

SEAFDEC/AQD's research on round scad (*galunggong*) domestication has made significant progress. Round scad collected in Antique last year began spawning and their offspring have grown to 48-day old fingerlings pictured here last 23 Feb. 2022. Photo by JF Aldon



aqd matters

January-February 2022

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

Matters inside

- Iloilo City gov't seeks assistance from SEAFDEC/AQD 2
- Oyster spats deployed to ponds for rearing 3
- Japan-funded programs reviewed 4
- Cost-efficient feeds reap rich pompano harvest 5
- Let's talk about mouthbrooding 6
- Employees, dependents get booster shots vs COVID-19 7

Research breakthrough seen to curb shortage of 'poor man's fish'

A SCIENTIFIC breakthrough at a research center in the Philippines might finally be the long-term solution to the perennial shortage of round scad (*Decapterus* spp.), known as the "poor man's fish" in the country.

In a world's first, researchers successfully spawned the round scad *Decapterus macrosoma* in captivity at SEAFDEC/AQD in Tigbauan, Iloilo, marking a critical milestone towards farming the fish, locally known as *galunggong*.

Round scad is considered a staple fish in the Philippines with over 202,000 metric tons harvested by commercial and municipal fisheries in 2020 according to government statistics. However, the haul could not keep up with market demand leading to increasing prices, now reaching \$5 to \$6 a kilo, and controversial moves to import the



Some of the world's first captive round scad fry at the Marine Fish Hatchery pictured here at day-35 last 31 Jan. 2022. Photo by JF Aldon

fish amid closed fishing seasons.

"Our breeders have been spawning continuously since December last year until this February, and we now have thousands of *galunggong* in different larval to early juvenile stages at our hatchery which we hope to further grow to market sizes to prove that we can farm *galunggong*," revealed

SEAFDEC/AQD Chief Dan Baliao in an interview last 28 Feb. 2022.

Researcher Ma. Irene Cabanilla-Legaspi said they started collecting wild breeders off southern Iloilo and Antique in 2020 as part of a Government of Japan-funded project at SEAFDEC/AQD, the same research center responsible

Continued on next page...



www.seafdec.org.ph

Continued from previous page...

for groundbreaking studies on breeding milkfish in the 70s and 80s.

After collecting round scad breeders onboard commercial fishing vessels and through fish traps, Cabanilla-Legaspi's team transported them to SEAFDEC/AQD's headquarters in Tigbauan and stocked them in fish tanks to prepare them for spawning.

It was the breeders they caught in August and October 2021 that began laying eggs in December 2021, and continued to produce good eggs through February 2022. Though still in an early experimental stage, they already have fingerlings in the hatchery that are more than 50 days old.

'Very fast' growth

"We observed that the fish were growing very fast. When they reach 20 days old, they have a very fast growth and we can obtain 2.5-centimeter round scad in 25 days," Cabanilla-Legaspi said.

Although trials in the hatchery are still few, SEAFDEC/AQD scientist Dr. Leobert de la Peña noted that the round scad fry also have "very high survival" compared to other marine fish being grown at SEAFDEC/AQD, reaching as much as 20% survival 25 days after they hatch.

By comparison, pompano and milkfish hatcheries, which are backed by decades of research, can have survival rates of up to 27% and 50%, respectively.

Meanwhile, the SEAFDEC/AQD team will continue to collect broodstock from the wild for more experimental runs that will also cover studying the fish's larval development, reproductive development, feeding habits, and the formulation of hatchery, nursery, and grow-out procedures.

"We hope our attempts to grow *galunggong* will proceed quickly. We are excited to roll out the technology and promote the culture of *galunggong* so prices may become more affordable as farms can surely augment the catch from the wild," Baliao added.

SEAFDEC/AQD Deputy Chief Dr. Sayaka Ito also noted that round scad is a potential export product for the Philippines as it is now being

Iloilo City gov't seeks assistance from SEAFDEC/AQD



Officials and technical staff from the Iloilo City government strike a pose with SEAFDEC/AQD Chief Dan Baliao (second from right) during their visit to the department's hatchery on 23 Feb. 2022. Photo by JF Aldon

OFFICIALS from the Iloilo City government recently reached out to SEAFDEC/AQD for technical assistance in their bid to improve the fisheries in Iloilo's capital city.

