



ENDANGERED!



F O R E S T F R O G S

Two endangered species of frogs, about the size of a thumbnail, are confined to small pockets of Western Australia's lower South-West. *Geocrinia alba* ssp. nov. and *G. vitellina* ssp. nov. - which are to be included on the list of gazetted rare fauna - are vulnerable because of their limited ranges and unusual breeding biology. Their survival can only be guaranteed with the protection of creek systems in the area.

Two other species of frogs are restricted to damp sites in the South-West: *G. rosea* and *G. lutea*. They have wider ranges and are not at risk.

G. alba is confined to a few sites in the Witchcliffe and Karridale areas. It is found in a forest corridor connecting the main forest belt along the Blackwood River to the coastal Boranup forest.

Much of this area is privately owned and subject to clearing for farming. Clearing and subsequent grazing destroys the frog habitat. Protection of suitable creeks in the area will be essential

to maintain the habitat and ensure the survival of this species.

G. vitellina, possibly Australia's most restricted vertebrate, is confined to small seepages on a few creeks north of the Blackwood River. Its total distribution is thought to be less than 30-hectares. Fortunately, this area is reserved land managed by the Department of Conservation and Land Management (CALM) and a special management plan to protect the frog's habitat is currently being prepared.

G. rosea, on the other hand, is widely distributed throughout the western section of the karri forest. It is separated from *G. lutea* by the Pingerup Plains, north of Broke Inlet. *G. lutea* is found only within 12 kilometres of Walpole.

Although usually found in creek systems, males at the centre of *G. rosea*'s range may be heard calling from rotting logs. Here in the karri forest, low sites and streambanks provide a suitable habitat.

Both *G. rosea* and *G. lutea* are found principally within national parks or State forest. At the centre of their range, they are able to survive fire and other disturbances without difficulty.

The four species of frogs can be easily distinguished by their brightly-coloured bellies. *G. rosea* has a red belly ('*rosea*' is Latin for red), while that of *G. lutea* is yellow, *G. alba* white and *G. vitellina* an egg-yolk colour. *G. rosea* and *G. lutea* males also have black chins.

These frogs are unusual in that they never enter water, preferring to lay their eggs in moist soil depressions. When hatched, the tadpoles remain in the jelly surrounding the eggs, drawing on food reserves in the egg yolk. Other WA frogs share this unusual breeding biology, known as direct development.

GRANT WARDELL-JOHNSON
AND DALE ROBERTS

LANDSCOPE

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Perth people were devastated when a fire tore through their favourite bushland retreat. But, with Spring, new life and colour is returning.



Rottneest isn't the only unspoilt island on Perth's doorstep- what about Penguin, Garden, Seal and Carnac Islands? They are steeped in history and provide a haven for some unique wildlife.



Algae has clogged the estuaries near Mandurah, killing fish and creating an eyesore. What is the solution?



Jarrah dieback- the word strikes fear into any forester's heart- but research is fuelling the fight against the killer fungus.



Explore the waterways of the South-West by canoe.

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HUMPBACKS HEAD SOUTH

C O V E R

What's new in Kings Park this spring? Artist, Susan Tingay, couldn't resist this magnificent collection of spring orchids. From left- cowslip orchid (*Caladenia flava*), jug orchid (*Pterostylis recurva*), King spider orchid (*Caladenia huegelii*), donkey orchid (*Diuris longifolia*), rabbit orchid (*Caladenia menziesii*), and pink fairy orchid (*Caladenia latifolia*).

Back Cover: Stimson's python (*Morelia stimsoni*)
Photo-Jiri Lochman



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