

## A record of Spencer's Skink *Pseudemoia spenceri* from the Victorian Volcanic Plain

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### Abstract

During a survey of vertebrate fauna at a site in Yan Yean, north of Melbourne on the Victorian Volcanic Plain, a small population of Spencer's Skink *Pseudemoia spenceri* was found inhabiting a heritage dry stone fence. Spencer's Skink is normally found in wet sclerophyll forest and cool temperate environments, and the species is not considered a grassland inhabitant. There are no other records of Spencer's Skink occurring in any part of the Victorian Volcanic Plain. (*The Victorian Naturalist* 128(3) 2011, 106-110)

**Keywords:** Spencer's Skink *Pseudemoia spenceri*, Volcanic Plain, grasslands, dry stone fences.

### Introduction

The Growling Frog Golf Course (GFGC) is situated on the Victorian Volcanic Plain in Yan Yean (37° 33'S, 145° 04'E), approximately 33 km north-north-east of the Melbourne Central Business District. The course was established in 2005 by the City of Whittlesea under strict environmental conditions that required the preservation of important natural and heritage features. These included protection of stony knolls, ephemeral wetlands and an area of Plains Grassy Woodland; preservation of all River Red Gums *Eucalyptus camaldulensis* and several rare plant species; and retention of heritage dry stone fences. Dry stone fences exist along most of the eastern and western boundaries of the golf course (Fig. 1).

Surveys of vertebrate fauna have been conducted at the property since 2007 (P Homan unpubl. data). The purpose of the surveys has been to assess conservation works and to determine which species of mammals, reptiles, amphibians and birds were inhabiting the site. A key aim has been to determine which vertebrate species were using dry stone fences as habitat. During these surveys a wide range of vertebrates have been recorded, including several species listed as threatened (DSE 2007). These include Growling Grass Frog *Litoria raniformis*, Hardhead *Aythya australis*, Australasian Shoveler *Anas rhynchos*, White-bellied Sea-Eagle *Haliaeetus leucogaster* and Glossy Grass Skink *Pseudemoia rawlinsoni*. A number of herpetofauna species have been recorded using

the dry stone fences as habitat. These include Large Striped Skink *Ctenotus robustus*, Bougainville's Skink *Lerista bougainvillii*, Lowland Copperhead *Austrelaps superbus*, Little Whip Snake *Parasuta flagellum*, Southern Bullfrog *Limnodynastes dumerilii* and Spotted Marsh Frog *Limnodynastes tasmaniensis*.

### Record of Spencer's Skink *Pseudemoia spenceri* inhabiting dry stone fence

On 26 March 2010, staff and students from the School of Life and Physical Sciences, RMIT University, visited the GFGC to examine a habitat enhancement program near the dry stone fence on the western boundary of the property. During surveys commissioned by the City of Whittlesea, students observed two small skinks basking on the fence, but were unable to make positive identification of the specimens at that stage. On the morning of 29 March 2010, the site was visited by the author to commence a four day vertebrate survey (Homan 2010a). Heavy rain had fallen across the property overnight, but by early morning the rain had ceased and by mid morning the western boundary stone fence was bathed in brilliant sunshine. Within a short time several small skinks emerged from the rocks to bask. On this occasion close examination was possible and the specimens were identified as Spencer's Skink *Pseudemoia spenceri* (Fig. 2). Each specimen displayed prominent broad, cream dorsolateral stripes, a diagnostic feature of this species (Cogger 2000; Wilson and Swan 2008). Over the next hour ap-



Fig. 1. Heritage dry stone fence at Growling Frog Golf Course, Yan Yean.

proximately 12 specimens of various sizes were detected along a 50 m section of the western boundary fence. The property was visited again on the morning of 3 May 2010, when several more Spencer's Skinks were seen on the western fence. On this occasion, one specimen was observed to catch a small grasshopper that had landed on the fence.

### Discussion

Spencer's Skink is a small, arboreal lizard which is usually found in wet sclerophyll forests and cool environments (Cogger 2000; Wilson and Swan 2008). The range of the species extends from the Blue Mountains in New South Wales through much of the Great Dividing Range in Victoria as far west as the Grampians (Cogger 2000; Wilson and Swan 2008). Spencer's Skink is also found near the coast, especially in East Gippsland, Wilsons Promontory and the Otway Ranges (Fig. 3). Throughout its range, it is not considered to be a species that inhabits grasslands (Wilson and Swan 2008). Spencer's Skink has well developed limbs and is an excellent

climber. In February 2010, one specimen was observed approximately 15 m above ground on a dead section of a Southern Blue Gum *Eucalyptus globulus*, near Lorne in the Otway Ranges (P Homan pers. obs.). The species also inhabits rocky habitat, where large numbers can sometimes be found under exfoliations (P Robertson pers. comm., 18 April 2010).

