

# BUSH BOYS

SPRING 2007

## Explorers A Quarterly Publication

The Official Magazine of Father James Tierney's Bush Boys Books

### PHOTOGRAPHY

Photography can be such an interesting and rewarding hobby. A camera can be a great tool for learning. And if you have a digital camera, it needn't be an expensive activity as you can snap away, taking as many photos as you like, choosing later which ones are worthy of printing. Perhaps you can download your photos onto your computer and print them yourself. If you do this, you might even be able to edit your work before the final image is printed off.



Father James Tierney  
before he needed  
spectacles

#### Some Photography Projects

- ♦ Take your camera with you next time you go into the bush. Take pictures of particular subjects such as wildflowers, birds, different species of eucalyptus trees, interesting rock formations. When your photos are printed, arrange them in your album in themes.
- ♦ Take photographs of the same subject at different times of the day or different times of the year. You may need to be patient but you should end up with an interesting set of 'spot the difference' pictures.
- ♦ Tell the story of an event such as pitching a tent in photographs. Decide how many photos are needed and take them at various intervals during the activity.
- ♦ Make a map of an area of bush. Take photos of interesting features that occur in this area. Combine your map with the photos to make a visual guide to the bush.



#### Find out how a camera works.

...About your inscription in Bunyip's Lair. I know you're hankering to make another dash out there with a decent torch. If you like, take my good camera, the one with the flash, and get a close-up of that inscription. It's just possible the sleuths in my publishing firm might be able to do a computer enhancement. Sometimes they resurrect the unreadable"...

...Greg prepared the camera, switched on the flash, set the focus to one metre and adjusted the aperture. CLICK-FLASH, it went. He took three more photos, one from each side and one downwards. He switched off the flash and put the camera in its case back in the knapsack.

From *Bush Boys and Bush Rangers*, Pages 89 and 101



Father James Tierney - Retired Parish Priest,  
Catechetics Consultant and Author

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#### Books by Father James Tierney

Bush Boys (\$5)  
Cuthbert Joins the Bush Boys (\$2)  
Bush Boys and Bush Rangers (\$10)  
Bush Boys on the Move (\$15)

Catholic Family Catechism Disciples'  
Edition with 50 Questions and Answers (\$5)

All available from Cardinal Newman Faith  
Resources Inc.

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## THE ANCESTORS OF THE GRANNY SMITH

Apples are one of today's most popular fruits but did you know this fruit was also a favourite of the Romans? They wouldn't have munched into a juicy, firm, green Granny Smith but they would have enjoyed many other varieties unknown to us today such as the Armerian or the Cestine or the Syrian. Apples however, didn't originate in Rome. Perhaps early apples were first grown in Asia Minor and then, being carried by merchants and travellers, they appeared in Palestine, Egypt, Greece and Italy. As apples spread around the world, new varieties appeared as a natural consequence of adapting to different environments. But the Romans weren't satisfied with these varieties of their favourite fruit. They discovered they could deliberately breed apples for taste and size and soon they had many types of apples to choose from.

The apple didn't stop travelling when it reached Italy. The Roman armies wouldn't leave their apples behind when they went out marching across Europe. They carried supplies of their favourite fruit with them, leaving a trail of planted apple pips in their wake. The apple reached France where, within the monasteries, great fruit growing skills were developed, building on the knowledge gained from the Romans.



Apples appeared in Britain from two sources: directly from the Romans and also from France. These French varieties arrived, together with the Normans, during the Conquest in 1066. The French apples were more successful than their Roman cousins being more suited to the British climate. The British monks developed their own varieties. Several kinds of apples became established in Britain during the thirteenth century. But then over the years, the apple industry was hit hard by such events as the Black Death and the War of the Roses. Just like today, apple growing was also affected by drought. And then along came Henry VIII. Now Henry VIII is infamous for the part he played in the 'Reformation'

It was slightly uphill out of the swamp to the first of O'Reilly's apple trees. These were a less popular variety ripening in December, and awfully green in early November. Kev bit into an apple or two and threw them down in disgust. "Ugh! They're tiny and bitter and hard. Fancy him not having them ripe enough for us to eat."...

...Next, they discovered some old and very rotten apples from last season lying under the trees. Kev threw one at the next tree and knocked off some unripe apples. He could not resist throwing one at Sam. It splattered beautifully all over his shirt, and inside it.

