

A new discovery of dinosaur eggs and embryos in West-Central Argentina

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Dinosaur eggs, embryos, nests, and tracks raise important issues among creationists.¹ They are often found on top of hundreds to thousands of metres of sedimentary rock with evidence that hundreds of metres of overlying sediments had already been eroded. The dinosaur features strongly imply that the dinosaurs were living at the time the features were made. This is the problem for creationists: since the sedimentary rocks that entomb the dinosaurs were deposited in the global Genesis Flood, how could thousands of dinosaurs have been alive, laying eggs and walking around, in the midst of the catastrophic activity of that same Flood?

Over the past several years, creationists have been divided into two main camps, partly based on these dinosaur features. One group, exemplified by the writings of Steven Robinson,² Michael Garton,³ and Paul Garner,⁴ interpret the dinosaur features as post-Flood activity. Consequently they place the Flood/post-Flood boundary in the upper Palaeozoic (or below) in the standard geological column (this assumes the geological column has a chronological meaning for the Flood and its aftermath). The second group believes the dinosaur features were made early in the Flood before the waters wholly covered the earth. This latter group includes this author.⁵⁻⁷ Both groups interpret the data consistently within their respective models.

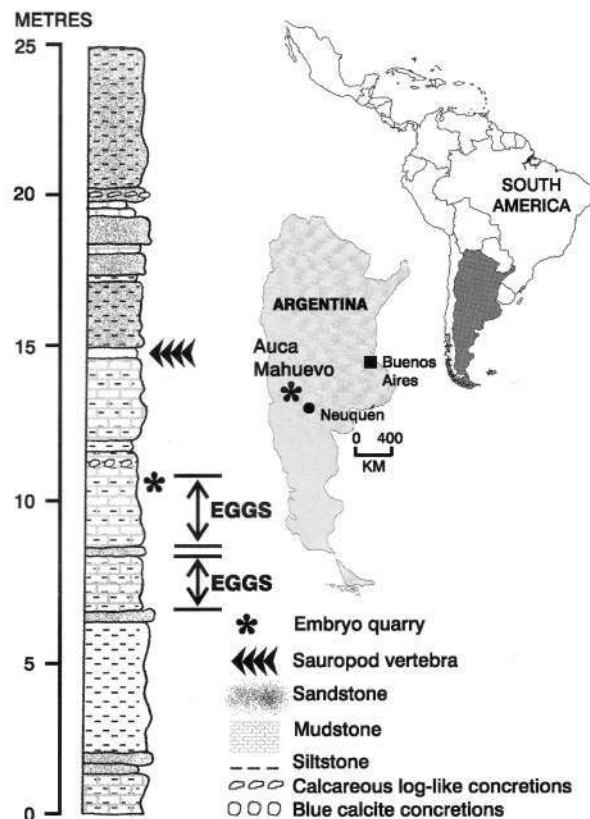
The existence of living dinosaurs as indicated by the dinosaur features in sedimentary rocks can have only two meanings within a biblical Flood framework. Either 1) the features were made post-Flood after dinosaurs had come off the Ark and had multiplied and spread out from the Middle East

or 2) the features were made early during the Flood by dinosaurs not on the Ark before the floodwaters had totally covered the whole earth. Both positions follow from the fact that all air-breathing, terrestrial animals perished when the waters covered the whole earth (by day 150 at the latest or, as some believe, as early as day 40). Within the two main positions, there are several important submodels. This lack of agreement may disturb some creationists, but this is the way science works and is healthy in a situation where there is not enough data for a consensus viewpoint to be reached. It is consistent with the scientific philosophy of multiple working hypotheses promoted by geologist T.C. Chamberlin,⁸ who wrote near the turn of the century.

The discovery of more dinosaur eggs cannot help but add more needed data to the debate. Recently, thousands of eggs and egg fragments came to light in an area greater than one square kilometre in Patagonia, Argentina, in the foothills of the Andes mountains. This is an area where dinosaur remains have been found for many years.⁹ Although embryos are rare, this egg site contains at least 12 *in situ* eggs and 40 egg fragments encasing embryonic material.¹⁰ These egg remains, including skin and teeth, are the first reported from the Southern Hemisphere, and the first sauropod embryo to be identified in the world.¹¹

It is interesting

that these eggs occupy a similar geographical relationship to the Andes Mountains as the abundant eggs and tracks found near and east of the continental divide in the Rocky Mountains of North America.¹² For western North America, I proposed that all these dinosaur features were made during the first 150 days of the Flood on **temporarily exposed land** that was later reburied in the Flood. The land would have become exposed by at least two mechanisms: 1) vertical tectonics of newly deposited Flood sediments, and 2) a sea level drop due to a rapid current circulating counter-clockwise on a large, shallow continent.¹³ Many aspects of the dinosaur remains indicate unnatural conditions.¹⁴ After the dinosaur eggs were laid, the area was resubmerged and covered by Flood sediments,



The fossil dinosaur eggs and embryos from the Auca Mahuevo site were collected from the Anacleto Member of the Rio Colorado Formation. The site is located in the northwestern Patagonian province of Neuquen, Argentina. As indicated in the stratigraphic section, the eggs and embryos are confined to a five-metre-thick interval of silty, pale reddish-brown mudstone (after Chiappe et al.).¹⁰

probably over 1000 metres thick.¹⁵ These sediments then were eroded to expose the fossil dinosaurs now found at or near the earth's surface. Could the similar location of the dinosaur eggs in Patagonia with regard to the mountains be related to similar large-scale tectonics in both hemispheres? Was there a similar exposed area of land just east of the current Andes Mountains that provided a temporary refuge for dinosaurs? It appears so.

