

**DISCUSSION No. 13**

**PROBLEMS  
FOSSILS  
POSE FOR  
EVOLUTION**

**Part 2: More Complications**

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# OUTLINE

## 1. INTRODUCTION

## 2. MORE COMPLICATIONS

- a. Rates of evolutionary change and the fossils
- b. Living fossils
- c. The Cambrian Explosion and other explosions
- d. Reduction in basic kinds as one ascends the geologic column

## 3. CONCLUSIONS

## 4. REVIEW QUESTIONS

# 1. INTRODUCTION

# **1. INTRODUCTION**

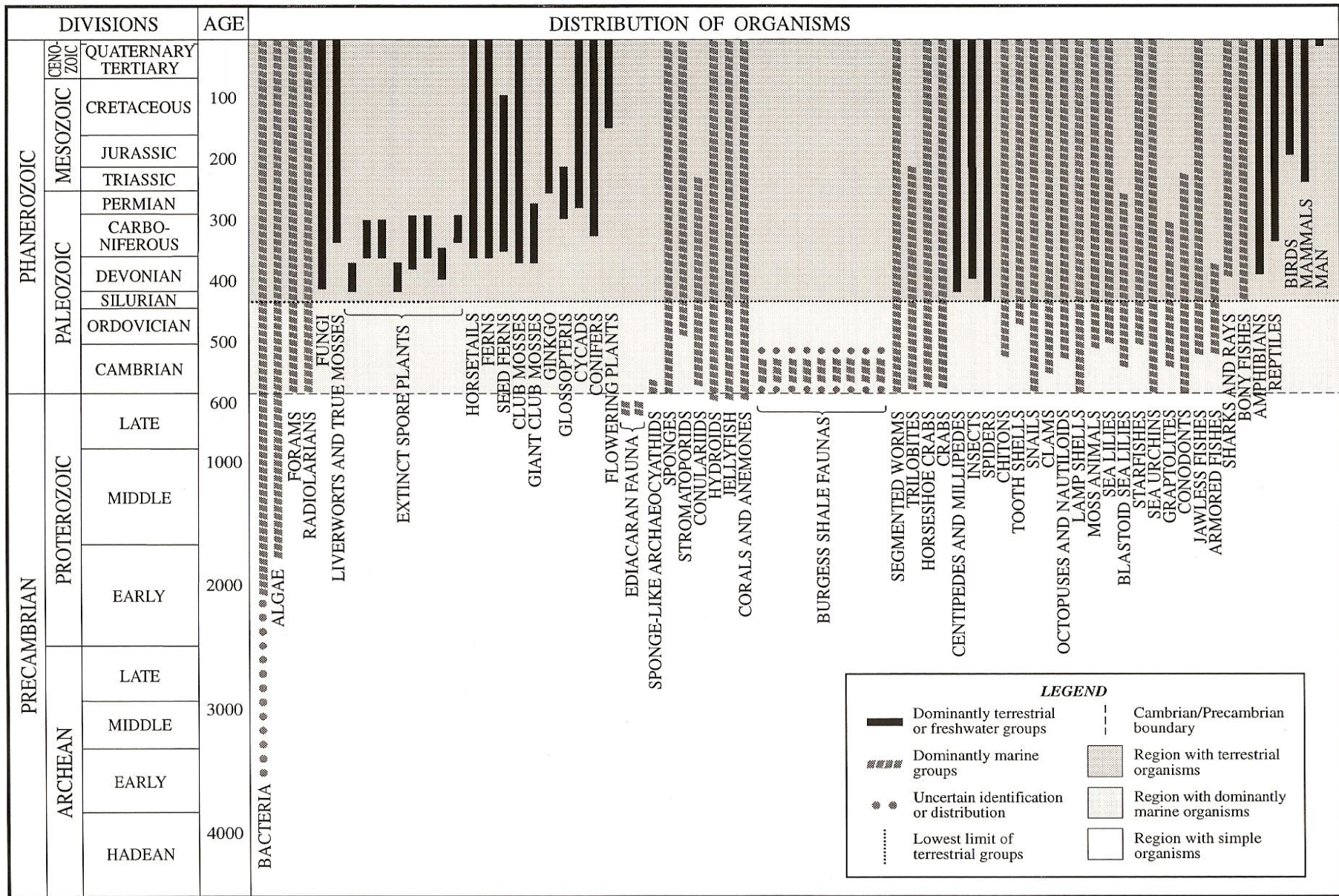
**To get a more complete picture of the argumentation about the fossils, one needs to consider all four discussions about the fossil record that have been provided. The discussions dealing with the evidences for the Genesis Flood (numbers 15 and 16) will also be helpful.**

**The next two illustrations are repetitions from earlier discussions placed here for your convenience since you may not recall the divisions of the geologic column or how organisms are distributed therein.**

## MAIN DIVISIONS OF THE GEOLOGIC COLUMN

EON	ERA	PERIOD	EPOCH	Putative age in Ma*
Phanerozoic	Cenozoic	Quaternary	Holocene	0.01
			Pleistocene	1.6
		Tertiary	Pliocene	5.3
			Miocene	24
			Oligocene	34
			Eocene	55
			Paleocene	65
	Mesozoic	Cretaceous	144	
		Jurassic	206	
		Triassic	248	
	Paleozoic	Permian	290	
		Carboniferous	354	
		Devonian	417	
		Silurian	443	
Ordovician		490		
Cambrian		540		
PRECAMBRIAN Proterozoic Eon				2500
Archaean Eon				4600

\*Ages given represent beginning of time period in millions of years (Ma).  
Dates not endorsed by author.



