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Discovery

Scripture & Science for Kids



THE JACKHAMMER IN YOUR BACKYARD

CALEB COLLEY

Have you ever run into a tree while playing in your backyard? A collision like that hurts, so you would never bang your face against a tree on purpose. But if a human's head struck a tree as hard as a woodpecker's beak strikes a tree (and strikes over and over again!), the human would die or suffer brain damage.

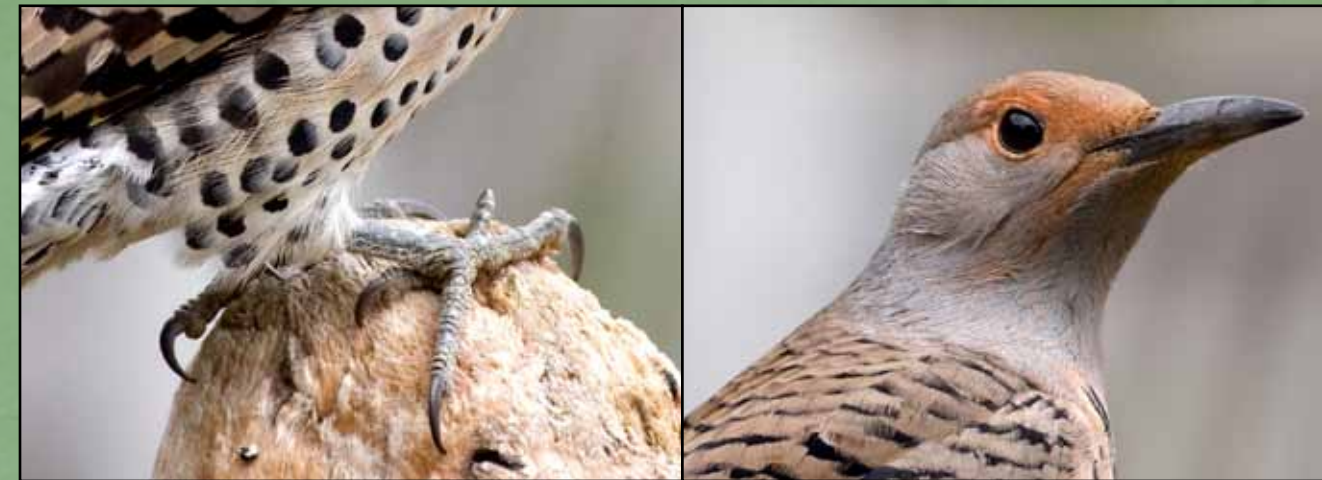
This kind of impact is no problem for woodpeckers. These 6- to 16-inch, brightly colored birds, daily chip away at bark on our backyard trees. Woodpeckers "drill" into trees for three reasons: (1) to find food; (2) to attract mates; and (3) to build nests. In fact, the bird can peck 40 times in less than three seconds, without harming its brain.

Just how powerful is the woodpecker's hammering? The force with which the woodpecker strikes a tree is more than 250 times the force that an astronaut faces during rocket liftoff—but the woodpecker is not protected by a rocket and

a spacesuit. In fact, if the kind of force woodpeckers take on a daily basis were applied to the head of any other bird, its brain would quickly turn to mush.

How do woodpeckers stand such pressure? The answer is that God made the woodpecker with extra tissue between its cranium and beak, to keep its head from shattering. This special design allows it to absorb the force of lightning-fast hammering. The woodpecker's shock absorber is better than any human beings have invented.

The woodpecker also has short, strong legs, and feet with sharp claws. On most woodpeckers' feet, two toes point forward, and two toes point backward. These X-shaped feet make climbing easy. (Most birds have three toes in front and one toe in back.) The woodpecker's stiff tail feathers press against the tree to support its weight during drilling.



Evolutionists say that the woodpecker's uncommon characteristics just happened by accident. But think about some questions that "hammer" the theory of evolution:

- According to evolution, the first woodpecker would not have had a strong and sturdy beak, so why did it not die the first time it tried to drill into a tree?
- Even though woodpeckers have strong drilling abilities, they look for trees with signs of decay, so that drilling is easier. At what point did woodpeckers evolve the capability to "shop around" for the best tree to excavate?
- Why did the woodpecker feel the need to "mutate" or "evolve" new traits? Did the first woodpecker that pecked trees do so because it ran out of worms on the ground and then decided to look for worms in trees? If so, how did the woodpecker know that it needed to evolve a highly specialized beak, tongue, set of feathers, and skull, as well as claws which are different from every other claw on Earth? Why are woodpeckers not evolving new traits now?

