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## Radiocarbon Dating of Dinosaur Fossils

By Joe Spears

**D**inosaurs supposedly died out 65 million years ago. What if they didn't?

Carbon-14 dating was recently performed on dinosaur fossils, and the results were presented at the Western Geophysics Meeting in Singapore, August 2012, a gathering of approximately two thousand scientists.<sup>1</sup> The carbon-14 dating involved precautions against contamination. Several tests were done by the University of Georgia using accelerator mass spectrometry. This young age for all these fossils was found to be less than 50,000 years.<sup>1</sup> This is not predicted by conventional evolutionary theory; and other discoveries have been made concerning dinosaurs, such as the discovery of soft tissue in dinosaur bones that are not fossilized or are only partially fossilized.<sup>2</sup> Both the carbon-14 dating results and the discovery of soft tissue in incompletely fossilized dinosaur bones share the common theme of being indicators of much younger ages for dinosaurs than evolution claims. Compared to the conventional theory of dinosaurs' being at minimum 65 million years old, the time it would take soft tissue to degrade and the <50,000 year ages reported from carbon-14 dating are less than 1 tenth of 1 percent of the expected age for the dinosaur fossils.

Hugh Miller and others authored a paper detailing the results of carbon-14 dating of dinosaur fossils which was presented at the Western Geophysics Meeting in Singapore, August 2012.<sup>3</sup> The ages for the dinosaur fossils presented in this paper were far younger than the conventionally accepted ages. Each of the two thousand meeting participants was given a disc which included the abstract of the carbon-14 dating. However, the abstract of the Miller presentation was removed from the website for the conference.<sup>4</sup> Why is the information presented in

the paper important? If the accepted ages of millions of years for dinosaurs were to be found to be in error, this would be a problem to evolution. The dinosaur dates reported below and discussed in the Miller paper included triceratops, hadrosaur, allosaurus, apatosaurus, and acrocanthosaurus Below is a list of dinosaur fossils and their dated ages from the Millet paper.<sup>3</sup>

- An allosaurus from the Morrison formation, late Jurassic, found in 1989 was dated by the University of Georgia by accelerator mass spectrometry. The age was found to be  $31,360 \pm 100$  years old.
- The femur of an Upper Cretaceous Hell Creek formation triceratops-like dinosaur (perhaps a new type of ceratopsid) found in 2007 was carbon-14 dated by the University of Georgia using accelerator mass spectrometry and found to be  $39,230 \pm 140$  years old.
- Another Hell Creek formation dinosaur, found in 2004, a triceratops, was dated by the University of Georgia by accelerator mass spectrometry in 2009 as  $24,340 \pm 70$  years old.
- An apatosaurus was found in late Jurassic strata of the Morrison formation, and excavation was done in 2007 and 2009. In 2011 the University of Georgia dated the fossil to  $38,250 \pm 160$  years old.
- A hadrosaur's hip bone was found in 2011 in the Hell Creek formation. The University of Georgia dated a sample from this bone to be  $37,660 \pm 160$  years old.
- In 2012 a triceratops horn was found. The University of Georgia dated the fossil to be  $33,570 \pm 120$  years old.
- A femur bone from a hadrosaur in 2004 was found in the Hell Creek formation. The University of Georgia using accelerator mass spectrometry dated the sample to  $25,670 \pm 220$  years old.
- An acrocanthosaurus (carnivorous dinosaur) specimen was excavated in 1984 near Glen Rose, Texas and was tested in 2010 by the University of Georgia. It was found to be  $29,690 \pm 90$  years old.

Are the dates beyond the range of testing technology? No, the University of Georgia had extended the maximum limit up

A012%20Abstract.pdf, which does include presentation 5. Notice the titles of 4 and 6 correspond in both lists, which in the opinion of some, hints strongly that the list with number 5 present was an original list.

<sup>1</sup> Weiland C (2013 Jan 22) Radiocarbon in dino bones.

