



CREATOR

VOLUME 1

NUMBER 2

*I Am Fearfully and
Wonderfully Made*

HEY, IT'S A JUNGLE IN HERE!

Did you know that Christ planted a "jungle" of microscopic vegetation within you? This special "forest" is not made up of ordinary plants, but bacteria.* Hostile and seemingly incompatible forms of life thrive together throughout nature. Yet, it is the Lord's skill in coordinating potential germs within your own body, benefiting and not destroying you, which is truly remarkable!

If every tree in the vast jungles of South America was counted the number would not compare to the myriad of bacteria that live in or on your body. The following discussion will help you discover why the Lord Jesus Christ made this ubiquitous micro-creation.

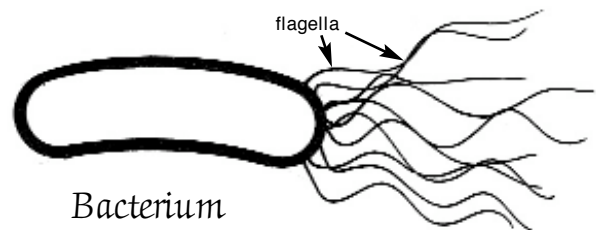
Bacteria are single-celled organisms so small that it would take 25,000 of them lined up end-to-end to equal one inch!¹ As many as ten trillion can be found in a spoonful of soil.² Bacteria are found everywhere on earth—in lakes, rivers and oceans, in the air, in soil, and on plants and animals. They grow inside and outside your body,

wherever it is exposed to the external world.

Their appearance, however, is much simpler than our own. They have three basic shapes: rods, spheres and spirals. Some bacteria also possess appendages. These limbs are called flagella, and unlike human arms and legs, lack bones. The flagella of bacteria can be likened to the tentacles of an octopus.

Normal healthy skin harbors millions of these microorganisms. Although washing and bathing will remove some bacteria, it is impossible to get rid of the vast majority. If this thought frightens you, just think of them as *neighbors* of a smaller kind. Christ did not create them to harm but to help you! Your eyes, hair, nose, mouth and throat also nourish these tiny beings. A few bacteria may be found in the trachea (windpipe), but the lungs are essentially sterile, devoid of these creatures.

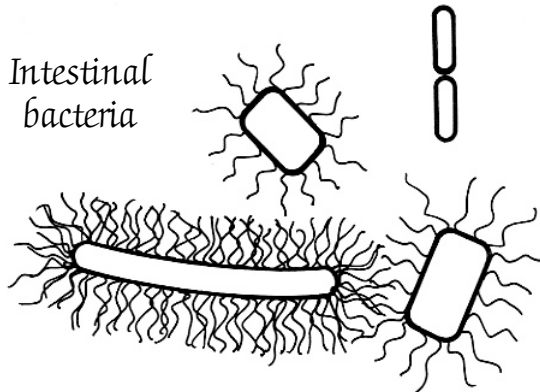
The greatest concentration of bacteria is found in the intestines. Because intestinal bacteria contain no chlorophyll, they survive in complete darkness as long as nourishment is readily available. This explains why they thrive in our digestive tract. The body's near perfect temperature and food supply allow them to flourish.



¹ Carl L. Wilson & Walter E. Loomis, *Botany*, (New York: Holt, Rinehart & Winston, 4th Ed., 1967), 404.

² Dorion Sagan & Lynn Margulis, *Garden of Microbial Delights*, (Boston: Harcourt Brace Jovanovich, Publishers, 1st Ed., 1988), 105.

Few bacteria normally live in the stomach because of the high acid content there. Most of the bacteria entering the stomach from the mouth and nose are thus destroyed. As the survivors make their way through the intestines, the number of bacteria in each section steadily increases from the small intestine through the large intestine (colon). In fact, it is estimated that by the time stool is formed within the rectum 1/4 to 1/2 of its weight is bacteria!