**SPECIFIC DISTRIBUTION OF ORGANISMS IN THE GEOLOGIC LAYERS. Putative ages are given in millions of years and are not endorsed by the author**

# **2. MORE COMPLICATIONS**

## **2. MORE COMPLICATIONS**

**This discussion is a continuation of PROBLEMS THE FOSSILS POSE FOR EVOLUTION. In the previous discussion, the problem of the gaps between the fossils, especially the gaps between the major groups of organisms was considered. Here we discuss four other complications for the evolution model.**

**In Discussion 11, FOSSILS AND CREATION, it was pointed out that evolutionists find evidence for their model as they see a gradual advancement of organisms as one goes up the geologic column. However, the advancement is at best erratic and to a certain degree what we would expect from the Genesis Flood. Other aspects of the fossil record also indicate a number of problems for evolution. The fossil record seems to clearly indicate that good scientific data challenges the evolutionary interpretation.**



# **2. MORE COMPLICATIONS**

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

A paleontologist looking for fossils can sometimes find many samples of the same species, often in the same locality. The fossils, of course, would be essentially identical in appearance. Furthermore, by looking elsewhere, the researcher can often find the same species in a number of different localities.

By looking up and down the geologic layers at the location of samples of the same fossil species in the geologic column, one can tell **how long a species has survived** according to the long ages evolutionists propose. A few species appear essentially unchanged through much of the Phanerozoic Eon, while most have a more restricted distribution. Evolutionists agree that in general as you follow a species up and down through the rock layers, a species survives, **on an average, for around a million years or longer** according to their time reckoning.

This peculiarity can pose a problem for evolution, especially if you assume that one species follows another through prolonged evolutionary development, because if a species survives for one million years, not **all that many new species can succeed each other** through geologic time.

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

The problem is illustrated in the next slide which is a view of the Grand Canyon of the Colorado River in Arizona.

According to standard geologic time, the layers behind the red line took around **75 million years** to be deposited. This would represent 75 million years of evolution. Since, on an average, species exist in the fossil record about a million years or longer for each, this would allow for only 75 new species to evolve by following each other during that time. Extending that constraint to the whole geologic time scale allows for only a few hundred succeeding species to form during the entire Phanerozoic which includes the fossil record of most visible organisms. There we find hundreds of thousands of species. Evolutionists propose that the Phanerozoic lasted for 540 million years and according to the interpretation presented above, this would allow for only 540 succeeding species.



**GRAND CANYON IN ARIZONA.** The layers behind the vertical red line represent about 75 million years according to the evolutionary time scale.

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

One proposed evolutionary solution to the dilemma is to suggest that new species **branched off early** from the original species, while the original species continued to survive as that species for a much longer time after the branching. This postulated early branching and more branching of the branches, could provide a lot of species over the proposed long ages. However, the **fossil record does not provide the direct evidence expected for the branching process for any significant number of cases.** We would expect a lot of this for the hundreds of thousands of fossil species that have been found.

According to one leading expert in the field, **“Fossils only extremely rarely come as lineages of finely graded intermediate forms connecting ancestors with descendants.”** (Kemp TS. 1999. Fossils and Evolution. Oxford University Press.) **And that is the problem.** Millions of fossils have been found, and hundreds of thousands of species have been found, but the fossils do not provide the evidence expected from early branching. On the other hand, within the evolutionary scenario, the continuity of fossil species seem to provide a lot of solid evidence that species last a very long time without changing.

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

A second suggestion proposed by evolutionists to explain the lack of evidence, is that evolution sometimes **occurs rapidly in small populations** where the chance of preservation is small; so we don't see the intermediate fossils. The lack of preservation may be a valid suggestion considering that under normal quiet conditions, fossilization is rare. When organisms die, they usually disintegrate long before they can become fossils. Rare rapid burial very much favors preserving an organism as a fossil.

The lack of preservation because populations are small might be a valid argument. However it can also be argued that when looking at the millions of fossils that have been found, this explanation implies that the **preservation of fossils tends to take place especially when evolution is not going on!** A likely strange coincidence, considering that we have found many hundreds of thousands of species in the fossil record and many in great numbers.

## **a. RATES OF CHANGE AND THE FOSSIL RECORD**

The evolutionary explanations are not compelling because there isn't good evidence from the fossils for either branching or lack of preservation during evolution.

The suggestion of **rapid changes** mentioned above is not a good solution for evolution when the fossil record is taken into consideration. Calculations show that the long geologic ages are way too short a time for the necessary useful mutations to have taken place.

We are all aware that the flu and AIDS viruses can mutate rapidly into new varieties. This happens because of the combination of extremely rapid production of countless numbers of new individuals and because these are all minor simple variations. On the other hand, as mentioned earlier, a major problem for evolution is how to put together, by random changes in DNA, the complex structures of advanced organisms, that **require multiple parts in order to work to provide survival value.**

## a. RATES OF CHANGE AND THE FOSSIL RECORD

Significant changes in **slowly reproducing vertebrates** that can require years between generations, is an entirely different situation than viruses or bacteria. Calculations by **Michael Behe (2007 The Edge of Evolution, p 44-63)** indicate that the very long geologic ages are **far too short** to accommodate any but the simplest of specific changes in DNA because of the improbabilities involved. There is a great variety of slowly reproducing vertebrates in the fossil record with highly varied anatomies, like amphibians, snakes, turtles, crocodiles, dinosaurs, birds and mammals. However, the many millions of years proposed for their evolution are far, far too short a time for them to have evolved from a single common ancestor.

