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16 May 2020

Dr. Rajesh Verma, Assistan Professor and Head, U.G. Department of zeology. D.K. College. Dumraon (Buxar). Notes for B.Sc Part 2nd, Papers 3(A). Unit = 3(c)

Question no. 64:- Origin of Birds ko classify karke hue bachpan yaman kahe?

Answer:- **Origin of Birds:-**

The scientific question of within which longer group of animals birds evolved has traditionally been called the "origin of birds". The present scientific consensus is that birds are a group of maniraptoran theropod dinosaurs that originated during the mesozoic Era.

A close relationship between birds and dinosaurs was first proposed in the primitive bird Archaeopteryx in germany. Birds and extinct non-avian dinosaurs share many unique skeletal traits. Moreover, fossils of more than thirty species of non-avian dinosaur with preserved feathers have been collected. There are even very small dinosaurs,

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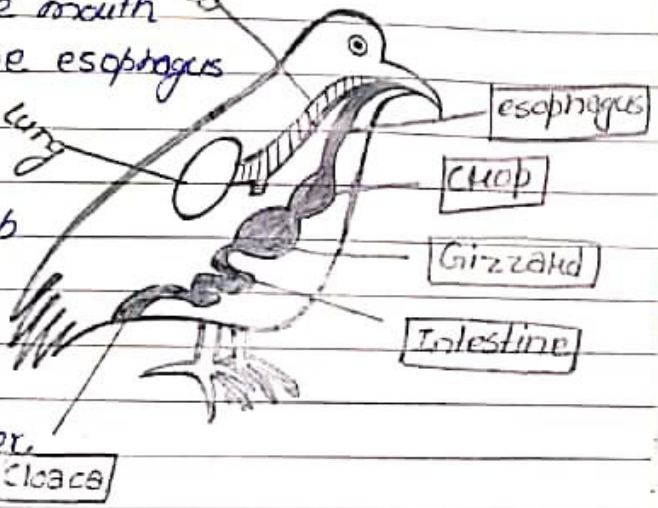
such as Microraptor and Anchiornis, which have long, vaned arm and leg feathers forming wings

Digestive and Excretory System

- Food passes from the mouth cavity straight to the esophagus
- Enlargement of the esophagus called the crop stores and moistens food.
- In the first chamber, the proventriculus, gastric fluids begin breaking down the food.
- then passes through the gizzard, a muscular organ that kneads and crushes the food.



Research History :-

Huxley, Archaeopteryx and early research

Scientific investigation into the origin of birds began shortly after the 1859 publication of Charles Darwin's on the origin of species. In 1860, a fossilized feather was discovered in Germany's

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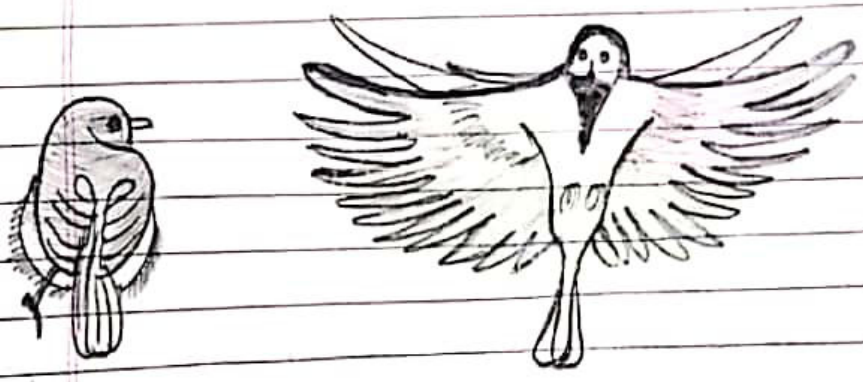
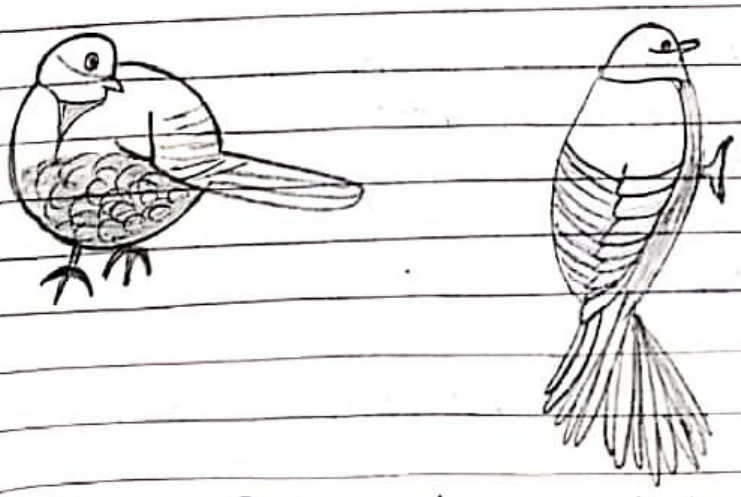
late Jurassic Solnhofen limestone. Christian Erich Hermann von Meyer described this feather as Archaeopteryx lithographica the next year. Richard Owen described a nearly complete skeleton in 1863, recognizing it as a bird despite many features reminiscent of reptiles, including clawed forelimbs and a long, bony tail.





