

WEIRD AND WONDERFUL

The Bombardier Beetle

THE Bombardier Beetle is a tiny insect that shoots hot, smelly liquid, with a loud, popping sound, at any creature which threatens it. It simply turns around and blasts off, using two movable nozzles at its rear end. How does it do this? Inside the beetle's body are two storage chambers (reservoirs) which contain two chemicals — *hydroquinone* and *hydrogen peroxide*.

When it is threatened, the beetle squeezes the two reservoirs, forcing the chemicals into a combustion chamber, where they are mixed with water and another chemical, which heats them to boiling point. Special valves close to prevent the liquid going back into the reservoirs, and scalding the beetle's insides. It then fires this nasty, boiling liquid at the amazing speed of up to 500 pulses a second, rather like a machine-gun, sending any would-be attacker, whether a frog, mouse or ant, scuttling away.

It seems impossible that the bombardier beetle's amazing mechanism could have evolved gradually. Even if it somehow "discovered" how to make the two chemicals, it would have needed the reservoirs to store them. But why would it evolve them before they were needed? And all of this would be useless to the beetle unless it had also evolved the chemical which makes the others hot, and the combustion



Bombardier Beetle

By Peter Halasz: Wikipedia

chamber to mix them in. Then, it needed to have the special valves to prevent the hot mixture going back into its body — which would have killed the beetle — and the two moveable nozzles with their special muscles to shoot the mixture out. Without them, the beetle would explode!

Scientists at Leeds University recently did special research into the Bombardier Beetle, and from this study hope to be able to design better fire extinguishers and fuel injection systems for engines. This insect is like a wonderfully designed machine, part of God's creation, not the result of chance evolution.

FORBIDDEN TREE THAT BROUGHT RUIN

When God created the world it must have been a really wonderful place, because "God looked at everything he had made, and it was very good." (*Genesis 1: 31*). Adam and Eve, the first humans, were placed in a garden where God had created "every beautiful tree and every good tree that was good for food." (*Genesis 2: 9*). Adam and Eve had a wonderful choice — they could eat fruit from every tree in the garden except one. Yet, sadly, they disobeyed God and ate the fruit from that forbidden tree, and that brought ruin to the world.



Why did they eat it? Because God's enemy, the devil, persuaded them that they needed it, and told them that God was keeping something good from them. Their disobedience meant that they had to leave that wonderful garden (left), and their friendship with God was broken. People have been believing the devil's lies, and disobeying God ever since. The world has been spoilt, and is no longer "very good."

But God loves us all, even though we have all done wrong things. He wants us to be friends with Him, just like Adam and Eve were before they sinned. God sent His Son, Jesus Christ, to make a way back to Him. By dying on the cross He took the punishment for our sin, and if we accept Him as our Saviour and are sorry for our sin, God welcomes us back. The Bible tells us that "While we were God's enemies, God made friends with us through the death of his Son." (*Romans 5: 10*).

Before they disobeyed God, Adam and Eve talked to God as to a friend. When we come to God through Jesus, we can talk to God like that, too. God has promised that He will restore the whole creation to what it was in the beginning. And because Jesus rose from the dead, all who receive Him will live for ever with Him in that "new creation."

