



The Mouseion

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

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EXHIBIT ON SEAWEEDS AT MNS

by S. S. Santander

The UPV-Museum of Natural Sciences opened an exhibit titled, "Seaweeds and its Wonders" last June 25, 2007 at the Museum Lobby, Library Building, UPV Miagao, Iloilo. The exhibit highlighted the taxonomy, biology and the many uses of seaweeds.

Seaweeds are multi-cellular algae which grow almost exclusively in shallow marine waters. Generally, seaweeds are classified into three groups namely Chlorophyta, the green seaweeds, which inhabit the shallowest zones along the shore; Phaeophyta, the brown seaweeds, thriving in the mid-intertidal and sub-tidal areas and; Rhodophyta, the red seaweeds, found at the lower intertidal zone and deeper waters.

These marine macro algae play an important role in the marine communities as a source of food and shelter to aquatic fauna. Known as sea vegetables, seaweeds are also directly utilized by man as food. They are rich in

protein, carbohydrates, iodine, vitamin A, B, and C.

Seaweeds are also known for its wide commercial uses. The phycocolloid which are extracts from red seaweeds in the form of agar, alginate, and carrageenan have numerous uses in food, dairy products, candies, facial cream and culture media. It is also known that seaweeds have curative powers for tuberculosis, arthritis, colds and influenza. Recently, it is reported to inhibit the herpes simplex virus.

Added to this, seaweeds can also be used as an agricultural fertilizer because of its high fiber and mineral content and its ability to retain moisture.

Seaweed farming in the Philippines



Top Picture: The exhibit features a movieclip, posters and seaweed biological samples; Bottom Picture: Students of Aquatic Science I, having a taste of seaweeds during their alternative class at the museum

was practiced in the early 1960s. Improvements in mariculture technology was seen in the succeeding years through the discovery of fast growing seaweeds strains such as *Kappaphycus* and *Eucheuma* which led to the proliferation of this industry in the country.

According to Philippine Fisheries Profile (BFAR, 2005), seaweeds ranked first among the major species produced from aquaculture in the country followed by Milkfish and Tilapia. The Philippines is also the third largest producer of seaweeds in the global market. Mindanao provinces such as Tawitawi, Jolo, Basilan and Zamboanga account for 70 percent of the country's total *Eucheuma* and *Kappaphycus* production while the remaining 30 percent comes from Southern Tagalog and Central Visayan provinces.

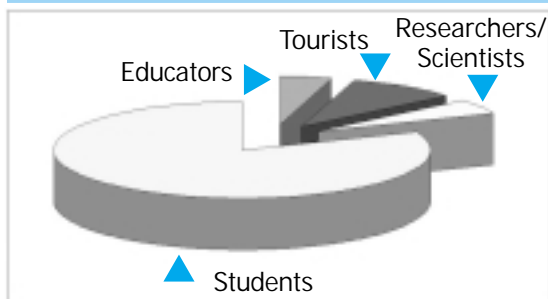
The Philippines is gifted with a very long coastline filled with rich marine resources, including seaweeds. Let us make good use of it.

STUDENTS, MNS' Top Client by V.B. Garcia

The total number of visitors frequenting the Museum was earlier reported in the maiden issue of the "The Mouseion". The four-year data which covered AY 2001-2004, marked August until March as the peak months while April until June as the lean months.

The trend continuous to be evident

VISITORS PROFILE AY 2005-2006



during the succeeding years (AY 2005-2006), and became more apparent in January, February, March, September and October. During these months, the number of visitors was observed to vary from a minimum of 100 to 1,000 (AY 2005-2006) particularly in February 2005 which records the highest number of guests. The fluctuation of visitors can be related to the establishment of the mini-zoo, agricultural park and museum in Southern Iloilo such as Fish World-SEAFDEC, RACSO'S Woodland and Garin Farm which has attracted student visitors coming from the different areas in Panay and even Negros. Thus, a drop in the number of visitors in such

STUDENTS ... See page 4

Zu cristatus in Panay waters

by S. S. Garibay

It's the look of excitement that I saw from my brother-in-law when he handed me the black pail containing two swimming creatures with features not of a typical fish. He asked me if I could identify the fish. Well honestly, it's difficult to identify it because of its strange look, so I said, "No, I could not identify it, but if you will allow me, I will bring it to the laboratory to be examined". Unfortunately, the pair of fish died before it reached its destination,

perhaps due to transport stress. According to my brother-in-law, the fish were caught in a "pukot" or fish net along with the other fishes.

