas (BFAR-6), City Environment & Natural Resources Office, and City Agriculture Office.

A hatchery in Iloilo City will help augment the supply of fry for stock enhancement and contribute to livelihood opportunities and income for residents.

Chief Baliao also suggested a cage grow-out project in a suitable and sheltered segment of Iloilo River for a sustainable aquaculture activity.

“There is no aquaculture activity to speak of in the Iloilo River except fishponds, which are also suffering from low productivity. The river system exists for artisanal fisheries,” he said.



Chief Dan Baliao shares his insights on the proposed establishment of a multi-species hatchery at the mouth of the Batiano River during a meeting at the Office of the Iloilo City Mayor Jerry Treñas last 18 April 2022. Photo by NG Armada

Artisanal fisheries is tradition or subsistence small-scale fishing, using low-technology and low-capital capture fishing practices.

Baliao suggested that the City consider moving beyond artisanal fisheries into sustainable urban aquaculture, citing examples from other Southeast Asian countries. He also expressed SEAFDEC/AQD's willingness to extend technical

assistance to Iloilo City when needed.

Last 29 March 2022, the SEAFDEC feasibility study team visited the city's Molo Boulevard to measure physico-chemical parameters as part of looking into the possibility of establishing a hatchery there.

Iloilo City seeks SEAFDEC/AQD's help in establishing marine hatcheries

In a bid to improve the fisheries sector, personnel from the Iloilo City Government, on 23 March 2022, reached out to SEAFDEC/AQD for a possible partnership regarding the establishment of a marine fish hatchery in the city.

This is the second time that the city government team led by Inigo Garingalao, officer-in-charge of the Iloilo City Agriculturist Office, visited Chief Dan Baliao's office to discuss the matter.

According to Garingalao, the plan will not only help improve the city's fisheries sector but will also provide Ilonggos with a source of income and food security. **a**

— NG ARMADA



A staff from the Iloilo City Agriculturist Office shows Chief Dan Baliao the proposed location for the marine hatchery. Photo by NG Armada

DA Usec Caballero at Igang Marine Station



SEAFDEC/AQD officials strike a pose with the Department of Agriculture's Undersecretary for Agri-Industrialization and Fisheries, Cheryl Marie Natividad-Caballero (center), and Bureau of Fisheries and Aquatic Resources VI Regional Director Remia Aparri (third from left) at the Igang Marine Station. Photo by JF Aldon

DEPARTMENT of Agriculture Undersecretary for Agri-Industrialization and Fisheries, Cheryl Marie-Natividad Caballero, visited SEAFDEC/AQD's Igang Marine Station last 11 March 2022.

Caballero had a lunch meeting with SEAFDEC/AQD officials and researchers. She also lauded the research center's groundbreaking work on the spawning of the round

scad, known locally as *galunggong*. This was followed by a meeting with the Panay Aqua Farmers Cooperative where the proposed establishment of a medium-scale aquaculture feed mill in Capiz Province was discussed, including SEAFDEC/AQD's role of providing technical assistance. The proposal was endorsed by Caballero to the Department of Agriculture Secretary Dr. William Dar.

The undersecretary, who is also SEAFDEC/AQD's Council Director for the Philippines, was accompanied by Bureau of Fisheries and Aquatic Resources VI Regional Director Remia Aparri. The Igang Marine Station is located at Nueva Valencia town, on the southwest portion of Guimaras Island. **a**

— NG ARMADA

'Oplan Balik Sugpo' highlighted at aquaculture conference

SEAFDEC/AQD shared the health and biosecurity protocols of its shrimp hatchery and grow-out operations at the virtual International Conference on Marine Science and Aquaculture (vICOMSA) which was held last 9 March 2022.

Dr. Leobert de la Peña, scientist and head of SEAFDEC/AQD's Research Division, presented the protocols and discussed how responsible disease prevention schemes in the hatchery, and

At the virtual International Conference on Marine Science and Aquaculture, Dr. Leobert de la Peña, scientist and head of SEAFDEC/AQD's/Research Division, presents the research center's health and biosecurity protocols for its hatchery and grow-out operations.

enhanced biosecurity features in grow-out farming, may result in three successful shrimp harvests with high survival rates and a good volume of production.

Among SEAFDEC/AQD's current priority programs is the *Oplan Balik Sugpo* which aims to generate technologies that will help revive

the tiger shrimp industry in the Philippines which is presently struggling against a variety of shrimp diseases.

vICOMSA was organized and hosted by the Borneo Marine Research Institute of the Universiti Malaysia Sabah. **a**

— JMD ARANAS

Fisheries, agriculture officials laud round scad breakthrough

OFFICIALS from the Department of Agriculture (DA) and the Bureau of Fisheries and Aquatic Resources (BFAR) commended the first successful spawning of round scad (*Decapterus* spp.) in captivity which was recently achieved by SEAFDEC/AQD.

“We are elated to learn that you made some milestones on the breeding in captivity of the round scad,” said Drusila Esther Bayate, Bureau of Fisheries and Aquatic Resources (BFAR) assistant director for research, regulations, and international engagement,

who visited SEAFDEC/AQD last 31 March 2022.

“We have a very seasonal high and low production of round scad; and with your accomplishment, and with your foresight that in the future during lean months, when production of round scad is low, we will be able to have a steady supply of round scad and steady prices for our consumers,” Bayate added.

Round scad, known locally as *galunggong*, is the most important small pelagic fish species in the Philippines and has been the primary source of inexpensive animal protein,

according to SEAFDEC/AQD Researcher Ma. Irene Cabanilla-Legaspi. A drop in the volume of fishery yield – possibly owing to overfishing – prompted her to do a breeding and culture study on the fish.