The quiet Sam was aroused to pick up two more and hurl them at him. He splattered Kev on the forehead and belly. Sam was deadly accurate. After ten minutes of battle royal Kev called a truce. A mush of old brown apple and dangling fragments of skin adorned them both from hair to boots – and many trees had newly fallen apples underneath.

From *Bush Boys on the Move*, Chapter 3: Robbing the Orchard, page 38

but did you know he had a hand in reviving the apple industry in Britain? Henry sent his chief fruiterer to France to learn about apple cultivation, and he not only returned with more knowledge, but he also carried back a good supply of apple tree grafts. He planted these in the first ever modern style orchard. Our modern day varieties of apples are descended from these British types.

When the first pioneers set out on their ships to countries such as Australia, New Zealand and the United States of America, they took apples and pips along with them. Like the Roman soldiers of earlier times, apples were one of their most popular fruits and they wanted to establish their favourite varieties in their new homelands. The ship, *The Bounty*, captained by William Bligh, carried the first apples to Australia.

One of the most popular varieties of apple is the Granny Smith. This variety is a true Australian. Have you ever wondered if there was such a person as Granny Smith? There was. Granny's full name was Maria Anne Smith and she was the daughter of transported convicts. The midwife Maria became known as Granny Smith after delivering numerous babies in the township of Eastwood, NSW. But midwifery wasn't her only occupation. She and her husband had a farm and an orchard. One day in 1868, Maria found a small tree pushing its way through a pile of discarded fruit. She transplanted the little tree which went on to produce the first crop of the now famous Granny Smith apples. Maria was once asked how the tree came about and she replied, "Well, it's just like God to make something useful out of what we think is rubbish". She was referring to her own convict origins as well as the origin of her tree.

Apples are now grown all over the world and you would think with all the different growing conditions and all the experimentation developing new breeds, we would have many hundreds of varieties of apple to choose from. But if you visit the fruit shop, you will see that our choice is limited to around half a dozen varieties. These varieties have been chosen by the apple industry because of their appearance, their fast growth rate, their hardness towards disease or because they are resistant to bruising and so travel well. Taste is a secondary consideration. However, many of the older breeds are being kept alive by amateur gardeners. Next time you eat an apple save the pips and try growing them. You will probably not get a tree that bears fruit identical to the variety the pip came from, but you may produce a new interesting apple you can name after yourself.

**Find out more about apple production: orchards, pests and diseases, how new varieties are developed.**

## THE FORBIDDEN FRUIT

God said to Adam,  
"Of every tree of paradise thou shalt eat:  
but thou shalt not eat of the tree  
of the knowledge of good and evil.  
For in whatever day thou shalt eat of it  
thou shalt die the death" (Genesis 2:17)

Many people like to think of the forbidden fruit as an apple, because of the pun in Latin, where malus can mean evil or apple.

### Q.7: Why are we born in Original Sin?

**We are born in Original Sin without grace and special favours because Adam and Eve ate the forbidden fruit and disobeyed God out of pride when the serpent Satan tempted them.**

**From *The Catholic Family Catechism Disciples' Edition with 50 Questions and Answers***

## MARY'S GREAT GIFT

The Rosary is a great prayer of the Church and is a favourite with Catholic families. This prayer is a gift from the Blessed Virgin Mary. God gives His graces to us through Mary and it is through the Rosary, especially, that she gives these graces to us. While we are saying the prayers: the Our Father, the Hail Mary and the Glory Be, we meditate upon the most important events in the life of Jesus and Mary. These events are known as mysteries. The prayers give us the light and grace to understand the mysteries and the courage and strength to put their lessons into practice in our own lives.

The origin of the Rosary is traditionally linked with St Dominic who lived in Spain in the 13<sup>th</sup> century. He founded the Order of Preachers or Dominicans and went to France in order to try and convert sinners. One day, Mary appeared to St Dominic holding a Rosary in her hand. She told him that the Rosary

would convert sinners and obtain great graces from God. She said, "This is the great gift which I leave to you." After St Dominic taught the people how to say the Rosary, there were many conversions. Still today, the Rosary is known as a very powerful prayer, a great gift from our Mother Mary.

