Katagenos Species Concept & Classification System

2015 Edition

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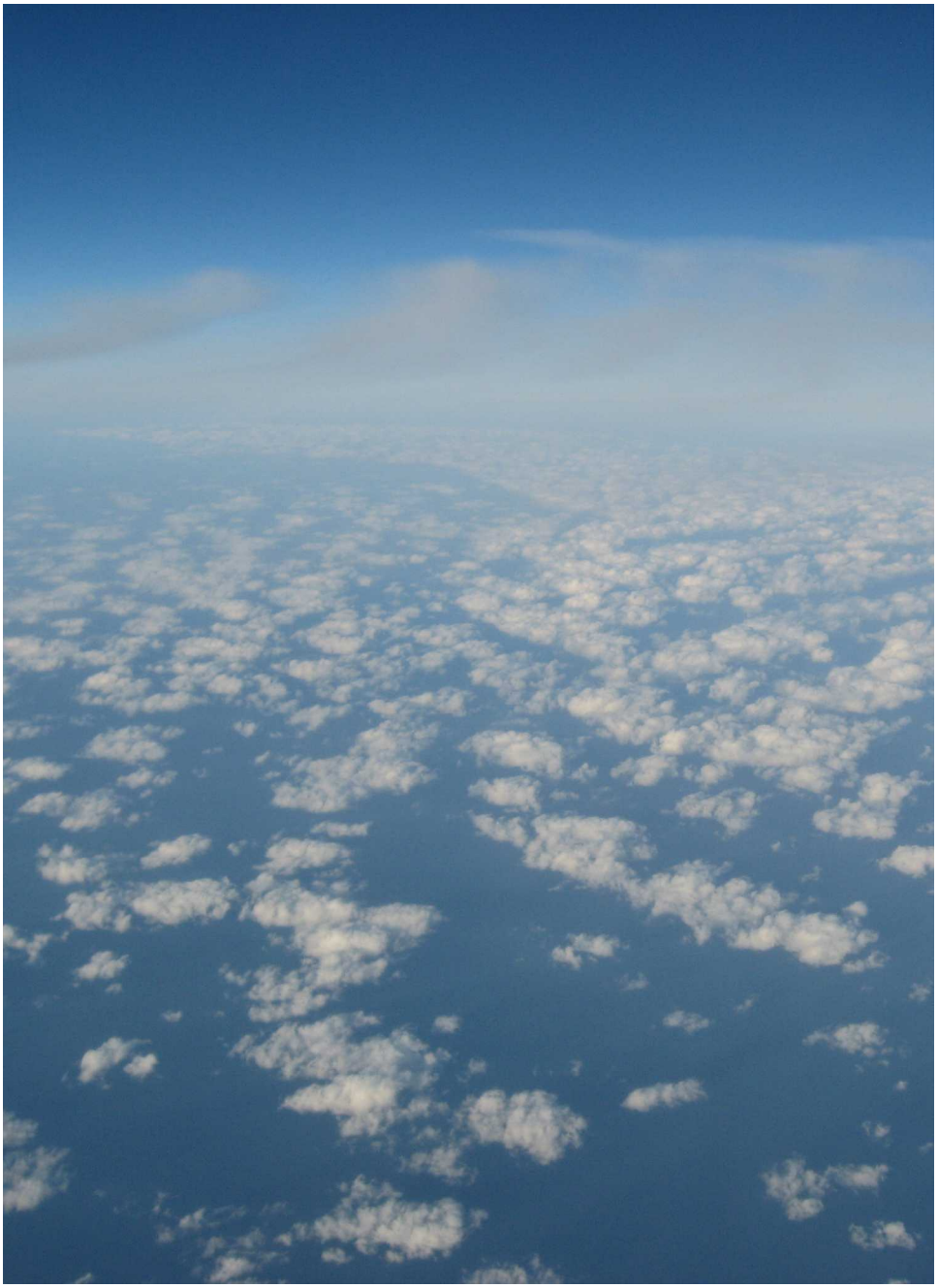
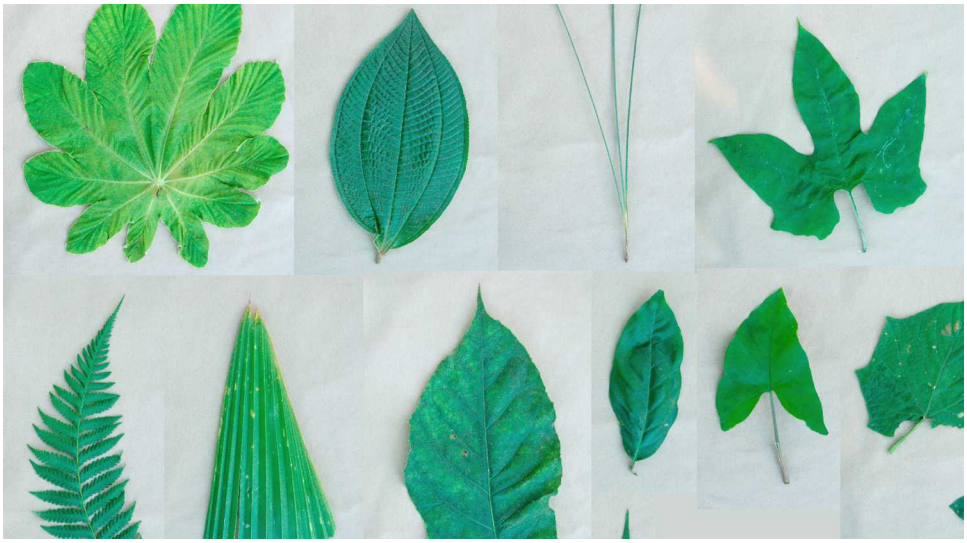


1. The Earth



2. Leaf Collection

Preface

Evolutionism has spread rapidly in the last several decades. At the same time, Creationism has been slow in responding. Baraminology, the scientific study of created kinds, is one of the responses that is now forming and challenging the Theory of Evolution. The more we study kinds, the more evidence is discovered to show that science supports Creationism.

The 2015 edition of the Katagenos Species Concept and Classification System is an introduction to the concepts of a creation based taxonomic system. It includes some examples of classification work being done by various researchers across plant and animal kinds. Much work remains to be done in the field of Baraminology and subsequent editions will expand and build upon both concepts and taxonomies.

3. Exploring Creation – Phasmatibar

Introduction

Why Study Created Kinds

While growing up, I learned a little about creation in the church and I was taught much about evolution in the school system. It was not until I was a young adult that I really understood the conflict between these ideas and the deeper issues they represented in answering the great questions of life. When I delved into the creation and evolution debate, I soon saw that there are many scientific problems with the Theory of Evolution that I had not been shown in school and that the philosophies behind Evolutionism were misguided.

The years since then have been a wonderful time of discovery of both our Creator and His creation. Examining Created Kinds within Scripture reveals that He created everything and deserves our honor, worship, and obedience. Baraminology, the scientific study of Created Kinds, helps us understand what He created and the incredible complexity of life. Together, they show an amazing beauty and value for life that cannot exist in an evolutionary worldview.

Are Creationists against Science

Contrary to what the popular media tries to depict, Scripture and science are not enemies. In fact, they go together quite well. Science is a way to study, learn, and understand the world our Creator has made.

Groups that support Evolutionism will often make a claim similar to 'Creationists deny science'. What usually follows such a statement is a number of logical fallacies which misrepresent both Creation and Evolution. This misrepresentation hinders the scientific process and the ability to truly learn about the universe, our world, and life itself.

The most common fallacy is to compare the Theory of Evolution (a scientific model) with Creationism (a belief). This is an unfair tactic. The scientific Theory of Evolution should be compared to the scientific Theory of Creation and the beliefs of Evolutionism should be compared with the beliefs of Creationism. This maintains a fair comparison and separation of both science and belief.

A second fallacy often made is to equate the Theory of Evolution with Science itself. Under this false assumption, challenging Evolution becomes a challenge against Science. However, you do not need Evolution (an idea) to do Science (a process of testing ideas and following evidence). Both the Theories

of Created Kinds and Evolution are ideas that can be tested within the structure of Science.

A third fallacy is made when Evolution advocates state that the Theories of Genesis Origin and Created Kinds have no evidence. To the contrary, both Evolution and Creation have exactly the same research and evidence available to examine. Creationists do not deny science or challenge scientific data. What they do challenge is Evolutionism's interpretation of the scientific data.

Creationists are not against science. In reality, creationists like science, find the Scientific Method useful, and have contributed greatly to the scientific knowledge of our world.

The Need for a Creationist Taxonomy

As a believer, I want to know what is true and what is false … it is good to pursue purity. If evolution is false, then I want to remove the false concepts it makes from my views of life. This includes my views on taxonomy. One of the goals of baraminology / created kinds research is to distinguish these differences.

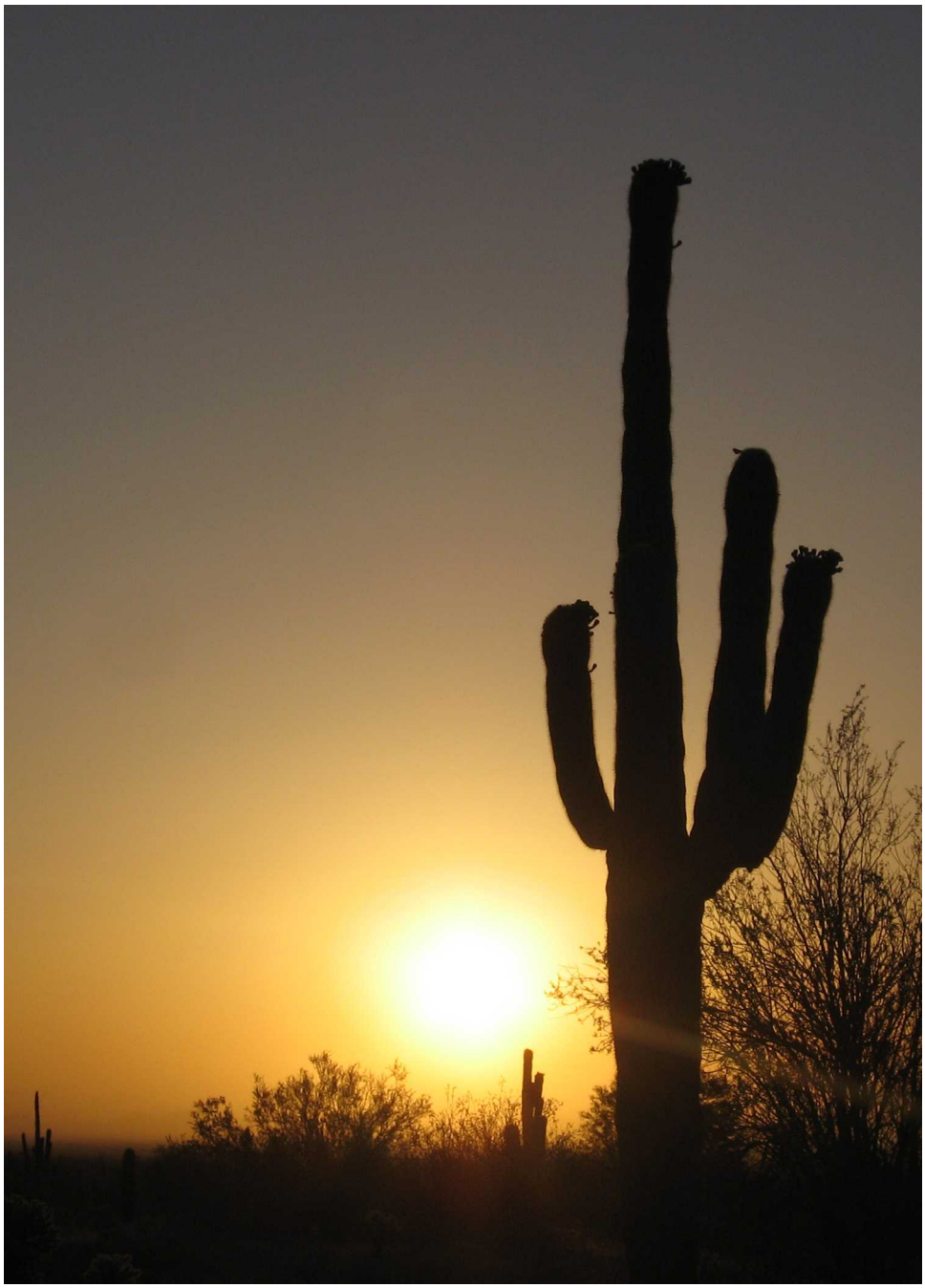
For example, evolutionary biology states that both plants and animals are alive. I believe there is strong case to be made, from Scripture, that plants are not alive. Does this make a difference? Yes. It shows that life (connected with the blood and with breathing) is precious and that it is something more than just a body. I realize that plants are important for our health and are part of the ecosystems of the earth, but some groups of evolutionists will go to the extreme of making 'plant life' as important or more important than human life. Understanding a scriptural view of life and the concepts of created kinds enables believers to refute such evolutionary views.

