

# DARWIN'S FINCHES

## REEXAMINING THE ICONS OF EVOLUTION



BENJAMIN BERKOMPAS

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*And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.*

Genesis 1:21

*And God spake unto Noah, saying, "Go forth of the ark, thou, and thy wife, and thy sons, and thy sons' wives with thee. Bring forth with thee every living thing that is with thee, of all flesh, both of fowl, and of cattle, and of every creeping thing that creepeth upon the earth; that they may breed abundantly in the earth, and be fruitful, and multiply upon the earth."*

Genesis 8:15-17

*The Creation is never over. It had a beginning but it has no ending. Creation is always busy making new scenes, new things, and new Worlds.*

Immanuel Kant, *A General Natural History of the Heavens*

BENJAMIN BERKOMPAS - MARCH 2009

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## Reexamining the Icons of Evolution

By Benjamin Berkompas  
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Little things often have significant impact. A microscopic atom can unleash massive destruction if properly harnessed. Likewise a vessel's rudder—one of the most miniscule aspects of the ship's construction—triumphs over tremendous oceanic forces as it keeps the ship on course. And one obscure, amateur naturalist who visited a tiny group of islands in the South Pacific, and observed a little population of finches, gave us modern science. Darwin's speculations about the nature of life seemed to come alive in the Galápagos Islands. It seemed that there was finally evidence—definitive proof—for the possibility of life without a Creator. Darwin took a leap of faith right off the precipice of irrational atheism, and his theory has been plummeting ever since. Moreover, Darwin's finches, which have achieved celebrity status among evolutionists today, constitute a remarkable case study in the impossibility of evolution.

### Natural History of Darwin's Finches

The Galápagos archipelago is home to a limited range of resident avian species, the majority of which are “endemic” to the islands. This means that they cannot be found anywhere else on earth. Of the islands' 30 resident land bird species, 22 are endemic, including thirteen species of “Darwin finches.”<sup>1</sup> There is some confusion as to the ancestry<sup>2</sup> and classification<sup>3</sup> of these birds, but DNA tests suggest that they may be categorized into four genera, and 14 different species.<sup>4</sup>

The 13 Galápagos species are remarkably similar in appearance—to the point where even expert ornithologists cannot always distinguish between them and must inevitably identify some of the finches as “uncertain.” (There is a reason the sharp-beaked ground finch bears the Latin name *difficilis*.<sup>5</sup>) They are all fairly dull in coloration, the females being streaky brown and mature males being black. The members of genus *Geospiza*, especially the large, medium and small ground finches, are so alike in appearance that, to the casual observer, they seem to be the same bird. Their foraging habits are similar—they are all seed-eaters—their sizes and shapes are difficult to differentiate unless they are compared side-by-side, and their range often overlaps. Even the differences in beak size are not always readily observable (sometimes the discrepancy is only a fraction of a millimeter). But this variation in bill size is precisely what makes the finches so important to science—and so controversial. Evolutionists and Creationists observe the same data and come to very different conclusions. We will discuss this in further detail below.

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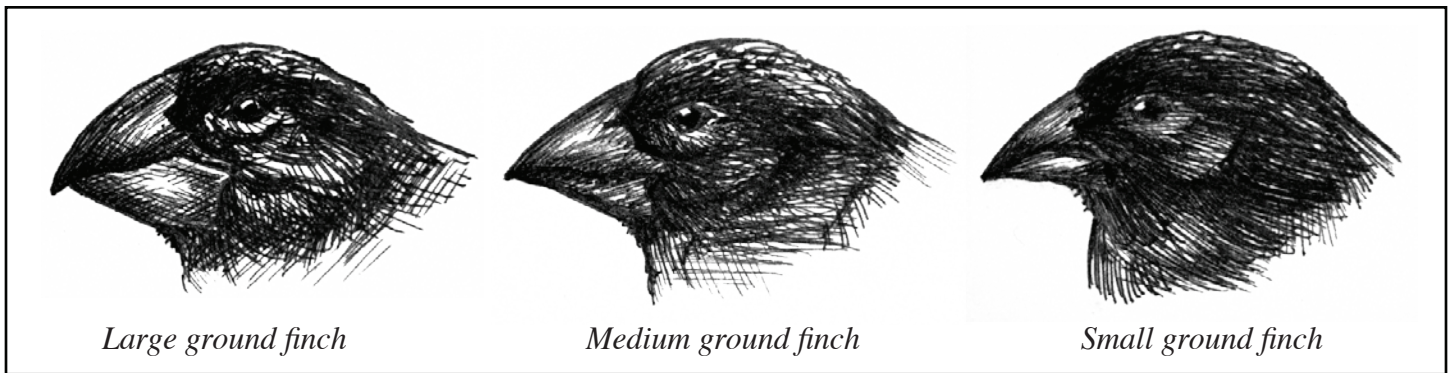
<sup>1</sup> The name made popular by David Lack, a prominent British ornithologist who studied the finches in the mid-20th century.

<sup>2</sup> Some propose the Dull-colored grassquit (*T. obscura*), a small finch-like bird which ranges along the lower Andean slopes in Venezuela, Colombia and elsewhere. The more likely candidate, however, is the St. Lucia black finch (*Melanospiza richardsoni*), which is confined to the small island of St. Lucia in the West Indies.

<sup>3</sup> See Appendix A for Latin names and taxonomical diagram

<sup>4</sup> There is a 14<sup>th</sup> species of Darwin finch which does not inhabit Galápagos, but finds its home nearly 400 miles North East of the archipelago, on Cocos Island—from which it derives its name—it is most likely a migrant from the Galápagos. (See Appendix C).

<sup>5</sup> Kricher pg. 138



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## Enter Charles Darwin

Although the Galapagos finches have risen to worldwide renown since their discovery in the mid-19th century, they don't even begin to rival the man who unearthed their existence. Charles Darwin, the one-time-theology-student turned naturalist, is the pivotal figure in the history of evolutionary theory—which consequently bears his name—and we now turn to an overview of his life, especially his experiences aboard the HMS Beagle and the events that followed.

On September 15, 1835, the HMS Beagle arrived in the Galápagos Islands, and on the 17th of that month landed on Chatham Island (now San Cristobal).

Darwin had two books of ironic significance with him aboard the *HMS Beagle*—Milton's *Paradise Lost*, the magnificent poetic epic of Creation, and Charles Lyell's *Principles of Geology*, from which Darwin derived his uniformitarian views, and eventually took them to their logical conclusion—the transmutation (evolution) of species.

Darwin remarked in his journal, “Nothing could be less inviting than the first appearance. A broken field of black basaltic lava, thrown into the most rugged waves, and crossed by great fissures, is everywhere covered by stunted, sun-burnt brushwood, which shows little signs of life.”<sup>1</sup> As he ventured inland, the islands began to reveal their secrets to Darwin. He encountered massive tortoises (which “seemed to my fancy like some antediluvian animals”<sup>2</sup>), secluded freshwater oases teeming with life—refugees from the rugged volcanic plains—a curious family of little finches, and countless other Galápagos specialties. Darwin thought of these “Enchanted Islands”<sup>3</sup> as a microcosm of our world, a silent, brooding witness to the earth's distant past. We don't accept his conclusions, but it is undeniable that these islands are unique

among all others, and speak volumes about the nature of life on our planet.