## IN THE MIDDLE AGES

The Middle Ages was a time when death frequently arrived without warning. In those days, the people placed great trust in Mary, confident that she would help them if they found themselves unexpectedly at the court of judgement. They knew that Mary would not fail to plead for their souls if they showed great devotion to her and her Rosary. There is a painting at Worcester, England, which dates from these times. It illustrates the people's trust in Our Lady. The painting tells the story of St Michael the Archangel weighing the souls of the dead. The Archangel is judging the soul of a man who has just died. He has the scales of justice in one hand and a flaming sword in the other. In one of the panniers of the scale is a little soul who is peering anxiously at the other pannier. This pannier is weighed down by a large bundle marked 'sins'. The soul looks horrified as he sees a large devil pulling the pannier even further down. Behind the soul, unseen by him, is Mary. She is dropping her Rosary, bead by bead, into the side of the scale where the frightened soul is sitting. To his amazement, his pannier begins to descend.

## ROSARY OF KING HENRY VIII

Most people remember King Henry VIII as the man who declared himself head of the Church in England thus separating himself, and the church in his country, from the True Faith, the Roman Catholic Church. He did this in order to grant himself a divorce from his wife Catherine, as he wanted to marry Anne Boleyn. Henry VIII's actions contributed to the 'Reformation' of the Church. Not many people would be aware that Henry VIII, before he met Anne Boleyn, had a great devotion and loyalty to Rome. He visited the shrine of Our Lady of Walsingham several times. In 1510, he walked bare-foot for the final stage of his pilgrimage and at the shrine, he presented Our Lady with a valuable necklace.

Maybe Henry also had a devotion to the Rosary. He did own a very intricate set of Rosary beads which he hung from his belt. This Rosary consisted, like many used by men, of one decade. It had one Our Father bead and ten beads for the Hail Marys. The Our Father bead was made of fine box wood and opened up to reveal an intricately carved scene from the Mass of St Gregory, with the Virgin and Child enthroned in glory. This same bead is carved with the king's name and royal coat of arms.

**Perhaps you might like to make drawings of each mystery of the Rosary which you can use to help you meditate next time you pray.**

The Family Rosary followed. Greg took down a picture book and opened it at the right place, a picture showing Jesus in Gethsemane. Bernie lighted two candles alongside the book. They knelt around the table. Tim turned the pages when they had to think about another scene. Mrs Cumberland gave Peter and John a little card with the texts of the prayers they mightn't know.

From *Bush Boys*, Chapter 18: Welcome Home and a New Start

## TORCHES AND HOW THEY WORK

If you are out in the bush at night, an essential piece of equipment is a torch. Not only will it help you to navigate through the dark, but it will also enable you to see such dangers as snakes so that you can avoid them.

Although highly effective, the torch is an extremely simple instrument. It is made up of only a few parts. Looking at a torch from the outside, you will see that it has an outer case made from plastic or rubber. These are tough materials so your torch should stand up to a fair amount of rough handling.

On the side of the torch is situated a switch. It might need to be pressed or perhaps slid along to turn the torch on. The best sort have a slide with three positions, "off" and "on" and an in-between position that allows a button to be pressed to send Morse code.

Turn on the torch and a beam of light will project outwards. The optical system consists of a light bulb and a reflector. The reflector is shiny and concave, or better, parabolic in shape, and helps to concentrate the light into a strong narrow beam.



Next unscrew the end of the torch and peer inside. Various metal components will be visible: a strong spring at one end, a metal contact at the opposite end and a metal contact directly under the switch which projects downwards to the spring end of the tube. There is room for the batteries or cells to slide in between the spring and the end contact. The spring ensures they are held firmly together when the torch is screwed shut.

The batteries are the source of power for lighting the lamp. Larger torches will probably use C-cells as in the *Bush Boys*; smaller torches will use AA cells.

Now that the batteries have been inserted and the end of the case screwed firmly closed, all that is left to do is to press or slide the switch and a beam of light will appear. But how is that light produced? Batteries have a certain voltage or 'push' which makes an electrical current flow around a closed circuit. An electrical current is a flow of charged particles. Turn the torch switch on and a circuit connecting the batteries to the lamp will be completed. Current will flow easily through the metal parts of the torch but when it reaches the lamp it will meet a resistance. The wire in the lamp filament is very thin and will conduct current much less easily than the thick metal components. The filament will begin to heat up and glow white hot producing light.

