The Mouseion

Official Newsletter of the UPV Museum of Natural Sciences
Office of the Dean - College of Fisheries and Ocean Sciences
University of the Philippines Visayas, Miagao, Iloilo

Volume 7 No. 2, January-June 2011 ISSN 1656 7692

FISHY TALES

- Whale Shark is the biggest fish in the world. They weigh approximately twenty tons and can grow up to forty feet long.
- Although one may think that sharks are the deadliest beings in the sea, it's actually jellyfish. One type of box jellyfish kills more people every year than every type of shark species combined.
- Fish do not blink due to the fact that they don't have eyelids. This is okay for them really, as blinking is only useful for adding moisture to the eye and because fish live in water, they do not need the added moisture.

Source: http://thelongestlaistofthelongest-stuffatthelongestdomainnameat-longlast.com/trivia108.html

Inside this issue:

GMA FEATURES MNS SUNFISH

By: J.A.D. Corvera

Last February, the UPV Museum of Natural Sciences (MNS) received a call from Mr. Flord Calawag of Tibiao Fish Spa that GMA TV research staff will visit the museum display collection. The date came, and the interview took place. The stuffed sunfish display collection was featured at the TV show "Mel and Joey's" on April 24, 2011.

Ms. Soledad S. Garibay, Museum Coordinator, was interviewed regarding the specimen collection, its descriptions, habitat and others. She mentioned that based on studies and researches, the sunfish is the world's heaviest bony fish and Guinness' World Record's "Most Fish Eggs". One female can produce as much as 300 million eggs at a time, which is more than any known vertebrate. The UPV MNS sunfish specimen was accidentally caught by a fisherman's net while fishing along Miagao waters. The coastal residents initially thought of it as a monster because of its unusual appearance.

(During the interview)

At present, there are two species of sunfish that can be found in the museum, the Ocean sunfish *(Mola mola)* and Sharptail mola *(Masturus lanceolatus)*. No doubt that the museum's sunfish mural continues to be the favorite spot of museum visitors especially among the children. Curious? Visit the UPV Museum of Natural Sciences today at the ground floor area of the Library Building.

MNS and the uniqueness of its role

By: V.B. Garcia

Assistance in the identification of specimen is one of the unique roles provided by the UPV Museum of Natural Sciences. Even without much information students know where to go.

Last March 11, 2011, a group of medical technologist students from the University of San Agustin (USA), Iloilo City came to the office to seek assistance in the identification of species they brought for their research studies on squid. Basic information on the identification such as description, biometrics and identification were provided based on the availability of our reference collections.

The sample specimen was later identified as *Stenoteuthis oualaniensis*. A week after, a UPV student came again with similar intention—assistance in identifying specimens.

Not all identification procedures were done by the office, students were also taught of the proper way of doing it. For verification of identification, experts in their respective fields were also consulted. The museum is glad that students recognizes the role of the museum in an academic community.

ON FOCUS...

Water Hyacinth: a friend or an enemy?

By: S.S. Garibay

Nearly 1 million victims were affected when Rio Grande de Mindanao, Mindanao's largest river system flooded Cotabato City recently. About 20 hectares of water hyacinths were reported to have built up in the city's portion of the river that blocked the passages of rainwater causing flood. But what really is water hyacinth?

Water hyacinth (*Eichornia crassipes*), is an ordinary aquatic plant that freely floats the surface of the water that can rise as much as 1 meter in height. The dark green leave blades are circular to elliptical in shape attached to a long and spongy bulbous stalk. An erect stalk supports a single spike of 8-15 conspicuously attractive flowers, mostly lavender to pink in color with six petals. The feathery, freely hanging roots are purple-black in color. This plant that has been considered invasive belongs to the following taxonomic classification:

Kingdom: Plantae
Phylum: Magnoliophyta
Class: Liliopsida
Order: Liliales
Family: Pontederiaceae
Genus: *Eichornia*
Species: *crassipes*

The submerged portions of these aquatic plants provide habitats for many micro and macro invertebrates. These invertebrates in turn are used as food by fish and other wildlife species. After aquatic plants die, their decomposition by bacteria and fungi provides food to many aquatic invertebrates.

Water hyacinth is a fast growing plant that reproduces primarily by way of runners or stolons which eventually form daughter plants. It also produces large quantities of seeds that are viable up to 30 years. The common water hyacinths, are vigorous growers known to double their population in two weeks. Hence, if not controlled, water hyacinth will cover lakes and ponds entirely which can dramatically impede water flow, block

It used to be an ordinary ornamental garden plant, but who would ever think that it is now considered a nuisance plant. Before whenever there is flood, garbage is usually blamed. These days, clogged waterways are blamed to another culprit, the water hyacinths.