The main goal of the study is to close the life cycle of these species in captivity and develop production techniques for hatchery, nursery, and grow-out.

For DA Usec. Rodolfo Vicerra, who was visiting with Bayate, the research breakthrough would aid in the advancement of the *galunggong* industry in the

country and will benefit fisherfolks.

“That’s really what we also need since it can become a new industry. What we need more is really to propagate that technology that you have so that more fishing villages can now do it in more places in the country,” he added.

SEAFDEC/AQD has been known for its groundbreaking studies on breeding milkfish and tiger shrimp, beginning with the world’s first captive spawning of both species at the research center in the 1970s and 1980s. [a](#)

— NG ARMADA

MILKFISH FRY PRODUCTION CONTINUES TO SUPPLY FARMERS

HUNDREDS of thousands of milkfish fry produced at SEAFDEC/AQD’s Tigbauan Main Station were harvested and sold to requesting fish farmers from different parts of Iloilo, Masbate, and Negros Occidental last month, March 2022.

The production of milkfish fry at SEAFDEC/AQD is part of its ongoing activities on milkfish breeding and seed production, which are being done in support of the National Milkfish Fry Sufficiency Program of the Bureau of Fisheries and Aquatic Resources. [a](#)

— JMD ARANAS



FACE-TO-FACE TRAININGS ARE BACK: Aklan LGU staff complete marine fish hatchery course

THREE employees from the Office of the Provincial Agriculturist (OPA) of Aklan completed the 12-day Specialized Training Course on Marine Fish Hatchery Operations at SEAFDEC/AQD's Tigbauan Main Station.

The training, which ran from 14 to 25 March 2022, was the first face-to-face training of SEAFDEC/AQD since the imposition of COVID-19 restrictions in 2020.

The training course included lectures and hands-on activities on the biology, broodstock management, hatchery operations, and nursery culture of marine fishes.

The participants were optimistic that the training equipped them with knowledge and skills to run the Aklan government's marine fish hatchery.

"Even if we have the financial support, the management support, or even the demand for the products produced by the marine fish hatchery, without this capability training, the technical aspects, the objectives of our project will be a failure," said Christian Deza, Aquaculturist II of OPA-Aklan and one of the trainees.

Another trainee, Mark Lester Crisostomo, believes that the training will have a significant impact on their province, serving as a guide and baseline to start hatchery operations.

The 'First'

"I feel so happy knowing that our most requested and awaited training on marine fish hatchery was approved by the center and, at the same time, we were lucky [that] we were the first batch of the hands-on and at the same time face-to-face training of SEAFDEC/AQD," Deza shared.

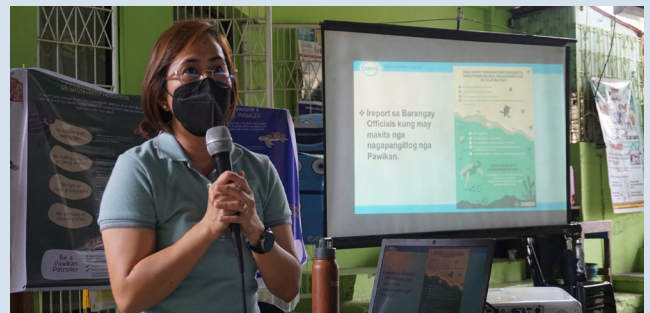
Crisostomo described being a participant in the in-person training as a privilege since all trainings were conducted virtually during the onslaught of COVID-19.

"It feels great also; this is a privilege as the first trainee for this year 2022 after the pandemic," according to Regine Zaballo, who shared that this is her second time attending a training course at SEAFDEC/AQD. [a](#)



The trainees during the natural food culture practical session. Photo by AL Ramos

FishWorld joins awareness campaign on marine turtle protection, conservation



Hananiah Sollesta-Pitogo, officer-in-charge of FishWorld Museum, shares her knowledge on how to handle marine turtles and other basic protocols in the case of stranded, captured, or turned-over turtles. Photo by NG Armada

FISHWORLD Museum participated in a recently held Communication, Education, and Public Awareness campaign on Marine Turtle Protection and Conservation on 10 March 2022 at Barangay Atabayan, Tigbauan in Iloilo.

Hananiah Sollesta-Pitogo, the museum's officer-in-charge, was one of the speakers at the said event which was organized by the Department of Environment and Natural Resources-Community Environment and Natural Resources Office of Guimbal town. She shared her expertise on how to handle marine turtles (locally known as *pawikan*) and other basic protocols in the case of stranded, captured, or turned-over turtles.

"Proper handling of stranded sea turtles and sea turtle nests plays an important role to conserve pawikans since some of the sea turtle species are now considered as endangered or critically endangered," said Pitogo.

In recent years and until now, fisherfolks have frequently rescued marine turtles from the shore of Barangay Atabayan. Frequent sightings of the turtles in the shores of Tigbauan, according to Pitogo, is a testimony that the preservation of marine animals in the country must continue. [a](#)

— NG ARMADA



One of the trainees holds a sea bass broodstock during their broodstock management activity. Photo by AL Ramos



Igang Marine Station reaps bountiful milkfish harvest

AFTER months of rearing milkfish, locally known as *bangus*, in marine cages, staff of SEAFDEC/AQD at the Igang Marine Station (IMS) in Nueva Valencia, Guimaras, reaped a bountiful harvest of the commodity on 24 March 2022.

