



The Houseion

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College of Fisheries and Ocean Sciences, University of the Philippines in the Visayas, Miagao, Iloilo

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A New Lease of Life for a *Pawikan* by S. S. Garibay

Rush of excitement flooded the residents of Barangay Uyongan, when a big turtle, locally called "pawikan" was accidentally caught in an Otoshi-ami (set net) in April 25, 2006.

Concerned residents led by the local government officials decided to bring the pawikan to Brgy. Baybay Sur, Miagao for inspection and recording. Mrs. Minerva Nim, a resident of Baybay Sur reported about the turtle to the UPV-MNS for its proper identification. The Museum Staff together with the UP High School students went to the site and took the vital information of the turtle. The students who were on their first day of Summer Internship Program at the College of Fisheries and Ocean Sciences are fortunate to have a real life encounter with an endangered species.

The turtle identified as *Chelonia mydas* or Green Sea Turtle, is considered as one of the most common species of sea turtle in the Philippine waters. The turtle which was found to be a female measures about 83 cm in length and 78 cm in width.

The carapace was decorated with a lot of barnacles attached on its surface. The plastron or ventral portion has some white spots growing on it. These spots in time, can probably developed into tumor, otherwise known as fibropapilloma. Fibropapilloma is believed to be caused by a certain virus. The growth of these tumors can be fatal to the turtles once it spreads to the mouth and eye region, that can affect its movement and food intake.



The newly tagged P-21345 *Chelonia mydas* commonly known as Green Sea Turtle, released at the shore of Brgy. Baybay Sur Miagao, Iloilo. (Photo courtesy of E.F. Doyola, SEAFDEC, AQD.)

Through the coordinated efforts of the local government units represented by Mr. Raymundo Monroy, Miagao Municipal Agriculturist, Ms. Ellen Flor Doyola of SEAFDEC AQD., and the UPV Museum Staff, the *Chelonia mydas* was tagged as turtle P-21345 and released back to the sea on April 26, 2006.

MNS Features Philippine Sea Turtles by S. S. Santander

With the United Nations declaration of 2006 as the "Year of the Turtle" coupled with UPV Museum of Natural Sciences' aspiration of enriching the public's awareness on the country's rich

biota, an exhibit titled "Philippine Sea Turtles" was featured last January 9-31, 2006, at the UPV-MNS lobby.

The exhibit presented sea turtles in different stages of egg development and a diorama of the turtles' life history. It also featured the keys to the taxonomic identification of the seven species of turtles (five of which thrives in the Philippine waters) together with the laws and advocacies, government and non-government agencies concerned to the preservation of the endangered species. A slide show was also presented.



A Big Catch

S.S. Garibay and S.S. Santander

Big and heavy, this fish, weighing approximately about 300 kgs. tantamount to 6 sacks of rice was found in Brgy. Sapa, Miagao, Iloilo. The fish which was entangled in the fishing net of Mr. Jesus Cordova, a local fisherman was identified and examined by the UPV Museum of Natural Sciences staff as *Mola mola*.

The *Mola mola* commonly known as the Ocean Sunfish was caught a few kilometers away from the shoreline of Miag-ao at around 11 in the evening of March 23, 2006. It measures 2.5 meters wide and 2 meters long. (Related news was previously published at UPViews March '06 Issue)

JANITOR FISH IN THE AGUSAN MARSH

A Threat to Freshwater Biodiversity

Marianne Hubilla, UPV-CFOS and Ferenc Kis, PENRO-Agusan del Sur

Biological invasion or the spread of an invasive species from its native place to other parts of the world, usually by human vectors, is an ecological problem the Philippines is facing today. There are two well-known cases of biological invasion in the country. These are the introduction of Nile tilapia and janitor fish in freshwater habitats.

In Lake Lanao, Lanao del Sur, the introduction of Nile tilapia, *Oreochromis niloticus* was responsible for the displacement of more than 15 species of carps known to exist only in this lake. Currently, these carp species fall under the Critically Endangered, Endangered, Vulnerable and Near Threatened species categories in the 2006 Ichthyofaunal Red List of the International Union for the Conservation of Nature (IUCN). A similar case happened to "sinarapan", scientifically named as *Mistichthys luzonensis*, the smallest known commercial fish in the world which is endemic to Lake Buhi and Bato, Camarines Sur.

A few years after the unsolved issues of the Nile tilapia invasion in Philippine freshwaters, a new plague came to light when the vermiculated sailfin catfish, *Pterygoplichthys disjunctivus* and *P. pardalis* (previously known as *Hypostomus plecostomus*) were caught in Laguna Lake and nearby rivers.