<http://creation.com/c14-dinos> Accessed 2013 Oct 12

<sup>2</sup> Gift J (2009 Jul) Dinosaur Bones - a Whole Lot of Twistin' Goin' On <<http://tasc-creationscience.org/content/dinosaur-bones-whole-lot-twistin-goin>> Accessed 2013 Jul 2

<sup>3</sup> Miller H, Owen H, Bennett R, de Pontcharra J, Giretych M, Taylor J, van Oosterwyck MC, Kline O, et al. A Comparison of  $\delta^{13}C$  & pMC values for ten Cretaceous-Jurassic dinosaur bones from Texas to Alaska USA, China and Europe, Asia Oceania Geosciences Society (AOGS) - American Geophysical Union (AGU) Joint Assembly, Resorts World Convention Centre, Singapore, 13 to 17 August, 2012

<sup>4</sup> Asia Oceania Geosciences Society <<http://www.asiaoceania.org/aogs2012/mars2/timetable.asp>> Accessed 2013 Oct 12.

Double-click on the box for Wednesday, Room Leo 2, BG02. You will see presentation 5 is missing between 4 and 6. Compare this with <http://newgeology.us/BG02->

over 50,000 years, and the ages were all well below this. Are the ages still too old? After all, even though these ages are much younger than conventional ages, many creationists believe life on earth to be much younger than even the reported carbon-14 ages of these dinosaur fossils. This question will be dealt with in a later section of this article.

Another question that might come up with respect to these studies is the issue of contamination. If young organic material became mixed with the dinosaur material that was carbon-14 dated, then the younger material would skew the result to a younger age.

Special care was taken to prevent this kind of contamination.

Bones were cleaned by ultrasonics.

- Then the bone was crushed and acetic acid was applied to remove any possible external contamination (carbonates).
- Hydrochloric acid was added to dissolve the bone and release carbon dioxide, which was then chemically treated to produce graphite. This graphite was then tested for carbon-14.<sup>5</sup>

Another report shows that a mosasaur was dated at about 24,000 years old;<sup>6,7</sup> this result was blamed on bacterial contamination, though no bacteria were discovered.<sup>8,9</sup>

## How carbon-14 dating works

Living animals take in carbon-14 on a regular basis. After death, the animal no longer takes in any carbon-14 (nor any other kind of carbon). The carbon-14 decays at a known rate, but since it is being replenished while the animal is alive, only after the animal dies is no carbon-14 added. Of course, this assumes that carbon-14 is not inadvertently added to the dead animal's remains. Also, this assumes that no natural process is depositing extra carbon-14 in the animal's remains. Assuming no intrusion of carbon-14 from external sources, the existing amount of carbon-14 resident in the animal's remains will decay, assuming the current, known decay rate. Given the initial amount of carbon-14, the decay rate, and the remaining amount of carbon-14 in a fossil, the length of time it would take for the initial amount of carbon-14 to decay to the amount measured as remaining in the fossil may be calculated.

Carbon-14 decays with a half-life of about 5,730 years. So if an object contained 1,000 carbon-14 atoms, after 5,730 years it

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<sup>5</sup> Carbon-14 dated dinosaur bones - under 40,000 years old. AOGS Conference, Singapore, 2012 presentation, <<http://www.youtube.com/watch?v=QbdH311UjPQ>> Accessed 2013 Oct 31

<sup>6</sup> Lindgren J, Uvdal P, Engdahl A, Lee AH, Alwmark C, Bergquist K-E, Nilsson E, Ekström, et al. (2011) Microspectroscopic evidence of cretaceous bone proteins. PLoS ONE 6(4):e19445

<sup>7</sup> Gift, Jeff (2012 Aug) Creation: A matter of perspective. <[http://tasc-creationscience.org/sites/default/files/newsletter\\_pdf/aug2012.pdf](http://tasc-creationscience.org/sites/default/files/newsletter_pdf/aug2012.pdf)> Accessed 2013 Oct 30

<sup>8</sup> Paleo group (unknown date) <<http://www.dinosaurc14ages.com/carbondating.htm>

<sup>9</sup> Thomas B (2011 May 13) Carbon dating of '70 million year old' mosasaur soft tissues yields surprising results <<http://www.icr.org/article/6084/>> Accessed 2013 Oct 12

should contain approximately half that much, or 500 carbon-14 atoms.

There is one pertinent point to be made about carbon-14 dating, however. Carbon-14's half-life is too short to measure dates over a million years ago. In fact, if the entire earth were solid carbon-14, in a million years so much would have decayed that there would not be even a single atom of carbon-14 left. Scientists have done studies which suggest that dinosaurs lived millions of years ago, but those dates were not arrived at by use of carbon-14 dating methods. There are other dating methods, making use of materials with even longer half-lives, such as the potassium-argon method, which have been used in dating dinosaurs.

