



The Mouseion

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OCEANOGRAPHIC FACTS

- Canada has the longest coastline of any country, at 56,453 miles or around 15 percent of the world's 372,384 miles of coastlines.
- Although Mount Everest, at 29,028 feet, is often called the tallest mountain on Earth, Mauna Kea, an inactive volcano on the island of Hawaii, is actually taller. Only 13,796 feet of Mauna Kea stands above sea level, yet it is 33,465 feet tall if measured from the ocean floor to its summit.
- The Antarctic Ice Sheet is almost twice the size of the United States.

Source:

<http://seawifs.gsfc.nasa.gov>

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MNS LAUNCHES MURAL By: J.A.D. Corvera

The UPV Museum of Natural Sciences launched its new project, a mural! The mural or wall painting will serve as a background design to complement the natural environment of the *Masturus lanceolatus* (sunfish). The sunfish is currently mounted on the wall adjacent to the MNS laboratory. The mural will be created by two volunteer artists, Ms. Ivane R. Pedrosa, MS Fisheries Biology student and Mr. Erro Nico M. Primaleon, BS Computer Science major.

The wall painting was conceptualized as a result of discussion with some concerned students regarding the improvement of museum displays. The mural will be made with its aim to be both creative and educational for UPV-MNS visitors. It will also promote fisheries conservation through visually stimulating pictures of sea creatures and colorful corals.

The two artists will work together to come up with the design that will reflect the true environment where



sunfishes thrive. It will be officially unveiled on July 7, 2010 as part of the College of Fisheries and Ocean Sciences' 66th Foundation Anniversary. See you there!

Garibay talks about environmental stewardship

By: V.B. Garcia

Ms. Soledad S. Garibay, the Museum of Natural Sciences Coordinator, was invited to deliver a message during the flag-raising ceremony at the Municipal Hall, Miag-ao, Iloilo, last May 31, 2010. Ms. Garibay talked about environmental stewardship.

In her message, Ms. Garibay pointed out that environmental stewardship or environmental management must include providing and supporting environmentally responsible products and services that can be worked upon within our facilities. This can be achieved by

applying the 4R's, which means: **Rethink, Reduce, Reuse, and Recycle.** She averred that social ethic primarily relates to the sustained and efficient use of our resources and the prevention of harm to common resources such as air and water quality, the natural functions of a living earth, and cultural values in a built environment.

Ms. Garibay further emphasized the role of every individual and encouraged government employees to 1.) take a proactive role in maintaining a safe and healthy workplace 2.)

operate our facilities in an environmentally sound manner and 3.) promote programs that will support environmental stewardship.

She ended her message by quoting Wendell Berry, the author of "Christianity and the Survival of Creation", who said that *"our destruction of nature is not just bad stewardship or a betrayal of family responsibility; it is the most horrid blasphemy. It is flinging God's gifts into His face, as if they were of no worth beyond that assigned to us by our destruction of them."*

ON FOCUS...

FISHY HORSES
ON THE RACE

By: Faith C. Villanueva
MS Fisheries Biology Graduate
IMFO-CFOS

It has a head at right angle to its body, eyes that swivel independently of each other, a prehensile tail, a pouch for the young, and a thin layer of skin stretched over a series of bony plates...but it is a fish.

Main Features

Seahorses (genus *Hippocampus*, family Syngnathidae) have always fascinated aquarium hobbyists and museum visitors because of their very “unfish-like” appearance. They are classified as degenerate fishes due to the loss of fins. They also have tuft gills consisting of a convex mass of small, rounded lobes, almost “grape-like” in appearance, while ordinary fishes have gills that are arranged in leaf-like series. The male seahorse has a pouch on the underside of its body at the base of the tail where mature female deposits the eggs. The male seahorse, rather than the female, becomes pregnant. This unusual mode of reproduction is the most extreme form of male parental care yet discovered among fishes.