Before we were born our bodies were sterile. Bacteria were introduced into our bodies from our mothers at the moment of birth. In like manner, the intestinal tract of an infant is also sterile before birth, but becomes colonized with a bacteria known as *Lactobacillus* when the baby begins breast-feeding. As infants eat an increasing diversity of food, a greater number and variety of bacteria inhabit the gastrointestinal tract. Although this may sound dangerous to moms and dads, this is entirely normal and healthy. It is God's way of keeping the different populations of bacteria in check.

You might be wondering why, with such an innumerable collection of bacteria, we don't succumb to infection left and right. Christ in His infinite mercy built our bodies with many defensive strategies similar to a well-constructed fort or castle. These barriers and immune systems prevent bacteria from entering into those parts of the body, such as the heart, liver, kidneys, and lungs, which are sterile and not designed to coexist with them. Yes, people do occasionally develop bacterial

infections, such as a boil in the skin or pneumonia. However, this is the exception rather than the rule.

Not only does God protect us from potentially harmful effects of bacteria, He uses them to provide nutrients essential to our diet. These microscopic critters are able to manufacture vitamins not produced by our bodies. Bacteria in the colon produce Vitamin K, for instance, which is necessary for normal clotting of our blood. It is fascinating to realize that each bacteria is a separate laboratory in its own right. Like miniature chemical engineers, our wee friends within us produce such divergent B complex vitamins as biotin, pantothenic acid, riboflavin, and pyridoxine. And you thought most of your daily vitamins came from a cereal box!

Gut bacteria also produce a host of other chemicals which have no nutritional value but play an important role in keeping the different populations of potentially harmful bacteria in check. These chemicals prevent one type of bacteria from becoming dominant over the other types and causing serious problems such as dysentery. This is analogous to farmers using different pesticides to keep various populations of insects from increasing in number and destroying their crops. When one bacteria does become numerous, diarrhea frequently results. Diarrhea is our body's way of getting rid of the offender. Many people have experienced this unpleasant occurrence when traveling in a foreign country. Contaminated food or water cause certain bacteria to reproduce out of control, resulting in an irritation of the bowels. The normal intestinal bacteria help us avoid disease by preventing certain bacteria from increasing in number and eventually attacking the body.

It's worth mentioning that, unlike our own bacteria, microorganisms in the alimentary (intestinal) tracts of cows, deer and elk have the ability to break down cellulose, the tough material found in grass and leaves. These animals are able to survive on plants which would result in



starvation for us as humans, were we to eat them.

Christ did not create bacteria to give us the creeps, but to provide for our needs. Like a beautiful jungle, the bacteria within us coexist well. His creation of our body's immune system allows us to see the Lord Jesus' extreme attention to detail which prevents us from getting sick under normal circumstances. The fact that these miniscule bits of life easily produce vitamins and chemicals which would take chemists hours, if not days, to make in a laboratory, also shows God's genius.

Christ is our Great Creator. He not only designed us physically, putting together trillions of our cells, but He also coordinates the complex design of our bodies with the innumerable bacteria that share our form and yet do not destroy it. We should worship the Lord in our hearts for all He has done!

GOOD NEWS

God the Father gave us creation through His Son, the Lord Jesus Christ. He has also offered us salvation through Christ. Jesus died on a cross to pay the penalty for the sins of His people. In order to receive His forgiveness and the promise of eternal life, you need to believe that the Lord Jesus Christ is God and turn from your sin.

“Oh, Father in Heaven, I confess that I have lived my life in rebellion against You, and this is sin. Please forgive me through Your Son, Jesus Christ—through His death on the cross. Jesus, I turn away from my sins and look to you as my only hope. I embrace You as my all-powerful God, my sweet Savior, and my Indestructible Life. Show me how to live the way You want me to live, and allow me to see and hear Your praises throughout the universe! In Your name, Lord Jesus Christ, I pray. Amen.”