Has your torch ever failed to work. There are a couple of reasons that might explain this. Firstly, for electrical current to flow, there must be a closed circuit. As mentioned, the switch when placed in the 'on' position, completes the circuit. The switch of a torch may be faulty: it might not be moving the metal contact into the right place to join up the pathway. The spring might be loose and might not be maintaining contact with the batteries. However, the most obvious reason for a non-working torch is flat batteries or batteries inserted upside down. Perhaps you, like Greg, have recently placed new batteries in your torch but now it is not working. How frustrating this can be! Probably your torch got turned on by accident and now your batteries are drained. To prevent this happening again, maybe you'd like to make Greg's battery protector. This will ensure that your torch is full of power just when you need it most.

**Have a good look at your torch to see how it is put together. Draw a circuit diagram to explain how it works. Make a battery protector for your torch using the instructions in Chapter 20 of *Bush Boys*.**

Greg discovered why his torch wouldn't light. It worked with the spare batteries, so the switch must have been left on. But that shouldn't have mattered if only his little disk of cardboard had been put back under the flat end of the second battery. He could guess who.

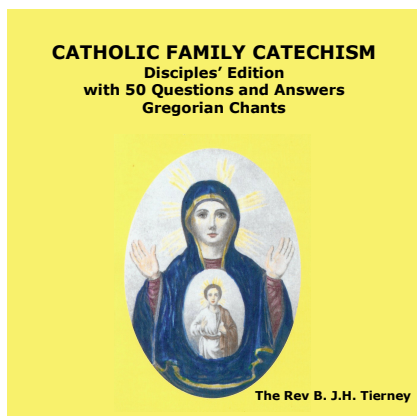
"John," he said, "you put the torch back in my knapsack yesterday morning. But you didn't put on the safety catch, I mean, fit the battery protector. It saves them if the switch joggles on by accident." John looked on with interest, while Greg put a piece of cardboard, just bigger than a two cent coin, over the end of the new C-cells, and then screwed on the end piece.

From *Bush Boys*, Chapter 20: Pitching their own Camp

## LEARNING BY HEART

In the book *Bush Boys*, Greg gives his cousins a copy of his *ABC of Camping* which he insists they must learn if they want to come camping with him. The ABC of Camping's full name is the Australian Bush Catechism. What is a catechism? A catechism is a summary of the most important facts a person needs to know on a particular subject. Catechisms are usually written to teach children the Catholic faith. But in the *Bush Boys* books, Fr Tierney has written a catechism to teach children all the basic information needed to safely enjoy a bush adventure. Now the catechism doesn't contain everything you will ever need to know. It is more like a skeleton of knowledge. If you know the answers to the catechism questions you will remember other facts to do with the subject. In every edition of *Bush Boys Explorers* you will read about one or more questions and answers from the ABC of camping. You can also find the complete catechism in the appendix of *Bush Boys on the Move*.

Have you ever tried to memorise all the questions and answers in the ABC of Camping? Father Tierney heard about a group of boys who did just that. He thought that if it was possible to learn 50 camping questions and answers perhaps children could memorise 50 questions and answers on the Catholic faith. Fr Tierney set to work and produced the *Catholic Family Catechism Disciples' Edition with 50 questions and answers*. The questions provide a summary of the doctrine of the Catholic Church. Fr Tierney carefully constructed the answers so they are easy for children to both understand and remember. Why is it so important to know the questions and answers by heart? If you succeed in doing this you will have "permanent possession of the doctrines of the faith".



Perhaps you like learning things by heart. It can be very satisfying to be able to recite a poem and to be able to recall the words whenever you want to enjoy the poem all over again. Perhaps in the same way you will gain a sense of achievement from learning the questions and answers from Father's *Family Catholic Catechism* book.

How do you go about learning things by heart? First you need to have some understanding of what you are learning. Fr Tierney also suggests you help memorisation "by much accurate repetition, by chanting them, by writing them down and drawing (your) own pictures, by reading them aloud, by using cassettes and computers, by testing each other and...by being given rewards."

As you can see, Fr Tierney suggested chanting the catechism questions and answers. A recording, of a family chanting the catechism, is now available on the Cardinal Newman website. Perhaps you'd like to visit the website to have a listen. You can even download your own copy of the singing catechism. Then you can chant along. Soon you will be able to chant without the aid of the recording. The questions and answers will have been committed to memory and will have become a part of you.

## WHAT IS A CHANT?

A chant is a form of music for the voice. It is a form of prayer which is sung in unison: everyone sings the same melody; there are no harmonising parts.

