

# DEPARTMENT OF ZOOLOGY

## B.N. COLLEGE BHAGALPUR

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### **B.Sc. Zoology Part III**

#### **MESOZOIC ERA**

#### **INTRODUCTION**

- The Mesozoic era began 290 million years ago and continued up to 63 million years ago.
- The features possessed by its fauna were mid-way between those possessed by the primitive Paleozoic animal and the advanced Cenozoic animals, hence this era is known as the period of “middle life or medieval life.”
- As this era witnessed the rise diversification, dominance and extinction of reptiles; the Mesozoic era is also called the golden age of reptiles.
- This era is divided into 3 periods.

#### **1. TRIASSIC PERIOD**

- This period began 230 million years ago and continued up to 180 million years ago.
- This name was coined by a German geologist **F. Von Alberti**.
- It was based on 3 distinct subdivisions of contrasting rocks of Germany.

#### **Climatic Conditions:-**

- The climate was warm, temperate and dry over major parts of the earth.
- In some areas it was subtropical with seasonal changes.
- Loft Appalachian peaks underwent great erosion.
- This helped in land elevation and reduction of height which resulted in expression of deserts and continents.
- The end of this period is marked by palisade disturbances in Eastern-North America.

#### **Faunistic Peculiarities:-**

- Coral reef appeared.

- Branchiopods became restricted in both no. as well as distribution.
- Molluscs were represented by numerous snail, bivalvia and cephalopods.
- Insects and sea-urchins diversified and spread.
- Primitive amphibians like **Stegocephalians** became extinct.
- Dinosaurs became abundant as small creature.
- Certain reptiles like Ichthyosaurs (fish like) plesiosaurs (clumsy with flattened turtle like body) descended from land to ocean and adapted marine life.
- **Prototherians** appeared first time as a result of diversification of reptiles.

## 2. JURASSIC PERIOD

- This period began 180 million years ago and continued up to 135 million years ago.
- This name was coined by **A. Von Humboldt (1799)**.
- This has been named after the Jura mountain of France and Switzerland.

### Climatic condition:-

- The climate was mild throughout the world.
- It was warm, humid and faced plenty rain falls.
- Heavy deposition of shells and sandstones occurred in western part of United States.
- This resulted in covering of major part of the Rocky mountain region.
- The end of this period is marked by the occurrence of Nevadan disturbance.
- Volcanic activities of this period produced Sierra Nevada ranges extending from Mexico to Alaska.

### Faunistic Peculiarities:-

- Corals forming coral reef became numerated.
- Modern oysters like **Pelicycypods** appeared.
- Arthropods were represented by lobsters, crabs, ostracods and insects.
- Modern crinoid abundant, sea-urchins represented echinoderms.
- Reptiles dominated land, sea and air.

### ➤ These were represented by following:-

- (i) Huge quadrupedal plant eating **Brontosaurus** and **Diplodocus**.
- (ii) Herbivore quadrupedal **Stegosaurus**.
- (iii) Carnivore dinosaurs **Allosaurus**.
- (iv) **Ichthyosaurs** and **Plesiosaurs** continued to expand.
- (v) **Pterosaurs** were provided with wings and were flying reptiles.

(vi) The primitive bird *Archaeopteryx* appeared.

(vii) Insectivores and Marsupial mammals appeared.

### 3. CRETACEOUS PERIOD

- This period began 135 million years ago and continued up to 63 million years ago.
- This name was given by *J. J. D. Omalus* and *D. Holley* (1882).
- This name was derived from a Latin word *creta* meaning chalk referring the white cliff of Dover along the English Channel.

#### Climatic Condition:-

- In the beginning the climate was mild and temperate over the most earth surface but latter on it became comparatively cool.
- The *Laramide revolution* during which appeared the great rocky mountain system along with volcanic activities occurring in the eastern part of the United States change the surface relief of the earth as well as climate.
- Changed climate favoured the evolution of mammals, birds and caused complete extinction of certain groups of animals.

#### Faunistic Peculiarities:-

- Foraminiferans became abundant and their calcareous shells participated in constituting large part of the many cretaceous formations.
- *Branchiopods* were also abundant.
- Molluscs continued to flourish.
- Echinoderms were represented by numerous *Heart urchins*.
- Fishes were similar to modern forms.
- Reptiles were numerous and dominant.
- The famous dinosaur was *Tyrannosaurus rex*.
- Herbivores dinosaurs were the Trachodonts the Ankylosaurs and the Ceratopsians.
- Marine reptiles Ichthyosaurs and Plesiosaurs became less in number.
- *Extinction of dinosaurs* began due to their heavy body and small brain, lack of adaptability, cold bloodedness, herbivorous food etc.
- After this period they were off the line.
- Modern birds appeared by more specialization.
- Archaic mammals originated.

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