Though he was an enthusiastic student of nature, Darwin had no formal training in biology, and was not particularly adept.<sup>4</sup> Some authors may acknowledge this fact, and then claim that Darwin had carefully honed his powers of observation during his first few years on the Beagle, rendering him a capable scientist when he set foot on the Galapagos. As we shall see, this was far from true. Darwin originally pursued

<sup>1</sup> Darwin, *Voyage of the Beagle* pg. 333

<sup>2</sup> *Ibid.* pg. 334

<sup>3</sup> From the Spanish “Las Islas Encadates”

<sup>4</sup> Parer, David & Parer-Cook, Elizabeth. “Birds - Charles Darwin and the Finches.”

medicine, but found he could not handle the sometimes-tortuous procedures that had to be carried out in those days due to the early stage of medical technology. Upon his father's recommendation, Darwin pursued an education in theology at Cambridge University, where he became familiar with Archdeacon William Paley, and embraced natural theology. Though Darwin felt that he could intellectually accept the claims of Christianity, he did not feel confident of a call to the ministry, but was much more inclined to follow in the footsteps of men like Robert Grant, an eminent British doctor and evolutionary zoologist, who had mentored Charles in the field of biological science. The perfect opportunity presented itself to the young, aspiring biologist, when Captain Robert Fitzroy of the *HMS Beagle* extended to him an invitation to be his personal companion and the ship's resident naturalist on a five-year voyage around the world. In 1835, Darwin's travels brought him to the Galápagos archipelago.

### Natural Theology & Naturalism

He arrived with the assumption that "most of the organic productions are aboriginal creations, found nowhere else,"<sup>1</sup> as he expressed in his journal. This is a fundamental doctrine of natural theology, which held to three fundamental ideas: 1) Creation is unchanging and remains uniform throughout time (for Charles Lyell, this doctrine of "fixity" applied exclusively to animate things). 2) Miracles are impossible because nature must only exhibit natural phenomena (thus natural theologians must deny the Flood). 3) Whenever the Bible disagrees with science, God is using



accommodating language to help ancient man

understand. In

other words, science trumps Scripture wherever the two appear to conflict.<sup>2</sup> Natural Theology has never been the stance of Biblical Creationists, but was a position of compromise and syncretism. Remember, Darwin assented to the claims of Christianity at the intellectual level more than the spiritual level, and his theology dictated that reason, not Revelation, was supreme. Sadly, such a one is easily misled and carried away by every whim of intellect and conjecture. This was the case with Darwin.

Edward Larson, author of *Evolution's Workshop: God and Science on the Galápagos Islands*, wrote, "If naturalists looked

John Ray (1627-1705), a dedicated Christian theologian and naturalist, laid the foundations for British natural history with his pioneering work in classification, botany and zoology, and books such as *The Wisdom of God Manifest in the Works of Creation*. Unfortunately, in his zeal to oppose evolutionary thought, Ray concluded that, "the Works created by God at first, [are] by Him conserved to this Day in the same State and Condition in which they were made." (*Evolution's Workshop* pg 37) This idea of the "fixity of species" played right into the hands of Charles Darwin and other advocates of evolutionary change, who rejected what was presented as "Biblical" teaching in favor of scientific evidence. Sadly, this false dichotomy between Scripture and science seemed to give sufficient excuse for men like Darwin to reject the Bible altogether, as his grandfather Erasmus had done.

<sup>1</sup> Ibid. Darwin, pg. 336

<sup>2</sup> Phillips, Douglas. "The Genesis Flood and the 200th Anniversary of Charles Darwin."

to nature for their theology, better to ignore places like the Galápagos—which most of them did.”<sup>1</sup> Charles Darwin on the Galápagos Islands was not yet the Charles Darwin of 1859, author of the *Origin of Species*. He saw things which, curiously enough, seemed to contradict everything he had learned about the nature of the created world, and for many months he struggled to reconcile his misguided faith with his observations. Remember, natural theology taught that, in such situations, the Bible is to be interpreted as analogy. Darwin bought into the lie that science *must* trump Scripture, and, without Biblical moorings, he began charting a rapid path toward atheism.

*“Natural Theology has never been the stance of Biblical Creationists”*

The popular myth about Darwin’s eureka-like experience with the Galápagos finches is entirely unsubstantiated. He gave them no thought until John Gould informed him of their importance. Rather, it was the 4 species of endemic mockingbirds that sparked his interest and caused him to speculate about the possibilities of interspecific variation.

While in the Galápagos, Darwin (still a nominal Creationist) followed the common practice of collecting specimens two by two, one male and one female. “It was the type he was after: the theme, not the variations.”<sup>2</sup> This type was thought to be the average, a sample of God’s original creative intent. Darwin’s method of collecting specimens was at times very systematic, and at other times, extremely haphazard. Take the finches for example. He and his servant shot 31 specimens representing all—or nearly all—of the islands’ 13 species, but at this time Darwin was far more concerned about geology than birds, so he didn’t bother to label his finches by island, and gave very little thought to their significance until it was too late to amend his sloppy techniques. Darwin’s personal servant and Captain Fitzroy carefully labeled their own specimens island by island, for the ironic reason that they were not collecting for

“scientific purposes” as Darwin was.<sup>3</sup> Though he later attempted to categorize his own finches using their collections for reference, Darwin failed.

The 13 Galápagos finches seemed, at first, glance to be very different birds—some possessing enormous beaks suited for demolishing large seeds, and others with slender, tweezer-like beaks for drinking nectar from cactus blossoms—but Darwin was told that they were ALL finches, bearing close relation to one another. What could this mean? Charles Lyell, Darwin’s mentor in geology, had argued against the notion of the “evolution” of animate beings in his work, *Principles of Geology*:

*“It is idle to dispute about the abstract possibility of the conversion of one species into another when there are known causes, so much more active in their nature, which must always intervene and prevent the actual accomplishment of such conversions...There are fixed limits beyond which the descendants from common parents can never deviate from a certain ‘type’.”*<sup>4</sup>

Although Lyell took a strong stance against evolution in living organisms, he believed that the earth

<sup>1</sup> Larson, Edward. *Evolution’s Workshop: God and Science on the Galápagos Islands* pg. 37

<sup>2</sup> Weiner, Jonathan. *The Beak of the Finch* pg. 25

<sup>3</sup> *Ibid.* pg. 30

<sup>4</sup> *Ibid.* pg. 26

Why did the woodpecker finch develop the unusual ability to probe in bark with twigs and cactus spines searching for grubs and other goodies? The answer lies in the fact that there are only a few families of birds residing on the islands, and the woodpecker is not one of them. This means that the woodpecker finch can undergo a phenomenon known as “ecological release,” and begin exploiting a vast range of resources that it would be prevented from using in a more species-rich, competitive community.

was constantly changing—“evolving” as it were—through uniform natural processes. Darwin, a student of Lyell’s work in geology, would eventually apply this thinking to the world of living things. But as the *Beagle* made the last leg of its journey back to England, he was only in the beginning stage of his conversion to evolutionary thought. As he examined his mockingbird specimens he commented in his journal, “When I see these Islands in sight of each other, & possessed of but a scanty stock of animals, tenanted by these birds, but slightly differing in structure & filling the same place in Nature, I must suspect they are only varieties.”<sup>1</sup> In his second edition of *The Voyage of the Beagle* he begins to reveal those nagging questions that had begun to haunt him when he first heard the truth about the finches. Perhaps, Darwin speculated, a species could diverge from its ancestor to the point where it became something entirely different, possessed of completely different attributes and structure. Were there really

boundaries to speciation? “Such facts [if confirmed] would undermine the stability of Species,” Darwin wrote. At the time, however, he was forced to conclude—along with Lyell—that there were limits, for he lacked any evidence to the contrary.

