

## GOLDFIELDS FROGS

Frogs are usually associated with permanent, or at least plentiful, water. Yet as many as 10 different frog species live in WA's arid Goldfields.

Goldfields frogs include two tree frogs, distinguished more by enlarged sucker-like pads on the ends of their toes rather than a liking for trees. The small golden-brown desert tree frog is found in the Pilbara, Murchison and Gascoyne and south to Cue. It is well known around station homesteads and mining camps and has a call that sounds like a flock of seagulls.

The other tree frog, the green and golden bell frog, has been introduced to the Goldfields from the South-West. It thrives in permanent waters in Kalgoorlie's Hammond Park and sewerage ponds.

Perhaps the best-known of all Australian arid-zone frogs are the water-holding frogs. Their plastic-like waterproof skin preserves their moisture for indefinite periods in dry sand at the bottom of their burrows. This remarkable adaptation does not end there; when the rains come the frog recycles the skin's protein by eating it.

Although some Australian



frogs can develop directly from egg to adult without going through a tadpole stage, all Goldfields frogs have tadpoles and need freshwater ponds for breeding. However, they need very fast breeding cycles.

The animals start calling from their burrows, or from under logs or stones, as soon as the soil moistens (or in some cases when it starts to rain). Anyone who has spent a night in the bush after a summer thunderstorm, especially in the Pilbara, will have heard the almost deafening cacophony

of male frogs calling for female mates.

Once the eggs are fertilised, it is a race against time for the eggs to hatch and tadpoles to reach sufficient maturity to escape the temporary pond. Only the fastest growers will manage this.

Occasionally, a mass of squirming tadpoles can be seen in a small muddy pond just before it dries up - perhaps the result of being born too late, or perhaps a harsh reminder that only the fittest survive.

Andrew Chapman



*Main's frog (Cyclorana maini) (top).  
Desert tree frog (Litoria rubella) (above).  
Water-holding frog (Cyclorana platycephalus) (below).  
Photos - Jiri Lochman*



*Green and golden bell frog (Litoria moorei) (left).  
Photo - Andrew Chapman*



# LANDSCOPE

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Each weekend, hundreds of novice scuba divers take the plunge. Get the most out of your diving on page 10.



How do birds fly? How do some reach speeds of over 80 kilometres per hour? Learn about avian aerodynamics on page 28.



A very different landscape replaces what was once a thriving timber industry. Rediscover Cannington in the 1850s. See page 42.



Western Australia grows some rare and stunning native spider orchids. Their alluring nature will delight the reader on page 34.



Seaweed! Delicate and beautiful, or slimy and smelly? Decide for yourself on page 20.

## FEATURES

<b>TAKING THE PLUNGE</b> GREG POBAR AND TANYIA MAXTED .....	10
<b>NUMBAT DAWN</b> TONY FRIEND .....	15
<b>SEAWEED - THE GOOD, THE BAD AND THE UGLY?</b> JOHN HUISMAN .....	20
<b>LIGHTNING STRIKE</b> ROGER UNDERWOOD .....	23
<b>TO FLY LIKE A BIRD</b> JIM LANE .....	28
<b>ALLURING ORCHIDS</b> ANDREW BROWN .....	34
<b>HAVEN IN THE HEART</b> BARRY WILSON .....	37
<b>TAKING WOOD TO WATER</b> OTTO PRAUSE .....	42
<b>LAND OF THE BIG WATER</b> CLIFF WINFIELD .....	46
<b>CHIP OFF THE OLD BLOCK</b> JEN McCOMB & IAN BENNETT .....	50

## REGULARS

<b>IN PERSPECTIVE</b> .....	4
<b>BUSH TELEGRAPH</b> .....	6
<b>ENDANGERED</b> THE GROUND PARROT .....	27
<b>URBAN ANTICS</b> .....	54

## COVER

Back in the early 1970s, Western Australia proclaimed the numbat (*Myrmecobius fasciatus*) as its State emblem which may have saved its life. With the help of scientists and new techniques, these delightful creatures are now fighting back against extinction. See page 15.

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