The early music of the Church consisted of chants. This music was designed to be sung unaccompanied but it was sometimes accompanied by the organ. It had a free rhythm which allowed lines of unequal length to be sung; the words didn't have to fit into a particular pattern. Much of the chant music we have was collected and written down at the choir school established in Rome by Pope St Gregory the Great and therefore it is known as Gregorian chant.

When harmonised church music was introduced, the old music was given the name *cantus planus* or plainchant to distinguish it from the new music.

"What are those drawings, Mum?" asked Peter curiously. Then eagerly, "Are they about camping?"

"Yes," said his mother, "it's your *homework*, from Gregory - he's only a month or two older than you are, Peter, so you'll follow it all right - about what to wear and what to bring." Peter reached out for Gregory's pages, but Mum waved his hand away...

...Then she tried to look at them severely - not very successfully: "Your aunty says that Gregory insists that you must master his *ABC of Camping* by Sunday, or you can't go camping in the bush!"

From *Bush Boys*, Chapter 1: Good News from the Mountains

Visit [www.cardinalnewman.com.au](http://www.cardinalnewman.com.au) to download your copy of the catechism chants. Using this and your *Catholic Family Catechism Disciples Edition* set yourself the challenge of memorising the 50 questions and answers.

Then they came to a cliff almost four metres in height. The cave was just above it, out of sight.

Bernie said, "...There's got to be a way up somewhere."

They tried in vain. Apparently, the cliff continued indefinitely for hundreds of metres at least, so they met again below the cave.

Peter said, "Couldn't we throw the rope round that sapling up there? Then we could get up." He pointed up at the ledge, which was apparently the door step of the cave. Several saplings grew on it.

Greg looked gratefully at Peter. "Try it," he said. Peter loosened the rope and threw. He threw high enough, but it bounced back off the tree. He recoiled the rope over his shoulder and elbow, and tried again. This time the rope got caught up in its own twists.

Greg said nothing, but recoiled the rope correctly, putting in the clockwise twist with his finger and thumb. The coils straightened gracefully and the rope sailed around the sapling. The other end fell into his hand. It was only just long enough. They grinned at each other in triumph, though they all knew it was a lucky fluke.

"Who's first," said Bernie?

From *Bush Boys*, Chapter 27: We'll Head for the Hills

## THE ROPEWALK

Henry Wadsworth Longfellow wrote a poem about a ropewalk and the uses rope is put to.

In that building, long and low,  
With its windows all a-row,  
Like the port-holes of a hulk,  
Human spiders, spin and spin,  
Backwards down their threads so thin  
Dropping, each a hempen bulk.

At the end, an open door,  
Squares of sunshine on the floor  
Light the long and dusky lane;  
And the whirring of a wheel,  
Dull and drowsy, makes me feel  
All its spokes are in my brain.

As the spinners to the end  
Downward go and reascend,  
Gleam the long threads in the sun;  
While within this brain of mine  
Cobwebs brighter and more fine  
By the busy wheel are spun.

Two fair maidens in a swing,  
Like white doves upon the wing,  
First before my vision pass;  
Laughing, as their gentle hands  
Closely clasp the twisted strands,  
At their shadow on the grass.

Then a booth of mountebanks,  
With its smell of tan and planks,

And a girl poised high in air  
On a cord, in spangles dress,  
With a faded loveliness,  
And a weary look of care.

Then a homestead among farms,  
And a woman with bare arms  
Drawing water from a well;  
As the bucket mounts apace,  
With it mounts her own fair face,  
As at some magician's spell.

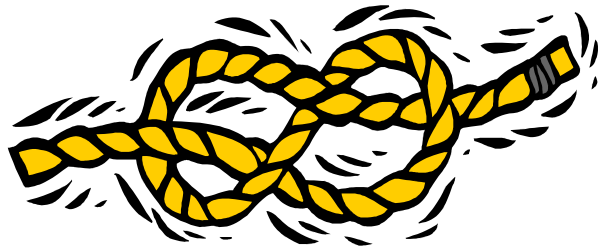
Then an old man in a tower,  
Ringing loud the noontide hour,  
While the rope coils round and round  
Like a serpent at his feet,  
And again, in swift retreat,  
Nearly lifts him from the ground.

Then within a prison-yard,  
Faces fixed, and stern, and hard,  
Laughter and indecent mirth;  
Ah! It is the gallows-tree!  
Breath of Christian charity,  
Blow, and sweep it from the earth!