News reports in 2002 mentioned that the catfish population was escalating and that they were responsible for the decline in fishery catch, either by displacing the commercially important fish species or by destroying fishing gears and fish cages. Recently, one of these two invasive

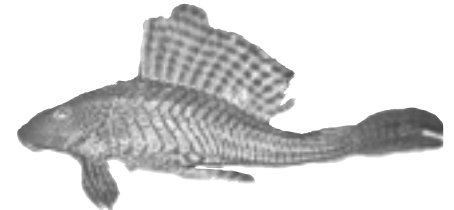
catfish, *P. disjunctivus* has invaded the Agusan Marsh. How were the fish introduced into the marsh is unknown. The point is, is this newcomer likely to cause similar ecological and fishery related problems as the mentioned scenarios?

These concerns can be answered by understanding the biology and ecology of the fish, including the culprits and impacts of invasion and what can be done in order to control their population.

BIOLOGY AND ECOLOGY

Pterygoplichthys disjunctivus belongs to the Family Loricariidae, the largest catfish family with 88 genera and 673 known species. Native to the Madeira River drainage of the Amazon River in South America, this catfish is popular among fish hobbyist because of its ability to graze and remove attached algae and detritus in the aquarium tank, thus keeping the tank surfaces and sand clean. This gave them the moniker, "janitor fish". They are characterized by armored skin, large size that could reach up to 70 cm and spiny edged pectoral and dorsal fins. They are voracious feeders and can tolerate adverse climatic conditions. Their morphological features make them difficult to be preyed upon, and their mode

The number of dorsal spines in sailfin catfish (Family Loricariidae) is an important identification key to the species. *Photo Credits: Ferenc Kis*



of living allows them to be an opportunistic species. If they have no natural predator, they can multiply fast and compete with the native fish and other freshwater organisms in terms of food and habitat.

CULPRITS OF INVASION

The growing demand for janitor fish as "aquarium cleaners" in the 90s had accelerated the importation of janitor fish from the US, where most of the South American aquarium catfish were cultivated on a commercial scale. Filipino fish hobbyists then cultivated the fish for aquarium purposes. It is believed that the janitor fish was introduced into Philippine lakes and rivers, either by accidental or intentional release.

The janitor fish in the Laguna Lake were believed to be introduced by accidental release when typhoon *Rosing* struck the country in the mid-90s, resulting in the escape of janitor fish from the farm. In the Agusan Marsh, the janitor fish was probably introduced through intentional release within the Agusan Marsh Wildlife Sanctuary (AMWS), and possibly fish farm escapes upstream (near Davao) between 2002 and 2005. Because the fish has no natural predator in the marsh, they continue proliferating and they have even reached several other municipalities.

A THREAT TO FRESHWATER BIODIVERSITY

Agusan Marsh is one of the ecologically significant wetland ecosystems in the Philippines with international importance. It is a home for

Agusan Marsh is one of the ecologically significant wetland ecosystems in the Philippines with international importance. *Photo credits: Marianne Hubilla*



PROF. VICENCIO: A Picture of a Dedicated Mentor

by S. S. Garibay

I have known her personally since I was a student. Way back at U.P. Diliman she is a terror Professor because of her 75% passing score in her Phycology laboratory class. Yet in many ways Ma'am Vicencio remains a very gentle and sweet mentor.

Born on December 26, 1923 in Navotas, Rizal, Professor Zosima T. Vicencio, "Ziming" to her friends is one of the former Professors of the College of Fisheries who had worked hard with dedication and commitment to her Institution for 39 years.

Ms. Vicencio, an M.S. Botany graduate at UP Diliman, is considered as one of the few phycologists in the country sought after her expertise on algal taxonomy not only within the University but by other agencies including private sectors. Her research was generally on the plankton particularly on diatoms. Among the number of researches she got involved with include the: "Algal Food Habits of the Milkfish", "Plankton of Samar Sea", "Plankton Flora of Laguna de Bay", and "The Limnological Studies of Bulusan, Naujan and Paoay Lakes". No wonder that through her initiative and efforts she has earned a respected status in her own field of specialization.

Ms. Vicencio started her professional career as an Instructor in the Fish Preservation Department of the defunct Philippine Institute of Fisheries Technology (PIFT) which was then under the Bureau of Fisheries. In 1952, she was transferred to the Fish Culture Department where she was made to teach Aquatic Botany (Phycology). In 1957, by organization Law, PIFT was transferred under the administration of the University of the Philippines. With hardwork and determination, she rose in rank from Instructor to Full Professor.

Now at 82, Prof. Vicencio remains active in her career. For three years, she served as a private consultant working on the identification of planktons with PHIL-KOEI International Inc., a private agency. At her age, many envy her because she can still ably use the microscope and identify phytoplankton. This only shows that her love and dedication to her field of interest never dies.

When asked for her principles in life, she said that, "In the performance of your assigned task, always work systematically to get things done the best way that you can. Be dedicated and devoted to what you do and be determined to strive for accomplishment. Learn and grow along with your chosen field". So, what else can I say about her? It is just right that we and the future generations learn from her to become more dedicated and committed in our own chosen field.

Prof. Vicencio who retired in May 1988, has donated some of her seaweed collections at the UPV Museum of Natural Sciences.