On 23 Feb. 2022, city officials and technical staff visited SEAFDEC/AQD's Tigbauan station to discuss this collaboration.

The talk mainly focused on a possible partnership in the establishment of a hatchery for high-value fishes and the development of resource enhancement protocols suitable for the Iloilo River,

imported by Japan as *otsumami*, a kind of snack or finger food.

The research on round scad is under an umbrella program at SEAFDEC/AQD that aims to develop aquaculture technologies on new aquatic species that also includes kawakawa (mackerel tuna) and flathead lobster. The main goal of the research program is to close the life cycle of these species in captivity and to develop production techniques for hatchery, nursery, and grow-out. /RD DIANALA

among other things.

Dan Baliao, Chief of SEAFDEC/AQD, spearheaded the discussion with Iñigo Garingalao, officer-in-charge of the Iloilo City Agriculturist Office, and Charlie Hofileña, executive assistant to Iloilo City mayor Jerry Treñas. Renato Madrilejo and Barnard Rendaje, two fisheries technicians, accompanied them.

Baliao then led the visitors on a tour of the department's facilities, demonstrating and explaining which systems would be appropriate for Iloilo City's urban coastal estuary setting. /JMD ARANAS



Chief Baliao of SEAFDEC/AQD (left) tours the officials and technical staff of the Iloilo City government around the department's facilities during their visit to discuss collaboration on a possible partnership in the establishment of a hatchery for the high-value fishes and the development of resource enhancement protocols suitable for the Iloilo River. Photo by JF Aldon

Oyster spats deployed to ponds for rearing

FOLLOWING the successful production of oyster (*Magallana bilineata*) spats (larvae) in the hatchery, the SEAFDEC/AQD oyster research team moved forward with their rearing experiments to demonstrate the feasibility of growing oysters with other fish species in a fish pond system.

Thousands of single and cluster oyster spats collected from the hatchery were stocked in ponds with milkfish juveniles at the research center's Dumangas Brackishwater Station in Iloilo last 28 Feb. 2022.

When asked why these spats are raised among fish species, Marinelle Espino, associate researcher at TVED, said: "Oysters are bioremediators such that they will be capable of utilizing excess minerals and nutrients from the feed fed to fishes."

The single oysters were stocked using oyster bags made of mesh material suspended from floaters to keep the spats closer to the surface, where most of their natural food is concentrated.

On the other hand, cluster oysters were hung from longlines with buoys.



Employees stock oyster spats collected from SEAFDEC/AQD's hatchery. They were stocked in ponds with milkfish juveniles at the research center's Dumangas Brackishwater Station in Iloilo last 28 Feb. 2022. Photo by JF Aldon

The oysters will be monitored and observed until they reach marketable size.

Espino believes "they will be able to culture oysters, particularly single oysters, in a fish pond system alongside

other fish species."

"Since oysters help clean the rearing water, they can also provide extra income to fishpond operators," she added. //JMD ARANAS & NG ARMADA



Workers hang cluster oysters from longlines with buoys. The oysters will be monitored and observed until they reach marketable size. Photo by JF Aldon

Japan-funded programs reviewed



The evaluators during the GOJ Annual Progress Meeting on 18 Feb. 2022 were composed of: (From left to right) Dr. Leobert de la Peña, head of the Research Division; Dan Baliao, SEAFDEC/AQD Chief; Dr. Sayaka Ito, Deputy Chief; and Dr. Edgar Amar, head of the Training and Information Division. Photo by JF Aldon

FOR the past two decades, SEAFDEC/AQD has been able to conduct research studies geared towards safe, sustainable, and responsible aquaculture thanks to a trust fund provided by the Government of Japan (GOJ).

In line with this, the GOJ Annual Progress Meeting was held on 18 February 2022 via Zoom online platform to review the progress and achievements of eight research studies and a training program conducted in 2021.

Researchers and training coordinators presented ongoing Japan-funded programs – including studies on developing aquaculture reproduction techniques, disease management strategies, and a training course on capacity enhancement for aquaculture experts in information sharing – to a panel of reviewers.

