



MAMMAL

Cercartetus concinnus

Western Pygmy-possum

AUS	SA	AMLR	Endemism	Residency
-	-	V	-	Resident



Photo: © Julia Bignall

Conservation Significance

The AMLR distribution is disjunct, isolated from other extant occurrences within SA. Within the AMLR the species' relative area of occupancy is classified as 'Extremely Restricted'. Relative to all AMLR extant species, the species' taxonomic uniqueness is classified as 'Very High'.³

Description

Small nocturnal marsupial, fawn or reddish-brown above, white below and a finely-scaled, naked tail.⁶ Adults on average weigh 13 g. Adapted for climbing and forages at night both on the ground and in shrubs and trees (Smith 1995). Prehensile tail and well-developed toe-pads aid movement through the foliage (Bennett and Lumsden 1995). Forefoot, with small claws on upper surface of toes, used to grasp food while eating.⁵

Distribution and Population

Occurs in areas with high temperatures and low rainfall (Ryan 1963). Found in southern WA, southern SA, western VIC and south-west NSW.⁵

In SA, occurs in the SE, southern Fleurieu Peninsula, Kangaroo Island, southern tip of Yorke Peninsula and southern Eyre Peninsula.⁴

During the Southern Mt Lofty Survey, recorded at only five of the 111 survey quadrats. Also recorded at two of 34 quadrats surveyed during the Southern Fleurieu Survey (Scientific Expedition Group).¹ Remote possibility it remains in suitable habitat in the

Adelaide region.⁷

Post-1983 AMLR filtered records confined to Cleland CP, Cox Scrub CP, Scott CP, Mount Billy CP, Mount Magnificent CP, and vegetation blocks under Heritage Agreement around Inman Valley and Newland Head CP.³

One pre-1983 AMLR filtered record, near Inman Valley.³ Also recorded from near Mount Barker (1957) and Reynella (1945).¹

Habitat

Found in mallee heath and dry sclerophyll forest, especially where there is an undergrowth of shrubs such as Banksias, Grevilleas, Callistemons and Melaleucas. In mallee and woodland restricted to shrubby areas.^{1,6}

Mainly arboreal and nocturnal (Smith 1995). During the day rests in hollows or among the leaves of *Xanthorrhoea* spp. (Smith 1995).²

Within the AMLR the preferred broad vegetation groups are Mallee and Heathy Woodland.³

Biology and Ecology

Young are born in most months. Some reproductively active males are probably present at all times of the year. Females can rear two or three litters in close succession.⁸

Females thought to reach sexual maturity at 12-15 months and have an anterior-opening pouch with six teats (Tyndale-Biscoe and Renfree 1987). As many as twelve embryos have been recorded in a pouch (Bennett and Lumsden 1995). Litter size declines during pouch development with an average of 3.5 young surviving to the late stages of dependent life (Ward 1990). Young leave the pouch at around 25 days but remain in a nest as they are still semi-naked and dependent on the mother (Bowley 1939; Casanova 1958; Tyndale-Biscoe and Renfree 1987). Young are suckled until they reach 50 days (Tyndale-Biscoe and Renfree 1987).⁵

Readily enter a state of torpor or dormancy, particularly during periods of cold weather or rain, which probably serves to conserve energy at times when energetic returns from foraging are low (Bennett and Lumsden 1995). These periods may last up to 11 days but are usually much shorter (Geiser 1987;

Further information:

Biodiversity Conservation Unit, Adelaide Region
Phone: (61 8) 8336 0901 Fax: (61 8) 8336 0999
<http://www.environment.sa.gov.au/>

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Prepared as part of the Regional Recovery Plan for Threatened Species and Ecological Communities of Adelaide and the Mount Lofty Ranges, South Australia 2009 - 2014





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Wakefield 1970). During torpor, body temperature remains within 10°C of the air temperature (Geiser 1987).⁵

Feeds on nectar, pollen, insects and possibly small lizards (Bennet and Luden (1995) in NSW NP&WS (1999)).⁷ Presence and density of flowers (the preferred food resource) strongly influence distribution and population density.²

