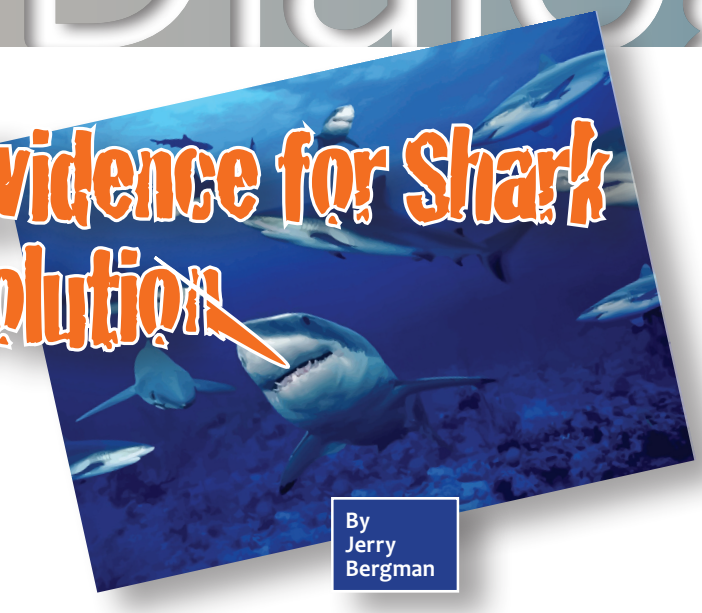
Volume 39/3
OCTOBER
2012

CREATION SCIENCE
Dialogue

Publication Mail Reg.
40013654
ISSN 0229-253X

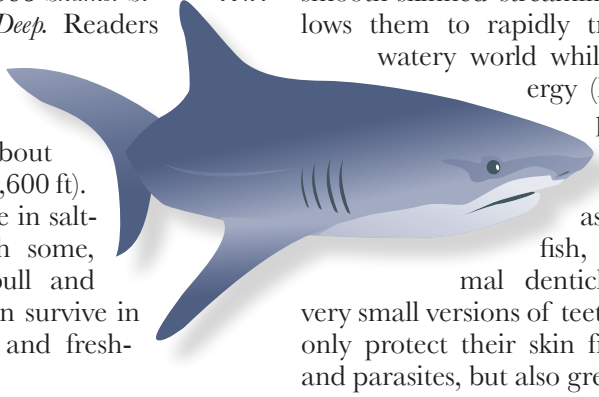
No Evidence for Shark Evolution



By
Jerry
Bergman

No sea animal elicits such fear and terror in the common people as do sharks. Gruesome shark attacks on humans are part of both the folklore and history of many cultures, including our own. Their predatory skill both fascinates and frightens us. Even though sharks rarely attack humans, when an attack occurs, it tends to be widely publicized by the mass media. Ironically, their very survival is now threatened by human-related activities, such as net fishing.

Sharks (superorder Selachimorpha) are a type of fish with a skeleton made of cartilage instead of bone, and a highly streamlined body. The eight orders of sharks are found in all oceans (Taylor et al. 1995 *Sharks: Silent Hunters of the Deep.* Readers Digest p. 8) and are common down to depths of about 2,000 meters (6,600 ft). Most sharks live in saltwater, although some, such as the bull and river sharks, can survive in both seawater and freshwater.



Well-known species include the great white shark, tiger shark, the bull shark and the hammerhead shark. The 440 known shark species range in size from the tiny 100 mm long (4 in) dwarf lantern shark, to the largest known shark, the whale shark, that can grow up to 14 meters (46 ft) long (Barraclough, Susan (editor). 2007. *Sharks and other Creatures of the Deep.* Sandy Creek, N.Y p. 33). Sharks are all predators, at the top of their underwater food chain. Their diet ranges from plankton to seals. The whale and megamouth sharks are filter feeders that consume plankton, jellyfish, squid, and small fish.

Sharks are expertly designed for speed and supple movement. Their smooth-skinned streamlined body allows them to rapidly traverse their watery world while saving energy (Barraclough. p. 6). Sharks are covered, not by scales as are most fish, but by dermal denticles that are very small versions of teeth. These not only protect their skin from damage and parasites, but also greatly improve their fluid dynamics.

