

# ***Snakes, Lizards and Frogs of the Victorian Mallee***

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## Introduction to the Victorian Mallee

The Mallee region of north-western Victoria comprises almost one-fifth of the area of the state. This region is bounded to the north by the Murray River, to the west, by the South Australian border, extends south to between the 36th and 37th parallel and east to the Loddon River.

The area is a vast semi-arid plain that slopes gradually from an altitude of about 100 metres in the south to less than 50 metres in the north, with low relief



Typical Mallee habitat. M.G. Swan

throughout. There is little variation in the local climate, with hot summers and mild winters. Annual rainfall decreases gradually from about 400 mm in the south to 250 mm in the north, with little seasonal variation. Soil types vary from sand to clay and are often calcareous and sometimes saline.

The native vegetation consists of low, multi-stemmed mallee eucalypts, which gives the area its name. Other plant communities occur throughout such as heath, grassland and saltbush plains, with fringe areas of River Red Gums and Black Box woodlands.

Of the total area of 4.3 million hectares, public land occupies approximately 37 per cent, most of which is reserved in national parks.

### History

Around three million years ago the Victorian Mallee was a shallow sea. Evidence of this is the large tracts of salt in the soil of the region and the remnant salt lakes. The area has a long history of occupation by Indigenous Australians, mostly along the watercourses and fringe areas, however they occupied the more arid areas infrequently. When European settlers arrived in Australia, smallpox affected large communities of these people including those in the Mallee region.

In 1830 the explorer Charles Sturt traversed the northern boundary of

Victoria's Mallee. Fifteen years later white settlers arrived with some leaseholds and, under very harsh conditions, farmed sheep in large numbers with only limited success. However the loss of livestock, drought conditions and limited support forced many to abandon farming in the area.

In 1883 the Victorian Government passed the *Mallee Pastoral Leases Act*, which provided stringent guidelines on leased land, to prevent degradation of the Mallee. However a real change to rural practices came when managers shifted their focus of productivity to wheat. To this day wheat is the main source of income for the Mallee rural community.

After the First World War, returned soldiers were offered leaseholds under various schemes in the Mallee and this stimulated one of the last strong growth periods for the region. The continuing hardships combined with drought, falling wheat prices and the depression of the 1930s, sent many farmers broke. Incorrect fallowing techniques resulted in topsoil being blown into massive dust storms across the Melbourne skyline during the 1930s and 1940s. Interestingly the depression of the 1930s assisted in the preservation of mallee habitat as it reduced the development of further leaseholds for stock grazing and expansion of wheat crops.

In 1977 the Land Council Committee recommended 77 000 hectares of the Mallee be reserved, while approval for 35 000 hectares were made available for limited use. Unfortunately illegal clearing and subsequent damage of leased areas has occurred.

Although around 50 per cent of the Mallee has been converted to extensive farmlands, The Victorian Mallee is still the largest wilderness area in Victoria and is one of the largest regions of mallee vegetation in Australia.

## Threats to mallee habitats

### Livestock

Sheep have a significant impact on mallee habitats through compaction of soil and foraging on native vegetation leading to soil degradation and erosion. Mallee habitats are also disturbed through water being channelled to livestock, which then also increases macropod populations. The Sunset Country has numerous colonies of goats, which are declared noxious vermin, though the area receives limited pest control.

### Vermin

Rabbits represent a potential threat to mallee habitats, especially those that border developed areas. They feed on many plant species, spread weeds through seeds in their fur and they also ring-bark trees. The abundance of this pest animal cannot be overstated. Poison baits used to control foxes may pose a threat to foraging varanids like Rosenberg's Goanna and the Sand Goanna. Populations of feral cats occur in all parks and while rabbits, native birds and mammals constitute a large part of their diet, they also prey upon reptiles.

### Broombush harvesting

The commercial harvesting of broombush, *Melaleuca uncinata*, began in 1972, and the majority of harvested material was sent to South Australia for use as fencing. During this process, four-wheel drive vehicles and trucks damaged tracks and vegetation in the Big Desert. There was also disturbance and potential threats to the surrounding areas via introduced weeds and habitat loss to environmentally sensitive animals such as the Pygmy Possum, Mallee Fowl and the Black Eared Miner. In 1990 the Land Conservation Council stopped the broombush industry from operating in the region. The industry was financially troubled and the harvesting considered environmentally unsound.