(Source: http://botany.csdl.tamu.edu/FLORA/perdeck/vin_061.jpg)

sunlight from reaching native aquatic plants, and starve the water of oxygen that oftentimes lead to fish kills.

Typical in polluted rivers, these aquatic plants feed on pollutants and are in full bloom when a body of water is polluted. Water hyacinths en masse can also reduce biodiversity because other aquatic plants will have difficulty surviving in polluted environments.

But looking at the other side of it, water hyacinth can still be "friendly." The organisms attached to the fibrous roots can serve as food source for some ornamental fishes (i.e. gold fish) and other aquatic animals as well. The plant also helps to keep the water clean and provides oxygen.

Economic Uses

Water hyacinth materials can be used for alternative livelihood projects for the community to augment their income. The water hyacinth's stems can be dried for its fibers and made to form strands of string. These pieces of string are woven or interlinked together to form hemp, which is used for making bags, footwear, wreaths, hats, vases, Christmas lanterns, and other decorative materials. This opens opportunities for people to earn money by selling these products for a living while cleaning up the overpopulated bodies of water that are full of water hyacinths.

There are other known uses of water hyacinth such as for cattle food and in biogas production. Recently, they have been used in wastewater treatment due to their fast growth and ability to tolerate high levels of pollution. Parts of the plant are also used in the production of traditional handicrafts in Southeast Asia. In Bangladesh, farmers have started producing fertilizer using Water Hyacinth or Kochuripana as it is known there locally.

Following the massive flooding incidences in Cotabato City and other places, President Benigno Simeon C. Aquino III mentioned that he will direct the Department of Energy (DoE) to review the possible use of water hyacinth if it can be transformed into fuel to generate electricity.

For Industrial Utilization

Since the plant has abundant nitrogen content, it can be used as a substrate for biogas production. However, due to easy accumulation of toxins, the plant is prone to get contaminated when used as feed.

Water hyacinth is also observed to enhance nitrification in waste water treatment cells of living technology. Their root zones are superb micro-sites for bacterial communities. In some they even use it to purify water.

The aquatic plant also has a high energy and protein content so it can be used as animal fodder. Studies have shown that the nutrients in water hyacinth are available to ruminants.

In Southeast Asia, some non-ruminant animals are fed rations containing water hyacinth.

In China, pig farmers boil chopped water hyacinth with vegetable waste, rice bran, copra cake and salt to make a suitable feed.

Ironically, while water hyacinths are considered damaging, they still have beneficial uses which, if managed well, can be converted to money.

References :

Calanzo, Andreo C. 2011. River-clogging plant causes devastating Cotabato flood. GMA News. June 16, 2011.

Fernandez, Edwin. 2011. Cotabato City's Delta Bridge finally free from water hyacinths; flood subside. Inquirer Minadanao. June 26, 2011.

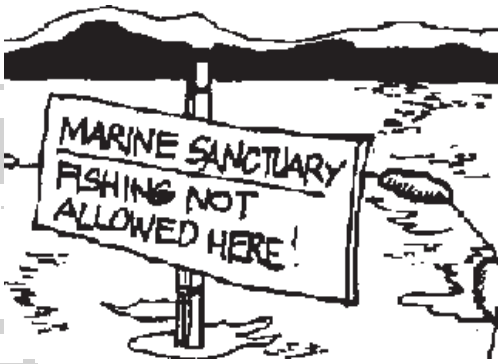
Legaspi, Amita. 2011. Aquino visits nearly 1 million flood victims in Cotabato City. GMA News. June 22, 2011.

Sabater, Madel. 2011. Water hyacinth as biofuel studied. Manila Bulletin Publishing Corp. June 22, 2011.

www.invasive.org/browse/subinfo.cfm?sub=3020

Marine Protected Area

By: J. A. D. Corvera



(Source: http://collections.infocollections.org/ukedu/uk/d/Jii25ie/5.5.html)

Fishing is central to the livelihood and food security of 200 million people, especially in the developing world, while one of five people on this planet depends on fish as the primary source of protein. In the Philippines alone, around 62% (49.6 million) of the Philippine population resides within coastal areas and about a million people depend on coastal and marine areas for their source of living. The marine resources are constantly threatened by overfishing and environmental degradation. One solution that hopes to address this problem is the establishment of marine protected areas.

What is a marine protected area?

Fishery reserves, refuges, and sanctuaries may also be generally referred to as "marine protected area (MPA)," which are essentially areas of the marine waters that are more strictly regulated than other waters. It does not necessarily mean that the entire area of the MPA is a "no-take" zone; protection refers only to the special treatment and management measures being undertaken by the managing body. Thus, it is possible to have an MPA that allow limited or multiple uses as long as such uses are consistent with the overall management plan of the area and do not negate the conservation and management measures (Batongbacal, 2004).