When he returned to England Darwin donated all of his bird specimens to the Zoological Society of London, and in the following weeks his collection generated much excitement among the scientists there. John Gould, a prominent ornithologist, was particularly interested in the finches, which he discovered—much to Darwin’s surprise—were previously unknown to science and seemed to be endemic to the Galápagos. He told Darwin that they were all finches, not an assortment of “blackbirds,” “grosbeaks,” and finches as Darwin had thought. And yet, most of them were remarkably different in appearance. It was almost as though these finches had “broken the species barrier.”<sup>2</sup> This was, of course, an overzealous assumption. The Galápagos finches are merely another example of variations within kinds, and those variations seem to be more cyclical than directional. Had Darwin actually studied the living birds on Galápagos for an extended period of time, he would have seen this.

In his initial drafts of *Origin of Species* Darwin talks briefly about the finches, but in later editions he left them out altogether. It seems that he was embarrassed about his lack of meticulous research and poor technique on the Galápagos. In *Origin* he bases his arguments on domestic breeding simulations—in other words he tries to draw a parallel between the “artificial selection” he observed while breeding pigeons, and the “natural selection” which, he was convinced, must occur the same way in nature. As it turns out, there is no direct correlation between the two processes.

## The Processes and Preconditions of Speciation

Before we address the specifics of Darwin’s theory of evolution by natural selection, let us first examine the geographical significance of the Galápagos archipelago as it relates to Darwin’s finches and the

<sup>1</sup> Ibid. Weiner pg. 26

<sup>2</sup> Ibid. pg. 29

concept of speciation. What makes these islands so special?

First of all, the Galápagos Islands lie 600 miles off the coast of Ecuador. Geographical isolation is one of the essential conditions for the development of new species. If the islands were easy to access, there would be a constant influx of mainland species, thereby disrupting and displacing resident species. In order for genetic divergence to occur on a large scale, the gene pool must be sheltered from external interference. “Unless gene flow is stopped, or at least dramatically reduced, [the finches] will not develop sufficient genetic distinctions to be reproductively isolated from one another and thus will not speciate.”<sup>1</sup> The generally accepted model (among evolutionists and creationists) for the origination of the Galápagos finches is called “adaptive radiation,” which simply means the divergence of species from a single type. The evolutionist assumes that such variation is virtually unlimited, if given enough time.

The question remains: what is the driving cause for speciation in the first place? Darwin proposed a “principle of divergence,” based on competition for precious resources between similar species. He failed,

however, to connect this principle with that of geographic isolation, so David Lack—an expert on Darwin’s finches—formulated a more robust model. He called it “allopatric speciation.” The idea is that overpopulation drives certain populations to emigrate to different islands, where they become “allopatric,” speciating in isolation from one another.<sup>2</sup> In the event that the two populations rejoin, they become “sympatric.” If the Galápagos were not an archipelago, composed of many islands, this kind of speciation would not be possible because it requires a certain measure of geographical isolation.<sup>3</sup>

Adaptive Radiation can occur very rapidly, usually producing species needed to fill specific ecological niches. This is a good model to explain how animals repopulated the earth “according to their kinds” in the post-Flood era.

After allopatry initiates the speciation process, natural selection roots out individuals that are not capable of survival, and “interspecific competition” begins to occur among the remaining birds. The concept of “interspecific competition” is rooted in the notion that, where similar species (or sympatric populations) coexist, they will adapt in a way that gradually diminishes competition. This is clarified by the principle of “character displacement,” which describes how, wherever two analogous species compete, there is an “eventual enhancement of differences between them that might lessen the competition.”<sup>4</sup>

## Creationist Models

In Creationist circles there is a general consensus that the finches descended from a common ancestor by means of variation, but there are differing opinions as to the extent of that variation and the underlying processes of speciation. It is clear that Darwin’s finches constitute a morphologically continuous group<sup>5</sup>, and many Creationists argue that they ought to be considered as distinct subspecies rather than 13



*Cactus Ground Finch*

<sup>1</sup> Kricher, pg 142

<sup>2</sup> See Appendix B

<sup>3</sup> See Appendix C

<sup>4</sup> Ibid. Kricher, pg. 145

<sup>5</sup> Wood, Todd Charles. A Creationist Review

different species. There is a notable “gradation” in beak sizes which renders them one of the most curious avian groups in the world.<sup>1</sup> But the question remains, is it even possible for natural selection to produce directional change?

Creationists Walter Lammerts, Coleman, and Helder didn’t think so. They proposed the theory of genetic drift, which is a process that reduces the frequency of variant genes (alleles) and eventual leads to a decrease in genetic variability. Unlike natural selection, genetic drift is not driven by environmental circumstances. In contrast, Carl Wieland accepts the role of natural selection in the finches’ development, insofar as it deals only with pre-existing genetic material. Some non-Creationists have argued for an irruptive migration of species from the mainland in much the same form as we find them today, but this theory is entirely inadequate.<sup>2</sup>

The burgeoning science of Baraminology<sup>3</sup>, or the study of “created kinds” may shed some light on the question of classification. It certainly explains why we only observe speciation within “kinds.” For a thorough introduction to baraminology I refer you to Todd Wood’s article in CRS Quarterly, *The Current State of Baraminology*.<sup>4</sup>

### **Natural Selection: Darwin’s Mechanism**

Author John Kricher, correctly points out that, in order for true evolution to take place, we must assume two things. Natural selection actually occurs, and key traits are inheritable. “If natural selection is a myth, or if traits such as bill dimensions are not inheritable, the whole house of evolutionary cards comes down.”<sup>5</sup> He then points out that these two assumptions have been definitively proven by studies conducted on the Galápagos finches; therefore evolution is undeniably true. But there’s more to it than that.

I suggest to you that there are, in fact, two critical assumptions that must be made if natural selection is truly the mechanism for Darwinian evolution. But before we discuss these assumptions, let us first establish the “chronology” of the proposed evolutionary cycle. It’s very simple. Climatic change produces environmental pressures that cause certain species to adapt (sometimes very rapidly) to their new situation. Natural selection then eliminates the individuals that did not adapt sufficiently, and only the “fittest” live to see another day. The survivors are then able to pass on their “beneficial traits” to their descendents, enabling them to survive similar hardships. Based on this cycle, it is clear that natural selection CANNOT be a “mechanism” in and of itself. The necessary precondition for natural selection to occur is environmental pressure, which does not remain constant. This fact alone destroys all possibility of evolution by natural selection.

You see, in order for natural selection to be a viable mechanism for evolutionary change (“transmutation” as Darwin termed it), two conditions must be assumed: 1) change is cumulative and, 2) change is directional.

We understand that natural selection is not the genesis of so-called evolution. Weather patterns and

<sup>1</sup> See Appendix A, Comparison Chart

<sup>2</sup> It fails to explain why only the closely-related species migrated, and why they left no close relatives on the mainland.

