# The Kingfisher's beak design

HE famous Japanese "bullet train" travels at speeds of 240-320 k/hr (150–200 mph), carrying millions of passengers every year. When it was first designed, it's high speed caused a wave of air to build up in front of the train. This meant that when it travelled through tunnels it would make a loud boom. This disturbed people who lived nearby, so the engineers had to find a way for the train to travel more quietly without slowing it down or using more energy.

Thanks to a spot of bird-watching, an engineer was able to solve the problem after he saw a kingfisher diving into water to catch fish. He





The Japanese Bullet Train

noticed how kingfishers slice through the air (right) and into the water with hardly a splash. This is because of the way the birds' beak is designed. So the train engineers re-designed the front end of the train to mimic the shape of the kingfisher's beak. The new design meant that the train was guieter, and there was no longer a boom when the train went through tunnels. It could also travel faster while using less electricity.

The "nose" of the bullet train was designed by engineers, who copied the shape of the kingfisher's beak. Kingfishers didn't gradually evolve this design. God created them this way, just as He did everything else in His creation.



#### **PUZZLE ANSWERS**

(Psalm 104: 24) made them all. things. With your wisdom you rold you have made so many CODED NEKSE:

10. Hare. 7. Seal. 8. Panda. 9. Manatee 4. Raven. 5. Horse. 6. Badger 1. Owl. 2. Toad. 3. Wasp. HIDDEN CREATURES:

by CPO Wortl

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### GOD HASN'T HIDDEN HIMSELF!

OME people say they would believe in God if He would just show Himself to them. But God has not hidden Himself. He has shown Himself in many ways through His creation, as the Bible tells us: "The heavens tell the glory of God. And the skies announce what his hands have made. Day after day they tell the story. Night after night they tell it again. Their message... goes everywhere on earth." (Psalm 19: 1-4) "For ever since the world was created, people have seen the earth and sky.... So they have



no excuse for not knowing God." (Romans 1: 20 New Living Bible). Yes, God has shown Himself in the sky above, and in the beauty of the earth — flowers, trees and living creatures. God has also shown Himself by becoming one of us in the

Person of Jesus, His Son. When one of His disciples asked Him to show them God the Father, Jesus said, "He who has seen me has seen the Father." (John 14: 9). Jesus came to show us how much God loves us. He died a cruel death on the cross, and

rose again, so that we could have our sins forgiven, and live with Him for ever. God hasn't hidden Himself from us. There is plenty of evidence that He exists. The first people on earth, Adam and Eve, tried to hide from God when they disobeyed Him, but they couldn't. We can't hide from God either, and we will all have to meet Him one day. But we don't need to hide! He is waiting for us to turn to Him through Jesus, and discover that He is a real Father and Friend.







# HIDING PRETENDING

Have you ever dressed up and pretended to be someone else, or played "hide and seek"? Many living creatures do this to keep themselves safe. Some of these disguises are really amazing.

#### Who do you think you're kidding?

Some creatures are really good at 'pretending' to be something else. This may be done to protect themselves and scare others away, or to make it easier for them to get near to other creatures which they may want to eat. The caterpillar which looks like a snake (right) is likely to scare away hungry birds, while the grey hairstreak butterfly (below left) has a false head and antenna (arrowed) which would confuse a hungry bird and give the butterfly time to fly away.

And what about trying some trick eyes? The Four-eyed Butterfly Fish (below centre) has false eyes by its tail to confuse its enemies!



These could not plan or change the way they look, and gradual evolution can't explain it. God, who cares for His creatures, designed them this way.

 See inside for more scary eyes.





This spider pretends to be an ant so that it can walk into an ants' next without being spotted! You can see it has eight legs - ants only have six.

#### HIDING IN FULL VIEW! Can you spot these "hidden" creatures?





#### **ALSO IN THIS ISSUE:**

Can you spot them? Scary eyes Nature Notes: Limpets Pretending to be something else **Amazing Orchids!** Puzzle Corner God did it first! The Kingfisher's Beak God hasn't hidden Himself!