So, you might ask, why is this article about carbon-14 dating of dinosaurs? Wouldn't the dinosaurs be too old for carbon-14 dating to work on them? That is the point. That statement would be true if the dinosaurs were really millions of years old. But, if they were not that old, merely thousands of years old, then carbon-14 dating applied to dinosaur fossils might detect some carbon-14 atoms. Are dinosaurs only thousands of years old?

## Other evidence indicating younger ages of fossils

These findings about dinosaur fossils are just a piece of the evidence indicating assumed ages are perhaps mistaken. Other pieces include carbon-14 in diamonds, other soft tissue found in dinosaur fossils, and evidence that conventional dating methods are inaccurate.

### Carbon-14 in diamonds

Diamonds supposedly formed even further back in the past than dinosaurs —over a billion years ago. There is even less reason to expect to find carbon-14 in them, but it has been found.<sup>10</sup>

### Soft tissue found in dinosaur bones

Soft tissue normally will deteriorate over time. Soft tissue should not last 65 million years, yet it has been found in a dinosaur fossil which "has" to be at least that old. This is so contrary to conventional theory that the discovery met with disbelief at first.<sup>2,11</sup>

### Other evidence of inaccurate dating

A living animal has been carbon dated as having been dead for thousands of years.

Lava that obviously flowed around a piece of wood, since the hardened lava has taken the shape of the wood, has been dated as having solidified millions of years before the wood existed.

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<sup>10</sup> Sarfati J (2006 Sep) Diamonds: a creationist's best friend. Radiocarbon in diamonds: enemy of billions of years. <<http://creation.com/diamonds-a-creationists-best-friend>> Accessed 2013 Oct 12

<sup>11</sup> Mary Schweitzer interviewed on *60 Minutes* <[http://www.youtube.com/watch?feature=player\\_embedded&v=M9VbDFCndMI](http://www.youtube.com/watch?feature=player_embedded&v=M9VbDFCndMI)> Accessed 2013 Oct 12

The point here is that the evidence of carbon-14 dating presented above is not the only evidence indicating that currently accepted dates for dinosaur and other fossils might be wrong. Experiments are replicated in the belief that increasing the number of results supporting a hypothesis increases the evidence for the hypothesis. In a similar manner, the more evidence of young ages for dinosaur fossils, the more compelling the evidence (in total) becomes.

Could the dinosaur ages now be said to be precisely what the carbon-14 dating results indicated? Even this is too old for many creationists, who would expect them to be less than 6 to 10 thousand years old. Several factors may possibly account for this seeming discrepancy.<sup>12</sup> Some think there was a change in atmospheric concentration of carbon-14.<sup>13,14</sup> In one scenario, there would have been change in the carbon-14 concentration due to the burying of much of the earth's carbon-bearing plant life at the flood.<sup>15</sup> According to this theory, the proportion of carbon-14 would have been higher due to the removal of much normal carbon.<sup>15</sup>

Another possibility is that, as hinted in Genesis 2:5-6, the pre-flood atmosphere may have had a much higher humidity than the post-flood atmosphere. The increased humidity before the flood would have reduced the formation of carbon-14 in the atmosphere, while the drier air after the flood would have allowed more carbon-14 formation.

Another possibility is that the earth's magnetic field may have been stronger before the flood, resulting in less carbon-14 formation before the flood.

And yet one more interesting possibility is that radioactive decay rates might have been increased due to the flood's mechanical stresses on piezoelectric quartz in granite rocks. This could make younger fossils yield dates greater than their actual age.<sup>16</sup>

Evidence of differing dates for parts of the same animal support the hypothesis that there was a change in the carbon-14 concentration or in the decay rate. One interesting observation is that rapidly-growing body parts, such as hair, would absorb carbon-14 from most recent concentrations, while slower-growing body parts, such as bone or muscle, might contain concentrations of carbon-14 based on levels of carbon-14 existing at earlier times in the environment of the animal. Therefore, evidence of differing carbon-14 concentrations (i.e.,

different ages) for different parts of the same animal are consistent with the hypothesis of a change in the carbon-14 concentration in the environment. We now will look to see there is just such evidence.

