Presenter: Kieran Aland- Zoologist in the Inquiry Centre (Biodiversity Program)

Topic: Carpet Pythons

Hi. My name's Kieran Aland. I work here at the inquiry centre and I'm a zoologist with a particular interest in snakes. This is a two-year old carpet python and as you can see it's rather spectacularly coloured. Now, believe it or not, that's effective **camouflage**. This snake lives in the rainforests, or would normally live in the rainforests, of north Queensland and you can imagine coiled up on the forest floor, it provides disruptive camouflage. So this snake coiled up is actually very hard to see.

Now you notice it's a little bit cranky. These snakes see the world differently to us. Along its lower and upper lips it has a series of **special pits**. Now these pits are lined with very sensitive skin that 'sees' infrared light. So these snakes can actually see a part of the spectrum that we can't see. Now I'll just show you something. It's just a cup of hot tea. Watch how the snake tracks it. The warmth, the **difference in temperature**, is something that the snake reacts very strongly to. See it following the cup of tea?

This adaptation allows this snake, in total darkness, to catch warm-blooded prey. Right now, (I'll move it away from my face), it's looking at me with its eyes, but it's also registering my warm face using those special pits.

This small carpet python is actually capable of swallowing something easily the size of a medium to large rat. Now it can do that because its **jaws** are quite different to our jaws. Their two mandibles meet at the front like ours do, but instead of being fused, the join is quite flexible. There's a very, very flexible ligament that holds the two mandibles together. So when the snake feeds, the lower jaw drops, and then the mandibles can separate at the front, and then the joint here, is actually able to allow movement in another plane. So instead of just going like that, like we do, they go open – they can spread at the front – and then the mandible – that joint there – can go like that. So they're able to stretch their head over a very big food item.

Now, when a snake swallows it actually 'walks' its head over the prey. So, the upper jaw has teeth on each side, so those can be moved independently to a certain extent. So the head gets 'walked' over the prey. The **re-curved teeth** hang on and allow the next step to be taken.

If you watch this snake you'll see it flicking its **tongue** in and out. Its tongue is a very interesting organ. The tongue doesn't actually do any tasting or smelling. What the tongue does is it transfers scent particles from the air or from the substrate to an organ on the roof of the snake's mouth, called the **Jacobson's organ**. Now the Jacobson's organ is what does the smelling or the tasting. Now, the tongue has two tips. When the tongue comes out and picks up scent molecules, if the left-hand tip picks up more, the Jacobson's organ knows or tells the brain, there's more of whatever that particular scent is towards the left. So the tongue actually provides a directional ability to analyse scent.

So a snake like this can follow the trail of a rat for example by using scent. It also uses scent to find a mate at breeding time. (Really cranky, hey?)

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