Continued on page 6

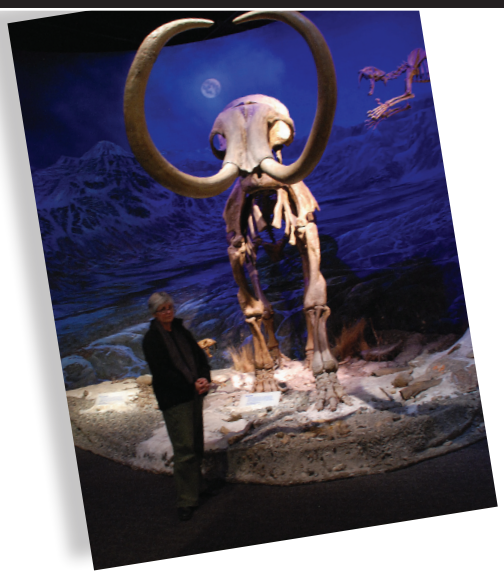
FRUIT FLY SHENANIGANS

The experiment with fruit flies was basically uncomplicated. Any university student could have carried it out providing they could identify and count the various mutant forms. But there was more to the issue than mere counts of fruit fly offspring. The study was supposed to, and had long been considered that it in fact did, support a key idea of Charles Darwin. More than sixty years had passed since the fruit fly work was published. Subsequent to publication in the new journal *Heredity* in 1948, few people paid much attention to the study until it was quoted favourably in 1972 and 1994 as supporting Darwin's idea of sexual selection. Those references conferred celebrity status on the work and many citations followed. But then in 2012 a study was published which questioned not only the 1948 work, but also a major component of Darwin's theory of evolution. However the reasons and issues surrounding the new study are not what we might hope or expect. It is important to remember that scientists draw conclusions in keeping with their world view and there is more diversity in world views in science than one might imagine.

Our story begins in 1871 when Charles Darwin published his book *The Descent of Man and Selection in Relation to Sex.* In this volume, Darwin proposed and defended the idea that mankind is descended from animal ancestors. Most of this book however was devoted to the idea that a major driver of evolution was in fact "sexual selection." He argued that the behaviour patterns of males and females can

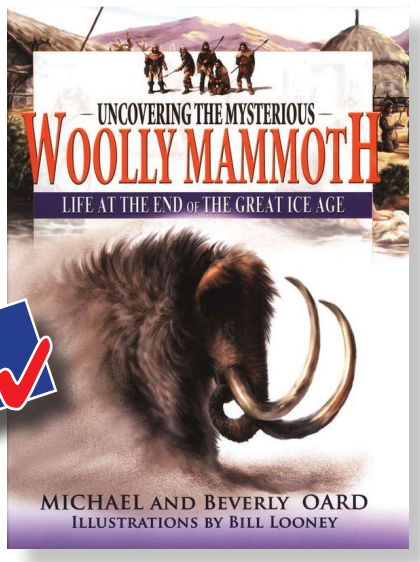
Continued on page 3

First Catch Everybody's Interest!



Most people recognize that it is more fun to read a story than to plow through a text-book! Usually however the objectives of the two genres are different: the story is for enjoyment and the text for learning. There have been many stories written, however, to communicate an important message. Charles Dickens' novels like *Great Expectations*, for example, spring to mind. So it is with Michael and Beverly Oard's book *Uncovering the Mysterious Woolly Mammoth: Life at the End of the Great Ice Age.*

Written as a sequel to *Life in the Great Ice Age*, this new title seems written for a slightly older reading audience than the first one. There is no need to read the first title however, to enjoy this one. The people in the story are very remote from us in time and distance, yet the story grips our interest as we follow two small communities who are dealing with climate change at the end of the ice age. Surprisingly conditions worsen as the ice melts and these small tribes struggle to survive multiple disasters.



All is revealed as we progress into Part II of the book. Here we learn that the effects of Noah's flood led naturally to the ice age. And as the ice melted away many centuries later, there were extinctions of many large animals including the woolly mammoths. The climate evidently changed dramatically, and not for the better. This interpretation explains many observations such as the mysterious extinction of the mammoths and how we find their remains in places such as Northern Siberia.

The story catches our interest and the second section explains why and how such events could take place. It was all a logical aftermath of Noah's flood. Learning about a serious issue has seldom been so painless. Written for junior high and older readers.