Why are MPAs necessary?

The establishment of MPAs is long-recognized strategy for resource conservation and management. According to the National Research Council, (1998), MPAs serve the following purposes:

• Protect target species from exploitation and allow populations to recover especially in the "no take zone".

• Protect critical habitats (such as spawning grounds or nursery beds) since they provide some protection from population to recover and protect all components of the marine community from degradation caused by destructive fishing practices

• Provide opportunity for marine stakeholders (e.g. researchers and fisherfolks) to learn about marine ecosystem.

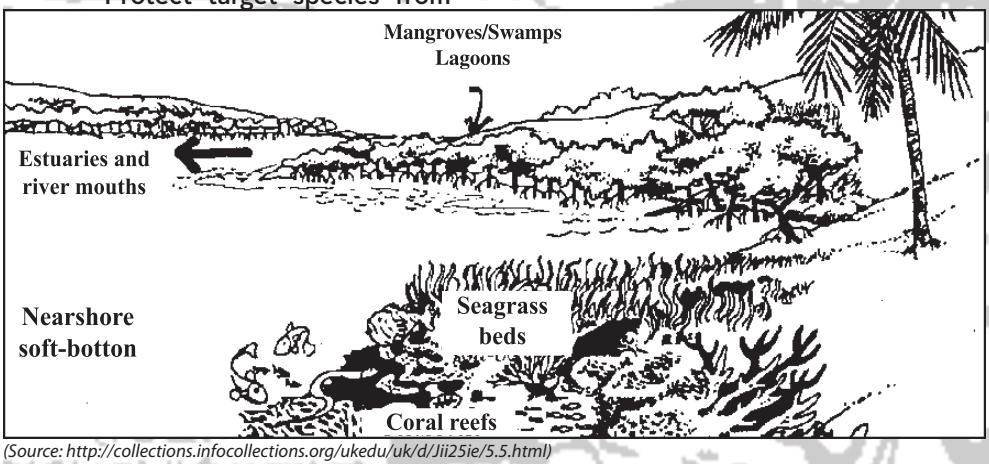
• Protection against management uncertainty is another critical function of MPAs seens population inside such areas can serve as a "bank" against fluctuation of outside populations caused by fishery-management difficulties or miscalculations.

What coastal habitats can be turned into MPAs?

Mangrove swamps /lagoons, estuaries and river mouths, coral reefs, seagrass beds and near-shore soft bottom habitats, each by itself or together where contiguous, can be turned into a protected area. The economic and ecological importance of these habitats and the destruction they have suffered are well known.

How can you help?

David Helvarg, Founder of Blue Frontier, wrote 50 Ways to Save the Ocean. Some of the doable tips listed below are listed as follows :



(Source: http://collections.infocollections.org/ukedu/uk/d/Jii25ie/5.5.html)

• Be a marine sanctuary (or other type of MPA) volunteer – Our marine protected area systems are in need of volunteers to grow, prosper, and accomplish their missions. You can ask your local government unit (LGU) about the MPA site in your municipality or city. The LGU needs volunteers for its education and information campaign. You can also do your share by reporting MPA violations.

• Use less plastic – The plastic that finds its way into the ocean never stops polluting because it never breaks down. It can end up in the stomachs of fish and other marine life which place them in peril.

• Opt out of the throwaway culture – What we throw out as rubbish does not ever really go away. Develop a habit of putting your trash in your pocket or keep them in your bag to be disposed properly.

• Keep your household refuse nontoxic – Chemicals tossed in the garbage find their way into streams, rivers, and eventually the sea.

• Join in a coastal cleanup or wetlands cleanup – Protect the shoreline while getting some healthy outdoor exercise. The UPV Museum holds its annual coastal cleanup every third Saturday of September. Sign up now and be a part of it. Let's help save the ocean!

Source:

Batongbacal, Jay L. 2004. A Handbook on Preparing Municipal Fisheries Ordinance. (Ablaza, E.C. ed.) Fisheries Resource Management Project, Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Quezon City. (182 pages)

http://collections.infocollections.org/ukedu/uk/d/Jii25ie/5.5.html

http://www.un.org/events/tenstories/06/story.asp?storyID=800

http://perkyprose.typepad.com/perky-prose/2011/02/50-ways-to-save-the-ocean.html

2011 Philippine Biodiversity Expedition

By: J.A.D. Corvera

New species of swell shark, the shark can inflate its stomach with water to bulk up and scare off other predators.
(Source:http://ph.news.yahoo.com/hundreds-species-found-philippines-033950845.html)

Around 300 new species of flora and fauna were discovered recently in the Philippines after a 42 -day expedition participated in by Philippine and foreign scientists coming from the California Academy of Science.