#### Can you spot them?







#### Scary eyes

Some insects, like the Lo Moth (right) have false eyes on their body. If a bird comes along, the moth opens its wings and these "eyes" are enough to scare it away. Some caterpillars, like the Elephant Hawkmoth caterpillar (below) show false eye spots when they are frightened, to scare enemies away.





False eye spots work! In Botswana, Africa, cattle are often killed by lions. Someone had the idea of painting eye spots on their back end, and none of the marked cattle were attacked!

#### ANSWERS (pages one and two)

1. Bittern. 2. Owl. 3. Flounder (fish). A. Ptarmigans (2). B. Zebra. C. Common Toad.

# NATURE NOTES by the editor



Have you ever explored rock pools at the seaside? If so, you may have seen limpets (left) — a type of sea snail that clings to the rocks. Although limpets are quite small, their bodies are not at all simple.

Inside their shell they have muscles, gills, nerves, kidneys, a heart and stomach. They have 100 rows of teeth! Although the teeth are very hard, they wear out quickly, but new ones then grow in their place. Their teeth are so strong that human engineers believe they can copy

this material to make stronger cars, boats and aircraft.



A Limpet's suction foot.

When the tide is out, limpets cling very tightly to the rocks. They have a single "foot" that acts as a strong suction pad. When the tide comes in, they move along the rocks to feed on algae and

tiny water creatures. Although their shells are tough, they sometimes get broken, but when they do, they can repair them and make them just as strong as they were before.

Lots of limpet fossils have been found around the world, but the fossilized ones look the same as limpets that are living

now, so there is no evidence they have evolved. Limpets are one of the wonders of God's creation, created by Him, and perfectly designed for the life they live.

—Geoff Chapman



A living limpet with a fossil. There has been no evolution.

# Pretending to be something else



Have you ever taken part in a fancy dress competition? Dressing up can be fun. Of course, everyone knows you are not really a dinosaur or crocodile — or whatever you have dressed yourself up as.

There are many creatures that "pretend" to be something else, but they don't do it for fun. It is to protect themselves and often to escape being eaten. Some of

these disguises are truly amazing.

The hoverfly on the right doesn't sting, but looks just like a wasp, so birds are afraid it may sting them, and leave it alone.

Gradual evolution really can't explain how these insects got their camouflage and disguises. Even if they could think about it, they

wouldn't be able to change the way they look. There had to be a **mind** behind it all, and this mind was the mind of God, the Creator, who has shown His care for these tiny creatures in this wonderful way.



The Leaf-Tailed Gecko has more than one way of tricking its enemies. Firstly, its body matches the colour of dead leaves, and its skin is marked with lines which look like the veins of a leaf. Its tail looks like a leaf that has been nibbled at the edges. Secondly, if the gecko is attacked it can make its tail drop off! This confuses any creature trying to attack it — and it will then grow a new tail!

#### Amazing orchids!

Some orchids look and smell like insects to trick bees and other insects which are necessary to pollinate them. It seems impossible that these orchids could have evolved gradually. We believe that God created them this way.



Two fly orchids



A bee orchid

#### PUZZLE CORNER

CRACK THE CODE: Use the code below to read this Bible verse:

MPSE ZPV IBWF NBEF TP NBOZ UIJOHT. XJUI ZPVS XJTEPN ZPV NBEF UIFN BMM

#### Code key:

ABCDEFGHIJKLMNOPQRSTUVWXYZ BCDEFGHIJKLMNOPQRSTUVWXYZA

## Find the creatures "hiding" in the sentences below:

- 1. It will flow like a river.
- 2. He walked into a driveway.
- 3. Keep it as narrow as possible.
- 4. Look for a vending machine.
- 5. It was the sixth or seventh time.
- 6. He had his badge returned.
- . Please use a long ladder.
- 8. Visit the shop and ask for milk.
- 9. The young man ate everything.
- 10. Give the dish a real scrub.

(Answers on the next page)

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