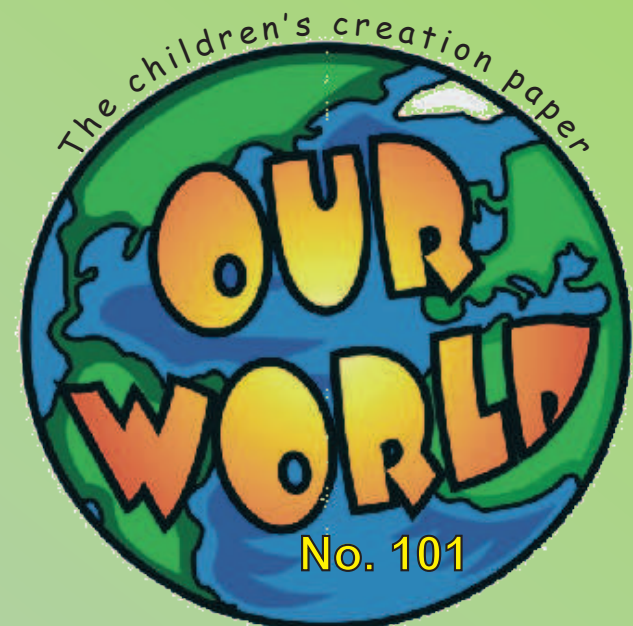
PUZZLE ANSWERS

Key word: "Tree of life."
 8. Olive, 9. Fir, 10. Yew.
 4. Elm, 5. Almond, 6. Fig, 7. Apple.
 1. Chestnut, 2. Myrtle, 3. Cedar.
TREES QUIZ
 packet/marker.
 darker, 10. Missing seed
 pebbles, 8. Worm added, 9. Cloud
 6. Shoe strap colour, 7. Missing
 4. Extra birds, 5. Colour of trees,
 picture, 3. Seed packet colours.
 1. Girl's hair colour, 2. Seed packet
Spot the difference

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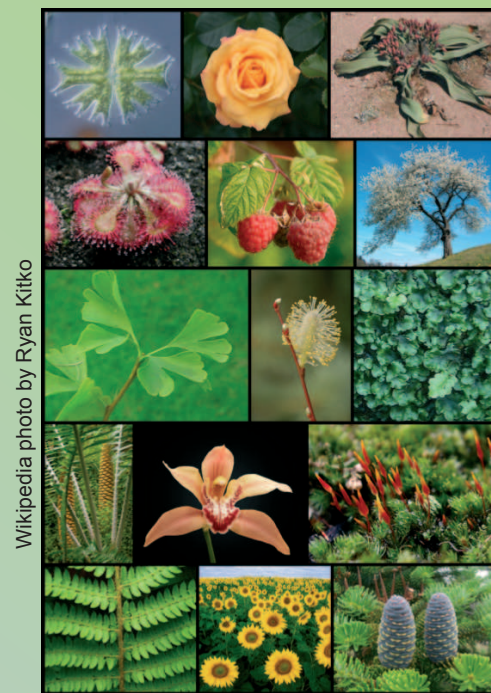
THE WONDERFUL WORLD OF PLANTS

In the beginning, God said, "Let the earth produce plants." (*Genesis 1: 11*). We find lots of them everywhere — in the sea and on the land.

God, our generous Creator

We can't imagine a world without plants, and no other life could exist without them. There are many thousands of different plants. This shows us that God not only loves variety, but that He is also very generous. We read in the Bible that when God created the plants, "Some plants had grain for seeds. The trees made fruit with seeds in it. Each seed grew its own kind of plant." (*Genesis 1: 12*). In the beginning, people and animals were vegetarian, and ate only fruits, vegetables and green plants. (*see Genesis 1: 29-39*). After the great flood of Noah's time God gave people permission to eat meat as well. (*Genesis 9: 3*).

If you go into a shop that sells fruit and vegetables you will find a wonderful variety to choose from - carrots, onions, beans, potatoes, apples, bananas, oranges, pineapples, and lots more. How grateful we should be to God, our Creator, for providing all of this variety!



Wikipedia photo by Ryan Kitko

PLANTS: THE EVOLUTION STORY

According to the theory of evolution, the first plants were blue-green algae — the scum that sometimes appears on lakes and ponds today (below left). Over millions of years plants are supposed to have moved on to the land, and evolved into the wonderful variety of plants on earth today, including mosses, ferns (below centre), grass, shrubs, flowers and trees (right). However, the fossils don't support this idea, but show that different kinds of plants appeared suddenly without ancestors. The Bible's version fits the facts best.



Why are flowers beautiful?

Many people believe that flowers exist just to attract pollinating insects. But they could do that without being beautiful! We believe that the thousands of beautiful flowers on earth were created by God because He loves beauty, and wants us to enjoy them too!