## Wildfire

Fire is a natural feature of the Australia landscape and the Mallee region is often subjected to large-scale fires. However excessively frequent wildfires, both deliberately lit and natural occurring, severely threaten remnant populations of native fauna and flora. Many plant species rely on fire for regeneration, such as the Grass Tree, *Xanthorrhoea australis*, and Spinifex Grass, *Triodia irritans*. However the loss of suitable habitat presents a threat to fauna – especially since they are preyed upon more easily in a cleared landscape.

## Other threats

Widespread removal of mallee roots and stumps for firewood has reduced habitat availability for some species. The use of areas of the Mallee for large-scale military exercises, commercial apiculture, salt production, gypsum mining and diversion of water, may pose threats to Mallee habitat, but are yet to be fully documented. The gene pools of fauna and flora may be constricted by fragmentation and alienation of remaining habitats within the mallee.



The aftermath of fire in the Little Desert National Park. Some plants, such as the Grass Tree, rely on fire for regeneration. S. Watharow



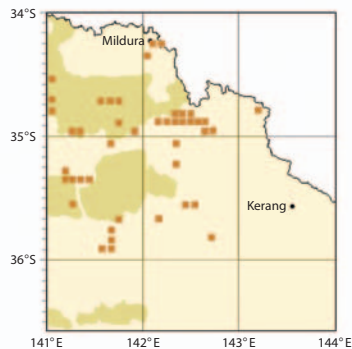
## Burton's Snake-lizard

*Lialis burtonis* Gray, 1835



M.G. Swan

Lake Becking, Vic



**Description:** A very distinctive legless lizard, with a sharp snout. Generally plain grey or light brown. Colour may vary within populations with plain and striped individuals. Sexually dimorphic with adult females noticeably larger than males. A dark lateral line often present from eye region along the fore body. Poorly developed hind limb flaps. Scales usually in 18 rows at mid-body. Snout-vent length: 290 mm.

**Habitat:** A widespread lizard that occurs through many habitat types including mallee, chenopod shrubland, heathland and grassland (*Triodia* spp.). May also be found under sheets of iron and other human rubbish, fallen branches or low growing bushes. Often observed crossing roads at night.

### Diagnostic features

Body superficially similar to snake, with **poorly developed hind limb flaps.**

**Prominent wedge-shaped snout.**

Tail longer than body.

Conspicuous external ear openings.

**Scales smooth, usually 18 rows or more at mid-body.**

**Habits:** A lizard specialist, preying upon skinks, geckos, dragons and legless lizards. Gravid lizards may be found from September to February with eggs possibly laid more than once in a season. Communal nests have been documented. It is not unusual to find more than one specimen (up to four recorded) in a single clump of spinifex, particularly in spring.

**Locations:** Big Desert, Sunset Country, Hattah-Kulkyne.

**Victorian conservation status:**  
Not considered as threatened.



P. Robertson

Rockhole Bore, Vic

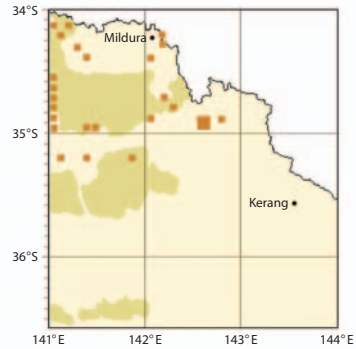
## Western Brown Snake

*Pseudonaja nuchalis* Gunther, 1858



P. Robertson

Millewa, Vic



**Description:** A species with highly variable colouration across Australia. In Victoria, specimens tend to be light to darker brown with dark flecks on the neck and a dark head. Ventral surface yellow with red-brown blotches. Rostral scale enlarged and sub-caudals divided. Size up to 1.6 m (total length).

**Habitat:** Occurs throughout a variety of Mallee habitats. Known mainly from the Sunset Country and Hattah-Kulkyne, but recorded as far south as Big Billy Bore in the Big Desert.

**Habits:** A fast moving, diurnal species that often retreats into holes in the ground. Generally not inclined to present a threat display as easily as the closely related Eastern Brown Snake. This species is, however, dangerously venomous though infrequently encountered. Preys upon a variety of small lizards and mammals. Oviparous, with 20–40 eggs being recorded.

**Locations:** Big Desert, Sunset Country, Hattah-Kulkyne.

**Victorian conservation status:**  
Data deficient.

### Diagnostic features

Body long and slender, usually with scattered black scales on nape.

Ventral region yellow with red-brown spots.

Juveniles have dark blotch on head and broad band across neck..

Head with large 'strap like' rostral scale and mouth lining blackish.

**Moderately large eyes with red iris forming a broken circle.**

17 mid-body scale rows.

Scales smooth and weakly glossed.

**Anal and sub-caudal scales divided.**