



ENDANGERED!



STIRLING RANGE TRAPDOOR SPIDER

Trapdoor spiders abound among the Western Australian fauna as a series of diverse and ancient lineages that have survived through the aeons and adapted to the modern dry climates. They have done this through numerous behavioural and morphological changes. Some trapdoor spider groups have remained relatively unmodified and are nowadays restricted to isolated patches, usually in areas of higher rainfall in the south-west corner of the State.

One such lineage, the Migidae, is represented in Western Australia by the genus *Moggridgea*, which is elsewhere known only from southern Africa and Kangaroo Island, South Australia, making it a true Gondwanan relict. Of the three known Western Australian species, only the Stirling Range trapdoor spider is currently listed as threatened. All known populations are small, fragmented (they are generally

restricted to shaded, south-facing slopes and valleys), and extremely vulnerable to fire. The animals live in short burrows, which are too shallow to resist the immense heat generated at ground level in a hot bushfire. Any survivors are vulnerable to the subsequent drying out of their local environment through the temporary loss of the tree canopy, or from the smothering effect of rushes and acacias that rapidly regrow after fires. Re-establishment of high-density spider populations takes at least 20 years after a hot fire.

In 1996, the Department of Conservation and Land Management (CALM) arranged for a survey of the Stirling Range trapdoor spider by experts from the Western Australian Museum and The University of Western Australia. The fieldwork

located 12 populations, some of which were very small. The survey also highlighted the species' susceptibility to high intensity fires, and noted that some populations had been greatly diminished by recent wildfires. This information was used in developing the management plan for the Stirling Range National Park, which aims to protect these populations from fire.

Our knowledge of the Stirling Range trapdoor spider is not complete, as there is still some uncertainty regarding the taxonomic status of the various populations—is there only a single species represented in the Stirling Ranges, or is there a species complex similar to that of plants such as *Darwinia*? Only further collecting and analysis can answer this perplexing question. If there are many species, the conservation status of the surviving species is extremely uncertain.

The survival of these precious, ancient creatures relies on careful management of their existing habitat.

By Mark S. Harvey and
Barbara York Main
Photos - Jiri Lochman

Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting.

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What does the future hold for our karri forest? Research provides some interesting insights. See page 18.



The photographic excellence of WA team Babs and Bert Wells was driven by a love of the job. See page 10.



Many WA women have played important roles in the conservation of our natural resources. Some of them feature in our story on page 41.



'Growing Gnangara Park', on page 35, continues the story of WA's largest proposed outer suburban native parkland.



Partnerships are important. Many private sector businesses and individuals are active partners in protecting our natural heritage. See page 47.

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COVER

The Dampier collection returns briefly to Western Australia for an exhibition at the WA Museum. The specimens' scientific interest is limited, but their historical significance is immense. The illustration is of the *Sturt-pea*, and Dampier was the first person to collect this unusual but magnificent plant. (See page 28)

Illustration by Philippa Nikulinsky



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