OCWC GLOBAL 2014

Creation of *E-museum* as Open Educational Resource Repository of Organisms for Students of Biological Sciences

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Why this Initiative?

- **Trigger Event:**
  - **Government Ban** on use of live animals or specimens for experimentation in India and other countries
  - **Guidelines** issued by statutory Bodies of India to **phase out dissection** and experimentation on live animals
  - **Non-availability of specimens** creating **escalating need to develop a repository of Organisms**

- **Reasons For Ban:**
  - **Inhumane treatment** to **animals** in dissection and other educational purposes
  - **Mishandling** of animals in trapping, transportation and storage by suppliers

Objectives....

- **Creating:** dynamic, flexible, knowledgeable, OER available to all biologists & academicians
- **Sharing:** knowledge throughout the scientific community among Indian & Foreign Universities
- **Availability:** Adapt, re-use, modify, transform and supplement resource with required information
- **Awareness:** Enhancing Knowledge & curiosity in biological diversity erosion at enormous rate
- **Documents:** List the diverse/threatened/extinct species

E-Museum....

- **Features:**
  - **Repository** of biological specimens using Wiki platform
  - **Information** on organisms' classification, habits, habitats & characteristic features

- **Availability:**
  - Under **Creative Commons** licence
  - Freely available and accessible to all educators/students
- **Ease & Access:**
  - Can be used **with ease and modified** as per the need
  - No training/expertise required in teaching-learning process
  - Can be accessed at **far-off and rural** places in India.

Challenges & Requirements

Finances
Staff, Equipment, Website, Space

Challenges in creating *e-museum*

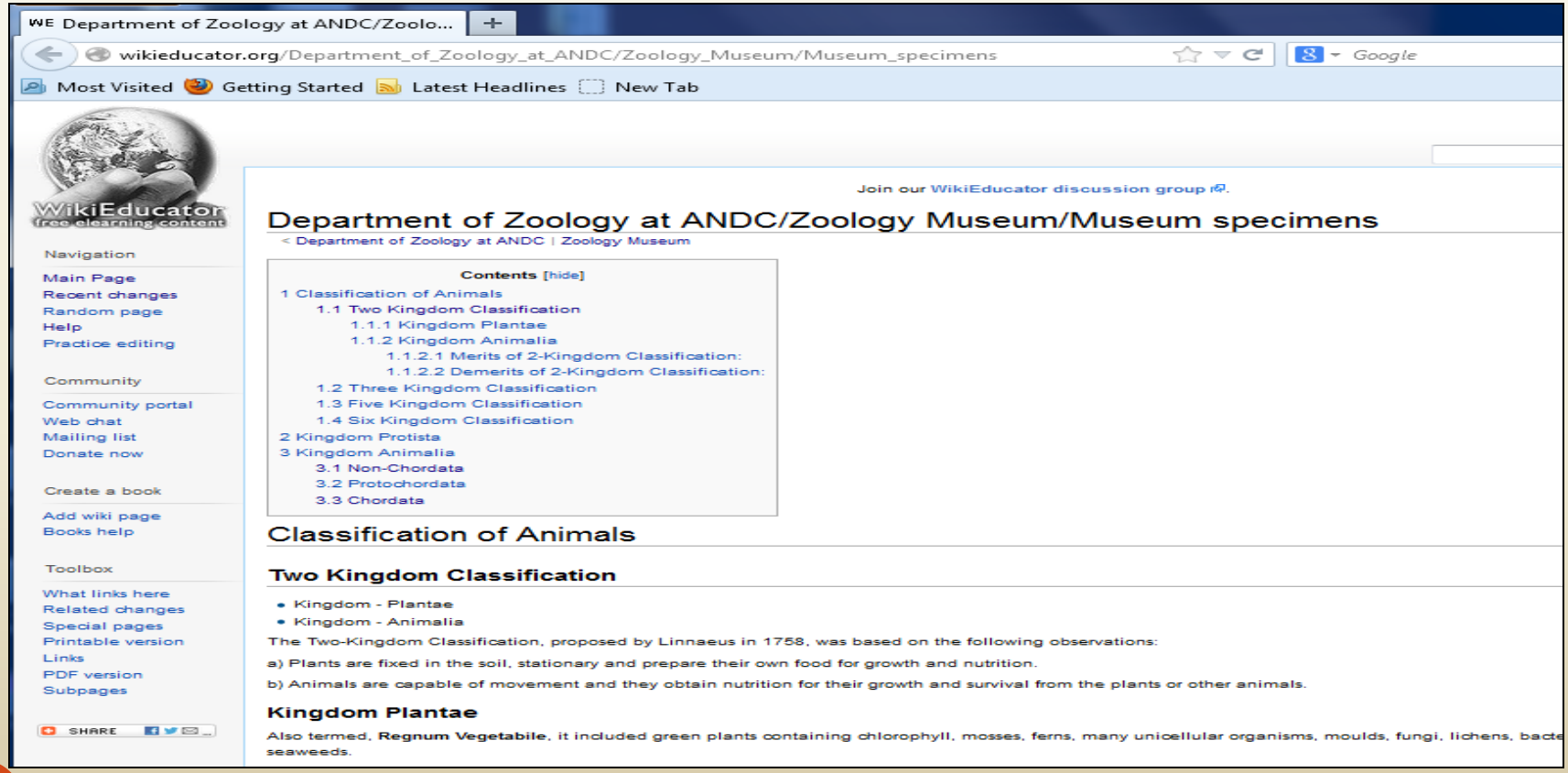
Expertise
Designing, Digitization, Documentation