**In summary**, the assumed long endurance of species in the fossil record, the scarcity of evidence for branching, the lack of evidence for changes in small populations in the context of hundreds of thousands of fossil species discovered, and the virtual impossibilities of any significant mutational changes in slowly reproducing organisms over long geologic time, are all factors that point to the **problems fossils pose for rates of change for evolution.**



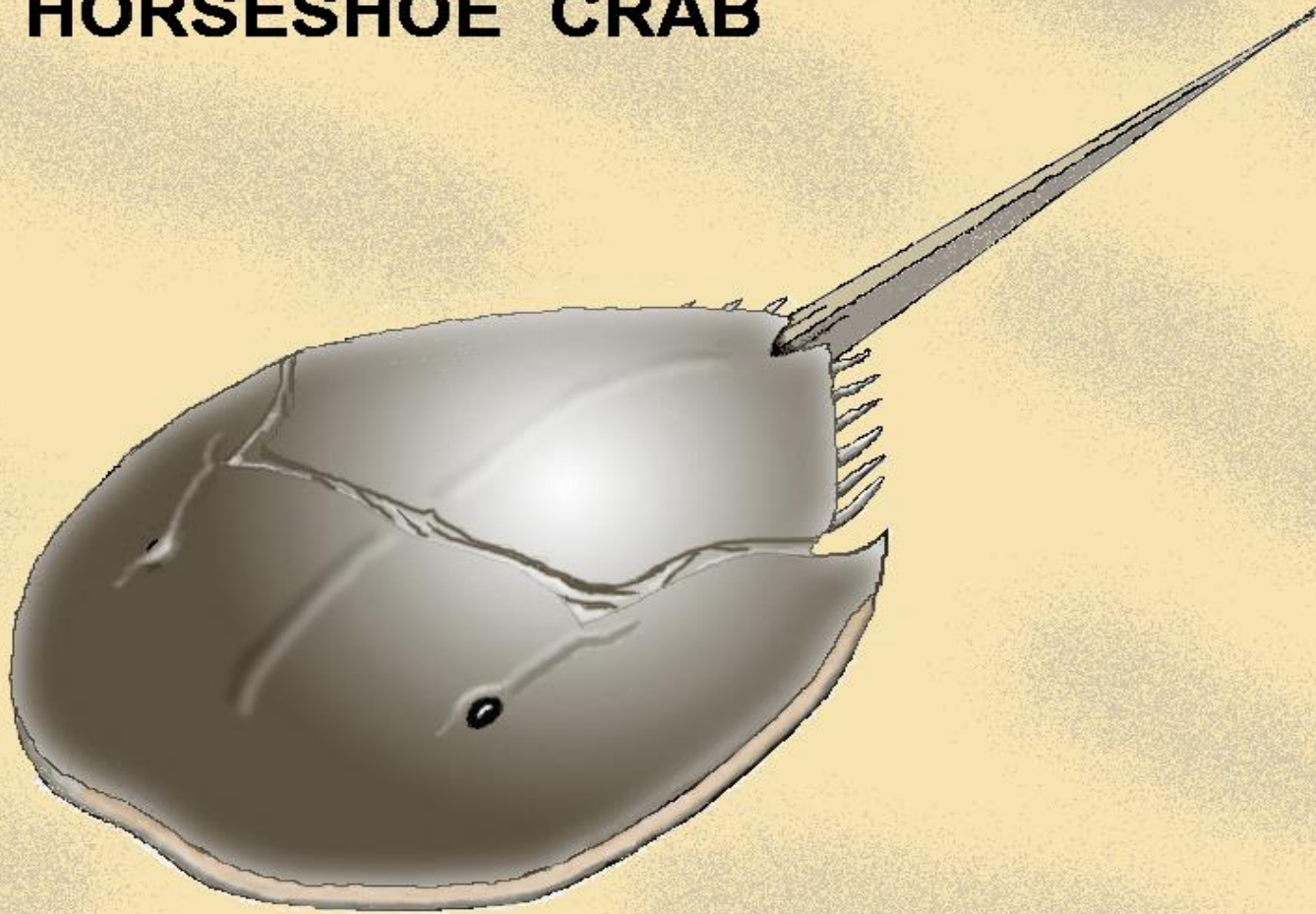
# **2. MORE COMPLICATIONS**

## **b. LIVING FOSSILS**

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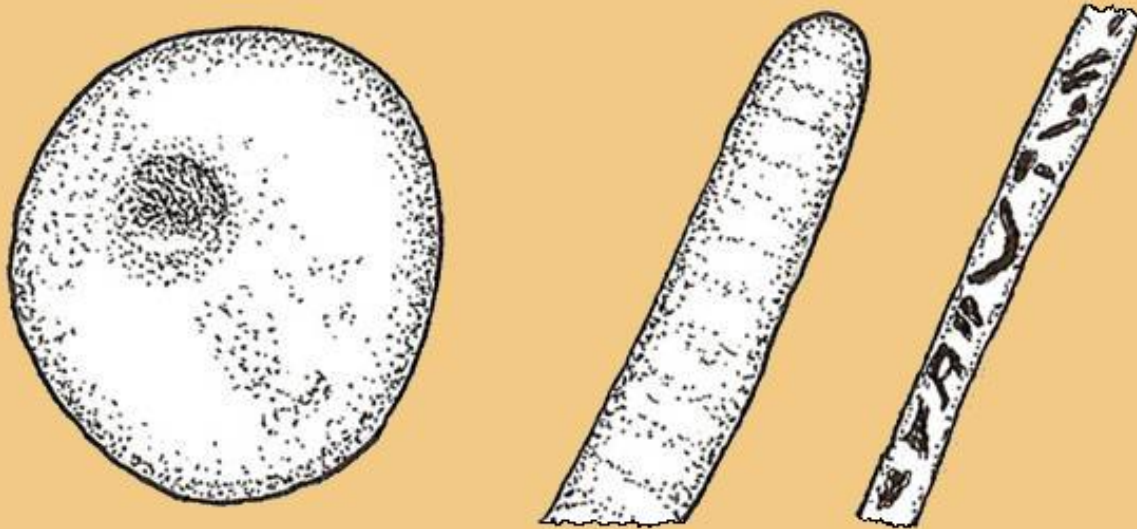
Living species that are very similar to fossils that are assumed to have **lived a very long time ago** are called **living fossils**. For instance a deep sea fish called the Coelacanth, that has specialized lobe-like fins, was found off the coast of South Africa. It is very similar to a fossil fish that was assumed to have become extinct **65 million years ago** (end of Cretaceous). Living horseshoe crabs (see next slide) are very similar to Jurassic fossils dated at **150 million years ago**. Some living mites are very similar to fossil mites found in the Devonian, **400 million years ago**. Living algae are very similar to fossil algae of the Gunflint Chert assumed to be **2,000 million years old** (see the slide after the next one).