The harvest is part of the production activities of SEAFDEC/AQD at IMS.

Visitors start to flock FishWorld Museum



THE lively and fun atmosphere is back at SEAFDEC/AQD's FishWorld Museum!

On 23 March 2022, students from Guimbal Amazing Grace Baptist Academy Incorporated flocked to the area, filling the place with joyful smiles and shrieks of delight.

Their eyes sparkled with joy upon seeing various marine creatures on display. Shouts of excitement rippled across the museum as they interacted with marine turtles and fishes. They were awed and astounded by the experience of seeing live aquatic animals and having the opportunity to touch them.

For teacher Lani Gedaya, the trip to FishWorld was a breath of fresh air for kids who cannot go out of their houses due to quarantine restrictions implemented to curb the spread of the coronavirus disease 2019.

She added: "*Na-relieve man ang mga bata. This is the first time nga naka-visit sanda sa FishWorld. [The children were relieved. This is the first time that they visited the FishWorld.] You can see that they are enjoying, and they are happy*"

FishWorld is a museum-aquarium and visitor center dedicated to science and environment education for the public, particularly about marine ecosystems and biodiversity, aquaculture, and fisheries.

It is open from 8 a.m. to 5 p.m. on weekdays. During weekends and holidays, it is open by appointment. [a](#)

— NG ARMADA



aqd matters

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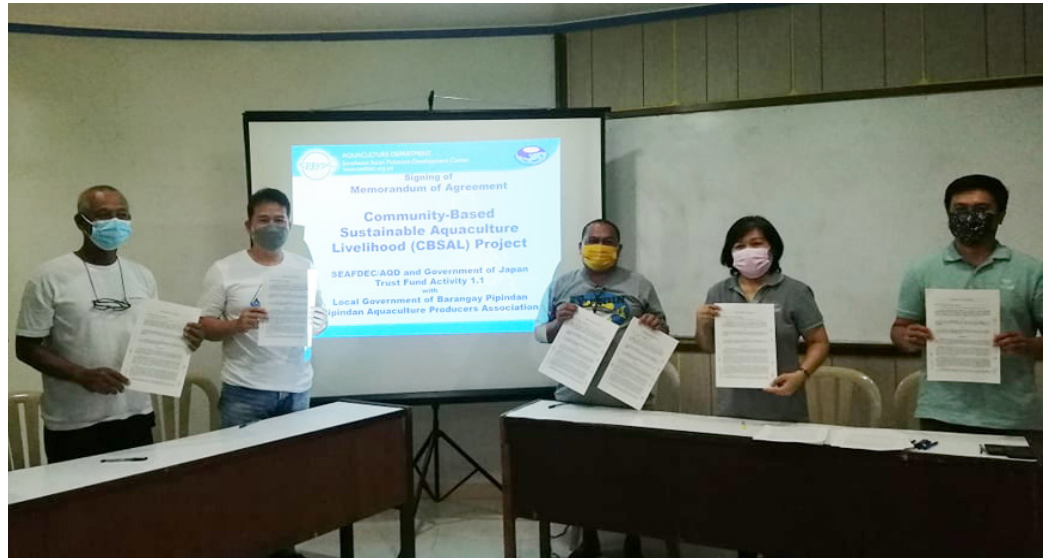
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Tri-party collaborators ink agreement for 'ulang' livelihood project

AIMING to enhance the livelihood of fish farming communities, SEAFDEC/AQD signed a two-year agreement with the Pipindan Aquaculture Producers Association (PAPA) and the local government unit of Brgy. Pipindan in Binangonan, Rizal on 2 March 2022.

The agreement would allow SEAFDEC/AQD to implement the Community-Based Sustainable Aquaculture Livelihood (CBSAL) Project in the said barangay. Under this project, the Department will be sharing its knowledge on hatchery and nursery of giant freshwater prawn, locally known as *ulang*, with local stakeholders through a series of extension and training activities.

This project, funded through the Government



The two-year agreement allows SEAFDEC/AQD to carry out the Community-Based Sustainable Aquaculture Livelihood Project in Brgy. Pipindan in Binangonan, Rizal.

of Japan Trust Fund, also targets the establishment of giant freshwater prawn hatchery infrastructure in

the area which will provide a long-term source of *ulang* seedstock and livelihood opportunities for the

stakeholders even after the conclusion of the project. **a**

— JMD ARANAS

SEAFDEC/AQD joins focus group discussion on milkfish value chain

TO REVIEW the status of the milkfish industry in the Philippines, SEAFDEC/AQD, along with other milkfish industry players, was invited to a focus group discussion organized by the University of the Philippines Los Baños' College of Economics and Management (UPLB-CEM) on 5 April 2022 via an online platform.

Dr. Leobert de la Peña, head of the Research Division, Dr. Edgar Amar, head of the Training and Information Division, and Dr. Roger Edward Mamauag, head of the Technology Verification and Extension Division (attended via Zoom), joined the discussion on SEAFDEC/AQD's behalf.

The dialogue revolved around the strategies and interventions to improve the milkfish value chain in the Philippines.

