

FINDING GOD IN GALAPAGOS

by Roger Sanders



DARWIN DISCOVERED EVOLUTION ON THE GALÁPAGOS ISLANDS—A POPULAR STORY, YES, BUT IT'S NOT TRUE. DARWIN'S IDEAS WERE FORMULATED MUCH LATER, DRAWN FROM A VARIETY OF SOURCES. IF DARWIN HAD INTERPRETED THE ISLANDS FROM A BIBLICAL PERSPECTIVE, HE MIGHT HAVE REACHED A VERY DIFFERENT CONCLUSION.

"The most striking and important fact for us in regard to the inhabitants of islands, is their affinity to those of the nearest mainland, without being actually the same species. Numerous instances could be given of this fact. I will give only one, that of the Galápagos Archipelago."

—ON THE ORIGIN OF SPECIES,
pp. 397–98

In mid-September 1835, the *Beagle* anchored off San Cristóbal, the easternmost of the Galápagos Islands. Straddling the equator, these Pacific islands were no lush paradise, but dry and relatively barren. Over the next five weeks, Charles Darwin trudged through sun-scorched lava fields, prickly thickets, and cloud-covered forests and meadows, collecting specimens as he went.¹

The young man was intrigued by what he found on these lonely islands, six hundred miles off the coast of South America. Giant iguanas basked in the sun on the rocky coasts, while giant land tortoises lumbered along “well-beaten” paths in the interior. Darwin’s job was not always serious. He tried to ride one of the giant land tortoises, with comical results.

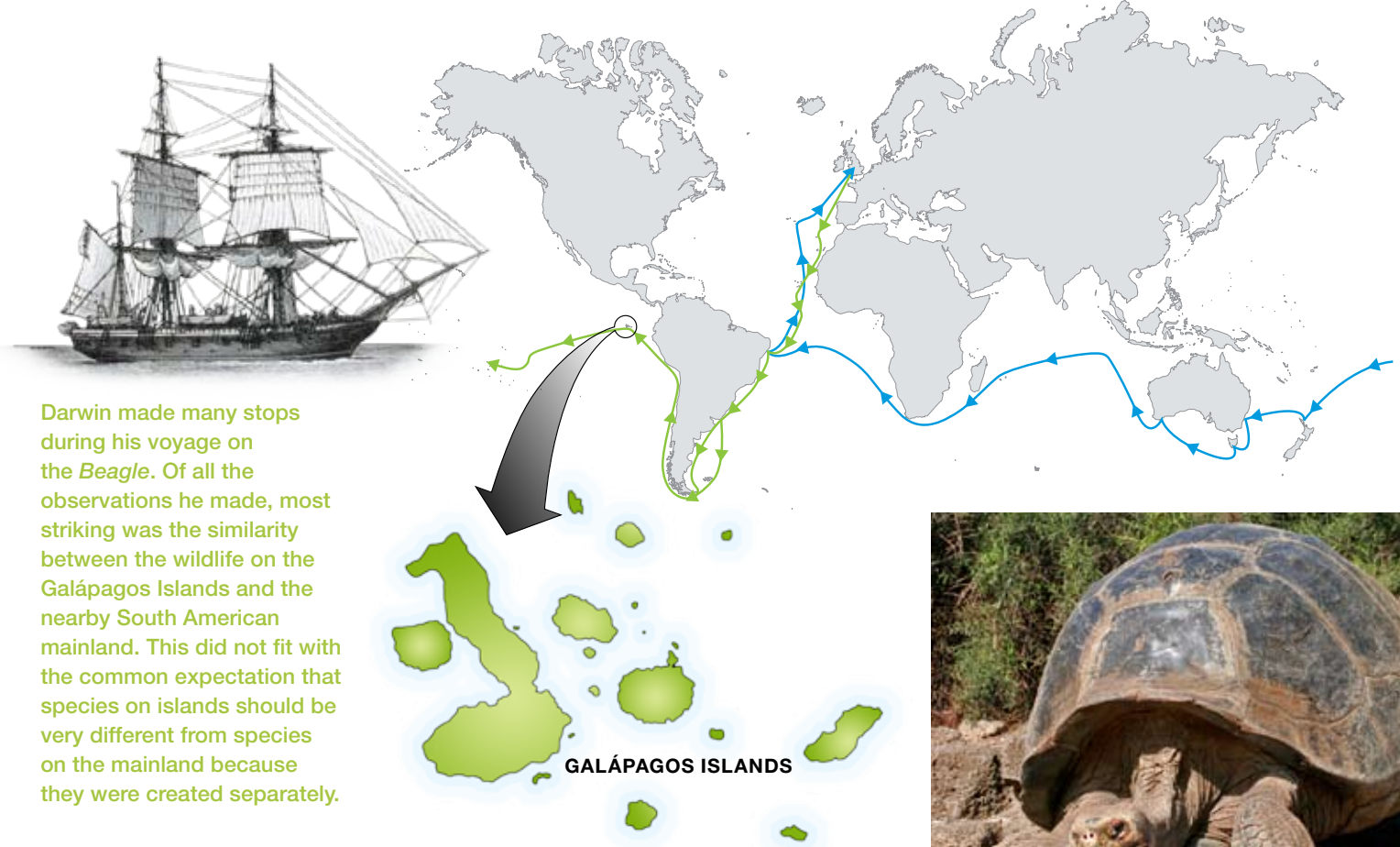
To Darwin’s surprise, many of the animals and plants were similar to what he had seen earlier on the continent of South America. And there were often multiple species of each sort, more similar to one another than to any species outside the islands. Trained in England to believe in the “doctrine of creation of each separate species,” he was astonished at what he had found in the wider world.