# HORSESHOE CRAB



Horseshoe crabs, that can reach nearly 2 m in length, are usually much smaller. They are more like spiders than crabs. Fossil specimens assumed by evolutionists to be 150 million years old appear very similar to living species.

## FOSSILS SIMILAR TO LIVING ORGANISMS



Microscopic organisms found in the Gunflint Chert which is considered to be from the Proterozoic Eon. The fossils are considered to be some 2000 million years old.

## **b. LIVING FOSSILS**

These living fossils tend to challenge the concept of slow continuous evolutionary advancement. If evolution is an ongoing process, it is surprising that we should have **no progress in some organisms for so long a time.**

Evolutionists explain these living fossils by assuming that the **environmental conditions under which they lived did not change**, so no evolutionary adaptation is expected. In their scenario, this can be considered a partially valid explanation, but is challenged by their idea of slow, but constant, changes in DNA by mutations. This is referred to as the **molecular clock or evolutionary clock**. And one can still wonder why bacteria or some other simple organism evolved into humans in around 550 million years, while other organisms did not change for 2,000 million years.

## **b. LIVING FOSSILS**

The presence of living fossils does illustrate a more severe problem with evolution. Namely: **No matter what data you come up with, evolutionists seem to provide an evolutionary explanation.** If organisms in the fossil record appear to change, it is because they evolved. If they don't change, it is because the environment did not change. If they appear suddenly in the fossil record, they must have evolved very rapidly. If they increase in size, it is because of competition or the environment changed. If intermediates are missing, it is because they were not preserved as fossils, etc. Many explanations, but little authentication tend to remove evolution from its claim to be scientific.

## **b. LIVING FOSSILS**

This illustrates the great flexibility of evolutionary theory. The logical problem this poses is that one can postulate evolutionary explanations for nearly everything and these are readily accepted. Hence, **there seems to be no way to test and show that evolution did or did not take place.** No matter what the data of nature is saying, there are suggested evolutionary mechanisms, some of them in apparent conflict with each other. As an example: humans are mean because they are acting to survive over others (Darwin's survival of the fittest), and humans are nice, at least to their relatives, so their own kinds of genes will survive (altruism by kin selection). Too many unsubstantiated explanations **move evolution out of the realm of testable science and into the realm of speculation.**

## **b. LIVING FOSSILS**

Evolutionists accuse creationists of the same problem, because no matter what data one faces creationists can say “**that is just the way God did it.**”

But creationists have the **scientific advantage** that a lot of data, such as we have presented in other discussions, like the extreme precision for the forces of physics, the baffling evolutionary problem of the origin of life and the ubiquitous complexity of advanced organs, essentially **force one to believe in God.** Now we see that the fossil record adds other serious scientific problems for the secular evolutionary model.



# **2. MORE COMPLICATIONS**

## **c. THE CAMBRIAN EXPLOSION**

## **c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS**

As paleontologists have been describing more and older fossils in the Precambrian, a new problem has arisen for evolution. **The fossil record does not reflect slow gradual evolution over eons of time.** For instance the Precambrian has microscopic, usually one-celled, simple or colonial organisms. In the strata just above, that are called the **Cambrian**, the majority of the animal phyla appear suddenly, as marine organisms, in what evolutionists call the **Cambrian Explosion**. Of course, this is not a real explosion, but compared to expected very slow evolutionary advances, this is, relatively speaking, an explosive appearance of many new types of fossils.

## **c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS**

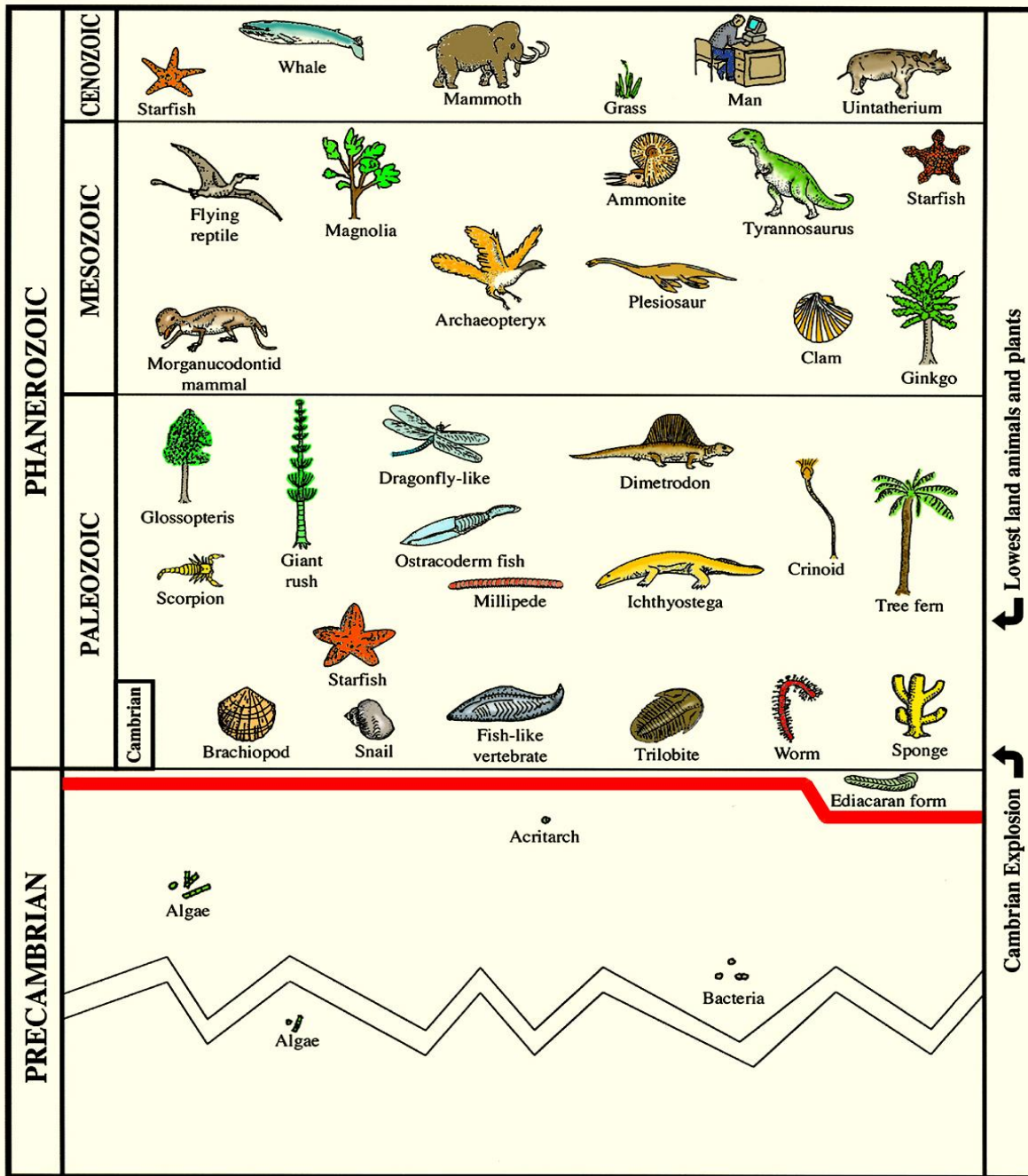
The Cambrian Explosion looks a lot more like creation and ecological zonation (EZT), than protracted evolution. In a creation context the Cambrian Explosion would represent the region of the lowest seas of earth before the Genesis Flood, and as expected for that model the organisms are all marine.