<sup>3</sup> From the Hebrew verb *bara*, “created” and *min*, “kind”

<sup>4</sup> Wood, Todd Charles. “The Current Status of Baraminology.” Creation Research Society Quarterly Journal. Dec. 2006. <[http://www.creationresearch.org/crsq/articles/43/43\\_3/baraminology.htm](http://www.creationresearch.org/crsq/articles/43/43_3/baraminology.htm)>

<sup>5</sup> Kricher, pg. 147

environmental change initiate the process; therefore both of these attributes must be true of the weather if they are also to be true of natural selection. Are weather patterns cumulative? That is, do they build upon one another? Are they directional (advancing toward an objective)? No, they are constantly fluctuating and unpredictable. Any researcher who has spent time on Galápagos knows that the islands are subject to a wide range of climatic change—El Niños bring torrential rains and destruction of habitat, droughts often continue for months—and these conditions can change quickly.

It is clear that natural selection cannot possibly occur on the scale necessary for evolutionary transformation. Let us now descend to a discussion of natural selection and speciation within kinds. How does it operate in terms of these two assumptions (cumulative and directional change)?

Cumulative change can occur within a population of finches for a period of time, because beak dimensions are not entirely determined by the environment, but primarily by the genes. For the medium ground finch, its beak depth is determined by a factor of 74% genetic influence, and 26% environmental influence. But nature shows no favoritism. You can't just assume that changes will continue to accumulate and rule out the possibility of negative variation (i.e. hybridization). Therefore, though natural selection is certainly an important part of the speciation process, it cannot be extrapolated to justify evolutionary transformation.



Charles Darwin

Darwin thought that natural selection operated along the same lines as artificial selection used in

breeding domesticated animals, but, of course, this comparison is weak. Breeders take a very intentional, proactive approach to their trade, whereas natural selection functions as a reactive force. Variation in nature is anything but directional. It tends to oscillate in response to changing environmental conditions.

“El Niño” is the local name for the violent storms that occur every 5 to 10 years, and can last for months on end. It can have a devastating effect on the oceanic life along the Galapagos coastlines. The islands themselves experience an unbelievable renewal. Forests turn a lush green, rivers course through long-dry chasms, cascading into the sea, wildflowers flourish, and the finches breed exponentially. After the storm of 1998, the biggest on record, the finch population on Daphne Major increased 10-fold, to around 4,000 birds.

## Modern Research and the Crisis of Darwinism

Peter and Rosemary Grant are perhaps some of the most dedicated scientists ever to research Darwin's finches. Both evolutionary biologists from Princeton, they are considered the modern authority on everything related to the finches and the ecology of the Galapagos Islands, and for good reason. The Grants have been conducting their research for upwards of 30 years, living on the tiny island of Daphne Major for six months out the year—every year—since 1973. Their story is told by author Jonathan Weiner in his book, *The Beak of the Finch: A Story of Evolution in Our Time*. It “tells the extraordinary story of two scientists, Peter and Rosemary Grant, whose ingenious, meticulous and extended work in the Galapagos has culminated in the sight of evolution occurring before their eyes—not in fossils but in living, breathing creatures, Darwin's own famous finches.”<sup>1</sup> Not to detract at all from the Grants' remarkable field work or their contributions to science, but their research has done nothing more than to prove that natural selection

<sup>1</sup> Wieland, Carl. “Book review: The Beak of the Finch.”

happens. Evolutionists have the same tendency as Darwin. Just because natural selection occurs does not mean it is capable of producing evolutionary change. As of yet, nobody has truly seen evolution in action.

Nonetheless many scientists now claim that Darwin's finches are a living demonstration of "instant evolution."<sup>1</sup> But all that the data has proven is that species respond rapidly to environmental change, which is not evolution at all! Darwin wrote that "natural selection is a slow process, and the same favorable conditions must long endure in order that any marked effect should thus be produced...she can never take a great and sudden leap, but must advance by short and sure, through slow steps."<sup>2</sup> For a long time it was believed that the best proof of evolution was the tell-tale "footprints" it left behind, because it progressed so slowly as to be completely unobservable. Now we are told that evolution can occur so rapidly we can't see it. It seems that 'evolution' itself is wonderfully capable of adapting to any new data that seems to conflict with it.

The National Academy of Science endorsed a theoretical study conducted by Peter Grant and Trevor Price, in which they claim that—given the right conditions—a new species of finch could arise within a mere 200 years. They never mentioned that selection is often reversed, producing no net change in the long-term. Phillip E. Johnson noted in the Wall Street Journal, "When our leading scientists have to resort to the sort of distortion that would land a stock promoter in jail, you know they are in trouble."<sup>3</sup>

While Darwin was content to study his pet pigeons and assume the correlation between artificial and natural processes, modern geneticists have found that Darwin's finches tell a different story. The finches have not gained any new genetic traits. "Calmodulin is a protein that binds and activates certain enzymes, which triggers a signal that eventually **turns specific genes on or off**," explains evolutionary biologist Arkhat Abzhanov<sup>3</sup> [emphasis added]. This demonstrates the simple fact that God imbued His creatures with a measure of genetic potential within which they can operate and adapt to changing environments. Thus, new genetic research actually presents a contrary model to Darwinian evolution—which requires a species to acquire new genes over time—and demonstrates that all species have genetic limitations. Variation and change are caused by simple genetic signals, and do not involve any addition to (or necessarily subtraction from) existing information.

## Conclusion

Charles Darwin built his evolutionary hypothesis exclusively on assumptions about the world. He denied God as the Creator of heaven and earth, assumed that all things continue as they have from the beginning (II Peter 3:4), that life is a consequence of natural processes and can be traced to a common ancestral organism, that the course of speciation is "indeterminate" but at the same time "directional," and many other things. In the real world, however, these assumptions have been almost universally disproven. Even Darwin's finches, the "flagship species" of modern evolution, argue against "molecule-to-man" evolution, and for the Biblical understanding of created kinds. Paul's words in Romans 1 ring especially true in our day.

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<sup>1</sup> Inman, Mason. "'Instant' Evolution Seen in Darwin's Finches, Study Says."

<sup>2</sup> Darwin, *Origin of Species*, 1872, sixth edition. Quoted from Jones, Stephen. "'Instant Evolution Seen in Darwin's Finches, Study Says" [CreationEvolutionDesign.blogspot.com](http://CreationEvolutionDesign.blogspot.com).

<sup>3</sup> Ibid. Jones

<sup>4</sup> Cromi, William J. "How Darwin's finches got their beaks."

*“For since the creation of the world His invisible attributes, His eternal power and divine nature, have been clearly seen, being understood through what has been made, so that they are without excuse. For even though they knew God, they did not honor Him as God, or give thanks; but they became futile in their speculations, and their foolish heart was darkened. Professing to be wise, they became fools, and exchanged the glory of the incorruptible God for an image in the form of corruptible man and of birds and four-footed animals and crawling creatures.” Romans 1:20-23*

We must establish our scientific foundations in the innerant Word of God, heeding the warning given by Paul to young Timothy.

*Timothy, keep that which is committed to thy trust, avoiding profane and vain babblings, and oppositions of science falsely so called, which some professing have erred concerning the faith. 1 Timothy 6:20-21b*

May we be inspired to search out God’s handiwork in the wondrous things He has made, and render Him due honor and thanks.

# GLOSSARY OF TERMS

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**Adaptation**—The emphasis of certain hereditary genetic traits to suit the present environment.

**Adaptive Radiation**—The divergence of species from a single type--often a very rapid process. This is a solid model for explaining how the earth was so quickly repopulated after the Genesis Flood.