In many ways, evolutionary taxonomy has taken over the Linnaean Classification System by adding assumed layers and ancestral connections. The Linnaean Binomial Nomenclature bas had been in use for nearly two centuries with the ranks species, genus, and family and was doing quite well before evolutionism added the higher ranks of order, class, phylum, kingdom, and domain. It is these higher ranks which lack supporting evidence, from both biology and the fossil record. Also, it is becoming obvious that the current evolutionary concept of species does not function well and that the creationist concept of kinds fits what we observe much better.

Science should follow where the evidence leads. The classical study of morphology (the physical appearance of a species) used in classification was well on its way to finding the distinctions of the Created Kinds. Today, this work can

continue with the added benefits of a greater collection of fossil and genetic research. Together, the level of Created Kind is becoming clearer and a way to classify this information, without trying to force it into a system loaded with evolutionary assumptions, is becoming necessary.

For example, evolutionary taxonomy currently holds 14 families of turtles which are presented in the Subclass of the Anapsida [there are current discussions of their belonging to the Diapsida]. Simple studies into hybridization connect many of these families together and suggest there are 5 kinds of turtles [possibly less dependant on further research] with no ancestral connections to either Anapsids or Diapsids. There is no easy way to get things re-classified by this evidence in the current system and definitions nor to separate them from the supposed ancestral forms.



4. The Desert Habitat

Chapter 1

The Basic Problems with Evolution

Understanding Evolutionism

Naturalism has its base in the Natural Philosophy of the Greek Empire and it focused on the premise of nature existing without a god or, at most, with a distant god that may have started things but now does not interact with nature. It was a materialistic concept where physical matter, without anything spiritual, could produce all that exists. These concepts all but do away with a Creator and the possibility of a relationship with Him.

The concepts of Natural Philosophy largely disappeared through the Middle and Dark Ages. It re-emerged after the Enlightenment period as natural philosophers, including both atheists and deists, were again looking for ways in which life could exist without the need for a god. At this time, it was primarily built on philosophical speculation and not empirical research by science. However, the scientific age was soon in coming and people were looking for ways to support these concepts and so Scientific Naturalism began.

In supporting a materialistic view, it did not take long for concepts such as long ages of geologic time, uniformitarian processes forming the Earth, and gradual development from simpler to more complex animals to develop. Sadly, the initial response by believers was to simply accept such ideas and start reading the Scriptures as allegorical in regards to the creation account rather than check out the scientific facts and alternate explanations. This has had a terrible effect in undermining people's beliefs in the reliability of the Scriptures.

Over time, Naturalism led to the development of the Theory of Evolution with a base in the concepts of competition and natural selection. This has directly or indirectly led to an increase in racism and wars among the peoples and nations such as when one culture decides it is more evolved than another. It also tries to place man among the animals rather than having a special place above them. Meanwhile, the problems and fallacies with Naturalism or the Evolutionism are typically not mentioned. This is, in part, due to the general acceptance of the Theory of Evolution and the attempt to make all findings fit within that model (even if perplexing and difficult) rather than truly explore other possibilities.

Fallacies for the Model of Evolutionism

The Theory of Evolution requires certain base assumptions to be true for the theory to continue to work. If these basic assumptions are incorrect, then the entire Theory of Evolution does not work. Following are a few of the main scientific objections that can be made with the basic concepts of Evolutionism and the Theory of Evolution.

The Theory of Evolution should not operate in the known laws of physics. One of the most striking examples of this is with the Second Law of Thermodynamics. It states that everything is breaking down and becoming increasingly disordered. In order for Evolution to function, the opposite must occur and things must get more orderly and complex. Science says that the Laws of Thermodynamics have never been broken, but at the same time accepts that somehow the process of evolution overcomes the Laws of Thermodynamics. These statements are in conflict.

The Big Bang Theory of Origins currently requires about 20 billion years for the universe to form. The Theory of Evolution assumes about 4 billion years for life to change from a single entity to all that is known today. However, the natural processes that can be witnessed and measured demonstrate a young Earth and universe only thousands of years old. Evidence for long ages of time simply does not exist. Without this time, the Theory of Evolution cannot work.

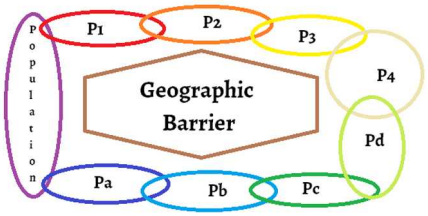
Although the Theory of Evolution does not technically deal with the origin of life, it is none-the-less dependent on life starting so that change can occur. Specifically, it is dependent on life starting or coming from non-life which is called abiogenesis. The first living molecule would have to be incredibly complex just to survive and reproduce. Abiogenesis is something that has never been witnessed and is statistically such a small possibility that it is virtually impossible for it to occur even in 20 billion years.

The Theory of Evolution is dependent on beneficial mutations as a means of changing life and improving it. However, beneficial mutations have not been witnessed. Instead, mutations cause great harm to life and destroy it. Furthermore, organisms have mechanisms specifically designed to find and eliminate mutations so that they do not occur. Mutation cannot work as a driving force of evolutionary processes.

The fossils found in the layers of dirt and all of the information gathered from them are collectively known as the fossil record. The Theory of Evolution states that the fossil record should show a gradual (or occasionally a leaping) change from one species to another. In fact, there are currently no solid examples of a transitional species. Instead, there are large gaps in the fossil record indicating that the animals are not connected beyond a certain point.

Close-Up: The Ring Species Concept

The Ring Species Concept is defined as a series of connected populations which spread around a geographic barrier where neighboring populations are able to interbreed but the distant populations that meet after the barrier are unable to interbreed. The basic idea was first suggested in the early 1900's and the concept was formalized in the 1940's. This idea was to show in a spatial dimension what is typically expected of evolution in a time dimension. Only a few species have been suggested as potential Ring Species, but with further study each has been found to not qualify as true Ring Species. Therefore, the Ring Species concept is an evolutionary idea lacking any proven examples.



A proper ring species will have numerous characteristics, the most important of which include: 1) a species that splits into two separate but continuous grades of populations around a geographic barrier or unsuitable habitat, 2) Populationsthat acquire new traits as they move away from the ancestral home / population, 3) Gene flow and hybridization occur in neighboring populations, 4) the two populations at the end of the ring come together and have become so distinct they cannot hybridize nor interbreed. For example, using the illustration at the right, the original population splits into two lines (populations 1,2,3,4 and a,b,c,d) where each population can hybridize except P4 and Pd.

There have been several suggested candidates for Ring Species. The most notable and studied are the: 1) Ensatina salamanders surrounding the Central Valley of California, 2) the Larus gulls near the Arctic Circle, 3) the Greenish Warbler surrrounding the Tibeten Plateau, 4) the Crimson Rosella Parrot in Australia, and 5) the Caribbean Slipper spurge in Central America.

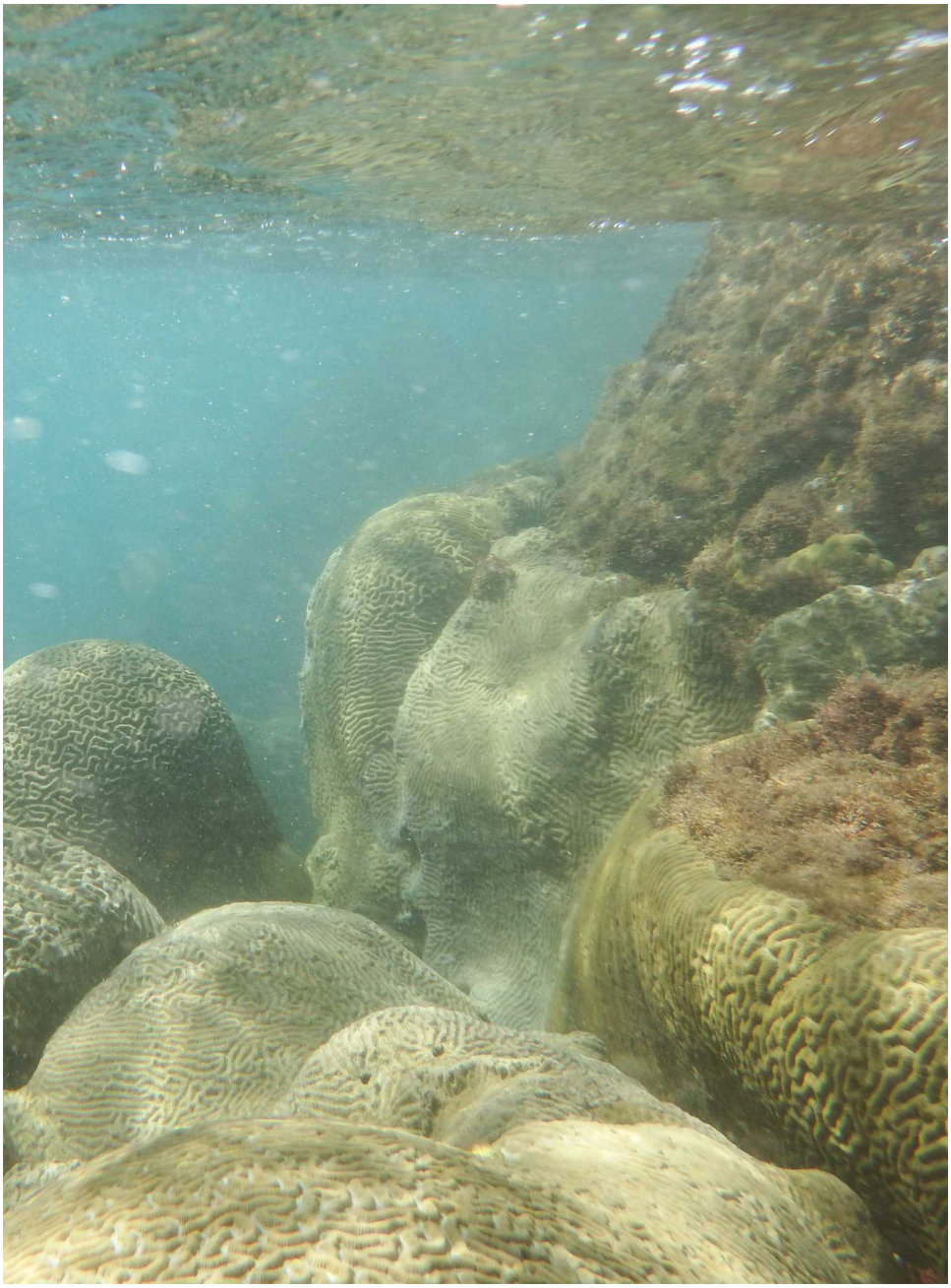
5. Larusot Gull

Most of the time, speciation is considered to occur because of reproductive isolation. Within Ring Species, the possibility of speciation without such isolation would be a great find toward showing Darwinian style evolution

as it would create a situation where a single species could become two species, due to divergent populations, even with some connected genetic flow. Darwin introduced the term 'incipient species' to suggest varieties predicted to become separate in the future. This idea is a large 'what if' as evidence so far has shown suggested ring species merge, rather than diverge, when they come back together - the opposite of what is needed for evolution to occur.

There are many difficulties in defining a species and this becomes quite apparent in the concept of Ring Species. If a ring were truly found, the two ends that are unable to interbreed would act like two separate species. Yet, the entire ring, from one end to the other, is able to breed and would therefore be considered one species.

The major downfall of the Ring Species concept is that the end populations, which by definition cannot interbreed, have been found to interbreed even in the wild, typically with fertile offspring. Therefore the species is only showing some variations (as a subspecies) based on the surrounding environment. It remains the same species. The changes that are observed are referred to as Pre-zygotic Barriers which mean characteristics used in choosing a mating partner rather than Post-zygotic Barriers whose characteristics mean successful fertilization cannot occur even when attempted because of genetic dissimilarity. This is further enhanced by recent DNA studies which conclude that the genetics of each population is typically formed by isolation rather than the necessary continuous gene flow. [R1,2,3,4,5]



6. Coral Reef Habitat

Chapter 2

The Basic Evidence for Creation

Creationism is the belief that the entire universe and all of life were created in a special act by a Creator. This is based on the concepts contained within Scripture with an emphasis on the Genesis account of a seven day act of creation. It states that the creation was originally made in a good condition and that over time it is deteriorating and getting worse due to the fall of man and the action of sin.

Understanding Creationism

The Genesis Origin Theory, a scientific look at Young Earth Creationism, takes a literal interpretation of Genesis and places the age of the universe at approximately 5,900 years. This is in sharp contrast to secular views of how the universe (and later life) originated. This is in opposition to the Big Bang Theory of Origins that permeates secular science and is a building block of Evolutionism.

The Created Kinds Theory states that there is a Creator and that there is a limit to the variation that can occur within a kind of plant or animal. According to the theories of Creationism plants, animals, and man were created fully complex and reproducing after their own kind. This allows for variation within a kind, but no transitional forms between kinds. This is in sharp contrast to the Theory of Evolution which states that very big changes can occur over long periods of time and that all organisms are related.

Studies of Creationism include a number of events in early history as well. These events are considered important for understanding the current environments, habitats and, ecosystems rather than how it was originally created. The two most important events are the destruction caused by a worldwide flood during Noah's time and the sudden dispersion of people and languages from the Tower of Babel spreading nations and cultures around the world.