In the “Distribution of Organisms” slide we showed above (second slide after the “INTRODUCTION”), the explosion begins at the Cambrian which is designated by a dashed line. The red arrow in the next slide ahead shows the location of the Cambrian Explosion in the layers of the Grand Canyon and a red line designates it in the following slide that illustrates fossils in the geologic column.



## **GRAND CANYON**

**The red arrow points to the location of the Cambrian Explosion.**



# GENERAL DISTRIBUTION OF ORGANISMS THROUGHOUT THE GEOLOGIC COLUMN

The red line delineates the Cambrian Explosion

## **c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS**

The **Cambrian Explosion** is not just the lack of evolutionary ancestors for major kinds of organisms. A second problem for evolution is that a great variety of kinds appear suddenly all at about the same time. This is not what evolutionary theory predicts.

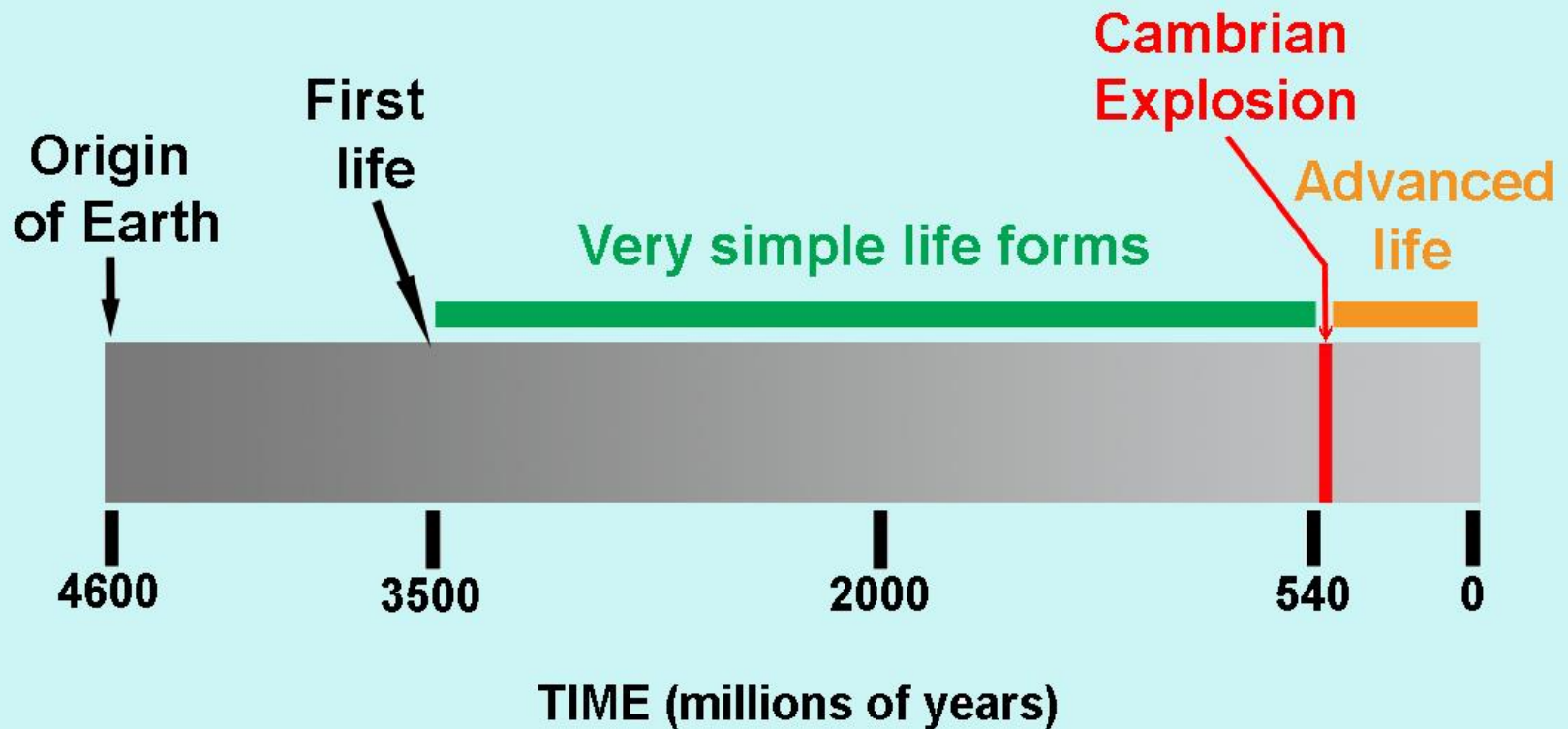
## c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS

The fossil record does not show a process of continuous slow evolutionary advancement over time. It shows a highly erratic record.