Why would a Creator put similar but discrete species on islands and then make them look most similar to species on the nearest continent? This was the sort of question that Darwin’s trip made him ask.

Actually it was not until after his return to England, while unpacking and cataloging his collections and polishing his journals that the significance of his findings really sank in. What he had seen influenced his thinking for the rest of his life. Indeed, it would influence the thinking of the scientific community for the next 150 years and beyond.

SO, WHAT DID DARWIN SEE ON THESE ISLANDS?

Iguanas. The islands were home to several unusual animal species found nowhere else on earth. As the *Beagle* visited each island, for example, Darwin observed on the rocky coasts thousands of “great



Darwin made many stops during his voyage on the *Beagle*. Of all the observations he made, most striking was the similarity between the wildlife on the Galápagos Islands and the nearby South American mainland. This did not fit with the common expectation that species on islands should be very different from species on the mainland because they were created separately.

black lizards, between three and four feet long.” These turned out to be the world’s only species of marine iguana (all the other iguanas feed on land, not the ocean, see p. 20).

Darwin was very much taken with the reptiles, which he found in great numbers. By the time he visited the islands, he had already accepted the idea recently advanced by geologists that dinosaurs ruled the earth before mammals appeared. Seeing the iguanas “basking on the coast-rocks of every island,” he fancied the Galápagos as resembling the primeval earth.

He noted the remarkable differences between the species of marine iguana and the land iguanas. These two species of iguanas were strikingly different in appearance and behavior, and yet Darwin found that they both “agree . . . in their general structure, and in many of their habits. . . . It is very interesting thus to find a well-characterized

genus, having its marine and terrestrial species belonging to so confined a portion of the world.”

Why, Darwin wondered, would a Creator make such unique yet allied species in the same place?

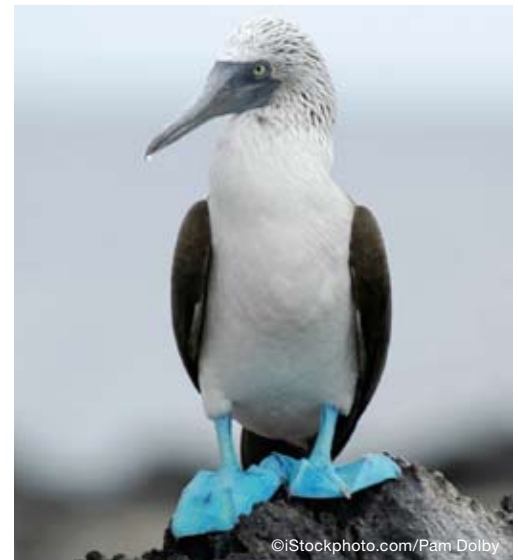
Finches and mockingbirds. Darwin, together with some of the crewmen, collected 13 species of finches, all told. Because these finches were later dubbed “Darwin’s finches” (in 1936), people often assume that Darwin immediately recognized them as new species and postulated that they had evolved from a common ancestor. This is not what happened.