Recurring Cost
Maintenance, Preservation, Quality control

Website Developed....

- **Please visit.....**

http://wikieducator.org/Department_of_Zoology_at_ANDC/Zoology_Museum/Museum_specimens



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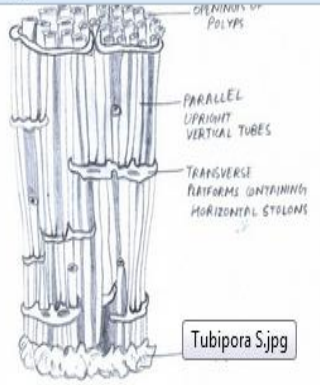

Tubipora S.jpg

Classification

Phylum - Cnidaria

Class - Anthozoa

Order - Stolonifera

Genus - *Tubipora*

Common Name

Organ pipe coral

Habit and Habitat

It is a marine and colonial form. It is widely distributed on the coral reefs in warm waters.

Identifying Characters

- **Colony** is made up of long and upright polyps.
- Each polyp lives in a separate tube, which are parallel to each other.
- Polyps are connected to each other by horizontal **stolons** at particular intervals.
- Polyps are bright green in colour.
- **Skeleton** is red in colour due to presence of iron salts.
- **Mesogleal Spicules are fused and closely fitted which forms the continuous tube for each polyp.**
- Skeleton is covered by an **ectoderm** and is thus internal.
- **Reproduction** is asexual by budding.

File:Tubipora_S.jpg

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Common Name: Venus's flower basket

Classification:

Phylum: Porifera

Class: Hexactinellida

Order: Hexasterophora

Genus: *Euplectella*

Distribution:

Found in abundance near the Philippine island and West Indies.

Habitat:

Found abundantly in deep waters at the depth of 500 to 5,000 meters in slow running water.

Identifying Features

- Long curved, cylindrical body fastened in the mud of sea bottom by a mass of long siliceous root spicules.
- Size of individual varies from 15-30 cm in length and 2-5 cm in diameter.

Common Characters

- Skeleton consists of four and six- rayed siliceous spicules which are interlaced and fused at their tips forming a three dimensional network with parietal gaps.
- Canal system simple leuconoid, having thimble-shaped radial canals.
- Parietal gaps in the in the network of spicules connect with the spongocoel.

Systematic Postion

Phylum: Annelida

Class: Polychaeta

Genus: *Chaetopterus*

Common Name: Paddle worm

Distribution

Worldwide distribtion, mainly found in Europe, and U.S.A.

Habit and habitat

Tubicolous, lives in U-shaped tubes.

Food

small organisms,true filter feeders.

Identifying features

- Body is delicate consisting of highly modified segments.
- Body color is white.
- Length is approximately 15-35 cm.
- Body is divided into an anterior region, middle region and a posterior region.
- Anterior region consists of 15-20 segments parapodia, prostomium, peristomial collar(cirri and mouth). It lacks the tentacles and palps.
- Middle region consists of five segments:
  1. anterior most, produced into great wings.
  2. a pair of sucker.
  3. have fans(fused notopodia).

4. Coracias

Common name- it is called nilkanth in Hindi and blue jay in English.

Distribution- found in India, Pakistan, Burma and Ceylon.

Habit and Habitat- like to live in open cultivated country and avoids dense forests.