According to the evolutionary time scale, there is **virtually no evolutionary advancement** during the **first 5/6** of proposed evolutionary time before the **Cambrian Explosion**. After the first **3,000 million years** of evolution, life is essentially still in the simple one-cell type of organism. Then in only some **5 to 50 million years**, depending on varied definitions, you have the Cambrian Explosion where a majority of the animal phyla appear, and this happens in less than **two percent** of all of evolutionary time!

The next slide of proposed evolutionary time graphically illustrates the brief Cambrian Explosion.

# THE EVOLUTIONARY TIME SCALE



Time proceeds from left to right. There is essentially no evolutionary advancement during the first 5/6 of evolutionary time; then the majority of animal phyla appear suddenly during the relatively brief Cambrian Explosion which is delineated by the red line.



## **c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS**

Recently some evolutionists suggest an **Avalon Explosion** of the odd “Ediacaran” organisms found just below the Cambrian. (See four frames back for illustration and location in the geologic column.) But these are in many respects a restricted group and they are not found higher up; hence, represent nothing like the Cambrian Explosion.

## c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS

Higher up in the geologic layers we find other “explosions” of assumed rapid evolution. This has been especially noted for modern mammals and living bird groups. According to evolutionary time, these explosions took place in less than 12 million years. Recall that above we mentioned that a species lives typically for a million years in the fossil record, which allows for only 12 successive species to produce all these modern birds or mammals. One evolutionist comments that “this is clearly preposterous” (Stanley S. M. 1881. *The new evolutionary time table*, p 93). He proceeds to suggest some kind of rapid evolution to solve the dilemma.

## **c. THE CAMBRIAN EXPLOSION AND OTHER EXPLOSIONS**

In view of the incongruity of the Cambrian Explosion, Samuel Bowring, of the Massachusetts Institute of Technology, wryly states: “and what I like to ask some of my biologist friends is, How fast can evolution get before they start feeling uncomfortable?”

The explosions that occur in restricted levels of the fossil record point out that **evolution has very much less time for evolutionary changes than the billions of years suggested.** However, as discussed earlier, those billions of years are way too short a time for the improbabilities involved. Furthermore at these explosions, fossil intermediates between major groups are lacking.