Seahorses are not active swimmers, remaining motionless most of the time, resting and sleeping, with the tail firmly coiled around an eelgrass,

sea lettuce and other plants near the shores of most warm and warm-temperate seas or in the open ocean in patches of drifting seaweed. When they swim, they generally hold their body vertically, with the tail coiled, and rapidly, but harmoniously, vibrating the tiny dorsal fin and the pectoral fin.

Although they are very poor swimmers, seahorses have some means of protecting themselves. They are masters of camouflage. They change color and grow skin filaments to blend in with their surrounding to escape predators. Short-term color changes may also occur during courtship displays and daily greetings.

Feeding Behaviour

Seahorses are voracious carnivores since they prey upon small organisms in their surroundings. Naturally, they only eat live and actively swimming food such as copepods, mysid shrimps, larvae of crustaceans, and possibly the eggs and fry of other fishes. But, seahorses do not have teeth or stomach. They suck in prey through a tubular snout and pass it through an inefficient digestive system.

Commercial Value

Besides being constant interest to aquarium visitors, writers and fishery scientists, seahorses are in high demand as curios and souvenirs and traditional medicines. Because of their firm external skeleton, drying does not distort them, and if properly prepared, they can be kept indefinitely. Due to their commercial importance and excessive extraction from the wild, these benign and alluring creatures are listed in the IUCN Red List of Threatened Species and in the Appendix II of CITES, which are lists of species that are threatened with extinction.

In the Philippines

The Southeast Asian Fisheries Development Center in Tigbauan are culturing seahorses for their Research

*The male seahorse,
rather than the female,
becomes pregnant.*

and Development Projects on Stock Enhancement for Threatened Species of International Concern. While in Bohol, a Marine Protected Area was created to conserve the wild stocks.

Seahorses are in the race for survival. Will you bet on the race or fight to stop it?

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Porphyra "a sea vegetable"

By: S.S. Garibay

Porphyra, popularly known as "nori" or "gamet" for Ilocanos, is one of the most widely consumed seaweed anywhere else. It is commonly found in Asian food, especially Japanese food wherein nori is almost part of their everyday cuisine. *Porphyra* is a foliose red algae genus comprising about 70 different species. It grows in the intertidal zone, typically between the upper intertidal zone and the splash zone in cold waters of temperate oceans. In East Asia, *Porphyra* is used to produce the sea vegetable products called *nori* (in Japan) and *gim* (in Korea) as the most commonly eaten seaweed.

Life Cycle

Porphyra displays a heteromorphic alternation of generations. The thallus that we see is the haploid generation; it can reproduce asexually by forming spores which grow to a new thallus. It can also reproduce sexually. Both male and female gametes are formed in one thallus. The female gametes while still on the thallus are fertilized by the released male gametes, which are non-motile. The fertilized gamete now diploid will settle, germinate and form a filamentous stage or a new plant.

As Food

Most human cultures with access to *Porphyra* use it as food or somehow in the diet, making it perhaps the most domesticated of the marine algae. This marine red algae, *Porphyra* has been cultivated extensively in many Asian countries as edible seaweed used to wrap the rice and fish that compose the Japanese food *sushi*, and the Korean food *gimbap*. In Japan, the annual production of *Porphyra* spp. is valued at 100 billion yen (US\$ 1 billion).

The *Porphyra crispata* Kjellman or *gamet* among the Ilocanos has a deep red thallus which is flat and membranous with soft gelatinous fronds. Three to nine blades usually form clusters which grow from a very small adhesive disc which has tiny rhizoids attached

to the rocky substratum. *Gamet* grows on rock promontories and rocks exposed directly to the action of waves and wind. This can be observed along the coast of Burgos, Ilocos Norte, which is the major producer of *gamet*. To date we have not succeeded in culturing *gamet* in spite of our knowledge on how *nori*, a species of *Porphyra* similar to our own *gamet*, is raised on marine farms in Japan and other parts of the world. The most authentic reason is because the natural habitat of *Porphyra* is temperate."