Michael and Beverly Oard. 2007. *Uncovering the Mysterious Woolly Mammoth: Life at the End of the Great Ice Age.* Master Books. Hardcover. Full Colour. 65 pages. $15.00

Dialogue

Volume 39 / # 3 / Fall 2012

Creation Science Dialogue is a quarterly publication of the Creation Science Association of Alberta (CSAA).
Its purpose is to discuss the creation model of origin in terms of scientific details.
Subscription for 1 year $8.00

Return undeliverable Canadian addresses to:
PM 40013654
Creation Science Dialogue

Creation Science Association of Alberta
5328 Calgary Trail
Suite 1136, Edmonton, Alberta
T6H 4J8

Other Creation Science Associations
(see also www.creationinfo.com)

- Creation Science of Saskatchewan Inc.
  P.O. Box 26
  Kenaston, SASK. S0G 2N0
- Creation Science Association of British Columbia (B.C.)
  P.O. Box 39577, RPO White Rock, Surrey, BC. V4A 0A9
- Creation Ministries International
  300 Mill Street, Unit 7
  Kitchener, ONT, N2M 5G8
- Creation Science Association of Quebec
  CP63, Succ. Youville
  Montreal, Quebec, H2P 2V2
- Institute for Creation Research
  1806 Royal Lane
  Dallas, TX. 75229
- Creation Research Society
  Van Andel Center
  6801 North Highway 89
  Chino Valley, AZ.
  86323 - 9186

Visit us at www.create.ab.ca

FRUIT FLY SHENANIGANS

Continued from page 1

be described in nearly universal terms. The males are driven to mate as often as possible with as many females as possible. The females for their part, seek to be selective concerning their mates. As a result, the more fit (attractive) males leave far more offspring than inferior males and the result is that quality of the next generation is improved over the previous one.

Nobody thought to investigate Darwin's thesis about sexual selection until 1948 when English geneticist Angus John Bateman (1919-1996) published a simple fruit fly study. Bateman was based at the John Innes Centre in Norwich (England), an independent research institute founded in 1910. The first director was William Bateson. This giant in the field of genetics, actually coined the term "genetics." Bateson founded the *Journal of Genetics* but it was later hijacked by another famous member of staff, J. B. S. Haldane who turned Communist and retreated to India.

Yet another famous staff scientist, Cyril Darlington, founded the journal *Heredity* in 1947. Darlington was a vigorous proponent of classical social Darwinism including the ideas that only the best people should be allowed to reproduce (eugenics), that some races are more fit than others, and that races should not interbreed. It was in the new publication *Heredity* that Angus Bateman published his fruit fly research. One might well wonder what implications a study on fruit flies would have for anything other than fruit flies. Darwin however had claimed that sex selection was nearly universal and a major driver of evolution. Thus Bateman's conclusions were considered to confirm Darwin's views for all animals and people.

From his study, Bateman concluded that he had confirmed Darwin's thesis that more male mating events led to more offspring. His paper did not attract much attention for many years. For a start, most scientists considered that the ideas were uncontroversial. However suddenly after 1972, Bateman's work came to be considered a foundational paper in sexual selection, second only to Darwin's 1871 tome. Bateman's work has increasingly come to be cited as providing empirical support for Darwin's views on male promiscuity and female passivity. But nobody thought to critically review Bateman's research, until now.

Anyone familiar with fruit fly breeding would realize that the study, as designed, would not work. Patricia Gowaty of University of California at Los Angeles (UCLA) recently undertook to actually repeat Dr. Bateman's study, more than 60 years after its publication. She found multiple problems with the experimental design and analysis. (*Proceedings of the National Academy of Sciences June 11/2012* online edition). A problem with missing offspring and other statistical problems, led Patricia Gowaty to conclude that Bateman's study should never have been published and it most certainly should never have achieved iconic status.

There is a larger question here however. Why would anyone think that a study of fruit fly breeding (however flawed) had implications for any group other than fruit flies? Why for example would fruit fly breeding tell us anything about how humans breed or should breed? The reason, of course, is that Darwin claimed that promiscuous males were a universal principle of evolution. Despite this claim by Darwin however, there have in recent years, been quite a number of challenges to his theory.

Joan Roughgarden, organizer of a conference in 2003 to reconsider Darwin's views, herself wrote a book entitled *Evolution's Rainbow* in 2004 which calls for the outright abandonment of Darwin's sexual selection theory. In keeping with her world view, Dr. Roughgarden wants to see changes in emphasis made to conventional biology, psychology, medicine and anthropology. In February 2006, in response to an article by Joan Roughgarden in *Science*, 40 biologists contributed 10 letters to the journal protesting her personal agenda on issues of gender. Five years later however, *Science* saluted Joan Roughgarden as an audacious scientist who asks bold questions and is committed to following the evidence in search of answers.