Dr. Takafumi Ito, director of the Japan Fisheries and Research

and Education Agency's Pathology Division, and the SEAFDEC/AQD Executive Committee, which included Dan Baliao, Chief, Dr. Sayaka Ito, Deputy Chief and co-manager of the GOJ Trust Fund, Dr. Leobert de la Peña, head of the Research Division, and Dr. Edgar Amar, head of the Training and Information Division, were among the evaluators. **JMD ARANAS**

SEAFDEC Secretariat conducts virtual information workshop



SEAFDEC Deputy Secretary-General, senior officials, and information-related personnel from the SEAFDEC Secretariat and departments attend the Inter-Departmental Information Workshop on 15 Feb. 2022 via Zoom platform.

THE SEAFDEC Secretariat organized an Inter-Departmental Information Workshop on 15 Feb. 2022 via Zoom platform to discuss and explore strategies and means to improve information distribution.

The workshop's 24 participants included the SEAFDEC Deputy Secretary-General, senior officials, and information-related personnel from the SEAFDEC Secretariat and departments.

Attendees at the event shared their thoughts and suggestions on the development of electronic news alerts, updating

the SEAFDEC institutional video, improving the quality and sustaining the publication “Fish for the People,” and other information-related matters such as the progress of hosting SEAFDEC Institutional Repositories and the possibility of moving SEAFDEC publications to ePUB format.

The outcomes of this workshop will be presented at the 23rd Meeting of the SEAFDEC Information Staff Program and Department Chiefs Meeting in 2022 for review and final comments. **JMD ARANAS**

Cost-efficient feeds reap rich pompano harvest



Employees of SEAFDEC/AQD harvest pompano fish from the floating cages of Igang Marine Station on 17 Feb. 2022. The harvest is the result of ongoing research demonstrating the efficacy of cost-efficient pompano feeds. Photo by JF Aldon

A BATCH of pompano was harvested from the floating cages of Igang Marine Station last 17 Feb. 2022.

The harvest is a product of ongoing research demonstrating the effectiveness of the cost-efficient pompano feeds formulated by SEAFDEC/AQD.

The cost-efficient diets were formulated in 2018 to address the increasing cost of aquafeed prices which affects the profitability of fish farms.

Through a series of field testings, the formulations were found effective for growing milkfish and



tilapia in sea cages and ponds in different parts of the Philippines. /JMD ARANAS

TRIVIA



Let's talk about mouthbrooding!

IN MANY animals, mothers tend to be overprotective when it comes to their offspring. Some build nests while others

lay eggs in rocks and caves. However, some fishes like tilapia do it differently. It is called mouthbrooding, a breeding strategy in which the female takes the fertilized eggs into her mouth for incubation. Once hatched, the yolk-sac fry stays in the female tilapia's mouth for a few more days before allowing them to swim out of her mouth, just in time for them to be independent.

Moreover, if the tilapia fry finds itself in a threatening situation against bigger tilapias, the fry can swim back inside the mother's mouth for shelter. Hats off to the mother tilapia! [a](#)



Seahorses are #RelationshipGoals!

SEAHORSES remain faithful to one partner their whole lives. Unlike many other animals, they court and stick to just one mate because they are monogamous.

Arguably, seahorses are one of the most romantic aquatic species out there.

For example, they never miss going out on dates.

A seahorse couple makes sure to meet every day to dance together, and they even hold tails. Now, isn't that gush-worthy? [a](#)



Catfish fry available at TMS

AFRICAN catfish (*Clarias gariepinus*) fry have started wiggling at SEAFDEC/AQD's new multi-species freshwater hatchery in its Tigbauan Main Station, Iloilo. Last 7 Jan. 2022, a batch of catfish was delivered to a first buyer from San Joaquin, Iloilo. **a**



aqd matters

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

Issue editor:
NG Armada

Contributing writer-photographers:
JF Aldon, RD Dianala, JM de la Cruz, RH Ledesma

Editorial consultants:
RD Dianala

Publications Review Committee:
Dr. LD de la Peña, Dr. JP Altamirano,
Dr. EC Amar, Dr. RE Mamauag, Dr. ND Salayo,

Circulation to friends of AQD:
DL Superio

For contributions and inquiries,
kindly email:
devcom@seafdec.org.ph

Got feedback? Help us improve our newsletter by filling this survey.

