

Creation Geology Society Annual Conference Abstracts 2024

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Tracking the Trends: Analysis of Over 100 Radiocarbon Measurements in 'Ancient' Fossil **Material**

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For decades, radiocarbon dating has posed a growing problem to the naturalistic geological timescale. A growing number of endogenous radiocarbon measurements are being documented from dozens of geological samples dated to be far too old for any endogenous C-14 to remain. With the use of accelerated mass spectrometry, dozens of measurements have identified measurable radiocarbon in most forms of fossil material throughout the Phanerozoic. Several studies (1-2) have included research components dedicated entirely towards documentation of radiocarbon in samples throughout the Phanerozoic, yet few studies have analyzed this growing dataset in its entirety. Indeed, Giem (3) and Baumgardner (1) together cite 90 individual radiocarbon ages for 'ancient' geologic samples, yet in most instances these involved non-fossil material such as abiotic calcite spars. As such, the most complete radiocarbon analysis of ancient fossil material was presented by Thomas and Nelson (2), who reported 43 fossil samples with corresponding radiocarbon dates. From these studies, some researchers have speculated on the development of a radiocarbon calibration curve to reinterpret radiocarbon ages to the Biblical Timeline. To test this idea, this study compiled over 100 published radiocarbon measurements from 'ancient' fossil material and evaluated the potential for a future radiocarbon calibration curve. We find that, instead of radiocarbon measurements correlating with geologic age, radiocarbon measurements cluster into specific populations based on the dated fossil material. For instance, petrified wood routinely measures higher radiocarbon values than those in coal regardless of geologic age, while fossilized bone can date even higher values of radiocarbon than those found in petrified wood. Past observations have noted that the same fossil bone may yield multiple radiocarbon values based on the material being tested (e.g. Dahmer et al. (4)), which we find from our analysis to vary predictably, with more porous fossil bone commonly yielding higher radiocarbon values than those portions that are less porous. In like manner, the content of uranium found in samples seem to positively correlate with radiocarbon. Samples dating below 20 ka come from sites with uranium content reaching as high as 800 ppm, while coal, averaging C-14 dates of 50 ka, commonly contain only 3-4 ppm. This aligns well with the idea that the decay of U-238 may influence the generation of radiocarbon, thereby creating a measurable radiocarbon signature based on the ability of the sample material to absorb uranium. As such, we suggest that the influence of fossil material and the potential correlation between radiocarbon and uranium must be evaluated before the question of a radiocarbon calibration curve can be addressed.



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A Reassessment of the Timing of Terrestrial Tetrapod Extinction and the Period of **Worldwide Submergence During the Flood**

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The Period of Worldwide Submergence (PWS) (1) is described in the Flood narrative as a phase where all high mountains were submerged under at least 15 cubits (~7 meters) of water (Genesis 7:21). This period is typically thought to have occurred between Day 40 and Day 150 of the Flood year, coinciding with the demise of the last terrestrial tetrapods not aboard the Ark (2-3). However, the presence of ichnofossils, such as footprints and nests, left by terrestrial vertebrates presents a challenge to this timeline.

Assuming a lower Cenozoic end of the Flood in North America, PWS correlates with sedimentary deposits from the Upper Cretaceous sea level peak (4). The uppermost Cretaceous deposits, a mosaic of marine and terrestrial sedimentation, have been interpreted as the result of late-Flood recession (5). Difficulty for this model arises from the occurrence of terrestrial ichnofossils overlying those formed during PWS (1).

To address this, the author suggests that Day 150 only marks the end of the prevailing Flood phase, not the extinction of the last terrestrial tetrapods. Flood chronologies that place their death prior to Day 150 assume a strictly chronological Flood narrative. But this perspective poses other challenges. For example, it requires that no terrestrial tetrapod could have died prior to Day 40 because their death is not mentioned until after this point in the text (Genesis 7:17, 21). However, recent Comparative Semitics studies propose that much of Genesis 6-9 is thematically rather than strictly chronologically structured in order to emphasize certain theological points (6-7).

This view allows for the survival of some terrestrial tetrapods during PWS, possibly by swimming or floating on vegetation rafts, enabling them to form ichnofossils until they ultimately perished by the time the Ark was vacated. Additional study is necessary to confirm the validity of this model in alignment with the Biblical text, the plausibility of terrestrial tetrapod survival through PWS, and what factors led to their extinction as the



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Is the Paleolithic a True Historical Period? **Developing a Database of Archaeological Sites** from the Ancient Near East

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Correlating stratigraphic units in archaeology proves difficult because of regional variation in technocultural development and extremely localized depositional environments. For young-age creationists, a uniquely chronological dimension also challenges our interpretation of the putatively "earliest" stages of archaeology. For example, the roughly 2.5 million radiometric years of the Paleolithic could represent only a few centuries of post-Flood time. Since some patriarchs of the period lived longer than a few centuries, we face the real possibility that the Paleolithic, Mesolithic, Neolithic, and Bronze Age are all approximately contemporaneous and do not record generational development. To further explore this possibility, we need to discern whether there exists a widespread stratigraphic relationship of "stone age" remains occurring in layers overlain by Bronze or Iron Age or whether the chronological "sequence" is largely established from radiometric dating of geographically separated sites. This can only be determined in a geographic context where sites with Paleolithic, Mesolithic, Neolithic, Bronze Age, and Iron Age remains can co-occur and preferably where the chronology can be related to an explicitly biblical framework. We chose to search for sites in southwest Asia (the Levant, Arabian peninsula, Anatolia, and the Caucasus), and northeast Africa (Egypt), where sites have been excavated for decades and copious documentation is available. We are compiling a list of known Paleolithic sites in the region using internet databases and published reviews. The list currently contains 547 sites from seventeen different countries. Most frequent countries in the list are Jordan (101 sites, 18.5%), Israel (89 sites, 16.3%), Iran (85 sites, 15.5%), and Georgia (56 sites, 10.2%), which collectively account for 60.5% of the sites. We are currently classifying the sites as either surface discoveries or excavations, with "excavation" defined as digging at least one test pit. Presently, 467 sites have been classified, with 320 excavated sites (68.5%) and 147 surface discoveries (31.5%). Thus, nearly a third of reported Paleolithic sites represent isolated surface discoveries rather than remains that can be secured to a stratigraphic sequence. Anecdotally, we noted a few sites that do preserve a sequence of Paleolithic or Neolithic under Bronze or Iron Age remains. Such sites include Ubeidiya (Israel), Umm el Tlel (Syria), and Pella (Jordan). A systematic assessment of the stratigraphic sequences of the excavated sites will be necessary to determine if the Paleolithic is best depicted as a stage of history of a regional cultural variation.