Dry stone fences are a common feature of rural landscapes throughout the world, at sites where loose surface rock is available for their construction. Several studies have recorded numerous species of reptiles using these man-made structures as habitat (Madsen 1984; Hutchinson and Rawlinson 1995; Ahern *et al.* 1998; Turner 2010; G Peterson unpubl. data; P Robertson unpubl. data). Many herpetofauna studies have been conducted in various sections of Victoria's Volcanic Plain, including sites with dry stone fences, especially on the outskirts of metropolitan Melbourne (Beardsell 1997; Ahern *et al.* 1998; Clemann 2003; Heard and Robertson 2004; Homan 2004; Carr *et al.* 2006; Homan 2007; Turner 2007; Homan 2010b; Peterson and



Fig. 2. Spencer's Skink *Pseudemoia spenceri* on heritage stone fence.

Rohr 2010; P Robertson unpubl. data). None of these studies have detected populations of Spencer's Skink, and no other records are available for this species on any part of the Victorian Volcanic Plain (Victorian Biodiversity Atlas). A detailed study of the area now occupied by the GFGC was conducted over several years from 1988 to 1991 (Beardsell 1997). During that study stony knolls and stone fences were systematically and carefully searched on numerous occasions. Several species of grassland reptiles were recorded; however, no records of Spencer's Skink were reported.

It is not unusual for species of herpetofauna to be deliberately or accidentally moved between locations. When this occurs, specimens may escape or be released into local environments (Pescott 1976; Gillespie and Clemann 2000; Clemann 2005). The nearest records for Spencer's Skink are from Mountain Ash *Eucalyptus regnans* forest in the Mt Disappointment area approximately 18 km north-north-east of the GFGC (P. Robertson pers comm., 18 April

2010). It is highly unlikely that individuals of this species reached the GFGC by natural dispersal or migration from that area. The GFGC is also several kilometres from human habitation, so it is unlikely that the species was deliberately released at the site. Most likely the population that now inhabits the stone fence on the property reached the site by accident. The species may have reached this location only in recent times. During the vertebrate surveys conducted since 2007, the stone fences have been examined closely many times for basking reptiles; however, Spencer's Skink had not been seen before March 2010. The last occasion, prior to the current survey, on which the fences were examined was March 2009. Several past and current staff of the City of Whittlesea and contractors who have carried out works at the site, using various types of earth-moving equipment, live in areas in the Kinglake Ranges and Yarra Ranges where Spencer's Skink has been recorded. The most likely explanation is that the species reached the GFGC by accident,



**Fig. 3.** Victorian distribution map for Spencer's Skink *Pseudemoia spenceri* (Victorian Biodiversity Atlas, Department of Sustainability and Environment).

perhaps as a stow-away in some form of industrial equipment or vehicle or in material, such as timber, brought to the golf course.

Nevertheless, the dry stone fences on the property provide excellent habitat for Spencer's Skink, with many feeding and basking opportunities and quick escape routes from any predator into the maze of rocks. The number of individual skinks observed, including several small specimens which appeared to be juveniles, suggests that the species is breeding at this location. Further monitoring will determine whether or not Spencer's Skink can survive on a long-term basis in a grassland environment.

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### References

- Ahern LD, Frood D and Robertson P (1998) Flora and Fauna Assessment O'Herns Road, Epping North. Wildlife Profiles Pty Ltd. Unpublished report to City of Whittlesea.
- Beardsell C (1997) The NEROC Report: Sites of Faunal and Habitat Significance in North East Melbourne, Dummoochin Biological Surveys. Unpublished report to Shire of Nillumbik.
- Carr G, Wilson C and Campbell CJ (2006) Flora and Fauna Assessment - Melbourne Wholesale Market site extension, Cooper Street, Epping. Ecology Australia. Unpublished report to Department of Sustainability and Environment.