Janitor Fish... various flora and fauna, and because of its rich diversity, it has also become a home to the indigenous people, the Manobos, who live in floating houses in the marsh. Thus, this 113,000ha marshland with seven known aquatic habitats is a home for both aquatic organisms and indigenous people.

Freshwater biology in the marsh has not yet been fully explored by researchers, which leads to the apprehension that the presence of janitor fish may change the present aquatic faunal composition before it can be fully studied. The janitor fish came to the marsh to find a habitat where they can survive a lifetime. They came to compete for food with the native catfish, carps, mudfish, tarpons, mullets, tilapia, including bivalves and gastropods found in the marsh. Since they are opportunistic

and voracious feeders their numbers can increase enough to disrupt the marsh's ecosystem by displacing the native fish species, and causing the reduction of native fish catch. If the government does not act immediately to resolve this problem, then the Agusan Marsh will no longer be a habitat for the many but a habitat for the janitor fish alone.

WHAT CAN BE DONE?

The introduction of exotic species in the Philippines by any means is illegal under Republic Act 9147, also known as the Wildlife Resources Conservation and Protection Act of 2001. This law requires the Department of Agriculture - Bureau of Fisheries and Aquatic Resources (DA-BFAR) to enforce the registration, permits and clearances of all imported exotic species. The DA-BFAR should now

strengthen the enforcement of Republic Act 9147, and should impose strict farm regulations for aquarium hobbyists so that both accidental and intentional future releases will be prevented.

As of now, it is too late to ban the entry of janitor fish because they have already invaded many areas in the country. The only scientific solution is to conduct a rapid study on the population and distribution of this fish in the marsh in order to determine their abundance and range. A long term study on the reproductive biology and ecology of the fish should also be undertaken. Knowing these facts will generate insight on how to control or eradicate the fish.

(Related news was previously published at The Philippine Star June 6, 2006 Issue)

Fossils, imprint of the past

by Cornelio M. Selorio, Jr.

Panay is famous for many things, to name; we have the white sand beaches, baskets and baskets of fruits, historical landmarks and ancient churches, fresh sea foods and many others. But how many people knew that somewhere in Northern Iloilo, pack of fossils, relics which are probably million years of age are buried. This is a slice of Panay waiting to be discovered, an untold imprint of our past.



Bivalve fossil collection at UPV-MNS.

BEYOND PRODUCING RICE

I am a native of Pototan, the town considered as the "Rice Granary of Panay". But little did I know that there is more about my place than producing rice. A three-kilogram shell collected from Brgy. Igang handed by a friend changed my idea of our place, as a matter of fact it gave birth to my interest to fossils. But that was no ordinary shell, rather a bivalve fossil! With this, my enthusiasm to know more about these mysterious relics was fired up.

DESCRIPTION OF THE AREA

At Igang, the area can be easily noticed when viewed from above because of its whitish appearance due to quarrying practices. This activity led to the exposure of interesting boulders of corals. In one of my explorations, I was very amazed of the casts of corals which gave an imprint of its polyp formations, algae-like molds and many others.

The soil type of the area is soft and loamy but at about eight to ten meters deep, the substrate changes into solid rock. Hard limestones were also exposed at the same depth, were most of the fossils are embedded.

I have learned through interviews that years back, townfolks saw not just bivalves and univalves but fish fossils as well. The fish fossils according to them were found at the bottom before the shale deposits.

WHAT ARE FOSSILS?

Fossils came from the latin word "fossus" meaning "having been dug up". These are mineralized or otherwise preserved remains or traces (such as footprints) of animals, plants and other organisms.

Fossils excavated by the natives are usually barded or sold to the "babaylans" or the quack doctors. The babaylan used these fossils as part of their rituals. The fossils also serve as an ingredient for medicines. In other countries, fossils are sold at a very high price because of the load of information attached to it. The ammonites, fossils of bivalves, univalves and ancient animal bones including shark teeth are the favorites in any fossil exploration. The latter being the most common.

Unfortunately, these precious fragments from the past were also used in building school fences, as filling materials in roads and buildings. These days, together with the limestone, the

fossils are processed into lime for fishpond preparations and treatment. They also used it as a material for cements.

THEORIES OF THE LAND FORMATION

Beyond the mystique of the fossil itself, it is also very interesting to note why there are gastropod and fish fossils in an area not located near the coast, and even bordered by four other towns?

There are different opinions on the formation of area. Among them, is the possibility that million years ago, Panay Island is submerged, probably as an atoll or a barrier reef. Thus as centuries past, the atoll or barrier reef formed into a big island, and the hill is a coral reef. Another possible theory is that some sub plates of the Philippine plate diverge with one another making it mountainous carrying the coral reef on top of the mountain.

If we can only preserve the area, our hypothesis can be concluded. And if we can only see the value of these fossils beyond from being land filler or cement ingredient, this cast of corals, molds of strange looking shells can help us unravel the answers. This fossil remains as evidence of the past histories. The imprint of nature will soon reveal to us its story as well as the history.

Chelo, the Sea Turtle

by Leo N. Plasus



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