The Intelligent Design concept is a relatively recent idea in the creation / evolution debate. However, its base goes back to the teleological 'Arguments from Design' that were created in the late 1700′s in an effort to prove the existence of the Almighty. Officially, the Intelligent Design movement does not take a stand on creation nor is it concerned with a literal interpretation of the Scriptures. Thus, for example, it could accept the seeding of life on Earth by space aliens as the intelligence behind life. However, the general arguments for

design can be useful for showing the concept of the Heavenly Creator.

The idea of Intelligent Design has been heavily linked to the theory of irreducible complexity. This theory states that complex systems with inter-related parts or functions could not have arisen piece by piece but must have been made or created as a complete unit.

Evidence for the Model of Creationism

Interestingly, the very fallacies given earlier for the Theory of Evolution actually follow exactly what would be expected within the Theory of Created Kinds.

The second Law of Thermodynamics states that things are continually wearing down and getting worse - a concept called entropy. Once again, the effects of the fall and the curse can be seen playing out in the realm of physics. What creation was like before the fall (and will be again after it is restored) is a matter of conjecture.

The natural processes of the universe, solar system, Earth, and life itself all show a young creation only thousands of years old instead of the billions required by the processes of evolution. A chronology built on Scripture would suggest that creation is approximately 5,900 years old. The physical evidence of natural processes agrees with this type of dating.

One of the major expectations is that life would come from life. This is known as the Law of Biogenesis. This is true of what we witness with reproduction and it is true of what we would expect by the Living Creator in making life. He is living and produced life. He also put it into place so that what He created could continue producing life.

Due to the fall and the curse, Creationism expects that life is getting worse and not better. In the physical this is certainly demonstrated as harmful mutations are continually being added to the genetic load. This brings with it increased diseases and problems and not new or beneficial information. Without care and effort, things fall apart on every scale.

The Theory of Created Kinds would expect large gaps in the fossil record (without transitional fossils) showing the distinction between kinds. This is what is found in the fossil record. Furthermore, what has been called the Cambrian Explosion, the sudden appearance of many diverse and developed forms of life shown through fossils, is good evidence for the Flood of Noah's time as this is likely when many of the fossils were laid down.

When languages appear in history, they are well developed and complex.

Instead of beginning with primitive forms, they start complex and tend to simplify over time. The study of linguistics suggests there are about 100 languages that are the base of all the known languages in the world today. This is slightly more than the 70 languages / nations mentioned in Scripture after the Tower of Babel.

The Evidence for a Worldwide Flood

Within a creationist view, many things can be expected under the conditions of such a flood because floods are known for laying down rocks and fossils. First, the fossils should show catastrophic and rapid formation, there should be clearly defined kinds of plants and animals with no transition forms in between, and both simple and complex organisms should exist from the beginning. Second, larger fossils should become polystrate in position as the flood layers quickly settle into place. Third, there should be human artifacts to be found in the fossil record. Furthermore, there would likely be layering where sea life is buried first. The bodies of animals and humans would be less likely because of rotting and decaying.

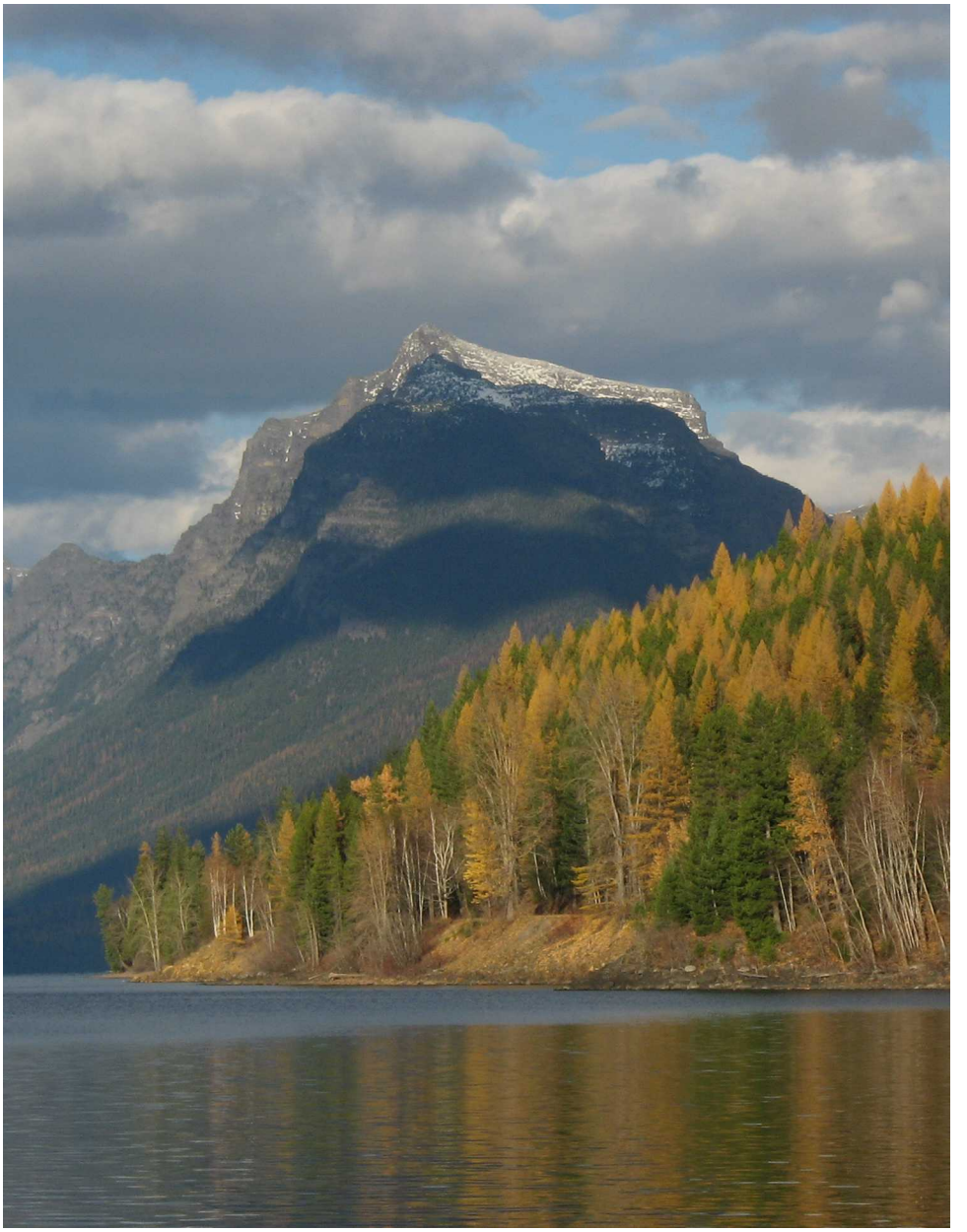
Many animals, both small and large, are fossilized in a position with the head arched back as far as possible while the legs are found in almost any position. This can be interpreted as a sign of asphyxiation. The animal could not breathe because it was rapidly buried and it was trying to reach air to breathe.

A polystrate fossil is a fossil which crosses through multiple rock layers. This suggests that the rock layers were formed quickly and buried fossil rapidly. The alternative, which seems unrealistic, is to consider that the fossilized item was able to stay in one place for millions of years without rotting while it was slowly buried. They are commonly associated with thick layers of sedimentary rock and Carboniferous coal-bearing strata. Polystrate fossil forests are found in North America, Europe, and Australia.

The Cambrian Explosion is geologic layer where complex forms of plants and animals suddenly appear. These forms represent virtually all major forms of life. Most strikingly, there are no simpler forms of life preceding this layer for the vast majority of types to suggest evolutionary changes. This layer probably represents the lower sections of the flood deposition layers.

Many varieties of modern plants and animals are found in large sizes in the fossil record. These are predicted to have existed before the flood and show how conditions have changed. Just as Scripture records the lifespan of people dropped dramatically after the flood, similar probably occurred with plants and animals.

According to a scriptural timeline, about 4,300 years have passed since the time of the flood. This includes an ice age shortly after the period of the flood. During this time, rapid diversification would have occurred within animal kinds as they spread out and moved into new habitats. This diversification is not a sign of evolution in progress, but is instead simply the breeding out of characteristics that already exist within the animals.



7. The Mountain Habitat

Chapter 3

The Katagenos Species Concept

The Katagenos Species Concept is based on the Theory of Created Kinds. It allows for a reproductive and genetic discontinuity between kinds and a continuity between breeds / species within a kind. The active dynamics for change within a Kind are communication and environmental acclimation through the mechanism of genetic selection of already existing DNA. It currently combines the terminology of Baraminology, breeding techniques, and Linnaean classification in order to express these concepts.

The Created Kinds Model

The Creator made the Heavens and the Earth including plants, animals, and man. He spoke them into existence in a literal seven day act of creation. This unique ability is found in the Hebrew word 'bara' which is used only of the Creator and never of man. Because they were spoken into existence, they do not have any ancestry nor was any evolutionary means involved.

The Creator made things to reproduce 'after their kind' represented by the Hebrew word 'min'. While leaving some room for acclimation and variation within a kind, this suggests a limit to the amount of change that can occur within the descendants of the Created Kinds.

A 'baramin' comes from the words bara and min and represents a single Created Kind. The phrase ‘Genesis Kinds’ refers to the Kinds that were made during the Creation Week. The 'Ark Kinds' refer to those Kinds which would have been aboard Noah's Ark.

The Theory of Created Kinds details the characteristics expected of Created Kinds. In summary, they include: no random generation of life from non-life, kinds / species fully formed and functional with no primitive ancestors, and gaps between forms of living and fossilized Kinds / species.

Existing Species Concepts

By some counts, at least 22 different (although maybe somewhat overlapping) species concepts have been proposed.[R6] Each of them has their own benefits and problems which tend to be associated with the field of science for which they were made. A quick description of the more commonly encountered concepts will serve as an example.

The Biological Species Concept was first proposed by Ernst Mayr and defines a species by the possibility of animals interbreeding. This system allows similar groups of animals (with only slight variation) to be grouped into the same species because they would probably interbreed if given the opportunity. This is difficult to test because animal populations that are separated, such as by geographic distance, do not give the opportunity to observe if they will actually interbreed.

The Phylogenetic Species Concept states that geographically separated forms of the same type of animal should be considered distinct species. This does not consider whether the separated groups could interbreed. Instead, it considers that separated groups are independently evolving and therefore will be acquiring a unique genetic history. This has the effect of creating many more species than the Biological Species Concept.

The Morphological Species Concept (also known as the Typological Species concept) is the traditional method of determining species as used by Linnaeus and Darwin. This method categorizes species by phenotype (the observable appearance and anatomical features) of the organism involved. This method usually ignores geographic separation and, therefore, fewer species are made because all of the individual groups are taken as a single species. This method has generally lost favor as genetic studies have increased (except where asexual reproduction occurs).

The study of old or extinct species presents special problems in classification. The exact appearance of the animal is often limited to a few fossil samples and may only include bones. These samples may be separated not only geographically but chronologically, known as chronospecies, as well making classification more difficult as there are different morphs for similar creatures over time. Furthermore, it is not possible to test if one animal fossil could interbreed with another fossil or with a living relative today which makes the Biological Species Concept inapplicable to paleospecies.

The complications of these conflicting definitions are shown by comparing the Eastern and Western forms of the Meadowlark. These birds, by outward appearance, are almost identical and therefore could be considered a single species under the Morphological Species Concept. However, their ranges overlap and it is found that because their mating songs are different, they do not mate or interbreed together so they become separate species under the Phylogenetic Species

8. Sturnellot neglectim

Concept.

Close-Up: Reproductive Isolation

"species are groups of actually or potentially interbreeding natural populations, which are reproductively isolated from other such groups" by Ernst Mayr

This quote, made by Ernst Mayr, functions much better for Kinds than it does for species. It states that species are reproductively isolated from other species. However, in reality what you see is that what we think of as a species can often hybridize with other species, with other genera, and sometimes with other families. Reproductive isolation fits the concept of a Created Kinds much better than it does a species.

A good example of reproductive isolation failing as a definition of species comes with the Goose Family / Anatidae. This family includes ducks, geese, and swans totaling around 400 species. Although species tend to prefer to mate with others of the same species, hybridization does occur both in the wild and in captivity. As would be expected, ducks hybridize easily with other ducks, geese with geese, and swans with swans. However, ducks hybridize with geese and geese hybridize with swans. I will admit, as far as I am aware, there are no recordings of (successful) duck and swan hybrids.

9. Brantot canadensim

For example, the common Canada Goose, Branta Canadensis, is listed as hybridizing with other geese in the Genera of Alopochen, Anser, Branta, and Chloephaga; with ducks in the Cairina and Anas; and with swans in the Cygnus. This hybridization covers 7 Genera and potentially 4 Sub-Families. This certainly does not sound like reproductive isolation as is commonly described. [R7]

Interestingly, a baramin data set study was done on Anatidae. Initial results suggested that the Cygnus / Swans might be a different group, but the resulting multi-dimensional scaling showed a strong tetrahedral shape which is generally thought to show a bias in choosing characteristics that define a group so it was considered inconclusive.[R8]

Katagenos Species Definitions

Often, the Theory of Evolution is demonstrated with a 'Tree of Life'. This image depicts a single tree trunk (representing an unknown common ancestor) that branches out into all the known animals. In contrast, Created Kinds is demonstrated with a forest or orchard where there are many tree trunks representing the different ancestral kinds and the limits of change. The branches and twigs on each tree represent the known breeds / species within each kind.