In the laboratory, we took all the measurements and listed all special features of the fish. One by one we counted the fins, the lateral lines, the caudal fin and the thread like fins and examined its mouth and its teeth. In other words, we carefully and completely scrutinized the details of the fish, and then took pictures of it, and even drew the fish for future reference and records purposes.

After listing all the details of the fish, we did some research on its proper identification referring to books and other reference materials that can give us the hints and clues to its identification, until finally before the

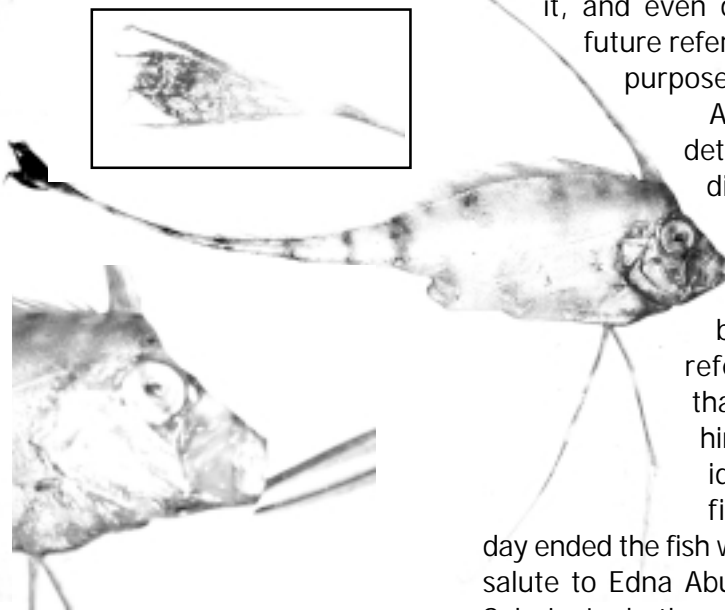
day ended the fish was identified. Our salute to Edna Abunal and Cornelio Selorio Jr., both museum volunteers

for their relentless efforts in search for the answer through the **FishBase**, a reference site for fish identification. After verification, the pair of fish were identified as juveniles of *Zu cristatus*, commonly known as Ribbon tail fish. The sex of the fish could not be determined at this stage, since the fish has not yet attained its full development.

FishBase description of the *Zu cristatus* and its features matched with the actual count and examinations that we did to our specimen. FishBase has no actual picture of the juvenile *Zu cristatus*; since there was no specimen reported in the Philippine waters.

The findings were relayed to WorldFish for the database information. The picture can now be viewed in the FishBase database. Just log on to www.fishbase.org and supply the required scientific name, *Zu cristatus*, click fish watchers and voila...you'll see the picture of a juvenile *Zu cristatus* with ID no. 1458.

The specimen of the juvenile *Zu cristatus* is now kept at the UPV Museum of Natural Sciences.



Naturally occurring assemblage of animals in bodies of water (rivers, creek and ponds) with size ranging from 100 micron to one millimeter can serve as live food for

larvae and juvenile fishes. Their abundance in the natural environment is seasonal with minimum and maximum peaks that could be associated by changes in the environmental conditions. These

organisms that float or drift in a body of water may belong to different animal group, which are either planktonic throughout their lives (e.g. copepods, sagittae, siphonophores) or only during some stages in their lives.