A frozen musk ox found at Fairbanks Creek, Alaska, had scalp muscle tissue 24,000 years old and hair 17,200 years old according to carbon-14 dating. At least three other frozen animals, two mammoths and a mastodon, have been found with parts of their bodies with carbon-14 ages far different from other parts or from surrounding plant life that perished with or shortly after the animals.<sup>17</sup>

## Implications

If the conventionally accepted age of dinosaurs is wrong, then what about other conventionally accepted dates? When *was* the Jurassic, the Cretaceous? Other dates are thrown into question. This implies there may be less certainty about the time frame during which species supposedly evolved. One point that is worth noticing is that these dinosaur ages are all much younger than the conventional ones. This implies there was less time for evolution to occur. Even with the accepted millions and millions of years for evolution to supposedly have brought mammals into existence from their precursors, evolution still has many problems. Shortening the time available just makes evolution even more unlikely.<sup>7</sup>

Evolutionists have said the following. From Louis Jacobs, Southern Methodist University, Former President of the Society of Vertebrate Paleontology:

Co-occurrence of men and dinosaurs. Such an association would dispel an Earth with vast antiquity. The entire history of creation, including the day of rest, could be accommodated in the seven biblical days of the Genesis myth. Evolution would be vanquished.<sup>18</sup>

From Steven M. Stanley, Johns Hopkins University:

There is an infinite variety of ways in which, since 1859, the general concept of evolution might have been demolished. Consider the fossil record—a little known resource in Darwin's day. The unequivocal discovery of a fossil population of horses in Precambrian rocks would disprove evolution. More generally, any topsy-turvy sequence of fossils would force us to rethink our theory, yet not a single one has come to light. As Darwin recognized, a single geographic inconsistency would have nearly the same power of destruction.<sup>19</sup>

The evidence strongly hints that evolution is, at best, not on as firm a foundation as many have claimed. Do we look at the evidence and let it speak, or do we deny the evidence because of our biases? This is the choice we face when confronted with

<sup>12</sup> Brown RH (1979) The interpretation of C-14 dates. *Origins* 6:30–44

<sup>13</sup> Brown RH (2013 Apr) Answering questions concerning radiocarbon dating. <<https://www.ministrymagazine.org/archive/1973/04/answering-questions-concerning-radiocarbon-dating>> Accessed 2013 Oct 12

<sup>14</sup> Snelling AA (2008 Dec 10) Radiocarbon ages for fossil ammonites and wood in Cretaceous strata near Redding, California <<http://www.answersingenesis.org/articles/arj/v1/n1/radiocarbon-ages-for-ammonites-wood>> Accessed 2013 Oct 12

<sup>15</sup> Brown W (2013) How accurate is radiocarbon dating? <<http://www.creationscience.com/onlinebook/FAQ221.html>> Accessed 2013 Nov 2

<sup>16</sup> Brown W (2013) The origin of Earth's radioactivity. <<http://www.creationscience.com/onlinebook/Radioactivity2.html>> Accessed 2013 Nov 2

<sup>17</sup> Holzschuh J, de Pontcharra J, Miller H (unknown date) Recent C-14 dating of fossils including dinosaur bone collagen. <<http://www.scienceevolution.org/Holzschuh.htm>> Accessed 2013 Nov 2

<sup>18</sup> Juby I (2013 May 1) Paluxy fossil human footprints – special Genesis Week, Episode 33, season 2 <<http://ianjuby.org/newsletter/?p=657>> Accessed 2013 Oct

<sup>19</sup> Stanley SM (1981) *The New Evolutionary Timetable*, Basic Books, New York, NY

evidence such as presented in this article. Science is theories built on evidence; evidence built on theories (i.e. evidence accepted because of confirmation of existing theories or evidence rejected because it contradicts existing theories) is dogma built on bias. ❧

### **COMING EVENTS**

**Thursday, November 14, 7:00 pm, Providence Baptist Church, 6339 Glenwood Ave., Raleigh, Room 631**

Dr. Gerald Van Dyke will discuss how the creation displays the attributes and sovereignty of God, Jesus, and the Holy Spirit. While the TASC Board invests considerable time and energy in pursuit of scientific evidences for explanations of the universe, earth and life as we know it, we never want to lose sight of the importance of The Creator. It is the constant desire of TASC to have all peoples recognize first and foremost the Creator Himself.