ALSO IN THIS ISSUE:

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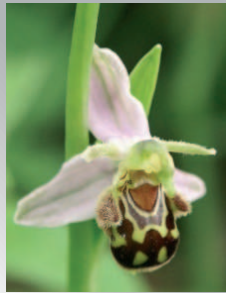


By Ma-Suska: Wikipedia



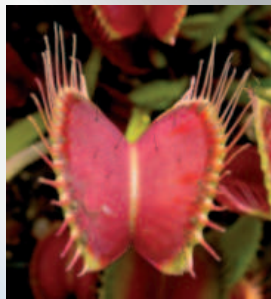
'Clever' plants!

There are many plants which could be called "clever." Some use special "tricks" to attract insects to pollinate them. One of the world's largest flowers, *Rafflesia* (left), which measures up to 100 cm (39 ins.) across, smells like rotting meat to attract pollinating insects! Many orchids (above right) mimic the shape and scent of insects, which persuades insects to visit them. They will then carry pollen to other flowers.



By BerndH: Wikipedia

Some actually trap insects and eat them! The Venus Flytrap (lower right) has leaves which spring shut in a tenth of a second when an insect touches tiny trigger hairs. Scientists simply can't explain how the Venus Flytrap, with its amazing mechanism, could have gradually evolved. It must have been specially designed to do this by God, the wise Creator.



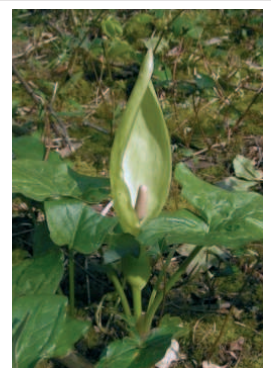
Noah Elhardt: Wikipedia

By Jeremiah: Wikipedia



Pitcher Plants, like the one on the left, actually eat insects, which are attracted to the plants and crawl inside. They are then unable to get out because there is a slimy surface, so they fall into a liquid and are then digested by the plant. Famous scientist Carl Linnaeus, who invented a system for grouping animals and plants, described a pitcher plant as "the admirable work of the Creator!"

The Cuckoo-Pint (right) attracts flies by smelling like rotting meat. They enter the flower, then fall to the bottom, where they are dusted with pollen. They are then trapped by a ring of hairs and imprisoned until the next day. During this time they spread the pollen around. Then the plant's hairs wither, allowing the insects to escape!



By Samse: Wikipedia

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NATURE NOTES by the editor



By Bandwagonman: Wikipedia

People have always been fascinated by ants and the way they live and work together to build nests and gather food. Did you know that some ants are farmers and gardeners? Leaf-cutter ants (left) cut pieces from leaves and carry them to their nest. There they use them to make compost on which they grow a special fungus for food. They carefully look after their "gardens", weeding them and taking care that diseases don't attack them. Some ants capture aphids and take them back to their nests. They look after them and feed them in the same way that farmers keep cows. The ants "milk" the aphids to get a sugary substance called honey-dew (right).



In the Amazon rain-forests there are ants that prefer one kind of tree in which to build their nest. So they kill all the other plants by injecting the leaves with acid — just as gardeners sometimes use a weed-killer!



By Dawadi: Wikipedia

How did ants begin to live together in communities and learn all these skills? Evolutionists are puzzled, but we believe that God created them to live like this. They don't think about what they do. The Bible even tells us we can learn from the ants: "Go and watch the ants, you lazy person. Watch what they do and be wise. Ants have no commander. They have no leader or ruler. But they store up food in the summer. They gather supplies at the harvest." (Proverbs 6: 6-7). —Geoff Chapman

FORESTS THAT BRING LIFE

RAINFORESTS are very important to life on earth. Almost two-thirds of the species living on earth today live in tropical rainforests. A four square-mile patch of rainforest contains as many as 1,500 species of flowering plants, 750 species of trees, 400 species of birds and 150 species of butterflies! Nearly half the medicines we use come from plants which only grow there. These forests also affect the climate. Trees "drink" a gas called carbon dioxide and turn it into oxygen, which we breathe. Rainforests also produce moisture that is taken into the air to later fall as rain.