[Click here for the aqd matters Feedback Form](#)

SEAFDEC/AQD gets galunggong, kawakawa samples from Antique

SEAFDEC/AQD once again collected samples of kawakawa and galunggong from the waters of Antique.

Last 26 and 28 Jan. 2022, live kawakawa (mackerel tuna/tulingan) were collected from the wild in Barbaza, Antique, and transported to SEAFDEC/AQD's Tigbauan Main Station for stocking.

The goal of this initiative – financed by the Government of Japan (GOJ) – is to make tuna farming a reality in the Philippines.

The juveniles will be maintained and taken care of until they reach maturity and are ready to reproduce.

This is a step toward spawning the kawakawa in captivity, completing its life cycle, and establishing rearing technologies.

The tuna were collected with assistance from the Barbaza Multipurpose Cooperative.

On the other hand, the department's study on round scad (*galunggong*) culture has made significant progress.

Tibiao, Antique, yielded yet another batch of live shortfin scad.

This new batch of live *galunggong* will be used to replicate the techniques used in the two prior trials conducted in 2021 by the SEAFDEC/AQD research team.

The newly-established collection and transportation protocols of live samples from the wild resulted in zero mortalities.

In addition, the animals stocked at the SEAFDEC/AQD Big Hatchery are currently adapting well in captivity as a result of optimizing the environmental condition in the tanks.

This is a big leap in the pursuit of sustainably producing this Filipino staple fish through aquaculture.

The kawakawa and *galunggong* research is under an umbrella program at SEAFDEC/AQD that intends to create aquaculture technologies for new aquatic species that also includes flathead lobster. The primary purpose of the research program is to complete the life cycle of these species in captivity and establish hatchery, nursery, and grow-out production techniques. **JMD ARANAS**

Employees, dependents get booster shots vs COVID-19

OVER 50 personnel and dependents of SEAFDEC/AQD in Tigbauan town received booster shots against coronavirus disease 2019 (COVID-19).

The vaccination drive, which aimed to provide total protection against the deadly virus to all employees and their families, took place on 9 Feb. 2022 in the multi-purpose hall.



Furthermore, SEAFDEC/AQD commended the Tigbauan Rural Health Unit's help during the inoculation rollout.

The Philippines' health department has recommended booster shots after at least three months after the second dose as an additional layer of protection against coronavirus.

Meanwhile, data from the department's health clinic showed that as of March, a total of 278 out of 283 employees in the four stations of SEAFDEC were fully vaccinated. /JMD ARANAS & NG ARMADA



Milkfish fry deliveries on a roll



IN PHOTOS



THREE batches of milkfish fry were delivered to different parts of Iloilo, including Iloilo City, Leganes, and Dumangas, last 8, 9, and 15 Jan. 2022. The aquaculture seedstocks produced at SEAFDEC/AQD's Tigbauan Main Station were from the production runs conducted to verify the technologies developed by its scientists and researchers. [a](#)

SEAFDEC/AQD eyes developing hatchery techniques for eels



SEAFDEC/AQD is now exploring the aquaculture potential of eels, as the population of anguillid eels, in particular, is slowly dwindling. Photos show juvenile eels collected in Concepcion, Iloilo. Photos by JF Aldon

EEL juveniles were collected from Concepcion, Iloilo and transported to SEAFDEC/AQD's Tigbauan Main Station last 8 Feb. 2022.

The eels will be studied at the Department's multi-species freshwater hatchery where specialists will note their growth, feeding behavior, and eventually

reproductive performance. The plan is to develop hatchery techniques for the eel.

The population of eels, specifically anguillid eels, is slowly deteriorating due to commercial exploitation and international trade. This moved the research team at SEAFDEC/AQD to explore the aquaculture potential of the fish.

In addition, plans are underway to collect anguillid eels.

This project is part of the Joint Mission for Accelerated Nationwide Technology Transfer Program (JMANTTP), a collaborative project between SEAFDEC/AQD and the Bureau of Fisheries and Aquatic Resources./JMD ARANAS



Eel juveniles are currently being studied at SEAFDEC/AQD's multi-species freshwater hatchery, where specialists track their growth, feeding habits, and reproductive success. Photos by JF Aldon