This is part of the ongoing project implemented by the Department of Agribusiness Management and Entrepreneurship of UPLB-CEM, "Development of Smart Food Value



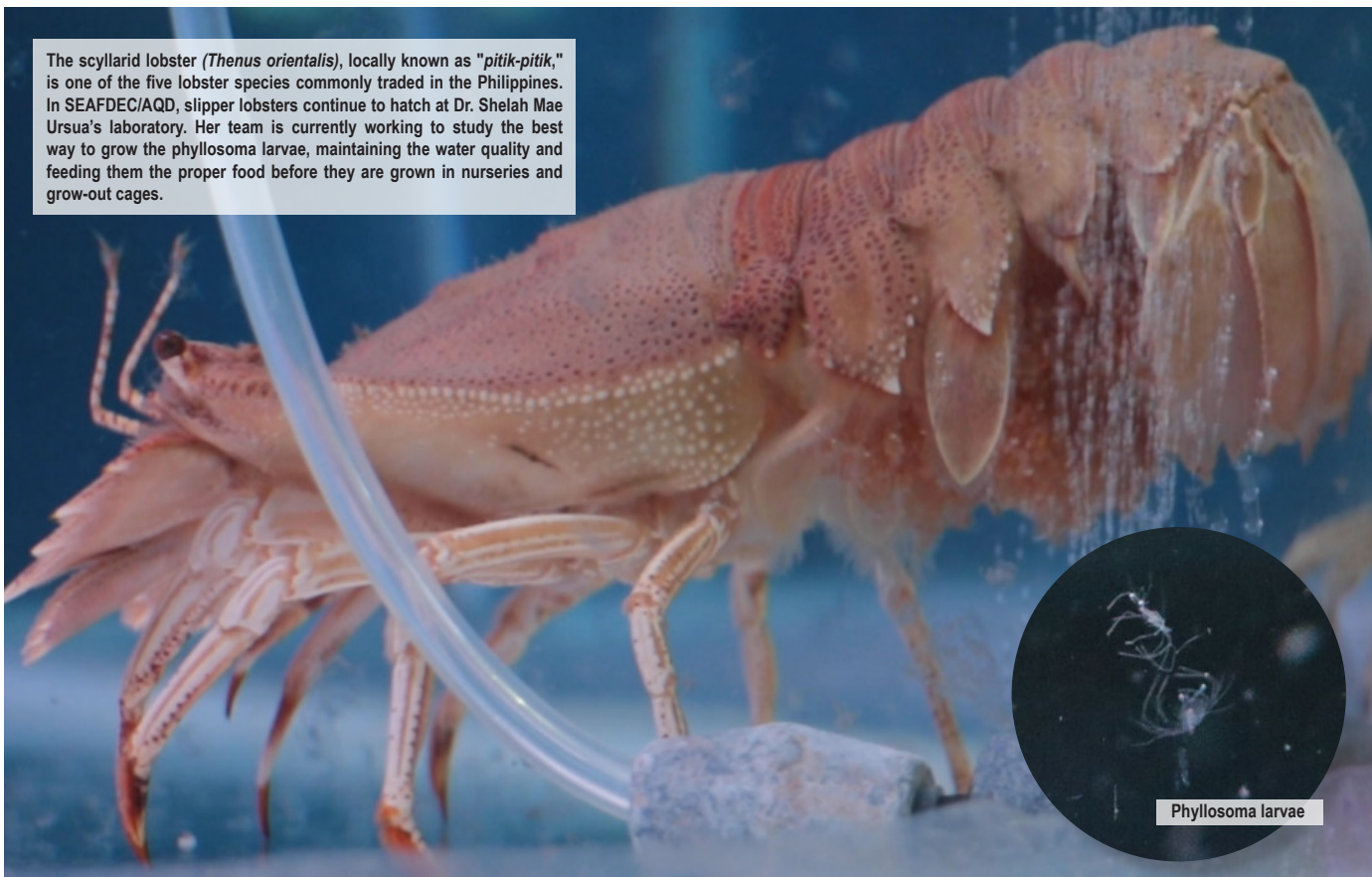
Dr. Leobert de la Peña (left), head of the Research Division, and Dr. Edgar Amar (right), head of the Training and Information Division, attend the online group discussion on the milkfish value chain organized by the University of the Philippines Los Baños' College of Economics and Management. Photo by JMD Aranas

Chain Models for Selected Agricultural Products," funded by the Department of Science and Technology-Philippine Council for Agriculture, Aquatic and

Natural Resources Research and Development (DOST-PCAARRD). **a**

— JMD ARANAS

The scyllarid lobster (*Thenus orientalis*), locally known as "pitik-pitik," is one of the five lobster species commonly traded in the Philippines. In SEAFDEC/AQD, slipper lobsters continue to hatch at Dr. Shelah Mae Ursua's laboratory. Her team is currently working to study the best way to grow the phyllosoma larvae, maintaining the water quality and feeding them the proper food before they are grown in nurseries and grow-out cages.



Phyllosoma larvae

TOWARDS SUSTAINABLE LOBSTER FARMING: Research making headway at SEAFDEC/AQD

Craving for lobster tails but on a budget? Try slipper lobster – it's sweet, tasty, and all tail.

The slipper lobster, locally known as *pitik-pitik*, may not be as famous as their cousins, the spiny lobsters or *banagan*, nor the "true" clawed lobsters of the north Atlantic. They are, however, a fraction of the price at only P500 to P700 per kilogram in the Philippines, compared to P4,000 to P6,000 for a kilogram live catch of spiny lobster. In short, the slipper lobster is a bargain.

Tasting somewhere between a clawed lobster and shrimp, the slipper lobster offers a good value on the seafood menu and sought after as a delicacy. It also holds a good potential for sustainable aquaculture, wherein the lobsters can ideally be farmed without depending on the already-strained marine resources. Beyond that, it has the

greatest potential for sustainable production and is already one of the five lobster species commonly traded in the Philippines.

