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Rethinking *Maiasaura*

Challenging the evolutionary interpretation of the ‘good mother’ dinosaur

by Kevin Lamoure

In mid 1978, then unknown American paleontologist John ‘Jack’ Horner and a friend visited a rock shop in Montana, USA.[1] The owner gave them a small collection of tiny but intriguing fossil bones she had found. They were the extremely rare bones of *baby* dinosaurs. These bones would dramatically change how science and popular culture perceive dinosaurs to this day. Horner later became famous, and was the inspiration for Dr Alan Grant, the dino expert in the *Jurassic Park* movies.

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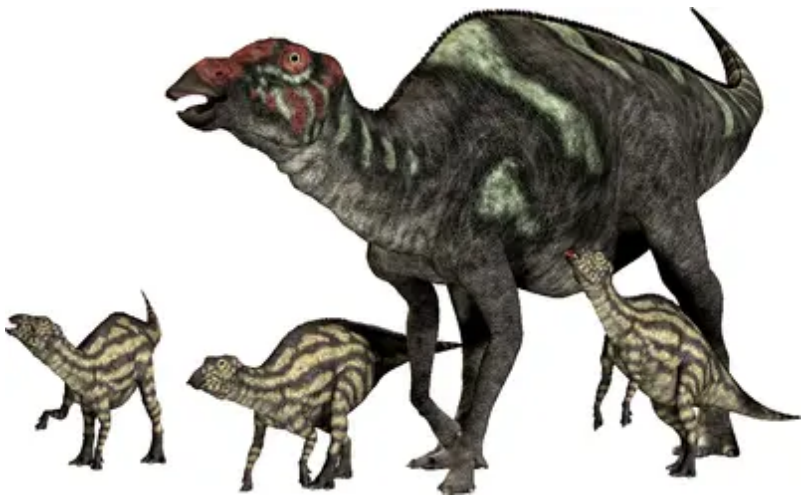

Multiple nests, eggs, and more baby dinosaurs were found in the 1980s; thus the area came to be known as ‘Egg Mountain’.

The ‘good mother’ emerges

Inspired by this fortuitous lead, Horner and his friend prospected the original location of the tiny bones, the Two Medicine Formation (Upper Cretaceous), near Choteau, Montana.[2] Shortly into working the deposit, they recovered the large fossil skull of an adult hadrosaur (a ‘duck-billed’ type of dinosaur) near the original baby dinosaur fossil find. They would eventually prove to be the same species,[3] which the pair named *Maiasaurapeeblesorum*.[4] This means ‘good mother lizard’ (of Peebles).[3] (Maia was the mother of Hermes the messenger god in Greek myths, and

a symbol of motherhood. John and James Peebles were the owners of the land.) The name conveys what would make these discoveries, or rather their interpretation, so dramatically influence thinking about dinosaurs.

Reptilian dilemma

Multiple nests, eggs and more baby dinosaurs were found in the 1980s; thus the area came to be known as 'Egg Mountain'. Horner became convinced that the fossils of *Maiasaura* demonstrated a complex social behaviour unlike that expected from reptiles. Underdeveloped baby limb bones supposedly indicated an inability to leave a nest, and he thought that tooth wear in babies suggested an extended period of feeding in the nest. He wrote:

> … the evidence seemed to me incontrovertible that these babies had to have stayed in that nest while they were growing and that one or more parents had to care for them.[3]

This revelation in reptiles, including dinosaurs, was contrary to expectations at the time:

> … it was in such severe contrast to the image of how dinosaurs were supposed to behave—laying eggs and leaving them, like turtles or lizards or most reptiles.[3]

Revolutionary solution

In the decade *Maiasaura* was unearthed, evolutionists had resurrected the 19th-century idea that modern birds descended from theropod dinosaurs (e.g., *Deinonychus antirrhopus*).[5]

Horner fed into this by seeming to widen the behavioural gap between modern reptiles and *Maiasaura*. He also emphasized the claimed similarities between dinosaurs and modern birds. He considered, for example, whether some dinosaurs had "acted like birds and reared their young in nests, caring for them and bringing them food …" [emphasis added].[3]

Eight apparent nests associated with *Maiasaura* had been uncovered on Egg Mountain. Reflecting on these, Horner described an idyllic scene long ago:

> … at least eight *Maiasaura peeblesorum* females had gathered together, spacing out their nests[6] [this claim of bird-like nest spacing has since been questioned by evolutionists[7]], and laid their eggs and raised their young in a colony *reminiscent of penguins* nesting on the coast of Antarctica [emphasis added].[8]

Being a prominent defender of the theropod-to-bird hypothesis, Horner's conclusions were not surprising.[9]

Hadrosaurs like *Maiasaura* were 'bird-hipped' dinosaurs, whereas birds were supposed to have evolved from theropods, which are 'lizard-hipped'. Nonetheless, a 2009 evolutionary study claimed that the preserved proteins of a hadrosaur, *Brachylophosaurus canadensis*, were "on the same family-tree

branch" as a theropod, *Tyrannosaurus rex*. They were categorized "in the same group as chicken and ostrich" and more distant "to alligator and lizard".[10]

BEDS—mounting a challenge

The BEDS model developed by prominent creationist researcher, Michael Oard has undermined aspects of this tidy evolutionary 'dinosaurs became birds' story. BEDS (Briefly Exposed Diluvial Sediments) describes a highly variable process of soft sediments being laid down by rising floodwaters. A temporary receding of these waters (such as with tidal movements or tectonic uplift) would briefly expose these sediments. Distressed dinosaurs could then take time-limited refuge on such surfaces. They would leave behind tracks, accumulations of scavenged carcasses, and eggs, sometimes seemingly in *nests* (even some evolutionists have questioned the *Maiasaura* nest interpretation,[7] not just the spacing interpretation).