Apart from bill size, these plump little birds are hardly distinguishable. Yet because of the extreme range of bill shapes, Darwin thought that he had found species from several different, major groups. In his notes, Darwin admits an “inexplicable confusion,” and so he did not bother to



keep his collections from different islands separate.² Only later, when a bird expert in England examined Darwin’s collections, did anyone realize that all these birds were finches.

The birds that did attract Darwin’s attention to the strange pattern of species similarity were the different species of mockingbirds within the islands. On the very first island, San Cristóbal, he immediately noticed the similarity between that mockingbird and the ones he had seen earlier in Chile. By the time he got to the second island, Floreana, he realized that the mockingbirds also varied from island to island, and he decided to keep the collections of mockingbirds separate. This was fortunate because he



Galápagos tortoises (*far left*) have various curvature and tile patterns that are distinctive for each island, even though they are still the same species.

Most penguins live in colder climates. However, Galápagos penguins (*left*) live near the equator. So they often spread their flippers to release heat and bow their heads to protect their feet from the heat of the sun.

Because they are strong fliers, the blue-footed boobies are found on many islands of the eastern Pacific.

later learned he had collected at least three species, not just varieties of one species: the Cristóbal mockingbird (*Nesomimus melanotis*), the Floreana mockingbird (*N. trifasciatus*), and the Galápagos mockingbird (*N. parvulus*) on Isabela Island (a fourth occurs on an island Darwin did not visit).

The lowly daisy. Darwin was determined to collect every flowering species for his friend Rev. John Henslow. He did amazingly well. He collected 193 species in all, and 100 turned out to be new species, once botanists identified them.³ Of the unique species he found, Darwin was most taken with the members of the daisy family.

He collected 21 species, and 20 of them were unique to the islands.

More amazingly, some species were full-grown trees and dominated the moist forests. Another surprise was that, in most cases, each species was restricted to a single island.

So, as with the giant tortoise, Darwin found plant groups with some “giant” species here. And as with the mockingbirds, he found similar plants that were on different, specific islands. Why, Darwin wondered, would a Creator make similar species on different islands and make them all significantly distinct from their closest continental relatives?

DARWIN'S CONCLUSIONS

Darwin recognized that most of the animals and plants in the Galápagos

were unique, and yet they seemed related to other creatures on the mainland: “The organic beings found on this archipelago are peculiar to it; and yet that their general form strongly partakes of an American character.” If species were specially created in place, he wondered why they should be so clearly recognizable as South American. Why shouldn't they be just as easily African, Asian, Pacific, or unrelated to every other region of the world?

Most startling to him was that these creatures were not single species with varieties but actually different species, and yet they were more similar to one another than to any other species outside the islands. Did this mean that God created unique species on each island and on the nearby continent, even though those species just happened to resemble each other more than any other species at other locations on

The Galápagos daisy (*below*) is a form of sunflower. The outer “petals” are missing, and the inner petals are white instead of yellow.

Lecocarpus (*right*) is another sunflower relative found only in the Galápagos. Its flowers are more typical, but it has bizarre seeds, covered by “Chinese hats.”



photo courtesy Roger Sanders



photo courtesy Roger Sanders

the earth? That was too hard for him to swallow. His evidence suggested that species from South America had migrated from the mainland to the islands; then the immigrant species gave birth to new species on the islands.

In the second edition of Darwin's book *The Voyage of the Beagle* (1845), he felt confident enough to suggest that the finches may have descended from one species and the beak was modified in various ways to eat different kinds of food: “The most curious fact is the perfect gradation in the size of the beaks in the different species of *Geospiza* Seeing this gradation and diversity of structure in one small, intimately related group of birds, one might really fancy that . . . one species had been taken and modified for different ends.”