In Southeast Asia, lobsters are mainly captured in traps or hand-caught by divers who earn a premium for live individuals. A more sustainable option to feed the seafood lovers would be aquaculture, but lobster farms still rely on the wild-caught seed of spiny lobster which are threatened by overfishing and highly regulated.

Breeding and producing domesticated spiny lobsters (*Panulirus* spp.) have been actively pursued for decades, but they grow slowly, and their larval development is complicated. Thus, a full-cycle aquaculture method has not yet been established. This is where the slipper lobster (*Thenus orientalis*) earns the hopes of sea farmers and researchers.

While the spiny lobsters take their time, spending as much as 300 days in larval development, the slipper lobster are reared within 30 days. The spiny lobster has 11 larval development stages, while the slipper lobster only has four.

Seeing the tremendous potential in slipper lobster production, researchers at the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/AQD) have taken on the task of developing aquaculture techniques in the Philippines as one of the prime candidate species, *Thenus orientalis*.

According to Dr. Shelah Mae Ursua, the project leader at SEAFDEC/AQD, they chose to study the slipper lobster not only because of its shorter larval stages but because its larvae are also hardier than those of the spiny lobster.

Also, to its credit, slipper

lobster's culture period from hatching to reaching market size is 14–16 months, trumping the 22–24-month period for the spiny lobster.

First successes

To breed the lobsters, Dr. Ursua arranged in April 2021 for specimens to be transported from Negros Island to SEAFDEC/AQD's experimental facilities in Tigbauan, Iloilo, an eight-hour journey by land and sea.

By September 2021, ovigerous slipper lobster started to hatch. In October of the same year, another milestone was achieved—a slipper lobster fanned out thousands of eggs with its pleopods to facilitate hatching of phyllosoma larvae in full view of video cameras, vividly documenting its hatching behavior.

"With the recent spawning and hatching

of the slipper lobster, we expect to successfully breed the species in the laboratory. Right now, we are in the first stage of completing the life cycle in captivity," said Dr. Leobert de la Peña, the Research Division Head.

"The larval rearing stage is the most challenging phase of its life cycle development. Upon successfully rearing the phyllosoma larvae, the hatchery produced seeds will be used for the experimental run in the grow-out culture of the slipper lobsters," he added.

Future direction

Slipper lobsters continue to hatch at Dr. Ursua's laboratory. Her team is currently working to study the best way to grow the phyllosoma larvae, maintaining the water quality and feeding them the proper food before they are grown in nurseries and grow-out cages.

SEAFDEC/AQD Chief Dan Baliao commended Dr. Ursua's project for the strides they have achieved only two years since the slipper lobster project launched with funding support from the Government of Japan Trust Fund (GOJ-TF). The project is programmed to continue until 2024.

"With the recent spawning and hatching of the slipper lobster, we could already standardize the protocols in the hatchery stage of the slipper lobster," Baliao added.

For Dr. Sayaka Ito, SEAFDEC/AQD Deputy Chief, the research on this commodity is also important to promote the slipper lobster as a new local aquaculture industry and to open more livelihood opportunities.

Gov't officials laud milestone

"With your spontaneous spawning in captivity of the slipper lobster, you have made great strides, and this is something impressive

for us," said Drusila Esther Bayate, Bureau of Fisheries and Aquatic Resources Assistant Director for Research, Regulations, and International Engagement.

Bayate anticipates that as SEAFDEC/AQD further develops the technology, the Philippines will eventually have a steady supply of slipper lobsters.

On the other hand, Rodolfo Vicerra, Department of Agriculture Undersecretary for Attached Agencies, remarked that just as SEAFDEC/AQD helped to raise tiger shrimps for export to Japan in the 1980s, a new industry could

"*If we can one day mass produce seeds of slipper lobsters, we can sustainably replicate that many times over.*"

also be created out of the slipper lobster.

So far, the most successful lobster farming industry is in Viet Nam, where an estimated 1,600 tons of spiny lobsters, worth USD 120 million, were reportedly farmed in 2016.

"Although lobster aquaculture production, which depends on natural seedlings, is unstable, it is a significant livelihood source for some coastal

communities in Indonesia and Vietnam," said Baliao. "If we succeed in mass production of the seedlings, we can sustainably supply those many times over and it will contribute greatly to the stable production of the lobster." **a**

— RD DIANALA & NG ARMADA



Slipper lobster offers a good value on the seafood menu and is sought after as a local seafood delicacy. Its delicate flavor is sweeter than other lobster species. Also, it is one of the best substitutes for the more expensive spiny lobster.

Sea cucumber project piques interest

A POSSIBLE collaboration between SEAFDEC/AQD, the Department of Science and Technology in MIMAROPA Region (DOST-MIMAROPA), and Marinduque State College (MSC) was discussed during a virtual meeting conducted last 10 March 2022.

After learning about SEAFDEC/AQD's work on sea cucumber, representatives from MSC shared their interest in devising a proposal on farming the species with possible funding from DOST-MIMAROPA. Research gaps and potential areas for research were reviewed to jumpstart the development of this future project. **a**

— JMD ARANAS

More milkfish broodstock find home at AQD



A SEAFDEC/AQD employee places sabalo acquired in Lawi, Guimaras, in the new milkfish broodstock tank. Photo by JF Aldon



Aerial view of the milkfish transport operations in the waters of Lawi, Guimaras. Photo by JF Aldon

FIFTY milkfish broodstock were acquired from Lawi, Guimaras, on 5 April 2022, and were brought to SEAFDEC/AQD's new milkfish broodstock tanks in Tigbauan, Iloilo.