**Allopatric Speciation**—A model of speciation formulated by British ornithologist David Lack. Competition and environmental pressures drive certain populations of the same species to emigrate to different islands/areas, where they become “allopatric,” speciating in isolation from one another. This process depends upon geographic isolation, ideally archipelago conditions like the Galapagos Islands (See “Archipelago”)

**Ancestor**—The parent species within a “kind” from which all other species are derivative

**Apobaramin**—A group consisting of the entirety of at least one holobaramin

**Archipelago**—A cluster of islands isolated from the mainland

**Baraminology**—A system of classification based upon created “kinds,” containing four different categories—holobaramin, monobaramin, apobaramin, and polybaramin. (See also “Baramin,” “Created Kind” and “Tree of Life Models”)

**Baramin**—Term derived from the Hebrew verb “bara,” created, and “min,” kind, as used in Genesis (“And God created...every winged bird after its kind” Gen. 1:21).

**Biblical Creationism**—The belief that the Biblical account in Genesis is a historical and accurate representation of God’s supernatural Creation of the world. It is characterized by the following:

- a. Creation in six literal days
- b. No death before Adam
- c. Man’s fall into sin
- d. A worldwide flood.

**Character Displacement**—The principle that, wherever two analogous species overlap and compete, there is an eventual enhancement of differences between them that might lessen the competition.

**Creationist Orchard**—Diversity has occurred within the original Genesis

**Darwin's Tree of Life**—All today's species are descended from one common ancestral organism

**Directional Change**—Change which traces an upward path toward new forms.

**Discontinuity Systematics**—A recently developed classification system based upon the “differences” (discontinuities) found in living things—not based on macroevolutionary theory. When combined with Biblical revelation, it is called Baraminology. (See also “Baraminology” and “Tree of Life Models”)

**Ecological Release**—When conditions are such that there is minimal competition and little threat of predation, a species may under “ecological release,” and begin exploiting a vast range or resources that it would be prevented from using in a more species-rich community.

**Endemic**—Species that are confined in distribution, may only be found in one place on earth

**Evolutionary Convergence**—A hypothesis about the process whereby species develop characteristics of other distantly-related species, when they both occupy similar habitats.

**Evolutionary Systematics**—Or Phyletic Systematics. A model of classification which assumes Darwinian evolution, and classifies organisms based on their perceived evolutionary relationships. Also, “Phenetic Systematics” and “Cladistic Systematics,” which focus on shared characteristics and features. (See also “Tree of Life Models”)

**Evolution**—The belief that there are no bounds to speciation. Mechanisms such as mutation, and natural selection cause slight changes, which, if allowed to accumulate over vast periods of time will lead to the formation of new life forms.

**Fauna**—Animal life

**Fideism**—20th century philosophy teaching faith and reason exist but contradict each other yet supposedly live in perfect harmony. (Yin/Yang)

**Fixity of Species**—See Immutability of Species

**Flora**—Plant life, can pertain to bacteria as well

**Genetics\***—The science that studies how characteristics get passed from parent to offspring.

**Geographic Isolation**—A land mass separated from the mainland. May occur on both macro and micro levels.

**Gradation**—A smooth transition between two points, comprised of tiny, gradual changes. Darwin thought we would find intermediate forms in the fossil record that would clearly demonstrate the progressive change which occurred between lower and higher life forms.

**Holobaramin**—An entire group believed to be related by common ancestry

**Hybridization**—A “cross-species” produced by the mating of two distinct, inter-fertile species.

**Hypothesis**—An educated guess that attempts to explain an observation

**Immutability of species**—The idea that each individual species on the planet was specially created by God and could never fundamentally change.

**Inter-fertility**—The ability of two closely related species to mate and produce offspring.

**Interspecific competition**—The notion that, where similar species coexist, they will adapt in a way that gradually diminishes competition. (See also “Character Displacement”)

**Linnaean Lawn**—Diagram illustrating the philosophy of Carol Linnaeus. The Genesis “kinds” were the same as today’s species.

**Macroevolution\***—The hypothesis that processes similar to those at work in microevolution can, over eons of time, transform an organism into a completely different kind of organism.

**Mechanism**—A natural process which brings about change.

**Microevolution\***—The theory that natural selection can, over time, take an organism and transform it into a more specialized species of that organism.

**Migrant Species**—A species which follows the seasonal cycle of migration in search of more favorable climates and more abundant food sources.

**Model\***—An explanation or representation of something that cannot be seen

**Monobaramin**—A group containing only organisms related by common

**Mutation\***—A radical chemical change into one or more alleles

**Natural Selection**—A process triggered by climatic change, and scarcity of natural resources, causing the death of species which are not equipped for the new environment. Commonly asserted to be the “mechanism” for Darwinian evolution. (See also, “Oscillating Change,” and “Directional Change”)

**Natural Theology**—The belief that all species were specially created by God and could never fundamentally change, nature can only function in a uniform manner, science trumps Scripture wherever the two seem to conflict.

**Naturalism**—The study of nature and natural processes

**Ornithology**—The study of birds

**Oscillating Change**—Change within a species which fluctuates according to environmental patterns.

**Polybaramin**—A group consisting of part of at least two holobaramins

**Resident Species**—A species that inhabits a certain area and does not migrate.

**Scientific Law**—A theory that has been tested by and is consistent with

**Social Darwinism**—Social Darwinism seeks to explain society as based of competition for survival as seen in nature. “Survival of the fittest” is the basic rule they advocate for approaching life.

**Species\***—A unit of one or more populations of individuals that can reproduce under normal conditions, produce fertile offspring, and are reproductively isolated from other such units.

**Speciation**—Diversification within a “kind,” to the point where new species emerge. (See “Created Kinds” and “Species”)

**Survival of the fittest**—A Darwinian term referring to the process of natural selection, whereby the individuals that are more “fit” outlive those that are less “fit” to survive environmental pressures.

**Sympatric Population**—When two allopatric populations rejoin, they become “sympatric.” (See “Allopatric Speciation”)

**Taxonomical Systematics**—Different models of scientific classification. (See also “Evolutionary Systematics” and “Discontinuity Systematics”)

**Taxonomy**—The science of classifying life forms according to their natural groupings and genetic relationships.

**Theistic Evolution**—The belief that a supreme transcendent God created all things over billions of years by the use of evolutionary processes.

**Theory**—A hypothesis that has been tested through a variety of independent experiments.

**Trait**—A characteristic or attribute of a particular species, whether it be physical or behavioral, which, in some way, affects the viability of that species.

**Transmutation**—Darwin’s term for evolution, the process by which small variations accumulate over time, causing a species to acquire characteristics which were formerly absent from its genetic code.

**Uniformitarianism**—A system of thought that all natural processes that occur once and in one fashion will occur again and in the same fashion. The term was coined by William Whewell, the same man who coined the term, “Catastrophism.”

**Unitarianism**—The belief in a single personhood of Christ as opposed to a trinity of the Godhead, all functioning as one being.