So what does it mean when these scientists declare that Darwin was wrong? Does this really mean that Darwin was wrong? Yes he was wrong, but we do not need these ladies, with their controversial agendas, to tell us that. There are countless examples of animals with breeding patterns entirely different from the aggressive males, lauded by Darwin. Also of course, the Bateman study suffered from many obvious flaws and it should never have been considered applicable to anything other than fruit flies in any case. The issue that caused Patricia Gowaty and Joan Roughgarden to challenge Darwin, was their feminism. They were challenging Darwin's view of male superiority, not evolution. It just goes to show that one's worldview affects how one interprets science and how the world reacts to that science. It is entirely possible to be right for the wrong reasons, as this study shows. Obviously it is important to be critical consumers of scientific information.

TOTALLY UNEXPECTED DINOSAUR DISCOVERIES

By Margaret Helder

It is interesting how dinosaur artifacts continue to amaze us. For example, in 1961, petroleum geologist R. L. Liscomb discovered a large bone bed on the banks of the Colville River in Alaska, not far from the Arctic Ocean. Since the bones were not perminieralized (fossilized), he assumed they were recent bison bones. He deposited some in a museum and for twenty years nobody gave the bones another thought. Then somebody noticed that these were *Edmontosaurus* bones (duckbill dinosaur). In 1985 palaeontologist William A. Clemens reported abundant dinosaur bones at the Liscomb site and in 1987 associate Kyle L. Davies described the condition of the dinosaur bones: "The quality of preservation is remarkable. The bones are stained a dark red brown but otherwise display little permineralization, crushing or distortion." (*J. Palaeontology* 61 #1 p. 198). Could such bones really be millions of years old as many scientists now supposed?

In July 1994 a five man expedition sponsored by the Creation Research Science Education Foundation travelled to Alaska to the Liscomb bed. Their five day trip down the Colville River was gruelling, but they managed to collect 60 kg of bones. (see *Great Alaskan Dinosaur Adventure.* Buddy Davis *et al.* 1998. Master books). They hoped that there would still be collagen (protein) in the bones, suitable for carbon dating. Some specimens were sent to a laboratory in Germany for dating. Apparently there was some collagen, and dating of this material fits a pattern of other recent discoveries. This takes us to the topic of soft tissue discoveries in dinosaur fossils.

A fossil is a trace of a formerly living creature, which is preserved in rock. Most dinosaur fossils consist of bones which have turned into rock. Certainly nobody was looking for primary dinosaur tissue inside such rocky artifacts. But the curiosity of one lady scientist changed all that.

Mary Schweitzer came to dinosaur studies relatively late in life. A substitute teacher and mother of a young family, in 1989 she elected to audit a course given by Jack Horner (Curator of the Museum of the Rockies in Bozeman, Montana). Next she obtained a research position under the direction of Dr. Horner. As time went on, she kept noticing strange things that nobody else had mentioned. Once, when she was working on a *T. rex* bone, she noticed an unpleasant organic odour apparently coming from the bone. In reply to her query, Dr. Horner told her that all the Hell Creek bones smell bad. Since Hell Creek rocks would be dated by conventional estimates at about 65 million years, an organic odour coming from the bones did not really make sense.

On another occasion, a medical pathologist was allowed to view a cross section of *T. rex* bone under the microscope. He commented that red blood cells could be seen within the rocky slice of bone tissue. Dr. Horner then challenged Mary Schweitzer to prove that the artifacts were ***not*** red blood cells. This project turned into her doctoral thesis. She used several techniques to study the nature of these artifacts. Her data supported the conclusion that the *T. rex* fossil contained fragments of hemoglobin molecules (the organic compound that makes red blood cells red and enables them to carry oxygen). She published the results of this work in 1997 in *Proceedings of the National Academy of Sciences.* Many people refused to conclude that she had really found organic materials in a dinosaur fossil. But this was just the beginning.