SEAFDEC/AQD currently has 736 broodstock, locally known as *sabalo*, including the newly obtained ones.

The research center is stocking up on milkfish breeders in a bid to mitigate the Philippines' reliance on imported

milkfish fry. The new broodstock tanks were built between 2020 and 2021 to help meet the domestic demand for milkfish fry.

SEAFDEC/AQD produced the world's first captive milkfish breeders in 1980. The oldest *sabalo* alive is estimated to be 40 years old and still spawning. [a](#)

— NG ARMADA

FishWorld staff visit, inspect pawikan nesting sites in San Joaquin

SEAFDEC/AQD's Fishworld Museum staff visited and inspected marine turtle (*pawikan*) nesting sites in a marine sanctuary at Barangay Crossing Dapuyan in San Joaquin, Iloilo.

This comes after some marine turtle hatchlings were recently spotted and released into the sea.

According to marine sanctuary patrol Felix Espiritu on 17 March 2022, the hatchlings were Olive ridley turtles.

In March this year, 67 marine turtle hatchlings were recorded, with four nests monitored out of six.

Furthermore, 13 hatchlings were logged in January. The same figure was recorded in the month of February. [a](#)



Hananiah Sollesta-Pitogo, FishWorld Museum officer-in-charge, interviews marine sanctuary patrol Felix Espiritu to confirm the species of newly hatched marine turtles spotted recently. Photo by JF Aldon

— NG ARMADA

More aquaculture facilities underway



Aerial view of the ongoing construction of the new shrimp broodstock facilities in SEAFDEC/AQD. Photo by JF Aldon

CONSTRUCTION of new shrimp broodstock facilities with adjacent and extended space for larval rearing at SEAFDEC/AQD's Tigbauan Main Station are currently ongoing to support the research and development efforts on pathogen-free tiger shrimp (*Penaeus monodon*) and Pacific whiteleg shrimp (*Litopenaeus vannamei*).

The proposed enclosed and roofed facilities, making use of four units of 100-ton capacity round circular concrete tanks for shrimp broodstock and 36 units of 12-ton capacity round con-

crete larval rearing tanks, will make room for hosting additional shrimp breeders in the hope of ramping up production of disease-free postlarvae.

Upon completion, these facilities will help strengthen and sustain the "Oplan Balik Sugpo" program implemented by SEAFDEC/AQD in partnership with the Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR) and National Fisheries Research and Development Institute (DA-NFRDI). **a**

— JMD ARANAS

SEAFDEC/AQD, BFAR-6 meet to discuss updates on proposed project collab



Wilfredo Delos Santos, chief of Fisheries Production and Support Services Division of BFAR-6, reports on the status of the proposed multi-species hatcheries in Western Visayas to SEAFDEC/AQD's Chief Dan Baliao and Training and Information Division Head Dr. Edgar Amar. Photo by NG Armada

SEAFDEC/AQD welcomed the Bureau of Fisheries and Aquatic Resources- Western Visayas (BFAR-6) team to its Tigbauan Main Station on 19 April 2022 to discuss updates on the proposed establishment of multi-species marine hatchery in Antique.

The two institutions discussed their memorandum of understanding on feasibility study preparation.

Wilfredo delos Santos,

chief of Fisheries Production and Support Services Division (FPSSD) of BFAR-6, reported on the status of the proposed multi-species hatcheries in Western Visayas and requirements for preparation and submission of feasibility study reports.

The SEAFDEC-BFAR feasibility study team presented the preliminary results of their market study for a legislated hatchery in

Tibiao, Antique. The team had previously assessed the proposed Multi-species Marine Fish Hatchery at Brgy. San Isidro in the town.

BFAR was informed of the significant considerations that the institution must address for the project to be profitable and sustainable. In addition, the team made several recommendations on which BFAR agreed while working with the

Tibiao town government.

Furthermore, delos Santos explained the BFAR and local government unit's plans and programs related to the proposed hatchery.

The meeting was attended by SEAFDEC/AQD Chief Dan Baliao; Training and Information Division Head Dr. Edgar Amar; Technology Verification and Extension Division Head Dr. Roger Edward Mamauag; Research Division Head Dr. Leobert dela Peña; and members of the SEAFDEC-BFAR feasibility study team.

BFAR, on the other hand, was represented by delos Santos; Jessica Esmao, training superintendent, Regional Fisheries Training and Fisherfolk Coordination Division; Joel Abalayan, officer-in-charge of Planning, Monitoring, and Evaluation Section; Riza Chua, staff of FPSSD; and Richard Cordero, officer-in-charge of Provincial Fisheries Office-Antique. **a**

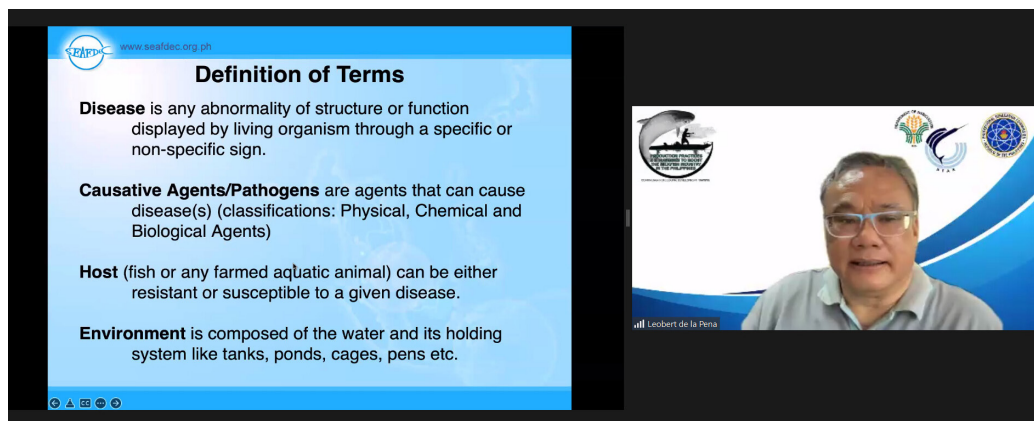
— NG ARMADA



Snubnose pompano were harvested from the floating cages of SEAFDEC/AQD's Igang Marine Station in Nueva Valencia, Guimaras on 22 April 2022. The production run was a part of the research center's technology verification and demonstration activities on the high-value commercial food fish.