**Vagrant Species**—Or “Rarity.” Accidental visitors to a region where they do not usually occur.

**Variation**—Change which occurs within a species. (See also, “Oscillating Change,” and “Directional Change”)

(Some definitions have been taken from Exploring Creation with Biology 2nd Ed. , Dr. Jay L. Wile and Marilyn F. Durnell, these have been noted with an asterisk)

# APPENDICES

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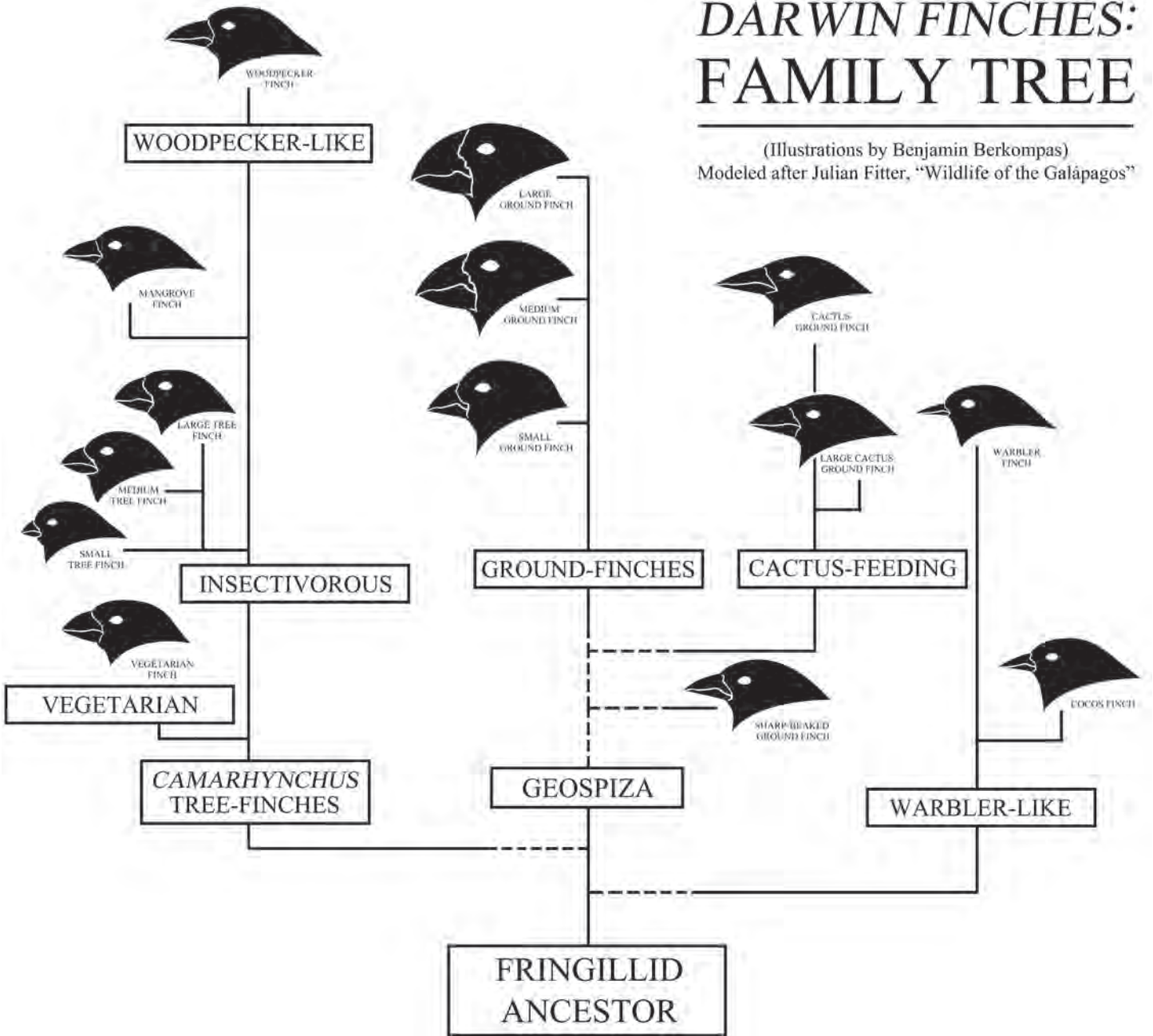
## Appendix A: General Taxonomy

### Latin names

Large Ground Finch.....	<i>Geospiza magnirostris</i>
Medium Ground Finch.....	<i>Geospiza fortis</i>
Small Ground Finch.....	<i>Geospiza fuliginosa</i>
Sharp-beaked Ground Finch.....	<i>Geospiza difficilis</i>
Cactust Ground Finch.....	<i>Geospiza scandens</i>
Large Cactust Ground Finch.....	<i>Geospiza conirostris</i>
Vegetarian Finch.....	<i>Platyspiza crassirostris</i>
Large Tree Finch.....	<i>Camarhynchus psittacula</i>
Medium Tree Finch.....	<i>Camarhynchus pauper</i>
Small Tree Finch.....	<i>Camarhynchus parvulus</i>
Woodpecker Finch.....	<i>Cactospiza pallidus</i>
Mangrove Finch.....	<i>Cactospiza heliobates</i>
Warbler Finch.....	<i>Certhidea olivacea</i>
Cocos Finch.....	<i>Pinaroloxias inornata</i>

# DARWIN FINCHES: FAMILY TREE

(Illustrations by Benjamin Berkompas)  
Modeled after Julian Fitter, "Wildlife of the Galápagos"