In 2000 a *T. rex* metre-long leg bone was inadvertently broken in transit. Associates collected the resulting chips and sent them to Mary Schweitzer . To her astonishment,

the largest chip from the bone interior resembled the interior of leg bones in certain large birds. To follow up this idea, she dissolved away all the rock to see what might be left behind. Minerals dissolve in mild acid, but not organic compounds. She recovered what appeared to be collagen (matrix of the bone), blood vessels and osteocytes (the cells that form bone). In 2005 in the journal *Science*, Mary Schweitzer and colleagues published a report on soft tissue and cellular preservation inside a *T. rex* fossil bone. Later in 2007 a larger team from this lab reported that traces of 7 distinct protein fragments from collagen had been observed. Others however disputed this, suggesting that the results came from bacterial contamination or a statistical fluke.

In September 2009 another team of scientists published (in *J. of Proteome Research) a* reanalysis of the *T. rex* data and they corroborated the Schweitzer team's analysis from 2007. This was important support. And there were other similar studies. For example, an international team of 12 scientists, publishing in *PLoS one Biology*, documented that protein fragments were observed in a Cretaceous mosasaur (extinct marine lizard). This team declared that the organic fragments were typical of collagen. (April 2011 vol 6 #4 p. 1).

Some in the scientific community have thus slowly come to support the idea that once living tissues have survived to the present inside dinosaur and other fossils. This leads these scientists to conclude that these biochemical components of life can last without decay for tens of millions of years. However theoretical kinetics and laboratory experiments suggest much shorter survival times for proteins, depending upon the conditions of storage. Other scientists declare that soft tissue preservation in dinosaurs is a strong indication that the dinosaurs lived much more recently than secular science assumes, perhaps only thousands of years ago.

While rocks are typically dated using radioactive minerals that decay very slowly, formerly living tissue is dated using a different method. All living cells are made up of organic molecules which contain carbon. Carbon 14 is a radioactive version of normal carbon12. Plants take in carbon dioxide from the air, and manufacture organic compounds from it. Animals eat and digest plants. Since a very small proportion of the carbon dioxide contains radioactive carbon, all plants and animals contain some radioactive carbon. When an organism dies, the amount of radioactive carbon starts to decline. In 5730 years, about one half of a sample of carbon14 will have decayed. After a maximum of 50,000 years, there should be no detectable carbon14 in the organic material.

Naturally if a dinosaur died 65 million years ago, it should not contain any carbon14. On this basis, many scientists refuse to try a carbon14 radiometric date on dinosaur soft tissue. However some people have been curious enough to carry out the test. One of the first such tests was on the contents of unfossilized dinosaur bones from Alaska's North Slope. A laboratory in Kiel, Germany reported a date in 1998 of about 31,000 years. Similar dates have been obtained for soft material from fossil interiors too. In 2011, the international team examining the contents of soft tissue in a marine mosasaur (from Belgium and presumed to be 70 million years old), dated the collagen inside the bone at 24,600 years. They concluded that although the collagen was definitely from the mosasaur (and not bacterial), nevertheless the very recent date was probably from bacterial contamination and not from the mosasaur, unlikely opposite conclusions. (*PLoS* April 11 vol. 6 #4 e19445 p. 8) A team of creation based researchers obtained material from inside a *Triceratops* fossil bone and a duckbill dinosaur bone collected in Montana. The content of the former was dated at about 30,900 years and of the later at about 23,200 years (www.sciencevsevolution.org/Holzschuh.htm).

Two things are obvious from these numbers. Firstly they do not fit with the secular age estimates of 65-70 millions of years, but neither do they fit with the expected age of about 4500 years from the time of the flood of Noah. However there may have been less carbon14 in the air during those early years before the flood. If that were the case, then measured ratios of carbon14 to carbon12 would yield too old an age. In any case, the fact that there is any measurable carbon14 in these dinosaur and other marine reptile tissues, is a stunning denial of the idea of ages involving millions of years. It is not surprising that dinosaur discoveries continue to fascinate us!

For a related article see create.ab.ca/flip-side-of-the-midnight-sun/#more-716

No Evidence for Shark Evolution

Continued from Page 1

If you stroke a shark backwards, from its tail to its head, the hard denticles can scrape your skin severely enough to cause bleeding (Walters, M. and J. Johnson. 2011. *The World of Animals.* Master Books p. 104). The origin of dermal denticles has baffled evolutionists because no evidence of transformation of small teeth to body covering has been discovered in the fossil record, or even postulated, even though dermal material preserves very well in the fossil record.