# **2. MORE COMPLICATIONS**

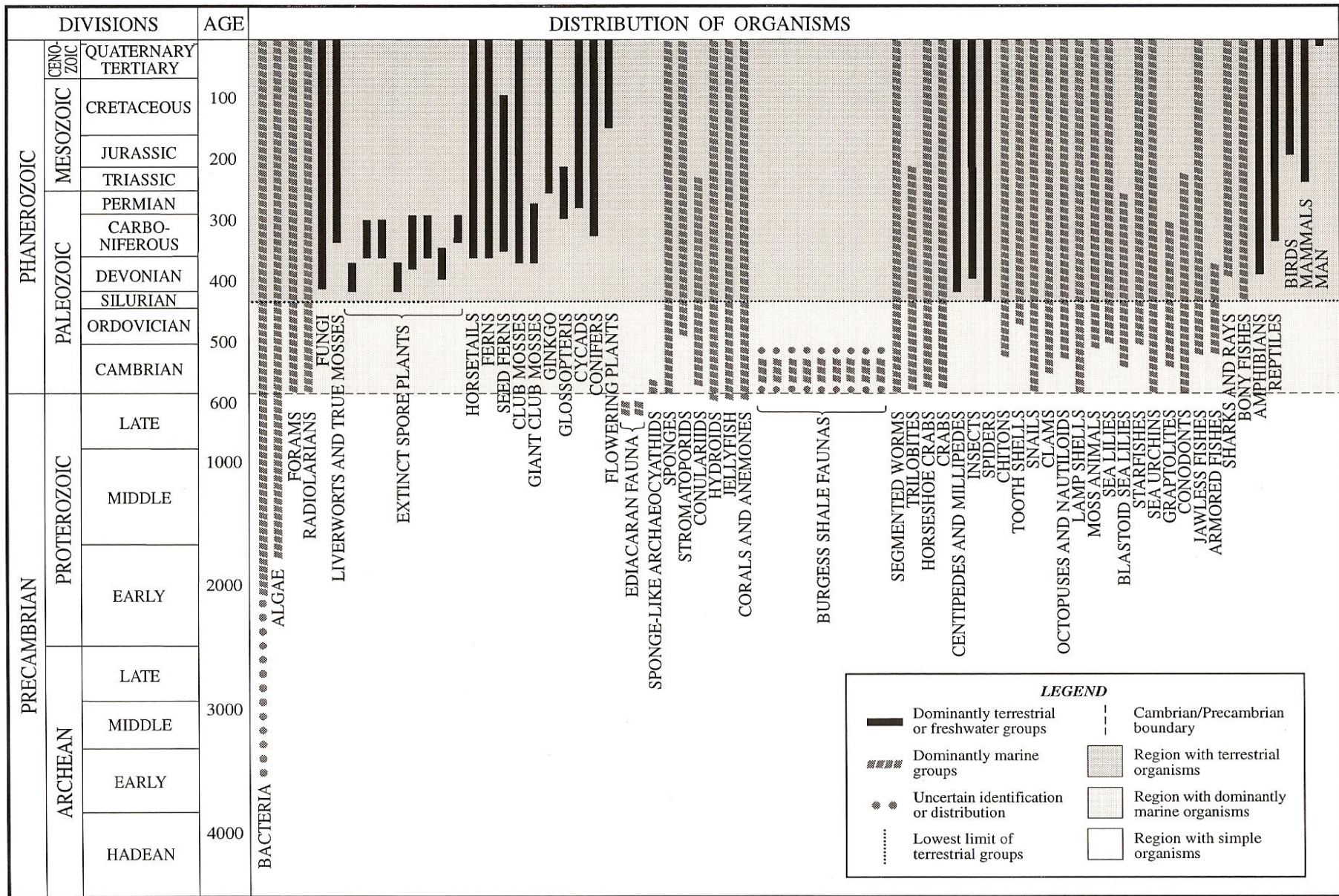
**d. REDUCTION IN BASIC KINDS AS ONE  
ASCENDS THE GEOLOGIC COLUMN**

## **d. REDUCTION IN BASIC KINDS AS ONE ASCENDS THE GEOLOGIC COLUMN**

As evolution proceeds from simple to complex, one would expect that over time more and more new basic kinds of organisms would evolve, but that does not seem to be the case, and some evolutionists recognize this. We do find more species and other smaller groups higher up in the geologic column, and this may be due, at least in part, to the greater accessibility and greater volume of the recent parts of the geologic column. However, in terms of different basic body plans (anatomical kinds), there are more of them lower in the geologic column. Higher up we have more minor variation but on fewer main themes,

## **d. REDUCTION IN BASIC KINDS AS ONE ASCENDS THE GEOLOGIC COLUMN**

In the “Distribution of Organisms” chart repeated below, you can note that **more groups are represented in the Paleozoic (67) than in the Cenozoic (42)**. There are a lot of unfamiliar organisms lower in the fossil record, and it speaks of a past that was different and more varied than at present. The decrease in basic kinds of organisms as one ascends the geologic column is the **opposite** of what we would expect from a gradually developing evolutionary process as one goes from simple beginnings to more and more evolving advanced organisms. This is another problem the fossils pose for evolution.



**SPECIFIC DISTRIBUTION OF ORGANISMS IN THE GEOLOGIC LAYERS. Putative ages are given in millions of years and are not endorsed by the author**

## **d. REDUCTION IN BASIC KINDS AS ONE ASCENDS THE GEOLOGIC COLUMN**

**Stephen Jay Gould, who has been one of the leaders in evolutionary thinking in the United States, has commented on the incongruity of a decrease in anatomical variation of body types as one ascends the fossil record. We find lots of variety in the Cambrian, but as he states, things become more restricted as one goes up the fossil record. A quotation from Gould follows.**



**Gould SJ.** 1989. *Wonderful life: The Burges Shale and the nature of history.* New York: W. W. Norton and Co., p 47.

**Re: Burges Shale and evolution of life in general:**

“The maximum range of anatomical possibilities arises [occurs at] the first rush of diversification. Later history is a tale of **restriction** ...”

**COMMENT:** That first “rush of diversification” includes the Cambrian Explosion which in a biblical EZT Model, represents the lowest level of the seas before the Genesis Flood.

# **3. CONCLUSIONS FOR: MORE COMPLICATIONS**

# 3. CONCLUSIONS

1. According to evolutionary time reckoning, species survive so long that there is **not time in the geologic column for very many species to succeed each other.** There is little fossil evidence that they branched off early from each other. Furthermore, calculations show that the proposed **geologic time is far too short** for the improbabilities necessary for evolutionary advancement in slowly reproducing organisms such as amphibians, reptiles, birds and mammals.

# 3. CONCLUSIONS

2. Some living organisms are **very similar** to others that are assumed to be millions to billions of years older. These **living fossils** challenge the concept of a gradual evolution by the slow but persistent changes in DNA of the molecular clock.
3. We find **several rapid “explosions” of major kinds** of organisms in the fossil record such as the Cambrian Explosion, and these challenge the evolutionary requirement of lots of time for all the specific DNA changes necessary to make major changes in organisms. The lack of fossil intermediates at these “explosions” also challenge evolution.

# 3. CONCLUSIONS

4. While there may be an increase in the number of fossil species as we ascend the geologic column, there is a **decrease in basic kinds** of fossils (anatomical body plans), and this is the reverse of what we would expect from a progressive evolutionary process.

# **4. REVIEW QUESTIONS**

**(Answers given later below)**

# **4. REVIEW QUESTIONS – 1**

**(Answers given later below)**

- 1. According to the evolutionary time scale a fossil species tends to persist, as you follow it up through the fossil record, for a million years or much more. What time problem does this pose for evolution in general? What evolutionary alternative explanations can be suggested?**
- 2. Some evolutionists point out that mutations such as those of the AIDS and flu virus occur very rapidly. Why is this latter explanation not a good suggestion for the proposed rapid evolution of the advanced organisms we find in the fossil record?**
- 3. Living fossils that are nearly identical to fossils that, according to evolution, lived many millions of years earlier are explained by evolutionists as simply having not evolved. What basic problem for evolution does this illustrate.**

# REVIEW QUESTIONS – 2

(Answers given later below)

- 4. As one goes up through the fossil record, all of the sudden one runs into ‘explosions’ like the Cambrian Explosion where many major groups appear suddenly. What two problems for evolution do such explosions entail?**
- 5. The fossil record and the geologic time scale reveal a highly erratic (episodic) evolutionary process. There is hardly any evolution beyond the one cell stage for the first 5/6 of proposed evolutionary time, and then suddenly most of the animal phyla appear in the Cambrian Explosion. Evaluate these factors for the evolution model and then evaluate them for the creation model.**
- 6. More fossil species have been found near the top of the geologic column than below, however more basic anatomical kinds (groups) of fossils, including a number of strange organisms that we are unfamiliar with, are found lower down in the geologic column. Why does this greater disparity of basic kinds of organisms, early in the evolutionary process, pose a problem for evolution?**



# REVIEW QUESTIONS AND ANSWERS - 1

1. According to the evolutionary time scale a fossil species tends to persist, as you follow it up through the fossil record, for a million years or much more. What time problem does this pose for evolution in general? What evolutionary alternative explanations can be suggested?

