

## Evidence of dinosaur nest construction is extremely rare

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Thousands of fossilized dinosaur eggs and egg clutches have been found in sedimentary rocks.<sup>1</sup> It is commonly claimed that these eggs and egg clutches are lying within dinosaur nests. For instance, it was reported in *New Scientist* that large numbers of nests have been discovered in southern France:

‘... excavations of the site with a team of paleontologists at the Institute of Evolutionary Science in Montpellier have revealed *thousands of nests*, each containing between 5 and 15 eggs, believed to be between 65 million and 71 million years old [emphasis added].’<sup>2</sup>

The first ‘nests’ discovered in North America were found north-west of Choteau, Montana.<sup>3</sup> The dinosaurs were assigned to the genus *Maiasaur*, meaning ‘good mothering lizard’. The site is two kilometres north of ‘Egg Mountain’, which is a well-known dinosaur-egg site from a different species of dinosaur. The *Maiasaur* ‘nests’ were identified by circular structures containing a green mudstone filling within brown mudstone. A few of the circular structures contained the remains of dinosaurs 0.5 to 1.0 m long, suggesting that the dinosaurs remained in the nest while the *Maiasaur* mothers cared for them. However, as I have previously pointed out, many questions still revolve around these supposed nests, the eggs, and the dinosaur skeletons in the area:

‘Are the claimed nests really nests made by mothering duckbill dinosaurs? They appear to be so, but other explanations are possible, especially in view of the possibility that baby *Maiasaur*s were precocial.<sup>[4]</sup> At this point



Plaster-jacketed eggs of *Troödon formosus* on top of Egg Mountain. Note the upturned strata to the right of the eggs, which lie in a bowl-shaped depression.

whether the baby *maiasaur*s were precocial or altricial [helpless at birth] is controversial. There are still too many unknowns to answer these questions.’<sup>5</sup>

During a field trip in 1997, I learned that the nest interpretation of the structures north-west of Choteau had been questioned by some evolutionary paleontologists.<sup>6</sup> Furthermore, nests are often simply defined by the presence of eggs or egg fragments. There are very few dinosaur nests in the world; most eggs are simply found on bedding planes. These sentiments, except the last one, were not published at the time, as far as I know. There is also evidence from the numerous eggshell fragments at one of the Choteau locations that the eggs and shell fragments were transported into the area during deposition of the sediments.<sup>7</sup>

In a recent article, Chiappe *et al.* now admit that nests are indeed rare and have been simply defined by the presence of an egg clutch:

‘Despite the relative abundance of dinosaur eggs in the fossil record (Carpenter *et al.*, 1994; Carpenter, 1999), *trace-fossil evidence of dinosaur nest*

*construction is extremely rare.*

The existence of a nest is typically inferred by the presence of an egg clutch and usually it is not accompanied by physical evidence of nest architecture ... [emphasis added].’<sup>8</sup>

Even the *Maiasaur* nests north-west of Choteau are questioned:

‘Examples of physical sedimentologic evidence previously used to infer nest construction include zones of contrasting sediment color surrounding eggs and remains of juveniles (Horner and Makela, 1979), or color attributes of egg-bearing horizons (López-Martínez *et al.*, 2000). Given the many ways in which color is produced during pedogenesis and diagenesis, however, the use of color criteria for inferring nest structures, even in the presence of eggs and remains of juveniles, is unreliable.’<sup>8</sup>

The reason they are cautious about the presence of eggs or juveniles as defining a nest is that hydraulic processes can concentrate fragmentary eggshell debris and disarticulated skeletal elements.<sup>9</sup> It is possible that



Artist's impression of dinosaur eggs hatching. Most dinosaur eggs have been found on bedding planes and not in nests, which suggests they were laid in a hurry. This is consistent with the catastrophic Genesis Flood environment.

whole eggs and articulated skeletons can be concentrated during a large flood.

Chiappe *et al.* go on to state that only one true nest structure had been identified, until recently, based on their proposed nest criteria. This nest is the one on the top of Egg Mountain (see figure).<sup>10,11</sup>

However, Chiappe *et al.* believe they have found true nest structures in Argentina, which are considered to be from sauropod dinosaurs. In an area with hundreds of egg clutches, they found five clutches that were within subcircular to subelliptical to kidney-shaped depressions that truncated the sandstone strata. The depressions are encircled by a rim of massive red sandstone, while the interior of most depressions are filled with a mottled green mudstone.

Although these lithologically contrasting depressions may be nest structures, the evidence is not conclusive, as hydraulic processes may have concentrated the eggs and mud in a pre-existing depression. However, what is very clear is that large numbers of eggs are not associated with anything suggestive of a nest at this site, indicating that nest construction was not the norm when these eggs were placed.

What is the significance of the extreme rarity of nest structures? One

would certainly expect that dinosaurs would make nests for their eggs, since most large reptiles, such as alligators, crocodiles and marine turtles, bury their eggs. One would certainly not expect the vast majority of eggs to have been simply laid out in the open on the surface of the sediment, i.e. on a bedding plane. This evidence indicates that the dinosaurs likely laid their eggs in a hurry, and points to abnormal conditions of worldwide extent. Rather than being a problem for Flood geology, as some have claimed, the lack of evidence for 'dinosaur nests' is consistent with the catastrophic environment that prevailed during the Genesis Flood.

### References

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