Ostrom, Deinonychus and the dinosaur renaissance :-

The tide began to turn against the 'thecodont' hypothesis after the 1964 discovery of a new

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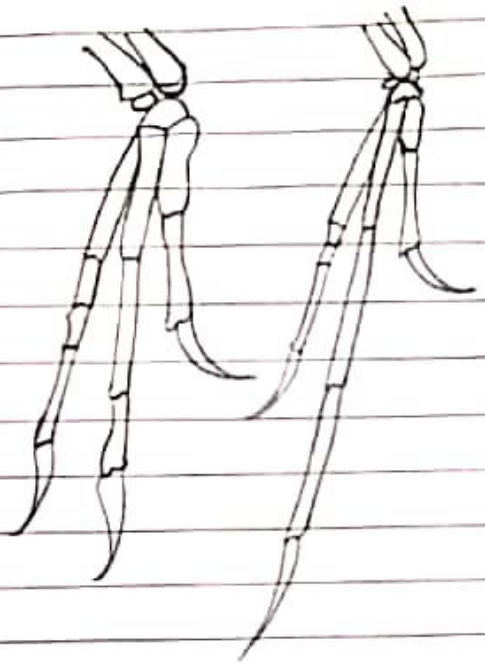

The similarity of the forelimbs of Deinonychus (left) and Archaeopteryx (right) led John Ostrom to revive the link between dinosaurs and birds.

Theropod dinosaur in Montana. In 1969, this dinosaur was described and named Deinonychus by John Ostrom of Yale University. The next year, Ostrom redescribed a specimen of Pterodactylum in the Dutch Teyler Museum as another skeleton of Archaeopteryx. The specimen consisted mainly of a single wing and its description made Ostrom aware of the similarities between the wrists of Archaeopteryx and Deinonychus.

Cursorial ("from the ground up") theory :-

The cursorial theory of the origin of flight was first proposed by Samuel Wendell Williston, and elaborated

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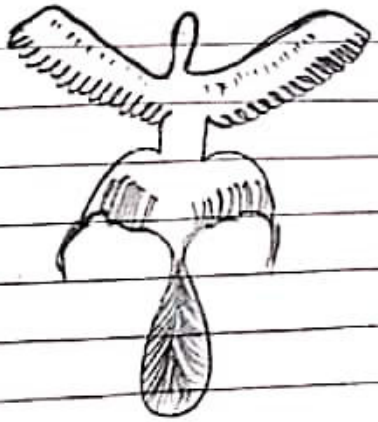
upon by Baron Nopcsa.



Current thought is that feathers did not evolve from scales, as feathers are made of different proteins. More seriously, Nopcsa's theory assumes that feathers evolved as part of the evolution of flight, and recent discoveries prove that assumption is false.