"The wild animals honor Me ..."

Isaiah 43:20

by Kathy Krier

We are continuing a series which examines a special part of creation dear to the Lord God—the land and people of Israel. In this issue we explore the animal kingdom in the Holy Land.

The high mountains belong to the wild goats; the crags are a refuge for the coney (Psalm 104:18).

Can you conceive of a world without animals? Consider the many species God has created for our enjoyment and His glory. This article focuses on modern animals in Israel and the current effort to bring back the creatures of Abraham's day.

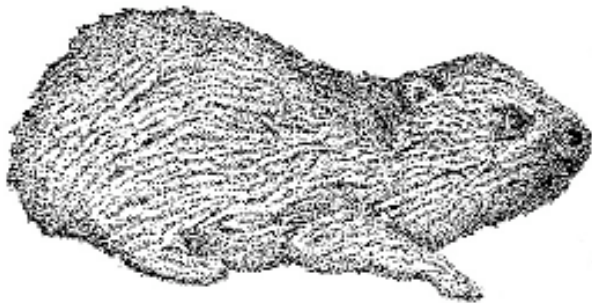
When I toured Israel in the summer of 1990, I was fortunate to see a number of animals that reside there. Graceful gazelles bounded over the plains and cute little coney perched on a rock near Caesarea Philippi. As we traveled backroads in the hill country, I saw a mother quail with her little ones scurrying behind her. In the distance a shepherd boy tended his flocks and I thought to myself, "That could have been David 3000 years ago!"

The gazelle of Israel is a type of antelope standing less than one yard high at the shoulders. When frightened, it flees in breathtakingly beautiful leaps. The dorcas gazelle, once common, almost became extinct but it is now legally protected by the government.

Cony or rock badgers are rabbit-sized, furry animals that look a bit like overgrown guinea pigs!



They have short ears, sharp teeth, and black-button eyes. Although not aggressive, they are wise enough to be overlooked by predators as they lie motionless on sun-warmed rocks. God gave their tiny feet suction-like grips which allow them to scamper about on rocks and cliffs with ease.



Quail are migratory birds created to fly for short periods of time. Longer flights, although possible, take a toll on the birds. Because they tire easily, quail are especially susceptible to predator attacks upon landing. A coat of speckled gray plumage provides camouflage, provided their shrill whistles do not give them away. Quail are found in the high grass of inland Israel and on the shores of the Mediterranean.

My trip to the Holy Land would have been incomplete had I not seen sheep and goats. Sheep alone are mentioned 750 times in the Bible. The domestic sheep of Israel are quite helpless and tend to wander from the herd. Wild or mountain sheep, on the other hand, are high-spirited and independent.

In contrast to domestic sheep, domestic goats are willful and curious. For millennia goats have provided local people with essential products. Their milk is sweet—ideal for making cheese, and is more nutritious than cow's milk. Goat hides are used to make containers and their hair can be woven into cloth.

Another important domesticated animal of the African and the Middle Eastern deserts is the camel. Camels of Israel measure six feet or higher

at the shoulders. They peer out at the world from under bushy eyebrows, which protect them from the harsh sun and blinding desert sandstorms. The familiar hump on their backs is composed of fat. The animal draws on this stored energy when food is scarce. Because of the harsh environment in which they live, God also made camels capable of going a long time without a drink of water. Contrary to popular belief, camels are unable to store water. They conserve it by minimizing the amount they sweat. In turn they avoid overheating by adjusting their body temperature to the surrounding air temperature.

Since it is difficult to raise cattle in the Israeli deserts, researchers are trying to come up with a good-tasting breed of camel for human consumption. Another promising cattle substitute is the goabex, the result of crossbreeding the goat with the desert-adapted ibex.¹

As a land Israel connects the two divergent continents of Africa and Asia, making it geographically unique. It forms a type of junction where many plants and animals come together. For instance, 100 different birds reside in the Holy Land year round, including owls, hawks, golden eagles, griffon vultures, partridge, crested lark, Spanish sparrows and Judean Desert rockbirds. Another 250 species of birds spend part of the year there as they migrate between Europe, Asia and Africa.

