Did the post-Flood North American mammals live above their dead Flood relatives?

Mike Oard's most recent publication[1] attempts to answer my 2012 article[2] on fossils and the post-Flood boundary. By replicating my study, his analysis supports my original conclusions that a post-Flood boundary located in upper Cenozoic deposits is untenable. Oard, however, concludes the exact opposite. The stark contrast of the data he presents vs his interpretations, his failure to verify citations, and his numerous biological and paleontological errors raise broader questions.

Oard's data vs interpretation

Space forbids a detailed evaluation of Oard's paper, so I will focus on ramifications of the data presented in tables 2, 3, and 4. These tables document the presence of genera among three mammal families (Bovidae, Felidae, and Gomphotheriidae) in Tertiary vs Pleistocene sediments. These sediments serve as a proxy for the post-Flood boundary, though Oard does not view this boundary as globally, or even regionally, equivalent to the post-Flood boundary.[3] His evaluation results in multiple genera from each family recovered in both his Flood and post-Flood sediments, and this negates Oard's argument for an upper-Cenozoic post-Flood boundary for two reasons.

First, the presence of numerous boundary-crossing genera necessitates that the genus is the taxonomic unit of the kind, not the family, resulting in vastly larger numbers of animals brought aboard the Ark. In Oard's table 3, 12 of 15 felid genera cross his post-Flood boundary (13, actually, as *Leopardus* does as well).[4] Most of these are extant (currently living) genera, which are all connected via a network of hybridization. Of course, hybridization is considered key evidence that organisms belong to the *same* created kind rather than *different* kinds. Arguing for a post-Flood boundary around the Pliocene–Pleistocene division requires us to believe that Noah brought more than a dozen pairs of interfertile cats aboard the Ark (and likely many more). The situation is actually far worse. Arment has demonstrated that hundreds of ruminant kinds, representing *thousands* of individuals, must be brought aboard the Ark, given an upper-Cenozoic post-Flood boundary.[5] Oard's stated affirmation of the family as the kind is admirable but wholly inconsistent with the actual results of his own analysis.[6]

Second, an upper-Cenozoic post-Flood boundary exacerbates the return of organisms to the places where their pre-Flood kin were buried. Continuing with the cats from table 3, Oard's results require that pre-Flood *Leopardus* are buried in South America, and post-Flood *Leopardus* return to South America and North America, but not to Asia, Europe, or Africa.[7] Pre-Flood *Smilodon* are buried in North and South America, and post-Flood *Smilodon* return only to North America. Pre-Flood *Lynx* returns to each of the four continents where its pre-Flood kin are buried, yet nowhere in Oard's data is there a pre-Flood cat from, say, Africa, the post-Flood fossils of which are only in North America, or vice versa. Instead, their biogeographic distributions remain effectively the same or involve minor expansions or reductions in neighboring regions. Oard further notes that there are numerous mammal families with endemic (continent-specific) genera, which he admits is "a situation that still needs an explanation" in his model.[8] It is for these and other reasons that the Cenozoic mammal record is best interpreted as the diversification and migration from family-level kinds taking place entirely after the Flood, not genus-level kinds consistently returning to the Flood-generated graveyards of their kin.

Placing the post-Flood boundary at variable positions in the late Cenozoic, as Oard is wont to do, is inconsistent and arbitrary, and does nothing to solve these problems. His approach 1) fails to avoid the calamity of genus-level kinds; and 2) cannot mitigate the statistical unlikelihood of rampant post-Flood return migrations, which are all the more unlikely due to the massive changes in climate, habitat, and continental distributions between the pre-Flood and post-Flood worlds. Dismissing the Cenozoic mammal fossil record as 'equivocal' merely reflects Oard's poor grasp of the tangible, and gives empirical data which make an upper-Cenozoic post-Flood boundary untenable. Oard's frequent appeals to '33 geological criteria' of his own creation neither answers nor nullifies these challenges.

Oard's unread citation

Oard makes much of a putative antilocaprid (pronghorn antelope) from Japan as evidence against this family's North American endemism.[9] I knew of this entry and excluded it from my 2012 article because *the fossil does not exist.* No antilocaprids are catalogued in the paper,[10] nor in a recent compendium of mammal fossils of Asia.[11] Oard's use is ironic, because he has claimed that I uncritically accept data presented in the PBDB.[12] Yet, when tempted by a clearly anomalous record that he believed was a useful counterexample to my analysis, it is Oard who accepted the PBDB's entry without due diligence. Oard also cited

this paper in a 2013 exchange with me, unaware that it makes no such claims.[13] He did not read the paper then, and he has not read the paper now.

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References

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2. Ross, M.R., Evaluating potential post-Flood boundaries with biostratigraphy—the Pliocene/Pleistocene boundary, *J. Creation* **26**(2):82–87, 2012.
3. Oard, ref. 1, p. 106.
4. See paleobiodb.org/classic/basicCollectionSearch?collection_no=13907.
5. Arment, C., Ruminating on created kinds and ark kinds, ARJ **15**:391–404, 2022.
6. Oard, ref. 1, p. 107, 112.
7. None of the felids travel to Australia or Antarctica, nor are they found in either continent as fossils.
8. Oard, ref. 1, p. 109.
9. Oard, ref. 1, pp. 109–110.
10. Hirota, K., A list of vertebrate fossils from Shimane Prefecture, Japan, *Fossil Club Bulletin* **12**:21–27, 1979. Translated for the Smithsonian Institution Libraries, 1983; electronic copy produced in 2008. This paper is easily found online by searching for its title: LINK.
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12. Oard, M., Geology Indicates the terrestrial Flood/post-Flood boundary is mostly in the late Cenozoic, *J. Creation* **27**(1):119–127, 2013.
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» Michael J. Oard replies:

I appreciate Dr Ross for engaging in a discussion of the fossils and the upper diluvial boundary with me. Although his response is highly critical, at least I am responding to Arment[1] and his fossil arguments.[2] As a result, four papers have recently been published in this journal on the topic. I essentially agree with Arment that Australian marsupials are post-Flood. A deeper analysis, however, reveals they were first dated Pleistocene by secular science, but, because of 'primitive' features and their dating method based on the 'stage of evolution', the marsupials were pushed back to as old as Late Oligocene.

