

# AQUA Dept NEWS

Internal Newsletter of the SEAFDEC Aquaculture Department

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## A first report of *Vibrio harveyi* infection in seabass



*Vibrio harveyi* is the suggested causative agent of exophthalmia (abnormal protrusion of the eyes) and mortality observed in seabass.

This was the finding of AQD researcher Eleonor Tendencia in a

### Co-Project Manager for AQD

AQD Chief Dr. Rolando Platon was appointed Co-Project Manager for the Mangrove-Friendly Shrimp Culture Project by the SEAFDEC Secretariat.

In a letter dated August 16, SEAFDEC Secretary-General Panu Tavarutmaneegul affirmed Platon's appointment succeeding Susumu Ito.

Dr. Yasuo Inui was also appointed as Co-Project Manager for the Fish Disease Project.

study titled "*Vibrio harveyi* isolated from cage-cultured seabass *Lates calcarifer* Bloch in the Philippines." This was also the first report of *Vibrio harveyi* infection of seabass in the Philippines.

Seabass is a highly priced food fish in Asia. Its marine fishcage production in the Philippines was valued at 19.6 million pesos in 1996 and increased to 235.6 million pesos in 2000. The rapid expansion in its culture has resulted to several problems including infectious diseases.

At the Igang Marine Station of AQD, the eyes of cage-cultured seabass protruded and became opaque approximately 3-5 days after a heavy rainfall. Swimming behaviour became erratic, and some fish developed superficial haemorrhagic lesions three days after the eyes protruded. The entire stock was affected which resulted

to 2-3% daily mortality.

Rainfall can erode soil particles that are rich in microorganisms, thus producing suboptimal water quality caused by high levels of suspended solids. Rainfall also causes stratification in the natural water around the cages, which stresses the fish and creates an environment suitable for infection of the cultured seabass by *V. harveyi*. This bacterium is widely distributed in the marine environment, part of the microflora of fish, and is an opportunistic pathogen that infects fish when they are stressed. Some strains appear to be highly infectious primary pathogens.

Vibriosis in fish is usually accompanied by some stress or physical trauma. The first signs of vibriosis are usually anorexia and darkening of the whole fish. The disease usually occurs in the

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### AQD Chief in Bangkok

Dr. Rolando Platon was in Bangkok, Thailand to attend the Seminar-Workshop on Integrated Regional Aquaculture Program (The Aquaculture Component of the ASEAN-SEAFDEC Special Five-Year Program) on September 17-20.

The seminar-workshop was a follow-up to the National Coordinators Meeting held in Bangkok in June

2002. The Aquaculture Component of the Special Five-Year Program is composed of two projects: (1) Aquaculture for Rural Development and (2) Supply of Good Quality Seeds.

Platon was joined by AQD division heads Clarissa Marte, Fred Yap, and Pastor Torres and several senior staff members.

# AQD – Meralco tie-up

Meralco Foundation Incorporated (MFI) is the latest partner of AQD.

Both party recently signed a Memorandum of Agreement (MOA) stipulating that AQD will operate the freshwater fish hatchery of MFI in Jalajala, Rizal and use their farm school for practical freshwater aquaculture courses of farmers and entrepreneurs. AQD shall also take control of the over 60-hectare MFI property for a period of 25 years and renewable thereafter, lease-free.

The station will serve as venue for courses offered by AQD on community-based aquatic resource management for local government units (LGUs) of lake and riverine communities. This is in support to the priority program of the Bureau of Fisheries and Aquatic Resources (BFAR) on Aquaculture for Rural Development to boost fisheries production and alleviate poverty.

MFI was established in 1973 as a non-stock and non-profit foundation. Its mission was to develop the social and economic status of the Filipino people through education and training with emphasis on values internalization, development and application of appropriate technologies, and the formation of sustainable enterprises.

The MFI property consists of a training center complex with administrative offices, two lecture rooms (good for 20 students), two laboratory rooms, a dormitory for up to 60 persons, kitchen and mess hall, two staff/guest houses, and a chapel. It has also a tilapia hatchery-nursery complex with 59 tanks of four different shapes and sizes, 10 earthen ponds with an area of 1000 sq.m., a warehouse, office facilities, and technician quarters.