*If a species lasts for a million years, there isn't that much time in the fossil record to produce the great variety of life we find on earth as one species follows another. For instance the Phanerozoic part of the fossil record that contains most of the great variety of organisms we know about lasted only about 540 million years, and this would accommodate only 540 successive species, while we have at least well over a million identified species that supposedly evolved.*

*Evolutionary suggestions for resolving the dilemma include early branching off to form new species without waiting for a million years, but the fossil record reveals hardly any evidence of this kind of activity, and there should be plenty. Also one can suggest that such branching occurs rapidly in small population that would have little chance of preservation. But it seems doubtful that preservation events would occur, essentially, only when the evolution (branching) of a million new species was not going on. A significant fossil record of changes should be there.*

# REVIEW QUESTIONS AND ANSWERS - 2

2. Some evolutionists point out that mutations such as those of the AIDS and flu virus occur very rapidly. Why is this explanation not a good suggestion for the proposed rapid evolution of the advanced organisms we find in the fossil record?

*Viruses can be reproduced very rapidly and by the millions. The situation is entirely different for vertebrates such as reptiles or mammals that have few offspring and can take years between generations. Calculations indicate that the millions of years of geologic time would allow for only a very few defined mutational changes in these kinds of organisms. These large organisms, like reptiles and mammals, that are well represented in the fossil record, and that have significant and large differences, would require a lot of mutations, and these need to be accounted for by evolution.*

# REVIEW QUESTIONS AND ANSWERS - 3

3. Living fossils that are nearly identical to fossils that, according to evolution, lived many millions of years earlier are explained by evolutionists as simply having not evolved. What basic problem for evolution does this illustrate.

*This tends to invalidate the molecular DNA clock for rates of evolutionary changes. Furthermore this illustrates the extreme flexibility of evolutionary thinking. Because evolution is assumed to have occurred, no matter what the data says, there is always an evolutionary explanation, hence this makes it hard to test or disprove evolution scientifically.*

4. As one goes up through the fossil record, all of the sudden one runs into ‘explosions’ like the Cambrian Explosion where many major groups appear suddenly. What two problems for evolution do such explosions entail?

*There is the time problem, because you have to have the evolution of many major kinds of animals in a very brief time, and there is the problem that the expected fossils intermediates between these animal phyla are not found in the explosion.*

# REVIEW QUESTIONS AND ANSWERS - 4

**5. The fossil record and the geologic time scale reveal a highly erratic (episodic) evolutionary process. There is hardly any evolution beyond the one cell stage for the first 5/6 of proposed evolutionary time, and then suddenly most of the animal phyla appear in the Cambrian Explosion. Evaluate these factors for the evolution model and then evaluate them for the creation model.**

*These factors pose a paradox for evolution. Why would evolution do hardly anything for billions of years, then suddenly produce most of the animal phyla in 2% of evolutionary time. This is difficult to explain on the basis of an undirected continuous random process.*

*These facts fit well with the creation model, wherein the simple Precambrian organisms represent microorganisms that live in the deep rocks, while the Cambrian Explosion represents organisms living at the lowest level of the seas before the Genesis Flood and were subsequently buried by that horrendous event.*

# REVIEW QUESTIONS AND ANSWERS - 5

6. More fossil species have been found near the top of the geologic column than below, however more basic anatomical kinds (groups) of fossils, including a number of strange organisms that we are unfamiliar with, are found lower down in the geologic column. Why does this greater disparity of basic kinds of organisms, early in the evolutionary process, pose a problem for evolution?

*Evolution is supposed to have proceeded from a single simple first form of life to more and more varied kinds as organisms adapted to varied environments. Thus we would expect more and more basic kinds as time goes on as one goes up through the fossil record. The fact that we have more basic kinds in the lower Paleozoic fossil record than now challenges the fundamental scenario of gradual evolutionary progression to varied kinds over time. More species are found higher up in the fossil record, but they are minor variations on a restricted number of main anatomical kinds.*

# ADDITIONAL REFERENCES

For further discussions by the author (Ariel A. Roth) and many additional references, see the author's books titled:

1. **ORIGINS: LINKING SCIENCE AND SCRIPTURE.** Hagerstown, MD. Review and Herald Publishing Association.
2. **SCIENCE DISCOVERS GOD: Seven Convincing Lines of Evidence for His Existence.** Hagerstown, MD. Autumn House Publishing, an imprint of Review and Herald Publishing Association.

Additional information is available on the author's Web Page: Sciences and Scriptures. [www.sciencesandscriptures.com](http://www.sciencesandscriptures.com). Also see many articles published by the author and others in the journal **ORIGINS** which the author edited for 23 years. For access see the Web Page of the Geoscience Research Institute [www.grisda.org](http://www.grisda.org).

Highly Recommended URLs are:

Earth History Research Center <http://origins.swau.edu>

Theological Crossroads [www.theox.org](http://www.theox.org)

Sean Pitman [www.detectingdesign.com](http://www.detectingdesign.com)

Scientific Theology [www.scientifictheology.com](http://www.scientifictheology.com)

Geoscience Research Institute [www.grisda.org](http://www.grisda.org)

Sciences and Scriptures [www.sciencesandscriptures.com](http://www.sciencesandscriptures.com)

Other Web Pages providing a variety of related answers are: Creation-Evolution Headlines, Creation Ministries International, Institute for Creation Research, and Answers in Genesis.

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