- Why didn't the first woodpecker die before it "discovered" that it needed a special tongue to pull the ants from trees into its mouth? That woodpecker didn't have enough time to develop a whole new kind of tongue during its own lifetime.
- How did the first full-fledged woodpecker know that food, and great spots for nesting, were available inside trees? (The woodpecker's parents didn't know.)
- How did the woodpecker learn to communicate by tapping its beak against a tree?
- What animal gave birth to the first woodpecker?

Woodpeckers are here, and they show that evolution cannot be true. But creationists can easily explain them: God created the woodpecker with special abilities, body parts, and instincts that cause it to do what it does. Woodpeckers are strong evidence for a designer, as are all other living things.



THE HUMDINGER HUMMINGBIRD

Dave Miller



Hummingbirds get their name from the humming sound made by their rapidly flapping wings. Found only in the Americas, there are over 325 species of hummingbird—the second most diverse bird family on Earth (after the tyrant flycatchers). Hummingbirds are very small birds. In fact, the Bee Hummingbird, is the smallest bird in the world, weighing less than one ounce (.063 oz) and measuring about two inches.

Some of God's good things certainly come in small packages! The largest hummingbird is the Giant Hummingbird



Giant Hummingbird

which can weigh as much as .85 ounces and measure 8.5 inches.

God clearly designed hummingbirds to be specialized nectarivores, which means they feed on the nectar of plants. The two halves of a hummingbird's long, thin bill overlap, with the lower half fitting tightly inside the upper half. When hummingbirds feed on nectar, the bill is usually only opened slightly, which allows an extendible, split tongue to dart deep into the interior of flowers.

God even designed some species of hummingbird with bills that interact with specific flowers.

Thornbill Hummingbirds have short, sharp bills so they can feed from flowers with short



Bee Hummingbird

Rainbow Bearded Thornbill Hummingbird



corollas and pierce the bases of longer ones.

The Sicklebill Hummingbird's extremely curved bill allows it to get nectar from the curved corollas of flowers in the family *Gesneriaceae*. The same is true with the Sword-billed Hummingbird.

Such amazing features of hummingbirds could not have evolved. They were designed by God so that hummingbirds serve the purposes He intended for the environment. Hummingbirds are very important pollinators in God's design for the Earth.

God also equipped hummingbirds with the extremely important ability to hover in mid-air while extracting flower nectar. They do so by rapidly flapping their wings anywhere from 15-80 times per second, depending on the species. They can even fly backwards—the only group of birds able to do so. Since they typically consume more than their own weight in nectar each day, they must visit hundreds of flowers daily. But that makes it possible for the Earth to have lots of flowers!

Like bees, hummingbirds are able to judge the amount of sugar in the nectar they eat. So they reject flower types that contain nectar that is less than 15% sugar. They prefer flowers with sugar content of about 25%. But

hummingbirds cannot live on nectar alone, so they get their protein, vitamins, and minerals by eating insects and spiders. God even made the hummingbird's lower jaw to flex downward to create a wider bill



opening to capture flying insects in the mouth rather than at the tip of the bill.

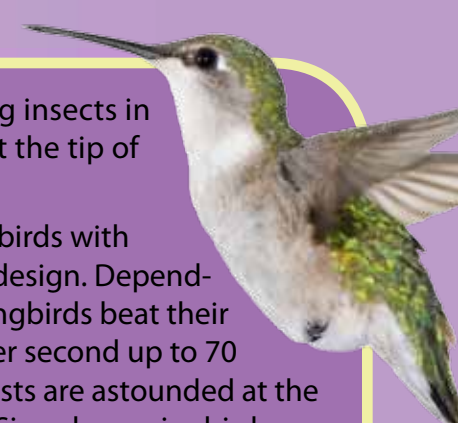
God created hummingbirds with incredible aerodynamic design. Depending on their size, hummingbirds beat their wings from 8-10 beats per second up to 70 beats per second. Scientists are astounded at the bird's flying capabilities. Since hummingbirds flap their wings so vigorously and use massive amounts of energy, their heart rate can reach 1,260 beats per minute. But to keep them from starving during the night, God made them to slow their metabolism during sleep, and during times when food is scarce. This hibernation-like state is known as torpor. During torpor, heart and breathing rates are both slowed dramatically—the heart rate to as little as 50 beats per minute. This reduces the hummingbird's need for food during those times.