# *DARWIN'S FINCHES*

## Quick Comparison Chart



LARGE  
GROUND FINCH



MEDIUM  
GROUND FINCH



SMALL  
GROUND FINCH



SHARP-BEAKED  
GROUND FINCH



CACTUS  
GROUND FINCH



LARGE CACTUS  
GROUND FINCH



VEGETARIAN  
FINCH



LARGE TREE  
FINCH



MEDIUM  
TREE FINCH



SMALL  
TREE FINCH



WOODPECKER  
FINCH



MANGROVE  
FINCH



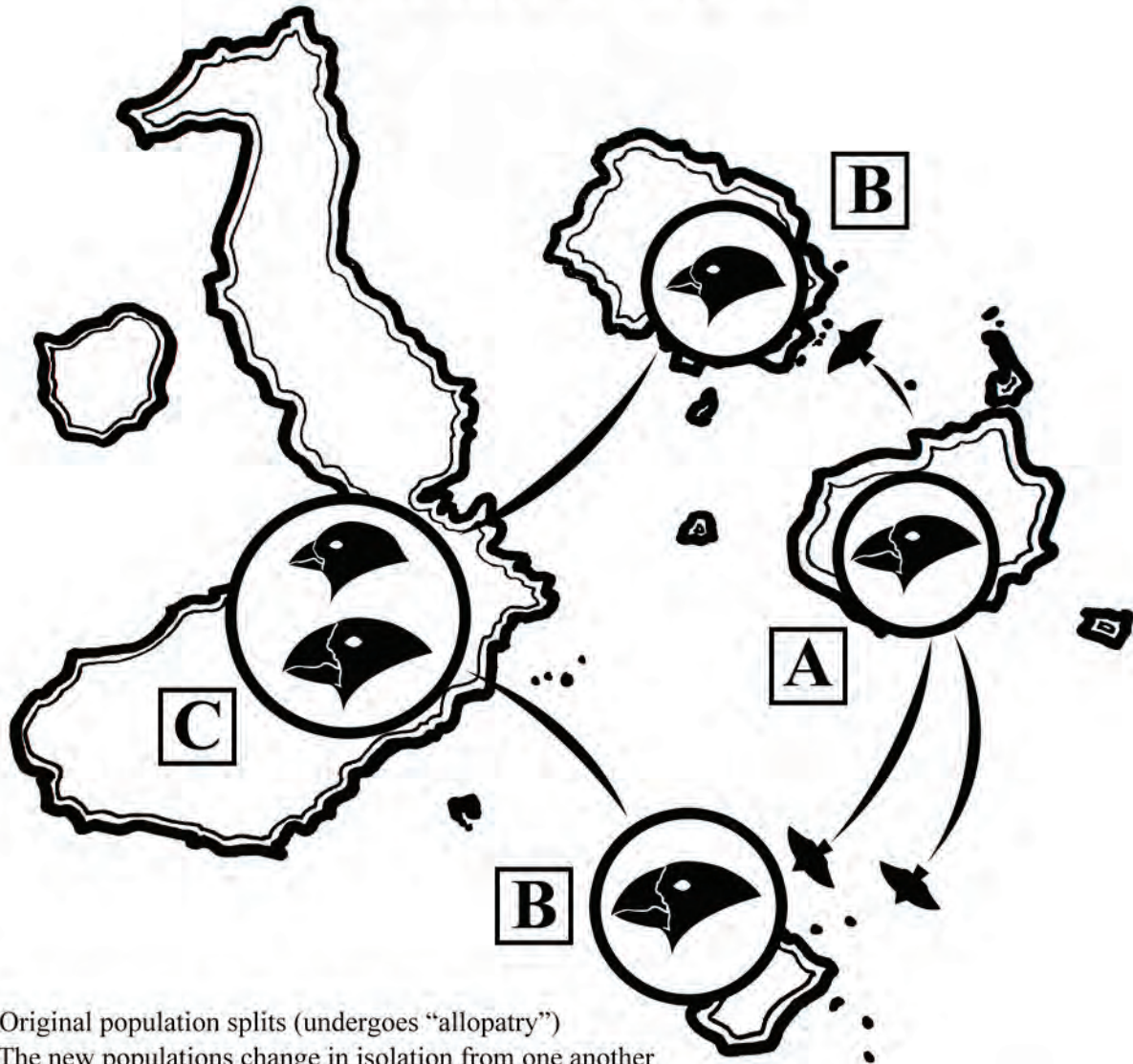
WARBLER  
FINCH



COCOS FINCH

## Appendix B: Allopatric Speciation

# ALLOPATRIC SPECIATION IN GALAPÁGOS FINCHES



- A - Original population splits (undergoes "allopatry")
- B - The new populations change in isolation from one another
- C - The two "allopatric" populations rejoin and become "sympatric"

## Appendix C: Species of Particular Note

### Vampire Finch

There is no species that demonstrates dietary adaptation more vividly than the subspecies of sharp-beaked ground finch (*Geospiza difficilis septentrionalis*) found exclusively on Wolf and Darwin Islands (which lie 125-150 miles north of the archipelago). Nowhere else in the Galapagos will you find a finch that feeds on blood—hence the name “Vampire Finch.” Though it will also steal and devour the eggs of Red-footed and Nazca Boobies, and drink nectar from cactus blossoms, the Vampire Finch is best known for its habit of feeding on the blood of seabirds (which, incidentally, offer no resistance to these attacks). Some theorize that the finch may have developed this behavior while foraging for parasites—either discovering pre-existing wounds, or accidentally inflicting the wounds itself (it is, after all, the “sharp-beaked” ground finch). It is also highly possible that necessity drove them to this gruesome diet during dry seasons. This is further substantiated by the fact that, in the aftermath of the biggest El Niño on record, the Vampire Finch temporarily abandoned its diet of blood for other food sources.



*Sharp-beaked Ground Finch*  
a.k.a. “Vampire Finch”

### Cocos Finch

Cocos Island is a small, solitary island that lies 600 km (373 mi.) northeast of the Galapagos archipelago. It is home to the 14th species of “Darwin’s Finch,” a bird that Darwin never saw. The Cocos Finch lends some interesting perspective to the study of its sibling species, because, as a migrant from Galapagos to Cocos Island, it no longer has the potential to speciate as it once did. You will remember that “allopatric speciation” requires a measure of geographical isolation. Unlike Galapagos, Cocos Island is solitary, separated from the Costa Rican mainland by about 300 miles. There are no nearby islands—no “micro-isolation”—which is required for allopatric speciation. Thus, it is clear that there are indeed geographical preconditions for speciation—not only genetic.

## WORKS CITED

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- Cromi, William J. "How Darwin's finches got their beaks." Harvard University Gazette. 24 July 2006. <<http://www.news.harvard.edu/gazette/2006/08.24/31-finches.html>>
- Darwin, Charles. Voyage of the Beagle. Washington: National Geographic Society, 2004.
- Inman, Mason. "'Instant' Evolution Seen in Darwin's Finches, Study Says." National Geographic News. 14 July 2006. <<http://news.nationalgeographic.com/news/2006/07/060714-evolution.html>>
- Jones, Stephen. "'Instant Evolution Seen in Darwin's Finches, Study Says (#1, #2, #3)." CreationEvolutionDesign.blogspot.com. 18 July 2006. <<http://creationevolutiondesign.blogspot.com/2006/07/instant-evolution-seen-in-darwins.html>>
- Kricher, John. Galapagos. Washington: Smithsonian Institute. 2002.
- Larson, Edward. Evolution's Workshop. New York: Basic Books, 2002.
- Parer, David & Parer-Cook, Elizabeth. "Birds - Charles Darwin and the Finches." ABC.net.au. 1999. Australian Broadcasting Corporation. <<http://www.abc.net.au/nature/vampire/darwin.htm>>
- Phillips, Douglas. "The Genesis Flood and the 200th Anniversary of Charles Darwin." Boerne Christian Assembly. Waring, Texas. 15 Feb. 2009
- Weiner, Jonathan. The Beak of the Finch. New York: Vintage Books, 1994.
- Wieland, Carl. "Darwin's finches." Creation Ministries International. <<http://creation.com/darwins-finches-creation-magazine>>
- Wood, Todd Charles. A Creationist Review and Preliminary Analysis of the History, Geology, Climate, and Biology of the Galapagos Islands. Oregon: Wipf and Stock Publishers, 2005.

# BIBLIOGRAPHY

---

**Books:**

Darwin, Charles. *The Origin of Species*. New York: Mentor Books, New American Library, 1958.

Darwin, Charles. *Voyage of the Beagle*. Washington: National Geographic Society, 2004.

Fitter, Julian et.al. *Wildlife of the Galapagos*. Princeton: Princeton University Press, 2002.

Haupt, Lyanda Lynn. *Pilgrim on the Great Bird Continent*. New York: Little, Brown and Company, 2006.

Heinzel, Hermann and Barnaby Hall. *Galapagos Diary*. Berkeley: University of California Press, 2000.

Kricher, John. *Galapagos*. Washington: Smithsonian Institute. 2002.

Kunstaetter, Robert & Daisy. *Ecuador & Galapagos Handbook*. 3rd Edition. England: Footprint Handbooks Ltd, 2001.

Larson, Edward. *Evolution's Workshop*. New York: Basic Books, 2002.

Marsh, Frank L. *Variation and Fixity in Nature*. California: Pacific Press Publishing Association, 1976.

Morris, Henry and John Morris. *The Modern Creation Trilogy Vol. 2*. Green Forest: Master Books, 1996.

Ridgely, Robert and Paul J. Greenfield. *The Birds of Ecuador*. Ithaca: Cornell University Press, 2001.

