Alaskan Dinosaurs

Written by Administrator Thursday, 30 August 2012 10:59 - Last Updated Wednesday, 26 September 2012 11:35

Alaskan dinosaurs endured polar winters, according to an article in ScienceDaily 11 April 2012.

Researchers from the USA and South Africa have carried out microscopic studies of dinosaur bones found in North Slope Alaska. Most of the bones were of *Edmontosaurus*, a hadrosaur, and

Pachyrhinos

aurus

horned dinosaur. Hadrosaurs are commonly known as "duck-billed dinosaurs" and were plant eaters. The researchers found the bones showed regular patterns of rapid growth and slow growth, similar to tree rings. They concluded this was the result of enduring tough living conditions in the high Arctic during long dark winters, when there was a shortage of food for vegetarian dinosaurs such as these. Allison Tumarkin-Deratzian explained: "What we found was that periodically, throughout their life, these dinosaurs were switching how fast they were growing. We interpreted this as potentially a seasonal pattern because we know in modern animals these types of shifts can be induced by changes in nutrition. But that shift is often driven by changes in seasonality".

They then examined the bones with those of similar dinosaurs found in southern Alberta, Canada and found they did not show the same "stress pattern" in the bones. One of the researchers, Anthony Fiorillo, a palaeontologist at the Museum of Nature and Science, Dallas, also studied the geology of rock layers in Alaska where the bones were found, and concluded the dinosaurs had been buried in flood deposits. He explained: "They are very similar to modern flood deposits that happen in Alaska in the spring when you get spring melt water coming off the Brooks Mountain Range. The rivers flood down the Northern Slope and animals get caught in these floods, particularly younger animals, which appear to be what happened to these dinosaurs. So we know they were there at the end of the dark winter period, because if they were migrating up from the lower latitudes, they wouldn't have been there during these floods".

ScienceDaily

Editorial Comment: Did you notice that the researchers' conclusions assume that the place where these fossils were found is the place where they lived and died. However, the place where a fossil is found is only the place where it ended up being buried. The fact that they were found in flood deposits does indicate they lived and died somewhere else and have been washed in and dumped. How far away is anybody's guess. Likewise the pattern of rapid and slow growth may indicate these dinosaurs lived through periods of stress, but it is not proof they lived at the Arctic Circle.

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As someone who has found Hadrosaurs in the rocks of southern Alberta, this editor has to admit that the same flood type deposits are seen in Alberta where the dinosaurs are buried with shells, sharks, turtles, logs, figs and fishes etc. Just for the record, I have also found Hadrosaurs in the rocks of Montana in similar flood deposits which is getting to be a rather coincidental number of floods over a very large area don't you think?

As the Alaskan researchers accurately note, present day floods do kill young, i.e. small animals, but did you notice they didn't comment on the fact that at the present, zero creatures are observed ending up as fossils? The Alaskan bone beds do show all the signs of being the final resting place for both sediment and bones that were picked up elsewhere, then carried along, dumped and buried, particularly since a 1987 report on these North Slope bone beds tells us they contain disarticulated dinosaur bones that have been "size sorted with the largest elements and densest concentrations near the base of the bed". (*Science*, vol. 237, pp1608-1610 25 September1987.) So these bone beds actually are evidence for rapid catastrophic transport, followed by fast burial.

The same report also described the bones as having "rare permineralisation". This means they have not been much infiltrated by minerals in the ground water, which is the usual first indicator that bones have been buried a long time. The bone beds have been dated as "Late Cretaceous (claimed about 66 to 76 million years before the present)", but if the dinosaur bones had really been lying in this bone bed for around 70 million years they should have been thoroughly permineralised. So perhaps they haven't been there that long either?

We recommend that researchers should stop wasting their time speculating about how dinosaurs survived high Arctic winters and look at what the rocks and fossils really show. A good list of what other types of fossils have been found in these beds would be helpful to discover this. (Ref. fossilisation, reptiles, osteology, palaeontology)

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