It is of further interest that in Patagonia numerous eggshells were found in mudstone five metres thick on an **erosion surface**,¹⁶ similar to those found in Montana east of the Rocky Mountains. Chiappe recognises that for embryos to be fossilised, they need to be buried quickly:

*'Early evidence shows that the embryos may have perished in a flood that quickly buried the eggs in a layer of silt and mud. This made it possible for the soft tissues to fossilise before decaying, an extremely rare occurrence.'*¹⁷

Chiappe of course believes in a local flood, but the Genesis Flood will do. Further indications of rapid burial are provided by the report of eggshell fragments found in cross-bedded sandstone in Patagonia by Flood geologist Elaine Kennedy.¹⁸ The erosion surface indicates that a significant thickness of sediments had been deposited on top of eggshells and had all been eroded. Hence, this area of Patagonia also was likely covered by many metres of sediments that later eroded away forming erosion surfaces and exposing the dinosaur remains that palaeontologists discover today, similar to the region east of the Rocky Mountains.

The erosion of so much sediment, formation of erosion surfaces, and the transport of the eroded debris thousands of kilometres down gradient in both hemispheres seems to me to favour the model in which the dinosaurs died in the global Genesis Flood with the Flood/post-Flood boundary in the late Cenozoic.¹⁹⁻²⁰ The dinosaur remains would fit into Tasman Walker's biblical geological

model,²¹ in which the dinosaurs died and were buried in the Inundatory stage, and the sediment was eroded down to current levels during the Recessive stage of the Flood by powerful currents sweeping off the land.

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References

- Oard, M.J., The extinction of the dinosaurs, *CEN Tech. J.* 11(2): 137-154, 1997.
- Robinson, S.J., Can Flood geology explain the fossil record? *CEN Tech. J.* 10(1):32-69, 1996.
- Garton, M., The pattern of fossil tracks in the geological record, *CEN Tech. J.* 10(1): 82-100, 1996.
- Garner, P., Where is the Flood/post-Flood boundary? Implications of dinosaur nests in the Mesozoic, *CEN Tech. J.* 10(1): 101-113, 1996.
- Oard, M.J., Where is the Flood/post-Flood boundary in the rock record? *CEN Tech. J.* 10(2):258-278, 1996.
- Oard, Ref. 1.
- Oard, M.J., Dinosaurs in the Flood: a response, *CEN Tech. J.* 12(1):69-86, 1998.
- Chamberlin, T.C., Historical essay — The method of multiple working hypotheses, *Journal of Geology*, 103:349-354, 1995. This is a shortened, revised version of the original essay with a brief introduction by David Raup.
- Weishampel, D.B., Dinosaurian distributions; In: Weishampel, D.B., Dodson, P. and Osmolska, H. (eds). *The Dinosauria*, University of California Press, Los Angeles, California, pp. 63-139, 1991.
- Chiappe, L.M., Coria, R.A., Dingus, L., Jackson, F., Chinsamy, A. and Fox, M., Sauropod dinosaur embryos from the Late Cretaceous of Patagonia, *Nature* 396(6708):258-261, 1998.
- Chiappe, L., Dinosaur embryos — unscrambling the past in Patagonia, *National Geographic* 194(6):34-41, 1998. The sauropod was a large plant-eating dinosaur.
- Oard, M.J., Polar dinosaurs and the Genesis Flood, *Creation Research Society Quarterly*, 32(1):47-56, 1995.
- Barnette, D.W. and Baumgardner, J.R., Patterns of ocean circulation over the continents during Noah's Flood; In: Walsh R.E. (ed.), *Proceedings of the Third International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, Pennsylvania, pp. 77-86, 1994.
- Oard, Ref. 5, pp. 142-147.
- Oard, Ref. 5, pp. 261-262.
- Chiappe *et al*, Ref. 10, p. 259.
- Chiappe, Ref. 11, p. 38.
- Kennedy, E.G., An unusual occurrence of dinosaur eggshell fragments in a storm surge deposit, Lamargue Group, Patagonia, Argentina, *Geological Society of America Abstracts with Programs*, 27:A-318, 1995.
- Klevberg, P. and Oard, M.J., Paleohydrology of the Cypress Hills Formation and Flaxville Gravel; In: Walsh, R.E. (ed.), *Proceedings of the Fourth International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, Pennsylvania, pp. 421-436, 1998.
- Oard, M.J. and Klevberg, P., A diluvial interpretation of the Cypress Hills Formation, Flaxville Gravel, and related deposits; In: Walsh, R.E. (ed.), *Proceedings of the Fourth International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, Pennsylvania, pp. 421-436, 1998.
- Walker, T.B., A biblical geologic model; In: Walsh R.E. (ed.), *Proceedings of the Third International Conference on Creationism*, Creation Science Fellowship, Pittsburgh, Pennsylvania, pp. 581-592, 1994.