It wasn't until 1859 when Darwin wrote *On the Origin of Species* that he assembled his various ideas for the theory of the organic evolution, like the three legs of a stool. In the Galápagos, he had discovered evidence that implied that species vary and give birth to new species. It was this concept of

species' birth that Darwin used to convince others that every species was not specially created by God—the first leg of the stool. In many ways, Darwin was correct in his analysis of the correlation of species similarities and distributions.

What Darwin did not see in the Galápagos was evidence for the rest of his theory. Despite what many people mistakenly claim,⁴ Darwin never said that he documented natural selection, the second leg of the stool, in the Galápagos. Late in 1838, after he had finished writing *The Voyage of the Beagle*, he read a copy of *Essay on the Principle of Population* by Rev. Thomas Malthus.⁵ This real-life “Scrooge” argued that misery occurs because humans reproduce faster than the food supply. So he advocated getting the poor off welfare and letting them starve, if necessary. According to the “laws” of population growth, letting the poor keep reproducing unrestrained would create a struggle for resources that would cripple the English people and economy.

Darwin applied this thinking to wild populations of plants and animals, and he realized that only some individuals survive to carry on the species. He concluded that only the ones best able to compete for resources survived to produce the next generation. Not until then did natural selection become an

important part of his overarching theory. It was only in writing *Origin* that he implied that natural selection likely occurred in the Galápagos Islands.⁶

The remaining leg for Darwin's theory of evolution was common descent of all life-forms from one or a few original forms. Again, he never mentioned descent of all the Galápagos organisms from one common ancestor. He developed this leg years after his trip based on circumstantial evidence, such as the similarity of body parts in different major animal groups, differences between the fossils of lower and upper rock strata, and vestigial organs. Obviously, his interpretation of these data contradicted a biblical view of history.

THE CREATIONIST VIEW

Today, with two jetports, the Galápagos Islands are much more accessible than in Darwin's day. One can investigate whether it is possible to “see evolution in action” by seeing what Darwin saw: tortoises, iguanas, mockingbirds, finches, shore birds, sea lions, tree daisies, and tree cacti. With a maximum life expectancy of 200 years, tortoises that Darwin saw might still be around.

I have visited this famous “laboratory for evolution,” and I hope to return someday. I saw the same things that Darwin did but came to different conclusions because of my different starting point.

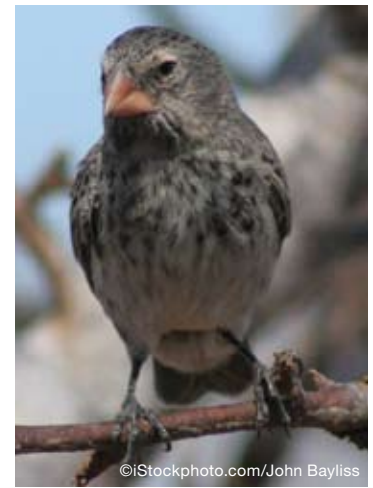
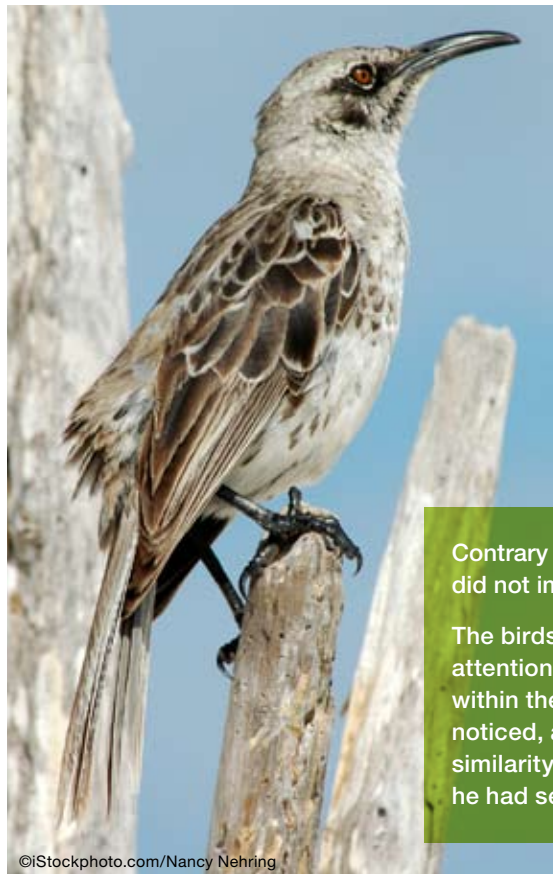
Within each family group, I saw species that are different but similar. I saw that unique species are often confined to one or a few islands and their closest relatives live on nearby islands. I saw that each family group, even if it has unique traits, is stamped “South American.” If we read biblical history as fact, this pattern makes perfect sense.