Still another amazing aspect of these incredible creatures of God is their migrating abilities. The Ruby-throated Hummingbird, for example, can cross 500 miles of the Gulf of Mexico on a nonstop flight. The bird stores up fat to serve as fuel, which allows it to fly much farther than usual.

Everything about the hummingbird screams Divine design—perfectly prepared for its earthly existence and the purposes God assigned it. Zophar rightly asked: "Can you search out the deep things of God? Can you find out the limits of the Almighty? They are higher than heaven—what can you do? Deeper than Sheol—what can you know?" (Job 11:6-7). Regarding two other species of birds, God asked Job, "Does the hawk fly by your wisdom, and spread its wings toward the south? Does the eagle mount up at your command?" (Job 39:26-27). Indeed, the hummingbird is simply one among tens of thousands of God's amazing creatures.



Ruby-Throated Hummingbird



ACTIVITY PAGES



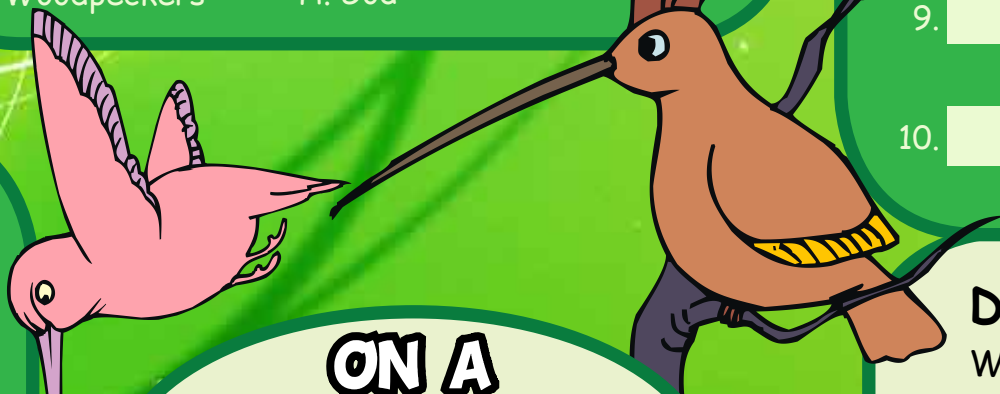
FILL IN THE BLANKS

1. "Can you search out the deep things of _____? Can you find out the limits of the Almighty? They are _____ than heaven—what can you do? Deeper than Sheol—what can you know?" (Job 11:6-7).
2. "Does the hawk _____ by your wisdom, and spread its wings toward the south? Does the eagle mount up at your _____?" (Job 39:26-27).
3. Complex design demands a _____.
4. According to evolution, the first woodpecker would not have had a strong and sturdy beak, so why did it not _____ the first time it tried to drill into a _____?

MATCHING

1. _____ The smallest bird in the world
2. _____ Created birds on day five of Creation
3. _____ Have X-shaped feet that make climbing easy
4. _____ The only group of birds able to fly backwards.
5. _____ A chicken-sized bird that lives in the mallee forests of southern Australia
6. _____ Flies 500 miles across the Gulf of Mexico on a nonstop flight
7. _____ Mallee Fowl nests can reach this height
8. _____ The Giant Hummingbird can get this tall

- | | |
|-----------------|------------------------------|
| A. Hummingbirds | E. Bee Hummingbird |
| B. Mallee fowl | F. Five feet |
| C. 8.5 inches | G. Ruby-throated Hummingbird |
| D. Woodpeckers | H. God |



ON A SEPARATE SHEET OF PAPER

1. Write down three reasons why woodpeckers "drill" into trees.
2. Explain the nest-building process of the mallee fowl.

TRUE OR FALSE

1. God designed hummingbirds to feed on the nectar of plants.
2. Evolution gave Mallee Fowl the ability to keep their eggs and mound at 92°F.
3. Woodpeckers can only peck on trees five times per hour.
4. Over millions of years, woodpeckers evolved the ability to communicate by tapping their beaks against a tree.
5. Hummingbirds are very important pollinators in God's design for the Earth.
6. The thermometer was developed and designed by highly intelligent men over several centuries.
7. The mallee fowl's built-in thermometer evolved by non-intelligent time and chance.
8. Hummingbirds are able to judge the amount of sugar in the nectar they eat.
9. The woodpecker's shock absorber is better than anything human beings have invented.
10. The largest hummingbird weighs less than one ounce.