Sharks, skates, and rays all have cartilage and connective tissue skeletons instead of bone. It is for this reason that they are considered "primitive" life forms by evolutionists in spite of the fact that they have many of the very highly complex organ systems, such as their advanced sensory organs described below that are typical of very advanced animals.

Their putative primitive cartilage skeleton has clear design advantages for a shark's way of life, such as greatly reduced weight. Cartilage has other advantages over bone, such as being flexible, durable and strong, yet about half the density of bone. Sharks also lack a rib cage and, therefore, a shark's own weight can crush it on land but in water it is perfectly balanced.

Sharks are not primitive fish; most have a keen sense of smell, and excellent eyesight. They have a highly complex retina, part of a very advanced vision system very much like that of humans (Taylor et al. p. 34). They also have a highly specialized mouth and several sets of replaceable teeth.

They can sense small vibrations in the water and target their prey by electric sensors located around their snouts (Barraclough. p. 9). In the late 1970s it was discovered that sharks have a sixth sense that operates in turbid water, total darkness, and even when its prey is beneath the ocean floor (Fields, R. D. 2007. The Shark's Electric Sense: An Astonishing Sensitive Detector of Electric Fields Helps Sharks Zero in on Prey. *Scientific American* 297 (2): 75-81.). It consists of electrosensors, part of a well designed complex system that can sense extremely weak electric fields with thousands of specialized sensitive detectors sending a message like vision to the brain, allowing them to "see" prey.

Some sharks have wide-angle vision to obtain a panoramic view of their environment. The hammerhead shark has two widely spaced eyes that produce excellent binocular vision that serves as a range finder to accurately determine the distance to objects (Barraclough. p. 34).

For many other reasons, sharks are one of the most efficient, as well as most deadly, hunters known (Barraclough. p. 9). They are also very intelligent as we would expect from their large brain — some have a larger brain in proportion to body weight than most so-called more advanced bony fishes, many birds, and even some mammals (Taylor et al, p. 21).

Evolutionists date the earliest known sharks back to about 420 million years ago (Long, John A. 1995. *The Rise of Fishes: 500 Million Years of Evolution.* John Hopkins University Press. p. 70). The Port Jackson Shark, *Haterondontus japonicus,* has remained unchanged for 181 million years, according to evolutionists. Likewise, evolutionists have dated the cow shark back to 166 million years ago and the cat shark back to 136 million years. As far as can be determined, all known fossil examples of sharks are very similar to modern sharks, and sharks have shown no evidence of evolution. Werner shows several examples of Dinosaur-Era sharks that are identical to modern sharks (2008). For this reason they are often called living fossils. Professor John Long, head curator of vertebrate paleontology at Western Australian Museum, concluded that the "Origins of sharks

are still a mystery. Some scientists regard sharks as the most primitive of all the jawed fishes, whereas others see them as highly specialized forms that did not require the complex bony ossifications of other fish groups" (Long. p. 69).

Although the "early evolutionary history of sharks and shark-like fishes is still poorly understood" shark fossils are found as far back as, according to evolutionists, 420 million years ago (Taylor et al. p. 38). Professor Long also contends that sharks and other "jawless fish alive today are essentially unchanged from those living at the time of the dinosaurs" (Werner, Carl. 2008. *Living Fossils.* New Leaf Press p. 126). The current theory of shark evolution includes the speculation that they are "closely related to the now-extinct placoderms, and both these groups may have arisen from a scale-covered jawless form well before the Early Silurian. The presence of shark-like scales of this age, and their striking similarity to the scales of the jawless thelodonts, has lead some workers to suggest that thelodonts and sharks could be close relatives, and the recent discovery of the remarkable fork-tailed thelodonts from Canada would seem to support this view" (Long. pp. 69-70).

[Thelodonts are small extinct jawless fish with distinctive scales instead of large plates of armour. Placoderms are extinct jawed fish with anterior armour but naked or with scales on the rest of the body.]

The lack of evidence for their evolution is not due to lack of fossil evidence. Although "sharks are rarely found as complete fossils because their skeletons are made of cartilage" under certain conditions complete fossil sharks are preserved very well. These examples provide scientists with vital information, but usually only about the hard parts, such as teeth, scales and fin spines. (Taylor et al. p. 38).

One deposit found last century in Upper Devonian Cleveland shale from the USA yielded entire shark carcasses that were preserved in a bacteria-free environment so that even muscle and kidney tissue could be examined in the rock (Taylor et al. p. 38).