God created various organisms by their kinds. Only a few members of each kind survived the Flood, and these reproduced and diversified to fill the post-Flood habitats. While the receding Flood waters probably deposited plant fragments and seedlings in the Americas, the land animals on the Ark had to spread from the mountains of Ararat to the Americas.

The Galápagos Islands apparently rose up in the Pacific after the Flood as a result of extensive volcanic activity.⁷ From the American continents, a few of each kind was carried by wind and waves to the small, isolated islands. As animal and plant colonists from each kind produced offspring in explosive numbers, their descendants spread over the islands, and a number of new species were born. Certain species expressed some of the remarkable modifications that God programmed into the capabilities of the various biblical kinds, such as the ocean-feeding ability in iguanas, beak variability in finches, and gigantism in tortoises and daisies.

Can we see natural selection acting in the Galápagos today? Yes and no. Scientists have been able to measure changes, as individual species change with the ebb and flow of environmental changes, such as the periodic warming of the ocean surface known as El Niño. However, the changes within these species are unlikely to explain the origin of new species, a process that requires too much time by natural selection alone (see next article).

Certainly we cannot see evidence in



Contrary to popular belief, finches (*above*) did not immediately impress Darwin.

The birds that did attract Darwin's attention were the mockingbirds (*left*) within the islands. He immediately noticed, and was troubled by, the similarity between them and the ones he had seen earlier in Chile.

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the Galápagos that reptiles evolved into birds or the origin of one biblical kind from another. Nor are the islands old enough, even by conventional radiometric dating, to support such an idea.

Island species should prove valuable to future creationist research. Because islands are relatively isolated and less affected by outside factors than continents, it should be easier to interpret the mechanisms that produced the species. In this sense, the Galápagos Islands are a gift from God, given to modern scientists to help them know Him better and understand how He worked in the past and present.

Moreover, God has given us His Word as a guide. He also gave us our minds, our time, and our resources. We should invest these wisely to advance our understanding of how He “replenished the earth” after the Flood. We have nothing to fear from the Galápagos Islands but much to gain. ■

NOTES

¹ Charles R. Darwin, *The Voyage of the Beagle* (originally *Journal of Researches*), 1st ed. (London: John Murray, 1839), pp. 453–478. Most references in this article are taken from this edition. Specific page references for all quotations are available online.

² A. Desmond and J. Moore, *Darwin: The Life of a Tormented Evolutionist* (New York: Norton & Co., 1994), p. 171.

³ Charles R. Darwin, *The Voyage of the Beagle* (originally *Journal of Researches*), 2nd ed. (London: John Murray, 1845), p. 392. Darwin's second edition supplies greater details on identifications. Botanists did not identify the plant specimens until after the first edition was already published. Specific references from the second edition are available online.

⁴ For an example supporting evolution, see http://anthro.palomar.edu/evolve/evolve_2.htm; for an example supporting creation, see <http://www.windmillministries.org/frames/CH6A.htm>.

⁵ Ref. 2, p. 264.

⁶ Charles R. Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, 1st ed. (London: John Murray, 1859), pp. 400–401.

⁷ Todd C. Wood, “A Creationist Review and Preliminary Analysis of the History, Geology, Climate, and Biology of the Galápagos Islands,” *Center for Origins Research Issues in Creation* 1 (2005): 23–52.

Dr. Roger Sanders earned his PhD in botany from the University of Texas. For a more complete biography, see the end of “The Pursuit of Darwin” on page 32.



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