One phrase used in the past to describe this limited amount of change is 'fixity of species'. When this phrase was first used, species was equivalent with a kind. It is only in modern biology that species changed meaning to represent a breeding pairs. This has caused some confusion because a fixity of species was true by the old definition, but is untrue by the modern definition. However, in modern wording, a fixity of kinds is still a basic and true concept.

The Katagenos Species Concept treats species like breeds. It defines a species as a breed within a kind with a specific set of reproductively connected characteristics that produce a recognizable form which is able to reproduce with others of the same species and potentially able to hybridize with other breeds (Species and Genera / Benim and Avot) within a Kind. It focuses on the ability to breed (including clades up to the level of Kind), gives strong attention to form / morphology, and uses habitats and geography only as indicators of where species boundaries may occur. The KSC generally assumes that current taxonomy is correct from the Family level down and ignores the Order levels and up. However, the exact boundaries vary for each kind.

Defining a species by a recognizable set of characteristics could lead to a large change in the number of species depending on how fine a characteristic people use in categorizing. There have always been 'lumpers' and 'splitters' - those who would make only a few species and those who would make many species. A simple example of this is the dog species. Dogs are one species but there are hundreds of known breeds which themselves have recognizable traits. Should this become hundreds of species or remain as breeds, varieties, and forms? Major divisions are easy to make, but are smaller divisions necessary? The current system of binomial nomenclature is well established and probably does not need a significant change in the number of species. Future research will dictate where changes are needed.

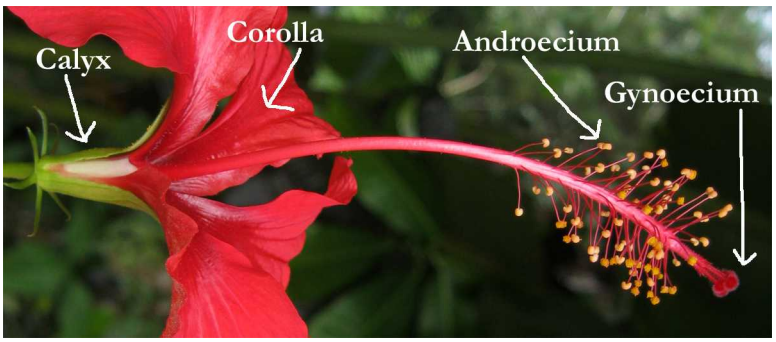
Close-up: Variation within a Kind

How much change can occur within a kind? Using the Hibiscus Kind as an example, there are changes to color, overall size, and even complexity of the petals (ornamentals). The major features that distinguish this kind do not change. The major features include a corolla of 5 petals fused at the base and an Adroecium composed of many stamen fused with the carpels of the Gynoecium.

11. Hibiscot

13. Hibiscot elatim

10. Hibiscot pernambucenim



12. Hibiscot

14. Hibiscot schizopetalim

Animal and Plant Hybrids

The amount of variation that can occur within a single kind is somewhat surprising. Hybrids that are witnessed between species and genera give strong examples of what is possible. These hybrids will typically have a unique appearance which shows characteristics of both of the parents since they have genetic information from both of them. However, the hybrid animals are not always fertile due to post-zygotic barriers such as the arrangement of the chromosomes no longer matching well enough to reproduce. A common example of an infertile hybrid is the mule which comes from a horse and a donkey.

One of the intentional hybrids is the making of a cama. This is a cross between a camel and a llama. This breed was made in an attempt to get the better fleece of the llama from a larger animal like a camel. The resulting hybrid has cloven hooves like a llama, but a tail and short ears similar to the camel. It is not yet known if they will be fertile, but since both camels and llamas have 74 chromosomes, the odds are at least reasonable for success.

Many hybrid examples can be found within the cat family, Felidae, as both small and large cats or wild and domesticated cats are found to hybridize. An interesting set of hybrids are the liger (specifically a male lion and female tiger) and the Tigon (specifically a female lion and male tiger). Both lions and tigers belong to the genus of Panthera. These are impressive animals to see as the Liger is the largest cat in the world. Some of these hybrids, typically the females, are fertile.

One interesting hybrid is the Wholphin. This is a cross between a dolphin, Tursiops, and a false killer whale, Pseudorca. Both are within the family of Delphinidae. The wholphin's size is in between the two animals. It also has 66 teeth instead of the usual 88 for a dolphin and 44 for the false killer whale. This particular hybrid is fertile and has had offspring with other dolphins.

The horse family, Equidae, also has a lot of hybridization. Zebras are included in the horse family and have created some interesting looking hybrids. Two of the more well known mixtures include the zorse from the zebra and the horse and also the zedonk which is a zebra and a donkey. These animals have more the shape of a horse, but have some striping design of the zebra. As with the mule, these hybrids are typically infertile.

Another intentional hybrid, which proved successful, is the grain called triticale. It was produce by mixing wheat, Triticum, and rye, Secale. This plant is not only fertile, but is now gaining popularity in cooking.

Close-Up: Grapefruit Hybrids

Hybrids occur readily within the Citrus family. One example is known as the Chironja. It is a hybrid between the china (a type of orange) and the tironja (a type of grapefruit). The resulting hybrid was appreciated because it was sweeter and easier to peel than a standard grapefruit. However, it was found to typically be infertile. Through methods of grafting, it has become an established food in some parts of the world.

Another grapefruit hybrid is the Goat Lemon. Although it is not formally classified, it is commonly regarded as a naturally occurring cross between a grapefruit and a lemon. This mixture is not considered pleasant and, therefore, is not cultivated purposefully.

15. Chironja

16. Goat Lemon

17. Tropical Forest Habitat

Breeding and Speciation

The primary force behind breeding and speciation is Environmental Acclimation. Secondarily come the pre-zygotic (mating recognition) and post-zygotic (genetic compatibility) barriers. Reproductive isolation, commonly mentioned as an evolutionary force, is a condition that can speed up the breeding process because of genetic reduction, but is not the driving force. Likewise, competition and natural selection is not a cause of speciation, but the processes or mechanisms by which it occurs.

Genetic Selection within Breeds

When looking at the differences between types of animals like dogs or of plant crops like oranges, it is probably easier to use the terminology used in farming and breeding rather than the scientific use of genus, species, and sub-species. Breeding is the development or refinement of certain traits within a type of plant or animal. This happens naturally for characteristics useful in an environment or artificially by man when trying to bring out certain desirable traits while diminishing undesirable traits. The process of breeding reduces available genetic variation because it selects from already existing genetic information and limits the offspring to the chosen genes.

Dogs are bred out to create specific breeds or varieties of dogs. But they remain dogs and are no longer capable of breeding out the wider varieties from which they came. They are often still able to reproduce with the types of dogs they came from and sometimes able to hybridize with a wide variety of other dogs. However, they are still dogs with a smaller genetic variation than their ancestors.

Pure breeds carry with them great difficulties as genetic problems build up and increase in frequency through the generations. It is not uncommon for a pure-bred English Setter to be deaf. In nature, if this were to happen, the number of these dogs would quickly decrease because of the inability to hear predators and prey. Under man's selective breeding and care, these dogs are able to survive and make nice pets with many good qualities.

Hybridization can be used to go backwards and re-gain genetic variety. By mixing breeds or pure-breeds together, the resulting offspring can carry genes more similar to what an ancestral population may have had. This type of work is being done by mixing various pig breeds to bring back what is known as the iron age pig.

Intentional hybridization in farming can cause genetic problems as well.

Typically, as one trait is built up, other traits deteriorate or receive low quality genes. This is generally accepted as a trade-off. For example, many apple hybrids are made that look very nice on the store shelf, but which lack the strong flavors of wild varieties in the old orchards.

In oranges, much hybridization has led to fruit with a good appearance but with low numbers of seed which are unable to reproduce and, thus, need grafting techniques to continue the line. Through this process, no new genetic information was formed. Instead, so much information has been lost that the plant is now infertile. Left on its own, this breed of plant would not survive.

Pre-zygotic barriers, things which inhibit or prohibit mating recognition and fertilization of the egg, are something that makes testing hybridization difficult and which can speed up the acclimation process. One barrier is temporal / time issues such as species being active at different times of the day or year. A second barrier is habitat or territorial restraints. There are also behavioral issues such the change of mating calls across similar species of birds. There is also the mechanical barrier when two species are unable to physically get together due to factors such as size difference.

There are also post-zygotic barriers, things which inhibit or stop a fertilized egg from becoming a fully function adult and, therefore, does not continue that set of genetics down a line. This can include hybrid inviability where the offspring does not survive. It also includes hybrid sterility such as a mule. It also includes the long-term hybrid breakdown where a first generation offspring is viable and fertile, but in which later generations are weak or sterile.

Environmental Acclimation

The habitat or environment where an individual or population lives is considered to be one of the strongest influences on breeding or genetic selection. The environmental pressures created by heat or cold, dry or wet, and rocky or fine soils all help to determine what characteristics will do best in that environment. For example, in an open environment, running fast could be an important trait for both prey and predator.

Micro-habitats further refine the traits in a population. For example, a mountain habitat would typically have a southern slope which receives more sun than the northern slope. They can also have areas of steep slopes or even vertical walls. Depending on the prevailing winds and conditions, one side may be quite moist while the other side is quite dry. Each of these conditions would favor a different characteristic.

The concept of adaptive radiation is an evolutionary concept in which a

species enters a new environment and, through such processes as mutation and natural selection, develops into new species up to and including possessing new forms and features. Therefore, this can include both micro- and macro-evolutionary changes.

A term is needed which can express that small changes, such as skin or flower color, can be effected by the environment which does not allow for the formation of new genetic information. I put forward Environmental Acclimation.

Environment Acclimation is a selection of traits favorable for a given environment and is the primary cause of natural breeding and speciation. Mating selections are typically based on appearance / phenotype which in turn select the genetics behind those traits / genotype. This is similar to the evolutionary process of natural selection; however it can occur rapidly because already existing traits are chosen and no new genetic material must form over time.

For example, a furry animal that has the genetic variability for long, medium, or short length fur is carried to several different environments and released. Within a hot climate short haired animals will do better. Similarly, in a cold environment long-haired animals will do better. In a wet environment oily-furred animals will do better because it keeps the skin dry. Over time, the genes for a specific fur type are chosen and become common while the other gene type(s) will decrease or disappear. During this process, no new genetic information was needed nor was any change in form observed. The animal population simply acclimated to the environmental pressures.

18. Desert acclimated Coyote

Presumably, the world was in much worse shape after the Flood. The environment had changed drastically and probably included new things like rain and snow as well as hot deserts and frozen areas. It probably now included mountains and tropical areas. As the animals emerged from the Ark and began migrating, they would begin acclimating to these environments. Such acclimation would be limited to what existed within the gene pool of any given population.

19. Winter acclimated Coyote

According to a scriptural timeline, about 4,300 years have passed since

the time of the flood. This probably included an ice age shortly after the period of the flood. During this time, rapid diversification would have occurred within animal kinds as they spread out and moved into new habitats. This diversification is not a sign of evolution in progress, but is instead simply the breeding out of characteristics that already exist within the animals.

Close-Up: Selective Pressures in a Cave

20. Amblypygot

Although somewhat common throughout the world, the interior of a cave is an unusual habitat to most animals and plants. In fact very few move beyond the openings and reside in the depths of the cave. Genuine cave dwellers face strong environmental pressure. The most commonly noted feature is the reduction or loss of sight. Animals will use sound, echo-location, and heat sensing techniques to find their way around or to capture prey.

21. Rhaphidophoribar

Bats are probably the most well-known of the cave denizens and its use of echolocation instead of sight is almost equally known. Other environmental acclimation also takes place. A larger size is not uncommon, such as the cave cricket which is 2-3 times larger than normal crickets. Similarly the cave spider (which technically is not considered a spider but is an arachnid of the Amblypigot group) is large, flat, and has huge, spiked antennae that function for capturing prey. Other animals with limited vision, such as the cave crab, also function well in the darkness.

22. Cave Crab

23. Fruit Bats

Extinction

Extinction is not a driving force or cause for change. Instead, it is a result of an inability of a individual to mate with others of its breed or go back and hybridize with others of its kind. It typically comes from the inability to acclimate to changing environments which in turn challenges its survival. This is primarily caused by a lack of genetic variation or over-specialization of that breed. When extinction occurs due to environmental changes, other species or kinds with traits favorable for that new environment will likely be ready to move in and fill the that environment.