Approximately 60 different kinds of mammals make their homes in Israel. Native species include the gazelle, hyena, wolf, jackal, mongoose, wildcat, hairy-footed jerboa, fox and rabbit. At one time the hippopotamus and the rhinoceros roamed Israel. However, various animals mentioned in the Bible, such as lions, tigers, wild oxen, ostriches, bears, and deer have long been absent.²

Israel abounds in uncommon creatures, as well. Although crocodiles have not basked on Jewish soil for 80 years, other reptiles can be found; lizards and tortoises are the most plentiful.



Yet, snakes are few, and only the cobra and two species of vipers are poisonous.

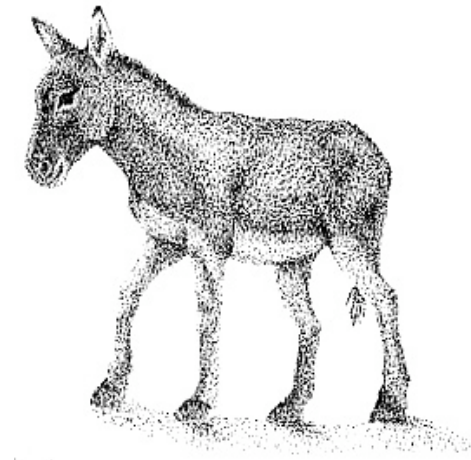
Several types of salamanders, toads and frogs are found along the River Jordan. Despite increasing pesticide use, a tremendous number and variety of spiders, insects, scorpions and centipedes also live in Israel.

With access to four different bodies of water, the Jewish nation is familiar with the creatures of the deep. The Mediterranean coast is visited by sea turtles, dolphins and even whales.³ At least 300 different species of fish have been identified. Beautiful coral reefs in the Red Sea grow near the southern port city of Eilat. The Sea of Galilee is actually a fresh-water lake and harbors abundant supplies of sardines, St. Peter's fish and carp. Even the timeless Jordan River can be fished for trout.

Israel as a nation is deeply committed to wildlife preservation. According to conservationist Bill Clark, the goal of this tiny nation is "to return the animals of the Bible to the Land of the Bible."⁴ So serious is Israel's vision for natural restoration that over 40 percent of its land is in some way protected by law. The Nature Reserves Authority (NRA), established in 1963, directs a total of 280 nature reserves.

At the NRA's inception, "no ostriches, lions, fallow deer, oryx, wild asses or bears remained in Israel; the desert leopard was presumed extinct, and more than 50 other species of mammals known in biblical times were endangered."⁵ There were less than 100 gazelles and only 150 Nubian ibex left. Now after 25 years of reforestation efforts, there are 10,000 gazelles and almost 2,000 ibex! Their territory includes the Eilat and Makhtesh Ramon mountains and the hills of Judea.

In addition, Onagers (Asiatic wild asses), jackals, striped hyenas and desert foxes now roam in the wildlife reserve of Makhtesh Ramon. The reserve is a 25-mile long crater located in the



Negev Desert south of Beersheva.

The shores of the Dead Sea harbor the En Gedi Reserve, where ibex live on local cliffs. Almost hunted to extinction because of supposed medicinal properties, ibex now flourish under protective laws.

Not long ago Bedouin shepherds told tales of spotted monsters, presumably leopards. Yet no one had proof that the leopard actually existed in Israel. The leopard had survived the slings and spears of Biblical days, and the weapons of 1800 years of invaders that followed. As guns appeared, it fell prey to hunters and was presumed extinct in the late 1800's.

In October of 1974, the remains of a recently killed ibex were discovered in En Gedi. To the delight of many, the responsible predator was a Judean Desert leopard. Once thought extinct, the leopard has now multiplied in numbers.