Large areas of rainforests have been cut down and burned to make space for growing crops. Every year, an area as large as England and Wales is destroyed. If this continues, many of the plants and animals that live there will die out, and there will be much less rain. So cutting down these forests is a bad idea. Many people now realise this, and are trying to persuade Governments to stop it.



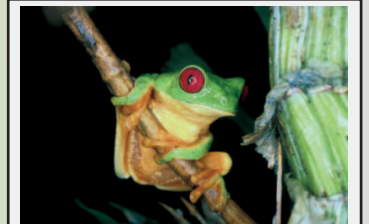
Wikipedia photo by Jamie Dwyer

This photo shows part of a rainforest that has been cleared to make space for growing crops. This is a bad idea, since it destroys wildlife and changes the climate by reducing rainfall.



Lush growth in a tropical rainforest

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This tiny tree-frog is one of the many amazing creatures which live in the rainforest.



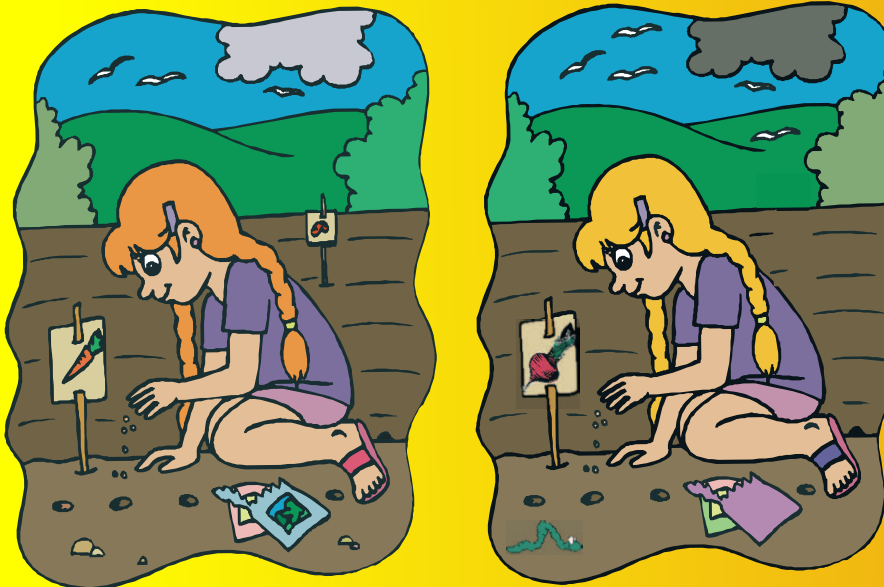
Look at the pattern of veins on this leaf. This beautiful design is similar to a feather.

Plants not only turn carbon dioxide into oxygen, their leaves also make energy by turning sunlight into a form of sugar called glucose — a food source for many living things. This wonderful process is called *photosynthesis*.

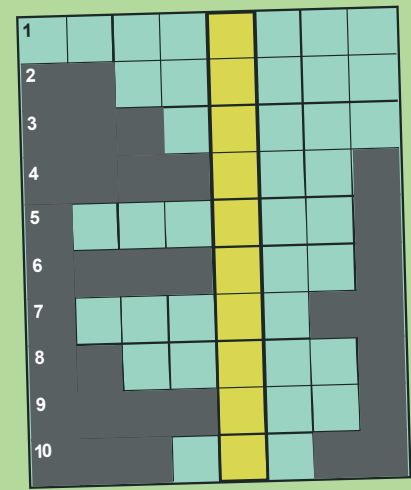
All over the world millions of these tiny "green machines" help to keep us and all other living creatures alive. We can't do without plants, so we need to look after those rainforests!

PUZZLE CORNER

There are ten differences between the first and second pictures below. Can you spot them?



Unjumble the name of trees and write them in the grid to find the key word — the first tree mentioned in the Bible.
 1. STUNTECH. 2. TYMLER. 3. CRADE.
 4. MEL. 5. MOLDAN. 6. GIF. 7. LAPEP.
 8. LOVIE. 9. RIF. 10. WEY.



(Answers on the next page)