In a brackishwater pond, the common zooplankton include the species of *Mysids*, *Metasiriella kitaroi*, and *Mesopodopsis orientalis*, and the copepods, *Acartia* spp., *Pseudodiaptomus annandalei* and *Oithona dissimilis*. Their potential for mass propagation has been explored.

These organisms survive in the wild under a wide range of environmental

Common by Prof. Norma N. Fortes
ZOOPLANKTON
in brackishwater ponds

Beneath the Waves

by Victor Marco Emmanuel N. Ferriols
BS Fisheries IV

A preview of the Living Museum at the UPV-MNS

The propose living museum to be situated at the UPV-MNS alley



When it comes to aquatic biodiversity, the Philippines is unmatched. The waters of our country host a multitude of species of over 600 corals, 1,200 marine fishes, 280 freshwater fishes, 700 algae, 33 mangroves, and many more species of aquatic plants, reptiles, mammals, and invertebrates spread over various aquatic habitats.

Despite the wide range of aquatic habitats from coral reefs to river systems, staking its claim as one of the most biologically diverse regions, Panay faces the loss of these ecosystems due to man: pollution mangrove conversion into fishponds, illegal fishing...

The list is long, but one need not look far to see the true root of all these...man's indifference, the lack of awareness about the importance of preserving these resources for the future. Information with regards to our biological diversity and these aquatic habitats is unfortunately limited to books, pictures, and posters thus making appreciation limited as well.

To answer this problem, the establishment of a "Living Museum" at the UPV Museum of Natural Sciences has been initiated. The project, spearheaded by the College of Fisheries and Ocean Sciences Student Council (CFOS-SC) together with the CFOS administration and the UPV-MNS, aims to construct a Living Museum which will consist of four aquaria showcasing various aquatic ecosystems found throughout Panay. It will exhibit the beauty and richness that lie beneath the water's surface; alive and vibrant, not as mere specimens in formalin. Visitors to the Museum will be treated to a glimpse of the underwater world, up close and personal.

The proponent of the Living Museum (the author of this article) was also recognized as one of the twelve Bayer Young Environmental Envoys for 2007 together with Mark Joseph Guanco from the College of Arts and Sciences and Hera Rose Barameda from the College of Management. Along with the establishment of the Living Museum, training of the University Tour Guides on the basics of biodiversity was also included in the proposal (entitled "Project Mulat") in order to complement the displays at the Museum.

Protecting and preserving the environment and being truly committed all starts with awareness and appreciation. The Living Museum will hopefully become a small step in opening the eyes of today's youth – especially the *Iskolars ng Bayan* – to the immense yet fragile natural resources that we must all endeavor to safeguard.

conditions such as salinity between 14-50 ppt, temperature of 25-30 (°C), pH at 6.6-8.1, depth from 12.7-147.32 cm., and dissolved oxygen between 4-8 ppm.

Among the copepods, *Acartia* was highly influenced by salinity in terms of density since optimal growth was attained at 20-35 ppt.

The occurrence of these zooplankton in Jalaur River, Iloilo (freshwater) and Gui-gui creek (seawater), which are both sources of water for the Brackishwater Aquaculture Center (BAC) - Institute of Aquaculture ponds, indicate that they can

withstand wide salinity fluctuations prevalent in brackishwater ponds. Likewise, in BAC ponds, these zooplankton were found all year round, however, their densities may vary exhibiting oscillations. One

organism may occur dominant at one time and can be outgrown by another that copes up with the new environmental condition whenever the ponds are filled with water.



Photo credits: Prof. Norma N. Fortes

whenever the ponds are filled with water.

Hence, the presence of these zooplankton in BAC ponds also improve the ponds' productivity.

Roundscad

The Philippine Fish
Topnotcher

By Melchor F. Cichon

In 1950, Roundscad was not even listed among the top ten commercial fish production by major fish species in the Philippines. However, the following year, Roundscad or Galunggong (*Decapterus* sp.) became the most productive fish in the country. It has been included on top for 38 times since then. Also, it has been ranked six times as a second placer, and once on rank 3 since 1950 to 1997.