The Technology Verification and Commercialization Division (TVCD) was tasked to operate the hatchery complex with technical support from the Binangonan Freshwater Station. The Training and Information Division (TID) of AQD together with the MFI Training Division will develop training programs for the social and entrepreneurial aspects of aquaculture in the area.

The complex has been designed and operated for tilapia fingerling production. However, it could also be used for other species. For the initial operation, TVCD intends to concentrate in the production of tilapia fingerlings of the SEAFDEC strain. Bighead carp fingerlings will also be produced depending upon actual market demand because it has a growing market in Laguna de Bay.

## Did you know?

The sperm whale has the largest brain of any animal. The brain weighs around 9 kilograms (about 20 pounds). The human brain reaches its maximum weight at age 20: about 3 pounds.

Other species that will be propagated is the native catfish and *dalag* or mudfish.

The fingerlings produced will be distributed to small fish farmers who will be enjoined by MFI and AQD to participate in a development project for the rural area. The project being initiated by AQD and MFI is now on the planning stage. Part of the tilapia fingerling production will be marketed to shrimp farm operators as bio-manipulators since repeated tests showed that the strain could grow in saline pond environment.

Jalajala, Rizal is located along the shores of Laguna de Bay about 74 kilometers southeast of Manila and 44 kilometers southeast of AQD Binangonan Freshwater Station.

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*A first report... from page 1*

form of focal haemorrhagic ulcers on the mouth or skin surface, focal necrotic lesions in the muscle or eye opacity.

Exophthalmia is a non-specific clinical sign in fish that can be associated with various non-infectious and infectious diseases. Exophthalmia has been associated with different bacteria such as *Mycobacterium*, *Vibrio alginolyticus*,

and *Streptococcus sp.*

Isolation of *V. harveyi* in pure forms in the organs of four out of five fishes showed a septic course of bacterial infection and suggests that mortality, skin lesions and exophthalmia observed in seabass in the study resulted from *V. harveyi* infection. *V. logei*, and *V. campbellii* were secondary pathogens.

Further, histopathology showed that bacterial cells in the kidney and

liver caused multifocal necrosis of the renal tubules and hepatocytes, respectively. In the spleen, haemosiderosis (an increase in the amount of haemosiderin caused by an increase in the rate of destruction of erythrocytes in the spleen) was evident because bacterial cells were also observed in the arteries. Histology of the lesions showed necrotic muscle fibers. These are all characteristics of bacterial infection.

# AQD Scientist speaker at PSHSWV



A/QD Scientist Dr. Jurgenne Primavera served as keynote speaker in the launching of the Science, Math, and Technology (SMT) Fair 2003 of the Philippine Science High School Western Visayas Campus (PSHSWV) on September 17.

The SMT Fair is a yearly activity of PSHSWV in which the students showcase their project outputs in the different fields of science and mathematics. Trends in science and mathematics are also featured during the fair.

The celebration has the theme “PSHSWV at 10-leading the way towards a scientific culture in Western Visayas.” Officers and advisers of Science Clubs from the different provincial and city high schools of Iloilo attended the launching program.

Dr. Primavera was invited as speaker because of her extensive experience and contribution to research. It is hoped that she would serve as inspiration to students and teachers in Western Visayas who want to go into the field of research.



*A/QD joins International Coastal Clean-up*

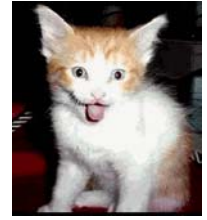
A/QD employees participated in the beach clean-up from Buyuan Creek to Nanga Creek, Tigbauan, Iloilo on September 21.

The event was in support of the International Coastal Cleanup (ICC) activity, a global initiative by the Center for Marine Conservation in Washington DC organized in 1986.

About a million Filipinos join the ICC every year. A/QD first participated in the activity in 1998.

## HUMOR

### + Goldfish



Little Nancy was in the garden filling in a hole when her neighbor peered over the fence. Interested in what the cheeky-faced youngster was up to, he politely asked, “What are you doing there, Nancy?”