WORD SEARCH

Q K T R N D D U W G B
L A O R E H R P A U N
P U F A N A I L Q J G
I S M T C Y B K W C I
F T S C R P G T B E S
W R V E E P N H W Z E
N A O N A T I S L T D
K L L H T C M H E Q N
N I O O I X M G M Z E
N A P Y O G U P I C E
G N J V N E H M J S L
W O O D P E C K E R L
T K V W W I N G S I A
B E T T A R G Y H E M

Hummingbird	Mallee
Australia	Nectar
Creation	Woodpecker
Wings	Design



Dear Digger Doug,

Why did God make animals that are vicious and can hurt people?
—Madison, Austin, TX

Dear Madison,

Thanks for sending me this excellent question. I always enjoy hearing from *Discovery* readers. Animals do sometimes hurt people, so we must be careful. Other things that happen on Earth can also hurt us if we are not careful. For example, tornadoes sometimes kill people or destroy their homes. The law of gravity is in place, so if we stumble we may fall and hurt ourselves. We enjoy picking pretty flowers, but sometimes we are stuck by sharp thorns.

Life on Earth is not heaven, but our Earthly lives should make us want to go to heaven. Negative things in the world can actually help us to prepare our souls for heaven, because they remind us that our physical bodies will die one day, and they help us develop patience (James 5:11). God has ordered the world to be the perfect place to help us prepare for eternity (read 1 Peter 1:1-10).





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Editor: Kyle Butt, M.A.
 Associate Editor: Eric Lyons, M.Min.
 Layout and Design: Rob Baker, M.Ed.

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THE MAGNIFICENT MALLEE FOWL

ERIC LYONS

How do you find out exactly how hot or cold it is outside? Do you take a deep breath? Do you put your finger high in the air? Or do you put your nose to the ground? Of course not. When you want to know the exact temperature you simply check a thermometer. But how amazing would it be to identify the exact temperature simply by putting your nose to the ground? One animal that lives in Australia can do exactly that.

The mallee fowl is a chicken-sized bird that lives in the mallee forests of southern Australia. (Mallee is a type of low-growing, woody plant.) Before mallee fowl hens lay their eggs, the male spends several weeks or months preparing a special mound in which the eggs will incubate. The male first digs a hole about three feet deep and 10-15 feet in diameter. Next, the male begins to construct the mound over the hole using leaves, twigs, dirt, and sand. Eventually the mound will reach a height of about five feet.

The hen then lays anywhere from 20-35 eggs in a dug-out section of the mound (over a period of several weeks). The male keeps a close watch over the eggs and mound, ensuring that everything stays very near 92°F. How does he do this? He simply sticks his beak and tongue into the mound. The bird can tell if the temperature is too high or too low. The mallee might scrape some of the mound away to cool the eggs, or it might build up the mound even more in order to raise the temperature.

The thermometer was developed and designed by highly intelligent men over several centuries. But what about the mallee fowl's built-in thermometer? Who designed it? And how is the mallee fowl able to construct a massive nest and then manage it so capably? Evolutionists would have us believe that time and chance gave the mallee fowl all of these abilities. Common sense, however, demands a better explanation: Complex design demands a designer. The mallee fowl was designed by God.

ANSWERS

TRUE OR FALSE: 1-T; 2-F; 3-F; 4-F; 5-T; 6-T; 7-F; 8-T; 9-T; 10-T.
 MATCHING: 1. E (Bee Hummingbird); 2. H (God); 3. D (Woodpecker); 4. A (Hummingbirds); 5. B (Mallee Fowl); 6. G (Ruby-throated Hummingbird); 7. F (Five feet); 8. C (8.5 inches).
 FILL IN THE BLANKS: 1. God, higher, 2. fly, command; 3. designer; 4. die, tree.
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