Food- grasshoppers, beetles, and other insects. it can eat lizards, mice, and frogs sometimes.

IDENTIFYING CHARACTERS-

- Body - similar to pigeon in size.
- Body color- dark and pale blue portions on wing, the breast is brown,.
- Head - bigin size, consist of heavy, black bill.
- It destroys the injurious pests.
- The nest is made up of straw, feathers and rubbish in hole in the trees.

5. Passer

Common name- gauriya in Hindi and HOUSE SPARROW IN eNGLISH.

Distribution- distributed worldwide except Andmans and Nicobars.

Habit and Habitat- like to live in houses and open areas.

Food-seeds, grains, wheat, and other cereals etc.

IDENTIFYING CHARACTERS-

- Body- small in size.
- Body length- about 10-12 cm
- Body color- earthy brown and underparts are whitish.
- legs- 4 clawed toes, one is directed backward and other three are directed forwards.
- the male has black area on throat and breast.
- It destroys the large number of insects.
- Nest is made up of straw and rubbish ruffledinto a hole in the wall.

6. Anas

Common name- duck in English and buttakh in Hindi.

Distribution-found in India, Pakistan and Burma.

Habit and Habitat- like to live in fresh water, ponds and pools.

Food- wheat, cereals etc.

IDENTIFYING CHARACTERS-

- Body color- white.
- Neck- long and C- shaped.
- Beak- broad and flattened. base of the beak is covered by a soft sensitive membrane.
- Jaws -consist of transverse lamellae on inner surface.
- plumulae consist of uropigial glands which secrete oily secretion.

- only single auricle in heart.

2. Chiton

COMMON NAME:

Habit and habitat: Chiton is a sluggish, marine animal found attacked to the rocks.

IDENTIFING CHARACTERS

1. Body is elongated, bilaterally symmetrical and dorsa- ventrally compressed.
2. It consists of shell, foot, mantle and the visceral mass.
3. Shell composed of a series of eight calcareous pieces.
4. Foot is flat and ventral.
5. Mouth and anus are at opposite ends.
6. Head is not distinct. Eyes and tentacles are absent.
7. Mantle covers the main part of the body and covered the shell plates.
8. Foot is ventral, muscular with a flat sole exe whole extending along the length of the body.

3. Pila

COMMON NAME:

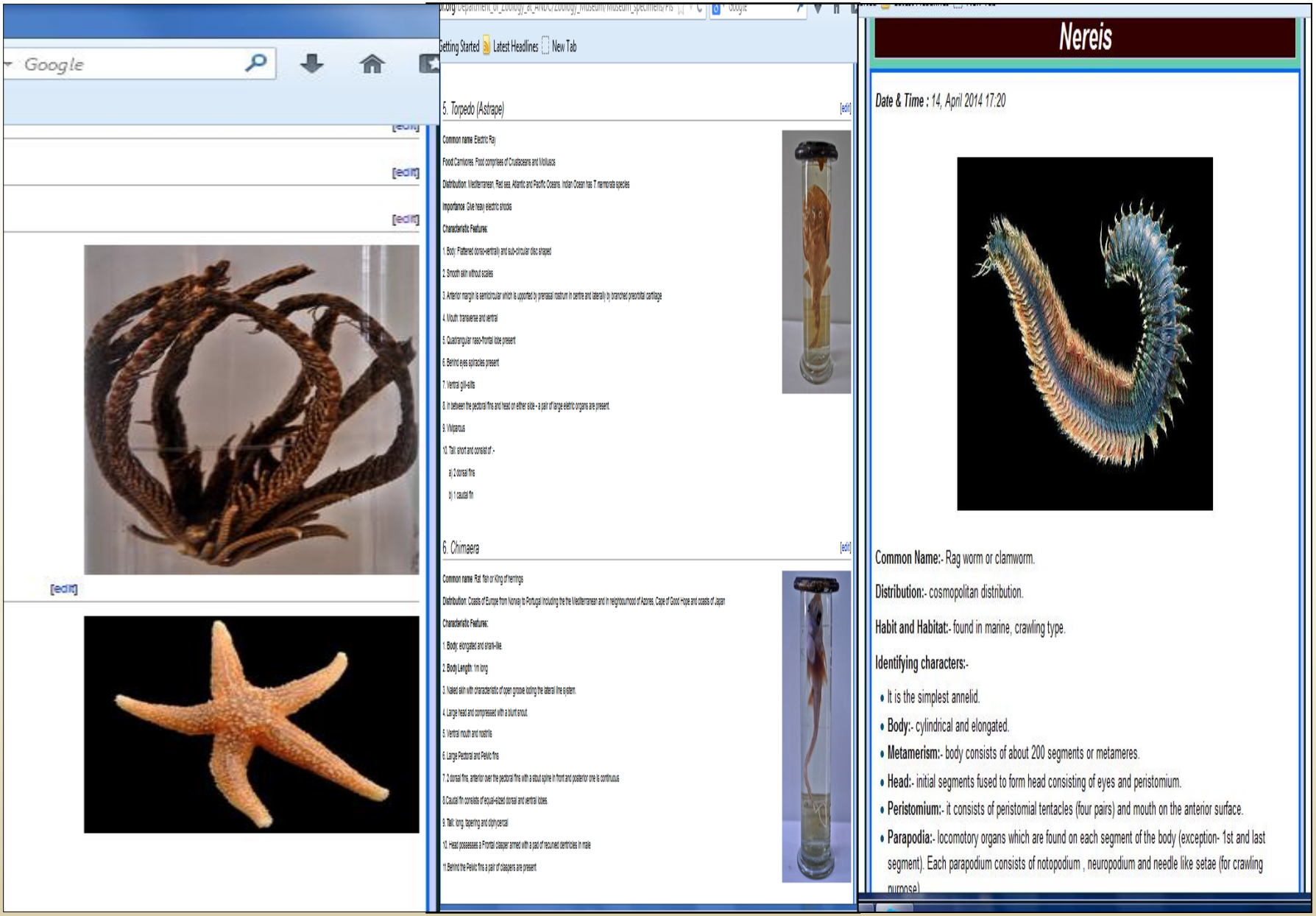
Habit and habitat- Pila globosa is commonly found in pond, tanks.