24. Temperate Forest Habitat

Chapter 4

Katagenos Classification System

Delineating Baramin

The field of Baraminology is working to determine what the original created kinds were as well as connect different species within a kind today. The strongest method of study in this work deals with reproduction and hybridization, which are very strong indications that two plants or animals are related. Second, the traditional methods involving morphology (appearance) and the modern field of genetics weigh in heavily. Lastly, statistical analysis of characteristics of plants or animals can be used to determine if they are similar. The statistical approach is not as strong for evidence, but is especially useful in working with fossils.[R8,9,10,11]

Since kinds, by definition, are to reproduce, the ability of two animals to reproduce should be an obvious indicator of an original kind. However, there are difficulties with actual observation. One of the difficulties of defining kinds by reproduction is that different species seldom come together to reproduce. The odds are not in their favor because they can be from different continents or be active during different times of the day. Sometimes, they are even competitors in the wild. They do not favor each other in attracting a mate because of these barriers. Therefore, hybrids between different breeds within a kind often occur only in captivity, such as zoos and aquariums where they are confined together.

Although many characteristics can be used to distinguish plant kinds (including leaves, bark, and roots), within the flowering plants perhaps one of the best techniques is the use of the floral formula. This formula represents the Calyx, Corolla, Androecium, and Gynoecium (sepals, petals, stamen, and carpels respectively). A specific combination of these characters is suggested as representing the individual Created Kind / Baramin level. It is expressed in a floral formula such as the Hibiscus Kind with a formula of CA3-5 CO5 A∞ G1-∞.[R12]

The word 'cognitum' comes from the Latin word 'cognosco' which means 'know' or 'recognize'. Within Baraminology, a Cognitum is a grouping of creatures that seem to naturally go together by use of the senses. However, this type of grouping can be both inside and outside of a kind. For example, one would likely group all of the birds together because of their feathers, yet this is much greater in scope than a single kind. The general differences between cows, horse, and pigs would be enough evidence to the senses to distinguish that they

belong to different kinds. Although imprecise, it does find usefulness where hybridization data is lacking. [R13]

Discontinuity Systematics is one of the more useful methods of distinguishing Baramin and strongly shows the difference between the basic principles of creation based taxonomy and evolution based taxonomy. Discontinuities are described as large scale morphological gaps. Simply put, this means that there were big differences in appearance and there is no distinct ancestral line from which it came to connect it with something else. This was an important concept since the Theory of Evolution has no place for discontinuities. In fact, quite the opposite is true in that Evolution must look for connecting relationships. This work also brought the phrase 'successive approximation' in as studies come closer and closer to the proper boundaries of created kinds.[R14]

The Analysis of Patterns technique is a statistical method of distinguishing Baramin. This technique makes characteristics of the animal a distinct statistical dimension which is placed into a multi-dimensional space. It is later simplified to a three dimensional grid. Different kinds should come out to different spaces on the grid and show the distinct groups.

Multidimensional scaling also statistically measures the distance between one baramin and another. This method has typically shown a large baraminic distance around the rank of family. This strongly suggests that the most common comparison of a kind with modern taxonomy is the family level.

Close-Up: Cognitum are Not Taxonomic Units

25. Pyrodiniot bahamenim

There is no doubt that man likes to group and categorize things and the Cognitum concept is another tool for categorization. In a sense, the Cognitum Concept is a variation of the Adam Test where simple visual recognition of differences between plants and animals is used a basis for categorizing them. A cognitum simply shows that the individuals within the group have a common or shared characteristic such as bilateral symmetry, red feathers, or being omnivorous.

Within this book, I am using a cognitum in place of higher level Taxa (primarily Class and Order) because they are terms people are familiar with. For example, the Class Reptilia are animals grouped together because of the common features of scales and lungs for breathing air. After that, the similarities start disappearing quickly. For example, consider the differences between the appearance of turtles and snakes.

26. Mycenot

It should be well understood that within Baraminology, a cognitum is not a classification unit - it is only a grouping of animals, plants, fungus, etc. by a common feature.

For example, if I wanted a bioluminescent (glow in the dark) cognitum it would include microscopic dinoflagellates, mushrooms, lightning bugs, and possibly the large flying Ropen of Papua New Guinea (I will leave it to the cryptozoologists to prove that last one). Even within evolutionary lineages, these items are far from one another, but as a cognitum they are grouped together because of their ability to biologically glow.

27. Lampyridibar

Cladistics and Taxonomy

Cladistics is a system based on ancestry which began in the 1960's. The term 'Cladistics' comes from the Greek word κλάδος 'klados' which means 'branch' and a cladogram is a branching diagram (much like a family tree) showing the ancestral relationship between species.

Cladistics should not be confused with Taxonomy. Cladistics connects species by ancestry. Taxonomy connects species by common characteristics. While Creationists and Evolutionists generally agree on the taxonomy of a species, there is often disagreement in Cladistics (especially above the Family level).

In regards to Baraminology, all species that have descended from a Created Kind are related. This would generally include all members descended from the Genesis Kinds formed at the time of Creation. However, some groups are also actively looking more specifically into the descendants from the Ark Kinds at the time of the Noah's Flood.

Cladistics terminology is becoming common in the field of Baraminology. The common prefixes of cladistics terminology (including holo-, mono-, apo-, poly-, archae-, paleo-, and neo-) have carried over. Therefore, the following terms are commonly seen within technical papers on Baramin studies and should be well understood to aid in reading them.

Holobaramin - The Greek 'Holos' means 'whole' so a holobaramin represents the entire group related by common ancestry including both past and present generations: Example - all of mankind

Archaebaramin - Represents the original created members of a baramin: Example - Adam and Eve

Palaeobaramin - Represents a past population (can include extinct groups): Example - Antediluvian (pre-flood) civilization

Neobaramin - Represents the entire living population of a baramin: Example - the ~7 billion people alive today

Monobaramin - The Greek 'mono' means 'single or one' so a monobaramin represents some members of a single baramin and usually forming a clade: Example - Descendants of the Scottish clan MacIntosh

Apobaramin - The Greek 'apo' means 'away from' so an apobaramin represents one or more entire unrelated baramin: Example - Mankind and Horses

Polybaramin - The Greek 'poly' means 'many' so a polybaramin represents a mixed group of more than one baramin which usually share a common

characteristic: Example - Europeans and European Horses

Classical Taxonomy as a Base

After Linnaeus first started his binomial system of classification, many decades passed with only the family, genus, and species levels. It was not until the concepts of Evolutionism were included that the larger levels of order, class, phylum / division, and Kingdom were added as proposed ancestral lineages. Much research has been done on the lower levels and, typically, the family level approaches a similarity to the original Created Kinds. By removing the larger taxonomic levels, the Creation Orchard is able to be shown rather than the Evolutionary Tree.

I have been developing what I call the Katagenos Classification system. The goal is not to re-create an entire taxonomy, but use the existing one as a base and make the changes necessary to work with Kinds as well as distinguish it from evolutionary thinking and taxonomy. I was hoping the Creation Biology Group would review the basic ideas presented in the attachment and determine if it is something the group would consider using and make part of the Baraminology science field.

The Katagenos Classification system is named after the Greek words for 'after his kind' which is 'kata' and 'genos' as found in the book of Genesis in the Septuagint. The Katagenos Classification is not going to try and create a new taxonomic language from scratch. Instead, it will incorporate the binomial nomenclature composed primarily of Greek and Latin words. However, to avoid confusion with classical taxonomic systems a new set of endings are proposed.

Katagenos Taxonomic Levels

The Katagenos Classification System is not going to try and create a new taxonomic language from scratch. Instead, it will incorporate the binomial nomenclature composed primarily of Greek and Latin words. However, to avoid confusion with classical taxonomic systems a new set of endings are proposed.

Baramin Level "-bar". The Baramin level will represent a Created Kind (generally near the Family level) and be designated by the -bar ending.

Avot Level "-ot" The Avot level will represent major groups within a Baramin (generally near the Genus level) and will be designated with the -ot ending. The word Avot comes from the Hebrew word for Fathers and

represents major breeding characteristics that will be inherited / shown by the descendants.

Benim Level "-im" The Benim level will represent the generally reproducing population of an organism (near the Species level) and will be designated by the -im ending. The word Benim comes from the Hebrew word for Children and represents the minor breeding characteristics that distinguish one species / breed from another.

For example: The Sensitive Plant (also commonly known as Morivivi) is currently known as Mimosa pudica. Under the KCS, it is part of the Fabacibar (or bean kind) and it will be re-designated as Mimosot pudicim. Thereafter, if baramin research indicates a need for re-classification, it is easily accomplished.

28. Mimosot pudicim

Sabah Level "-ah" The Sabah level is temporarily being used to help represent hybridization or statistical data associating different Avot within a Baramin. The word Sabah comes from the Hebrew word for Grandparents and shows significant breeding characteristics that are inherited by the Avot and Benim. The Sabah level is being used to help in the transition from evolutionary taxonomy to creation taxonomy. Hopefully this level will not be needed in the future as the distinction of Kinds become clear. Typically it is expected that a larger number of subfamily and supergenus groups will be reduced to only a few Sabah groups.

For example: Within the Goose Kind (Anatidibar), hybrids are common between geese and swans, uncommon between geese and ducks, but rare (possibly unknown) between ducks and swans. For some studies, it might be useful to have the Sabah levels of Anserinah (for geese and swans) and Anatinah (for ducks) until the mating (pre-zygotic) and genetic (post-zygotic) issues are determined. This pulls together at least 10 current Subfamilies into 2 Sabah categories.

29. Prarie Habitat

Chapter 5

Animal Taxonomy

Animals are defined by have having eukaryotic cells (containing a nucleus), ingesting food rather than producing it, lacking cell walls so cells can join together to form tissues and organs, and the capability of motion.

Within the Model of Evolutionism, there are difficulties connecting the reptiles, mammals, and birds. Their primary approach to this difficulty is to connect them through the use of the amniotic egg – one that is surrounded by fluid whether in a womb or in a shell. This is opposed to the anamniotic egg which must remain in water to be protected and kept moist such as is used by fish and amphibians. It is not difficult, under the Model of Creationism to see that a common designer could use a common design for land animals and another design for aquatic animals.

There are also difficulties in connecting together all of the tetrapod group (animals with four feet) – most notably because not all of them have four feet. Snakes are well known for not having legs. There are also legless lizards. There are also Caecilians which are lesser-known legless amphibians.

Much of the attention in the study of Created Kinds has occurred with animals as there is a special interest in determining the Kinds that would have been on the Ark during the flood. This usually focuses on species that are still alive today and ignores species known only from fossils.

The taxonomies given in this section are only a sampling of the work being done with Baramin studies.

30. Iguanot

Reptile Cognitum

Reptiles are identified as animals containing scales and breathing air through lungs. They have bony skeletons and are ectothermic (cold-blooded). Most lay eggs although a few give live birth. They are primarily adapted for terrestrial environments, including all young are born on land, but some also take advantage of aquatic regions. The major groupings within the reptile cognitum are turtles, snakes, lizards, crocodiles, and most dinosaurs. As animals that would be included on Noah's Ark, this cognitum has received more than average attention from baraminologists and, therefore, makes a good example for work being done in the field.

Snake Cognitum

31. Crotalot atroxim

The snake cognitum is recognized as a group of reptiles which are long, limbless, without eyelids, a short tail, and an ear without an eardrum. Evolutionary taxonomy has about 3,450 species in 24 families. Due to interspecific and intergeneric hybridization, 3 Baramin groups have been

tentatively distinguished.[R15,16]

Boidibar – Boa Kind
The Boa Kind currently contains 17 Avot and 75 Benim. This includes the: Antaresot (pythons of Austrailia), Liasisot (pythons of Indonesia, New Guinea, and Australia), and the Pythonot (pythons of Africa and Asia).

Colubridibar – Non-Venomous Snake Kind
The Clubridibar conains 304 Avot and 1938 Benim – most of the snake species in the world today. This includes the: Nerodiot (water snakes), Lampropeltot (including king snakes, rat snakes, and bull snakes), Diadophot (ring-necked snakes), Thamnophot (gardener snake), Conopsot (including conopsis and toluca), and Chilomeniscot (sand snakes).

Viperidibar – Venomous Snake Kind
The Viper Kind contains Avot – 200 Benim. Tentatively Crotalot (rattlesnakes of the Americas), Agkistrodot (pit vipers of N. and Central America), and Bitisot (puff adders, Africa and Arabian Peninsula).

Turtle Cognitum

Turtles are a grouping of reptiles in which the scales form a shell around much of the animal. As with most reptiles, turtles will lay eggs on land. Although breathing air, some species are well designed for aquatic living and have been designed with webbed feet and lightweight shells.

Evolutionary taxonomy places turtles and tortoises in the Order of Testudines which contains 14 families and 328 species. DNA analysis by Robinson suggests there are multiple Kinds of turtles. Frair has suggested 4 Kinds of Turtles while Wise has suggested 5 Kinds based on a statistical study. A hybrid data study by Brophy, Frair, and Clark did not reject Wood's 5 Kinds which are used below.[R16-18]

32. Geochelonot sulcatim

Chelidibar – side-necked turtles of SA and Austrailia

Cryptodiribar – hidden necked turtles –

Pelomedusidibar – side-necked turtles of South America and Africa

Poganochelysibar –

Trionychoidibar – soft shelled turtles –

33. Chrysemot pictim

Crocodile Cognitum

The crocodilian cognitum is recognized as reptiles with long flattened snouts and also with eyes, ears, and nostrils on top of the head for ease of use while swimming. They have a four-chambered heart and a unidirectional system of airflow through the lungs. They include alligators, caimans, crocodiles, and gharials which, so far, are placed under three Kinds.[R18]

34. Caimanot crocodilim

Alligatoridibar – Alligator Kind

Crocodyilidibar – Crocodile Kind

Gavialidibar – Gharial Kind

Lizard Cognitum

The lizard cognitum is recognized as reptiles with a long body, tail, a moveable eyelid, an eardrum, and (usually) four legs. Most live on the ground, but some can be found in water, up in trees, or in burrows. They typically have claws on their toes (except the legless lizards) which can be used for climbing. They include the iguana, chameleons, geckos, burrowing, and worm lizards.