Scientist lectures on diseases in marine finfish aquaculture



Dr. Leobert de la Peña, scientist and head of the Research Division at SEAFDEC/AQD, lectures about "Diseases in Marine Finfish Farming in the Philippines" during the third day of the training entitled "Continuing Professional Development (CPD) Training on the Production Practices and Strategies to Boost the Milkfish Industry in the Philippines." *Photo by JL Castellano*

DR. LEOBERT DE LA PEÑA, scientist and head of the Research Division at SEAFDEC/AQD, spoke to fisheries professionals about "Diseases in Marine Finfish Farming in the Philippines" in a training organized by the Bureau of Fisheries and Aquatic Resources-National Fisheries Development Center (BFAR-NFDC).

His lecture was delivered on the third day of the training entitled "Continuing Professional Development (CPD) Training on the Production Practices and Strategies to Boost the Milkfish Industry in the Philippines," which ran from 25 to 29 April 2022 via the Zoom platform.

The five-day virtual event gathered fisheries profession-

als from all over the Philippines. It aimed to improve their knowledge about the operation, management, and production practices of a milkfish hatchery; understand the different commercial grow-out practices for milkfish in earthen ponds and sea cages in the Philippines; develop awareness on how to mitigate problems related to feeds and feeding management; and update information about the local and export markets of milkfish. **a**

— NG ARMADA



172 personnel sign up for Pag-IBIG Loyalty Card Plus

A THREE-DAY onsite data enrollment for the Pag-IBIG Loyalty Card Plus took place on 3, 4, and 9 March 2022, at the SEAFDEC/AQD multi-purpose hall in Tigbauan, Iloilo.

The first day had 60 attendance, the second day had 62, and the third day had 50. This department has 172 registrants in total.

The Pag-IBIG Loyalty Card Plus is a three-in-one card that can be used as a transaction card, a discount promo card, and

an automated teller machine card.

Also, borrowers can use the Loyalty Card Plus to receive the proceeds of their multi-purpose loans, MP2 dividends, and other benefits. [a](#)

— NG ARMADA

Employees, dependents register for national ID



SIXTY-FOUR national ID registrants from SEAFDEC/AQD registered for the Philippine Identification System (PhilSys) on 11 March 2022 at the Tigbauan Main Station.

The onsite data collection event – held at this Department’s multi-purpose hall – was open to all AQD workers, contractors, personnel, and dependents.

The PhilSys team welcomed applications for national ID from citizens aged five and up.

Republic Act 11055, or the Philippine Identification System Act, was signed into law by President Rodrigo Duterte in August 2018. It establishes a single national ID for all Filipinos and resident aliens.

The national ID card shall be a valid proof of identity that can be used to simplify public and private transactions, school enrollment, and bank account opening. [a](#)



— NG ARMADA

SEAFDEC/AQD's opinion sought on proposed Iloilo River's 'closed season'

THE ILOILO City Agriculturist Office requested SEAFDEC/AQD to provide expert opinions on the proposed 'closed season' on the Iloilo River during a meeting on 6 April 2022.

The city government team led by Inigo Garingalao, officer-in-charge of the Iloilo City Agriculturist Office, intends to amend the existing ordinance to include closed/off season to regulate the fishing activities and conserve the fish population in the river. One of the target species is sea bass (*Lates calcarifer*) or *bulgan*.

This after several adult sea bass were caught from the river, a report from the city agriculturist office said. It added that



Erish Estante-Superio (rightmost), a SEAFDEC/AQD researcher, attends the meeting for the proposed 'closed season' on the Iloilo River on April 6, 2022, at the Iloilo City Hall. Photo by NJ Diaz

anglers typically catch *bulgan* from September to January.

SEAFDEC/AQD researcher Erish Estante-Superio stated that the spawning season of this carnivorous fish as observed in the SEAFDEC/AQD hatchery is from April to October. Moreover, based on this research center's published manual, two to eight kilograms of *bulgan* spawners may be collected from the mouth of the river from June to October.

However, the closed season needs to be backed by science. As of now, the Bu-

reau of Fisheries and Aquatic Resources has conducted a rapid assessment but further assessments in accordance with the National Stock Assessment Program (NSAP) will be conducted to come up with data to declare for a closed season.