- Clemann N (2003) Craigieburn Grasslands – Fauna Values Habitat Assessment. Arthur Rylah Institute for Environmental Research, Department of Sustainability and Environment, Heidelberg. Unpublished report to Parks Victoria.
- Clemann N (2005) A road-killed exotic snake in a Melbourne suburb. *The Victorian Naturalist* **122**, 212-213.
- Cogger H (2000) *Reptiles and Amphibians of Australia*, 6th edn. (Reed Books: Chatswood NSW).
- DSE (2007) Advisory list of threatened vertebrate fauna in Victoria – 2007. Department of Sustainability and Environment, East Melbourne, Victoria.
- Gillespie GR and Clemann N (2000) The Eastern Dwarf Tree Frog *Litoria fallax* (Peters) (Anura: Hylidae): a recent introduction to Victoria? *The Victorian Naturalist* **117**, 60-62.
- Heard G and Robertson P (2004) A targeted survey for the Striped Legless Lizard (*Delma impar*) north of the Malcolm Creek, Craigieburn. Wildlife Profiles Pty Ltd. Unpublished report to Sinclair Knight Merz Pty Ltd.
- Homan P (2004) A fauna survey of "Challicum", a Land for Wildlife property near Buangor. *Land for Wildlife News* **5**, 14-15.
- Homan P (2007) A preliminary survey of vertebrate fauna at the Epping Soccer Stadium Environmental Zone. Unpublished report to City of Whittlesea.
- Homan P (2010a) A survey of the vertebrate fauna of the Growling Frog Golf Course, Yan Yean. Unpublished report to City of Whittlesea.
- Homan P (2010b) A survey of vertebrate fauna at 490 Cooper Street, Epping. Unpublished report to City of Whittlesea.
- Hutchinson MN and Rawlinson PA (1995) The Water Skinks (Lacertilia: *Eulamprus*) of Victoria and South Australia. *Records of the South Australian Museum* **28**, 185-207.
- Madsen T (1984) Movements, home range size and habitat use of radio tracked grass snakes (*Natrix natrix*) in southern Sweden. *Copeia* **1984**, 707-713.
- Pescott T (1976) *By Field and Lane*. (Neptune Press: Belmont)
- Peterson GNL and Rohr DH (2010) *Delma impar* (Striped Legless Lizard) Repeated use of Communal Nesting Site. *Herpetological Review* **41**, 78-79.
- Turner G (2007) Observations of diurnal activity in the Striped Legless Lizard *Delma impar*. *The Victorian Naturalist* **124**, 167-169.
- Turner G (2010) Natural history notes on the Eastern Blue-tongued Skink *Tiliqua scincoides scincoides* from the basalt plains around Melbourne. *The Victorian Naturalist* **127**, 70-78.
- Wilson S and Swan G (2008) *A Complete Guide to Reptiles of Australia*. 2nd edn. (New Holland: Sydney)

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## One hundred and one years ago

### THE GENUINE AND THE SPURIOUS LOCUST FUNGUS.

By. D. McALPINE, Government Vegetable Pathologist

(From 'The Romance of plant pathology' (Read before the Field Naturalists' Club of Victoria, 8th August, 1910)

This is an instance of a scientific blunder which led to various complications, and some of these are sufficiently amusing to be worthy of record here.

The locust plague, in some seasons, is very destructive in Australia, as well as in other parts of the world, and various attempts have been made to cope with it. It was found in South Africa that a parasitic fungus attacked and destroyed them wholesale, and if this fungus could be used for infecting them artificially it would be a valuable discovery. Accordingly, cultures were made at the Cape and sent out in tubes as the "South African Locust Fungus." Several of these tubes reached me in October, 1899, from the Director of the Bacteriological Institute at the Cape, accompanied by the following note:—"I may mention that many thousands of tubes have been used in this colony with unflinching success in wet weather, if properly applied. In dry weather the fungus is not so certain in its results: but even then it has been extremely satisfactory in the hands of the locust experts sent out by the Government, who are practised in its use. The fungus has been despatched to Cyprus, Algeria, Palestine, South America, and many other parts of the world." Accompanied by such a strong recommendation, it is no wonder that the cultures were used by Mr. French, the Government Entomologist, and others.

My interest in the fungus consisted in determining its systematic position, in order to know its nature and whether it was likely to affect other forms of life. It was determined to be a *Mucor*, one of the common bread-moulds, and this was afterwards supported by Masse, of Kew. The interest of this determination lies in the fact that the true locust fungus is not a *Mucor* at all, and the wrong one was sent out by mistake. How it came about was this: The parasitic fungus which killed the locusts was *Empusa grylli*, but *Mucor* was also present on the dead locusts, and so, by an unfortunate mistake, the locust fungus, which was sent out in tubes with gelatine, was a species of *Mucor*, or a mould which is not a parasite. The locust destroyer will only grow on the living tissues of the locust, and has never been cultivated on dead substances. It is closely related to the parasite on the common house-fly (*Empusa muscæ*). Everyone is familiar with the dead fly stuck to the window-pane and a white halo surrounding its body.

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