Then a school-boy, with his kite  
Gleaming in a sky of light,  
And an eager upward look;  
Steeds pursued through lane and field,  
Fowlers with their snares concealed,  
And an angler by a brook.

Ships rejoicing in the breeze,  
Wrecks that float o'er unknown seas,  
Anchors dragged through faithless sand;  
Sea-fog drifting overhead,  
And, with lessening line and lead,  
Sailors feeling for the land.

All these scenes I do behold',  
These, and many left untold,  
In that building long and low;  
While the wheel goes round and round,  
With a drowsy, dreamy sound,  
And the spinners backward go.



### Recipe: Sweet Baked Apples

Take an apple and remove the core. Stuff a marshmallow into the centre of the apple, followed by a spoonful of butter, some brown sugar and finish with a second marshmallow. Wrap the apple in foil and place in the fire for 5-10 minutes. Allow to cool before unwrapping and eating.

## SKIPPING ROPE: NOT ONLY FOR GIRLS

Skipping ropes are a very popular but simple piece of exercise equipment. Maybe you have a skipping rope yourself. Although many girls like to skip, this isn't a purely feminine past time. Many athletes have discovered that skipping gives them great strength and endurance. It provides them with a cardiovascular workout similar to jogging or bicycle riding. Ten minutes of jumping is the equivalent of running an eight minute mile. Although both skipping and running burn up calories at a fast rate, skipping has one advantage. The impact of each jump is absorbed by both legs and so the knee damage, commonly experienced by runners, is avoided. Skipping, not only strengthens the legs, but also the arms and shoulders. Because jumping with a rope improves the body's coordination this form of exercise is very popular with wrestlers and boxers.

So now you know all the advantages of skipping, get out your rope or borrow one from your sister and try this simple, fun exercise.

**There are many skipping chants you can sing while you are jumping away. Have a look on the Internet. Perhaps you could chant your catechism in time to your bounces!**

## ROPEMAKING

Ropemaking is an art that has been around for over 5000 years. Simply, to make a rope, fibres are twisted to form strands. Several strands can be twisted the opposite way to form rope. Until the late 19<sup>th</sup> century, rope was made in special buildings called ropewalks. These were long low buildings about a 1/4 kilometre in length. The length of the building determined the length of the rope produced. A boy turned a wheel to which fibres were attached, while a man walked backwards along the ropewalk, paying out the fibre which was wrapped around his waist. The turning of the wheel twisted the fibres into strands. Strands could be twisted together to form rope.

## VENOMOUS OR POISONOUS

You are walking through the bush when you see a snake slithering across the path in front of you. What do you do? Being aware that Australia has more than 100 poisonous snakes, of which 12 are ranked among the most deadly in the world, you know it would be wise to stay away from this animal. Perhaps, knowing that most snakes will not attack if they are not provoked, you allow the animal to slide off into the undergrowth before continuing your journey. You have avoided becoming one of the 3000 Australians who are bitten by snakes every year.

But is a snake really poisonous? The answer is no. A

snake is not poisonous but venomous. A poisonous creature transfers its toxin to its victim when it is either eaten or touched. A venomous animal needs to actively inject its toxin into its victim. So it would have been quite safe to have touched the snake. The danger lies in avoiding its fangs. If you had confronted the snake it may have had the opportunity to sink its fangs into you thereby transferring its toxic venom into your body.

How does a snake's venom work? It destroys the brain's ability to send signals to the various parts of the body involved in respiration. These areas become paralysed and may lead to suffocation. But even if a snake has had the opportunity to inject venom, the effects might not be this severe. Different varieties of snakes have venoms of different toxicity. Even within a species, the potency of venom may vary. The age of the snake and the amount of venom injected, all will affect how badly hurt a victim becomes. Only about 300 of the 3000 people bitten by snakes every year need to be treated with anti-venom. Anti-venom will help the victim's body ward off the affect of the toxin and respiration can continue.

