Surprising ecosystem in northeastern Greenland supports biblical Ice Age

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Scientists have developed a new method for discovering which animals inhabited an area. This method analyzes the environmental DNA (eDNA) in the soil from plants and animals that once lived in the region. The method was applied to the Kap København Formation in northeast Greenland, where research has been conducted for nearly 40 years. The area today is a polar desert, home to just a few plants, hares, and musk oxen. Scientists had previously found macrofossils from coniferous boreal forest trees and a rich insect fauna, but they were greatly surprised by what they discovered recently.

Several surprises

Scientists found what they believe to be 2-Ma-old DNA, which pushed back the occurrence of ancient DNA almost 1 Ma.[1] They obviously do not accept discoveries of DNA in dinosaurs.[2,3] Comparing the eDNA to a data bank of DNA from modern plants and animals, the researchers were amazed to find DNA from mastodons, reindeer, rodents, geese, and rabbits that inhabited a forest ecosystem of poplar, spruce, cedar, and yew trees combined with present-day polar vegetation.[4] They identified 102 genera of plants, whereas earlier paleontologists had only identified eight.[5] Some have disputed whether the mastodon DNA is truly from a mastodon or some other elephant.[5]

Such an ecosystem requires much warmer temperatures than today. The present-day average temperature is –17°C. The researchers estimated it would have been 10°C warmer 2 Ma ago, but there are indications that it may have been even warmer, since many of the plant fossils found do not grow on permafrost. No-one predicted such an ecosystem, and there are no modern analogues. One researcher was quoted as saying: "Not in a million years would you expect a mastodon up there."[4]

Mastodons remains are found in forests in the United States but are never found in Greenland. And reindeer supposedly had not evolved by that time, as admitted by paleogeneticist Eske Willerslev: "Reindeers, according to paleontologists, should not have survived; they shouldn't even exist at that time."[4]

Biblical interpretation

Creation scientists do not accept the date of 2 Ma but have no trouble accepting that this DNA would still exist since all of this eDNA is only thousands of years old. Two Ma lies at the outer edge of DNA's theoretical shelf life.[6] We have two choices in determining where the organisms fit into biblical Earth history. First, the organisms could be from the Flood. A great number of warm-climate Cenozoic fossils exist in the polar areas of the Northern Hemisphere. For instance, trees typical of the southeast United States are found with alligators, crocodiles, large tortoises, and lemurs on Ellesmere and Axel Heiberg Islands, and are dated as early Cenozoic.[7–10] However, these fossils indicate a climate that would be too warm for the early Ice Age.[11] For instance, sea surface temperatures would have cooled too rapidly after the Flood to sustain the observed tropical and subtropical paleoflora.

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Figure 1. Map of Canada showing the many islands and straits in northern Canada that animals would have to navigate to reach northern Greenland.

Moreover, winters would have been too cold to sustain them. Furthermore, the preserved leaf-litter sequences on Axel Heiberg Island are preserved as well at the bottom of each layer as they are at the top.[12] This indicates rapid deposition during the Flood rather than prolonged exposure afterwards. Therefore, these Cenozoic fossils are from the Flood.

The other option for the Greenland eDNA is that the organisms could be left over from the Ice Age. The oceans would have been warm early in the Ice Age due to the heat produced during the Flood. The Arctic Ocean could have been over 20°C, keeping coastal areas mild by onshore air flow early in the Ice Age.[13] Plants and animals that preferred temperate climates could have lived comfortably for hundreds of years in the far north, especially along the coastal areas of the Arctic Ocean. Considering the eDNA evidence, the organisms from northeast Greenland are typical Ice Age animals, such as reindeer and mastodons. Thus, the evidence from eDNA for northeast Greenland, in contrast with that for Axel Heiberg Island, indicates a post-Flood environment. In other words, the fossils in the Kap København Formation were buried early during the temperate climatic conditions during the post-Flood rapid Ice Age, while the Arctic Ocean was relatively warm.

How did the mammals make it to northern Greenland?

There is the question of how the animals would have been able to migrate to northern Greenland across multiple straits, the last being the Nares Strait between Ellesmere Island and Greenland (figure 1). The large mammals could have swum, especially since the water would have been relatively warm. Mammoths made it to the Channel Islands off the southern California coast by swimming since there was no land bridge.[14,15] Elephants are excellent swimmers: "My research shows that modern elephants are excellent distance swimmers, among the best of all land mammals, and skilled at crossing water-gaps."[16] Or, the animals of northeast Greenland may have been aided by log and vegetation mats left over from the Flood that would have floated for many years on the post-Flood oceans.[11] This transportation would be especially likely for the small mammals.

To be aided by log mats, the animals had to first cross the Bering Land Bridge. This land bridge was more likely exposed early in the Flood when animals could more easily journey through Siberia into Alaska, when winters were mild, not at the end of the Ice Age, when winters were colder than today.[17] Further evidence of this early Ice Age land bridge is the finding of Columbian mammoth fossils at the bottom of Ice Age debris in central British Columbia.[18] These mammoths could only arrive at this location from the ice-free corridor and through the Peace River water gap before the mountain ice caps inundated the lowlands of British Columbia. eDNA evidence of animals on northeast Greenland also adds to the indirect evidence that the Bering Land Bridge existed early, but not late in the Ice Age. Moreover, some log mats would still have existed for transportation. Northern Canada also needed to be warm enough for forests to grow, which need not have been large for them to shed pollen and eDNA and animals to survive in northern Greenland.

Conclusion

Researchers were amazed to find DNA evidence of a temperate ecosystem in the Kap København Formation in northeast Greenland. The most likely explanation is that these fossils were buried during the early part of the post-Flood rapid Ice Age.

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