IDENTIFING CHARACTERS-

1) Pila is soft body of the animal is enclosed in a shell.

2) Shell is spirally coiled round an axis called the collumella and opens outside by the mouth or aperture.

3) Operculum is well developed and close the aperture or the mouth of the shell.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5. Torpedo (Astrape)
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Common name: Electric Ray
Food: Carnivore. Food comprises of Crustaceans and Molluscs
Distribution: Mediterranean, Red sea, Atlantic and Pacific Oceans. Indian Ocean has 7 mammoth species
Importance: Give heavy electric shocks
Characteristic Features:
1. Body: Flattened dorso-ventrally and sub-circular disc shaped
2. Smooth skin without scales
3. Anterior margin is semicircular which is supported by prenasal rostrum in centre and laterally by branchial prevomital cartilage
4. Mouth: transverse and ventral
5. Quadrangular naso-frontal lobe present
6. Behind eyes spiracles present
7. Ventral gill-slits
8. In between the pectoral fins and head on either side - a pair of large electric organs are present.
9. Viviparous
10. Tail: short and consist of :-
a) 2 dorsal fins
b) 1 caudal fin
6. Chimaera
[edit]
Common name: Rat fish or King of herrings
Distribution: Coasts of Europe from Norway to Portugal including the the Mediterranean and in neighbourhood of Azores. Cape of Good Hope and coasts of Japan
Characteristic Features:
1. Body: elongated and shark-like
2. Body Length: 1m long
3. Naked skin with characteristic of open groove lieding the lateral line system.
4. Large head and compressed with a blunt snout.
5. Ventral mouth and nostrils
6. Large Pectoral and Pelvic fins
7. 2 dorsal fins, anterior over the pectoral fins with a stout spine in front and posterior one is continuous
8.Caudal fin consists of equal-sized dorsal and ventral lobes
9. Tail: long, tapering and diphycercal
10. Head possesses a Frontal clasper armed with a pair of resumed denticles in male
11.Behind the Pelvic fins a pair of claspers are present
Nereis
Date & Time : 14, April 2014 17:20
Common Name:- Rag worm or clamworm.
Distribution:- cosmopolitan distribution.
Habit and Habitat:- found in marine, crawling type.
Identifying characters:-
• It is the simplest annelid.
• Body:- cylindrical and elongated.
• Metamerism:- body consists of about 200 segments or metameres.
• Head:- initial segments fused to form head consisting of eyes and peristomium.
• Peristomium:- it consists of peristomial tentacles (four pairs) and mouth on the anterior surface.
• Parapodia:- locomotory organs which are found on each segment of the body (exception- 1st and last segment). Each parapodium consists of notopodium , neuropodium and needle like setae (for crawling