Eighty to 90 pounds of muscle, sinew, teeth and claws, the Judean Desert leopard is a fiercely beautiful animal.⁶ Well-created for the desert mountains, it has short legs and an extremely muscular body.

Leopards don't socialize, but merely tolerate each other, with the usual territorial size being 100 square miles per leopard. They are well-suited to the desert and do not need much water. They eat ibex, hyrax and anything else that moves, including termites!⁷ Although the Judean Desert



leopard cannot change its spots (Jeremiah 13:23), it can alter its habits as seasons change. When temperatures soar to 120° F in summer, the desert leopard adjusts by hunting during the cooler mornings and evenings.

Hai-Bar Yotvata National Wildlife Reserve in the Negev Desert is 25 miles north of the Red Sea port of Eilat. It is a 7900-acre preserve actively breeding endangered species in the Jewish desert. The curators of Hai-Bar have searched the world for the rare animals that once lived in the Holy Land. Its impressive list of creatures includes white oryx, scimitar-horned oryx, African wild ass, Mesopotamian fallow deer, ostriches, onagers, addax, Nubian ibex, gazelles and birds of prey.



Eighteen Ethiopian ostriches were recently reintroduced to Israel. "The last known Middle Eastern ostrich...was carried off by a flash flood in south Jordan in 1966."⁸

The white oryx, also called the Arabian oryx and referred to as a unicorn in the King James Version of the Bible, is one of the world's rarest animals. In 1978, Hai-Bar managed to secure four pair of white oryx from the United States after a 15-year international effort had saved them from extinction.⁹ The Israeli herd now numbers 37.

The fallow deer, once eaten by King Solomon, is also close to extinction, but the NRA is working to save the species. A second Hai-Bar reserve at Mt. Carmel now protects and breeds more than 30 fallow deer.

Hai-Bar also cares for two-thirds of all

captive African wild asses in the world. Onagers or Asiatic wild asses also share the protection of the NRA's Hai-Bar program.

History records that 2,000 years ago wildlife was so plentiful and diverse in Israel that Herod the Great killed 40 *different* animals during one day's hunt.¹⁰ Throughout the centuries, hunting, overgrazing and war have taken their toll on the wildlife of this tiny nation. Fortunately, many in Israel have made it their ambition to reestablish the flora and fauna of this Holy Land. When their vision becomes reality, these wonderfully diverse creatures will restore Israel to the Lord's creation once again. □

- 1 National Geographic, (November 1979): 616.
- 2 Mike Rogoff, *World in View—Israel*, (Austin: Steck-Vaughn, 1991), 22.
- 3 Efraim Oni & Elisha Efrat, *Geography of Israel*, (New York: American Heritage Press, 1971), 179.
- 4 Bill Clark, *High Hills and Wild Goats—Life Among the Animals of the Hai-Bar Wildlife Refuge*, (Boston: Little, Brown & Co., 1990), 1.
- 5 Robert A. Hutchison, "The Bible as Field Guide for a Wildlife Restoration Dream," *Smithsonian* 9 (February 1990): 106.
- 6 Bill Clark, "On the Trail of Israel's Lost Desert Cat," *International Wildlife* (Jan-Feb 1988): 14.
- 7 Bill Clark, "On the Trail of Israel's Lost Desert Cat," *International Wildlife* (Jan-Feb 1988): 14.
- 8 Robert A. Hutchison, "The Bible as Field Guide for a Wildlife Restoration Dream," *Smithsonian* 9 (February 1990): 106.
- 9 Rick Destree, "Endangered Species: Arabian Oryx—A Success Story," *HIS CREATION Journal* (Fall 1991): 7&8.
- 10 Robert A. Hutchison, "The Bible as Field Guide for a Wildlife Restoration Dream," *Smithsonian* 9 (February 1990): 106



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