The Philippine Fisheries Code of the Republic Act 10654 defines closed season as a period in which the taking of specified fishery species by specified fishing gear is prohibited in a specified area or areas in Philippine waters. [a](#)

— NG ARMADA

Newly-hired Employees

January-March 2022



NYRA G. ARMADA
Information Assistant

Development Communications Section
Training and Information Division



AIMEE LOU P. RAMOS
Information Assistant
Training Section

Training and Information Division



WENCY C. ZARRIZ
Research Technician

Milkfish Satellite Hatchery
Office of the Head, Technology
Verification and Extension Division

RESEARCH SEMINAR

Interactive influence of dietary protein and lipid on maturation and offspring quality of Indian white prawn, *Penaeus indicus* broodstock

Sheryll S. Santander-Avanceña
Technology Verification Section, Technology
Verification and Extension Division

Dr. Sheryll Santander-Avanceña, a SEAFDEC/AQD scientist, gives a short lecture on the webinar last 29 April 2022, entitled "Interactive Influence of Dietary Protein and Lipid on Maturation and

Offspring Quality of Indian White Prawn (*Penaeus indicus*) Broodstock." Her research seeks to identify the protein and lipid levels that will promote the best reproductive performance in *P. indicus*.



SAVING SPECIES IN DECLINE

Eel research up at SEAFDEC/AQD

EEL juveniles collected from Calaca town in Batangas found a new home at SEAFDEC/AQD's Multi-species Freshwater Hatchery in Iloilo last 25 April 2022.

The *Anguilla bicolor pacifica* eels, weighing 250 grams each, will be studied at the hatchery, where specialists will track their growth, feeding behavior, and reproductive performance.

The research center aims to develop hatchery techniques for *anguillid* eels to address their dwindling population in the wild. Their potential for aquaculture will also be investigated.

Last 8 Feb. 2022, a different batch of *Monopterus albus* eel juveniles arrived from Concepcion, Iloilo and were stocked in the same hatchery where they are now being studied.

This project on eels is part of the Joint Mission for Accelerated Nationwide Technology Transfer Program (JMANNTTP), a collaborative project between SEAFDEC/AQD and Bureau of Fisheries and Aquatic Resources (BFAR). **a**



The *Anguilla bicolor pacifica* eel from Calaca town in Batangas. Photo by JF Aldon



The *Anguilla bicolor pacifica* eels will be studied at SEAFDEC/AQD hatchery, where specialists will track their growth, feeding behavior, and reproductive performance. Their potential for aquaculture will also be investigated. Photo by JF Aldon

— NG ARMADA



SEAFDEC/AQD regularly holds health-related seminars to educate employees on important factors affecting their well-being. This Department recently invited Dr. Peter Bryan Dela Cruz (black) to speak with employees about the risks of misusing and overusing antibiotics. Photo by JMD Aranas

Risks of misuse, overuse of antibiotics shared with SEAFDEC/AQD staff

PETER Bryan Dela Cruz, a medical doctor, was invited to share his knowledge on the risks of misusing and overusing antibiotics with SEAFDEC/AQD staff on 25 Mar. 2022 via an online platform.

According to Dela Cruz, taking antibiotics when it is not needed or in the incorrect dosages may cause antibiotic resistance, meaning any current treatment for the resistant bacteria in the body will no longer work. He explained that once bacteria develop resistance, the disease that they cause will become untreatable. Infections with other bacteria that do not develop resistance are still treatable.

Health-related seminars, such as this one, help raise the awareness of employees on important elements that impact their wellbeing. This was organized by the SEAFDEC/AQD Seminar Committee in coordination with the Human Resource Management Section. **a**

— JMD ARANAS

MSU Naawan officers tour SEAFDEC/AQD facilities

OFFICERS of the Mindanao State University at Naawan (MSU Naawan) visited SEAFDEC/AQD in Tigbauan, Iloilo last 5 April 2022 as they sought to be familiar with the facilities of the research center that shares their thrust of promoting food security and sustainable development.

Dr. Elnor Roa, the chancellor of MSU Naawan, together with Dr. Ruby Gonzales, the university's director for research, and Dr. Dan Arriescado, the dean of the School of Marine and Fisheries Technology, visited the mangrove crab hatchery, oyster hatchery, milkfish broodstock facilities, and feed mill. The tour was personally led by SEAFDEC/AQD Chief Dan Baliao.

Before the tour, Baliao met with the officers for a talk on possible partnerships in research, information



MSU Naawan officials visited SEAFDEC/AQD to become familiar with the research center's facilities. Photo shows associate researcher Marinelle Espino answering queries about the oyster hatchery's activities. Photo by JMD Aranas

sharing, and training.

Prof. Encarnacion Emilia Yap, dean of the College of

Fisheries and Ocean Sciences of UP Visayas, accompanied the MSU Naawan officers

during their visit. [a](#)

— JMD ARANAS

Villaluz, Miravite markers visited

DR. ELNOR ROA, chancellor of the Mindanao State University at Naawan (MSU Naawan), together with some officers and staff, visited the commemorative markers dedicated to two MSU icons on 5 April 2022 at SEAFDEC/AQD's Tigbauan Main Station.

Dean Domiciano Villaluz

and Dr. Quiterio Miravite are important figures in the establishment of SEAFDEC/AQD, as the research center's first Chief and first director for general affairs (currently termed Administration and Finance Division Head), respectively.

Villaluz and Miravite are both former officers at

the MSU Main Campus in Marawi and both have spent time in MSU Naawan conducting pioneering research work on aquaculture commodities, particularly giant tiger shrimp.

The markers were unveiled during SEAFDEC/AQD's 45th founding anniversary in 2018.

Prof. Encarnacion Emilia Yap, dean of the College of Fisheries and Ocean Sciences at the University of the Philippines Visayas, was also present during the visit. [a](#)

— JMD ARANAS



The Villaluz marker, dedicated to Dean Domiciano K. Villaluz of Mindanao State University's College of Fisheries, was one of the memorial markers visited. It was unveiled on 13 July 2018, during AQD's 45th anniversary. Photo by JMD Aranas