Ruse, Michael. *But Is It Science?: the Philosophical Question in the Creation/Evolution Controversy*. Buffalo: Prometheus Books, 1996.

Weiner, Jonathan. *The Beak of the Finch*. New York: Vintage Books, 1994.

Whitcomb, John. *The Genesis Flood*. Phillipsburg: P & R Publishing, 1960.

Wile, Jay and Durnell, Marilyn. *Exploring Creation with Biology*. APOLOGIA EDUCATIONAL MINISTRIES, 2005.

Wood, Todd Charles. *A Creationist Review and Preliminary Analysis of the History, Geology, Climate, and Biology of the Galapagos Islands*. Oregon: Wipf and Stock Publishers, 2005.

**Web Sources:**

“Adaptive Radiation: Darwin’s Finches.” PBS. <[http://www.pbs.org/wgbh/evolution/library/01/6/1\\_016\\_02.html](http://www.pbs.org/wgbh/evolution/library/01/6/1_016_02.html)>

Bahnsen, Greg. "On Worshipping the Creature Rather Than the Creator." Covenant Media Foundation. Journal of Christian Reconstruction. 1974. <<http://www.cmfnow.com/articles/PA012.htm>>

Catchpoole, David. "Vampire Finches of the Galapagos." Creation Ministries International. <<http://creation.com/vampire-finches-of-the-galapagos>>

Cromi, William J. "How Darwin's finches got their beaks." Harvard University Gazette. 24 July 2006. <<http://www.news.harvard.edu/gazette/2006/08.24/31-finches.html>>

"Confessions About 'Microevolution'." DarwinismRefuted.com. <[http://www.darwinismrefuted.com/origin\\_of\\_species\\_02.html](http://www.darwinismrefuted.com/origin_of_species_02.html)>

"Darwin's Finches." Charles Darwin Research Station. Charles Darwin Foundation for the Galapagos Islands (AISBL). 2006. <[www.darwinfoundation.org/files/species/pdf/finches-en.pdf](http://www.darwinfoundation.org/files/species/pdf/finches-en.pdf)>

"Darwin's Finches" en.wikipedia.org. 27 Feb. 2009. Wikipedia, the free encyclopedia. <[http://en.wikipedia.org/wiki/Darwin%27s\\_finches](http://en.wikipedia.org/wiki/Darwin%27s_finches)>

Helder, Margaret J. "Let's Rewrite the Book on the Galapagos Islands." Creation Matters. Vol. 1, Number 4. July/August 1996. Creation Research Society. <[http://www.creationresearch.org/creation\\_matters/96/cm9607.html](http://www.creationresearch.org/creation_matters/96/cm9607.html)>

Inman, Mason. "'Instant' Evolution Seen in Darwin's Finches, Study Says." National Geographic News. 14 July 2006. <<http://news.nationalgeographic.com/news/2006/07/060714-evolution.html>>

Jones, Stephen. "'Instant Evolution Seen in Darwin's Finches, Study Says (#1, #2, #3)." CreationEvolutionDesign.blogspot.com. 18 July 2006. <<http://creationevolutiondesign.blogspot.com/2006/07/instant-evolution-seen-in-darwins.html>>

Laden, Greg. Evolution: Not Just a Theory Anymore. "Charles Darwin Bicentennial - Finches." posted 9 Feb. 2007. <<http://www.gregladen.com/wordpress/?p=285>>

Lamont, Ann. "John Ray--founder of biology and devout Christian." Answers in Genesis. Dec. 1998. <<http://www.answersingenesis.org/creation/v21/i1/ray.asp>>

Morton, Carol Cruzan. "Gene Linked to Beak Length in Darwin's Finch." Focus Online. 1 Sep. 2006. <<http://focus.hms.harvard.edu/2006/090106/genetics.shtml>>

Naish, Darren. Tetrapod Zoology. "Vampire Finches and the path to parasitism." posted 1 Feb. 2007. <[http://scienceblogs.com/tetrapodzoology/2007/02/vampire\\_finches\\_and\\_the\\_path\\_t.php](http://scienceblogs.com/tetrapodzoology/2007/02/vampire_finches_and_the_path_t.php)>

Parker, Gary. "'Species' and 'kind'." Answers in Genesis. <<http://www.answersingenesis.org/home/area/cfol/ch2-species.asp>>

Parer, David & Parer-Cook, Elizabeth. "The Effects of El Nino." ABC.net.au. 1999. Australian Broadcasting Corporation. <<http://www.abc.net.au/nature/vampire/nino.htm>>

Parer, David & Parer-Cook, Elizabeth. "The Galapagos." ABC.net.au. 1999. Australian Broadcasting Corporation. <<http://www.abc.net.au/nature/vampire/map.htm>>

Parer, David & Parer-Cook, Elizabeth. "Birds - Charles Darwin and the Finches." ABC.net.au. 1999. Australian Broadcasting Corporation. <<http://www.abc.net.au/nature/vampire/darwin.htm>>

Parer, David & Parer-Cook, Elizabeth. "Amazing Finch Behaviors." ABC.net.au. 1999. Australian Broadcasting Corporation. <<http://www.abc.net.au/nature/vampire/finches.htm>>

Phillips, Douglas. "What I Teach My Children About Charles Darwin." Vision Forum Ministries. 12 Feb. 2009. <[http://www.visionforumministries.org/issues/family/what\\_i\\_teach\\_my\\_children\\_about.xml](http://www.visionforumministries.org/issues/family/what_i_teach_my_children_about.xml)>

Purdom, George. "'Evolution' of Finch Beaks--Again." Answers in Genesis. <<http://www.answersingenesis.org/articles/aid/v1/n1/evolution-finch-beaks-again>>

Quarterly Journal. Dec. 2006. <[http://www.creationresearch.org/crsq/articles/43/43\\_3/baraminology.htm](http://www.creationresearch.org/crsq/articles/43/43_3/baraminology.htm)>

Sanders, Roger. "Finding God in the Galapagos." Answers in Genesis. 15 Dec. 2008. <<http://www.answersingenesis.org/articles/am/v4/n1/galapagos>>

Sanders, Roger. "The Pursuit of Darwin." Answers in Genesis. 24 Nov. 2008. <<http://www.answersingenesis.org/articles/am/v4/n1/pursuit-darwin>>

"Vampire Finch." centralpets.com. <[http://www.centralpets.com/animals/birds/wild\\_birds/wbd6130.html](http://www.centralpets.com/animals/birds/wild_birds/wbd6130.html)>

Wisker, David. "Jonathan Wells and Darwin's Finches." The TalkOrigins Archive. 21 July 2002. <<http://www.talkorigins.org/faqs/wells/finches.html>>

Wieland, Carl. "Book review: The Beak of the Finch." Creation Ministries International. <<http://creation.com/book-review-the-beak-of-the-finch-journal-of-creation-tj>>

Wieland, Carl. "Darwin's finches." Creation Ministries International. <<http://creation.com/darwins-finches-creation-magazine>>

Wood, Todd Charles. "The Current Status of Baraminology." Creation Research Society

Wood, Todd Charles. "Natural Selection--Theory or Reality?" Answers in Genesis. 22 December 2008. <<http://www.answersingenesis.org/articles/am/v4/n1/natural-selection>>

### **Lecture:**

Phillips, Douglas. "The Genesis Flood and the 200th Anniversary of Charles Darwin." Boerne Christian Assembly. Waring, Texas. 15 Feb. 2009