Gamet grows along the northern most tip of Luzon because the cold Kuroshu Current coming down from Japan reaches this point during the months of December to February. The current probably carries also the reproductive parts of the organisms, which explains the similarity of the Japanese and Philippine species."

Gamet is sold in dried form, compressed in mat, either circular or rectangular in shape measuring about 50cm x 100 cm. *Gamet* is blanched with boiling water and allowed to cool before salad garnishings are added. It is also added to soup or *diningding*.

Other Economic Importance

Not only *Porphyra* but other seaweeds have a wide range of importance from food and medicine, to the manufacture of many industrial products. In nature, seaweeds together with corals and sea grasses constitute the pasture and forest of the sea, a vast ecosystem, unique in its kind because it serves as the sanctuary of both marine and terrestrial life, and in the estuaries.

Human activities however, have gone beyond and even intruding their horizon. Coastal areas where they usually grow had already been saturated with many structures such as fish pens and cages hence limiting their area of growth. Resorts are continuously growing in many areas leading to the uncontrollable introduction of poison from our wasteful living. Unknowingly, we are already indiscriminately and unwittingly destroying the very production base of these valuable resources which have many potential uses.



Our only consolation is that seaweeds can now be cultivated even before naturally occurring species become exhausted. Seaweed farming has been established in coves and sheltered coral reefs such as in Danajon Reef between Cebu and Bohol, on flat coral beds in Calatagan in Batangas, Zamboanga and Tawi-tawi, to mention the most important plantations. *Eucheuma*, the source of carageenan is the main crop, followed by *Gracillaria*, *Gellidiella* and other species as source of algin and agar.

These seaweeds built a multi-million dollar industry locally. Their extracts have revolutionized the food industry, mainly as conditioners in food manufacture. More and more products are derived from them for our everyday use, which other than food, are used in the manufacture of medicine and drugs, cosmetics, fabrics, paints and films.

Such are just a few of the many uses of seaweeds. A lot more can still be derived from these sea vegetables. We may look at *Porphyra* as an important food item with a very interesting life history but *Porphyra* has just everything that one would need in a macro algae. As food, try it and find out that they are just great to eat!

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A tribute to a friend...

By: S.S. Garibay

I cannot forget that day when I received a text message informing me that Kune had already passed away. He died of heart ailment at Iloilo Doctor's Hospital in April 19, 2010, a day before my birthday.

Mr. Cornelio Moquite Selorio Jr., also known as "Jun" to his family or "Kune" or "Khunz" to most of his friends, was born on September 08, 1980, Pototan Iloilo. Kune was the sixth among the seven children of Cornelio Selorio Sr. and Virginia Moquite. He is a simple guy who tells you stories about his collections of many things from stones to fishes. He never gets tired of discovering things out of their backyard.

Not everyone knows this but Kune was a fossil collector. In fact, he was the donor of the big fossilized bivalve that is now displayed at the museum. These donations from Kune will be well treasured for these contain information that can be useful in the future.

As a museum volunteer for five years, Kune had

consistently showed his full dedication, commitment and support to the museum works. He had contributed five articles in the "The Mouseion", our official newsletter. These articles had talked about the Giant Helmet Shell (*Cassia cornuta*), the Trumpet Shell (*Charonia tritonis*), Snaggletooth (*Astronesthes lucifer*), Horseshoe Crab and the Fossils. We were so glad that we had him as one of our volunteers. I could still vividly remember the time when we launched the museum volunteer program, Kune was one of the first who raised a hand to show his full support to us.

In the university, our usual topic is our Master's Thesis. He would ask me "O Madam, when are you going to defend your thesis?", and I would simply answer him with a smile. Kune was the program representative of MS Fisheries Biology for GRASFA (Graduate Students in Fisheries Association). He was a very active member of the organization that I never had any feeling nor an inkling that he had a heart ailment.