“My goldfish died,” replied Nancy tearfully without looking up, “and I’ve just buried him.” The neighbor was very concerned. “That’s an awfully big hole for a goldfish, isn’t it?” Nancy patted down the last heap of dirt then replied, “That’s because he’s inside your cat.”

*“Blessed are they who can laugh at themselves, for they shall never cease to be amused.” 😊*

### + Fish Story

Morris and Harry were both fanatics about deep-sea fishing. After each would come back from fishing trips, one would tell the other big lies about the number and sizes of the fish they caught.

So Morris came back from his latest fishing trip, and told Harry, “You wouldn’t believe, but in the Bahamas I caught a 500 pound herring.”

Harry said, “That’s nothing, last time I fished in the Bahamas, I pulled up an old lantern from a sunken Spanish ship — and the candle was still burning!”

They both looked at each other, knowing that the other was lying.

Finally, Harry said to Morris, “Look Morris, if you take 450 pounds off from your herring ... I’ll blow out my candle!”

# Cooking corner

## Spicy Pepper Shrimp — Texas Style

1 ½ lbs peeled and deveined shrimp  
1 tbsp olive oil  
1 cup chopped yellow bell pepper  
1 tbsp chopped, seeded jalapeno pepper  
¼ tsp salt  
¼ tsp freshly ground black pepper  
¼ tsp crushed red pepper  
1 tbsp lime juice  
1 can (14.5 ounce) of no-salt-added diced tomatoes, drained

Heat oil in a large nonstick skillet over medium-high heat. Add bell pepper and jalapeno; sauté for 4 minutes. Add salt, black pepper, red pepper and shrimp; cook for 2 minutes or until



shrimp are done. Stir in juice and tomatoes; cook for 2 minutes or until thoroughly heated. Serve over freshly cooked rice.

Makes 4 servings. (Each serving has 324 calories, 6.6 g fat, 37.4 g protein, 26.9 g carbohydrates, 1.8 g fiber, 259 mg cholesterol, 5.7 mg iron, 409 mg sodium, 120 mg calcium).

## ROUND-UP

### Attended:

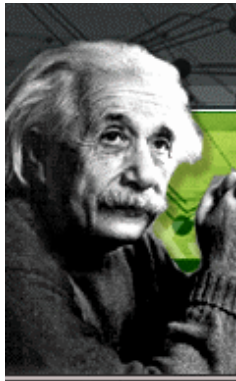
**Dr. Fe Dolores Estepa**, International Training Course on the Technology of Mariculture in Xiamen, China from September 15 to 30.



### Believe it or not?

More than 50% of the people in the world have never made or received a telephone call.

## The leader of the new millennium



Developing new leadership skills will require more than a little training. It will require a revolution within most current leaders' thinking.

Not only do leaders today have to share their vision of the organization, they must inspire their employees to "see" that same vision. Vision is a clear mental picture of your organization when it has achieved its mission, and many times your mission evolves along the way. Leaders must live and breathe this vision and embody the change in order to bring the entire organization along with them.

Visionary people also must be highly creative. Having the skill to convince those around them to unleash their creativity will be invaluable to the leaders of tomorrow. At the same time, though, these creative visionaries must beware of losing

track of crucial details that could indicate a need for a change in course.

New leaders will have to draw attention to the change without drawing too much attention to themselves. They must be able to stir the pot without making the water boil over.

Continuous learning is another skill needed to be a leader in the future. Grandeur must go. It won't work for leaders to believe that they have all the knowledge, information, and data that they need. In a constantly changing world, the more

The Chinese use two brush strokes to write the word 'crisis.' One brush stroke stands for danger; the other for opportunity. In a crisis, be aware of the danger - but recognize the opportunity.

— RICHARD M. NIXON

knowledge you have and share, the better leader you will be.

Finally being a leader in the new millennium will require a sense of when to retreat and renew. Leadership is stressful and difficult. It is critical for the new leader to reenergize as needed. Having a good partner/ friend who can help equalize the stress and confusion is important.

The ability to embrace change is paramount to success. If you are an aspiring leader working your way to the top, here are the skills you can cultivate now:

- Flexibility
- A sense of urgency
- Creativity
- An openness to learning
- "What can I do for you?" attitude.
- Heartiness to handle stress and confusion.
- A teaming/partnering mentality.

- **Monster News**

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