

Glossary

Santa Monica Pier Aquarium (Heal the Bay) & COSEE-West host:

“Exploration and Evolution:

Discoveries in the Lakes of Palau and the Deep Basin of the Celebes Sea”

March 12, 2008

- A Aphotic zone** - dark region of the ocean that lies below the surface sunlit waters
- B Bathypelagic zone** – ocean depths of 2,000 meters and below; no downwelling light
- Biodiversity** - the number of different species in a designated area or volume
- Bioluminescence** - chemical production of light by living organisms
- C Celebes Sea** - deep oceanic basin in the western Pacific, bordered by the Sulu Archipelago and Sulu Sea on the north, by Borneo on the west, the island of Sulawesi on the south, and the island of Mindanao on the east; also known as the Sulawesi Sea
- Cephalopod** - literally means head-foot, includes octopuses, squids, cuttlefish, and nautilus that have the foot modified into arms that surround the head
- Chlorophyll maximum** - layer in which chlorophyll concentration is higher than in the water above or below; an indicator of where the maximum amount of phytoplankton occurs in the water column
- Clade** - a set of species descended from a particular ancestral species
- Cnidarian** - radially symmetrical animal with a saclike body with only one opening and tentacles with stinging structures; occurs in polyp (e.g. coral, sea anemone) and medusa (jellyfish) forms; in the phylum Cnidaria, formerly called Coelenterata
- Coral Triangle** - region that includes the Philippines, Malaysia and Indonesia and is known to have the highest species diversity of shallow water marine animals in the world
- Ctenophore** - a marine invertebrate in the phylum Ctenophora, which resembles a jellyfish, usually with a transparent, jellylike body and eight rows of comb like cilia (tiny hairs) for swimming; also known as a comb jelly because of the 8 rows of cilia
- D Diversity** – the various kinds or forms of something; biodiversity is often the term used in biology (see **biodiversity** above)
- E Echinoderm** - a radially symmetrical marine invertebrate in the phylum Echinodermata that includes starfish, sea urchins, sea cucumbers, and sand dollars
- Endemic** - unique to its own location; found only there, and not found naturally anywhere else
- Epipelagic zone** – ocean depths between the surface and approximately 200 meters
- Euphotic zone** - the well-lit surface layer of the ocean where plants photosynthesize; also called the photic zone

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Evolution - the change in the genetic makeup of a species as a result of natural selection and other factors

Expatriation - removal from one’s original location to another

G Gelatinous tissue (mesoglea) - the jelly-like substance between the two tissue layers of a cnidarian

Genus - a natural grouping of closely related species

H Haplotype - a set of closely linked genes that tends to be inherited together as a unit

Holocene - the most recent epoch in geologic time, lasting from about 11,000 years ago until the present day (the time since the last Ice Age)

Holothuroid - an echinoderm having a flexible sausage-shaped body, tentacles surrounding the mouth and tube feet; free-living mud feeders; also called sea cucumber

I Invertebrate - animal that does not possess a backbone

M Mastigias - a genus in the phylum Cnidaria; some species contain symbiotic algae like corals do

Mantis Shrimp - arthropod (stomatopod) that sits and waits in ambush for prey to come near and kills them with harpoon-like or hammer-like front appendages

Mesopelagic zone - the “twilight zone” of the ocean, representing depths between 100 m and 2,000 m (depending on the clarity of the water); there is some light, but it is insufficient for photosynthesis

Midwater – ocean depths between 500 and 2,000 meters below the sea surface

Midwater Trawl - a net that is dragged horizontally or obliquely through the water column at midwater depths

Miocene - a period of geologic time from 24 million years ago to 5 million years ago

Myctophid - small, deep sea fish also called a lantern fish because it has pouches below its eyes that contain bioluminescent bacteria

O Oxygen minimum zone - a layer of water between the depths of 500 and 1,000 m in which dissolved oxygen concentrations are lower than in the water above or below

P Palau - a republic in the western central Pacific Ocean composed of a chain of more than 200 islands that span more than 400 miles

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Pelagic - referring to the water column away from the bottom, sometimes also referred to as open ocean

Photophore - light-producing or luminous organ found in certain crustaceans and fishes

Phytoplankton - plant-like members of the plankton community that are the primary producers of the oceans

Plankton - organisms that float or have weak swimming abilities, live in the water column, and are carried about by currents in saltwater or freshwater

Plankton kreisel - an aquarium especially designed to keep delicate gelatinous animals up in the water column

Polychaete - a type of aquatic worm, generally marine, that move with multiple fleshy appendages called parapodia that bear many bristles called chaetae

R Remotely Operated Vehicle (ROV) - unmanned submersible operated remotely via a cable to a control center; usually equipped with sampling tools and cameras

S Salp - barrel-shaped, free-floating zooplankton that moves by pumping water through its gelatinous body and strains the water, feeding on phytoplankton

Speciation - evolutionary process where the result is two new species from a single common ancestor species

Species - a reproductively isolated aggregate of interbreeding organisms with characteristics that distinguish that group of living organisms from other groups

Submersible - a vessel that can submerge and operate underwater

Symbiosis - two organisms living in close proximity to each other, often with one member of the association living on or inside the other

T Thermocline - a sharp, vertical temperature gradient that marks a contact zone between water masses having markedly different temperatures

Z Zooplankton - animal plankton such as copepods, euphausiids, jellyfish, salps and ctenophores