Aboriginal Significance

Post-1983 records indicate the majority of the AMLR distribution occurs in Ngarrindjeri Nation. It also occurs in Kurna Nation (bordering Peramangk Nation).³

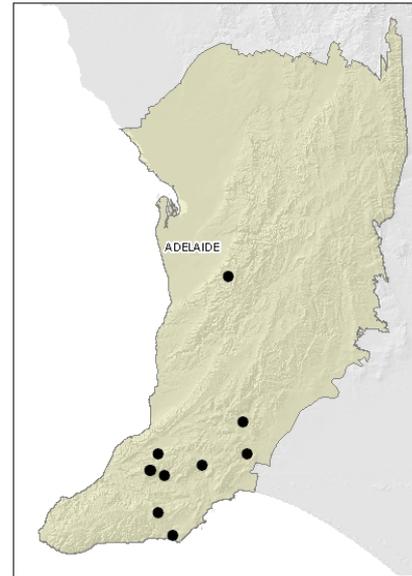
Threats

Reasons for continuing threats are probably a combination of factors including:

- loss or degradation of habitat, caused by overgrazing of livestock and residential development, results in loss of cover and food sources (Ayers et al. 1996; Mazzer et al. 1998; Smith 1995)^{5,6,7}
- Broombush and mallee wood harvesting may reduce habitat availability (Woinarski 1987)
- fragmentation of habitat: remnants may be too small to support viable populations (Ayers et al. 1996; Smith 1995,)
- predation from introduced carnivores, such as foxes and feral (and domestic) cats: actual impact is not known as its reproductive rate is adapted to heavy predation (Smith 1995)^{6,7}
- fire: impacts are unknown, but frequent fires are likely to eliminate shrub species that are a food source (Ayers et al. 1996; Bennett and Lumsden 1995).⁵

Additional current direct threats have been identified and rated for this species. Refer to the main plan accompanying these profiles.

Regional Distribution



Map based on filtered post-1983 records.³ Note, this map does not necessarily represent the actual species' distribution within the AMLR.

References

Note: In some cases original reference sources are not included in this list, however they can be obtained from the reference from which the information has been sourced (the reference cited in superscript).

- 1 Armstrong, D. M., Croft, S. N. and Foulkes, J. N. (2003). *A Biological Survey of the Southern Mount Lofty Ranges, South Australia, 2000-2001*. Department for Environment and Heritage, South Australia.
- 2 Cadzow, B. and Carthew, S. M. (2004). The importance of two species of Banksia in the diet of the western pygmy-possum *Cercartetus concinnus* and the little pygmy-possum *C. lepidus* in South Australia. Pages 246-253. In: G. A. Jackson, ed. *The biology of Australian Possums and Gliders*. Surrey, Beatty and Sons, Chipping Norton.
- 3 Department for Environment and Heritage (2007). *Adelaide and Mount Lofty Ranges Regional Recovery Pilot Project Database*. Unpublished data extracted and edited from BDBSA, SA Herbarium (July 2007) and other sources.
- 4 Department for Environment and Heritage (2007). *Biological Database of South Australia*. Unpublished data, extracted June 2007.
- 5 NSW National Parks and Wildlife Service (2001). *Western Pygmy-possum (Cercartetus concinnus) Approved Recovery Plan*, Hurstville NSW.
- 6 Strahan, R., ed. (1998). *The Australian Museum Complete Book Of Australian Mammals: Revised Edition*. Cornstalk Publishing, Australia.

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7 Turner, M. S. (2001). *Conserving Adelaide's Biodiversity: Resources*. Urban Forest Biodiversity Program, Adelaide.

8 Ward, S. (1990). Reproduction in the Western Pygmy-Possum, *Cercartetus Concinnus* (Marsupialia, Burramyidae), With Notes on Reproduction of Some Other Small Possum Species. *Australian Journal of Zoology* 38 (4): 423-438.

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