Sadly, Ross so far has refused to seriously examine the 35 criteria that Dr Clarey and I have developed that strongly indicate the boundary is in the Late Cenozoic. These criteria are developed mainly from various geological and climatological aspects. Ross surprisingly dismisses them by saying, "Oard's frequent appeals to '33 geological criteria' of his own creation neither answers nor nullifies these challenges." I can assure the reader that these are not of my own creation but simply Cenozoic 'history'. These 33 criteria (Clarey added two more) went through peer review and were published in this journal. Each one of these 35 criteria provides powerful evidence for the late Cenozoic boundary, which should nullify his one argument based only on fossils.

Two of the 35 criteria are challenges to the K/Pg boundary using mammals, the subject of this discussion. Those who believe in a K/Pg boundary must believe that few mammals were buried and fossilized during the Flood, but after the Flood tens of millions were buried and fossilized all over the earth. Could the conditions of fossilization even occur after the Flood? Secondly, Ross must explain the hundreds of sudden appearances of Tertiary mammal and the subsequent sudden extinctions at precise Tertiary times all over the globe, assuming the geological column. These two features alone should be enough to reject the K/Pg boundary model.

I have examined Ross's arguments for North American mammals that he claimed left North America, arrived at the Ark, then returned to the continent over the Bering Land Bridge, and ended up living above their dead pre-Flood ancestors.[3] Using the Paleobiology Database (PBDB), I found substantial changes in nine years to the classification. Some even genera were transferred into different genera, making one wonder what precisely is a genus. Although there were still many genera of mammals that cross the Tertiary/Pleistocene boundary, *the trend of the data* was to decrease the number. Moreover, most of these mammals are not unique to North America, neither in the Tertiary (assume buried pre-Flood animals) nor in the Pleistocene (assumed post-Flood).

This brings up another point of contention, and that is I do not accept the subjective uniformitarian Tertiary/Pleistocene boundary as the upper Flood boundary, which should eliminate many more boundary crossing genera, especially when I have determined that the boundary is in the mid Pleistocene on the High Plains of the United States.[4,5] The Pleistocene does not necessarily cover the same timeframe as the uniformitarian Ice Age, although it includes it. There are places with hundreds, and sometimes thousands, of metres of Pleistocene strata. Ross claims that to use a floating boundary is inconsistent and arbitrary. The history of uniformitarian dating and classification of fossils necessitates it. Two examples are pushing back the Australian marsupials from the Pleistocene to as old as the late Oligocene and increasing the age of the Antarctic Ice Sheet by ten times. I believe it is a mistake to take the Cenozoic part of the geological column as an *absolute* for biblical chronology.

Ross exaggerates my supposed failure to verify citations, which is true of only *one*. I simply trusted the PBDB on the Miocene Antilocapridae (pronghorn) from Japan, which is still on the PBDB. Must I examine and verify the hundreds of other citations that are used in the PBDB? Has Ross done this? I am thinking that we do need to examine the observations of the fossils and geology closer in the referenced articles.

Therefore, I examined the data a little deeper and after eliminating the example claimed for Japan, I concluded Antilocapridae do exist in the Tertiary and Pleistocene only on North America. But this can be analyzed even further. First, the fossils need to be accurately classified and dated. Often the fossils are pieces of jaws and teeth and the dates are based on fossils. I even found one Antilocapridae genus that was reclassified into a different genus. Another factor is that the pronghorn is so close to an antelope that many people consider them antelopes. The only difference seems to be that pronghorns lose their horns. I wonder how many of the extinct pronghorns are known to lose their horns and are really pronghorns? So, if we consider the pronghorn as an antelope (a subfamily of Bovidae), then these mammals are not unique just to North America, since antelopes are found as fossils on all the continents except South America in the Tertiary and Pleistocene.

Ross and Arment[6] use the family as the kind level, which I also believe as an average, and then discuss boundary crossing genera, which I did admit still needs explaining. But the classification system is at a much finer scale below the order: infraorder, superfamily, family, subfamily, tribe, and finally genus. So, there are more degrees of freedom in analyzing mammals. It is interesting that Ross mentions *Smilodon* (saber-toothed cat), which is found in the Pleistocene of North and South America with four locations in the Tertiary of North America, which seems to verify his claims. However, the four Tertiary examples in North America were all dated as Blancan, which can be either late Pliocene or early Pleistocene, so could all be post-Flood. More analysis is required. But if we go one small step up in the classification system of saber-toothed cats to the tribe Smilodontini, saber-tooth cats are found on all continents for both the Tertiary and Pleistocene, except in the Tertiary of South America.

The really substantive argument is: Can the same 'genera' of a 'family' exist both before and after the Flood? I do not think either Ross or Arment have proven that this cannot happen.

Dr John Reed was mentioned as a reviewer in the acknowledgments only because he improved my English.

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