This expedition has led to documentation of different kinds of terrestrial and marine forms. According to the California Academy of Science, these newly discovered species has included "dozens of new insects and spiders, deep-sea armored corals, ornate sea pens, bizarre new sea urchins and sea stars, a shrimp-eating swell shark, and over 50 colorful new sea slugs".

The data generated by the scientists have provided a formal recommendation to key partners such as Conservation International, the Philippines Protected Areas and Wildlife Bureau, the Philippines Department of the Environment and Natural Resources, and the Bureau of Fisheries and Aquatic Resources in outlining the most important locations for establishing marine protected areas, as well as suggested areas for reforestation to reduce sedimentation damage to the reefs.

California Academy of Sciences and Filipino scientists anticipate the catch—including shrimp and small sharks.
(Source:http://www.smithsonianmag.com/multimedia/photos/?c=y&articleID=127306028&page=8)

Source:

http://in.news.yahoo.com/300-species-found-philippines-040703867.html

http://news.yahoo.com/inflatable-shark-among-300-species-discovered-philippines-135007930.html

http://sanfrancisco.ibtimes.com/articles/169718/20110626/philippines-discovers-300-new-species-california-academy-science-amazing-rare-photos.htm

http://www.sciencedaily.com/releases/2011/06/110624130023.htm

"The Mouseion" is a bi-annual publication of the UPV Museum of Natural Sciences

Editor-in-Chief: Soledad S. Garibay
Associate Editor: Jo Annie D. Corvera
Contributors: Virgie B. Garcia
Circulation Personnel: Leonardo H. Mooc
Consultant: Dr. Liah C. Catedrilla

"The Mouseion" welcomes contributions relevant to museum trusts. For more information contact the Editor-in-Chief at
Tel. No. (033) 315-9631/32 loc 183,
Fax No. (033) 315-8143 or
Email us at upvmuseum@yahoo.com

Were on the web!
http://upvmns.yolasite.com/

Like us on Facebook:
http://www.facebook.com/pages/UPV-Museum-of-Natural-Sciences/201271013236944

Museum Exhibits Payao

By: J.A.D. Corvera

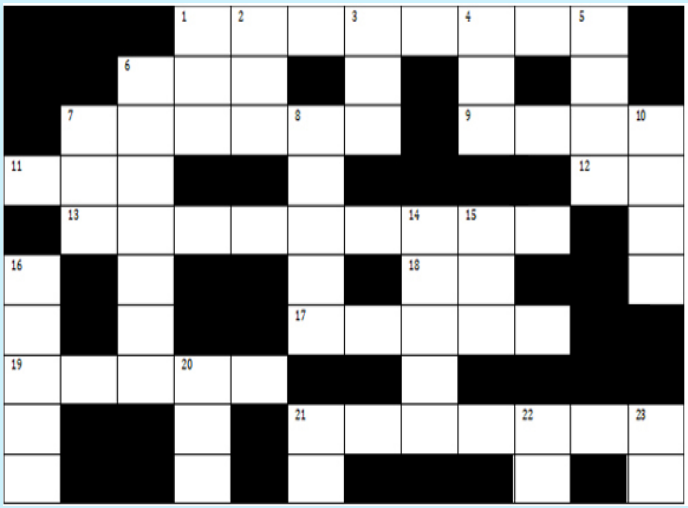
On May 31, 2011, the "Payao" Exhibit officially opened at the Museum Lobby. The exhibit features the miniature version of a "Payao", which is also known as Fish Aggregating Device (FAD).

The "Payao" exhibit presented the different parts of the device as well as the procedures on how it is being utilized in a fishing operation. The different species of fish caught around "Payaos" stationed particularly in Panay Gulf were also featured.

The exhibit ran until the end of July.

CROSSWORD

By: S.S. Garibay



ACROSS

1. a chemical used for preservation
6. a container, usually metal
7. a building for exhibiting objects of artistic, historic, or scientific interest
9. a young sheep
11. a rigid approximately cylindrical container with a wide mouth or opening
12. the masculine singular definite article in Spanish
13. the art of preparing and stuffing the skins of animals for exhibit purposes
17. a large natural stream of freshwater flowing into an ocean
18. a South American three-toed sloth
19. painting on wall
21. heaviest bony fish

DOWN

1. Freshwater Aquaculture Station (abbrev.)
2. single; undivided
3. silent; not speaking
4. laugh out loud
5. a word or term by which a person or thing is called
6. one who manages a museum or gallery
7. a piece of material of woven fibers
8. below, beneath
10. an online journal
14. a large crow-like bird with glossy black feathers
15. Japan Prefecture
16. a preserved body wrapped in cloth
20. to give assistance
21. in this way, as shown, as stated
22. inside or within
23. third person singular (masculine)

NOTE : The first three who can submit completed puzzle will receive a museum souvenir item.