One of the major evidences for ancient sharks is their teeth because "Shark teeth grow in rows from the back and are replaced throughout life … [and] each shark may shed many hundreds of teeth into the oceanic floor sediments. This is why shark teeth are commonly preserved as fossils" (Long. p. 73). Actually, shark teeth are one of the most common fossils found today. In short, sharks were once "regarded as primitive vertebrates—so-called "living fossils"—but recent work suggests that they are highly specialized. Their complex biology ranks them with birds and mammals as highly evolved" (Taylor et al. p. 38).

So let us appreciate the sophisticated nature of sharks, a nature which did not arise by chance, but by design.

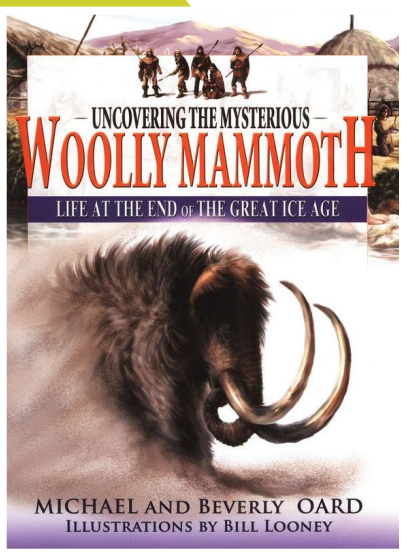
Uncovering the Mysterious Woolly Mammoth

Michael and Beverly Oard

Follow the story of an ice age tribe from Northern Siberia who overcame multiple weather-related disasters. Discover at the same time the science behind the ice age world and how people survived these conditions while the woolly mammoths did not. Written for junior high and older readers.

Hardcover/Full Colour/65 pages

$15.00

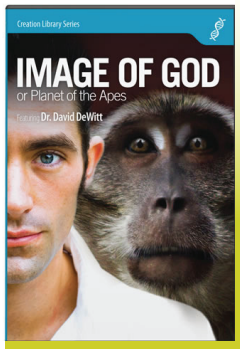


If experience is the best teacher, many of us are mighty poor pupils... keep on "learning" with these books!

Image of God

DVD Answers in Genesis

Biologist, David DeWitt, discusses the unique nature of mankind. The discussion features lots of comparisons of ape anatomy and human anatomy. Critiquing the evolutionary tree that supposedly links humans to apes, he exposes the idea of such a tree for what it is, science fiction.



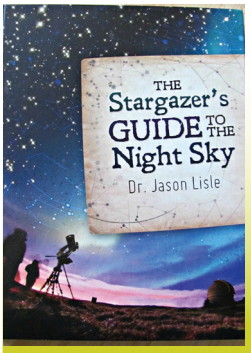
DVD
45 minutes

$10.00

The Stargazer's Guide to the Night Sky

Jason Lisle

Among the wonders of creation, we can all enjoy the night sky, and with more information we can appreciate it even more. This deluxe book, full of maps, and beautiful pictures, assists and instructs even beginners. And there are no references to millions or billions of years, which is certainly a bonus when discussing galaxies and quasars!



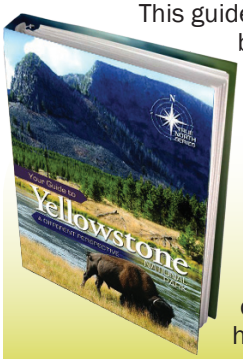
Hardcover/Full Colour
240 pages

$32.00

Your Guide to Yellowstone and Grand Teton National Parks

Tom Vail, Michael Oard, Dennis Bokovoy, John Hergenrather

This guide, filled with beautiful full colour photographs, is perfect for anyone who wants to enjoy the parks in person or even in the comfort of their homes. Christian commentary highlights discussion on the significance of these natural wonders. The guide provides travel tips, maps, and descriptions of the natural features of the area.



Hardcover/Full Colour
188 pages

$15.00

Please fill in order form and mail to: Creation Science Association of Alberta, 5328 Calgary Trail, Suite 1136 - Edmonton, Alberta, T6H 4J8

Name:

Address:

City: Postal Code/Zip:

Please state titles and quantity of books ordered:

Total order	$	.
Add $6.00 for S/H	$	.
Subscription ($8.00)	$	.
Donation	$	.
Total enclosed	$	.
Free Catalogue	$	0.00
Total	$	-

Make cheque or money order payable to: Creation Science Association