

PALEONTOLOGY

New Species Of Dinosaur

► A HUGE duck-billed creature with a strange crested head has been found to be a new species of dinosaur—those gigantic beasts that lumbered and fought across the earth for millions of years, and then died, never to be seen alive again.

A nearly complete skeleton of the new species, the only one of its kind known, is in the scientific collection of the Chicago Natural History Museum. Discovered in New Mexico in 1923, the bones only now have been completely analyzed by Dr. John H. Ostrom of the Peabody Museum of Natural History, Yale University in New Haven, Conn., who spent several summers studying the peculiar bone structures.

Named *Parasaurolophus cyrtocristatus*, the newly identified specimen measures about 22 feet long and stands about 12 feet high on its hind legs in a partly erect position.

Its unique feature is its hollow horn-like crest which sweeps back over its head in a curve. The bones in this crest, similar to those normally found in skulls, are modified and inflated with a hollow passage leading toward the nasal cavities, said Dr. Ostrom.

The increased surface area in the hollow crest available for olfactory tissue may have heightened the animal's sense of smell, believes Dr. Ostrom. The beast may have needed this extra sense of smell, he pointed out, since he possessed no means of defense such as horns, claws, sharp teeth, clubbed or spiked tail or bony armor.

The relatively helpless animal could only hope to smell approaching animals in time to retreat to the lakes, rivers or swamps where flesh-eating creatures could not follow.

Roaming the swampy lands of ancient New Mexico, about 75 million years ago, this dinosaur was a plant-eater, with a duck-

like bill shaped to scoop up succulent weeds growing in shallow water.

Behind the bill, on both sides of the jaw, are several rows of closely packed teeth that look somewhat like chisels fitted tightly together. As these teeth wore down, others pushed up from underneath, Dr. Ostrom said. The dinosaur may have had as many as 2,000 teeth during his life.

Like other crested dinosaurs, this species was a swimmer, with a high tail, flattened at the sides, and its front feet were probably webbed. His hide may have been tough and leathery, with hundreds of horny scales.

The duck-billed dinosaur was once common in North America, Europe and Asia during the late Cretaceous period, the age of the last great dinosaurs. Each one may have had a life-span of only several decades, or as long as a moderately large crocodile or elephant today, Dr. Ostrom said.

It is not unusual to find only one or two specimens of a particular kind of dinosaur, explained Dr. Ostrom. Some of the more "glamorous" dinosaurs are known only by a few specimens, like the *Tyrannosaurus Rex* which has one good specimen in the New York Natural History Museum, and another fairly good skeleton in Pittsburgh, plus a few fragments.

• Science News Letter, 84:340 Nov. 30, 1963

ZOOLOGY

Chemical Bag of Tricks Helps Sea-Going Frog

► A CHEMICAL BAG of tricks helps the sea-going, crab-eating Siamese frog adapt to its environment from tadpole to adult.

Dr. Malcolm S. Gordon, University of California, Los Angeles, zoologist, has made a study of this strange amphibian, the only saltwater frog known, which lives in mangrove swamps along the coast of Thailand. Dr. Gordon won a 1950 Science Talent Search scholarship.

In the tadpole stage the concentration of salt in the animal's body fluids is much less than that of its seawater environment. Consequently the tadpole is always losing water, which it replaces by drinking sea water.

The tadpole does not use its kidneys to get rid of the excess salt it accumulates from constant imbibing of sea water. It does, however, successfully dispose of the salt, probably through some gill mechanism.

As the tadpole gains its hind legs and begins to look more like a frog, it suddenly shifts to another type of body chemistry. Its fluids become even more concentrated than seawater but not in salt. It adds a large quantity of urea (a waste material in most animals) to the salt originally present.

The manner in which this particular tadpole regulates salt concentration in its tissues is similar to that of bony fishes. The adult frog's salt regulation is like that of cartilaginous fishes such as sharks.

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Chicago Natural History Museum

STRANGER FROM THE PAST— With the discovery of the strange duck-billed, crested skull shown above, paleontologists have uncovered another creature of the earth's early history.

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