35. Utaot

Gekkotibar - Geckos

Iguanibar - old world arboreal lizards

Sauribar - burrowing lizards

Amphisbaenibar - worm lizards
Autarchoglossibar - wide variety


36. Chamaeleonibar

Dinosaur Cognitum

Dinosaurs are a diverse group of reptiles. Most were bipedal while some others were quadripedal. From an evolutionary standpoint, dinosaurs are an often misunderstood and misrepresented group. The word 'dinosaur' means terrible lizard, but dinosaurs are not truly considered to be lizards. Furthering the confusion are groups like the Pterosaurs and Plesiosaurs (think Loch Ness Monster) which are commonly thought of as dinosaurs, but which are themselves classified as other types of reptiles. In general, baraminology studies on fossil groups has been quite limited, so I will limit this section to one Kind which has been studied.[R19]


37. Acrocanthosaurot atokensim

Tyrannosauribar - The Tyrannosauribar is part of the Theropod (bipedal) dinosaur group. It includes the Family of Tyrannosauridae. It also includes 5 Genera from the larger Superfamily Tyrannosauroidea (Appalachiosaurus, Bistahieversor, Dryptasaurus, Raptorex, and Xiongguanlong) and possibly the Eotyrannus.

38. Ovisot canadensim

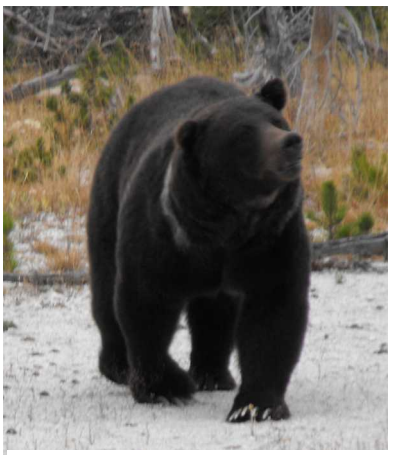
Mammal Cognitum

Mammals are a grouping of animals with the common feature of feeding milk to the young. They also have a skeleton made of bones, are warm-blooded, most have fur and teeth, most have live birth (a few lay eggs), and they generally care for the young until they can care for themselves. Fur is something unique to mammals, but not all mammals have hair.

39. Loxodontot africanim

Mammals are diverse in their forms and lifestyles. Usually a mammal is thought of as a furry land creature, since fur is unique to mammals and many species have four legs. However, there are mammals with smooth skin, both on land and in the water. There are also mammals adapted for swimming, flying, tree tops, digging, and tunneling. This variety creates difficulties for the evolutionary taxonomy of this group.

Within Baraminology, there are approximately 137 kinds of mammals alive today. There are also potentially another 170 kinds known from the fossil record. Taken together, this suggests a total of over 300 Created Kinds that may have been carried on the Ark.[R20]



40. Ursusot americanim

Within mammals, the taxonomic level of Family was found to distinguish a Created Kind the vast majority of time. Only a few times was this classification given to a lower or higher rank.

Bovinae – Cattle Kind

Camelidae – Camel Kind

Caprinae – Tsoan / goat/sheep? Kind

Cervidae – Deer Kind

Dasypodidae – Armadillo Kind –

Elephantidae – Elephant Kind

Felidae – Cat Kind –

Giraffidae – Giraffe Kind -

Macropadidae – Kangaroo Kind –

Rhinocerotidae – Rhinocerous Kind

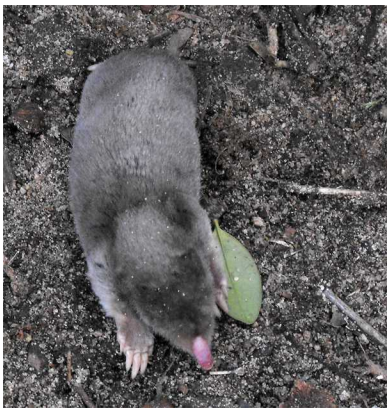
Ursidae – Bear Kind

41. Delphinibar

42. Cervusot canadensim

43. Dasypot novemcinctim

44. Fruit Bat



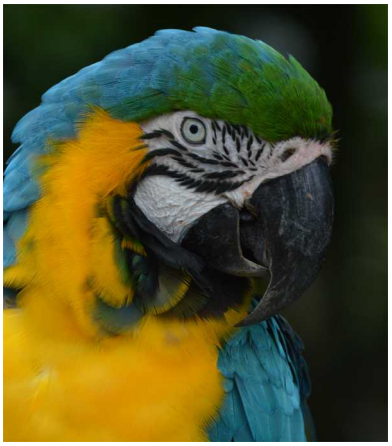
45. Talpidibar

46. Gorillot

47. Bird Banner

Bird Cognitum

The primary feature of the bird cognitum is feathers. Other features include the wings, beaks., and feet generally adapted for perching (sometimes swimming). Birds are warm-blooded (including a four-chambered heart), lay eggs, usually build nests, and most are able to fly. Some birds also make use of aquatic habitats by wading, swimming, or diving while a few others are land acclimated as well.



48. Araot Araraunim

Evolutionism presents a simple picture of change over time, but if you look at the details, there is a staggering amount of change that needs to occur to make one type of animal into another. It is stated that birds evolved from reptiles. Yet here are some changes that needed to occur for this to happen: scales had to turn into feathers, it had to go from ectothermic to endothermic, bidirectional lungs into unidirectional lungs for flying, a3 chambered to 4 chambered heart, and the development of wings and wing muscles from legs. Furthermore, there are no transitional fossils to show this occurred, only complete bird fossils.

49. Nest and Eggs

Initial studies into the bird cognitum have given a tentative 196 Created Kinds. Much work

has yet to be done in this field and as data from continued studies and hybridization records are found, that number could change.[R21]

50. Buteot jamaicensim

Accipitridae – Hawk Kind

Bombycillidae – Waxwing Kind

Caprimulgidae – Nightjar Kind

Cathartidae – Vulture Kind

Anatidae – Duck Kind

Ciconiidae – Stork Kind

Picidae – Woodpecker Kind

Pelecaniformes – Ibis Kind (spoonbill)

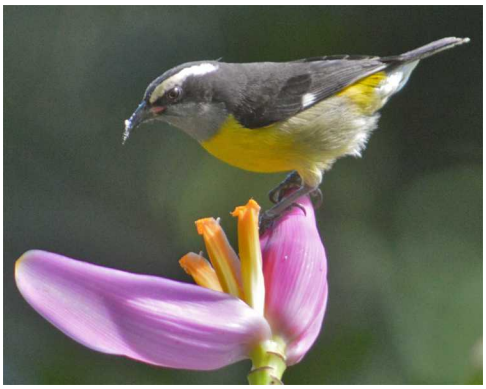
Phoenicopteridae – Flamingo Kind

Rallidae – Rail Kind

Spheniscidae – Penguin Kind

Todidae – Tody Kind

Trochilidae – Hummingbird Kind

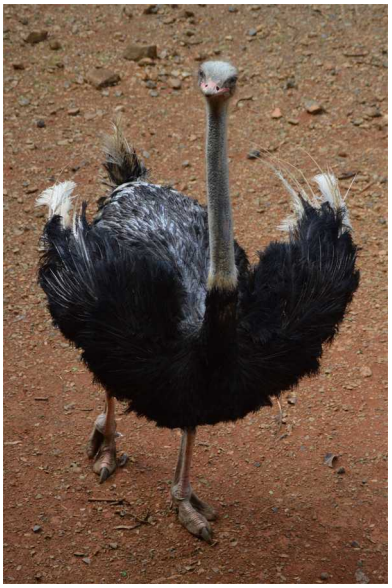


51. Parulidibar

52. Platalot ajajaim

Close-Up: Flightless Bird Cognitum

Many of the flightless birds in the world belong to what is called a Ratite group. The trait they share in common is a flat breastbone without a keel on the sternum, known as a ratite breastbone. This anatomical feature prevents them from being able to fly. Generally speaking, the following Kinds have similarities which might suggest a larger grouping, but no hybridization data is known to support that concept.



53. Struthiot camelim

Evolutionary concepts generally try to explain geographically distant groups of related animals to the breakup of the supercontinent Gondwana. This was assumed to be true with the ratite birds. This implied that the closest relative of the extinct Elephant birds should be the ostrich, the Moa with the Kiwi, and the Rhea with the Emu and Tinamou. Instead, a recent genetic study shows that the Elephant Bird is closest to the Kiwi, the Moa with the Tinamou, and the Rhea with the Ostrich and Emu. This effectively closes the possibility that continental drift was the cause of current ratite bird locations.[R22]

54. Dromaiot novaehollandim

Apterygidibar - Kiwi Kind - Reside in New Zealand.

Casuariidibar - Cassowary Kind - Reside in the Australo-Papuan region.

Dromaiidibar - Emu Kind – Reside in Australia.

Rheidibar - Rhea Kind -Reside in South America.

Struthonibar - Ostrich Kind - Reside in Africa.

Tinimidibar - Tinimou Kind – Central and South America.

55. Notophthalmot viridescim

Amphibian Cognitum

The Amphibian cognitum is generally defined as creatures with an aquatic larval stage with gills followed by a terrestrial adult stage with lungs (although variations do occur). They typically have smooth and scaleless skin which is used for respiration and gas exchange. Usually, they are tetrapods (having 4 feet), but they may also have reduced or absent appendages. Amphibians have bony skeletons, are ectothermic (cold-blooded. They have non-amniotic eggs and therefore require water to keep the eggs moist.

Frog Cognitum

The frog cognitum is an amphibian recognized by a stout body, lack of a tail, and long hind legs for leaping. This group includes both frogs and toads.

56. Eleutherodactylot

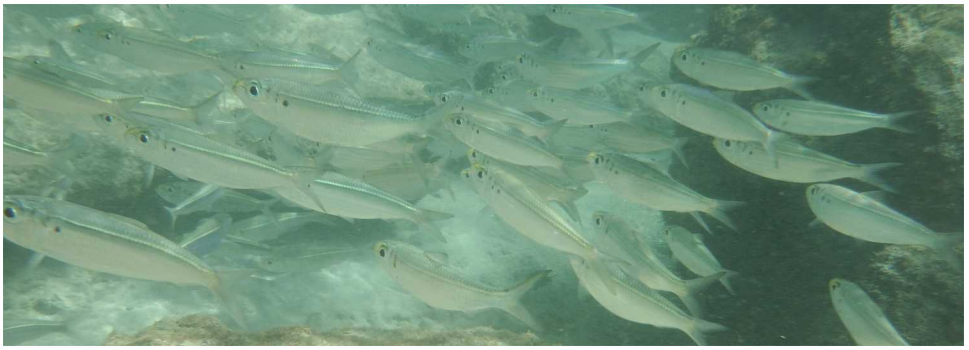
Salamander Cognitum

The salamander cognitum is an amphibian recognized by a cylindrical body, a tail, and (usually) two pairs of legs of about equal length. They might live most of their life in water, on land, or start as an aquatic larvae with a more terrestrial adulthood. There are about 600 species including both salamanders and newts.

57. Caecilian

Caecilian Cognitum

The caecilian cognitum is an amphibian recognized by a long, slender, and limbless body. It can be fully aquatic or burrow deep underground. It often has small or non-existent eyes. There are about 191 species.



58. School of Fish

Fish Cognitum

I am not aware of much work being done with aquatic animals. This is probably due to most Baraminologists focusing on the Ark Kinds (the animal types that would be on the ark). This would not include aquatic animals because they would survive outside of the ark. The following is a semi-random sampling of aquatic animals.

59. Blue Tang

60. Flounder

61. Fish

62. Bristle Worm

Aquatic Invertebrate Cognitum

63. Hermit Crab

64. Anemone

66. Coral

65. Sea Slug

67. Crab

Arthropod Cognitum

Arthropods are defined as invertebrate creatures having an exoskeleton, segmented bodies, and jointed appendages. Baramin studies on arthropods have been minimal, but since this includes the Insect Cognitum (the largest of the animal groups), a basic set of sub-cognitum are included.

68. Nephilot clavipim

Arachnid Cognitum
Are composed of a fused head / thorax with 8 legs. Includes spiders, amblygids, scropions.

Crustacean Cognitum
Composed of 2 body regions with 2 pair of antennae and many appendages. Primarily aquatic creatures including shrimp, lobster, and crabs.

69. Centipede

Chilopoda Cognitum
Contain many body segments with 1 pair of appendage per segment. Includes centipedes.

Diplopoda Cognitum
Contain many body segments with 2 pair of appendages per segment. Includes millipedes.