In 1997, the total commercial production of Roundscad was 196 588 metric tons (MT) or about 22.2 % of the total commercial fish production, the highest among the top ten fish caught in the country. In the same year, the total marine municipal production of roundscad reached 32 290 metric tons (about 4.2% of the total municipal production) and it ranked number 7. No other Philippine fishes have come closed to Roundscad production.

Tuna and tuna like species landed five times in Rank 1, and once in Rank 2. Slipmouth landed only four times in Rank 1 from 1950 to 1997, and 22 times as Rank 2, and three times in Rank 3. No other fishes have ranked first since 1950 to 1997.

Roundscads are generally caught in the West Sulu Sea which contribute about 37% of the total commercial catch. Other fishing areas that have abundant Roundscads are the following: Visayan Sea, South Sulu Sea, Moro Gulf, and East Sulu Sea. Roundscads have also been caught at the Samar Sea, Batangas Coast, South Sulu Sea and Lamon Bay.

The top five major fishing grounds for roundscads (production in MT), 1991-1992 includes South Sulu Sea with 54 638 to 76 408, Visayan Sea with 34 765 to 31 529, Moro Gulf with 16 535 to 36 990, Bohol Sea with 6 100 to 6 889, and Lamon Bay with 5 024 to 10 988.

The major fishing gears used to catch roundscads are purse seine, bagnet and trawl.

There are five species of Roundscads in the Philippines. These are *Decapterus macrosoma*, *D. maruadsi*, *D. macarellus*, *D. russelli* and *D. kurroides*.

Since they are usually caught in depths between 40 m to 200 m., they are considered pelagic fishes. But they

become demersal during their spawning season. Galunggong avoid salinity of less than 30 part per thousand and their distribution depends on the abundance of their food, the zooplankton, small fishes and crustaceans.

Their spawning season is from December to March in the Palawan waters and December to April or May in the Manila Bay.

In the recent Philippine Fisheries Profile (BFAR 2005), Roundscad has maintained its dominance in the list of major species caught in the commercial waters. It recorded a total catch of 214 963 MT which is 19% of the overall commercial fisheries production in 2005. Indian sardine (Tamban), Frigate tuna (Tulingan), Skipjack (Gulyasan), and Yellow fin tuna (Tambakol) occupied the second to fifth post respectively. In the same year, Roundscad ranks second to Indian mackerel (Alumahan) in the Municipal Fish Catch. Galunggong, with the total catch of 65 812 MT comprised the 6.1% of the 988,239 MT sum of marine municipal fish catch.

STUDENTS... from page 1

venues also affects our visitor's profile.

Not only the quantity but also the types of visitors were observed. Guests frequenting the Museum can be classified into four categories : students, scientists/researchers, educators and tourists. For the last two years, the students group top the list of visitors by category followed by the tourists, the educators then the scientists/researchers. In 2005, 83% out of 1251 guests were students. The same was observed in 2006, wherein students occupied 79% out of 1323 visitors. Scientists/researchers usually drop at the Museum to inquire and seek assistance in the identification of their specimen. Others come to check some reference materials in their taxonomic studies. While students, which comprises the

biggest piece of the pie come in bus load to gather information or plainly to view our collections.

The UPV-MNS is considered as an

academic support of the College of Fisheries and Ocean Sciences and the University as well. The pie graph showed that MNS is catering the right set of people.

The Museum is continuously upgrading its activities and services to

encourage not only the students but the public interests to visit the museum for them to appreciate our diverse natural resources.

Mola mola from Miagao, now MNS-mm-07-002

Another ailing *Mola mola* was accidentally entangled in the gill net of the fishermen from Brgy. Banuyao, Miagao, Iloilo, last March 25, 2007. The huge and rare fish commonly known as Sunfish approximately weighs 70 kgs. and has a total length of 127 cm.



The fish which died right within the site is now at the UPV Museum of Natural Sciences and tagged as MNS-mm-07-002.

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