

ANIMAL DISTRIBUTION



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Subject: Zoology

Course Title: Zoogeography

&

Paleontology

M.Sc. II (Evening) Semester III

Zoogeography: An Introduction

- Zoogeography is a branch of zoology which deals with geographical distribution of animals on earth.
- Every area on the earth has plant or animal life.
- Ice-covered polar regions, hot deserts, damp forests, high mountains, lakes, rivers, ponds and oceans all have one or other kind of life.
- Microscopic life such as bacteria and fungi.

- Zoogeography is a branch of Biogeography.
- More than 500,000 species of plants.
- More than 1,120,000 species of animals.
- Term Biota is used for all the living organism of a region.
- Animals are collectively known as Fauna and plants as Flora. (Biota= Fauna+ Flora)









BRANCHES OF ZOOGEOGRAPHY

- **DESCRIPTIVE:** Study of animals in their natural habitat. It is concerned with geographical range.
- **CHOROLOGICAL:** Study of specific places or regions is with reference to animal distribution.
- **FAUNISTIC:** Study of animals species in a specific region.



- **SYSTEMATIC:** Study of total combination of phenomena related to the evolution of species and their distribution.
- **BIOCOENOTIC:** Description of interactions of all species present in the same habitat affecting each others abundance, distribution and existence.
- **CAUSAL:** Study of causes that are operative to bring about the animal distribution found in the present day fauna.



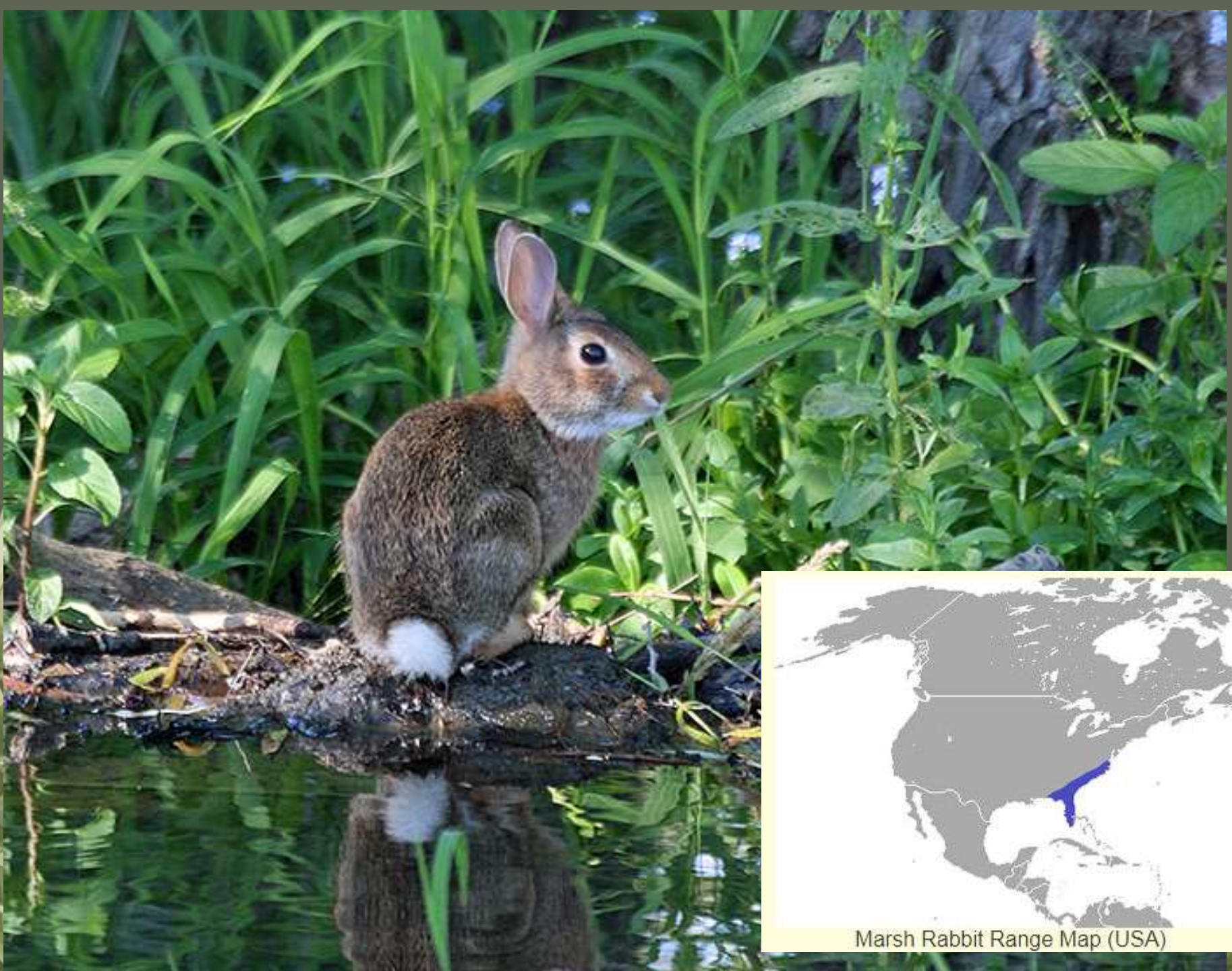
- **ECOLOGICAL:** Study of role of abiotic and biotic interactions in the distribution of a particular group of animals.
- **HISTORICAL:** It is concerned with the origin, dispersal, distribution and extinction of a particular taxon.
- **EXPERIMENTAL:** Study of introduction of new species to an area and to monitor its distribution.
- **APPLIED:** Management and conservation of species in its native area.

Animal Distribution

- None of the animal or plant species occurs uniformly throughout the world.
- Each species is restricted to a definite area of its distribution called its range.
- **Geographic Range:** The entire extent of land or water over which a particular species normally occurs.
- **Geological Range:** It refers to the occurrence of a species or a group in past epochs as well as at present.



- **Ecological Range:** It refers to major biotic communities (i.e. terrestrial, marine, fresh water) of which the organism is a member.
- **Example:**
- The marsh rabbit, *Sylvilagus palustris* has geographical range of southern states of North America. The geological range extends from Paleocene (about 60 million years ago) to the present. While its ecological range is the thickest and the marshy areas.



Marsh Rabbit Range Map (USA)

- Example: Indian rhinoceros, *Rhinoceros unicornis*, has a geological range beginning from middle Miocene period (about 26 million years ago) to the present. Its ecological range is the grass lands and jungles of foothills of Himalayas, while its geographical range is west Bengal, Assam (India) and Nepal.





Distribution map of Indian rhinoceros

