

Concept of biodiversity

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INTRODUCTION

The term Biodiversity was first coined by Walter G. Rosen in 1986.

The biosphere comprises of a complex collections of innumerable organisms, known as the Biodiversity, which constitute the vital life support for survival of human race.

Biological diversity, abbreviated as biodiversity, represent the sum total of various life forms such as unicellular fungi, protozoa, bacteria, and multi cellular organisms such as plants, fishes, and mammals at various biological levels including gens, habitats, and ecosystem .

Biodiversity

What does “**Bio**” means?

Bio = **Life**

Biodiversity

What does “Diversity”
means?

Diversity = Variety

CONCEPT AND TYPES OF BIODIVERSITY

- Biodiversity is the variety of life forms on earth and the essential interdependence of all living things.
- As defined in convention on Biological diversity signed at Rio De Janeiro (Brazil) in 1992 by 154 countries, the Biodiversity defined as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic eco-systems and the ecological complexes of which the area part- this include diversity with in species, between species and of ecosystem.”
- According to IUCN in 1998, “the variety and variability of species of their population, the variety of species of their life forms, the diversity of the complex association with species with their interaction and their ecological process which influences perform.”

There are three types of biodiversity

➤ Diversity of Species



➤ Diversity of Ecosystem

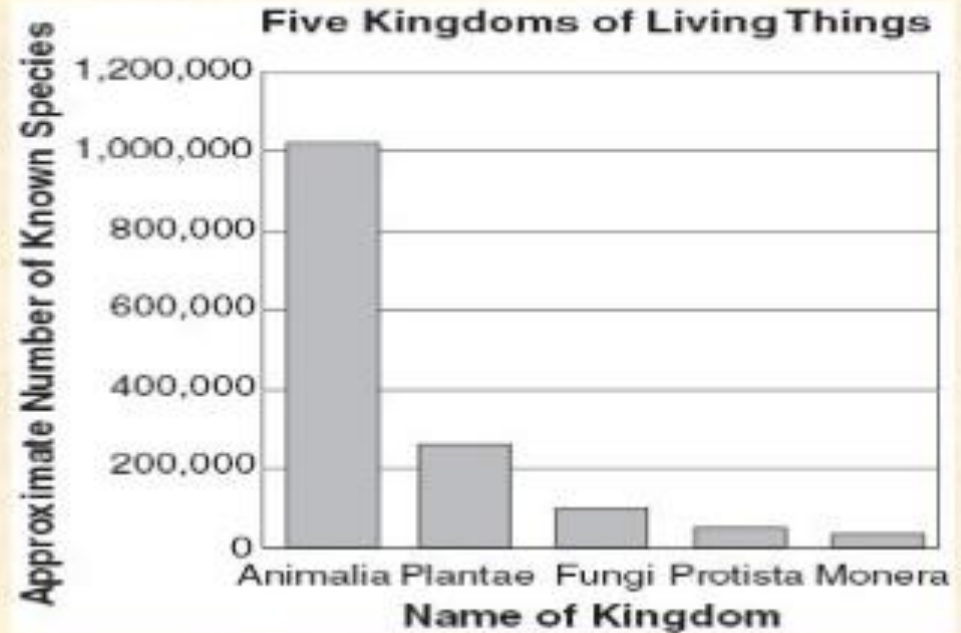


➤ Diversity of Genes



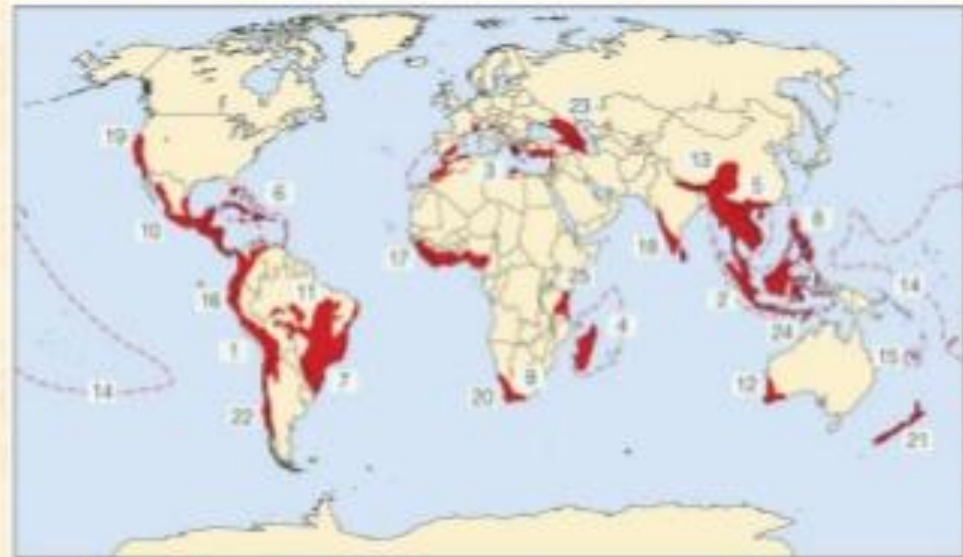
DISTRIBUTION OF BIODIVERSITY

- ❖ Flora and fauna diversity depends on-
 - Climate
 - Altitude
 - Soils
 - Presence of other species
- ❖ Most of the biodiversity concentrated in Tropical region.



❖ BIODIVERSITY HOTSPOTS:

- A region with high biodiversity with most of species being Endemic.
- India have two Biodiversity Hotspots- East Himalayan Region and Western Ghat.



BIODIVERSITY AND BALANCE OF NATURE

- **Tropic Level:** Elimination of species from tropic level can cause destruction of ecosystem as well as biodiversity.



- **Complex Ecosystem:** In a complicated ecosystem having several tropic levels, loss of one or more species do not cause any serious problem because the alternative available.
- **Keystone Species:** Loss or addition of species causes detectable changes in ecosystem rates i.e. species make unique contribution to ecosystem functioning.
- **Niche Complementary:** Difference among species in their requirements for different resources will cause complementary interaction so that a species could obtain more resources.

- **Facilitation and Mutualism:** Plants may also benefit from their neighbors through amelioration of the physical and biotic environment.
- **Portfolio Effect:** Species richness increases the temporal stability of the entire community while the biomass is stabilized.
- **Insurance Hypothesis:** Biodiversity buffers ecosystem against environmental changes such as global warming.