70. Millipede

Insect Cognitum
Are composed of separate head, thorax, and abdomen along with six legs and one pair of antennae. Includes bees, grasshoppers, butterflies.

74. Wood Boring Beetle

72. Petrusa epilepsis

73. Dragonfly

71. Bee

76. Siproetot stelenim

75. Pseudosphinxot tetrim

77. Palm Forest Habitat

Chapter 6

Plant Taxonomy

Almost every part of a plant can be used to help in identification. Leaves are the most common and usually visible for most, if not all, of the year. Bark, roots, and fruit / spores are less commonly applied, but sometimes very useful. Among the Angiosperms (flowering plants), the flowers are very useful in helping to determine a kind. There have been various methods of describing the flower parts used over the years. This author finds the floral formula quite useful.

The floral formula uses the morphological structure (form) of the flower including the calyx / sepals (K), corolla / petals (C), androecium / stamens (A), and the gynoecium (G). For example, if a flower has 5 petals it would be designated as C^5. Other additional symbols are included in the formula such as: C⓶ which represents 5 fused petals, C∞ many petals (usually any number greater than 12), G an inferior ovary, and a G a superior ovary.

78. Agavot

A relatively simple and straightforward floral formula suggests that a kind is well defined and delineated from other kinds. For example, A^4 shows a kind with 4 stamen. A more complicated floral formula with many elements, especially something in parenthesis, suggests a poorly defined kind which is in need of more work. For example, $A^{4(8)}$ shows a kind that usually has 4 stamen, but in rare cases has eight. This could be caused by incorrectly attributing a small group of plants within the kind. A doubling of the number could also represent some form of polyploidy (doubling of the chromosomes) that occurred within the kind.

As is generally occurring within animal baramin, the family level seems to be a satisfactory default level for beginning to determine Created Kinds in plants. Although the plant sections are far from complete, based on work so far it is estimated that there will be about 44 kinds of Pteridophyte / fern kinds, 12 gymnosperm / cone-bearing kinds, and 365 angiosperm / flowering kinds. In general, this is down about 10% from the number of Families given by evolutionary taxonomy. As further research occurs, especially with increased access to hybridization records and use of the floral formula with angiosperm plants, these numbers are expected to change.

79. Spathodeot campanulatim

Flowering Plant Cognitum

Annonibar - Custard Apple Kind
$P^{3+3+3}\ A^{\infty(few)}\ G^{\infty}$
Annonot – Anon

Berberidibar - Barberry Kind
$K^{3+3}\ C^{3+3}\ A^{6}\ \underline{G}^{1}$
Podophyllot - Mayapple

Betulibar - Birch Kind
$K^{0,4}\ C^{0}\ A^{2\text{-}4}\ G^{0}$ (also $K^{0}\ C^{0}\ A^{0}\ \bar{G}②$)
Alnusot – Alder
Betulot – Birch

Corylot – Hazelnut

Bignonibar - Bignonia Kind
$K⑤\ \underline{CZ⑤}\ A④\ \underline{G}②$
Bignonot – Cross Vine
Catalpa – Indian Bean
Campsot – Trumpet Creeper
Spathodeot – African Tulip Tree

Cactacibar - Cactus Kind
$K^{X}\ C^{\infty}\ A^{\infty}\ \bar{G}^{2\text{-}\infty}$
Opuntot – Prickly Pear
Echinocactot – Barrel Cactus
Lemaireocot – Organ Pipe Cactus

80. Carnegiot gigantim

81. Parkiot biglandulosim

Caryophyllibar - Pink Kind
$K^{5}\ C^{5(0)}\ A^{5\text{-}10}\ \underline{G}^{②\text{-}⑤}$
Gypsophilot – Baby's Breath
Dianthot – Carnation
Stellariot - Chickweed

Chenopodibar - Goosefoot Kind
$K^{②\text{-}⑤}\ C^{0}\ A^{2\text{-}5}\ \underline{\bar{G}}^{②\text{-}③}$

Chenopodiot – Lamb's Quarter
Betaot – Beet and Chard
Spinacot – Spinach

Clusiacibar - Mangosteen Kind
$K^{4\text{-}5}\ C^{4\text{-}5}\ A^{\infty}\ \underline{G}^{③\text{-}⑤}$
Hypericot – St. John's Wort
Garciniot – Mangosteen
Clusiot – Autograph Tree

Cucurbitibar - Gourd Kind
$K^{⑤}\ C^{⑤}\ A^{5}\ G^{0}$ (also $K^{⑤}\ C^{⑤}\ A^{0}\ \bar{G}^{③}$)
Citrullot – Watermelon
Curcubitot – Pumpkin, Squash
Cucumot – Cucumber, Canteloupe

Fagacibar - Oak Family
$K^{4\text{-}7}\ C^{0}\ A^{4\text{-}40}\ G^{0}$ (also $K^{4\text{-}6}\ C^{0}\ A^{0}\ \bar{G}^{3\text{-}6}$)
Quercot – Oaks
Fagusot – Beech
Castanot – Chestnut

Hamamelidibar - Sweet Gum Kind
$K^{④\text{-}⑤}\ C^{4\text{-}5(0)}\ A^{4\text{-}5(10)}\ \underline{\bar{G}}^{②}$
Liquidambot – Sweetgum
Hamamelot – Witch Hazel

Juglandibar - Walnut Kind
$K^{3\text{-}6}\ C^{0}\ A^{3\text{-}\infty}\ G^{0}$ (also $K^{4}\ C^{0}\ A^{0}\ \bar{G}^{2\text{-}3}$)
Juglanot – Walnut
Caryaot – Pecan

82. Cochlospermot vitifolim

83. Epidendrot

84. Mertensiot virginicim

Lauracibar - Laurel Kind
$K^{3+3}\ C^{0}\ A^{3+3+3+3}\ \underline{G}^{1}$
Cinnamot - Cinnamon
Laurot – Laurel
Sassafrot - Sassafrass

Magnolibar - Magnolia Kind
$P^{6\text{-}18}\ A^{\infty}\ \underline{G}^{\infty}$
Magnoliot (Magnolia)
Liriodendrot (yellow poplars / tulip tree)

Malvacibar - Hibiscus Kind
$K^{\underline{3\text{-}5}}C^{5}\ A^{\underline{\infty}}\ \underline{G}^{②\text{-}\infty}$
Althaot – Hollyhock
Abutilot – Velvet Leaf
Hibiscot – Hibiscus
Gossypiot – Cotton

Melastomatibar - Melastoma Kind
$K^{4\text{-}5}\ C^{4\text{-}5}\ A^{8\text{-}10}\ \underline{G}^{①\text{-}⑭}$ (or $\bar{\underline{G}}^{①\text{-}⑭}$)
Melastomot -

Moracibar - Mulberry Kind
$K^{4}\ C^{0}\ A^{4}\ G^{0}$ (also $A^{0}\ \bar{\underline{G}}^{2}$)
Morusot – Mulberry

Maclurot – Osage Orange
Ficusot – Fig
Artocarpot - Breadfruit

Nymphibar - Water Lily Kind
$K^{3\text{-}\infty}\ C^{3\text{-}\infty}\ A^{\infty}\ \underline{G}^{\infty}$
Nymphaot – Water Lily
Nupharot – Spadderdock

Orchidibar - Orchid Kind
$K^{3}\ CZ^{2+1}\ A^{1\text{-}2}\ \bar{G}^{③}$
Cypripediot – Lady's Slipper
Epidendrot – Greenfly Orchid
Malaxis – Adder's Mouth
Vanillaot – Vanilla

85. Gmelina philippensis

86. Gmelina asiatica

87

Papaveribar - Poppy Kind
$K^{2-3}\ C^{4-\infty}\ A^{\infty}\ \underline{G}^{2-\infty}$
Papavot – True Poppy
Sanguinot – Bloodroot
Chelidoniot - Celandine

Passifloribar - Passion Flower Kind
$K^{5,5}\ C^{5,5(0)}\ A^{5}\ \underline{G}$③-⑤
Passiflorot – Passion Fruit

Piperibar - Pepper Kind
$K^{0}\ C^{0}\ A^{1-10}\ \underline{G}$②-④
Piperot – Pepper

Plantanibar - Sycamore Kind
$K^{3-8}\ C^{3-8}\ A^{3-8}\ \underline{G}^{6-9(3)}$
Plantanot – Sycamore

Polygonibar - Buckwheat Kind
$K^{3+3}\ C^{0}\ A^{3+3}\ \underline{G}$③ (also $K^{5}\ C^{0}\ A^{5-8}\ \underline{G}$③)
Rumexot – Dock
Rheumot – Rhubarb
Fagopyrot – Buckwheat
Coccolobot – Sea Grape

Ranunculibar - Buttercup Kind
$K^{3-\infty}\ C^{5-\infty}\ A^{\infty}\ \underline{G}^{3-\infty(1-3)}$
Ranunculot – Buttercup
Aquilegot – Columbine
Delphiniot – Larkspur

Sarracenibar - Pitcher Plant Kind
$K^{4-5}\ C^{5}\ A^{\infty}\ \underline{G}^{3(5)}$
Sarraceniot – Pitcher Plant

Ulmacibar - Elm Kind
K④-⑧ $C^{0}\ A^{4-8}\ \underline{G}$②
Ulmusot – Elm
Celtisot- Hackberry

88. Bauhiniot purpurim

89. Ceibaot pentandrim

90. Cone Detail

Cone Bearing Plants

Gymnosperms are plants that leave the seed uncovered and most often produce cones from which the seeds are released. This group contains about 1000 living species and many, more varied, extinct types as well.

91. Larixot larcinim

Cycadibar - Cycad Kind

Pinibar - Pine Kind
Pinusot – Pines
Tsugaot – Hemlock
Piceot – Spruce
Larixot – Larch, Tamarack

Cupressibar - Cypress Kind
Cupressot – True Cypress
Juniperot – Red Cedar, Juniper

Taxodibar - Bald Cypress Kind
Taxodiot – Bald Cypress
Sequoiot – Redwood
Sequoiadendrot – Giant Sequoia

Taxacibar - Yew Kind

Ephedribar - Ephedra Kind

92. Spruce Cones

93. Cyatheot

Fern Cognitum

94. Tree Fern Trunk

Ferns are plants that reproduce by spores rather than by seeds and, therefore, they do not have flowers. They are vascular plants with xylem and phloem. There are about 12,000 living species.

Psilotopsida Cognitum – Whisk Ferns

Equisetopsida Cognitum – Horsetails

Marattiopsida Cognitum

Polypodiospsida Cognitum – True Ferns

95. Adiantot

96. Tree Fungus

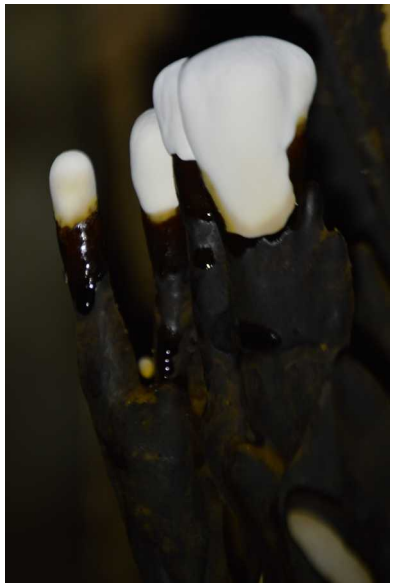
Chapter 7

Fungus Taxonomy

Fungus are spore producing items which include mushrooms, yeast, and molds. They do not produce their own energy through photosynthesis, but instead derive nutrients from the organic matter of plants and animals. They can be unicellular, multi-cellular, or even multi-nucleated. Most fungi are beneficial, yet some can cause disease in man, animal, or plants.

Sac Fungus / Ascomycota Cognitum

The Sac Fungi are characterized by reproduction involving an ascus, a sac like structure which contains the spores. This group includes the commonly known baker's yeast as well as several food crop pests such as apple scap and brown rot.



97. Cave Fungus

Club Fungus / Basidiomycota Cognitum

Club fungi are the familiar mushrooms and also include rusts and puffballs. They are characterized by reproduction involving basidium, a club shaped projection which contains the spores. The main part of the fungus is composed of hyphae, the branching and threadlike filaments which are

inside the soil or a host organism.

Conjugation Fungus / Zygomycota Cognitum

The Congjugation fungi include many molds, which feed on dead plants and animals, as well as invertebrate parasites. They are characterized by reproduction involving conjugating gametangia which forms zygospores.

98. Laetiporot sulphurim

101. Mushroom Gills

100. Dictyophorot indusiatim

99. Mushrooms

Other Cognita

Lichen Cognitum

Lichens are a combination of algae or cyanobacteria living among fungus in a symbiotic relationship.

102. Crytotheciot rubrocinctim

Bryophytes

Bryophytes contain the mosses and liverworts. They are usually terrestrial plants which reproduce by spores but lack vascular tissue. They have some roots, stem, and leaf structure.

103. Liverwort

Algae Cognitum

The algae cognitum is a collection of aquatic plants ranging from unicellular, filamentous, colonial, and multi-cellular groupings. Some types of algae contain no roots, stems, or leaf structure. Other types, like kelp and seaweed, can grow to significant proportions. Algae is a major food source for aquatic animals.