An interview with Rose, Kune's girlfriend, has showed the real kindness in his heart. According to Rose, "Jun," as she calls him "can be one of your trusted friends. I witnessed how he treat his friends especially those whom he considered as best friends, parang kapatid ang turing nya sa kanila. Being too generous, he would always lend a hand to them who are in need. Jun was a very determined person. He would continue, despite all odds, just to achieve his goals in life".

Jun or Kune was born with a heart ailment. No wonder he became his grandmother's pet. But despite his condition, he tried to live a normal life. He continued to do activities as a normal, healthy person. He loves to read books or anything that can capture his interest. He was the young "Einstein" in the family. You can ask him about Math, Science, constellations, scientific names of fish and many more except English. He admitted that English was his weakness. He loves to listen to ballad and classical music of Mozart and

Beethoven.

Jun has a green thumb as well. He can grow any kind of plant. He used to have a collection of different cactus varieties. Indeed a true, nature lover!

His cousins remembered Jun to be a proud graduate of UP. After his graduation in BS Fisheries, the following day, while still wearing a sando and shorts, he went out of the house wearing his sablay, to show the people that he had already graduated at the University of the Philippines Visayas. No one can blame him because according to his cousins, Jun was the first resident of Igang, Pototan who is a graduate of UP.

For us, Kune will always be a friend, he may not be with us physically, but his memories and legacies to the museum office will continue to remain still and silent. We will always remember Kune, as a worker, as a friend.



Meet Kruhay, The Museum Koi

By: J.A.D. Corvera

Mr. Juan Miguel Garcia of Sibalom, Antique had donated a live koi to the UPV-MNS in June 2010. We named it "Kruhay" in honor of the province where it came from. Kruhay is a Kinaray-a word meaning welcome, mabuhay or long live in Filipino. A perfect name since Kruhay was placed in one of the aquariums at the entrance of the museum display area to greet you when you visit us.

Koi were developed from common carp in ancient China during the Jin Dynasty and were later transferred to Japan and Korea, where they are still popular as a symbol of love and friendship. A variety of colors and color patterns have since been developed and the colors include white, black, red, yellow, blue, and cream.

The maximum life span of koi is over 200 years in exceptional cases; average life span is more like 25 to 35 years.

There was a scarlet koi that was reportedly 226 years old upon its death. Its age was determined by removing one of its scales and examining it extensively in 1966. To date, it is the longest-living koi fish ever recorded.

Raising koi can be a fascinating and relaxing hobby. For the avid koi enthusiast, there are shows in which koi compete according to their size and class.

Source:

http://www.pondarama.com/html/koi_faq.html
<http://en.wikipedia.org/wiki/Koi>



Students from Philippine Science High School

SIP Interns visit UPV-MNS

By: E.P. Abunal, IMFO

Students from the Philippine Science High School and the U.P. High School visited the museum as part of their activities for the Summer Internship Program of the College of Fisheries and Ocean Sciences.

At the museum, students were given an orientation on the methods used in the classification and taxonomic identification of biological specimens specially fishes. Such exposure formed a portion of the training tool that is provided to the students. Here, the students were also able to see the different museum collection including the many species of a fish that belong to one family, its species variation and how they were identified.

The Summer Internship Program (SIP) which started in 1999, is a yearly program of the CFOS for high school students. Students from

the Philippine Science High School and University of the Philippines High School are among the regular students who participated in this program. The SIP aims to educate students on the laboratory work and scientific research as well as to help students decide on what course to pursue in college.

For the Summer 2010 Program, the activities include Ichthyology, laboratory work in Hatchery Management, Fish Culture, Fish Processing, Marine Fisheries, Policy Making and others.

Dr. Liah C. Catedrilla, the CFOS Coordinator for Extension takes charge of the yearly program together with Ms. Liberty N. Espectato, Edna P. Abunal, Rose T. Mueda, Soledad S. Garibay, and Ms. Marie June Esprela as Facilitators from the different Institutes of the College.