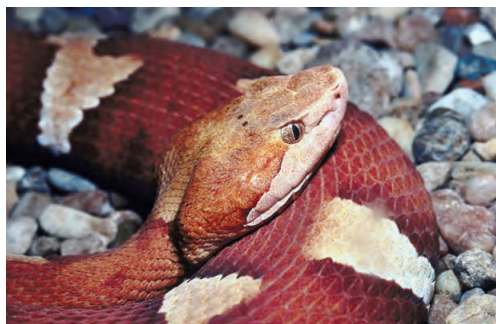
So the good news is that even if you had been bitten by the snake there is a good chance you would have survived. With good first aid treatment at the scene of the attack, and quick transfer to a hospital, death can usually be avoided. It is always wise to be prepared before setting off into the bush. Learn the correct first aid treatment for snake and spider bite by reading Question 46 of the *ABC of Camping*. Watch a demonstration of this treatment, maybe by a St John Ambulance officer. Demonstrate the technique yourself. Remember, safety first is better than first aid: avoid snake bite by wearing boots at all times, keep your eyes open, don't distract the



## HOW ANTI-VENOM IS MADE

Anti-venoms have been developed to help victims bitten by various snakes and spiders.

- ♦ To make anti-venom a supply of venom is needed. This is taken from live specimens of the venomous creatures. The snake or spider might be encouraged to bite a piece of cloth stretched across a collecting bottle.
- ♦ The collected venom is now purified, dried and frozen.
- ♦ A weakened solution of this venom is now injected into an animal such as a horse or pig. The animal's immune system produces antibodies to the venom.
- ♦ These antibodies are extracted from the animal's blood and processed into anti-venom.
- ♦ The anti-venom is stored at a hospital and if needed, injected into a bite victim.



...the younger boys saw everything from above.

It was to be stamped deep in their memories, like a slow motion movie, each moment of it full of horror.

Something black, scaly, glistening, sinister in every aspect, rose from a lithe coil in the grass. Its beady eyes fixed on its victim, its forked tongue flickered in and out, its head flattened as they watched...

The snake, for that is what it was, fanged its victim, Jason, the Red Yahoo, low on his right leg, just above his Achilles tendon...

...The snake, having suckled on for the few seconds that it took to unload the poison from its glands, slithered off into the thicker grass. With a flash of red from its underbelly, it was gone.

Peter and John felt sick.

From *Bush Boys*, Chapter 30: The Bush Strikes Back

### Q 45: How do we avoid snake or spider bite?

**We avoid snake bite and spider bite by wearing boots at all times, watching where we're walking, not distracting the man in front and using a torch at night.**

From the *ABC of Camping*

## REAR OR FRONT FANGED SNAKES

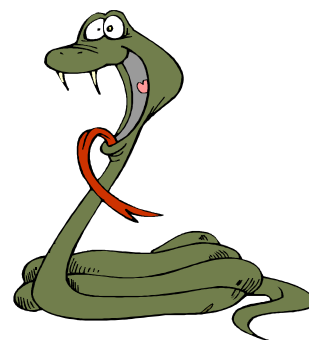
Snakes can be classified according to the position of their fangs: rear-fanged (colubrid) or front-fanged (elapid).

Australia has only 11 of the world's 1600 rear-fanged snakes and all of these are not harmful to humans. All 11 species are found in north and north-eastern Australia. Four species are aquatic and the others live near water or in moist conditions. Although these snakes are called rear-fanged, not all of them, such as the Green Tree Snake, have fangs or venom glands. Some species such as the Brown Tree Snake have fangs at the back of the mouth and they do produce venom. However, the venom is weak and the snakes need to get a good grip on their prey before they can inject it.

Australia has 75 of the world's 210 species of front-fanged or elapid snakes. All these snakes have sharp, hollow, re-curved teeth at the front corners of the upper jaw. The front tooth on each snake acts as a fang. When a snake bites, venom from a gland in the upper jaw is forced through it and into the wound.

About 20 species of Australia's elapids are potentially dangerous to humans. The bite of any of the following snakes could be lethal:

- Southern Death Adder
- Northern Death Adder
- Desert Death Adder
- Pygmy Copperhead
- Highlands Copperhead
- Lowlands Copperhead
- Small-eyed Snake
- Black Tiger Snake
- Eastern Tiger Snake
- Western Tiger Snake
- Taipan
- Inland Taipan
- Mulga Snake
- Spotted Mulga Snake
- Collett's Black Snake
- Spotted Black Snake
- Red-Bellied Black Snake (to a child)
- Dugite
- Eastern Brown Snake
- Western Brown Snake
- Rough-scaled Snake



Unless provoked, most of these snakes will choose to retreat rather than bite.

**How many of the above snakes can you identify?**