> Some pregnant dinosaurs under stress may have retained fertilized eggs longer than usual, allowing the embryo to reach the point of hatching shortly after laid. These would all be subject to rapid burial by more sediments when the floodwaters again rose, preserving them.

Infrequently, an uplifted surface could have stayed exposed for long enough to allow the hatchlings to develop for a time. This would explain the rare finds such as the baby maiasaurs.

So, the same data can lead to radically different interpretations, depending on the prior assumptions. Those who assume uniformitarian (slow and gradual) geology say that they represent generations of normal *Maiasaura* life over millions of years. But dynamic actions of the Flood could produce the same egg arrangement. BEDS can also solve problems that uniformitarian assumptions cannot.[11]

The claims about typical *Maiasaura* social behaviour, and its bird-like interpretation, are thus on very shaky ground.

The 'good mother' after all?

Of course, nothing in the Bible says *Maiasaura* could not have been a good mother. We are free to follow the best evidence. 'Good' social behaviour might have existed in the 'good mother' dinosaur—but it would not prove that dinosaurs evolved into birds. The fossil evidence from various species of dinosaur supports a reptilian, non-bird character to dinosaurs in general. This includes distinctly *crocodilian* features such as their: breathing system, nasal anatomy, temperature regulation, and brain morphology.[12]

Maiasaura could have engaged in the following social behaviours, which are all observed in species of modern crocodilians[13]—without offering any support to 'birds were dinosaurs':

- Built nests of mounds of vegetation and engaged in communal (group) nesting.

- Protected their nests and controlled their nest temperature.
- Excavated hatchlings from the nest, opened unhatched eggs, and carried their young.
- Cared for their young for over a year.
- Guarded their young, including a dominant male, or females taking turns, guarding large groups (up to 1,000+) of young from multiple families.
- Methodically fed their young.
- Maintained complex communication with their young.

This happens to mirror several of the social behaviours Horner defined as specifically bird-like.

Of course, in the absence of clear evidence, *Maiasaura* might still have simply laid eggs and left them—like leatherback sea turtles, for instance. Yet, these remarkable crocodilian examples encourage us to strongly question the evolutionary interpretations of *Maiasaura* social behaviour, which are currently 'all for the birds'.

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References and notes

1. Horner, J. R. and Gorman, J., *Digging Dinosaurs*, p. 33, Workman Publishing Company, New York, NY, 1988. Return to text.
2. Horner and Gorman, ref. 1, p. 51. Return to text.
3. Horner and Gorman, ref. 1, pp. 62–63. Return to text.
4. Adult *Maiasaura peeblesorum* were about 7m (23 ft) long and weighed about 2.5 tonnes. Paul, G.S., The Princeton Field Guide to Dinosaurs, p. 336, 2nd Edn, Princeton University Press, 2016. Return to text.
5. Sarfati, J. and Carter, R., Did dinosaurs evolve into birds? creation.com/dinosaur-bird-evolution. See also Thomas, B. and Sarfati, J., Researchers remain divided over 'feathered dinosaurs', *J. Creation* **32**(1): 121–127, 2018; creation.com/feathered-dinosaur-debate. Return to text.
6. Modern species of ground-nesting birds space their nests equal to an adult's outstretched wings. *Maiasaura*was thought to do this equal to an adult's body length in bird-like fashion; Horner and Gorman, ref. 1, p. 104. Return to text.
7. Oard, M. J., Dinosaur Challenges and Mysteries, Creation Book Publishers, Atlanta, GA, 2011, p. 129. Return to text.
8. Horner and Gorman, ref. 1, pp. 102–103. Return to text.
9. Catchpoole, D., The Horner/Larsson quest: a 'chickenosaurus' to publicly demonstrate evolution! creation.com/chickenosaurus, 17 Sep 2009. Return to text.
10. Beth Israel Deaconess Medical Center, Dinosaur-Bird Link: Ancient proteins preserved in soft tissue from 80 million-year-old hadrosaur, sciencedaily.com, 1 May 2009. Return to text.

11. Oard, M. J., Behemoths Buried Alive, CMI video presentation, 2012, creation.com/s/35-8-631D7. Return to text.

12. Tomkins, J. P. and Clarey, T., Evolutionary dinosaur myths debunked, Acts & Facts 51(5), 2022; icr.org. Return to text.

13. All documented in Doody, J. S., Dinets, V., and Burghardt, G. M., The Secret Social Lives of Reptiles, Johns Hopkins University Press, Baltimore, MD, 2021. Return to text.

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