104. Seaweed

Archaea Cognitum

As part of the Prokaryotes, these organisms are microscopic and unicellular. The Archaea live in most extreme conditions on earth - hot springs, sewage plants, deep ocean volcanoes.

105. Cyanidiot

Bacteria Cognitum

Bacteria can cause disease in humans and animals : others create antibiotics and food such as yogurt and sourdough bread : most numerous of all living organisms :

106. Oceanside / Beach Habitat

Appendices

Biographies

Brophy, Timothy
Timothy Brophy works with vertebrate systematics. He works with a wide range of animals including turtles, salamanders, moles, and others.

Cavanaugh, David
In an attempt to find a way to determine baramins without reproduction, David Cavanaugh introduced the Analysis of Patterns (ANOPA) technique. This technique makes characteristics of the animal a distinct statistical dimension which is placed into a multi-dimensional space. It is later simplified to a three dimensional grid. Different kinds should come out to different spaces on the grid and show the distinct groups.

Elder, Todd
Todd Elder is owner of the Exploring Creation website, coordinator of the Creation Science League, and founder of the Encouraging Life Children's Mission. He is currently authoring the Elder's Model of Creation series and doing research in the field of Baraminology. He received a Bachelor of Science Degree from Kent State University, Ohio for a Conservation Major with a Geography Minor.

Frair, Wayne
Wayne Friar works with biochemical taxonomy. He is a past president of the Creation Research Society and he was instrumental in the formation of the field of science called Baraminology.

Hennigan, Tom
Tom Hennigan works with the classification of reptiles and amphibians. Degrees include: AAS in Forest Technology, BS in Natural Resources Management, and an MPS in Environmental and Forest Biology.

Lightner, Jean
Dr. Jean Lightner has worked with classification of birds and mammals as well as genetic recombination. She has worked just over three years as a veterinary medical officer for the US Department of Agriculture before resigning to stay at home to raise and teach her four children.

Marsh, Frank
Frank Marsh is credited with coining the term 'baramin' which is a combination of the Hebrew words 'bara' (to create) and 'min' (kind). . For Marsh, 'after his

kind' was a biological law (rather than a moral law) and emphasized the importance of reproduction and successful hybridization. He emphasized interbreeding as a method of determining kinds. This, in effect, defined a created kind at the highest taxonomic level which could interbreed. He changed in his later years when he followed morphological considerations more than reproductive ones. Quite often, though, he found differences in morphology and reproduction went together.

ReMine, Walter
Walter ReMine brought the concept of Discontinuity Systematics into the realm of Baraminology. Discontinuities are described as "large scale morphological gaps and an absence of large-scale phylogeny". Simply put, this means that there were big differences in appearance and no line of distinct ancestral lines from which it came. This was an important concept since the Theory of Evolution has no place for discontinuities. In fact, quite the opposite is true in that Evolution must look for connecting relationships. This work also brought the phrase 'successive approximation' in as studies come closer and closer to the proper boundaries of created kinds.

Ross, Marcus
Has done work with amphibian kinds. Degrees include: BS in Earth Science, MS in Paleontology, and Ph.D. in Environmental Science.

Sanders, Roger
Roger Sanders added the concept of Cognitum, or a grouping of creatures that seem to naturally go together by use of the senses. However, this type of grouping can be both inside and outside of a kind. For example, one would likely group all of the birds together because of their feathers, yet this is much greater in scope than a single kind. The general differences between cows, horse, and pigs would be enough evidence to the senses to tell that they belong to different kinds. Although imprecise, it does find usefulness where hybridization data is lacking.

Scherer, Siegried
Siegfried Scherer also worked with hybridization, but he took it in a different direction. He allowed either two animals to hybridize with each other (as others did above) or each with a third organism. In other words, if A can breed with C and B can breed with C then A and B can be considered as the same kind along with C. He also suggested that true fertilization must go passed the early stages of embryogenesis. He suggested that fertilization is not enough to be considered successful because the first few divisions of the cell can be strictly through

maternal control. He suggested that there must be a successful expression of both paternal and maternal genes.

Wise, Kurt

Kurt Wise is credited with first using the term 'baraminology' when he stated the need for a creationist biosystematics. The Revelatory Species Concept is based on Romans 1:18-20 which, according to Wise, "suggests that God created the universe with physical illustrations of His invisible attributes and God created humans with the ability to recognize those illustrations." The concept states that organisms were created in recognizable groups, distinct from all other groups, and display the basic characteristics of the Creator. It is illustrated as brushstrokes in painting with species representing the finest brushstrokes. Humans are regarded as able to innately recognize species and nested hierarchies that reflect creation's design.

Wood, Todd

Similarly, Todd Wood created the use of multidimensional scaling (MDS) which also statistically measures the distance between one baramin and another. This method has typically shown a large baraminic distance around the rank of family. This strongly suggests that the most common comparison of a kind with modern taxonomy is the family level.

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Photography

1. Planet Earth – 33,000 Ft., Atlantic Ocean
2. Leaf Collection – Utuado, PR
3. Walking Stick – Mt. Guilarte SF, PR
4. Desert Scene – Phoenix, AZ
5. Larus Gull - Crescent, CA
6. Underwater Coral – Hatillo, PR
7. Mountain Scene – Glacier NP, MT
8. Western Meadowlark – Badlands NP, SD
9. Canada Goose – Canton, OH
10. Hibiscus – Mt. Guilarte SF, PR
11. Majo Hibiscus – Utuado, PR
12. Emajagua / Mountain Hibiscus – Utuado, PR
13. Hibiscus – Utuado, PR
14. Coral Hibiscus – Zoo
15. Chironja – Utuado, PR
16. Goat Lemon – Utuado, PR
17. Tropical Scene – Adjuntas, PR
18. Desert Coyote – Death Valley NP, CA
19. Winter Coyote – Sequoia NP, CA
20. Cave Spider – Guajataca SF, PR
21. Cave Cricket – Arecibo, PR
22. Cave Crab – Guajataca SF, PR
23. Fruit Bats – Guajataca SF, PR
24. Temperate Forest – Findlay, OH
25. Diatoms – Fajardo, PR
26. Glowing Mushroom – El Yunque NR, PR
27. Lightning Bug – Utuado, PR
28. Moriviv / Sensitive Plant – Utuado, PR
29. Prairie Scene – Theodore Roosevelt NP, ND
30. Iguana – Ponce, PR
31. Western Diamandback Rattlesnake – Brantley SP, NM
32. African Spurred Tortoise – Zoo
33. Painted Turtle – Randolph, OH
34. Caiman – Zoo
35. Side Blotched Lizard – Arches NP, UT
36. Chameleon – Utuado, PR
37. Dinosaur Print – Dinosaur Valley NP, TX

38. Bighorn Sheep – Badlands NP,SD
39. African Elephant – Zoo
40. Black Bear – Yellowstone NP, WY
41. Dolphin – Atlantic Ocean
42. Elk – Yellowstone NP, WY
43. Fruit Bat – Guajataca SF, PR
44. Nine-Banded Armadillo – Glen Rose, TX
45. Gorilla – Zoo
46. Mole – Pensacola, FL
47. Birds - PR
48. Blue and Yellow Macaw – Zoo
49. Birds Nest – Utuado, PR
50. Red-tailed Hawk – Utuado, PR
51. Reinita – Utuado, PR
52. Spoonbill – Zoo
53. Ostrich – Zoo
54. Emu – Zoo
55. Eastern Newt – West Branch SP, OH
56. Coqui Frog – Utuado, PR
57. Caecilian – Utuado, PR
58. School of Fish – Hatillo, PR
59. Tang – Culebra, PR
60. Fish – Hatillo, PR
61. Flounder – Hatillo, PR
62. Worm – Hatillo, PR
63. Crab – San Elijo SB, CA
64. Anemone – Aquarium
65. Coral – Culebra, PR
66. Sea Slugs – Culebra, PR
67. Crab - PR
68. Banana Spider – Rio Camuy Cave Park, PR
69. Centipede – West Branch SP, OH
70. Millipede – Mohican SP, OH
71. Wood Borer – Utuado, PR
72. Dragonfly, Arecibo, PR
73. Sea Grape Flatid - Guajataca SF, PR
74. Bee - Pensacola, FL
75. Malachite Butterfly – Utuado, PR
76. Frangipani Hornworm – Utuado, PR
77. Palm Forest – Mt. Guilarte SF, PR
78. Maguey – Utuado, PR

79. African Tulip Tree - PR
80. Saguaro Cactus – Phoenix, AZ
81. African Locust Tree, Arboretum
82. Brazilian Rose – Utuado, PR
83. Epidendrum Orchid – Utudao, PR
84. Virginia Bluebells – Mohican SP, OH
85. Parrot's Beak – Arboretum
86. Gmelina – Arboretum
87. Water Lily – West Branch SP, OH
88. Orchid Tree - Aguadilla, PR
89. Ceiba – Isabella, PR
90. Pine Cone – Guajataca SF, PR
91. Tamarack – Tom. S Cooperrider Kent Bog SNP, OH
92. Spruce Cones – Mount St. Helens NP, WA
93. Tree Fern Leaves - PR
94. Tree Fern Trunk – Utuado, PR
95. Maidenhair Fern and Spores – Guajataca SF, PR
96. Fungus on Log – Sleeping Bear Dunes NL, MI
97. Cave Fungus – Guajataca SF, PR
98. Sulfur Shelf – West Branch SP, OH
99. Mushroom Gills -
100. Long Net Stinkhorn – Adjuntas, PR
101. Mushrooms – Quail Hollow State Park, OH
102.Lichen – Guajataca SF, PR
103. Bryophyte – PR
104. Kelp – San Elijo SB, CA
105. Thermophilic algae – Yellowstone NP, WY

Glossary

Apobaramin -- Cladistics term for multiple holobaramins

Archaebaramin -- Cladistic term for the original members of a baramin

Baramin -- General created kind

Baraminology: Literally the study of created kinds. The taxonomic study and classification of the created kinds of animals.

Cladistics: Classification of organism based upon branching descendancy from a common ancestor

Continuity -- The reproductive and genetic connections that occur within a kind. One way of stating micro-evolution that has occurred.

Discontinuity -- The reproductive and genetic isolation from one kind to another. One way of stating that macro-evolution does not occur.

Environmental Acclimation -- The biogeographical adaptations of an individual within a species or population caused by the local environment.

Evolution: A theory stating that all plants and animals developed from earlier and more simple forms by slight variations in each generation.

Floral Formula -- A concise format for describing the parts of a flower.

Genetics: the study of inheritance of characteristics

Genotype: the genetic composition of an organism

Holobaramin -- Cladistic term for a single entire baramin – all members are related by ancestry

Macro-evolution -- The evolutionary concept that large scale changes (such as change in form) occur over long periods of time due to increasing genetic material and mutations.

Micro-evolution -- Small scale changes (such as fur color) caused by genetic drift of existing DNA within a population.

Monobaramin -- Cladistic term for a single (but not necessarily entire) represented baramin.

Morphology: the study of form and structure

Palaeobaramin -- previous baramin populations

Phenetics: grouping organisms based on overall similarity

Phenotype: the physical characteristics of an organism

Phylogenetic: the relationship between members of a group and the development and derivation of a group from its ancestors

Polybaramin -- Cladistic term for multiple (but not necessarily entire)

represented baramins.

Pre-zygotic Barrier -- Something that prevents fertilization

Post-zygotic Barrier -- Something that prevents a fertilized egg from developing into a fertile adult

Systematics: the study of identification, taxonomy, and nomenclature of organisms

Taxonomy: the science of defining groups of organism on the basis of shared characteristics

Other Books by Todd Elder:

Scripture Notebook
Exploring the Bible in Chronological Order

One of the best ways to build a closer relationship with our Creator is to spend time learning about Him - and His great love for us - in the words of Scripture. Reading them in chronological order has the added benefits of clearly presenting the promises and the covenants forming our relationship with the Eternal, the progression of prophecies and their fulfillments, and the consequences of our actions, both individually and collectively, as part of His people. The rewards of knowing and understanding Scripture include a stronger relationship with our Creator, a better ability to discern good from evil, and, as a result, having peace in life.

Creationist Notebook
Exploring Creationism in Scripture, Science, and Society

The 'Creationist Notebook' is designed as a reference guide and notebook to aid in the personal study of Creationism. It contains an outline of many topics which support scientific creationism including the scriptural basis for Creationism, the scientific evidence for a young Earth, and the worldviews formed by Creationism and Evolutionism. It also contains lists of books, DVDs, and websites which act as recommended resources and materials for continued learning about individual topics and creation in general.

Created Kinds
Exploring the Basis for Baraminology

As the second volume in the Elder's Model of Creation series, "Created Kinds" explores one of the core concepts of life. Who is the Creator? How is man different than the plants and animals? How can the amazing variety of animals we see today be explained through the concepts of Creationism and Baraminology? These questions are examined by looking at Scripture with an emphasis on the original Hebrew wording to clarify the basic concepts surrounding created kinds. As these questions are answered, the value and significance of life becomes clearer, encouraging a person to build a closer relationship with Our Creator.